



# PRODUCT CATALOGUE WATERBLAST

**S**<sup>★</sup> 06/2023

**SPIR STAR**<sup>®</sup>

HIGH PRESSURE PERFORMANCE

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## Introduction of SPIR STAR® AG

### SPIR STAR® AG

SPIR STAR® AG, headquartered in Rimbach-Mitlechtern, is your specialist for the manufacture of thermoplastic ultra-high-pressure hoses with spiralized steel-wire reinforcement for a working pressure range of 400 to 4.000 bar and inner diameters ranging from 3 to 25 mm.

The company began in 1981 as part of PAPUREX GmbH in Mörlenbach-Mumbach. At that time, the company manufactured its ultra-high-pressure hoses using special machinery the company had designed and built itself. The hoses were sold under the brand name of SPIR STAR. Production grew so rapidly that in the year 1987 the company relocated to a new production site in nearby Mörlenbach. Due to continued growth, the division of thermoplastic ultra-high-pressure hose production was spun off completely in the year 1989 and SPIR STAR® Druckschläuche GmbH was founded.

The company's internationalization and thus increasing demand eventually enabled the company to relocate to its present facility in the year 2001. Since then, ultra-high-pressure



hoses have been produced with state-of-the-art machinery and equipment and the hoses have become a staple in the Waterblast, Hydraulics, Oil & Gas and Automotive industries. In addition to this, the continuous development of new and innovative hose types ensures the company's sustainable presence in its relevant markets.

For more than 30 years, SPIR STAR® has been offering premium product quality – Made in Germany – combined with

forward-looking innovation and outstanding customer service.

### The World Market

The company's orientation towards global markets at an early stage resulted in the creation of a world-wide sales network of SPIR STAR® AG and made a major contribution to the company's positive development.

SPIR STAR made the first step into the global market in the year 1991 with the foundation of SPIR STAR® France S.A.S. in Haguenau, with a focus on the markets in Southern Europe.

To be able to develop the American continent as well and to meet increasing world-wide demand, SPIR STAR® Ltd. in Houston, Texas was established just four years later.



With the foundation of SPIR STAR® Pty. Ltd. in Singapore in 1999, the company paved the way for access to the Asian market and, with this additional sales company, marked another milestone towards better service quality and global presence.

Since its foundation in 2014, SPIR STAR® Fluid Tech (Shanghai) Co., Ltd. has been serving especially the Chinese market, increasing local customer loyalty.

The sales companies, which have been independent since the very beginning, are operating very successfully in the market today and build the link between SPIR STAR® AG and its customers.

### **SPIR STAR's Customers**

Since its foundation, the company's customer base has mainly included enterprises operating in the high-pressure Waterblast industry. Through ongoing investments into research and development, the company's product range has kept growing and it has been able to produce completely new hose types. Thanks to this combination of variety and innovation, SPIR STAR® has gained more and more customers from the Oil & Gas, Automotive, Machine-Building and ultra-high-pressure Hydraulics industries.

### **Working together as Partners**

Intensive cooperation as a partner of its customers and representative is part of SPIR STAR® AG's corporate philosophy.

SPIR STAR® AG works closely with numerous partners in various countries and continents. Thanks to this effective cooperation, each of the company's customers is provided excellent service, in-depth consultation and short lead times – world wide.

### **Research and Development**

The ongoing further development of SPIR STAR® hose types and fittings is one of the most important tasks to meet present and future market requirements. Experts from a number of different fields are committed to the extension and continuous improvement of its product range. SPIR STAR® makes use of its many years of experience in the production of hose assemblies specifically for the development and manufacture of products. Due to close contact with the customer, SPIR STAR's products and services always take the customer's needs into account, which is enabled by a high flexibility and fast response. But before any newly developed products are released for sale, they undergo a stringent test procedure. All products are manufactured to standards and subjected to a quality control: This ensures a reliable product that has been tested for safety.

## **Demands for the Highest Standards of Quality and Safety**

It goes without saying that SPIR STAR® manufactures its products according to state-of-the-art production methods and to the highest standards of quality. In order to guarantee maximum safety, all hose types are subjected to multiple technical tests. Its products are manufactured to industrial standards and tightly controlled. Compliance with these standards is monitored and ensured by our quality management across the entire production process. Before leaving factory, all hose assemblies are pressure tested in order to guarantee that only products of the highest quality are delivered.

SPIR STAR® tests all products employing state-of-the-art test equipment, such as impulse test stands, measuring devices for volumetric expansion, test equipment for external pressure resistance, tensile strength and burst pressure. Upon request, a test certificate to EN 10204 for each hose assembly will be issued.

## **Certified Quality**

SPIR STAR® AG has been DIN EN 9001 certified since 1995 and thus ensures complete documentation of its processes. The approved and tested quality management system allows tracing of all raw materials used for production at any time.

## **Tried and Proven Manufacturing Principles**

In general, the inner core of SPIR STAR® ultra-high-pressure hoses is made of premium quality thermoplastic materials, such as PA, POM, PVDF or PTFE. Up to eight spiral layers made of high-tensile steel wire and serving as reinforcement are wrapped around this thermoplastic inner tube. Depending on the application, the hose cover consists of approved and tested materials, such as PUR, PA or PVDF.

## **Successful Manufacturing Concept**

In general, the inner core of SPIR STAR® ultra-high-pressure hoses is made of premium quality thermoplastic materials, such as PA, POM, PVDF or PTFE. Up to eight spiral layers made of high-tensile steel wire and serving as reinforcement are wrapped around this thermoplastic inner tube. Depending on the application, the hose cover consists of approved and tested materials, such as PUR, PA or PVDF.

## Advantages of Thermoplastic High-Pressure Hoses

With a unique combination of materials SPIR STAR® thermoplastic high-pressure hoses have a wide variety of advantages over most common hose types:

- Extremely high working pressures
- Excellent chemical resistance to chemicals, detergents and solvents
- Up to 50% saving of weight with regard to comparable rubber hoses
- Resistant to ozone, ultraviolet light and aging
- Outer cover is resistant against hydrolysis and microbes
- High resistance against abrasion of the outer cover
- Small bend radius at high volumes of flow
- Low volumetric expansion at maximum working pressure
- Low permeation rate (M-series, PPA-series and HT-series)
- High temperature stability (HT-series up to + 150°C and F-series up to + 200°C)
- Kink resistant
- Minimal pressure drop
- Resistant to sea water
- High impulse resistance and long service life
- Long lengths can be delivered

## Applications of SPIR STAR® products

### High-Pressure Waterblast Technology - Comprehensive Know-How Derived From Many Years of Experience

SPIR STAR® has many years of experience in the manufacture of hose assemblies used in high-pressure waterblast applications. This know-how is used specifically for the development and production of hose assemblies.

Hose assemblies made by SPIR STAR® are used e.g. for sewer cleaning, pipe cleaning and cleaning of shell and tube heat exchangers, water-jet cutting, concrete refurbishment as well for surface cleaning of any kind.

For these complex and demanding tasks, its product range provides a wide selection of hose types and special hose fittings.



The approved and tested **DuraLife Flex®** high-tech hose is the ideal hose to use in pipe cleaning applications. Its special manufacturing process greatly reduces abrasion of the cover, thus increasing the service life of the hose assembly.

The hose types of the **UHP®-Series** (Ultra-High-Pressure) are used up to 4.000 bar. High-pressure combined with a maximum flow rate ensures a fast and optimum cleaning result.

The **OnePiece Fittings®** and the **Blast-Pro®** fitting series were specifically developed for use in small-ID tubes which can e.g. be found in heat exchangers. Compared to standard fittings, these fittings are considerably shorter, which makes tube cleaning with bends easier. Another advantage is the fact that the crimping of the sleeve only negligibly enlarges the hose OD. As a result, hose types with a larger inner diameter permitting higher volumetric flow can be used.

## Ultra-High-Pressure Hydraulics - High-Pressure Combined With High Flexibility



For ultra-high-pressure applications, SPIR STAR® hoses are always used when the hose assembly has to withstand a particularly high-pressure and has to be flexible at the same time.

Hydraulic hose applications include autofrettage, hydroforming, hydraulic assembly presses, dismantling of ball bearings and torsion-free fastening of screwed connections (bolt-tensioning).

With up to 50% less weight than comparable rubber hoses, a markedly smaller bend radius as well as high ozone-, UV-light- and ageing resistance, SPIR STAR® hose assemblies meet all the requirements of the ultra-high-pressure hydraulics industry.

## Oil & Gas - World-Wide Use at Extreme Operating Conditions

SPIR STAR® ultra-high pressure hoses are very successfully used in projects ranging from the North Sea to the Gulf of Mexico. Typical fields of application include offshore hose bundles, methanol service on platforms, chemical injections at the wellbore, hydraulic component control, high-pressure and high-temperature applications (HP/HT) as well as hydrogen fuelling systems.



Besides providing excellent high-pressure performance, SPIR STAR® hoses feature very small volumetric expansion, a low weight and high resistance to external pressure. Additionally, the product range includes types that are suitable for use at extremely high-temperatures (up to +150° C) as well as with aggressive chemicals.

SPIR STAR's ability to manufacture lengths of up to 4.500 m is one more reason why the ultra-high pressure hoses are used by all renowned oil companies. For offshore projects operating in great depths, SPIR STAR® hoses set standards in terms of quality, durability and reliability.



# Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. **01 100 5113**

Certificate Holder:



**SPIR STAR AG**  
Auf der Rut 3-7  
64668 Rimbach  
Germany

Scope:

Development and production of high-pressure hoses and fittings. Sales of products and services in the high-pressure sector

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Validity:

The certificate is valid from 2021-05-01 until 2024-04-30.  
First certification 1995

2021-03-29

A handwritten signature in black ink, appearing to read 'K. K. K.', positioned above a horizontal line.

TÜV Rheinland Cert GmbH  
Am Grauen Stein · 51105 Köln

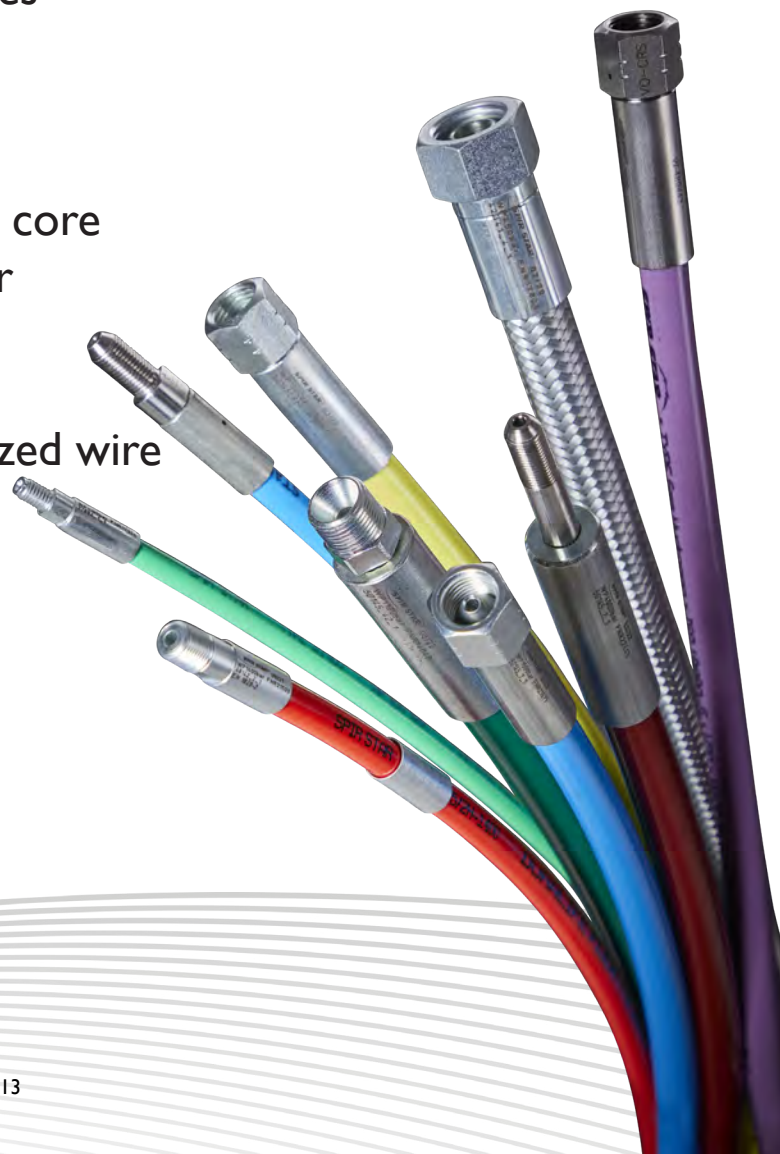
Number of spiralized layers

Typ **6/2VWHT**

Hose-ID in mm

Series Description

|            |                                    |
|------------|------------------------------------|
| <b>DC</b>  | Double outer cover                 |
| <b>H</b>   | Reinforced version                 |
| <b>HT</b>  | For very high temperatures         |
| <b>HW</b>  | Hot water                          |
| <b>K</b>   | Braided layer                      |
| <b>L</b>   | Extremely flexible                 |
| <b>M</b>   | Methanol-saturated inner core      |
| <b>OK</b>  | Outer cover braided layer          |
| <b>PPA</b> | „Chemical injections“              |
| <b>R</b>   | Reinforced outer cover             |
| <b>W</b>   | Two wide layers of spiralized wire |
| <b>F</b>   | PTFE or FEP inner core             |
| <b>UHP</b> | Ultra High Pressure                |





| Type | Hose Size |      |      |      | Pressure Rating |       |       |       | Bend Radius |      | Weight |          | Insert ID |      | Sleeve OD |      |
|------|-----------|------|------|------|-----------------|-------|-------|-------|-------------|------|--------|----------|-----------|------|-----------|------|
|      | ID        |      | OD   |      | Working         |       | Burst |       | [mm]        | [in] | [kg/m] | [lbs/ft] | Insert ID |      | Sleeve OD |      |
|      | [mm]      | [in] | [mm] | [in] | [bar]           | [psi] | [bar] | [psi] |             |      |        |          | [mm]      | [in] | [mm]      | [in] |

**Tube Cleaning up to 1.200 bar / 17.400 psi**

**Application:** Heat exchanger tube cleaning, cleaning with automated rigid lances, flex lances or manual rigid lances

|            |      |      |      |      |       |        |       |        |     |       |       |       |      |      |      |      |
|------------|------|------|------|------|-------|--------|-------|--------|-----|-------|-------|-------|------|------|------|------|
| 3/2        | 3,4  | 0,13 | 6,9  | 0,27 | 1.000 | 14.500 | 2.500 | 36.250 | 60  | 2,36  | 0,072 | 0,048 | 2,0  | 0,08 | 8,9  | 0,35 |
| 3/2-1100   | 3,4  | 0,13 | 7,0  | 0,28 | 1.100 | 15.950 | 2.750 | 39.875 | 60  | 2,36  | 0,072 | 0,048 | 2,0  | 0,08 | 8,9  | 0,35 |
| 4/2        | 4,0  | 0,16 | 8,0  | 0,31 | 1.200 | 17.400 | 3.000 | 43.500 | 75  | 2,95  | 0,110 | 0,074 | 2,5  | 0,10 | 10,1 | 0,39 |
| 5/2        | 5,0  | 0,20 | 9,4  | 0,37 | 1.040 | 15.080 | 2.600 | 37.700 | 95  | 3,74  | 0,125 | 0,084 | 3,0  | 0,12 | 12,9 | 0,50 |
| 5/3        | 5,0  | 0,20 | 10,3 | 0,41 | 1.120 | 16.240 | 2.800 | 40.600 | 95  | 3,74  | 0,218 | 0,146 | 3,0  | 0,12 | 12,9 | 0,50 |
| 6/2        | 6,3  | 0,25 | 11,5 | 0,45 | 1.000 | 14.500 | 2.500 | 36.250 | 110 | 4,33  | 0,175 | 0,117 | 4,0  | 0,16 | 13,9 | 0,54 |
| 6/2-1100   | 6,3  | 0,25 | 11,6 | 0,46 | 1.100 | 15.950 | 2.750 | 39.875 | 110 | 4,33  | 0,175 | 0,117 | 4,0  | 0,16 | 13,9 | 0,54 |
| 6/3        | 6,1  | 0,24 | 12,3 | 0,48 | 1.040 | 15.080 | 2.600 | 37.700 | 110 | 4,33  | 0,280 | 0,188 | 4,0  | 0,16 | 14,1 | 0,55 |
| 8/2        | 8,1  | 0,32 | 13,3 | 0,52 | 900   | 13.050 | 2.250 | 32.625 | 130 | 5,12  | 0,200 | 0,134 | 5,5  | 0,22 | 17,8 | 0,70 |
| 8/2-1000   | 8,1  | 0,32 | 13,3 | 0,52 | 1.000 | 14.500 | 2.500 | 36.250 | 110 | 4,33  | 0,200 | 0,134 | 5,5  | 0,22 | 17,8 | 0,70 |
| 10/2       | 10,1 | 0,40 | 15,5 | 0,61 | 690   | 10.005 | 1.725 | 25.010 | 160 | 6,30  | 0,280 | 0,188 | 6,5  | 0,26 | 20,8 | 0,81 |
| 13/2       | 12,9 | 0,51 | 19,3 | 0,76 | 690   | 10.005 | 1.725 | 25.010 | 200 | 7,87  | 0,435 | 0,291 | 8,5  | 0,33 | 26,0 | 1,02 |
| 16/4       | 16,0 | 0,63 | 25,5 | 1,00 | 1.040 | 15.080 | 2.600 | 37.700 | 250 | 9,84  | 1,002 | 0,671 | 10,5 | 0,41 | 32,7 | 1,28 |
| 20/2       | 19,0 | 0,75 | 26,2 | 1,03 | 520   | 7.540  | 1.300 | 18.850 | 240 | 9,45  | 0,750 | 0,503 | 13,0 | 0,51 | 34,2 | 1,34 |
| 20/4       | 18,8 | 0,74 | 28,8 | 1,13 | 1.040 | 15.080 | 2.600 | 37.700 | 250 | 9,84  | 1,350 | 0,905 | 13,0 | 0,51 | 36,9 | 1,45 |
| 25/2       | 24,8 | 0,98 | 33,5 | 1,32 | 440   | 6.380  | 1.100 | 15.950 | 300 | 11,81 | 0,950 | 0,636 | 16,5 | 0,65 | 40,0 | 1,57 |
| 25/4       | 24,8 | 0,98 | 36,3 | 1,43 | 900   | 13.050 | 2.250 | 32.625 | 300 | 11,81 | 1,715 | 1,149 | 19,0 | 0,75 | 45,9 | 1,80 |
| 8/4HW-1000 | 8,0  | 0,31 | 14,6 | 0,57 | 1.000 | 14.500 | 3.800 | 55.100 | 200 | 7,87  | 0,390 | 0,261 | 4,5  | 0,18 | 20,3 | 0,79 |

**Tube Cleaning up to 2.200 bar / 32.000 psi**

**Application:** Heat exchanger tube cleaning, cleaning with automated rigid lances, flex lances or manual rigid lances

|           |      |      |      |      |       |        |       |        |     |      |       |       |     |      |      |      |
|-----------|------|------|------|------|-------|--------|-------|--------|-----|------|-------|-------|-----|------|------|------|
| 4/2H-1400 | 4,0  | 0,16 | 8,1  | 0,32 | 1.400 | 20.300 | 3.500 | 50.750 | 75  | 2,95 | 0,112 | 0,075 | 2,5 | 0,10 | 10,1 | 0,39 |
| 4/4       | 4,0  | 0,16 | 10,3 | 0,41 | 2.200 | 31.900 | 5.500 | 79.750 | 130 | 5,12 | 0,234 | 0,157 | 1,8 | 0,07 | 14,7 | 0,57 |
| 5/2H-1400 | 4,9  | 0,19 | 9,5  | 0,37 | 1.400 | 20.300 | 3.500 | 50.750 | 95  | 3,74 | 0,148 | 0,099 | 3,0 | 0,12 | 12,9 | 0,50 |
| 5/4       | 5,0  | 0,20 | 11,2 | 0,44 | 1.800 | 26.100 | 4.500 | 65.250 | 150 | 5,91 | 0,260 | 0,174 | 2,5 | 0,10 | 15,0 | 0,59 |
| 6/4       | 6,3  | 0,25 | 12,6 | 0,50 | 1.500 | 21.750 | 3.800 | 55.100 | 180 | 7,09 | 0,295 | 0,198 | 3,5 | 0,14 | 16,4 | 0,64 |
| 6/4-1650  | 6,3  | 0,25 | 12,6 | 0,50 | 1.650 | 23.925 | 4.125 | 59.812 | 180 | 7,09 | 0,295 | 0,198 | 3,5 | 0,14 | 16,4 | 0,64 |
| 8/4       | 8,0  | 0,31 | 14,6 | 0,57 | 1.500 | 21.750 | 3.800 | 55.100 | 200 | 7,87 | 0,390 | 0,261 | 4,5 | 0,18 | 20,3 | 0,79 |
| 13/4H     | 12,8 | 0,50 | 22,0 | 0,87 | 1.400 | 20.300 | 3.500 | 50.750 | 200 | 7,87 | 0,880 | 0,590 | 7,5 | 0,30 | 29,5 | 1,16 |

**Tube Cleaning up to 3.050 bar / 44.000 psi**

**Application:** Heat exchanger tube cleaning, cleaning with automated rigid lances, flex lances or manual rigid lances

|               |      |      |      |      |       |        |       |         |     |       |       |       |     |      |      |      |
|---------------|------|------|------|------|-------|--------|-------|---------|-----|-------|-------|-------|-----|------|------|------|
| 3/6           | 3,0  | 0,12 | 9,1  | 0,36 | 2.800 | 40.600 | 7.000 | 101.500 | 150 | 5,91  | 0,222 | 0,149 | 1,8 | 0,07 | 15,3 | 0,60 |
| 4/6           | 4,0  | 0,16 | 11,5 | 0,45 | 2.800 | 40.600 | 7.000 | 101.500 | 175 | 6,89  | 0,365 | 0,245 | 1,8 | 0,07 | 17,1 | 0,67 |
| 4/4UHP-X-3035 | 4,0  | 0,16 | 9,9  | 0,39 | 3.035 | 44.000 | 6.100 | 88.450  | 90  | 3,54  | 0,234 | 0,157 | 2,5 | 0,10 | 14,7 | 0,58 |
| 5/6           | 4,8  | 0,19 | 13,2 | 0,52 | 2.500 | 36.250 | 6.250 | 90.625  | 200 | 7,87  | 0,450 | 0,302 | 2,5 | 0,10 | 17,8 | 0,70 |
| 5/6H          | 4,6  | 0,18 | 14,4 | 0,57 | 2.800 | 40.600 | 7.000 | 101.500 | 220 | 8,66  | 0,563 | 0,377 | 2,5 | 0,10 | 17,9 | 0,70 |
| 5/6HDC I      | 4,6  | 0,18 | 18,4 | 0,72 | 2.800 | 40.600 | 7.000 | 101.500 | 220 | 8,66  | 0,687 | 0,460 | 2,5 | 0,10 | 17,9 | 0,70 |
| 5/6UHP-X-3035 | 4,8  | 0,19 | 13,3 | 0,52 | 3.035 | 44.000 | 7.000 | 101.500 | 210 | 8,27  | 0,450 | 0,302 | 2,5 | 0,10 | 17,8 | 0,91 |
| 8/6UHP        | 7,6  | 0,30 | 19,3 | 0,76 | 2.800 | 40.600 | 7.000 | 101.500 | 300 | 11,81 | 1,055 | 0,707 | 4,5 | 0,18 | 23,7 | 0,93 |
| 13mmUHP       | 12,8 | 0,50 | 27,7 | 1,09 | 2.800 | 40.600 | 6.000 | 87.000  | 350 | 13,78 | 2,085 | 1,397 | 7,5 | 0,30 | 34,6 | 1,36 |



| Type | Hose Size  |      |            |      | Pressure Rating  |       |                |       | Bend Radius |      | Weight |          | Insert ID |      | Sleeve OD |      |
|------|------------|------|------------|------|------------------|-------|----------------|-------|-------------|------|--------|----------|-----------|------|-----------|------|
|      | ID<br>[mm] | [in] | OD<br>[mm] | [in] | Working<br>[bar] | [psi] | Burst<br>[bar] | [psi] | [mm]        | [in] | [kg/m] | [lbs/ft] | [mm]      | [in] | [mm]      | [in] |

**Tank Cleaning up to 2.500 bar / 36.250 psi**

**Application:** Tank and vessel cleaning, cleaning with booms

|       |      |      |      |      |       |        |       |        |     |       |       |       |     |      |      |      |
|-------|------|------|------|------|-------|--------|-------|--------|-----|-------|-------|-------|-----|------|------|------|
| 8/6H  | 7,7  | 0,30 | 18,8 | 0,74 | 2.500 | 36.250 | 6.250 | 90.625 | 260 | 10,24 | 0,925 | 0,620 | 4,5 | 0,18 | 22,8 | 0,90 |
| 13/4H | 12,8 | 0,50 | 22,0 | 0,87 | 1.400 | 20.300 | 3.500 | 50.750 | 200 | 7,87  | 0,880 | 0,590 | 7,5 | 0,30 | 29,5 | 1,16 |

**Surface Preparation up to 4.000 bar / 58.000 psi**

**Application:** Concrete removal, surface cleaning, paint removal, cleaning with hydro mowers, hand-held surface cleaner or hand guns

|                |      |      |      |      |       |        |       |         |     |       |       |       |      |      |      |      |
|----------------|------|------|------|------|-------|--------|-------|---------|-----|-------|-------|-------|------|------|------|------|
| 4/4UHP-X-3035  | 4,0  | 0,16 | 9,9  | 0,39 | 3.035 | 44.000 | 6.100 | 88.450  | 90  | 3,54  | 0,234 | 0,157 | 2,5  | 0,10 | 14,7 | 0,58 |
| 5/6H           | 4,6  | 0,18 | 14,4 | 0,57 | 2.800 | 40.600 | 7.000 | 101.500 | 220 | 8,66  | 0,563 | 0,377 | 2,5  | 0,10 | 17,9 | 0,70 |
| 5/6HDCI        | 4,6  | 0,18 | 18,4 | 0,72 | 2.800 | 40.600 | 7.000 | 101.500 | 220 | 8,66  | 0,687 | 0,460 | 2,5  | 0,10 | 17,9 | 0,70 |
| 5/6UHP-X-3035  | 4,8  | 0,19 | 13,3 | 0,52 | 3.035 | 44.000 | 7.000 | 101.500 | 210 | 8,27  | 0,450 | 0,302 | 2,5  | 0,10 | 17,8 | 0,91 |
| 5mmUHP         | 4,5  | 0,18 | 15,3 | 0,60 | 3.200 | 46.400 | 8.000 | 116.000 | 250 | 9,84  | 0,693 | 0,464 | 2,5  | 0,10 | 19,7 | 0,77 |
| 5mmUHP-X       | 4,5  | 0,18 | 15,3 | 0,60 | 4.000 | 58.000 | 8.000 | 116.000 | 250 | 9,84  | 0,693 | 0,464 | 2,5  | 0,10 | 19,7 | 0,77 |
| 6mmUHP         | 5,8  | 0,23 | 18,6 | 0,73 | 3.200 | 46.400 | 8.000 | 116.000 | 280 | 11,02 | 1,060 | 0,710 | 3,0  | 0,12 | 23,7 | 0,93 |
| 8/6H           | 7,7  | 0,30 | 18,8 | 0,74 | 2.500 | 36.250 | 6.250 | 90.625  | 260 | 10,24 | 0,925 | 0,620 | 4,5  | 0,18 | 22,8 | 0,90 |
| 8/6HDCI        | 7,7  | 0,30 | 22,8 | 0,90 | 2.500 | 36.250 | 6.250 | 90.625  | 260 | 10,24 | 1,085 | 0,727 | 4,5  | 0,18 | 22,8 | 0,90 |
| 8/6UHP         | 7,6  | 0,30 | 19,3 | 0,76 | 2.800 | 40.600 | 7.000 | 101.500 | 300 | 11,81 | 1,055 | 0,707 | 4,5  | 0,18 | 23,7 | 0,93 |
| 8/6UHP-X       | 7,6  | 0,30 | 19,3 | 0,76 | 3.035 | 44.000 | 7.000 | 101.500 | 300 | 11,81 | 1,055 | 0,707 | 4,5  | 0,18 | 23,7 | 0,93 |
| 10mmUHP-X-3035 | 9,8  | 0,39 | 24,0 | 0,94 | 3.035 | 44.000 | 6.100 | 88.450  | 320 | 12,60 | 1,730 | 1,163 | 6,0  | 0,24 | 31,0 | 1,22 |
| 13/2VWR        | 12,8 | 0,50 | 22,2 | 0,87 | 1.040 | 15.080 | 2.600 | 37.700  | 150 | 5,91  | 0,590 | 0,395 | 7,5  | 0,30 | 27,5 | 1,08 |
| 13/4H          | 12,8 | 0,50 | 22,0 | 0,87 | 1.400 | 20.300 | 3.500 | 50.750  | 200 | 7,87  | 0,880 | 0,590 | 7,5  | 0,30 | 29,5 | 1,16 |
| 13mmUHP        | 12,8 | 0,50 | 27,7 | 1,09 | 2.800 | 40.600 | 6.000 | 87.000  | 350 | 13,78 | 2,085 | 1,397 | 7,5  | 0,30 | 34,6 | 1,36 |
| 16mmUHP        | 15,9 | 0,63 | 31,8 | 1,25 | 2.000 | 29.000 | 5.000 | 72.500  | 400 | 15,75 | 2,523 | 1,690 | 10,5 | 0,41 | 38,0 | 1,49 |
| 20/6           | 18,8 | 0,74 | 32,8 | 1,29 | 1.400 | 20.300 | 3.500 | 50.750  | 350 | 13,78 | 2,170 | 1,454 | 13,0 | 0,51 | 42,9 | 1,68 |
| 20/6-1600      | 18,8 | 0,74 | 32,8 | 1,29 | 1.600 | 23.200 | 4.000 | 58.000  | 350 | 13,78 | 2,170 | 1,454 | 13,0 | 0,51 | 42,9 | 1,68 |
| 25/6           | 24,8 | 0,98 | 39,8 | 1,57 | 1.400 | 20.300 | 3.000 | 43.500  | 600 | 23,62 | 2,800 | 1,876 | 17,5 | 0,69 | 49,0 | 1,92 |

**Cutting and Demolition up to 3.200 bar / 46.400 psi**

**Application:** Cutting and demolition of armoured concrete, pipelines, paper or steel, cleaning with hand guns, cutting systems

|           |      |      |      |      |       |        |       |         |     |       |       |       |      |      |      |      |
|-----------|------|------|------|------|-------|--------|-------|---------|-----|-------|-------|-------|------|------|------|------|
| 3/4       | 3,4  | 0,13 | 8,0  | 0,31 | 2.000 | 29.000 | 5.000 | 72.500  | 110 | 4,33  | 0,135 | 0,090 | 2,0  | 0,08 | 12,1 | 0,47 |
| 3/4-2100  | 3,4  | 0,13 | 8,1  | 0,32 | 2.100 | 30.450 | 5.250 | 76.215  | 110 | 4,33  | 0,135 | 0,090 | 2,0  | 0,08 | 12,1 | 0,47 |
| 3/6       | 3,0  | 0,12 | 9,1  | 0,36 | 2.800 | 40.600 | 7.000 | 101.500 | 150 | 5,91  | 0,222 | 0,149 | 1,8  | 0,07 | 15,3 | 0,60 |
| 4/6       | 4,0  | 0,16 | 11,5 | 0,45 | 2.800 | 40.600 | 7.000 | 101.500 | 175 | 6,89  | 0,365 | 0,245 | 1,8  | 0,07 | 17,1 | 0,67 |
| 4/8       | 4,0  | 0,16 | 12,8 | 0,50 | 3.200 | 46.400 | 8.000 | 116.000 | 175 | 6,89  | 0,540 | 0,362 | 1,8  | 0,07 | 19,5 | 0,76 |
| 8/6H      | 7,7  | 0,30 | 18,8 | 0,74 | 2.500 | 36.250 | 6.250 | 90.625  | 260 | 10,24 | 0,925 | 0,620 | 4,5  | 0,18 | 22,8 | 0,90 |
| 8/6HDCI   | 7,7  | 0,30 | 22,8 | 0,90 | 2.500 | 36.250 | 6.250 | 90.625  | 260 | 10,24 | 1,085 | 0,727 | 4,5  | 0,18 | 22,8 | 0,90 |
| 13mmUHP   | 12,8 | 0,50 | 27,7 | 1,09 | 2.800 | 40.600 | 6.000 | 87.000  | 350 | 13,78 | 2,085 | 1,397 | 7,5  | 0,30 | 34,6 | 1,36 |
| 20/6      | 18,8 | 0,74 | 32,8 | 1,29 | 1.400 | 20.300 | 3.500 | 50.750  | 350 | 13,78 | 2,170 | 1,454 | 13,0 | 0,51 | 42,9 | 1,68 |
| 20/6-1600 | 18,8 | 0,74 | 32,8 | 1,29 | 1.600 | 23.200 | 4.000 | 58.000  | 350 | 13,78 | 2,170 | 1,454 | 13,0 | 0,51 | 42,9 | 1,68 |

The accessories complement your hose assembly and provide increased safety and service life

**Protection Hose**

**Bend Restrictor**



**Hose Securing Grip**

**Valves - Fittings - Tubing**



**1. Protection Hose**

- Protect the hose from excessive wear due to use on rough surfaces thereby increase the service life

**2. Bend Restrictor**

- Reduces stress near the hose end-fitting
- Prevents kinking of the hose
- Longer service life
- Lighter and easier to assemble compared to steel alternatives

**3. Hose Securing Grip**

- Provides more safety to personnel in the event of a connection failure

**4. Valves, Fittings and Tubing (V-F-T)**

Complement your assembly with a large variety of different connections:

- Valves, adapters, elbows, tees, crosses and tubing
- male-to-male, female-to-male, female-to-female

For more information please refer to our "V-F-T" product catalogue .

We recommend the use of the appropriate bend restrictor, protection hose and securing grip in combination with our hose assemblies.

Because „Safety First.“

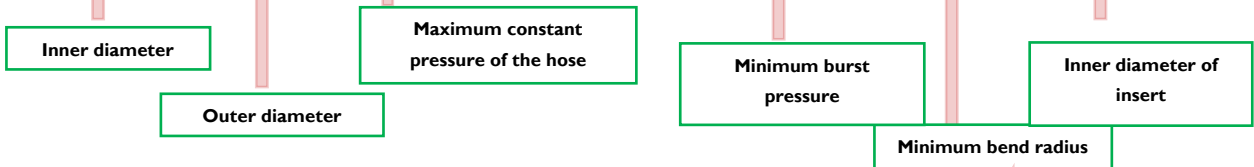
# Data Sheet - Detailed Description

## Example 8/6UHP-X

The data sheet is structured as follows:

- areas of use
- technical data
- fittings available for hose type (further information below)
- accessories
- Information / footnote according to hose type and fitting design

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 7,6 mm    | 19,3 mm   | 3.035 bar        | 7.000 bar      | 300 mm      | 1,055 kg/m   | 4,5 mm    |
| 0,30 inch | 0,76 inch | 44.008 psi       | 101.500 psi    | 11,81 inch  | 0,707 lbs/ft | 0,18 inch |



| Part no.                    | Thread       | Material        | Nut      | Dimensions (mm) |    |   |    | Insert |
|-----------------------------|--------------|-----------------|----------|-----------------|----|---|----|--------|
|                             |              |                 |          | A               | B  | C | ⌀  |        |
| <b>Type M female swivel</b> |              |                 |          |                 |    |   |    |        |
| 20860644E                   | 3/4"x16UNF   | Stainless steel | 50840605 | 4,5             | 90 | - | 24 |        |
| 20860684E                   | 7/8x14UNF    | Stainless steel | 50860675 | 4,5             | 92 | - | 30 |        |
| 20860694E                   | 1 1/8"x12UNF | Stainless steel | 50860695 | 4,5             | 98 | - | 36 |        |

Complementing fittings are shown next to the corresponding part.

Hex size / width across flats of fittings

| Accessories combinations               |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9523406B      | 1004145         | -              |                |
| Securing grip                          | -               | -               | 9086400        |                |
| Bend restrictor and securing grip      | 1.9523406B      | 1004145         | 908640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.902531        | -               | 1003335        | -              |
| with bend restrictor                   | 1.903037        | 1.9523406B      | 1004145        | -              |
| with securing grip                     | 1.902531        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406B      | 1004145        | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912532        | -               | 1003438        | -              |
| with bend restrictor                   | 1.913240        | 1.9523406B      | 1004145        | -              |
| with securing grip                     | 1.913038        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406B      | 1004145        | 908640L        |



**Accessory combinations are shown on the data sheet with corresponding item numbers.**

Please pay particular attention to the footnote on each data sheet.

*Production-related variations of the burst pressure of up to 5 % are possible.*

*The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.*

*Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.*

*The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.*

*\*J Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.*

*We reserve our rights for technical changes without notice. Subject to printing errors.*

**Applications**

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 3,4 mm    | 6,9 mm    | --               | 1.000 bar      | 60 mm       | 0,072 kg/m   | 2,0 mm    |
| 0,13 inch | 0,27 inch | --               | 14.500 psi     | 2,36 inch   | 0,048 lbs/ft | 0,08 inch |

| Part no.      | Thread | Material | Dimensions (mm) |       |   |   | Sleeve |
|---------------|--------|----------|-----------------|-------|---|---|--------|
|               |        |          | A               | B     | C |   |        |
| <b>Sleeve</b> |        |          |                 |       |   |   |        |
| 10320101      | -      | Steel    | 8,9             | 30,15 | - | - |        |

| Part no.                                   | Thread       | Material | Hose part   | Dimensions (mm) |    |   |   | OnePiece Fittings®WS |
|--|--------------|----------|-------------|-----------------|----|---|---|----------------------|
|  |              |          |             | A               | B  | C |   |                      |
| <b>OnePiece Fittings® with wrench size</b> |              |          |             |                 |    |   |   |                      |
| 30320401Q                                  | 1/16"x27NPTF | Steel    | 30320402/1Q | 8,9             | 34 | 7 | 7 |                      |
| 30320101Q                                  | M6x1         | Steel    | 30320102/1Q | 8,9             | 34 | 8 | 7 |                      |

| Part no.                  | Thread       | Material | Hose part   | Dimensions (mm) |    |   |     | OnePiece Fittings® |
|---------------------------|--------------|----------|-------------|-----------------|----|---|-----|--------------------|
|                           |              |          |             | A               | B  | C | D   |                    |
| <b>OnePiece Fittings®</b> |              |          |             |                 |    |   |     |                    |
| 30320401X                 | 1/16"x27NPTF | Steel    | 30320402/1X | 2               | 28 | 7 | 8,9 |                    |

| Part no.                      | Thread | Material | Nut | Dimensions (mm) |      |    |   | Insert |
|-------------------------------|--------|----------|-----|-----------------|------|----|---|--------|
|                               |        |          |     | A               | B    | C  |   |        |
| <b>Male fitting flat seal</b> |        |          |     |                 |      |    |   |        |
| 30320102A                     | M5x0,8 | Steel    |     | 2               | 51,5 | 8  | 6 |        |
| 30320202A                     | M7x1   | Steel    |     | 2               | 54   | 10 | 7 |        |



| Part no.                               | Thread | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|--|--------|----------|--------------------|-----------------|----|---|----|--------|
|  |        |          |                    | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60°</b> |        |          |                    |                 |    |   |    |        |
| 20320302A                              | G1/4"  | Steel    | 50540301, 50540305 | 2               | 47 | - | 19 |        |

| Part no.          | Thread | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|--------|----------|--------------|-----------------|------|-----|----|------------|
|                   |        |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |        |          |              |                 |      |     |    |            |
| 50540301          | G1/4"  | Steel    | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"  | AISI 316 | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84103201A        | -      | Steel    | - | 9,2             | 30 | - | - |                           |
| 1.84303201Q        | -      | Steel    | - | 8,9             | 25 | - | - |                           |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Marking ring |
|---------------------|--------|----------|---|-----------------|----|---|---|--------------|
|                     |        |          |   | A               | B  | C |   |              |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |              |
| 1.851012.5          | -      | AISI 316 | - | 8,9             | 10 | - | - |              |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9034400                                 | 600,00           | 740,00              | 6,60                   | 6-10   |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
 We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 3,4 mm    | 7,0 mm    | --               | 1.100 bar      | 60 mm       | 0,072 kg/m   | 2,0 mm    |
| 0,13 inch | 0,28 inch | --               | 15.950 psi     | 2,36 inch   | 0,048 lbs/ft | 0,08 inch |

| Part no.      | Thread | Material | Dimensions (mm) |       |   |   | Sleeve |
|---------------|--------|----------|-----------------|-------|---|---|--------|
|               |        |          | A               | B     | C |   |        |
| <b>Sleeve</b> |        |          |                 |       |   |   |        |
| 10320101      | -      | Steel    | 8,9             | 30,15 | - | - |        |

| Part no.                                   | Thread       | Material | Hose part   | Dimensions (mm) |    |   |   | OnePiece Fittings®WS |
|--|--------------|----------|-------------|-----------------|----|---|---|----------------------|
|  |              |          |             | A               | B  | C |   |                      |
| <b>OnePiece Fittings® with wrench size</b> |              |          |             |                 |    |   |   |                      |
| 30320401Q                                  | 1/16"x27NPTF | Steel    | 30320402/1Q | 8,9             | 34 | 7 | 7 |                      |
| 30320101Q                                  | M6x1         | Steel    | 30320102/1Q | 8,9             | 34 | 8 | 7 |                      |

| Part no.                  | Thread       | Material | Hose part   | Dimensions (mm) |    |   |     | OnePiece Fittings® |
|---------------------------|--------------|----------|-------------|-----------------|----|---|-----|--------------------|
|                           |              |          |             | A               | B  | C | D   |                    |
| <b>OnePiece Fittings®</b> |              |          |             |                 |    |   |     |                    |
| 30320401X                 | 1/16"x27NPTF | Steel    | 30320402/1X | 2               | 28 | 7 | 8,9 |                    |

| Part no.                      | Thread | Material | Nut | Dimensions (mm) |      |    |   | Insert |
|-------------------------------|--------|----------|-----|-----------------|------|----|---|--------|
|                               |        |          |     | A               | B    | C  |   |        |
| <b>Male fitting flat seal</b> |        |          |     |                 |      |    |   |        |
| 30320102A                     | M5x0,8 | Steel    |     | 2               | 51,5 | 8  | 6 |        |
| 30320202A                     | M7x1   | Steel    |     | 2               | 54   | 10 | 7 |        |

| Part no.                               | Thread | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|--|--------|----------|--------------------|-----------------|----|---|----|--------|
|  |        |          |                    | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60°</b> |        |          |                    |                 |    |   |    |        |
| 20320302A                              | G1/4"  | Steel    | 50540301, 50540305 | 2               | 47 | - | 19 |        |

| Part no.          | Thread | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|--------|----------|--------------|-----------------|------|-----|----|------------|
|                   |        |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |        |          |              |                 |      |     |    |            |
| 50540301          | G1/4"  | Steel    | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"  | AISI 316 | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84103201A        | -      | Steel    | - | 9,2             | 30 | - | - |                           |
| 1.84303201Q        | -      | Steel    | - | 8,9             | 25 | - | - |                           |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Marking ring |
|---------------------|--------|----------|---|-----------------|----|---|---|--------------|
|                     |        |          |   | A               | B  | C |   |              |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |              |
| 1.851012.5          | -      | AISI 316 | - | 9               | 10 | - | - |              |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9034400                                 | 600,00           | 740,00              | 6,60                   | 6-10   |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
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**Applications**

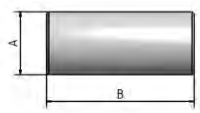
- Waterblast:** Heat exchanger tube cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

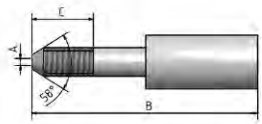


**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 3,4 mm    | 8,0 mm    | --                                   | 2.000 bar      | 110 mm      | 0,135 kg/m   | 2,0 mm    |
| 0,13 inch | 0,31 inch | --                                   | 29.000 psi     | 4,33 inch   | 0,090 lbs/ft | 0,08 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve  |
|---------------|--------|----------|-----------------|----|---|---|---|
|               |        |          | A               | B  | C | ⚙ |   |
| <b>Sleeve</b> |        |          |                 |    |   |   |   |
| 10340102      | -      | Steel    | 12,1            | 43 | - | - |  |

| Part no.          | Thread        | Material        | Nut | Dimensions (mm) |      |    |   | Insert  |
|-------------------|---------------|-----------------|-----|-----------------|------|----|---|---|
|                   |               |                 |     | A               | B    | C  | ⚙ |   |
| <b>HP fitting</b> |               |                 |     |                 |      |    |   |   |
| 40340202B         | 1/4"x28UNF LH | Steel           | -   | 2               | 79,5 | 14 | - |  |
| 40340224B         | 3/8"x24UNF LH | Stainless steel | -   | 2               | 84   | 20 | - |   |

| Part no.                               | Thread  | Material | Nut      | Dimensions (mm) |    |   |    | Insert  |
|--|---------|----------|----------|-----------------|----|---|----|---|
|  |         |          |          | A               | B  | C | ⚙  |   |
| <b>Universal female swivel 24°/60°</b> |         |          |          |                 |    |   |    |   |
| 20340112B                              | M12x1,5 | Steel    | 50340111 | 2               | 57 | - | 17 |  |

| Part no.                    | Thread      | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|----------|--------------------|-----------------|----|---|----|--------|
|                             |             |          |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |          |                    |                 |    |   |    |        |
| 20340602B                   | 9/16"x18UNF | Steel    | 50540601, 50540605 | 2               | 59 | - | 19 |        |

| Part no.          | Thread         | Material | Relief bores | Dimensions (mm) |    |    | ⌀  | Swivel nut |
|-------------------|----------------|----------|--------------|-----------------|----|----|----|------------|
|                   |                |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |                |          |              |                 |    |    |    |            |
| 50540601          | 9/16"x18UNF    | Steel    | 1 radial     | 9,2             | 18 | 14 | 19 |            |
| 50340111          | M12x1.5M12x1,5 | Steel    | 1 radial     | 8,2             | 16 | 9  | 17 |            |
| 50540605          | 9/16"x18UNF    | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 19 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84103401B        | -      | Steel    | - | 12,1            | 44 | - | - |                           |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Marking ring |
|---------------------|--------|----------|---|-----------------|----|---|---|--------------|
|                     |        |          |   | A               | B  | C |   |              |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |              |
| 1.851012.5          | -      | AISI 316 | - | 10              | 10 | - | - |              |

| Part no. | Size (mm)      | Material | Crimp ring |  | Hose protection |
|----------|----------------|----------|------------|--|-----------------|
|          |                |          |            |  |                 |
| 1.901418 | ID Ø14, OD Ø18 | PVC      | 1001921    |  |                 |
| 1.901822 | ID Ø18, OD Ø22 | PVC      | -          |  |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9034400  | 600,00           | 740,00              | 6,60                   | 6-10   |                    |



| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9034400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.901418        | -               | 1001921    | -              |
| with securing grip                    | 1.901822        | -               | -          | 9034400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

**Waterblast:** Heat exchanger tube cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 4 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Silver  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 3,4 mm    | 8,1 mm    | --               | 2.100 bar      | 110 mm      | 0,135 kg/m   | 2,0 mm    |
| 0,13 inch | 0,32 inch | --               | 30.450 psi     | 4,33 inch   | 0,090 lbs/ft | 0,08 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C |   |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 10340102      | -      | Steel    | 12,1            | 43 | - | - |        |

| Part no.          | Thread        | Material        | Nut | Dimensions (mm) |      |    |   | Insert |
|-------------------|---------------|-----------------|-----|-----------------|------|----|---|--------|
|                   |               |                 |     | A               | B    | C  |   |        |
| <b>HP fitting</b> |               |                 |     |                 |      |    |   |        |
| 40340202B         | 1/4"x28UNF LH | Steel           | -   | 2               | 79,5 | 14 | - |        |
| 40340224B         | 3/8"x24UNF LH | Stainless steel | -   | 2               | 84   | 20 | - |        |

| Part no.                               | Thread  | Material | Nut      | Dimensions (mm) |    |   |    | Insert |
|--|---------|----------|----------|-----------------|----|---|----|--------|
|  |         |          |          | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60°</b> |         |          |          |                 |    |   |    |        |
| 20340112B                              | M12x1,5 | Steel    | 50340111 | 2               | 57 | - | 17 |        |

| Part no.                    | Thread      | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|----------|--------------------|-----------------|----|---|----|--------|
|                             |             |          |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |          |                    |                 |    |   |    |        |
| 20340602B                   | 9/16"x18UNF | Steel    | 50540601, 50540605 | 2               | 59 | - | 19 |        |

| Part no.          | Thread         | Material | Relief bores | Dimensions (mm) |    |    | ⌀  | Swivel nut |
|-------------------|----------------|----------|--------------|-----------------|----|----|----|------------|
|                   |                |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |                |          |              |                 |    |    |    |            |
| 50540601          | 9/16"x18UNF    | Steel    | 1 radial     | 9,2             | 18 | 14 | 19 |            |
| 50340111          | M12x1.5M12x1,5 | Steel    | 1 radial     | 8,2             | 16 | 9  | 17 |            |
| 50540605          | 9/16"x18UNF    | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 19 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84103401B        | -      | Steel    | - | 12,1            | 44 | - | - |                           |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Marking ring |
|---------------------|--------|----------|---|-----------------|----|---|---|--------------|
|                     |        |          |   | A               | B  | C |   |              |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |              |
| 1.851012.5          | -      | AISI 316 | - | 10,1            | 10 | - | - |              |

| Part no.                              | Size (mm)      | Material | Crimp ring |  | Hose protection |
|---------------------------------------|----------------|----------|------------|--|-----------------|
|                                       |                |          |            |  |                 |
| <b>Hose protection without spiral</b> |                |          |            |  |                 |
| 1.901418                              | ID Ø14, OD Ø18 | PVC      | 1001921    |  |                 |
| 1.901822                              | ID Ø18, OD Ø22 | PVC      | -          |  |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9034400                                 | 600,00           | 740,00              | 6,60                   | 6-10   |                    |





| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9034400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.901418        | -               | 1001921    | -              |
| with securing grip                    | 1.901822        | -               | -          | 9034400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 3,0 mm    | 9,1 mm    | --                                   | 2.800 bar      | 150 mm      | 0,222 kg/m   | 1,8 mm    |
| 0,12 inch | 0,36 inch | --                                   | 40.600 psi     | 5,91 inch   | 0,149 lbs/ft | 0,07 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10360102      | -      | Steel    | 15,3            | 32,5 | - | - |        |

| Part no.          | Thread        | Material        | Nut | Dimensions (mm) |    |    |   | Insert |
|-------------------|---------------|-----------------|-----|-----------------|----|----|---|--------|
|                   |               |                 |     | A               | B  | C  |   |        |
| <b>HP fitting</b> |               |                 |     |                 |    |    |   |        |
| 40360204C         | 1/4"x28UNF LH | Stainless steel | -   | 1,8             | 68 | 14 | - |        |
| 40360224C         | 3/8"x24UNF LH | Stainless steel | -   | 1,8             | 76 | 20 | - |        |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|
|                     |        |          | A               | B    | C  |   |                           |
| <b>Stop sleeve</b>  |        |          |                 |      |    |   |                           |
| I.84103601C         | -      | Steel    | -               | 15,3 | 33 | - | -                         |
|                     |        |          |                 |      |    |   |                           |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |
| I.851215.5          | -      | AISI 316 | -               | 12,1 | 10 | - | -                         |
|                     |        |          |                 |      |    |   |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection without spiral</b> |                |          |            |                 |
| I.901621                              | ID Ø16, OD Ø21 | PVC      | I002224    |                 |
| I.902026                              | ID Ø20, OD Ø26 | PVC      | -          |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9034400                                 | 600,00           | 740,00              | 6,60                   | 6-10   |                    |

| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9034400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | I.901621        | -               | I002224    | -              |
| with securing grip                    | I.902026        | -               | -          | 9034400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
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# Hose Type 4/2

42070



DuraLife Flex ®

ID4 - Series: A, X and Q

## Applications

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

## Technical Information

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 4,0 mm    | 8,0 mm    | --               | 1.200 bar      | 75 mm       | 0,110 kg/m   | 2,5 mm    |
| 0,16 inch | 0,31 inch | --               | 17.400 psi     | 2,95 inch   | 0,074 lbs/ft | 0,10 inch |

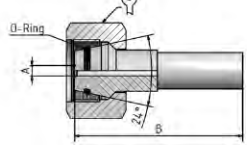
| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⌀ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 10420102      | -      | Steel    | 10              | 34 | - | - |        |
| 10420105      | -      | AISI 316 | 10              | 34 | - | - |        |

| Part no.                                   | Thread       | Material | Hose part   | Dimensions (mm) |    |    |   | OnePiece Fittings®WS |
|--|--------------|----------|-------------|-----------------|----|----|---|----------------------|
|  |              |          |             | A               | B  | C  | ⌀ |                      |
| <b>OnePiece Fittings® with wrench size</b> |              |          |             |                 |    |    |   |                      |
| 30420451Q                                  | 1/16"x27NPTF | Steel    | 30420452/1Q | 9,9             | 34 | 7  | 7 |                      |
| 30420461Q                                  | 1/8"x27NPTF  | Steel    | 30420462/1Q | 9,9             | 37 | 10 | 8 |                      |
| 30420601Q                                  | 5/16"x24UNF  | Steel    | 30420452/1Q | 9,9             | 34 | 7  | 7 |                      |

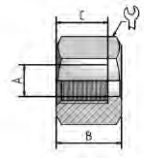
| Part no.                  | Thread      | Material | Hose part   | Dimensions (mm) |    |   |     | OnePiece Fittings® |
|---------------------------|-------------|----------|-------------|-----------------|----|---|-----|--------------------|
|                           |             |          |             | A               | B  | C | D   |                    |
| <b>OnePiece Fittings®</b> |             |          |             |                 |    |   |     |                    |
| 30420601X                 | 5/16"x24UNF | Steel    | 30420452/1X | 2,5             | 28 | 7 | 9,9 |                    |

| Part no.                               | Thread        | Material | Nut                | Dimensions (mm) |      |      | Insert |
|--|---------------|----------|--------------------|-----------------|------|------|--------|
|  |               |          |                    | A               | B    | C    |        |
| <b>HP fitting</b>                      |               |          |                    |                 |      |      |        |
| 40420205A                              | 1/4"x28UNF LH | AISI 316 | -                  | 2,5             | 69   | 14,3 | -      |
|  |               |          |                    |                 |      |      |        |
| <b>Male fitting</b>                    |               |          |                    |                 |      |      |        |
| 30420412A                              | 1/16"x27NPTF  | Steel    | -                  | 2,5             | 49   | 8    | 7      |
| 30420542A                              | 1/8"x27NPTF   | Steel    | -                  | 2,5             | 53   | 10   | 8      |
| 30420422A                              | 1/4"x18NPTF   | Steel    | -                  | 2,5             | 57   | 14   | 11     |
| 30420302A                              | G1/8"         | Steel    | -                  | 2,5             | 53   | 12   | 9      |
| 30420322A                              | G1/4"         | Steel    | -                  | 2,5             | 55   | 12   | 11     |
| 30420042A                              | M7x1          | Steel    | -                  | 2,5             | 54   | 10   | 9      |
| 30420052A                              | M8x1,25       | Steel    | -                  | 2,5             | 54   | 10   | 9      |
| 30420002A                              | M10x1         | Steel    | -                  | 2,5             | 55   | 12   | 8      |
| <b>Male fitting 100° external cone</b> |               |          |                    |                 |      |      |        |
| 30420362A                              | G1/4"         | Steel    | -                  | 2,5             | 60   | 18   | 17     |
|  |               |          |                    |                 |      |      |        |
| <b>Male fitting for USIT® Ring</b>     |               |          |                    |                 |      |      |        |
| 30420352A                              | G1/4"         | Steel    | -                  | 2,5             | 54,5 | 11   | 22     |
|  |               |          |                    |                 |      |      |        |
| <b>Male fitting flat seal</b>          |               |          |                    |                 |      |      |        |
| 30420382A                              | G1/8"         | Steel    | -                  | 2,5             | 56   | 13   | 9      |
| 30420082A                              | M7            | Steel    | -                  | 2,5             | 53   | 10   | 7      |
|  |               |          |                    |                 |      |      |        |
| <b>Type M female swivel</b>            |               |          |                    |                 |      |      |        |
| 20420642A                              | 9/16"x18UNF   | Steel    | 50540601           | 2,5             | 48,5 | -    | 19     |
|  |               |          |                    |                 |      |      |        |
| <b>Universal female swivel 24°/60°</b> |               |          |                    |                 |      |      |        |
| 20430302A                              | G1/4"         | Steel    | 50540301, 50540305 | 2,5             | 48   | -    | 19     |
|  |               |          |                    |                 |      |      |        |

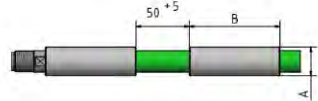
| Part no.                         | Thread  | Material | Nut      | Dimensions (mm) |    |   | Insert |
|----------------------------------|---------|----------|----------|-----------------|----|---|--------|
|                                  |         |          |          | A               | B  | C |        |
| <b>Female swivel with O-Ring</b> |         |          |          |                 |    |   |        |
| 20420042A                        | M24x1,5 | Steel    | 51321206 | 2,5             | 66 | - | 32     |



| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|------------|
|                   |             |          |              | A               | B    | C   |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19         |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19         |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19         |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32         |
| 51320205          | M24x1,5     | AISI 316 | 1 radial     | 16,8            | 23   | 16  | 32         |




| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---------------------------|
|                    |        |          |   | A               | B  | C |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |                           |
| 1.84104201A        | -      | Steel    | - | 10,1            | 34 | - | -                         |
| 1.84304201Q        | -      | Steel    | - | 9,9             | 25 | - | -                         |




| Part no.   | Thread | Material |   | Dimensions (mm) |    |   | Marking ring |
|------------|--------|----------|---|-----------------|----|---|--------------|
|            |        |          |   | A               | B  | C |              |
| 1.851012.5 | -      | AISI 316 | - | 10              | 10 | - | -            |



| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| 1.9518400                     | Rubber   | 1003035    | 34              | 130    |                 |



| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9034400  | 600,00           | 740,00              | 6,60                   | 6-10   |                    |





**Accessories combinations**

| <b>Without hose protection</b>    |                 |            |                |
|-----------------------------------|-----------------|------------|----------------|
| Description                       | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                   | 1.9518400       | 1003035    | -              |
| Securing grip                     | -               | -          | 9034400        |
| Bend restrictor and securing grip | -               | -          | -              |

*Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.*

*The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.*

*Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.*

*The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.*

*\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.*

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# Hose Type 4/2H-1400

42H071.1400

**SPIR STAR®**

DuraLife Flex ®

ID4 - Series: A, X and Q

## Applications

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

## Technical Information

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 4,0 mm    | 8,1 mm    | --               | 1.400 bar      | 75 mm       | 0,112 kg/m   | 2,5 mm    |
| 0,16 inch | 0,32 inch | --               | 20.300 psi     | 2,95 inch   | 0,075 lbs/ft | 0,10 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⌀ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 10420102      | -      | Steel    | 10              | 34 | - | - |        |
| 10420105      | -      | AISI 316 | 10              | 34 | - | - |        |

| Part no.                                   | Thread       | Material | Hose part   | Dimensions (mm) |    |    |   | OnePiece Fittings®WS |
|--|--------------|----------|-------------|-----------------|----|----|---|----------------------|
|  |              |          |             | A               | B  | C  | ⌀ |                      |
| <b>OnePiece Fittings® with wrench size</b> |              |          |             |                 |    |    |   |                      |
| 30420451Q                                  | 1/16"x27NPTF | Steel    | 30420452/1Q | 9,9             | 34 | 7  | 7 |                      |
| 30420461Q                                  | 1/8"x27NPTF  | Steel    | 30420462/1Q | 9,9             | 37 | 10 | 8 |                      |
| 30420601Q                                  | 5/16"x24UNF  | Steel    | 30420452/1Q | 9,9             | 34 | 7  | 7 |                      |

| Part no.                  | Thread      | Material | Hose part   | Dimensions (mm) |    |   |     | OnePiece Fittings® |
|---------------------------|-------------|----------|-------------|-----------------|----|---|-----|--------------------|
|                           |             |          |             | A               | B  | C | D   |                    |
| <b>OnePiece Fittings®</b> |             |          |             |                 |    |   |     |                    |
| 30420601X                 | 5/16"x24UNF | Steel    | 30420452/1X | 2,5             | 28 | 7 | 9,9 |                    |



| Part no.                               | Thread        | Material | Nut                | Dimensions (mm) |      |      | Insert |  |
|--|---------------|----------|--------------------|-----------------|------|------|--------|--|
|  |               |          |                    | A               | B    | C    |        |  |
| <b>HP fitting</b>                      |               |          |                    |                 |      |      |        |  |
| 40420205A                              | 1/4"x28UNF LH | AISI 316 | -                  | 2,5             | 69   | 14,3 | -      |  |
| <b>Male fitting</b>                    |               |          |                    |                 |      |      |        |  |
| 30420412A                              | 1/16"x27NPTF  | Steel    | -                  | 2,5             | 49   | 8    | 7      |  |
| 30420542A                              | 1/8"x27NPTF   | Steel    | -                  | 2,5             | 53   | 10   | 8      |  |
| 30420422A                              | 1/4"x18NPTF   | Steel    | -                  | 2,5             | 57   | 14   | 11     |  |
| 30420302A                              | G1/8"         | Steel    | -                  | 2,5             | 53   | 12   | 9      |  |
| 30420322A                              | G1/4"         | Steel    | -                  | 2,5             | 55   | 12   | 11     |  |
| 30420042A                              | M7x1          | Steel    | -                  | 2,5             | 54   | 10   | 9      |  |
| 30420052A                              | M8x1,25       | Steel    | -                  | 2,5             | 54   | 10   | 9      |  |
| 30420002A                              | M10x1         | Steel    | -                  | 2,5             | 55   | 12   | 8      |  |
| <b>Male fitting 100° external cone</b> |               |          |                    |                 |      |      |        |  |
| 30420362A                              | G1/4"         | Steel    | -                  | 2,5             | 60   | 18   | 17     |  |
| <b>Male fitting for USIT® Ring</b>     |               |          |                    |                 |      |      |        |  |
| 30420352A                              | G1/4"         | Steel    | -                  | 2,5             | 54,5 | 11   | 22     |  |
| <b>Male fitting flat seal</b>          |               |          |                    |                 |      |      |        |  |
| 30420382A                              | G1/8"         | Steel    | -                  | 2,5             | 56   | 13   | 9      |  |
| 30420082A                              | M7            | Steel    | -                  | 2,5             | 53   | 10   | 7      |  |
| <b>Type M female swivel</b>            |               |          |                    |                 |      |      |        |  |
| 20420642A                              | 9/16"x18UNF   | Steel    | 50540601           | 2,5             | 48,5 | -    | 19     |  |
| <b>Universal female swivel 24°/60°</b> |               |          |                    |                 |      |      |        |  |
| 20430302A                              | G1/4"         | Steel    | 50540301, 50540305 | 2,5             | 48   | -    | 19     |  |

| Part no.                         | Thread  | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|----------------------------------|---------|----------|----------|-----------------|----|---|----|--------|
|                                  |         |          |          | A               | B  | C |    |        |
| <b>Female swivel with O-Ring</b> |         |          |          |                 |    |   |    |        |
| 20420042A                        | M24x1,5 | Steel    | 51321206 | 2,5             | 66 | - | 32 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |
| 51320205          | M24x1,5     | AISI 316 | 1 radial     | 16,8            | 23   | 16  | 32 |            |

| Part no.           | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                    |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |              |                 |    |   |   |                           |
| 1.84104201A        | -      | Steel    | -            | 10,1            | 34 | - | - |                           |
| 1.84304201Q        | -      | Steel    | -            | 9,9             | 25 | - | - |                           |

| Part no.   | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Marking ring |
|------------|--------|----------|--------------|-----------------|----|---|---|--------------|
|            |        |          |              | A               | B  | C |   |              |
| 1.851012.5 | -      | AISI 316 | -            | 10,1            | 10 | - | - |              |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | ⌀               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| 1.9518400                     | Rubber   | 1003035    | 34              | 130    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9034400  | 600,00           | 740,00              | 6,60                   | 6-10   |                    |



**Accessories combinations**

| Without hose protection           |                 |            |                |
|-----------------------------------|-----------------|------------|----------------|
| Description                       | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                   | 1.9518400       | 1003035    | -              |
| Bend restrictor                   | 1.9518400       | 1003035    | -              |
| Bend restrictor                   | 1.9518400       | 1003035    | -              |
| Securing grip                     | -               | -          | 9034400        |
| Securing grip                     | -               | -          | 9034400        |
| Securing grip                     | -               | -          | 9034400        |
| Bend restrictor and securing grip | -               | -          | -              |
| Bend restrictor and securing grip | -               | -          | -              |
| Bend restrictor and securing grip | -               | -          | -              |

*Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.*

*The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.*

*Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.*

*The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.*

*\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.*

*We reserve our rights for technical changes without notice. Subject to printing errors.*

**Applications**

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +70°C [-22°F to 158°F]

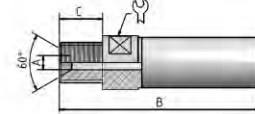
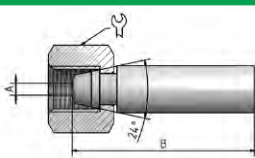
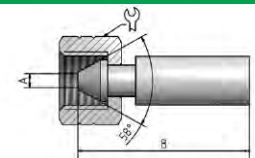
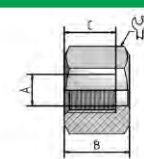
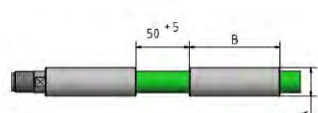
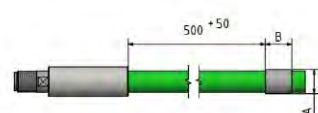
| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 4,0 mm    | 10,3 mm   | --               | 2.200 bar      | 130 mm      | 0,234 kg/m   | 1,8 mm    |
| 0,16 inch | 0,41 inch | --               | 31.900 psi     | 5,12 inch   | 0,157 lbs/ft | 0,07 inch |



| Part no.      | Thread | Material | Dimensions (mm) |    |   | ⚙ | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C |   |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 10440102      | -      | Steel    | 14,7            | 49 | - | - |        |
| 10440105      | -      | AISI 316 | 14,7            | 49 | - | - |        |


| Part no.                 | Thread | Material | Dimensions (mm) |    |   | ⚙ | Sleeve |
|--------------------------|--------|----------|-----------------|----|---|---|--------|
|                          |        |          | A               | B  | C |   |        |
| <b>Blast-Pro® sleeve</b> |        |          |                 |    |   |   |        |
| 10440232YB               | -      | Steel    | 11,5            | 22 |   |   |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    | ⚙ | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 40460204C         | 1/4"x28UNF LH  | Stainless steel | -   | 1,8             | 82  | 14 | - |        |
| 40460224C         | 3/8"x24UNF LH  | Stainless steel | -   | 1,8             | 90  | 20 | - |        |
| 40460234C         | 9/16"x18UNF LH | Stainless steel | -   | 1,8             | 104 | 24 | - |        |

| Part no.                     | Thread        | Material        | Sleeve     | Dimensions (mm) |    |    | ⚙ | Blast-Pro® Insert* |
|------------------------------|---------------|-----------------|------------|-----------------|----|----|---|--------------------|
|                              |               |                 |            | A               | B  | C  |   |                    |
| <b>Blast-Pro® HP fitting</b> |               |                 |            |                 |    |    |   |                    |
| 40440214YB                   | 1/4"x28UNF LH | Stainless steel | 10440232YB | 1,8             | 41 | 16 |   |                    |
| 40440224YB                   | 1/4"x28UNF    | Stainless steel | 10440232YB | 1,8             | 41 | 16 | 9 |                    |

| Part no.                               | Thread      | Material        | Nut                | Dimensions (mm) |      |     | ⌀  | Insert  |
|--|-------------|-----------------|--------------------|-----------------|------|-----|----|---|
|  |             |                 |                    | A               | B    | C   |    |   |
| <b>Male fitting 60° internal cone</b>  |             |                 |                    |                 |      |     |    |   |
| 30440302B                              | G1/8"       | Steel           | -                  | 1,8             | 70,5 | 12  | 9  |    |
| <b>Universal female swivel 24°/60°</b> |             |                 |                    |                 |      |     |    |   |
| 20440302B                              | G1/4"       | Steel           | 50540301, 50540305 | 1,8             | 63   | -   | 19 |    |
| <b>Type M female swivel</b>            |             |                 |                    |                 |      |     |    |   |
| 20460644C                              | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 1,8             | 63   | -   | 22 |    |
| Part no.                               | Thread      | Material        | Relief bores       | Dimensions (mm) |      |     | ⌀  | Swivel nut  |
|  |             |                 |                    | A               | B    | C   |    |   |
| <b>Swivel nut</b>                      |             |                 |                    |                 |      |     |    |   |
| 50560601                               | 9/16"x18UNF | Steel           | I radial           | 9,2             | 18   | 14  | 22 |   |
| 50560605                               | 9/16"x18UNF | AISI 316        | I radial           | 9,2             | 18   | 14  | 22 |   |
| 50540301                               | G1/4"       | Steel           | I radial           | 9,2             | 16,5 | 8,5 | 19 |   |
| 50540305                               | G1/4"       | AISI 316        | I radial           | 9,2             | 16,5 | 8,5 | 19 |   |
| Part no.                               | Thread      | Material        | Relief bores       | Dimensions (mm) |      |     | ⌀  | Tube cleaning accessories   |
|  |             |                 |                    | A               | B    | C   |    |   |
| <b>Stop sleeve</b>                     |             |                 |                    |                 |      |     |    |   |
| 1.84104401C                            | -           | Steel           | -                  | 14,7            | 48,7 | -   | -  |  |
| <b>Marking ring</b>                    |             |                 |                    |                 |      |     |    |   |
| 1.851215.5                             | -           | AISI 316        | -                  | 13,3            | 10   | -   | -  |  |

|                                       |                |          |            | Hose protection   |
|---------------------------------------|----------------|----------|------------|---|
| Part no.                              | Size (mm)      | Material | Crimp ring |   |
| <b>Hose protection without spiral</b> |                |          |            |   |
| 1.901621                              | ID Ø16, OD Ø21 | PVC      | 1002224    |  |
| <b>Hose protection with spiral</b>    |                |          |            |   |
| 1.912026                              | ID Ø19, OD Ø26 | PVC      | 1003035    |  |

|   |                  |                     |                        |  | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) |   |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |  |

|                                       |                 |  |                 |            | Accessories combinations |
|---------------------------------------|-----------------|--|-----------------|------------|--------------------------|
| <b>Without hose protection</b>        |                 |  |                 |            |                          |
| Description                           |                 |  | Bend restrictor | Crimp ring | Securing grips           |
| Securing grip                         |                 |  | -               | -          | 9056400                  |
| <b>Hose protection without spiral</b> |                 |  |                 |            |                          |
| Description                           | Protection hose |  | Bend restrictor | Crimp ring | Securing grips           |
| Protection hose                       | 1.901621        |  | -               | 1002224    | -                        |
| with securing grip                    | 1.901621        |  | -               | -          | 9056400                  |
| <b>Hose protection with spiral</b>    |                 |  |                 |            |                          |
| Description                           | Protection hose |  | Bend restrictor | Crimp ring | Securing grips           |
| Protection hose                       | 1.912026        |  | -               | 1003035    | -                        |
| with securing grip                    | 1.912026        |  | -               | -          | 9056400                  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
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# Hose Type 4/4UHP-X-3035

44UHP075-X.3035



DuraLife Flex ®

ID4 - Series: E and YE

## Applications

**Waterblast:** Heat exchanger tube cleaning

## Technical Information

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 4 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Orange  
**Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.0:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 4,0 mm    | 9,9 mm    | --                                   | 3.035 bar      | 90 mm       | 0,234 kg/m   | 2,5 mm    |
| 0,16 inch | 0,39 inch | --                                   | 44.000 psi     | 3,54 inch   | 0,157 lbs/ft | 0,10 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⌀ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 10440102      | -      | Steel    | 14,7            | 49 | - | - |        |

|                          |   |                 |      |      |   |   |  |
|--------------------------|---|-----------------|------|------|---|---|--|
| <b>Blast-Pro® sleeve</b> |   |                 |      |      |   |   |  |
| 10460104YE               | - | Stainless steel | 11,3 | 19,5 | - | - |  |

| Part no.          | Thread        | Material        | Nut | Dimensions (mm) |    |      |   | Insert |
|-------------------|---------------|-----------------|-----|-----------------|----|------|---|--------|
|                   |               |                 |     | A               | B  | C    | ⌀ |        |
| <b>HP fitting</b> |               |                 |     |                 |    |      |   |        |
| 40460214E         | 1/4"x28UNF LH | Stainless steel | -   | 2,5             | 80 | 14,3 | - |        |
| 40460204E         | 3/8"x24UNF LH | Stainless steel | -   | 3,2             | 90 | 19,1 | - |        |

| Part no.                     | Thread        | Material        | Sleeve     | Dimensions (mm) |    |    |    | Blast-Pro® Insert* |
|------------------------------|---------------|-----------------|------------|-----------------|----|----|----|--------------------|
|                              |               |                 |            | A               | B  | C  | ⌀  |                    |
| <b>Blast-Pro® HP fitting</b> |               |                 |            |                 |    |    |    |                    |
| 40460204YE                   | 1/4"x28UNF LH | Stainless steel | 10460104YE | 2,5             | 41 | 16 | 9  |                    |
| 40460214YE                   | 1/4"x28UNF    | Stainless steel | 10460104YE | 2,5             | 41 | 16 | 9  |                    |
| 40460224YE                   | 3/8"x24UNF LH | Stainless steel | 10460104YE | 2,5             | 47 | 22 | 10 |                    |
| 40460234YE                   | 3/8"x24UNF    | Stainless steel | 10460104YE | 2,5             | 47 | 22 | 10 |                    |

| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|-----------------|--------------------|-----------------|----|---|----|--------|
|                             |             |                 |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |                 |                    |                 |    |   |    |        |
| 20460604E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 63 | - | 22 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |    |    | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|----|----|----|------------|
|                   |             |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |             |          |              |                 |    |    |    |            |
| 50560601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18 | 14 | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 22 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |      |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|------|---|---|---------------------------|
|                    |        |          |   | A               | B    | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |      |   |   |                           |
| 1.84104401E        | -      | Steel    | - | 14,7            | 49   | - | - |                           |
| 1.84104601YE       | -      | Steel    | - | 11,3            | 19,5 | - | - |                           |

| Part no.   | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Marking ring |
|------------|--------|----------|---|-----------------|----|---|---|--------------|
|            |        |          |   | A               | B  | C |   |              |
| 1.851215.5 | -      | AISI 316 | - | 12,9            | 10 | - | - |              |

| Part no.                              | Size (mm)      | Material | Crimp ring |  | Hose protection |
|---------------------------------------|----------------|----------|------------|--|-----------------|
|                                       |                |          |            |  |                 |
| <b>Hose protection without spiral</b> |                |          |            |  |                 |
| 1.901621                              | ID Ø16, OD Ø21 | PVC      | 1002224    |  |                 |

| Part no.                           | Size (mm)      | Material | Crimp ring |  | Hose protection |
|------------------------------------|----------------|----------|------------|--|-----------------|
|                                    |                |          |            |  |                 |
| <b>Hose protection with spiral</b> |                |          |            |  |                 |
| 1.912026                           | ID Ø19, OD Ø26 | PVC      | 1003035    |  |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |                    |





| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9056400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.901621        | -               | 1002224    | -              |
| with securing grip                    | 1.901621        | -               | -          | 9056400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.912026        | -               | 1003035    | -              |
| with securing grip                    | 1.912026        | -               | -          | 9056400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Blue  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 4,0 mm    | 11,5 mm   | --                                   | 2.800 bar      | 175 mm      | 0,365 kg/m   | 1,8 mm    |
| 0,16 inch | 0,45 inch | --                                   | 40.600 psi     | 6,89 inch   | 0,245 lbs/ft | 0,07 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   | ⚙ | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10460102      | -      | Steel    | 17,1            | 48,9 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    | ⚙ | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 40460204C         | 1/4"x28UNF LH  | Stainless steel | -   | 1,8             | 82  | 14 | - |        |
| 40460224C         | 3/8"x24UNF LH  | Stainless steel | -   | 1,8             | 90  | 20 | - |        |
| 40460234C         | 9/16"x18UNF LH | Stainless steel | -   | 1,8             | 104 | 24 | - |        |

| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |    |   | ⚙  | Insert |
|-----------------------------|-------------|-----------------|--------------------|-----------------|----|---|----|--------|
|                             |             |                 |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |                 |                    |                 |    |   |    |        |
| 20460644C                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 1,8             | 63 | - | 22 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |    |    |    | ⌀ | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|----|----|----|---|------------|
|                   |             |          |              | A               | B  | C  |    |   |            |
| <b>Swivel nut</b> |             |          |              |                 |    |    |    |   |            |
| 50560601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18 | 14 | 22 |   |            |
| 50560605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 22 |   |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |    |   |   |   |                           |
| 1.84104601C         | -      | Steel    | -            | 17,1            | 49 | - | - |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |   |                           |
| 1.851316.5          | -      | AISI 316 | -            | 14,5            | 10 | - | - |   |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection without spiral</b> |                |          |            |                 |
| 1.901822                              | ID Ø18, OD Ø22 | PVC      | 1002426    |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |
| 1.912026                              | ID Ø19, OD Ø26 | PVC      | 1003035    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |                    |



| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9056400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.901822        | -               | 1002426    | -              |
| with securing grip                    | 1.901822        | -               | -          | 9056400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.912026        | -               | 1003035    | -              |
| with securing grip                    | 1.912026        | -               | -          | 9056400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools), hydroforming



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 8 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Purple red
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 4,0 mm    | 12,8 mm   | --               | 3.200 bar      | 175 mm      | 0,540 kg/m   | 1,8 mm    |
| 0,16 inch | 0,50 inch | --               | 46.400 psi     | 6,89 inch   | 0,362 lbs/ft | 0,07 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10480102      | -      | Steel    | 19,5            | 48,4 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 40460204C         | 1/4"x28UNF LH  | Stainless steel | -   | 1,8             | 82  | 14 | - |        |
| 40460224C         | 3/8"x24UNF LH  | Stainless steel | -   | 1,8             | 90  | 20 | - |        |
| 40460234C         | 9/16"x18UNF LH | Stainless steel | -   | 1,8             | 104 | 24 | - |        |

| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |  |
|-----------------------------|-------------|-----------------|--------------------|-----------------|--|
| <b>Type M female swivel</b> |             |                 |                    |                 |  |
| 20460644C                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 1,8 63 - 22     |  |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|----|----|----|------------|
|                   |             |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |             |          |              |                 |    |    |    |            |
| 50560605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 22 |            |
| 50560601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18 | 14 | 22 |            |

| Part no. | Size (mm) | Material | Crimp ring | Hose protection |  |
|----------|-----------|----------|------------|-----------------|--|
|----------|-----------|----------|------------|-----------------|--|

**Hose protection without spiral**

|          |                |     |         |  |  |
|----------|----------------|-----|---------|--|--|
| I.902228 | ID Ø22, OD Ø28 | PVC | -       |  |  |
| I.902026 | ID Ø20, OD Ø26 | PVC | I002729 |  |  |
| I.902531 | ID Ø25, OD Ø31 | PVC | -       |  |  |

**Hose protection with spiral**

|          |                |     |         |  |  |
|----------|----------------|-----|---------|--|--|
| I.912532 | ID Ø25, OD Ø32 | PVC | -       |  |  |
| I.912026 | ID Ø19, OD Ø26 | PVC | I003035 |  |  |

| Part no. | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|----------|----------|------------|-----------------|--------|-----------------|
|          |          |            | Ø               | Length |                 |

**PU bend restrictor**

|            |    |         |    |     |  |
|------------|----|---------|----|-----|--|
| I.9518306B | PU | I003035 | 34 | 250 |  |
|------------|----|---------|----|-----|--|

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|----------|------------------|---------------------|------------------------|--|--------------------|

**Hose securing grip short version**

|         |        |        |       |       |  |
|---------|--------|--------|-------|-------|--|
| 9056400 | 600,00 | 740,00 | 10,20 | 10-15 |  |
|---------|--------|--------|-------|-------|--|

**Hose securing grip long version**

|         |        |        |       |       |  |
|---------|--------|--------|-------|-------|--|
| 905640L | 600,00 | 990,00 | 10,20 | 10-15 |  |
|---------|--------|--------|-------|-------|--|

### Accessories combinations

| Without hose protection                |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518306B      | 1003035    | -              |
| Securing grip                          |                 | -               | -          | 9056400        |
| Bend restrictor and securing grip      |                 | 1.9518306B      | 1003035    | 905640L        |
| Hose protection without spiral         |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902026        | -               | 1002729    | -              |
| with bend restrictor                   | 1.902531        | 1.9518306B      | 1003035    | -              |
| with securing grip                     | 1.902228        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.902531        | 1.9518306B      | 1003035    | 905640L        |
| Hose protection with spiral            |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912026        | -               | 1003035    | -              |
| with bend restrictor                   | 1.912532        | 1.9518306B      | 1003035    | -              |
| with securing grip                     | 1.912026        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.912532        | 1.9518306B      | 1003035    | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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# Hose Type 5/2

52070

**SPIR STAR®**

DuraLife Flex ®

ID5 - Series: A and Q

## Applications

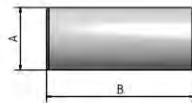
- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

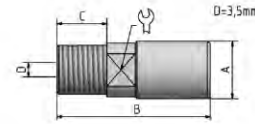
## Technical Information

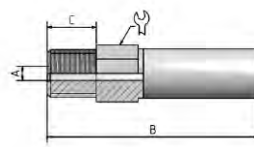
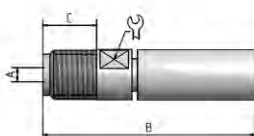
- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 5,0 mm    | 9,4 mm    | --               | 1.040 bar      | 95 mm       | 0,125 kg/m   | 3,0 mm    |
| 0,20 inch | 0,37 inch | --               | 15.080 psi     | 3,74 inch   | 0,084 lbs/ft | 0,12 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |    | Sleeve   |
|---------------|--------|----------|-----------------|------|---|----|--|
|               |        |          | A               | B    | C | ⚙️ |  |
| <b>Sleeve</b> |        |          |                 |      |   |    |  |
| 10520101      | -      | Steel    | 12,9            | 38,2 | - | -  |  |

| Part no.                                   | Thread      | Material | Hose part   | Dimensions (mm) |    |    |    | OnePiece Fittings®WS  |
|--|-------------|----------|-------------|-----------------|----|----|----|---|
|  |             |          |             | A               | B  | C  | ⚙️ |   |
| <b>OnePiece Fittings® with wrench size</b> |             |          |             |                 |    |    |    |   |
| 30520441Q                                  | 1/8"x27NPTF | Steel    | 30520442/1Q | 11,4            | 39 | 10 | 9  |  |

| Part no.                      | Thread      | Material | Nut | Dimensions (mm) |      |    |    | Insert  |
|-------------------------------|-------------|----------|-----|-----------------|------|----|----|---|
|                               |             |          |     | A               | B    | C  | ⚙️ |   |
| <b>Male fitting</b>           |             |          |     |                 |      |    |    |   |
| 30520401A                     | 1/8"x27NPTF | Steel    | -   | 3               | 56   | 10 | 10 |  |
| 30520451A                     | 1/4"x18NPTF | Steel    | -   | 3               | 64   | 14 | 12 |   |
| 30520301A                     | G1/8"       | Steel    | -   | 3               | 60   | 10 | 9  |   |
| 30520321A                     | G1/4"       | Steel    | -   | 3               | 58   | 12 | 14 |   |
| 30520011A                     | M7          | Steel    | -   | 3               | 57,5 | 10 | 9  |   |
| 30520041A                     | M10x1       | Steel    | -   | 3               | 61,5 | 12 | 12 |   |
| <b>Male fitting flat seal</b> |             |          |     |                 |      |    |    |   |
| 30520381A                     | G1/8"       | Steel    | -   | 3               | 63   | 13 | 9  |  |
| 30520021A                     | M8x1,25     | Steel    | -   | 3               | 62   | 12 | 9  |   |



| Part no.                                     | Thread      | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|--|-------------|----------|--------------------|-----------------|----|---|----|--------|
|  |             |          |                    | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60°</b>       |             |          |                    |                 |    |   |    |        |
| 20520301A                                    | G1/4"       | Steel    | 50540301, 50540305 | 3               | 54 | - | 19 |        |
| <b>Universal female swivel 24°/60° light</b> |             |          |                    |                 |    |   |    |        |
| 20520101A                                    | M14x1,5     | Steel    | 50540101           | 3               | 54 | - | 19 |        |
| <b>Female swivel with O-Ring</b>             |             |          |                    |                 |    |   |    |        |
| 20520042A                                    | M24x1,5     | Steel    | 51321206           | 3               | 72 | - | 32 |        |
| <b>Type M female swivel</b>                  |             |          |                    |                 |    |   |    |        |
| 20520601A                                    | 9/16"x18UNF | Steel    | 50540601, 50540605 | 3               | 54 | - | 19 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540101          | M14x1,5     | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |
| 51320205          | M24x1,5     | AISI 316 | 1 radial     | 16,8            | 23   | 16  | 32 |            |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |   |                 |    |   |   |                           |
| I.84105201A         | -      | Steel    | - | 12,8            | 40 | - | - |                           |
| I.84305201Q         | -      | Steel    | - | 11,4            | 25 | - | - |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |                           |
| I.851215.5          | -      | AISI 316 | - | 12,4            | 10 | - | - |                           |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| I.9518400                     | Rubber   | I003035    | 34              | 130    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9034400  | 600,00           | 740,00              | 6,60                   | 6-10   |                    |

| <b>Accessories combinations</b>   |                 |            |                |  |
|-----------------------------------|-----------------|------------|----------------|--|
| <b>Without hose protection</b>    |                 |            |                |  |
| Description                       | Bend restrictor | Crimp ring | Securing grips |  |
| Bend restrictor                   | I.9518400       | I003035    | -              |  |
| Securing grip                     | -               | -          | 9034400        |  |
| Bend restrictor and securing grip | -               | -          | -              |  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
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# Hose Type 5/2H-1400

52H071.1400

**SPIR STAR®**

DuraLife Flex ®

ID5 - Series: A and Q

## Applications

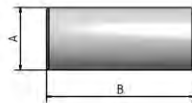
- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

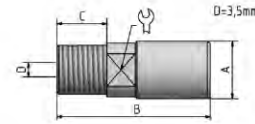
## Technical Information

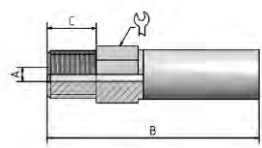
- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 4,9 mm    | 9,5 mm    | -- (SF 2,5:1)    | 1.400 bar      | 95 mm       | 0,148 kg/m   | 3,0 mm    |
| 0,19 inch | 0,37 inch | --               | 20.300 psi     | 3,74 inch   | 0,099 lbs/ft | 0,12 inch |

| Part no. | Thread | Material | Dimensions (mm) |      |   |   | Sleeve   |
|----------|--------|----------|-----------------|------|---|---|--|
|          |        |          | A               | B    | C | ⌀ |  |
| 10520101 | -      | Steel    | 12,9            | 38,2 | - | - |  |

| Part no.  | Thread      | Material | Hose part   | Dimensions (mm) |    |    |   | OnePiece Fittings®WS  |
|-----------|-------------|----------|-------------|-----------------|----|----|---|---|
|           |             |          |             | A               | B  | C  | ⌀ |   |
| 30520441Q | 1/8"x27NPTF | Steel    | 30520442/1Q | 11,4            | 39 | 10 | 9 |  |

| Part no.  | Thread      | Material | Nut | Dimensions (mm) |      |    |    | Insert  |
|-----------|-------------|----------|-----|-----------------|------|----|----|---|
|           |             |          |     | A               | B    | C  | ⌀  |   |
| 30520401A | 1/8"x27NPTF | Steel    | -   | 3               | 56   | 10 | 10 |  |
| 30520451A | 1/4"x18NPTF | Steel    | -   | 3               | 64   | 14 | 12 |   |
| 30520301A | G1/8"       | Steel    | -   | 3               | 60   | 10 | 9  |   |
| 30520321A | G1/4"       | Steel    | -   | 3               | 58   | 12 | 14 |   |
| 30520011A | M7          | Steel    | -   | 3               | 57,5 | 10 | 9  |   |
| 30520041A | M10x1       | Steel    | -   | 3               | 61,5 | 12 | 12 |   |

| Part no.                                     | Thread      | Material | Nut                | Dimensions (mm) |      |     | ⌀  | Insert     |
|--|-------------|----------|--------------------|-----------------|------|-----|----|------------|
|  |             |          |                    | A               | B    | C   |    |            |
| <b>Male fitting flat seal</b>                |             |          |                    |                 |      |     |    |            |
| 30520381A                                    | G1/8"       | Steel    | -                  | 3               | 63   | 13  | 9  |            |
| 30520021A                                    | M8x1,25     | Steel    |                    | 3               | 62   | 12  | 9  |            |
| <b>Universal female swivel 24°/60°</b>       |             |          |                    |                 |      |     |    |            |
| 20520301A                                    | G1/4"       | Steel    | 50540301, 50540305 | 3               | 54   | -   | 19 |            |
| <b>Universal female swivel 24°/60° light</b> |             |          |                    |                 |      |     |    |            |
| 20520101A                                    | M14x1,5     | Steel    | 50540101           | 3               | 54   | -   | 19 |            |
| <b>Female swivel with O-Ring</b>             |             |          |                    |                 |      |     |    |            |
| 20520042A                                    | M24x1,5     | Steel    | 51321206           | 3               | 72   | -   | 32 |            |
| <b>Type M female swivel</b>                  |             |          |                    |                 |      |     |    |            |
| 20520601A                                    | 9/16"x18UNF | Steel    | 50540601, 50540605 | 3               | 54   | -   | 19 |            |
| <b>Swivel nut</b>                            |             |          |                    |                 |      |     |    |            |
| Part no.                                     | Thread      | Material | Relief bores       | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|  |             |          |                    | A               | B    | C   |    |            |
| 50540601                                     | 9/16"x18UNF | Steel    | 1 radial           | 9,2             | 18   | 14  | 19 |            |
| 50540605                                     | 9/16"x18UNF | AISI 316 | 1 radial           | 9,2             | 18   | 14  | 19 |            |
| 50540301                                     | G1/4"       | Steel    | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305                                     | G1/4"       | AISI 316 | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540101                                     | M14x1,5     | Steel    | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |
| 51321206                                     | M24x1,5     | Steel    | 2 axial            | 16,8            | 23   | 16  | 32 |            |
| 51320205                                     | M24x1,5     | AISI 316 | 1 radial           | 16,8            | 23   | 16  | 32 |            |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |   |                 |    |   |   |                           |
| I.84105201A         | -      | Steel    | - | 12,8            | 40 | - | - |                           |
| I.84305201Q         | -      | Steel    | - | 11,4            | 25 | - | - |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |                           |
| I.851215.5          | -      | AISI 316 | - | 12,5            | 10 | - | - |                           |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| I.9518400                     | Rubber   | I003035    | 34              | 130    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9034400  | 600,00           | 740,00              | 6,60                   | 6-10   |                    |

| Accessories combinations          |                 |            |                |  |
|-----------------------------------|-----------------|------------|----------------|--|
| Without hose protection           |                 |            |                |  |
| Description                       | Bend restrictor | Crimp ring | Securing grips |  |
| Bend restrictor                   | I.9518400       | I003035    | -              |  |
| Securing grip                     | -               | -          | 9034400        |  |
| Bend restrictor and securing grip | -               | -          | -              |  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
 We reserve our rights for technical changes without notice. Subject to printing errors.

# Hose Type 5/3

53070

**SPIR STAR®**

DuraLife Flex ®

IDS - Series: A and Q

## Applications

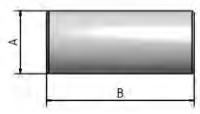
- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

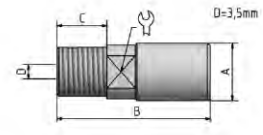
## Technical Information

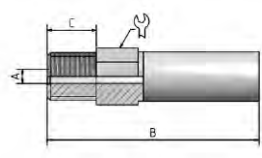
- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire, 1 braided layer of galvanized steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2,5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 5,0 mm    | 10,3 mm   | --                                   | 1.120 bar      | 95 mm       | 0,218 kg/m   | 3,0 mm    |
| 0,20 inch | 0,41 inch | --                                   | 16.240 psi     | 3,74 inch   | 0,146 lbs/ft | 0,12 inch |

| Part no. | Thread | Material | Dimensions (mm) |      |   |    | Sleeve   |
|----------|--------|----------|-----------------|------|---|----|--|
|          |        |          | A               | B    | C | ⚙️ |  |
| 10530111 | -      | Steel    | 12,9            | 39,5 | - | -  |  |

| Part no.  | Thread      | Material | Hose part   | Dimensions (mm) |    |    |    | OnePiece Fittings®WS  |
|-----------|-------------|----------|-------------|-----------------|----|----|----|---|
|           |             |          |             | A               | B  | C  | ⚙️ |   |
| 30530441Q | 1/8"x27NPTF | Steel    | 30520442/1Q | 12,2            | 39 | 10 | 9  |  |

| Part no.            | Thread      | Material | Nut | Dimensions (mm) |      |    |    | Insert  |
|---------------------|-------------|----------|-----|-----------------|------|----|----|---|
|                     |             |          |     | A               | B    | C  | ⚙️ |   |
| <b>Male fitting</b> |             |          |     |                 |      |    |    |   |
| 30520401A           | 1/8"x27NPTF | Steel    | -   | 3               | 56   | 10 | 10 |  |
| 30520451A           | 1/4"x18NPTF | Steel    | -   | 3               | 64   | 14 | 12 |   |
| 30520301A           | G1/8"       | Steel    | -   | 3               | 60   | 10 | 9  |   |
| 30520321A           | G1/4"       | Steel    | -   | 3               | 58   | 12 | 14 |   |
| 30520011A           | M7          | Steel    | -   | 3               | 57,5 | 10 | 9  |   |
| 30520041A           | M10x1       | Steel    | -   | 3               | 61,5 | 12 | 12 |   |

| Part no.                                     | Thread      | Material | Nut                | Dimensions (mm) |      |     | ⌀  | Insert     |
|--|-------------|----------|--------------------|-----------------|------|-----|----|------------|
|  |             |          |                    | A               | B    | C   |    |            |
| <b>Male fitting flat seal</b>                |             |          |                    |                 |      |     |    |            |
| 30520381A                                    | G1/8"       | Steel    | -                  | 3               | 63   | 13  | 9  |            |
| 30520021A                                    | M8x1,25     | Steel    | -                  | 3               | 62   | 12  | 9  |            |
| <b>Universal female swivel 24°/60°</b>       |             |          |                    |                 |      |     |    |            |
| 20520301A                                    | G1/4"       | Steel    | 50540301, 50540305 | 3               | 54   | -   | 19 |            |
| <b>Universal female swivel 24°/60° light</b> |             |          |                    |                 |      |     |    |            |
| 20520101A                                    | M14x1,5     | Steel    | 50540101           | 3               | 54   | -   | 19 |            |
| <b>Female swivel with O-Ring</b>             |             |          |                    |                 |      |     |    |            |
| 20520042A                                    | M24x1,5     | Steel    | 51321206           | 3               | 72   | -   | 32 |            |
| <b>Type M female swivel</b>                  |             |          |                    |                 |      |     |    |            |
| 20520601A                                    | 9/16"x18UNF | Steel    | 50540601, 50540605 | 3               | 54   | -   | 19 |            |
| <b>Swivel nut</b>                            |             |          |                    |                 |      |     |    |            |
| Part no.                                     | Thread      | Material | Relief bores       | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|  |             |          |                    | A               | B    | C   |    |            |
| 50540601                                     | 9/16"x18UNF | Steel    | 1 radial           | 9,2             | 18   | 14  | 19 |            |
| 50540605                                     | 9/16"x18UNF | AISI 316 | 1 radial           | 9,2             | 18   | 14  | 19 |            |
| 50540301                                     | G1/4"       | Steel    | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305                                     | G1/4"       | AISI 316 | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540101                                     | M14x1,5     | Steel    | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |
| 51321206                                     | M24x1,5     | Steel    | 2 axial            | 16,8            | 23   | 16  | 32 |            |
| 51320205                                     | M24x1,5     | AISI 316 | 1 radial           | 16,8            | 23   | 16  | 32 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|-----------------|------|----|---|---|---------------------------|
|                     |        |          | A               | B    | C  |   |   |                           |
| <b>Stop sleeve</b>  |        |          |                 |      |    |   |   |                           |
| I.84105301A         | -      | Steel    | -               | 12,9 | 39 | - | - |                           |
| I.84305301Q         | -      | Steel    | -               | 12,2 | 25 | - | - |                           |
| <b>Marking ring</b> |        |          |                 |      |    |   |   |                           |
| I.851215.5          | -      | AISI 316 | -               | 13,3 | 10 | - | - |                           |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.



**Applications**

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Grease injection, chemical injection, control of subsea hydraulic components, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 5,0 mm    | 11,2 mm   | --                                   | 1.800 bar      | 150 mm      | 0,260 kg/m   | 2,5 mm    |
| 0,20 inch | 0,44 inch | --                                   | 26.100 psi     | 5,91 inch   | 0,174 lbs/ft | 0,10 inch |

| Part no.                 | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|--------------------------|--------|----------|-----------------|------|---|---|--------|
|                          |        |          | A               | B    | C | ⌀ |        |
| <b>Sleeve</b>            |        |          |                 |      |   |   |        |
| 10540101                 | -      | Steel    | 15              | 49,5 | - | - |        |
| 10540105                 | -      | AISI 316 | 15              | 47,9 | - | - |        |
| <b>Blast-Pro® sleeve</b> |        |          |                 |      |   |   |        |
| 10540232                 | -      | Steel    | 12,4            | 24   | - | - |        |

| Part no.          | Thread         | Material | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|----------------|----------|-----|-----------------|-----|----|---|--------|
|                   |                |          |     | A               | B   | C  | ⌀ |        |
| <b>HP fitting</b> |                |          |     |                 |     |    |   |        |
| 40540215B         | 1/4"x28UNF LH  | AISI 316 | -   | 2,5             | 83  | 14 | - |        |
| 40540205B         | 3/8"x24UNF LH  | AISI 316 | -   | 2,5             | 90  | 20 | - |        |
| 40540225B         | 9/16"x18UNF LH | AISI 316 | -   | 2,5             | 103 | 24 | - |        |

| Part no.                                     | Thread        | Material        | Sleeve   | Dimensions (mm) |      |    | ⌀  | Blast-Pro® Insert* |
|--|---------------|-----------------|----------|-----------------|------|----|----|--------------------|
|  |               |                 |          | A               | B    | C  |    |                    |
| <b>Blast-Pro® HP fitting</b>                 |               |                 |          |                 |      |    |    |                    |
| 40540234Y                                    | 1/4"x28UNF LH | Stainless steel | 10540232 | 3               | 45   | 16 | 10 |                    |
| 40540214Y                                    | 3/8"x24UNF LH | Stainless steel | 10540232 | 3               | 50   | 22 | 10 |                    |
| <b>Blast-Pro® HP female</b>                  |               |                 |          |                 |      |    |    |                    |
| 40540254Y                                    | 1/4"x28UNF LH | Stainless steel | 10540232 | 3               | 44   | 9  | 8  |                    |
| <b>Insert</b>                                |               |                 |          |                 |      |    |    |                    |
| <b>Male fitting</b>                          |               |                 |          |                 |      |    |    |                    |
| 30540401B                                    | 1/4"x18NPTF   | Steel           | -        | 2,5             | 71   | 14 | 14 |                    |
| <b>Male fitting 60° internal cone</b>        |               |                 |          |                 |      |    |    |                    |
| 30540301B                                    | G1/4"         | Steel           | -        | 2,5             | 70   | 12 | 14 |                    |
| <b>Male fitting 100° external cone</b>       |               |                 |          |                 |      |    |    |                    |
| 30540361B                                    | G1/4"         | Steel           | -        | 2,5             | 76   | 18 | 17 |                    |
| <b>Male fitting for USIT® Ring</b>           |               |                 |          |                 |      |    |    |                    |
| 30540351B                                    | G1/4"         | Steel           | -        | 2,5             | 68,5 | 11 | 22 |                    |
| <b>Universal female swivel 24°/60°</b>       |               |                 |          |                 |      |    |    |                    |
| 20540301B                                    | G1/4"         | Steel           | 50540301 | 2,5             | 62   | -  | 19 |                    |
| 20540305B                                    | G1/4"         | AISI 316        | 50540305 | 2,5             | 62   | -  | 19 |                    |
| <b>Universal female swivel 24°/60° light</b> |               |                 |          |                 |      |    |    |                    |
| 20540101B                                    | M14x1,5       | Steel           | 50540101 | 2,5             | 62   | -  | 19 |                    |

| Part no.                         | Thread  | Material | Nut      | Dimensions (mm) |    |   | Insert |  |
|----------------------------------|---------|----------|----------|-----------------|----|---|--------|--|
|                                  |         |          |          | A               | B  | C |        |  |
| <b>Female swivel with O-Ring</b> |         |          |          |                 |    |   |        |  |
| 20540041B                        | M20x1,5 | Steel    | 50860201 | 2,5             | 77 | - | 27     |  |


| <b>Type M female swivel</b> |             |          |          |     |    |   |    |  |
|-----------------------------|-------------|----------|----------|-----|----|---|----|--|
| 20540641B                   | 9/16"x18UNF | Steel    | 50540601 | 2,5 | 64 | - | 19 |  |
| 20540645B                   | 9/16"x18UNF | AISI 316 | 50540605 | 2,5 | 64 | - | 19 |  |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | Swivel nut |  |
|-------------------|-------------|----------|--------------|-----------------|------|-----|------------|--|
|                   |             |          |              | A               | B    | C   |            |  |
| <b>Swivel nut</b> |             |          |              |                 |      |     |            |  |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19         |  |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19         |  |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19         |  |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19         |  |
| 50540101          | M14x1,5     | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19         |  |
| 50860201          | M20x1,5     | Steel    | 1 radial     | 12,2            | 22   | 12  | 27         |  |

| Part no.           | Thread | Material | Relief bores | Dimensions (mm) |    |   | Tube cleaning accessories |  |
|--------------------|--------|----------|--------------|-----------------|----|---|---------------------------|--|
|                    |        |          |              | A               | B  | C |                           |  |
| <b>Stop sleeve</b> |        |          |              |                 |    |   |                           |  |
| 1.84105401B        | -      | Steel    | -            | 15              | 49 | - | -                         |  |
| 1.84105401Y        | -      | Steel    | -            | 12,4            | 25 | - | -                         |  |

| <b>Marking ring</b> |   |          |   |      |    |   |   |  |
|---------------------|---|----------|---|------|----|---|---|--|
| 1.851316.5          | - | AISI 316 | - | 14,2 | 10 | - | - |  |

| Part no. | Size (mm)      | Material | Crimp ring | Hose protection                       |  |  |  |
|----------|----------------|----------|------------|---------------------------------------|--|--|--|
|          |                |          |            | <b>Hose protection without spiral</b> |  |  |  |
| 1.901621 | ID Ø16, OD Ø21 | PVC      | I002224    |                                       |  |  |  |
| 1.901822 | ID Ø18, OD Ø22 | PVC      | -          |                                       |  |  |  |



| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip                      |
|----------|------------------|---------------------|------------------------|--|---|
|          |                  |                     |                        |  | <b>Hose securing grip short version</b> |
| 9056400  | 600,00           | 740,00              | 10,20                  | 10-15  |   |



| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9056400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.901621        | -               | 1002224    | -              |
| with securing grip                    | 1.901822        | -               | -          | 9056400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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**Applications**

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Silver  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 4,8 mm    | 13,2 mm   | -- (SF 2,5:1)    | 2.500 bar      | 200 mm      | 0,450 kg/m   | 2,5 mm    |
| 0,19 inch | 0,52 inch | --               | 36.250 psi     | 7,87 inch   | 0,302 lbs/ft | 0,10 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|--------|
|               |        |          | A               | B  | C |        |
| <b>Sleeve</b> |        |          |                 |    |   |        |
| 10560136      | -      | Steel    | 17,8            | 68 | - |        |
| 10560135      | -      | AISI 316 | 17,8            | 68 | - |        |


| Part no.                                     | Thread         | Material        | Nut      | Dimensions (mm) |     |      | Insert |  |
|--|----------------|-----------------|----------|-----------------|-----|------|--------|--|
|  |                |                 |          | A               | B   | C    |        |  |
| <b>HP fitting</b>                            |                |                 |          |                 |     |      |        |  |
| 40560294E                                    | 1/4"x28UNF LH  | Stainless steel | -        | 2,5             | 99  | 14,3 |        |  |
| 40560284E                                    | 3/8"x24UNF LH  | Stainless steel | -        | 3,2             | 112 | 19,1 |        |  |
| 40560264E                                    | 9/16"x18UNF LH | Stainless steel | -        | 4,8             | 124 | 23,8 |        |  |
| 40560274E                                    | M14x1,5 LH     | Stainless steel | -        | 4,8             | 124 | 23,8 |        |  |
| <b>Universal female swivel 24°/60°</b>       |                |                 |          |                 |     |      |        |  |
| 20560314E                                    | G1/4"          | Stainless steel | 50560301 | 2,5             | 84  | -    | 22     |  |
| <b>Universal female swivel 24°/60° light</b> |                |                 |          |                 |     |      |        |  |
| 20560164E                                    | M14x1,5        | Stainless steel | 50540101 | 2,5             | 76  | -    | 19     |  |



| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|-----------------|--------------------|-----------------|----|---|----|--------|
|                             |             |                 |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |                 |                    |                 |    |   |    |        |
| 20560694E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 85 | - | 22 |        |
| <b>HP female swivel</b>     |             |                 |                    |                 |    |   |    |        |
| 20560614E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 79 | - | 22 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50560601          | 9/16"x18UNF | Steel    | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560301          | G1/4"       | Steel    | I radial     | 9,2             | 19   | 11  | 22 |            |
| 50540101          | M14x1,5     | Steel    | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |    |   |   |                           |
| 1.84105601E         | -      | Steel    | -            | 17,8            | 68 | - | - |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.851618.5          | -      | AISI 316 | -            | 16,2            | 10 | - | - |                           |

| Part no.                           | Size (mm)      | Material | Crimp ring | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|------------|-----------------|
|                                    |                |          |            |            |                 |
| 1.901822                           | ID Ø18, OD Ø22 | PVC      | 1002426    |            |                 |
| 1.902228                           | ID Ø22, OD Ø28 | PVC      | -          |            |                 |
| 1.902531                           | ID Ø25, OD Ø31 | PVC      | -          |            |                 |
| <b>Hose protection with spiral</b> |                |          |            |            |                 |
| 1.912026                           | ID Ø19, OD Ø26 | PVC      | 1003035    |            |                 |
| 1.912229                           | ID Ø22, OD Ø35 | PVC      | -          |            |                 |
| 1.912532                           | ID Ø25, OD Ø32 | PVC      | -          |            |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|---------------------------|----------|------------|-----------------|--------|---|
|                           |          |            | Ø               | Length |   |
| <b>PU bend restrictor</b> |          |            |                 |        |   |
| 1.9518306A                | PU       | I003035    | 34              | 250    |  |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |

| Accessories combinations               |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9518306A      | I003035         | -              |                |
| Securing grip                          | -               | -               | 9056400        |                |
| Bend restrictor and securing grip      | 1.9518306A      | I003035         | 905640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.901822        | -               | I002426        | -              |
| with bend restrictor                   | 1.902531        | 1.9518306A      | I003035        | -              |
| with securing grip                     | 1.902228        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.902531        | 1.9518306A      | I003035        | 905640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912026        | -               | I003035        | -              |
| with bend restrictor                   | 1.912532        | 1.9518306A      | I003035        | -              |
| with securing grip                     | 1.912229        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.912532        | 1.9518306A      | I003035        | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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## Applications

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



## Technical Information

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Orange
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 4,6 mm    | 14,4 mm   | -- (SF 2,5:1)    | 2.800 bar      | 220 mm      | 0,563 kg/m   | 2,5 mm    |
| 0,18 inch | 0,57 inch | --               | 40.600 psi     | 8,66 inch   | 0,377 lbs/ft | 0,10 inch |

| Part no. | Thread | Material | Dimensions (mm) |      |   | Sleeve |
|----------|--------|----------|-----------------|------|---|--------|
|          |        |          | A               | B    | C |        |
| 10560116 | -      | Steel    | 17,9            | 67,4 | - | -      |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|--------|
|                   |                |                 |     | A               | B   | C    |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |        |
| 40560294E         | 1/4"x28UNF LH  | Stainless steel | -   | 2,5             | 99  | 14,3 | -      |
| 40560284E         | 3/8"x24UNF LH  | Stainless steel | -   | 3,2             | 112 | 19,1 | -      |
| 40560264E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 124 | 23,8 | -      |
| 40560274E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 124 | 23,8 | -      |

| <b>Universal female swivel 24°/60°</b> |       |                 |          |     |    |   |    |
|--|-------|-----------------|----------|-----|----|---|----|
| 20560314E                              | G1/4" | Stainless steel | 50560301 | 2,5 | 84 | - | 22 |

| <b>Universal female swivel 24°/60° light</b> |         |                 |          |     |    |   |    |
|--|---------|-----------------|----------|-----|----|---|----|
| 20560164E                                    | M14x1,5 | Stainless steel | 50540101 | 2,5 | 76 | - | 19 |



| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|-----------------|--------------------|-----------------|----|---|----|--------|
|                             |             |                 |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |                 |                    |                 |    |   |    |        |
| 20560694E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 85 | - | 22 |        |


|                         |             |                 |                    |     |    |   |    |  |
|-------------------------|-------------|-----------------|--------------------|-----|----|---|----|--|
| <b>HP female swivel</b> |             |                 |                    |     |    |   |    |  |
| 20560614E               | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5 | 79 | - | 22 |  |



| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50560601          | 9/16"x18UNF | Steel    | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560301          | G1/4"       | Steel    | I radial     | 9,2             | 19   | 11  | 22 |            |
| 50540101          | M14x1,5     | Steel    | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |

| Part no.           | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                    |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |              |                 |    |   |   |                           |
| 1.84105611E        | -      | Steel    | -            | 17,9            | 68 | - | - |                           |

|                     |   |          |   |      |    |   |   |  |
|---------------------|---|----------|---|------|----|---|---|--|
| <b>Marking ring</b> |   |          |   |      |    |   |   |  |
| 1.851720.5          | - | AISI 316 | - | 17,4 | 10 | - | - |  |

| Part no.                           | Size (mm)      | Material | Crimp ring | Crimp ring | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|------------|------------|-----------------|
|                                    |                |          |            |            |            |                 |
| 1.902026                           | ID Ø20, OD Ø26 | PVC      | 1002729    |            |            |                 |
| 1.902228                           | ID Ø22, OD Ø28 | PVC      | -          |            |            |                 |
| 1.902531                           | ID Ø25, OD Ø31 | PVC      | -          |            |            |                 |
| <b>Hose protection with spiral</b> |                |          |            |            |            |                 |
| 1.912229                           | ID Ø22, OD Ø35 | PVC      | 1003035    |            |            |                 |
| 1.912532                           | ID Ø25, OD Ø32 | PVC      | -          |            |            |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|---------------------------|----------|------------|-----------------|--------|---|
|                           |          |            | Ø               | Length |   |
| <b>PU bend restrictor</b> |          |            |                 |        |   |
| 1.9518306B                | PU       | 1003035    | 34              | 250    |  |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |

| <b>Accessories combinations</b>        |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>         |                 |                 |            |                |
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518306B      | 1003035    | -              |
| Securing grip                          |                 | -               | -          | 9056400        |
| Bend restrictor and securing grip      |                 | 1.9518306B      | 1003035    | 905640L        |
| <b>Hose protection without spiral</b>  |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902026        | -               | 1002729    | -              |
| with bend restrictor                   | 1.902531        | 1.9518306B      | 1003035    | -              |
| with securing grip                     | 1.902228        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.902531        | 1.9518306B      | 1003035    | 905640L        |
| <b>Hose protection with spiral</b>     |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912229        | -               | 1003035    | -              |
| with bend restrictor                   | 1.912532        | 1.9518306B      | 1003035    | -              |
| with securing grip                     | 1.912229        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.912532        | 1.9518306B      | 1003035    | 905640L        |

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**Applications**

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**Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** First: Polyamide (PA), Second: Polyurethane (TPU)  
**Color:** First: orange, second: red  
**Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 4,6 mm    | 18,4 mm   | -- (SF 2,5:1)    | 2.800 bar      | 220 mm      | 0,687 kg/m   | 2,5 mm    |
| 0,18 inch | 0,72 inch | --               | 40.600 psi     | 8,66 inch   | 0,460 lbs/ft | 0,10 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|--------|
|               |        |          | A               | B    | C |        |
| <b>Sleeve</b> |        |          |                 |      |   |        |
| 10560116      | -      | Steel    | 17,9            | 67,4 | - | -      |

| Part no.                                     | Thread         | Material        | Nut      | Dimensions (mm) |     |      | Insert |
|--|----------------|-----------------|----------|-----------------|-----|------|--------|
|  |                |                 |          | A               | B   | C    |        |
| <b>HP fitting</b>                            |                |                 |          |                 |     |      |        |
| 40560294E                                    | 1/4"x28UNF LH  | Stainless steel | -        | 2,5             | 99  | 14,3 | -      |
| 40560284E                                    | 3/8"x24UNF LH  | Stainless steel | -        | 3,2             | 112 | 19,1 | -      |
| 40560264E                                    | 9/16"x18UNF LH | Stainless steel | -        | 4,8             | 124 | 23,8 | -      |
| 40560274E                                    | M14x1,5 LH     | Stainless steel | -        | 4,8             | 124 | 23,8 | -      |
| <b>Universal female swivel 24°/60°</b>       |                |                 |          |                 |     |      |        |
| 20560314E                                    | G1/4"          | Stainless steel | 50560301 | 2,5             | 84  | -    | 22     |
| <b>Universal female swivel 24°/60° light</b> |                |                 |          |                 |     |      |        |
| 20560164E                                    | M14x1,5        | Stainless steel | 50540101 | 2,5             | 76  | -    | 19     |

| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |      |     | ⌀  | Insert     |
|-----------------------------|-------------|-----------------|--------------------|-----------------|------|-----|----|------------|
|                             |             |                 |                    | A               | B    | C   |    |            |
| <b>Type M female swivel</b> |             |                 |                    |                 |      |     |    |            |
| 20560694E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 85   | -   | 22 |            |
| <b>HP female swivel</b>     |             |                 |                    |                 |      |     |    |            |
| 20560614E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 79   | -   | 22 |            |
| Part no.                    | Thread      | Material        | Relief bores       | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|                             |             |                 |                    | A               | B    | C   |    |            |
| <b>Swivel nut</b>           |             |                 |                    |                 |      |     |    |            |
| 50560601                    | 9/16"x18UNF | Steel           | 1 radial           | 9,2             | 18   | 14  | 22 |            |
| 50560605                    | 9/16"x18UNF | AISI 316        | 1 radial           | 9,2             | 18   | 14  | 22 |            |
| 50560301                    | G1/4"       | Steel           | 1 radial           | 9,2             | 19   | 11  | 22 |            |
| 50540101                    | M14x1,5     | Steel           | 1 radial           | 9,2             | 16,5 | 8,5 | 19 |            |

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- Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Chrome yellow
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 4,8 mm    | 13,3 mm   | -- (SF 2.3:1)    | 3.035 bar      | 210 mm      | 0,450 kg/m   | 2,5 mm    |
| 0,19 inch | 0,52 inch | --               | 44.000 psi     | 8,27 inch   | 0,302 lbs/ft | 0,10 inch |

| Part no. | Thread | Material | Dimensions (mm) |    |   | Sleeve |
|----------|--------|----------|-----------------|----|---|--------|
|          |        |          | A               | B  | C |        |
| 10560136 | -      | Steel    | 17,8            | 68 | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|--------|
|                   |                |                 |     | A               | B   | C    |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |        |
| 40560294E         | 1/4"x28UNF LH  | Stainless steel | -   | 2,5             | 99  | 14,3 | -      |
| 40560284E         | 3/8"x24UNF LH  | Stainless steel | -   | 3,2             | 112 | 19,1 | -      |
| 40560264E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 124 | 23,8 | -      |
| 40560274E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 124 | 23,8 | -      |

| <b>Universal female swivel 24°/60°</b> |       |                 |          |     |    |   |    |  |
|--|-------|-----------------|----------|-----|----|---|----|--|
| 20560314E                              | G1/4" | Stainless steel | 50560301 | 2,5 | 84 | - | 22 |  |

| <b>Universal female swivel 24°/60° light</b> |         |                 |          |     |    |   |    |  |
|--|---------|-----------------|----------|-----|----|---|----|--|
| 20560164E                                    | M14x1,5 | Stainless steel | 50540101 | 2,5 | 76 | - | 19 |  |

| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|-----------------|--------------------|-----------------|----|---|----|--------|
|                             |             |                 |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |                 |                    |                 |    |   |    |        |
| 20560694E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 85 | - | 22 |        |


|                         |             |                 |                    |     |    |   |    |  |
|-------------------------|-------------|-----------------|--------------------|-----|----|---|----|--|
| <b>HP female swivel</b> |             |                 |                    |     |    |   |    |  |
| 20560614E               | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5 | 79 | - | 22 |  |



| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50560601          | 9/16"x18UNF | Steel    | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560301          | G1/4"       | Steel    | I radial     | 9,2             | 19   | 11  | 22 |            |
| 50540101          | M14x1,5     | Steel    | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |

| Part no.           | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                    |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |              |                 |    |   |   |                           |
| 1.84105601E        | -      | Steel    | -            | 17,8            | 68 | - | - |                           |

|                     |   |          |   |      |    |   |   |  |
|---------------------|---|----------|---|------|----|---|---|--|
| <b>Marking ring</b> |   |          |   |      |    |   |   |  |
| 1.851618.5          | - | AISI 316 | - | 16,3 | 10 | - | - |  |

| Part no.                           | Size (mm)      | Material | Crimp ring | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|------------|-----------------|
|                                    |                |          |            |            |                 |
| 1.901822                           | ID Ø18, OD Ø22 | PVC      | 1002426    |            |                 |
| 1.902228                           | ID Ø22, OD Ø28 | PVC      | -          |            |                 |
| 1.902531                           | ID Ø25, OD Ø31 | PVC      | -          |            |                 |
| <b>Hose protection with spiral</b> |                |          |            |            |                 |
| 1.912026                           | ID Ø19, OD Ø26 | PVC      | 1003035    |            |                 |
| 1.912229                           | ID Ø22, OD Ø35 | PVC      | -          |            |                 |
| 1.912532                           | ID Ø25, OD Ø32 | PVC      | -          |            |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|---------------------------|----------|------------|-----------------|--------|---|
|                           |          |            | Ø               | Length |   |
| <b>PU bend restrictor</b> |          |            |                 |        |   |
| 1.9518306A                | PU       | I003035    | 34              | 250    |  |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |

| Accessories combinations               |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9518306A      | I003035         | -              |                |
| Securing grip                          | -               | -               | 9056400        |                |
| Bend restrictor and securing grip      | 1.9518306A      | I003035         | 905640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.901822        | -               | I002426        | -              |
| with bend restrictor                   | 1.902531        | 1.9518306A      | I003035        | -              |
| with securing grip                     | 1.902228        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.902531        | 1.9518306A      | I003035        | 905640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912026        | -               | I003035        | -              |
| with bend restrictor                   | 1.912532        | 1.9518306A      | I003035        | -              |
| with securing grip                     | 1.912229        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.912532        | 1.9518306A      | I003035        | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydroforming



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 8 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Chrome yellow
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 4,5 mm    | 15,3 mm   | --                                   | 3.200 bar      | 250 mm      | 0,693 kg/m   | 2,5 mm    |
| 0,18 inch | 0,60 inch | --                                   | 46.400 psi     | 9,84 inch   | 0,464 lbs/ft | 0,10 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10580116      | -      | Steel    | 19,7            | 68,8 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    | ⚙ |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 40560294E         | 1/4"x28UNF LH  | Stainless steel | -   | 2,5             | 99  | 14,3 | - |        |
| 40560284E         | 3/8"x24UNF LH  | Stainless steel | -   | 3,2             | 112 | 19,1 | - |        |
| 40560264E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 124 | 23,8 | - |        |
| 40560274E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 124 | 23,8 | - |        |

| Part no.  | Thread | Material        | Nut      | Dimensions (mm) | Insert |
|-----------|--------|-----------------|----------|-----------------|--------|
| 20560314E | G1/4"  | Stainless steel | 50560301 | 2,5 84 - 22     |        |

| Part no.  | Thread  | Material        | Nut      | Dimensions (mm) | Insert |
|-----------|---------|-----------------|----------|-----------------|--------|
| 20560164E | M14x1,5 | Stainless steel | 50540101 | 2,5 76 - 19     |        |




| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|-----------------|--------------------|-----------------|----|---|----|--------|
|                             |             |                 |                    | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |                 |                    |                 |    |   |    |        |
| 20560694E                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5             | 85 | - | 22 |        |



|                         |             |                 |                    |     |    |   |    |  |
|-------------------------|-------------|-----------------|--------------------|-----|----|---|----|--|
| <b>HP female swivel</b> |             |                 |                    |     |    |   |    |  |
| 20560614E               | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5 | 79 | - | 22 |  |


| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50560601          | 9/16"x18UNF | Steel    | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | I radial     | 9,2             | 18   | 14  | 22 |            |
| 50560301          | G1/4"       | Steel    | I radial     | 9,2             | 19   | 11  | 22 |            |
| 50540101          | M14x1,5     | Steel    | I radial     | 9,2             | 16,5 | 8,5 | 19 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84105801E        | -      | Steel    | - | 19,7            | 69 | - | - |                           |

|                     |   |          |   |      |    |   |   |  |
|---------------------|---|----------|---|------|----|---|---|--|
| <b>Marking ring</b> |   |          |   |      |    |   |   |  |
| 1.851720.5          | - | AISI 316 | - | 18,3 | 10 | - | - |  |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|---------------------------|----------|------------|-----------------|--------|---|
|                           |          |            | Ø               | Length |   |
| <b>PU bend restrictor</b> |          |            |                 |        |   |
| I.9518306C                | PU       | I003035    | 34              | 250    |  |

| Part no.                           | Size (mm)      | Material | Crimp ring |  | Hose protection   |
|------------------------------------|----------------|----------|------------|--|---|
|                                    |                |          |            |  |   |
| I.902228                           | ID Ø22, OD Ø28 | PVC      | I002830    |  |  |
| I.902531                           | ID Ø25, OD Ø31 | PVC      | -          |  |   |
| <b>Hose protection with spiral</b> |                |          |            |  |   |
| I.912229                           | ID Ø22, OD Ø35 | PVC      | I003035    |  |  |
| I.912532                           | ID Ø25, OD Ø32 | PVC      | -          |  |   |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9086400                                | 600,00           | 780,00              | 20,40                  | 15-20  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 908640L                                | 600,00           | 990,00              | 20,40                  | 15-20  |   |

## Accessories combinations

| Without hose protection                |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518306C      | 1003035    | -              |
| Securing grip                          |                 | -               | -          | 9086400        |
| Bend restrictor and securing grip      |                 | 1.9518306C      | 1003035    | 908640L        |
| Hose protection without spiral         |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902228        | -               | 1002830    | -              |
| with bend restrictor                   | 1.902531        | 1.9518306C      | 1003035    | -              |
| with securing grip                     | 1.902531        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.902531        | 1.9518306C      | 1003035    | 908640L        |
| Hose protection with spiral            |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912229        | -               | 1003035    | -              |
| with bend restrictor                   | 1.912532        | 1.9518306C      | 1003035    | -              |
| with securing grip                     | 1.912532        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.912532        | 1.9518306C      | 1003035    | 908640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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## Applications

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydroforming



## Technical Information

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 8 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Purple red
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.0:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 4,5 mm    | 15,3 mm   | --                                   | 4.000 bar      | 250 mm      | 0,693 kg/m   | 2,5 mm    |
| 0,18 inch | 0,60 inch | --                                   | 58.000 psi     | 9,84 inch   | 0,464 lbs/ft | 0,10 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| I0580116      | -      | Steel    | 19,7            | 68,8 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 40560294EB        | 1/4"x28UNF LH  | Stainless steel | -   | 2,5             | 99  | 14,3 | - |        |
| 40560284EB        | 3/8"x24UNF LH  | Stainless steel | -   | 3,2             | 112 | 19,1 | - |        |
| 40560264EB        | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 124 | 23,8 | - |        |
| 40560274EB        | M14x1,5 LH     | Stainless steel | -   | 4,8             | 124 | 23,8 | - |        |

| Part no.   | Thread      | Material        | Nut                | Dimensions (mm) | Insert |
|------------|-------------|-----------------|--------------------|-----------------|--------|
| 20560694EB | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5 85 - 22     |        |

| Part no.   | Thread      | Material        | Nut                | Dimensions (mm) | Insert |
|------------|-------------|-----------------|--------------------|-----------------|--------|
| 20560614EB | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 2,5 79 - 22     |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |    |    | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|----|----|----|------------|
|                   |             |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |             |          |              |                 |    |    |    |            |
| 50560601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18 | 14 | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 22 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.851720.5          | -      | AISI 316 | -            | 18,3            | 10 | - | - |                           |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9518306C                | PU       | 1003035    | 34              | 250    |                 |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
|                                    |                |          |            |                 |
| 1.902228                           | ID Ø22, OD Ø28 | PVC      | 1002830    |                 |
| 1.902531                           | ID Ø25, OD Ø31 | PVC      | -          |                 |
| <b>Hose protection with spiral</b> |                |          |            |                 |
| 1.912229                           | ID Ø22, OD Ø35 | PVC      | 1003035    |                 |
| 1.912532                           | ID Ø25, OD Ø32 | PVC      | -          |                 |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--------------------|
|  |                  |                     |                        |  |                    |
| 9086400                                | 600,00           | 780,00              | 20,40                  | 15-20  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |                    |
| 908640L                                | 600,00           | 990,00              | 20,40                  | 15-20  |                    |



**Accessories combinations**

| <b>Without hose protection</b>         |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518306C      | 1003035    | -              |
| Securing grip                          |                 | -               | -          | 9086400        |
| Bend restrictor and securing grip      |                 | 1.9518306C      | 1003035    | 908640L        |
| <b>Hose protection without spiral</b>  |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902228        | -               | 1002830    | -              |
| with bend restrictor                   | 1.902531        | 1.9518306C      | 1003035    | -              |
| with securing grip                     | 1.902531        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.902531        | 1.9518306C      | 1003035    | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912229        | -               | 1003035    | -              |
| with bend restrictor                   | 1.912532        | 1.9518306C      | 1003035    | -              |
| with securing grip                     | 1.912532        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.912532        | 1.9518306C      | 1003035    | 908640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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# Hose Type 6/2

62070

**SPIR STAR®**

DuraLife Flex ®

ID6 - Series: A and Q

## Applications

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

## Technical Information

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 6,3 mm    | 11,5 mm   | --               | 1.000 bar      | 110 mm      | 0,175 kg/m   | 4,0 mm    |
| 0,25 inch | 0,45 inch | --               | 14.500 psi     | 4,33 inch   | 0,117 lbs/ft | 0,16 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⌀ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10620101      | -      | Steel    | 13,9            | 39,6 | - | - |        |
| 10620105      | -      | AISI 316 | 13,9            | 42   | - | - |        |

| Part no.                                   | Thread      | Material | Hose part   | Dimensions (mm) |    |    |    | OnePiece Fittings®WS |
|--|-------------|----------|-------------|-----------------|----|----|----|----------------------|
|  |             |          |             | A               | B  | C  | ⌀  |                      |
| <b>OnePiece Fittings® with wrench size</b> |             |          |             |                 |    |    |    |                      |
| 30620461Q                                  | 1/4"x18NPTF | Steel    | 30620462/1Q | 13,5            | 43 | 14 | 12 |                      |
| 30620361Q                                  | G1/4"       | Steel    | 30620462/1Q | 13,5            | 43 | 14 | 12 |                      |

| Part no.          | Thread         | Material | Nut | Dimensions (mm) |    |      |   | Insert |
|-------------------|----------------|----------|-----|-----------------|----|------|---|--------|
|                   |                |          |     | A               | B  | C    | ⌀ |        |
| <b>HP fitting</b> |                |          |     |                 |    |      |   |        |
| 40620205A         | 9/16"x18UNF LH | AISI 316 | -   | 4               | 95 | 23,8 | - |        |

| Part no.                               | Thread      | Material | Nut      | Dimensions (mm) |      |    | ⌀  | Insert |
|--|-------------|----------|----------|-----------------|------|----|----|--------|
|  |             |          |          | A               | B    | C  |    |        |
| <b>Male fitting</b>                    |             |          |          |                 |      |    |    |        |
| 30620411A                              | 1/8"x27NPTF | Steel    | -        | 4               | 58   | 10 | 12 |        |
| 30620401A                              | 1/4"x18NPTF | Steel    | -        | 4               | 68   | 14 | 14 |        |
| 30620405A                              | 1/4"x18NPTF | AISI 316 | -        | 4               | 68   | 14 | 14 |        |
| 30620451A                              | 3/8"x18NPTF | Steel    | -        | 4               | 64   | 14 | 17 |        |
| 30620041A                              | M10x1       | Steel    | -        | 4               | 65   | 12 | 12 |        |
| 30620311A                              | G1/8"       | Steel    | -        | 4               | 59   | 10 | 9  |        |
| <b>Male fitting 60° internal cone</b>  |             |          |          |                 |      |    |    |        |
| 30620341A                              | G1/4"       | Steel    | -        | 4               | 62,5 | 12 | 14 |        |
| 30620321A                              | G3/8"       | Steel    | -        | 4               | 60,5 | 12 | 17 |        |
| <b>Male fitting 100° external cone</b> |             |          |          |                 |      |    |    |        |
| 30620361A                              | G1/4"       | Steel    | -        | 4               | 67   | 18 | 17 |        |
| <b>Male fitting for USIT® Ring</b>     |             |          |          |                 |      |    |    |        |
| 30620391A                              | G1/4"       | Steel    | -        | 4,0             | 61   | 11 | 22 |        |
| 30620351A                              | G3/8"       | Steel    | -        | 4               | 61   | 11 | 24 |        |
| <b>Male fitting flat seal</b>          |             |          |          |                 |      |    |    |        |
| 30620381A                              | G1/4"       | Steel    | -        | 4               | 66   | 15 | 12 |        |
| <b>Male fitting DIN3852 T2 form A</b>  |             |          |          |                 |      |    |    |        |
| 30620301A                              | G1/4"       | Steel    | -        | 4               | 64   | 12 | 19 |        |
| <b>Female fitting NPT/NPTF</b>         |             |          |          |                 |      |    |    |        |
| 30620441A                              | 1/4"x18NPTF | Steel    | -        | 4               | 66,5 | 20 | 19 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |          |                 |      |    |    |        |
| 20620301A                              | G1/4"       | Steel    | 50540301 | 4               | 55   | -  | 19 |        |
| 20620305A                              | G1/4"       | AISI 316 | 50540305 | 4               | 55   | -  | 19 |        |



| Part no.                                     | Thread      | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|--|-------------|----------|--------------------|-----------------|----|---|----|--------|
|  |             |          |                    | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60° light</b> |             |          |                    |                 |    |   |    |        |
| 20620101A                                    | M14x1,5     | Steel    | 50540101           | 4               | 55 | - | 19 |        |
| <b>Universal female swivel 24°/60° heavy</b> |             |          |                    |                 |    |   |    |        |
| 20620141A                                    | M16x1,5     | Steel    | 50620121           | 4               | 56 | - | 19 |        |
| 20620145A                                    | M16x1,5     | AISI 316 | 50620125           | 4               | 56 | - | 19 |        |
| <b>Female swivel with O-Ring</b>             |             |          |                    |                 |    |   |    |        |
| 20620241A                                    | M18x1,5     | Steel    | 50620201           | 4               | 65 | - | 22 |        |
| 20620211A                                    | M22x1,5     | Steel    | 51060201, 51060205 | 4               | 75 | - | 30 |        |
| 20620042A                                    | M24x1,5     | Steel    | 51321206           | 4               | 73 | - | 32 |        |
| <b>Type M female swivel</b>                  |             |          |                    |                 |    |   |    |        |
| 20620641A                                    | 9/16"x18UNF | Steel    | 50540601           | 4               | 57 | - | 19 |        |
| 20620645A                                    | 9/16"x18UNF | AISI 316 | 50540605           | 4               | 57 | - | 19 |        |
| <b>JIC female swivel</b>                     |             |          |                    |                 |    |   |    |        |
| S20630615A                                   | 9/16"x18UNF | AISI 316 | S5063615           | 4               | 53 | - | 19 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| S5063615          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,5             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540101          | M14x1,5     | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50620121          | M16x1,5     | Steel    | 1 radial     | 9,2             | 17,5 | 10  | 19 |            |
| 50620125          | M16x1,5     | AISI 316 | 1 radial     | 9,5             | 17,5 | 10  | 19 |            |
| 50620201          | M18x1,5     | Steel    | 1 radial     | 9,2             | 22   | 12  | 22 |            |
| 51060201          | M22x1,5     | Steel    | 2 axial      | 14,2            | 23   | 14  | 30 |            |
| 51060205          | M22x1,5     | AISI 316 | 2 axial      | 14,2            | 25   | 14  | 30 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |   |                 |    |   |   |                           |
| I.84106201A         | -      | Steel    | - | 13,9            | 42 | - | - |                           |
| I.84306201Q         | -      | Steel    | - | 13,5            | 25 | - | - |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |                           |
| I.851316.5          | -      | AISI 316 | - | 14,5            | 10 | - | - |                           |

| Part no. | Size (mm)      | Material | Crimp ring |  |  |  |  | Hose protection |
|----------|----------------|----------|------------|--|--|--|--|-----------------|
|          |                |          |            |  |  |  |  |                 |
| I.901418 | ID Ø14, OD Ø18 | PVC      | I001921    |  |  |  |  |                 |
| I.901822 | ID Ø18, OD Ø22 | PVC      | -          |  |  |  |  |                 |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        |  | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|--|-----------------|
|                               |          |            | Ø               | Length |  |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |  |                 |
| I.9518600                     | Rubber   | I003035    | 34              | 126    |  |                 |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) |  | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--|--------------------|
|  |                  |                     |                        |  |  |                    |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |  |                    |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |                    |



**Accessories combinations**

| <b>Without hose protection</b>         |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518600       | 1003035    | -              |
| Securing grip                          |                 | -               | -          | 9056400        |
| Bend restrictor and securing grip      |                 | 1.9518600       | 1003035    | 905640L        |
| <b>Hose protection without spiral</b>  |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.901418        | -               | 1001921    | -              |
| with bend restrictor                   | 1.901418        | 1.9518600       | 1003035    | -              |
| with securing grip                     | 1.901822        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.901822        | 1.9518600       | 1003035    | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

# Hose Type 6/2-1100

62070.1100

**SPIR STAR®**

DuraLife Flex ®

ID6 - Series: A and Q

## Applications

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

## Technical Information

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 6,3 mm    | 11,6 mm   | -- (SF 2,5:1)    | 1.100 bar      | 110 mm      | 0,175 kg/m   | 4,0 mm    |
| 0,25 inch | 0,46 inch | --               | 15.950 psi     | 4,33 inch   | 0,117 lbs/ft | 0,16 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⌀ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10620101      | -      | Steel    | 13,9            | 39,6 | - | - |        |
| 10620105      | -      | AISI 316 | 13,9            | 42   | - | - |        |

| Part no.                                   | Thread      | Material | Hose part   | Dimensions (mm) |    |    |    | OnePiece Fittings®WS |
|--|-------------|----------|-------------|-----------------|----|----|----|----------------------|
|  |             |          |             | A               | B  | C  | ⌀  |                      |
| <b>OnePiece Fittings® with wrench size</b> |             |          |             |                 |    |    |    |                      |
| 30620461Q                                  | 1/4"x18NPTF | Steel    | 30620462/1Q | 13,5            | 43 | 14 | 12 |                      |
| 30620361Q                                  | G1/4"       | Steel    | 30620462/1Q | 13,5            | 43 | 14 | 12 |                      |

| Part no.          | Thread         | Material | Nut | Dimensions (mm) |    |      |   | Insert |
|-------------------|----------------|----------|-----|-----------------|----|------|---|--------|
|                   |                |          |     | A               | B  | C    | ⌀ |        |
| <b>HP fitting</b> |                |          |     |                 |    |      |   |        |
| 40620205A         | 9/16"x18UNF LH | AISI 316 | -   | 4               | 95 | 23,8 | - |        |

| Part no.                               | Thread      | Material | Nut      | Dimensions (mm) |      |    | 🔧  | Insert |
|--|-------------|----------|----------|-----------------|------|----|----|--------|
|  |             |          |          | A               | B    | C  |    |        |
| <b>Male fitting</b>                    |             |          |          |                 |      |    |    |        |
| 30620411A                              | 1/8"x27NPTF | Steel    | -        | 4               | 58   | 10 | 12 |        |
| 30620401A                              | 1/4"x18NPTF | Steel    | -        | 4               | 68   | 14 | 14 |        |
| 30620405A                              | 1/4"x18NPTF | AISI 316 | -        | 4               | 68   | 14 | 14 |        |
| 30620451A                              | 3/8"x18NPTF | Steel    | -        | 4               | 64   | 14 | 17 |        |
| 30620041A                              | M10x1       | Steel    | -        | 4               | 65   | 12 | 12 |        |
| 30620311A                              | G1/8"       | Steel    | -        | 4               | 59   | 10 | 9  |        |
| <b>Male fitting 60° internal cone</b>  |             |          |          |                 |      |    |    |        |
| 30620341A                              | G1/4"       | Steel    | -        | 4               | 62,5 | 12 | 14 |        |
| 30620321A                              | G3/8"       | Steel    | -        | 4               | 60,5 | 12 | 17 |        |
| <b>Male fitting 100° external cone</b> |             |          |          |                 |      |    |    |        |
| 30620361A                              | G1/4"       | Steel    | -        | 4               | 67   | 18 | 17 |        |
| <b>Male fitting for USIT® Ring</b>     |             |          |          |                 |      |    |    |        |
| 30620391A                              | G1/4"       | Steel    | -        | 4,0             | 61   | 11 | 22 |        |
| 30620351A                              | G3/8"       | Steel    | -        | 4               | 61   | 11 | 24 |        |
| <b>Male fitting flat seal</b>          |             |          |          |                 |      |    |    |        |
| 30620381A                              | G1/4"       | Steel    | -        | 4               | 66   | 15 | 12 |        |
| <b>Male fitting DIN3852 T2 form A</b>  |             |          |          |                 |      |    |    |        |
| 30620301A                              | G1/4"       | Steel    | -        | 4               | 64   | 12 | 19 |        |
| <b>Female fitting NPT/NPTF</b>         |             |          |          |                 |      |    |    |        |
| 30620441A                              | 1/4"x18NPTF | Steel    | -        | 4               | 66,5 | 20 | 19 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |          |                 |      |    |    |        |
| 20620301A                              | G1/4"       | Steel    | 50540301 | 4               | 55   | -  | 19 |        |
| 20620305A                              | G1/4"       | AISI 316 | 50540305 | 4               | 55   | -  | 19 |        |

| Part no.                                     | Thread      | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|--|-------------|----------|--------------------|-----------------|----|---|----|--------|
|  |             |          |                    | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60° light</b> |             |          |                    |                 |    |   |    |        |
| 20620101A                                    | M14x1,5     | Steel    | 50540101           | 4               | 55 | - | 19 |        |
| <b>Universal female swivel 24°/60° heavy</b> |             |          |                    |                 |    |   |    |        |
| 20620141A                                    | M16x1,5     | Steel    | 50620121           | 4               | 56 | - | 19 |        |
| 20620145A                                    | M16x1,5     | AISI 316 | 50620125           | 4               | 56 | - | 19 |        |
| <b>Female swivel with O-Ring</b>             |             |          |                    |                 |    |   |    |        |
| 20620241A                                    | M18x1,5     | Steel    | 50620201           | 4               | 65 | - | 22 |        |
| 20620211A                                    | M22x1,5     | Steel    | 51060201, 51060205 | 4               | 75 | - | 30 |        |
| 20620042A                                    | M24x1,5     | Steel    | 51321206           | 4               | 73 | - | 32 |        |
| <b>Type M female swivel</b>                  |             |          |                    |                 |    |   |    |        |
| 20620641A                                    | 9/16"x18UNF | Steel    | 50540601           | 4               | 57 | - | 19 |        |
| 20620645A                                    | 9/16"x18UNF | AISI 316 | 50540605           | 4               | 57 | - | 19 |        |
| <b>JIC female swivel</b>                     |             |          |                    |                 |    |   |    |        |
| S20630615A                                   | 9/16"x18UNF | AISI 316 | S5063615           | 4               | 53 | - | 19 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| S5063615          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,5             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540101          | M14x1,5     | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50620121          | M16x1,5     | Steel    | 1 radial     | 9,2             | 17,5 | 10  | 19 |            |
| 50620125          | M16x1,5     | AISI 316 | 1 radial     | 9,5             | 17,5 | 10  | 19 |            |
| 50620201          | M18x1,5     | Steel    | 1 radial     | 9,2             | 22   | 12  | 22 |            |
| 51060201          | M22x1,5     | Steel    | 2 axial      | 14,2            | 23   | 14  | 30 |            |
| 51060205          | M22x1,5     | AISI 316 | 2 axial      | 14,2            | 25   | 14  | 30 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |   |                 |    |   |   |                           |
| I.84106201A         | -      | Steel    | - | 13,9            | 42 | - | - |                           |
| I.84306201Q         | -      | Steel    | - | 13,5            | 25 | - | - |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |                           |
| I.851316.5          | -      | AISI 316 | - | 14,6            | 10 | - | - |                           |

| Part no. | Size (mm)      | Material | Crimp ring |  |  |  |  | Hose protection |
|----------|----------------|----------|------------|--|--|--|--|-----------------|
|          |                |          |            |  |  |  |  |                 |
| I.901418 | ID Ø14, OD Ø18 | PVC      | I001921    |  |  |  |  |                 |
| I.901822 | ID Ø18, OD Ø22 | PVC      | -          |  |  |  |  |                 |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        |  | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|--|-----------------|
|                               |          |            | Ø               | Length |  |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |  |                 |
| I.9518600                     | Rubber   | I003035    | 34              | 126    |  |                 |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) |  | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--|--------------------|
|  |                  |                     |                        |  |  |                    |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |  |                    |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |                    |



**Accessories combinations**

| <b>Without hose protection</b>         |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518600       | 1003035    | -              |
| Securing grip                          |                 | -               | -          | 9056400        |
| Bend restrictor and securing grip      |                 | 1.9518600       | 1003035    | 905640L        |
| <b>Hose protection without spiral</b>  |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.901418        | -               | 1001921    | -              |
| with bend restrictor                   | 1.901418        | 1.9518600       | 1003035    | -              |
| with securing grip                     | 1.901822        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.901822        | 1.9518600       | 1003035    | 905640L        |

*Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.*

*The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.*

*Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.*

*The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.*

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# Hose Type 6/3

63070

**SPIR STAR®**

DuraLife Flex ®

ID6 - Series: A and Q

## Applications

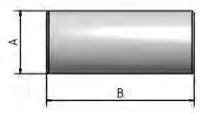
- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)

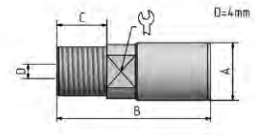
## Technical Information

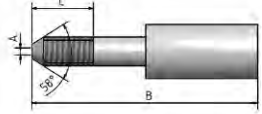
- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 2 layers of high-tensile steel wire,  
1 braided layer of galvanized steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight    | Insert ID    |
|-----------|-----------|------------------|----------------|-------------|-----------|--------------|
|           |           | --<br>(SF 2,5:1) |                |             |           |              |
| 6,1 mm    | 12,3 mm   | --               | 1.040 bar      | 2.600 bar   | 110 mm    | 0,280 kg/m   |
| 0,24 inch | 0,48 inch | --               | 15.080 psi     | 37.700 psi  | 4,33 inch | 0,188 lbs/ft |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve   |
|---------------|--------|----------|-----------------|------|---|---|--|
|               |        |          | A               | B    | C | ⚙ |  |
| <b>Sleeve</b> |        |          |                 |      |   |   |  |
| 10630111      | -      | Steel    | 14,1            | 39,7 | - | - |  |

| Part no.                                   | Thread      | Material | Hose part   | Dimensions (mm) |    |    |    | OnePiece Fittings®WS  |
|--|-------------|----------|-------------|-----------------|----|----|----|---|
|  |             |          |             | A               | B  | C  | ⚙  |   |
| <b>OnePiece Fittings® with wrench size</b> |             |          |             |                 |    |    |    |   |
| 30630461Q                                  | 1/4"x18NPTF | Steel    | 30620462/1Q | 14              | 43 | 14 | 12 |  |

| Part no.          | Thread         | Material | Nut | Dimensions (mm) |    |      |   | Insert  |
|-------------------|----------------|----------|-----|-----------------|----|------|---|---|
|                   |                |          |     | A               | B  | C    | ⚙ |   |
| <b>HP fitting</b> |                |          |     |                 |    |      |   |   |
| 40620205A         | 9/16"x18UNF LH | AISI 316 | -   | 4               | 95 | 23,8 | - |  |

| Part no.                               | Thread      | Material | Nut      | Dimensions (mm) |      |    | ⌀  | Insert |
|--|-------------|----------|----------|-----------------|------|----|----|--------|
|  |             |          |          | A               | B    | C  |    |        |
| <b>Male fitting</b>                    |             |          |          |                 |      |    |    |        |
| 30620411A                              | 1/8"x27NPTF | Steel    | -        | 4               | 58   | 10 | 12 |        |
| 30620401A                              | 1/4"x18NPTF | Steel    | -        | 4               | 68   | 14 | 14 |        |
| 30620405A                              | 1/4"x18NPTF | AISI 316 | -        | 4               | 68   | 14 | 14 |        |
| 30620451A                              | 3/8"x18NPTF | Steel    | -        | 4               | 64   | 14 | 17 |        |
| 30620041A                              | M10x1       | Steel    | -        | 4               | 65   | 12 | 12 |        |
| 30620311A                              | G1/8"       | Steel    | -        | 4               | 59   | 10 | 9  |        |
| <b>Male fitting 60° internal cone</b>  |             |          |          |                 |      |    |    |        |
| 30620341A                              | G1/4"       | Steel    | -        | 4               | 62,5 | 12 | 14 |        |
| 30620321A                              | G3/8"       | Steel    | -        | 4               | 60,5 | 12 | 17 |        |
| <b>Male fitting 100° external cone</b> |             |          |          |                 |      |    |    |        |
| 30620361A                              | G1/4"       | Steel    | -        | 4               | 67   | 18 | 17 |        |
| <b>Male fitting for USIT® Ring</b>     |             |          |          |                 |      |    |    |        |
| 30620391A                              | G1/4"       | Steel    | -        | 4,0             | 61   | 11 | 22 |        |
| 30620351A                              | G3/8"       | Steel    | -        | 4               | 61   | 11 | 24 |        |
| <b>Male fitting flat seal</b>          |             |          |          |                 |      |    |    |        |
| 30620381A                              | G1/4"       | Steel    | -        | 4               | 66   | 15 | 12 |        |
| <b>Male fitting DIN3852 T2 form A</b>  |             |          |          |                 |      |    |    |        |
| 30620301A                              | G1/4"       | Steel    | -        | 4               | 64   | 12 | 19 |        |
| <b>Female fitting NPT/NPTF</b>         |             |          |          |                 |      |    |    |        |
| 30620441A                              | 1/4"x18NPTF | Steel    | -        | 4               | 66,5 | 20 | 19 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |          |                 |      |    |    |        |
| 20620301A                              | G1/4"       | Steel    | 50540301 | 4               | 55   | -  | 19 |        |
| 20620305A                              | G1/4"       | AISI 316 | 50540305 | 4               | 55   | -  | 19 |        |

| Part no.                                     | Thread      | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|--|-------------|----------|--------------------|-----------------|----|---|----|--------|
|  |             |          |                    | A               | B  | C |    |        |
| <b>Universal female swivel 24°/60° light</b> |             |          |                    |                 |    |   |    |        |
| 20620101A                                    | M14x1,5     | Steel    | 50540101           | 4               | 55 | - | 19 |        |
| <b>Universal female swivel 24°/60° heavy</b> |             |          |                    |                 |    |   |    |        |
| 20620141A                                    | M16x1,5     | Steel    | 50620121           | 4               | 56 | - | 19 |        |
| 20620145A                                    | M16x1,5     | AISI 316 | 50620125           | 4               | 56 | - | 19 |        |
| <b>Female swivel with O-Ring</b>             |             |          |                    |                 |    |   |    |        |
| 20620241A                                    | M18x1,5     | Steel    | 50620201           | 4               | 65 | - | 22 |        |
| 20620211A                                    | M22x1,5     | Steel    | 51060201, 51060205 | 4               | 75 | - | 30 |        |
| 20620042A                                    | M24x1,5     | Steel    | 51321206           | 4               | 73 | - | 32 |        |
| <b>Type M female swivel</b>                  |             |          |                    |                 |    |   |    |        |
| 20620641A                                    | 9/16"x18UNF | Steel    | 50540601           | 4               | 57 | - | 19 |        |
| 20620645A                                    | 9/16"x18UNF | AISI 316 | 50540605           | 4               | 57 | - | 19 |        |
| <b>JIC female swivel</b>                     |             |          |                    |                 |    |   |    |        |
| S20630615A                                   | 9/16"x18UNF | AISI 316 | S5063615           | 4               | 53 | - | 19 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| S5063615          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,5             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540101          | M14x1,5     | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50620121          | M16x1,5     | Steel    | 1 radial     | 9,2             | 17,5 | 10  | 19 |            |
| 50620125          | M16x1,5     | AISI 316 | 1 radial     | 9,5             | 17,5 | 10  | 19 |            |
| 50620201          | M18x1,5     | Steel    | 1 radial     | 9,2             | 22   | 12  | 22 |            |
| 51060201          | M22x1,5     | Steel    | 2 axial      | 14,2            | 23   | 14  | 30 |            |
| 51060205          | M22x1,5     | AISI 316 | 2 axial      | 14,2            | 25   | 14  | 30 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|-----------------|------|----|---|---|---------------------------|
|                     |        |          | A               | B    | C  |   |   |                           |
| <b>Stop sleeve</b>  |        |          |                 |      |    |   |   |                           |
| I.84106301A         | -      | Steel    | -               | 14,1 | 41 | - | - |                           |
| I.84306301Q         | -      | Steel    | -               | 14   | 25 | - | - |                           |
| <b>Marking ring</b> |        |          |                 |      |    |   |   |                           |
| I.851618.5          | -      | AISI 316 | -               | 15,3 | 10 | - | - |                           |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Bolt tensioning, pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Grease injection, chemical injection, control of subsea hydraulic components, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 6,3 mm    | 12,6 mm   | --                                   | 1.500 bar      | 180 mm      | 0,295 kg/m   | 3,5 mm    |
| 0,25 inch | 0,50 inch | --                                   | 21.750 psi     | 7,09 inch   | 0,198 lbs/ft | 0,14 inch |

| Part no.                 | Thread | Material | Dimensions (mm) |      |   | Sleeve |
|--------------------------|--------|----------|-----------------|------|---|--------|
|                          |        |          | A               | B    | C |        |
| <b>Sleeve</b>            |        |          |                 |      |   |        |
| 10640101                 | -      | Steel    | 16,4            | 47,5 | - |        |
| 10640105                 | -      | AISI 316 | 16,4            | 47,1 | - |        |
| <b>Blast-Pro® sleeve</b> |        |          |                 |      |   |        |
| 10640232                 | -      | Steel    | 14,5            | 26   | - |        |

| Part no.          | Thread        | Material | Nut | Dimensions (mm) |    |      | Insert |  |
|-------------------|---------------|----------|-----|-----------------|----|------|--------|--|
|                   |               |          |     | A               | B  | C    |        |  |
| <b>HP fitting</b> |               |          |     |                 |    |      |        |  |
| 40640205B         | 3/8"x24UNF LH | AISI 316 | -   | 3,5             | 90 | 20   | -      |  |
| <b>MP fitting</b> |               |          |     |                 |    |      |        |  |
| 40640315B         | 3/8"x24UNF LH | AISI 316 | -   | 3,5             | 89 | 11,1 | -      |  |

| Part no.                               | Thread        | Material        | Sleeve             | Dimensions (mm) |    |    | ⌀  | Blast-Pro® Insert* |
|--|---------------|-----------------|--------------------|-----------------|----|----|----|--------------------|
|  |               |                 |                    | A               | B  | C  |    |                    |
| <b>Blast-Pro® HP fitting</b>           |               |                 |                    |                 |    |    |    |                    |
| 40640214Y                              | 3/8"x24UNF LH | Stainless steel | 10640232           | 4               | 52 | 21 | 12 |                    |
| <b>Blast-Pro® HP female</b>            |               |                 |                    |                 |    |    |    |                    |
| 40640234Y                              | 3/8"x24UNF    | Stainless steel | 10640232           | 4               | 50 | 15 | 12 |                    |
| Part no.                               | Thread        | Material        | Nut                | Dimensions (mm) |    |    | ⌀  | Insert             |
|  |               |                 |                    | A               | B  | C  |    |                    |
| <b>Male fitting</b>                    |               |                 |                    |                 |    |    |    |                    |
| 30640401B                              | 1/4"x18NPTF   | Steel           | -                  | 3,5             | 70 | 14 | 14 |                    |
| <b>Male fitting 60° internal cone</b>  |               |                 |                    |                 |    |    |    |                    |
| 30640301B                              | G1/4"         | Steel           | -                  | 3,5             | 67 | 12 | 14 |                    |
| <b>Male fitting flat seal</b>          |               |                 |                    |                 |    |    |    |                    |
| 30640011B                              | M8x1.25       | Steel           | -                  | 3,5             | 68 | 12 | 8  |                    |
| <b>Universal female swivel 24°/60°</b> |               |                 |                    |                 |    |    |    |                    |
| 20640301B                              | G1/4"         | Steel           | 50540301, 50540305 | 3,5             | 62 | -  | 19 |                    |
| <b>Female swivel with O-Ring</b>       |               |                 |                    |                 |    |    |    |                    |
| 20640241B                              | M18x1,5       | Steel           | 50620201           | 3,5             | 72 | -  | 22 |                    |
| 20640202B                              | M24x1,5       | Steel           | 51321206           | 3,5             | 81 | -  | 32 |                    |

| Part no.                    | Thread      | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|----------|----------|-----------------|----|---|----|--------|
|                             |             |          |          | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |          |          |                 |    |   |    |        |
| 20640641B                   | 9/16"x18UNF | Steel    | 50540601 | 3,5             | 63 | - | 19 |        |
| 20640645B                   | 9/16"x18UNF | AISI 316 | 50540605 | 3,5             | 63 | - | 19 |        |


| <b>JIC female swivel</b> |             |          |          |     |    |   |    |  |
|--------------------------|-------------|----------|----------|-----|----|---|----|--|
| 20640655B                | 9/16"x18UNF | AISI 316 | 50540605 | 3,5 | 58 | - | 19 |  |



| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50620201          | M18x1,5     | Steel    | 1 radial     | 9,2             | 22   | 12  | 22 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84106401B        | -      | Steel    | - | 16,4            | 49 | - | - |                           |
| 1.84106401Y        | -      | Steel    | - | 14,5            | 25 | - | - |                           |

| <b>Marking ring</b> |   |          |   |      |    |   |   |  |
|---------------------|---|----------|---|------|----|---|---|--|
| 1.851618.5          | - | AISI 316 | - | 15,6 | 10 | - | - |  |

| Part no.                           | Size (mm)      | Material | Crimp ring |  | Hose protection |
|------------------------------------|----------------|----------|------------|--|-----------------|
|                                    |                |          |            |  |                 |
| 1.901822                           | ID Ø18, OD Ø22 | PVC      | I002426    |  |                 |
| 1.902026                           | ID Ø20, OD Ø26 | PVC      | -          |  |                 |
| <b>Hose protection with spiral</b> |                |          |            |  |                 |
| 1.912026                           | ID Ø19, OD Ø26 | PVC      | I003035    |  |                 |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|-------------------------------|----------|------------|-----------------|--------|---|
|                               |          |            | Ø               | Length |   |
| <b>Rubber bend restrictor</b> |          |            |                 |        |   |
| 1.9518600                     | Rubber   | 1003035    | 34              | 126    |  |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |

| Accessories combinations               |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9518600       | 1003035         | -              |                |
| Securing grip                          | -               | -               | 9056400        |                |
| Bend restrictor and securing grip      | 1.9518600       | 1003035         | 905640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.901822        | -               | 1002426        | -              |
| with bend restrictor                   | 1.901822        | 1.9518600       | 1003035        | -              |
| with securing grip                     | 1.902026        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.902026        | 1.9518600       | 1003035        | 905640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912026        | -               | 1003035        | -              |
| with bend restrictor                   | 1.912026        | 1.9518600       | 1003035        | -              |
| with securing grip                     | 1.912026        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.912026        | 1.9518600       | 1003035        | 905640L        |

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- Oil and Gas:** Grease injection, chemical injection, control of subsea hydraulic components, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 6,3 mm    | 12,6 mm   | --                                   | 1.650 bar      | 180 mm      | 0,295 kg/m   | 3,5 mm    |
| 0,25 inch | 0,50 inch | --                                   | 23.925 psi     | 7,09 inch   | 0,198 lbs/ft | 0,14 inch |

| Part no.                 | Thread | Material | Dimensions (mm) |      |   | ⚙ | Sleeve |
|--------------------------|--------|----------|-----------------|------|---|---|--------|
|                          |        |          | A               | B    | C |   |        |
| <b>Sleeve</b>            |        |          |                 |      |   |   |        |
| 10640101                 | -      | Steel    | 16,4            | 47,5 | - | - |        |
| 10640105                 | -      | AISI 316 | 16,4            | 47,1 | - | - |        |
| <b>Blast-Pro® sleeve</b> |        |          |                 |      |   |   |        |
| 10640232                 | -      | Steel    | 14,5            | 26   | - | - |        |

| Part no.          | Thread        | Material | Nut | Dimensions (mm) |    |      | ⚙ | Insert |
|-------------------|---------------|----------|-----|-----------------|----|------|---|--------|
|                   |               |          |     | A               | B  | C    |   |        |
| <b>HP fitting</b> |               |          |     |                 |    |      |   |        |
| 40640205B         | 3/8"x24UNF LH | AISI 316 | -   | 3,5             | 90 | 20   | - |        |
| <b>MP fitting</b> |               |          |     |                 |    |      |   |        |
| 40640315B         | 3/8"x24UNF LH | AISI 316 | -   | 3,5             | 89 | 11,1 | - |        |

| Part no.                               | Thread        | Material        | Sleeve             | Dimensions (mm) |    |    | ⌀  | Blast-Pro® Insert* |
|--|---------------|-----------------|--------------------|-----------------|----|----|----|--------------------|
|  |               |                 |                    | A               | B  | C  |    |                    |
| <b>Blast-Pro® HP fitting</b>           |               |                 |                    |                 |    |    |    |                    |
| 40640214Y                              | 3/8"x24UNF LH | Stainless steel | 10640232           | 4               | 52 | 21 | 12 |                    |
| <b>Blast-Pro® HP female</b>            |               |                 |                    |                 |    |    |    |                    |
| 40640234Y                              | 3/8"x24UNF    | Stainless steel | 10640232           | 4               | 50 | 15 | 12 |                    |
| Part no.                               | Thread        | Material        | Nut                | Dimensions (mm) |    |    | ⌀  | Insert             |
|  |               |                 |                    | A               | B  | C  |    |                    |
| <b>Male fitting</b>                    |               |                 |                    |                 |    |    |    |                    |
| 30640401B                              | 1/4"x18NPTF   | Steel           | -                  | 3,5             | 70 | 14 | 14 |                    |
| <b>Male fitting 60° internal cone</b>  |               |                 |                    |                 |    |    |    |                    |
| 30640301B                              | G1/4"         | Steel           | -                  | 3,5             | 67 | 12 | 14 |                    |
| <b>Male fitting flat seal</b>          |               |                 |                    |                 |    |    |    |                    |
| 30640011B                              | M8x1.25       | Steel           | -                  | 3,5             | 68 | 12 | 8  |                    |
| <b>Universal female swivel 24°/60°</b> |               |                 |                    |                 |    |    |    |                    |
| 20640301B                              | G1/4"         | Steel           | 50540301, 50540305 | 3,5             | 62 | -  | 19 |                    |
| <b>Female swivel with O-Ring</b>       |               |                 |                    |                 |    |    |    |                    |
| 20640241B                              | M18x1,5       | Steel           | 50620201           | 3,5             | 72 | -  | 22 |                    |
| 20640202B                              | M24x1,5       | Steel           | 51321206           | 3,5             | 81 | -  | 32 |                    |

| Part no.                    | Thread      | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|-------------|----------|----------|-----------------|----|---|----|--------|
|                             |             |          |          | A               | B  | C |    |        |
| <b>Type M female swivel</b> |             |          |          |                 |    |   |    |        |
| 20640641B                   | 9/16"x18UNF | Steel    | 50540601 | 3,5             | 63 | - | 19 |        |
| 20640645B                   | 9/16"x18UNF | AISI 316 | 50540605 | 3,5             | 63 | - | 19 |        |


| <b>JIC female swivel</b> |             |          |          |     |    |   |    |  |
|--------------------------|-------------|----------|----------|-----|----|---|----|--|
| 20640655B                | 9/16"x18UNF | AISI 316 | 50540605 | 3,5 | 58 | - | 19 |  |



| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |     | ⌀  | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|-----|----|------------|
|                   |             |          |              | A               | B    | C   |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |     |    |            |
| 50540601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18   | 14  | 19 |            |
| 50540301          | G1/4"       | Steel    | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50540305          | G1/4"       | AISI 316 | 1 radial     | 9,2             | 16,5 | 8,5 | 19 |            |
| 50620201          | M18x1,5     | Steel    | 1 radial     | 9,2             | 22   | 12  | 22 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16  | 32 |            |

| Part no.           | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|--------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                    |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |   |                 |    |   |   |                           |
| 1.84106401B        | -      | Steel    | - | 16,4            | 49 | - | - |                           |
| 1.84106401Y        | -      | Steel    | - | 14,5            | 25 | - | - |                           |

| <b>Marking ring</b> |   |          |   |      |    |   |   |  |
|---------------------|---|----------|---|------|----|---|---|--|
| 1.851618.5          | - | AISI 316 | - | 16,3 | 10 | - | - |  |

| Part no.                           | Size (mm)      | Material | Crimp ring |  | Hose protection |
|------------------------------------|----------------|----------|------------|--|-----------------|
|                                    |                |          |            |  |                 |
| 1.901822                           | ID Ø18, OD Ø22 | PVC      | I002426    |  |                 |
| 1.902026                           | ID Ø20, OD Ø26 | PVC      | -          |  |                 |
| <b>Hose protection with spiral</b> |                |          |            |  |                 |
| 1.912026                           | ID Ø19, OD Ø26 | PVC      | I003035    |  |                 |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|-------------------------------|----------|------------|-----------------|--------|---|
|                               |          |            | Ø               | Length |   |
| <b>Rubber bend restrictor</b> |          |            |                 |        |   |
| 1.9518600                     | Rubber   | 1003035    | 34              | 126    |  |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |  |

| Accessories combinations               |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9518600       | 1003035         | -              |                |
| Securing grip                          | -               | -               | 9056400        |                |
| Bend restrictor and securing grip      | 1.9518600       | 1003035         | 905640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.901822        | -               | 1002426        | -              |
| with bend restrictor                   | 1.901822        | 1.9518600       | 1003035        | -              |
| with securing grip                     | 1.902026        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.902026        | 1.9518600       | 1003035        | 905640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912026        | -               | 1003035        | -              |
| with bend restrictor                   | 1.912026        | 1.9518600       | 1003035        | -              |
| with securing grip                     | 1.912026        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.912026        | 1.9518600       | 1003035        | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

# Hose Type 6/6H

66H005

**SPIR STAR®**

MAXIMUS

ID6 - Series: C

## Applications

### Waterblast:

Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

### Hydraulics:

Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)



## Technical Information

**Inner Core:** Polyoxymethylene (POM)

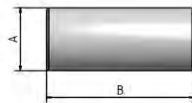
**Pressure Support:** 6 layers of high-tensile steel wire

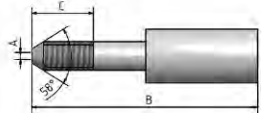
**Outer Cover:** Polyamide (PA)

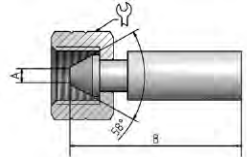
**Color:** Orange

**Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 5,9 mm    | 16,4 mm   | --                                   | 2.800 bar      | 250 mm      | 0,750 kg/m   | 3,0 mm    |
| 0,23 inch | 0,65 inch | --                                   | 40.600 psi     | 9,84 inch   | 0,503 lbs/ft | 0,12 inch |

| Part no.      | Thread | Material | Dimensions (mm) |       |   | ⚙ | Sleeve  |
|---------------|--------|----------|-----------------|-------|---|---|---|
|               |        |          | A               | B     | C |   |   |
| <b>Sleeve</b> |        |          |                 |       |   |   |   |
| 10660102      | -      | Steel    | 21,4            | 65,15 | - | - |  |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    | ⚙ | Insert  |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|---|
|                   |                |                 |     | A               | B   | C  |   |   |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |   |
| 40660204C         | 3/8"x24UNF LH  | Stainless steel | -   | 3               | 98  | 20 | - |  |
| 40660224C         | 9/16"x18UNF LH | Stainless steel | -   | 3               | 112 | 24 | - |   |
| 40660124C         | M14x1,5 LH     | Stainless steel | -   | 3               | 112 | 24 | - |   |



| <b>Type M female swivel</b> |             |                 |                    |   |    |   |    |   |
|-----------------------------|-------------|-----------------|--------------------|---|----|---|----|---|
| 20660604C                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 3 | 72 | - | 22 |  |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|----|----|----|------------|
|                   |             |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |             |          |              |                 |    |    |    |            |
| 50560601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18 | 14 | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 22 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |      |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|------|---|---|---------------------------|
|                     |        |          |              | A               | B    | C |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |      |   |   |                           |
| 1.84106601C         | -      | Steel    | -            | 21,4            | 65,2 | - | - |                           |
| <b>Marking ring</b> |        |          |              |                 |      |   |   |                           |
| 1.852125.1          | -      | Steel    | -            | 20,4            | 20   | - | - |                           |
| 1.852125.5          | -      | AISI 316 | -            | 20,4            | 20   | - | - |                           |

| Part no.                           | Size (mm)      | Material | Crimp ring | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|------------|-----------------|
|                                    |                |          |            |            |                 |
| 1.902531                           | ID Ø25, OD Ø31 | PVC      | 1003335    |            |                 |
| 1.903037                           | ID Ø30, OD Ø39 | PVC      | 1003941    |            |                 |
| <b>Hose protection with spiral</b> |                |          |            |            |                 |
| 1.912229                           | ID Ø22, OD Ø35 | PVC      | 1003035    |            |                 |
| 1.913240                           | ID Ø32, OD Ø40 | PVC      | -          |            |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9523406A                | PU       | 1004145    | 44              | 250    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |  |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |   |
| 908640L                                 | 600,00           | 990,00              | 20,40                  | 15-20  |  |

| <b>Accessories combinations</b>        |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9523406A      | I004145         | -              |                |
| Securing grip                          | -               | -               | 9086400        |                |
| Bend restrictor and securing grip      | 1.9523406A      | I004145         | 908640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.902531        | -               | I003335        | -              |
| with bend restrictor                   | 1.903037        | 1.9523406A      | I004145        | -              |
| with securing grip                     | 1.902531        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406A      | I004145        | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912229        | -               | I003035        | -              |
| with bend restrictor                   | 1.913240        | 1.9523406A      | I004145        | -              |
| with securing grip                     | 1.912229        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406A      | I004145        | 908640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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MAXIMUS

ID6 - Series: C

**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 8 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Chrome yellow
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 5,8 mm    | 18,6 mm   | --               | 3.200 bar      | 280 mm      | 1,060 kg/m   | 3,0 mm    |
| 0,23 inch | 0,73 inch | --               | 46.400 psi     | 11,02 inch  | 0,710 lbs/ft | 0,12 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10680102      | -      | Steel    | 23,7            | 67,6 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  | ⚙ |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 40660204C         | 3/8"x24UNF LH  | Stainless steel | -   | 3               | 98  | 20 | - |        |
| 40660224C         | 9/16"x18UNF LH | Stainless steel | -   | 3               | 112 | 24 | - |        |
| 40660124C         | M14x1,5 LH     | Stainless steel | -   | 3               | 112 | 24 | - |        |

| Part no.                    | Thread      | Material        | Nut                | Dimensions (mm) | Swivel nut |
|-----------------------------|-------------|-----------------|--------------------|-----------------|------------|
| <b>Type M female swivel</b> |             |                 |                    |                 |            |
| 20660604C                   | 9/16"x18UNF | Stainless steel | 50560605, 50560601 | 3 72 - 22       |            |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|----|----|----|------------|
|                   |             |          |              | A               | B  | C  | ⚙  |            |
| <b>Swivel nut</b> |             |          |              |                 |    |    |    |            |
| 50560601          | 9/16"x18UNF | Steel    | 1 radial     | 9,2             | 18 | 14 | 22 |            |
| 50560605          | 9/16"x18UNF | AISI 316 | 1 radial     | 9,2             | 18 | 14 | 22 |            |



| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | T | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |   |                           |
| <b>Stop sleeve</b>  |        |          |   |                 |    |   |   |   |                           |
| 1.84106801C         | -      | Steel    | - | 23,7            | 66 | - | - |   |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |   |                           |
| 1.852125.1          | -      | Steel    | - | 22,6            | 20 | - | - |   |                           |
| 1.852125.5          | -      | AISI 316 | - | 22,6            | 20 | - | - |   |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------------------|----------------|----------|------------|-----------------|--------|-----------------|
|                                       |                |          |            | Ø               | Length |                 |
| <b>Hose protection without spiral</b> |                |          |            |                 |        |                 |
| 1.902531                              | ID Ø25, OD Ø31 | PVC      | I003335    |                 |        |                 |
| 1.903037                              | ID Ø30, OD Ø39 | PVC      | I003941    |                 |        |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |        |                 |
| 1.912532                              | ID Ø25, OD Ø32 | PVC      | I003035    |                 |        |                 |
| 1.913240                              | ID Ø32, OD Ø40 | PVC      | -          |                 |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9523406E                | PU       | I004145    | 44              | 250    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |                    |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |                    |
| 908640L                                 | 600,00           | 990,00              | 20,40                  | 15-20  |                    |

## Accessories combinations

| Without hose protection                |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9523406E      | I004145    | -              |
| Securing grip                          |                 | -               | -          | 9086400        |
| Bend restrictor and securing grip      |                 | 1.9523406E      | I004145    | 908640L        |
| Hose protection without spiral         |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902531        | -               | I003335    | -              |
| with bend restrictor                   | 1.903037        | 1.9523406E      | I004145    | -              |
| with securing grip                     | 1.902531        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406E      | I004145    | 908640L        |
| Hose protection with spiral            |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912532        | -               | I003035    | -              |
| with bend restrictor                   | 1.913240        | 1.9523406E      | I004145    | -              |
| with securing grip                     | 1.912532        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406E      | I004145    | 908640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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# Hose Type 8/2

82070

**SPIR STAR®**

DuraLife Flex ®

ID8 - Series: A and Q

## Applications

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal)

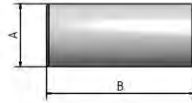
**Hydraulics:** Pressure test equipment (valves, tooling and control panels)

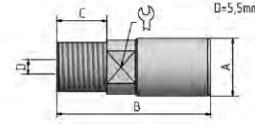
## Technical Information

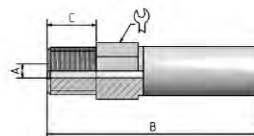
**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 2 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Green  
**Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 8,1 mm    | 13,3 mm   | -- (SF 2.5:1)    | 900 bar        | 130 mm      | 0,200 kg/m   | 5,5 mm    |
| 0,32 inch | 0,52 inch | --               | 13.050 psi     | 5,12 inch   | 0,134 lbs/ft | 0,22 inch |

| Part no. | Thread | Material | Dimensions (mm) |      |   |        | Sleeve   |
|----------|--------|----------|-----------------|------|---|--------|--|
|          |        |          | A               | B    | C | Wrench |  |
| 10820101 | -      | Steel    | 17,8            | 45,1 | - | -      |  |

| Part no.                                   | Thread      | Material | Hose part    | Dimensions (mm) |    |    |        | OnePiece Fittings® WS   |
|--|-------------|----------|--------------|-----------------|----|----|--------|---|
|  |             |          |              | A               | B  | C  | Wrench |   |
| <b>OnePiece Fittings® with wrench size</b> |             |          |              |                 |    |    |        |   |
| 30820461 Q                                 | 1/4"×18NPTF | Steel    | 30820442/1 Q | 17,5            | 47 | 14 | 16     |  |
| 30820441 Q                                 | 3/8"×18NPT  | Steel    | 30820442/1 Q | 17,5            | 46 | 14 | 16     |   |

| Part no.            | Thread      | Material | Nut | Dimensions (mm) |    |    |        | Insert  |
|---------------------|-------------|----------|-----|-----------------|----|----|--------|---|
|                     |             |          |     | A               | B  | C  | Wrench |   |
| <b>Male fitting</b> |             |          |     |                 |    |    |        |   |
| 30820411 A          | 1/4"×18NPTF | Steel    | -   | 5,5             | 68 | 14 | 14     |  |
| 30820401 A          | 3/8"×18NPTF | Steel    | -   | 5,5             | 69 | 14 | 17     |   |

| Part no.                               | Thread      | Material | Nut                | Dimensions (mm) |      |      | ⌀  | Insert |
|--|-------------|----------|--------------------|-----------------|------|------|----|--------|
|  |             |          |                    | A               | B    | C    |    |        |
| <b>Male fitting 60° internal cone</b>  |             |          |                    |                 |      |      |    |        |
| 30820321A                              | G1/4"       | Steel    | -                  | 5,5             | 63   | 12   | 14 |        |
| 30820301A                              | G3/8"       | Steel    | -                  | 5,5             | 65   | 12   | 17 |        |
| <b>Male fitting flat seal</b>          |             |          |                    |                 |      |      |    |        |
| 30820381A                              | G1/4"       | Steel    | -                  | 5,5             | 70   | 15   | 12 |        |
| 30820311A                              | G3/8"       | Steel    | -                  | 5,5             | 81   | 17   | 17 |        |
| <b>Male fitting DIN3852 T2 form A</b>  |             |          |                    |                 |      |      |    |        |
| 30820341A                              | G3/8"       | Steel    | -                  | 5,5             | 69,5 | 14,5 | 22 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |                    |                 |      |      |    |        |
| 20820301A                              | G3/8"       | Steel    | 50860301           | 5,5             | 62   | -    | 24 |        |
| <b>Female swivel with O-Ring</b>       |             |          |                    |                 |      |      |    |        |
| 20820201A                              | M20x1,5     | Steel    | 50860201           | 5,5             | 65   | -    | 27 |        |
| 20820042A                              | M24x1,5     | Steel    | 51321206           | 5,5             | 75   | -    | 32 |        |
| <b>Type M female swivel</b>            |             |          |                    |                 |      |      |    |        |
| 20820645A                              | 3/4"x16UNF  | AISI 316 | 50840605, 50840601 | 5,5             | 62   | -    | 24 |        |
| <b>JIC female swivel</b>               |             |          |                    |                 |      |      |    |        |
| 20820601A                              | 9/16"x18UNF | Steel    | 50820601           | 5,5             | 56   | -    | 19 |        |
| 20820605A                              | 9/16"x18UNF | AISI 316 | 50820605, 50820601 | 5,5             | 56   | -    | 19 |        |

| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |      |    | ⌀ | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|------|----|---|------------|
|                   |             |          |              | A               | B    | C    | H  |   |            |
| <b>Swivel nut</b> |             |          |              |                 |      |      |    |   |            |
| 50820601          | 9/16"x18UNF | Steel    | 1 radial     | 10,6            | 18   | 14   | 19 |   |            |
| 50820605          | 9/16"x18UNF | AISI 316 | 1 radial     | 10,6            | 18   | 14   | 19 |   |            |
| 50840601          | 3/4"x16UNF  | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |   |            |
| 50840605          | 3/4"x16UNF  | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |   |            |
| 50860301          | G3/8"       | Steel    | 1 radial     | 12,5            | 18,5 | 15,5 | 24 |   |            |
| 50860201          | M20x1,5     | Steel    | 1 radial     | 12,2            | 22   | 12   | 27 |   |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |   |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---|---------------------------|
|                     |        |          |              | A               | B  | C | H |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |    |   |   |   |                           |
| 1.84108201A         | -      | Steel    | -            | 17,8            | 47 | - | - |   |                           |
| 1.84308201Q         | -      | Steel    | -            | 17,5            | 29 | - | - |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |   |                           |
| 1.851618.5          | -      | AISI 316 | -            | 15,6            | 10 | - | - |   |                           |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| 1.9518600                     | Rubber   | 1003035    | 34              | 126    |                 |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--------------------|
|  |                  |                     |                        |  |                    |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |                    |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |                    |



**Accessories combinations**

| Without hose protection           |                 |            |                |
|-----------------------------------|-----------------|------------|----------------|
| Description                       | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                   | 1.9518600       | 1003035    | -              |
| Securing grip                     | -               | -          | 9056400        |
| Bend restrictor and securing grip | 1.9518600       | 1003035    | 905640L        |

*Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.*

*The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.*

*Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.*

*The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.*

*\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.*

*We reserve our rights for technical changes without notice. Subject to printing errors.*

# Hose Type 8/2-1000

820793.1000

**SPIR STAR®**

DuraLife Flex ®

ID8 - Series: A and Q

## Applications

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels)

## Technical Information

**Inner Core:** Polyoxymethylene (POM)

**Pressure Support:** 2 layers of high-tensile steel wire


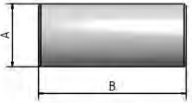
**Outer Cover:** Polyamide (PA)


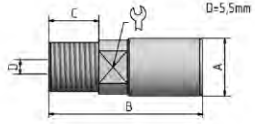
**Color:** Yellow


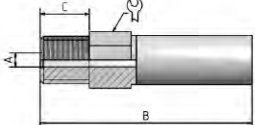
**Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 8,1 mm    | 13,3 mm   | --               | 1.000 bar      | 110 mm      | 0,200 kg/m   | 5,5 mm    |
| 0,32 inch | 0,52 inch | --               | 14.500 psi     | 4,33 inch   | 0,134 lbs/ft | 0,22 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve   |
|---------------|--------|----------|-----------------|------|---|---|--|
|               |        |          | A               | B    | C |  |  |
| <b>Sleeve</b> |        |          |                 |      |   |   |  |
| 10820101      | -      | Steel    | 17,8            | 45,1 | - | -   |  |

| Part no.                                   | Thread      | Material | Hose part   | Dimensions (mm) |    |    |   | OnePiece Fittings® WS   |
|--|-------------|----------|-------------|-----------------|----|----|---|---|
|  |             |          |             | A               | B  | C  |  |   |
| <b>OnePiece Fittings® with wrench size</b> |             |          |             |                 |    |    |   |   |
| 30820461Q                                  | 1/4"×18NPTF | Steel    | 30820442/1Q | 17,5            | 47 | 14 | 16  |  |
| 30820441Q                                  | 3/8"×18NPT  | Steel    | 30820442/1Q | 17,5            | 46 | 14 | 16  |   |

| Part no.            | Thread      | Material | Nut | Dimensions (mm) |    |    |   | Insert  |
|---------------------|-------------|----------|-----|-----------------|----|----|---|---|
|                     |             |          |     | A               | B  | C  |  |   |
| <b>Male fitting</b> |             |          |     |                 |    |    |   |   |
| 30820411A           | 1/4"×18NPTF | Steel    | -   | 5,5             | 68 | 14 | 14  |  |
| 30820401A           | 3/8"×18NPTF | Steel    | -   | 5,5             | 69 | 14 | 17  |   |

| Part no.                               | Thread      | Material | Nut                | Dimensions (mm) |      |      | ⌀  | Insert |
|--|-------------|----------|--------------------|-----------------|------|------|----|--------|
|  |             |          |                    | A               | B    | C    |    |        |
| <b>Male fitting 60° internal cone</b>  |             |          |                    |                 |      |      |    |        |
| 30820321A                              | G1/4"       | Steel    | -                  | 5,5             | 63   | 12   | 14 |        |
| 30820301A                              | G3/8"       | Steel    | -                  | 5,5             | 65   | 12   | 17 |        |
| <b>Male fitting flat seal</b>          |             |          |                    |                 |      |      |    |        |
| 30820381A                              | G1/4"       | Steel    | -                  | 5,5             | 70   | 15   | 12 |        |
| 30820311A                              | G3/8"       | Steel    | -                  | 5,5             | 81   | 17   | 17 |        |
| <b>Male fitting DIN3852 T2 form A</b>  |             |          |                    |                 |      |      |    |        |
| 30820341A                              | G3/8"       | Steel    | -                  | 5,5             | 69,5 | 14,5 | 22 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |                    |                 |      |      |    |        |
| 20820301A                              | G3/8"       | Steel    | 50860301           | 5,5             | 62   | -    | 24 |        |
| <b>Female swivel with O-Ring</b>       |             |          |                    |                 |      |      |    |        |
| 20820201A                              | M20x1,5     | Steel    | 50860201           | 5,5             | 65   | -    | 27 |        |
| 20820042A                              | M24x1,5     | Steel    | 51321206           | 5,5             | 75   | -    | 32 |        |
| <b>Type M female swivel</b>            |             |          |                    |                 |      |      |    |        |
| 20820645A                              | 3/4"x16UNF  | AISI 316 | 50840605, 50840601 | 5,5             | 62   | -    | 24 |        |
| <b>JIC female swivel</b>               |             |          |                    |                 |      |      |    |        |
| 20820601A                              | 9/16"x18UNF | Steel    | 50820601           | 5,5             | 56   | -    | 19 |        |
| 20820605A                              | 9/16"x18UNF | AISI 316 | 50820605, 50820601 | 5,5             | 56   | -    | 19 |        |



| Part no.          | Thread      | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|-------------|----------|--------------|-----------------|------|------|----|------------|
|                   |             |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |             |          |              |                 |      |      |    |            |
| 50820601          | 9/16"x18UNF | Steel    | 1 radial     | 10,6            | 18   | 14   | 19 |            |
| 50820605          | 9/16"x18UNF | AISI 316 | 1 radial     | 10,6            | 18   | 14   | 19 |            |
| 50840601          | 3/4"x16UNF  | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF  | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860301          | G3/8"       | Steel    | 1 radial     | 12,5            | 18,5 | 15,5 | 24 |            |
| 50860201          | M20x1,5     | Steel    | 1 radial     | 12,2            | 22   | 12   | 27 |            |
| 51321206          | M24x1,5     | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |

| Part no.           | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | Tube cleaning accessories |
|--------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                    |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b> |        |          |              |                 |    |   |   |                           |
| 1.84108201A        | -      | Steel    | -            | 17,8            | 47 | - | - |                           |
| 1.84308201Q        | -      | Steel    | -            | 17,5            | 29 | - | - |                           |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.851618.5          | -      | AISI 316 | -            | 16,3            | 10 | - | - |                           |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| 1.9518600                     | Rubber   | 1003035    | 34              | 126    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |                    |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |                    |
| 905640L                                 | 600,00           | 990,00              | 10,20                  | 10-15  |                    |



**Accessories combinations**

| Without hose protection           |                 |            |                |
|-----------------------------------|-----------------|------------|----------------|
| Description                       | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                   | 1.9518600       | 1003035    | -              |
| Securing grip                     | -               | -          | 9056400        |
| Bend restrictor and securing grip | 1.9518600       | 1003035    | 905640L        |

*Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.*

*The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.*

*Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.*

*The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.*

*\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.*

*We reserve our rights for technical changes without notice. Subject to printing errors.*

# Hose Type 8/2WR

82WR2281

**SPIR STAR®**

Heavy duty outer cover for rough service

ID8 - Series: B

## Applications

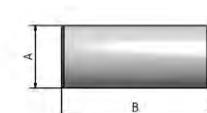
- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Grease injection, nitrogen service

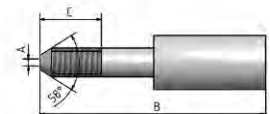
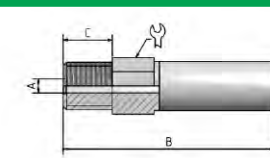
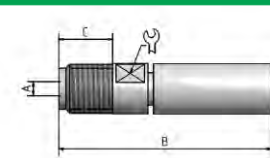


## Technical Information

- Inner Core:** Polyamide (PA)
- Pressure Support:** 2 open layers, 2 dense layers of high-tensile steel wire
- Outer Cover:** Polyurethane (TPU)
- Color:** Silver
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight    | Insert ID    |
|-----------|-----------|------------------|----------------|-------------|-----------|--------------|
|           |           | -- (SF 2.5:1)    |                |             |           |              |
| 8,0 mm    | 16,0 mm   | --               | 1.040 bar      | 2.600 bar   | 110 mm    | 0,364 kg/m   |
| 0,31 inch | 0,63 inch | --               | 15.080 psi     | 37.700 psi  | 4,33 inch | 0,244 lbs/ft |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve   |
|---------------|--------|----------|-----------------|----|---|---|--|
|               |        |          | A               | B  | C | ⚙ |  |
| <b>Sleeve</b> |        |          |                 |    |   |   |  |
| 10830201WR    | -      | Steel    | 21,3            | 56 | - | - |  |

| Part no.                      | Thread         | Material | Nut | Dimensions (mm) |       |    |    | Insert  |
|-------------------------------|----------------|----------|-----|-----------------|-------|----|----|---|
|                               |                |          |     | A               | B     | C  | ⚙  |   |
| <b>HP fitting</b>             |                |          |     |                 |       |    |    |   |
| 40840205B                     | 9/16"x18UNF LH | AISI 316 | -   | 4,5             | 108,5 | 24 | -  |  |
| <b>Male fitting</b>           |                |          |     |                 |       |    |    |   |
| 30840411B                     | 1/4"x18NPTF    | Steel    | -   | 4,5             | 84    | 14 | 14 |  |
| 30840401B                     | 3/8"x18NPTF    | Steel    | -   | 4,5             | 82    | 14 | 17 |   |
| 30840341B                     | G1/4"          | Steel    | -   | 4,5             | 82    | 14 | 14 |   |
| <b>Male fitting flat seal</b> |                |          |     |                 |       |    |    |   |
| 30840311B                     | G1/4"          | Steel    | -   | 4,5             | 83    | 15 | 14 |  |

| Part no.                               | Thread     | Material | Nut                          | Dimensions (mm) |      |    | ⌀  | Insert |
|--|------------|----------|------------------------------|-----------------|------|----|----|--------|
|  |            |          |                              | A               | B    | C  |    |        |
| <b>Male fitting DIN3852 T2 form A</b>  |            |          |                              |                 |      |    |    |        |
| 30840301B                              | G3/8"      | Steel    | -                            | 4,5             | 84,5 | 12 | 22 |        |
| <b>Universal female swivel 24°/60°</b> |            |          |                              |                 |      |    |    |        |
| 20840301B                              | G3/8"      | Steel    | 50860301                     | 4,5             | 72   | -  | 24 |        |
| 20840305B                              | G3/8"      | AISI 316 | 50840305                     | 4,5             | 74   | -  | 24 |        |
| <b>Female swivel with O-Ring</b>       |            |          |                              |                 |      |    |    |        |
| 20840201B                              | M20x1,5    | Steel    | 50860201                     | 4,5             | 77   | -  | 27 |        |
| 20840231B                              | M22x1,5    | Steel    | 51060201, 51060205           | 4,5             | 79   | -  | 30 |        |
| 20840221B                              | M24x1,5    | Steel    | 51321206, 51320205, 51360206 | 4,5             | 85   | -  | 32 |        |
| <b>Type M female swivel</b>            |            |          |                              |                 |      |    |    |        |
| 20840641B                              | 3/4"x16UNF | Steel    | 50840601                     | 4,5             | 73   | -  | 24 |        |
| 20840645B                              | 3/4"x16UNF | AISI 316 | 50840605                     | 4,5             | 73   | -  | 24 |        |
| <b>JIC female swivel</b>               |            |          |                              |                 |      |    |    |        |
| 20840605B                              | 3/4"x16UNF | AISI 316 | 50840605                     | 4,5             | 68   | -  | 24 |        |

| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|------|------|----|------------|
|                   |            |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |            |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860301          | G3/8"      | Steel    | 1 radial     | 12,5            | 18,5 | 15,5 | 24 |            |
| 50840305          | G3/8"      | AISI 316 | 1 radial     | 12,2            | 18,5 | 13,5 | 24 |            |
| 50860201          | M20x1,5    | Steel    | 1 radial     | 12,2            | 22   | 12   | 27 |            |
| 51060201          | M22x1,5    | Steel    | 2 axial      | 14,2            | 23   | 14   | 30 |            |
| 51060205          | M22x1,5    | AISI 316 | 2 axial      | 14,2            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5    | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |  |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|--|
|                     |        |          | A               | B    | C  |   |                           |  |
| <b>Stop sleeve</b>  |        |          |                 |      |    |   |                           |  |
| I.84108301B         | -      | Steel    | -               | 21,3 | 56 | - | -                         |  |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |  |
| I.851720.5          | -      | AISI 316 | -               | 19   | 10 | - | -                         |  |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |                    |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection without spiral</b> |                |          |            |                 |
| I.902531                              | ID Ø25, OD Ø31 | PVC      | I003335    |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |
| I.912532                              | ID Ø25, OD Ø32 | PVC      | I003035    |                 |



| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9086400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.902531        | -               | 1003335    | -              |
| with securing grip                    | 1.902531        | -               | -          | 9086400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.912532        | -               | 1003035    | -              |
| with securing grip                    | 1.912532        | -               | -          | 9086400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Grease injection, chemical injection, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 8,0 mm    | 14,6 mm   | --                                   | 1.500 bar      | 200 mm      | 0,390 kg/m   | 4,5 mm    |
| 0,31 inch | 0,57 inch | --                                   | 21.750 psi     | 7,87 inch   | 0,261 lbs/ft | 0,18 inch |

| Part no.                 | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|--------------------------|--------|----------|-----------------|------|---|---|--------|
|                          |        |          | A               | B    | C |   |        |
| <b>Sleeve</b>            |        |          |                 |      |   |   |        |
| 10840102                 | -      | Steel    | 20,2            | 56,5 | - | - |        |
| 10840105                 | -      | AISI 316 | 20,2            | 58   | - | - |        |
| <b>Blast-Pro® sleeve</b> |        |          |                 |      |   |   |        |
| 10840142                 | -      | Steel    | 17,1            | 29   | - | - |        |

| Part no.          | Thread         | Material | Nut | Dimensions (mm) |       |    |   | Insert |
|-------------------|----------------|----------|-----|-----------------|-------|----|---|--------|
|                   |                |          |     | A               | B     | C  |   |        |
| <b>HP fitting</b> |                |          |     |                 |       |    |   |        |
| 40840205B         | 9/16"x18UNF LH | AISI 316 | -   | 4,5             | 108,5 | 24 | - |        |

| Part no.                  | Thread         | Material        | Sleeve   | Dimensions (mm) |    |    |    | Blast-Pro® Insert* |
|---------------------------|----------------|-----------------|----------|-----------------|----|----|----|--------------------|
|                           |                |                 |          | A               | B  | C  |    |                    |
| <b>Blast-Pro® MP male</b> |                |                 |          |                 |    |    |    |                    |
| 40840244Y                 | 9/16"x18UNF LH | Stainless steel | 10840142 | 5               | 75 | 25 | 15 |                    |

| Part no.                               | Thread      | Material | Nut                          | Dimensions (mm) |      |    | 🔧  | Insert |
|--|-------------|----------|------------------------------|-----------------|------|----|----|--------|
|  |             |          |                              | A               | B    | C  |    |        |
| <b>Male fitting</b>                    |             |          |                              |                 |      |    |    |        |
| 30840411B                              | 1/4"x18NPTF | Steel    | -                            | 4,5             | 84   | 14 | 14 |        |
| 30840401B                              | 3/8"x18NPTF | Steel    | -                            | 4,5             | 82   | 14 | 17 |        |
| 30840341B                              | G1/4"       | Steel    | -                            | 4,5             | 82   | 14 | 14 |        |
| <b>Male fitting flat seal</b>          |             |          |                              |                 |      |    |    |        |
| 30840311B                              | G1/4"       | Steel    | -                            | 4,5             | 83   | 15 | 14 |        |
| <b>Male fitting DIN3852 T2 form A</b>  |             |          |                              |                 |      |    |    |        |
| 30840301B                              | G3/8"       | Steel    | -                            | 4,5             | 84,5 | 12 | 22 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |                              |                 |      |    |    |        |
| 20840301B                              | G3/8"       | Steel    | 50860301                     | 4,5             | 72   | -  | 24 |        |
| 20840305B                              | G3/8"       | AISI 316 | 50840305                     | 4,5             | 74   | -  | 24 |        |
| <b>Female swivel with O-Ring</b>       |             |          |                              |                 |      |    |    |        |
| 20840201B                              | M20x1,5     | Steel    | 50860201                     | 4,5             | 77   | -  | 27 |        |
| 20840231B                              | M22x1,5     | Steel    | 51060201, 51060205           | 4,5             | 79   | -  | 30 |        |
| 20840221B                              | M24x1,5     | Steel    | 51321206, 51320205, 51360206 | 4,5             | 85   | -  | 32 |        |
| <b>Type M female swivel</b>            |             |          |                              |                 |      |    |    |        |
| 20840641B                              | 3/4"x16UNF  | Steel    | 50840601                     | 4,5             | 73   | -  | 24 |        |
| 20840645B                              | 3/4"x16UNF  | AISI 316 | 50840605                     | 4,5             | 73   | -  | 24 |        |
| <b>JIC female swivel</b>               |             |          |                              |                 |      |    |    |        |
| 20840605B                              | 3/4"x16UNF  | AISI 316 | 50840605                     | 4,5             | 68   | -  | 24 |        |





| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|------|------|----|------------|
|                   |            |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |            |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860301          | G3/8"      | Steel    | 1 radial     | 12,5            | 18,5 | 15,5 | 24 |            |
| 50840305          | G3/8"      | AISI 316 | 1 radial     | 12,2            | 18,5 | 13,5 | 24 |            |
| 50860201          | M20x1,5    | Steel    | 1 radial     | 12,2            | 22   | 12   | 27 |            |
| 51060201          | M22x1,5    | Steel    | 2 axial      | 14,2            | 23   | 14   | 30 |            |
| 51060205          | M22x1,5    | AISI 316 | 2 axial      | 14,2            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5    | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |    |   |   |                           |
| I.84108401B         | -      | Steel    | -            | 20,1            | 58 | - | - |                           |
| I.84108401Y         | -      | Steel    | -            | 17,1            | 29 | - | - |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| I.851720.5          | -      | AISI 316 | -            | 17,6            | 10 | - | - |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection without spiral</b> |                |          |            |                 |
| I.902228                              | ID Ø22, OD Ø28 | PVC      | I002830    |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |
| I.912229                              | ID Ø22, OD Ø35 | PVC      | I003035    |                 |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| I.9518100                     | Rubber   | I003640    | 39              | 130    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9056400                                 | 600,00           | 740,00              | 10,20                  | 10-15  |  |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |   |
| 905640L                                 | 600,00           | 990,00              | 10,20                  | 10-15  |  |

| <b>Accessories combinations</b>        |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9518100       | 1003640         | -              |                |
| Securing grip                          | -               | -               | 9056400        |                |
| Bend restrictor and securing grip      | 1.9518100       | 1003640         | 905640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.902228        | -               | 1002830        | -              |
| with bend restrictor                   | 1.902228        | 1.9518100       | 1003640        | -              |
| with securing grip                     | 1.902228        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.902228        | 1.9518100       | 1003640        | 905640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912229        | -               | 1003035        | -              |
| with bend restrictor                   | 1.912229        | 1.9518100       | 1003640        | -              |
| with securing grip                     | 1.912229        | -               | -              | 9056400        |
| with bend restrictor and securing grip | 1.912229        | 1.9518100       | 1003640        | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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**Applications**

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Blue  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 8,0 mm    | 16,4 mm   | --               | 2.100 bar      | 250 mm      | 0,640 kg/m   | 4,5 mm    |
| 0,31 inch | 0,65 inch | --               | 30.450 psi     | 9,84 inch   | 0,429 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10860106      | -      | Steel    | 21,6            | 63,4 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  | ⚙ |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 40860214C         | 3/8"x24UNF LH  | Stainless steel | -   | 4,5             | 100 | 20 | - |        |
| 40860204C         | 9/16"x18UNF LH | Stainless steel | -   | 4,5             | 112 | 31 | - |        |
| 40860104C         | M14x1,5 LH     | Stainless steel | -   | 4,5             | 112 | 24 | - |        |

| Part no.                         | Thread  | Material        | Nut                | Dimensions (mm) | Insert |
|----------------------------------|---------|-----------------|--------------------|-----------------|--------|
| <b>Female swivel with O-Ring</b> |         |                 |                    |                 |        |
| 20860224C                        | M24x1,5 | Stainless steel | 51320205, 51321206 | 4,5 91 - 32     |        |



| Part no.                    | Thread     | Material        | Nut                | Dimensions (mm) | Insert |
|-----------------------------|------------|-----------------|--------------------|-----------------|--------|
| <b>Type M female swivel</b> |            |                 |                    |                 |        |
| 20860644C                   | 3/4"x16UNF | Stainless steel | 50840605, 50840601 | 4,5 76 - 24     |        |

| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|------|------|----|------------|
|                   |            |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |            |          |              |                 |      |      |    |            |
| 51320205          | M24x1,5    | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |
| 50840601          | 3/4"x16UNF | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |      |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|------|---|---|---------------------------|
|                     |        |          |              | A               | B    | C |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |      |   |   |                           |
| 1.84108601C         | -      | Steel    | -            | 21,6            | 63,4 | - | - |                           |
| <b>Marking ring</b> |        |          |              |                 |      |   |   |                           |
| 1.852125.1          | -      | Steel    | -            | 20,4            | 20   | - | - |                           |
| 1.852125.5          | -      | AISI 316 | -            | 20,4            | 20   | - | - |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection without spiral</b> |                |          |            |                 |
| 1.902228                              | ID Ø22, OD Ø28 | PVC      | 1002830    |                 |
| 1.902531                              | ID Ø25, OD Ø31 | PVC      | -          |                 |
| 1.903037                              | ID Ø30, OD Ø39 | PVC      | 1003941    |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |
| 1.912229                              | ID Ø22, OD Ø35 | PVC      | 1003035    |                 |
| 1.913240                              | ID Ø32, OD Ø40 | PVC      | -          |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9523406A                | PU       | 1004145    | 44              | 250    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |  |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |   |
| 908640L                                 | 600,00           | 990,00              | 20,40                  | 15-20  |  |

| <b>Accessories combinations</b>        |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9523406A      | I004145         | -              |                |
| Securing grip                          | -               | -               | 9086400        |                |
| Bend restrictor and securing grip      | 1.9523406A      | I004145         | 908640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.902228        | -               | I002830        | -              |
| with bend restrictor                   | 1.903037        | 1.9523406A      | I004145        | -              |
| with securing grip                     | 1.902531        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406A      | I004145        | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912229        | -               | I003035        | -              |
| with bend restrictor                   | 1.913240        | 1.9523406A      | I004145        | -              |
| with securing grip                     | 1.912532        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406A      | I004145        | 908640L        |

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The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

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**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** 6 layers of high-tensile steel wire  
**Color:** Silver  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 7,7 mm    | 18,8 mm   | --               | 2.500 bar      | 260 mm      | 0,925 kg/m   | 4,5 mm    |
| 0,30 inch | 0,74 inch | --               | 36.250 psi     | 10,24 inch  | 0,620 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10860116      | -      | Steel    | 22,8            | 88,6 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 40860214E         | 3/8"x24UNF LH  | Stainless steel | -   | 4,5             | 114 | 19,1 | - |        |
| 40860204E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 126 | 31   | - |        |
| 40860104E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 126 | 31   | - |        |


|                   |               |                 |   |     |     |    |   |  |
|-------------------|---------------|-----------------|---|-----|-----|----|---|--|
| <b>MP fitting</b> |               |                 |   |     |     |    |   |  |
| 40860324E         | 3/4"x16UNF LH | Stainless steel | - | 4,5 | 139 | 18 | - |  |



| <b>Type M female swivel</b> |              |                 |                    |     |     |   |    |  |
|-----------------------------|--------------|-----------------|--------------------|-----|-----|---|----|--|
| Part no.                    | Thread       | Material        |                    | A   | B   | C |    |  |
| 20860684E                   | 7/8"x14UNF   | Stainless steel | 50860675           | 4,5 | 109 | - | 30 |  |
| 20860644E                   | 3/4"x16UNF   | Stainless steel | 50840605, 50840601 | 4,5 | 107 | - | 24 |  |
| 20860694E                   | 1 1/8"x12UNF | Stainless steel | 50860695, 50860675 | 4,5 | 115 | - | 36 |  |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF   | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF   | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860675          | 7/8"x14UNF   | AISI 316 | 1 radial     | 12,2            | 26   | 20   | 30 |            |
| 50860695          | 1 1/8"x12UNF | AISI 316 | 1 radial     | 16,2            | 35   | 23   | 36 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |    |   |   |                           |
| 1.84108601E         | -      | Steel    | -            | 23,7            | 87 | - | - |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.852125.1          | -      | Steel    | -            | 22,8            | 20 | - | - |                           |
| 1.852125.5          | -      | AISI 316 | -            | 22,8            | 20 | - | - |                           |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
|                                    |                |          |            |                 |
| 1.902531                           | ID Ø25, OD Ø31 | PVC      | 1003335    |                 |
| 1.903037                           | ID Ø30, OD Ø39 | PVC      | -          |                 |
| <b>Hose protection with spiral</b> |                |          |            |                 |
| 1.912532                           | ID Ø25, OD Ø32 | PVC      | 1003035    |                 |
| 1.913038                           | ID Ø30, OD Ø38 | PVC      | -          |                 |
| 1.913240                           | ID Ø32, OD Ø40 | PVC      | -          |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor   |
|---------------------------|----------|------------|-----------------|--------|---|
|                           |          |            | Ø               | Length |   |
| <b>PU bend restrictor</b> |          |            |                 |        |   |
| 1.9523406E                | PU       | I004145    | 44              | 250    |  |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|--|------------------|---------------------|------------------------|--|---|
|  |                  |                     |                        |  |   |
| 9086400                                | 600,00           | 780,00              | 20,40                  | 15-20  |  |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |   |
| 908640L                                | 600,00           | 990,00              | 20,40                  | 15-20  |  |

| Accessories combinations               |                 |                 |                |                |
|--|-----------------|-----------------|----------------|----------------|
| <b>Without hose protection</b>         |                 |                 |                |                |
| Description                            | Bend restrictor | Crimp ring      | Securing grips |                |
| Bend restrictor                        | 1.9523406E      | I004145         | -              |                |
| Securing grip                          | -               | -               | 9086400        |                |
| Bend restrictor and securing grip      | 1.9523406E      | I004145         | 908640L        |                |
| <b>Hose protection without spiral</b>  |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.902531        | -               | I003335        | -              |
| with bend restrictor                   | 1.903037        | 1.9523406E      | I004145        | -              |
| with securing grip                     | 1.903037        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406E      | I004145        | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |                |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring     | Securing grips |
| Protection hose                        | 1.912532        | -               | I003035        | -              |
| with bend restrictor                   | 1.913240        | 1.9523406E      | I004145        | -              |
| with securing grip                     | 1.913038        | -               | -              | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406E      | I004145        | 908640L        |

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**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



## Technical Information

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** First: Polyamide (PA), Second: Polyurethane (TPU)  
**Color:** First: red, second: green  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 7,7 mm    | 22,8 mm   | --               | 2.500 bar      | 260 mm      | 1,085 kg/m   | 4,5 mm    |
| 0,30 inch | 0,90 inch | --               | 36.250 psi     | 10,24 inch  | 0,727 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10860116      | -      | Steel    | 22,8            | 88,6 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 40860214E         | 3/8"x24UNF LH  | Stainless steel | -   | 4,5             | 114 | 19,1 | - |        |
| 40860204E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 126 | 31   | - |        |
| 40860104E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 126 | 31   | - |        |

|                   |               |                 |   |     |     |    |   |  |
|-------------------|---------------|-----------------|---|-----|-----|----|---|--|
| <b>MP fitting</b> |               |                 |   |     |     |    |   |  |
| 40860324E         | 3/4"x16UNF LH | Stainless steel | - | 4,5 | 139 | 18 | - |  |

| <b>Type M female swivel</b> |              |                 |                    |     |     |   |    |  |
|-----------------------------|--------------|-----------------|--------------------|-----|-----|---|----|--|
| Part no.                    | Thread       | Material        |                    | A   | B   | C |    |  |
| 20860644E                   | 3/4"x16UNF   | Stainless steel | 50840605, 50840601 | 4,5 | 107 | - | 24 |  |
| 20860684E                   | 7/8"x14UNF   | Stainless steel | 50860675           | 4,5 | 109 | - | 30 |  |
| 20860694E                   | 1 1/8"x12UNF | Stainless steel | 50860695, 50860675 | 4,5 | 115 | - | 36 |  |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF   | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF   | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860675          | 7/8"x14UNF   | AISI 316 | 1 radial     | 12,2            | 26   | 20   | 30 |            |
| 50860695          | 1 1/8"x12UNF | AISI 316 | 1 radial     | 16,2            | 35   | 23   | 36 |            |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--------------------|
|  |                  |                     |                        |  |                    |
| 9106400                                | 600,00           | 800,00              | 20,40                  | 20-25  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |                    |
| 910640L                                | 600,00           | 1.010,00            | 20,40                  | 20-25  |                    |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9523406E                | PU       | 1004145    | 44              | 250    |                 |

| Accessories combinations          |                 |            |                |  |
|-----------------------------------|-----------------|------------|----------------|--|
| Without hose protection           |                 |            |                |  |
| Description                       | Bend restrictor | Crimp ring | Securing grips |  |
| Bend restrictor                   | 1.9523406E      | 1004145    | -              |  |
| Securing grip                     | -               | -          | 9106400        |  |
| Bend restrictor and securing grip | 1.9523406E      | 1004145    | 9106400L       |  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
 We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Chrome yellow
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 7,6 mm    | 19,3 mm   | --               | 2.800 bar      | 300 mm      | 1,055 kg/m   | 4,5 mm    |
| 0,30 inch | 0,76 inch | --               | 40.600 psi     | 11,81 inch  | 0,707 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10860116      | -      | Steel    | 23,7            | 88,6 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    | ⚙ |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 40860214E         | 3/8"x24UNF LH  | Stainless steel | -   | 4,5             | 114 | 19,1 | - |        |
| 40860204E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 126 | 31   | - |        |
| 40860104E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 126 | 31   | - |        |

| <b>MP fitting</b> |               |                 |     |                 |     |    |   |        |
|-------------------|---------------|-----------------|-----|-----------------|-----|----|---|--------|
| Part no.          | Thread        | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|                   |               |                 |     | A               | B   | C  | ⚙ |        |
| 40860324E         | 3/4"x16UNF LH | Stainless steel | -   | 4,5             | 139 | 18 | - |        |



| <b>Type M female swivel</b> |              |                 |                    |                 |     |   |    |        |
|-----------------------------|--------------|-----------------|--------------------|-----------------|-----|---|----|--------|
| Part no.                    | Thread       | Material        | Nut                | Dimensions (mm) |     |   |    | Insert |
|                             |              |                 |                    | A               | B   | C | ⚙  |        |
| 20860644E                   | 3/4"x16UNF   | Stainless steel | 50840605, 50840601 | 4,5             | 107 | - | 24 |        |
| 20860684E                   | 7/8"x14UNF   | Stainless steel | 50860675           | 4,5             | 109 | - | 30 |        |
| 20860694E                   | 1 1/8"x12UNF | Stainless steel | 50860695, 50860675 | 4,5             | 115 | - | 36 |        |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF   | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF   | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860675          | 7/8"x14UNF   | AISI 316 | 1 radial     | 12,2            | 26   | 20   | 30 |            |
| 50860695          | 1 1/8"x12UNF | AISI 316 | 1 radial     | 16,2            | 35   | 23   | 36 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |              |                 |    |   |   |                           |
| 1.84108601E         | -      | Steel    | -            | 23,7            | 87 | - | - |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.852125.1          | -      | Steel    | -            | 23,3            | 20 | - | - |                           |
| 1.852125.5          | -      | AISI 316 | -            | 23,3            | 20 | - | - |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|------------|-----------------|
|                                       |                |          |            |            |                 |
| <b>Hose protection without spiral</b> |                |          |            |            |                 |
| 1.902531                              | ID Ø25, OD Ø31 | PVC      | 1003335    |            |                 |
| 1.903037                              | ID Ø30, OD Ø39 | PVC      | -          |            |                 |
| <b>Hose protection with spiral</b>    |                |          |            |            |                 |
| 1.912532                              | ID Ø25, OD Ø32 | PVC      | 1003035    |            |                 |
| 1.913038                              | ID Ø30, OD Ø38 | PVC      | -          |            |                 |
| 1.913240                              | ID Ø32, OD Ø40 | PVC      | -          |            |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9523406E                | PU       | 1004145    | 44              | 250    |                 |
|                           |          |            |                 |        |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |  |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |   |
| 908640L                                 | 600,00           | 990,00              | 20,40                  | 15-20  |  |

| <b>Accessories combinations</b>        |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>         |                 |                 |            |                |
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9523406E      | I004145    | -              |
| Securing grip                          |                 | -               | -          | 9086400        |
| Bend restrictor and securing grip      |                 | 1.9523406E      | I004145    | 908640L        |
| <b>Hose protection without spiral</b>  |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902531        | -               | I003335    | -              |
| with bend restrictor                   | 1.903037        | 1.9523406E      | I004145    | -              |
| with securing grip                     | 1.903037        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406E      | I004145    | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912532        | -               | I003035    | -              |
| with bend restrictor                   | 1.913240        | 1.9523406E      | I004145    | -              |
| with securing grip                     | 1.913038        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406E      | I004145    | 908640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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## Applications

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



## Technical Information

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Chrome yellow  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.3:1)    |                |             |              |           |
| 7,6 mm    | 19,3 mm   | --               | 3.035 bar      | 300 mm      | 1,055 kg/m   | 4,5 mm    |
| 0,30 inch | 0,76 inch | --               | 44.000 psi     | 11,81 inch  | 0,707 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10860116      | -      | Steel    | 23,7            | 88,6 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 40860214E         | 3/8"x24UNF LH  | Stainless steel | -   | 4,5             | 114 | 19,1 | - |        |
| 40860204E         | 9/16"x18UNF LH | Stainless steel | -   | 4,8             | 126 | 31   | - |        |
| 40860104E         | M14x1,5 LH     | Stainless steel | -   | 4,8             | 126 | 31   | - |        |

| <b>MP fitting</b> |               |                 |     |                 |     |    |   |        |
|-------------------|---------------|-----------------|-----|-----------------|-----|----|---|--------|
| Part no.          | Thread        | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|                   |               |                 |     | A               | B   | C  |   |        |
| 40860324E         | 3/4"x16UNF LH | Stainless steel | -   | 4,5             | 139 | 18 | - |        |



| <b>Type M female swivel</b> |              |                 |                    |                 |     |   |    |        |
|-----------------------------|--------------|-----------------|--------------------|-----------------|-----|---|----|--------|
| Part no.                    | Thread       | Material        | Nut                | Dimensions (mm) |     |   |    | Insert |
|                             |              |                 |                    | A               | B   | C |    |        |
| 20860644E                   | 3/4"x16UNF   | Stainless steel | 50840605, 50840601 | 4,5             | 107 | - | 24 |        |
| 20860684E                   | 7/8"x14UNF   | Stainless steel | 50860675           | 4,5             | 109 | - | 30 |        |
| 20860694E                   | 1 1/8"x12UNF | Stainless steel | 50860695, 50860675 | 4,5             | 115 | - | 36 |        |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF   | Steel    | I radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF   | AISI 316 | I radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50860675          | 7/8"x14UNF   | AISI 316 | I radial     | 12,2            | 26   | 20   | 30 |            |
| 50860695          | I 1/8"x12UNF | AISI 316 | I radial     | 16,2            | 35   | 23   | 36 |            |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |                           |
| <b>Stop sleeve</b>  |        |          |   |                 |    |   |   |                           |
| I.84108601E         | -      | Steel    | - | 23,7            | 87 | - | - |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |                           |
| I.852125.1          | -      | Steel    | - | 23,3            | 20 | - | - |                           |
| I.852125.5          | -      | AISI 316 | - | 23,3            | 20 | - | - |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |  |  |  |
|---------------------------------------|----------------|----------|------------|-----------------|--|--|--|
|                                       |                |          |            |                 |  |  |  |
| <b>Hose protection without spiral</b> |                |          |            |                 |  |  |  |
| I.902531                              | ID Ø25, OD Ø31 | PVC      | I003335    |                 |  |  |  |
| I.903037                              | ID Ø30, OD Ø39 | PVC      | -          |                 |  |  |  |
| <b>Hose protection with spiral</b>    |                |          |            |                 |  |  |  |
| I.912532                              | ID Ø25, OD Ø32 | PVC      | I003035    |                 |  |  |  |
| I.913038                              | ID Ø30, OD Ø38 | PVC      | -          |                 |  |  |  |
| I.913240                              | ID Ø32, OD Ø40 | PVC      | -          |                 |  |  |  |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| I.9523406E                | PU       | I004145    | 44              | 250    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |  |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |   |
| 908640L                                 | 600,00           | 990,00              | 20,40                  | 15-20  |  |

| <b>Accessories combinations</b>        |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>         |                 |                 |            |                |
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9523406E      | I004145    | -              |
| Securing grip                          |                 | -               | -          | 9086400        |
| Bend restrictor and securing grip      |                 | 1.9523406E      | I004145    | 908640L        |
| <b>Hose protection without spiral</b>  |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902531        | -               | I003335    | -              |
| with bend restrictor                   | 1.903037        | 1.9523406E      | I004145    | -              |
| with securing grip                     | 1.903037        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.903037        | 1.9523406E      | I004145    | 908640L        |
| <b>Hose protection with spiral</b>     |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912532        | -               | I003035    | -              |
| with bend restrictor                   | 1.913240        | 1.9523406E      | I004145    | -              |
| with securing grip                     | 1.913038        | -               | -          | 9086400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406E      | I004145    | 908640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

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The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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**Applications**

**Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 8 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Chrome yellow  
**Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.3:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 7,6 mm    | 22,0 mm   | --                                   | 3.200 bar      | 300 mm      | 1,500 kg/m   | 4,5 mm    |
| 0,30 inch | 0,87 inch | --                                   | 46.400 psi     | 11,81 inch  | 1,005 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 10880142      | -      | Steel    | 29,7            | 66,8 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 40860214C         | 3/8"x24UNF LH  | Stainless steel | -   | 4,5             | 100 | 20 | - |        |
| 40860204C         | 9/16"x18UNF LH | Stainless steel | -   | 4,5             | 112 | 31 | - |        |
| 40860104C         | M14x1,5 LH     | Stainless steel | -   | 4,5             | 112 | 24 | - |        |

| Part no.                         | Thread  | Material        | Nut                | Dimensions (mm) |      |
|----------------------------------|---------|-----------------|--------------------|-----------------|------|
| <b>Female swivel with O-Ring</b> |         |                 |                    |                 |      |
| 20860224C                        | M24x1,5 | Stainless steel | 51320205, 51321206 | 4,5 91          | - 32 |

| Part no.                    | Thread     | Material        | Nut                | Dimensions (mm) |      |
|-----------------------------|------------|-----------------|--------------------|-----------------|------|
| <b>Type M female swivel</b> |            |                 |                    |                 |      |
| 20860644C                   | 3/4"x16UNF | Stainless steel | 50840605, 50840601 | 4,5 76          | - 24 |

| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|------|------|----|------------|
|                   |            |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |            |          |              |                 |      |      |    |            |
| 50840601          | 3/4"x16UNF | Steel    | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 50840605          | 3/4"x16UNF | AISI 316 | 1 radial     | 12,2            | 22,5 | 17,5 | 24 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5    | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.852630.5          | -      | AISI 316 | -            | 26              | 20 | - | - |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Dimensions (mm) |        | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|--------|-----------------|
|                                       |                |          |            | Ø               | Length |                 |
| <b>Hose protection without spiral</b> |                |          |            |                 |        |                 |
| 1.903037                              | ID Ø30, OD Ø39 | PVC      | I003941    |                 |        |                 |
| 1.903542                              | ID Ø35, OD Ø42 | PVC      | -          |                 |        |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |        |                 |
| 1.913038                              | ID Ø30, OD Ø38 | PVC      | I004145    |                 |        |                 |
| 1.913240                              | ID Ø32, OD Ø40 | PVC      | -          |                 |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.9523406D                | PU       | I004145    | 44              | 250    |                 |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--------------------|
|  |                  |                     |                        |  |                    |
| 9106400                                | 600,00           | 800,00              | 20,40                  | 20-25  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |                    |
| 910640L                                | 600,00           | 1.010,00            | 20,40                  | 20-25  |                    |

## Accessories combinations

| Without hose protection                |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9523406D      | I004145    | -              |
| Securing grip                          |                 | -               | -          | 9106400        |
| Bend restrictor and securing grip      |                 | 1.9523406D      | I004145    | 910640L        |
| Hose protection without spiral         |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.903037        | -               | I003941    | -              |
| with bend restrictor                   | 1.903037        | 1.9523406D      | I004145    | -              |
| with securing grip                     | 1.903542        | -               | -          | 9106400        |
| with bend restrictor and securing grip | 1.903542        | 1.9523406D      | I004145    | 910640L        |
| Hose protection with spiral            |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.913038        | -               | I004145    | -              |
| with bend restrictor                   | 1.913240        | 1.9523406D      | I004145    | -              |
| with securing grip                     | 1.913240        | -               | -          | 9106400        |
| with bend restrictor and securing grip | 1.913240        | 1.9523406D      | I004145    | 910640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)

**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 10,1 mm   | 15,5 mm   | -- (SF 2,5:1)    | 690 bar        | 160 mm      | 0,280 kg/m   | 6,5 mm    |
| 0,40 inch | 0,61 inch | --               | 10.005 psi     | 6,30 inch   | 0,188 lbs/ft | 0,26 inch |

| Part no.      | Thread | Material | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|----------|-----------------|------|---|---|--------|
|               |        |          | A               | B    | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |      |   |   |        |
| 11020101      | -      | Steel    | 20,8            | 57,5 | - | - |        |

| Part no.                               | Thread      | Material | Nut                | Dimensions (mm) |      |    |    | Insert |
|--|-------------|----------|--------------------|-----------------|------|----|----|--------|
|  |             |          |                    | A               | B    | C  | ⚙  |        |
| <b>Male fitting</b>                    |             |          |                    |                 |      |    |    |        |
| 31020401A                              | 3/8"x18NPTF | Steel    | -                  | 6,5             | 82   | 14 | 19 |        |
| 31020405A                              | 3/8"x18NPTF | AISI 316 | -                  | 6,5             | 82   | 14 | 19 |        |
| 31020425A                              | 1/2"x14NPT  | AISI 316 | -                  | 6,5             | 86   | 18 | 22 |        |
| <b>Male fitting 60° internal cone</b>  |             |          |                    |                 |      |    |    |        |
| 31020311A                              | G3/8"       | Steel    | -                  | 6,5             | 78,5 | 12 | 17 |        |
| <b>Universal female swivel 24°/60°</b> |             |          |                    |                 |      |    |    |        |
| 21020301A                              | G1/2"       | Steel    | 51060311           | 6,5             | 73   | -  | 27 |        |
| 21020305A                              | G1/2"       | AISI 316 | 51060315, 51060311 | 6,5             | 73   | -  | 27 |        |
| <b>Female swivel with O-Ring</b>       |             |          |                    |                 |      |    |    |        |
| 21020221A                              | M22x1,5     | Steel    | 51060201, 51060205 | 6,5             | 83   | -  | 30 |        |
| 21040201A                              | M24x1,5     | Steel    | 51321206           | 6,5             | 83,5 | -  | 32 |        |

| Part no.                    | Thread     | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|------------|----------|----------|-----------------|----|---|----|--------|
|                             |            |          |          | A               | B  | C |    |        |
| <b>Type M female swivel</b> |            |          |          |                 |    |   |    |        |
| 21020645A                   | 3/4"x16UNF | AISI 316 | 51320615 | 6,5             | 69 | - | 24 |        |

| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|------|------|----|------------|
|                   |            |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |            |          |              |                 |      |      |    |            |
| 51320615          | 3/4"x16UNF | AISI 316 | 1 radial     | 14,2            | 22,5 | 17,5 | 24 |            |
| 51060311          | G1/2"      | Steel    | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060315          | G1/2"      | AISI 316 | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060201          | M22x1,5    | Steel    | 2 axial      | 14,2            | 23   | 14   | 30 |            |
| 51060205          | M22x1,5    | AISI 316 | 2 axial      | 14,2            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |  |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|--|
|                     |        |          | A               | B    | C  |   |                           |  |
| <b>Stop sleeve</b>  |        |          |                 |      |    |   |                           |  |
| 1.84110201A         | -      | Steel    | -               | 20,8 | 58 | - | -                         |  |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |  |
| 1.851720.5          | -      | AISI 316 | -               | 18,5 | 10 | - | -                         |  |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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ID10 - Series: B, C and Y

**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Grease injection, chemical injection, control of subsea hydraulic components, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2,5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 9,9 mm    | 18,4 mm   | --                                   | 1.500 bar      | 200 mm      | 0,690 kg/m   | 5,5 mm    |
| 0,39 inch | 0,72 inch | --                                   | 21.750 psi     | 7,87 inch   | 0,464 lbs/ft | 0,22 inch |

| Part no.                 | Thread | Material | Dimensions (mm) |      |   |   | ⚠ | Sleeve |
|--------------------------|--------|----------|-----------------|------|---|---|---|--------|
|                          |        |          | A               | B    | C |   |   |        |
| <b>Sleeve</b>            |        |          |                 |      |   |   |   |        |
| 11040102                 | -      | Steel    | 23              | 63,7 | - | - |   |        |
| 11040105                 | -      | AISI 316 | 23              | 64   | - | - |   |        |
| <b>Blast-Pro® sleeve</b> |        |          |                 |      |   |   |   |        |
| 11040232                 | -      | Steel    | 21              | 33   | - | - |   |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |   | ⚠ | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|---|--------|
|                   |                |                 |     | A               | B   | C  |   |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |   |        |
| 41060204C         | 9/16"x18UNF LH | Stainless steel | -   | 5,5             | 114 | 24 | - |   |        |

| Part no.                  | Thread         | Material        | Sleeve   | Dimensions (mm) |    |    | ⌀  | Blast-Pro® Insert* |
|---------------------------|----------------|-----------------|----------|-----------------|----|----|----|--------------------|
|                           |                |                 |          | A               | B  | C  |    |                    |
| <b>Blast-Pro® MP male</b> |                |                 |          |                 |    |    |    |                    |
| 41040244Y                 | 9/16"x18UNF LH | Stainless steel | 11040232 | 6               | 81 | 25 | 17 |                    |

| Part no.                              | Thread | Material | Nut | Dimensions (mm) |    |    | ⌀  | Insert |
|---------------------------------------|--------|----------|-----|-----------------|----|----|----|--------|
|                                       |        |          |     | A               | B  | C  |    |        |
| <b>Male fitting 60° internal cone</b> |        |          |     |                 |    |    |    |        |
| 31060311B                             | G3/8"  | Steel    | -   | 5,5             | 80 | 12 | 17 |        |



|  |       |                 |                    |     |    |   |    |  |
|--|-------|-----------------|--------------------|-----|----|---|----|--|
| <b>Universal female swivel 24°/60°</b> |       |                 |                    |     |    |   |    |  |
| 21060304C                              | G1/2" | Stainless steel | 51060311, 51060315 | 5,5 | 78 | - | 27 |  |


|                                  |         |                 |                              |     |      |   |    |  |
|----------------------------------|---------|-----------------|------------------------------|-----|------|---|----|--|
| <b>Female swivel with O-Ring</b> |         |                 |                              |     |      |   |    |  |
| 21060204C                        | M22x1,5 | Stainless steel | 51060201, 51060205           | 5,5 | 90   | - | 30 |  |
| 21060224C                        | M24x1,5 | Stainless steel | 51320205, 51321206, 51360206 | 5,5 | 93   | - | 32 |  |
| 21060221B                        | M24x1,5 | Steel           | 51321206                     | 5,5 | 92,5 | - | 32 |  |

|                             |            |          |          |     |    |   |    |  |
|-----------------------------|------------|----------|----------|-----|----|---|----|--|
| <b>Type M female swivel</b> |            |          |          |     |    |   |    |  |
| 21040645B                   | 3/4"x16UNF | AISI 316 | 51320615 | 5,5 | 78 | - | 24 |  |

| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|------|------|----|------------|
|                   |            |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |            |          |              |                 |      |      |    |            |
| 51320615          | 3/4"x16UNF | AISI 316 | 1 radial     | 14,2            | 22,5 | 17,5 | 24 |            |
| 51060311          | G1/2"      | Steel    | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060315          | G1/2"      | AISI 316 | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060201          | M22x1,5    | Steel    | 2 axial      | 14,2            | 23   | 14   | 30 |            |
| 51060205          | M22x1,5    | AISI 316 | 2 axial      | 14,2            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5    | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |  |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|--|
|                     |        |          | A               | B    | C  |   |                           |  |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |  |
| 1.852125.1          | -      | Steel    | -               | 22,4 | 20 | - | -                         |  |
| 1.852125.5          | -      | AISI 316 | -               | 22,4 | 20 | - | -                         |  |

|                                       |                |          |            | Hose protection   |
|---------------------------------------|----------------|----------|------------|---|
| Part no.                              | Size (mm)      | Material | Crimp ring |   |
| <b>Hose protection without spiral</b> |                |          |            |   |
| I.902531                              | ID Ø25, OD Ø31 | PVC      | I003335    |  |
| <b>Hose protection with spiral</b>    |                |          |            |   |
| I.912532                              | ID Ø25, OD Ø32 | PVC      | I003035    |  |

|   |                  |                     |                        |  | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) |   |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9086400                                 | 600,00           | 780,00              | 20,40                  | 15-20  |  |

|                                       |                 |  |                 |            | Accessories combinations |
|---------------------------------------|-----------------|--|-----------------|------------|--------------------------|
| <b>Without hose protection</b>        |                 |  |                 |            |                          |
| Description                           |                 |  | Bend restrictor | Crimp ring | Securing grips           |
| Securing grip                         |                 |  | -               | -          | 9086400                  |
| <b>Hose protection without spiral</b> |                 |  |                 |            |                          |
| Description                           | Protection hose |  | Bend restrictor | Crimp ring | Securing grips           |
| Protection hose                       | I.902531        |  | -               | I003335    | -                        |
| with securing grip                    | I.902531        |  | -               | -          | 9086400                  |
| <b>Hose protection with spiral</b>    |                 |  |                 |            |                          |
| Description                           | Protection hose |  | Bend restrictor | Crimp ring | Securing grips           |
| Protection hose                       | I.912532        |  | -               | I003035    | -                        |
| with securing grip                    | I.912532        |  | -               | -          | 9086400                  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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**Applications**

**Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

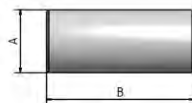
**Hydraulics:** Pressure test equipment (valves, tooling and control panels)

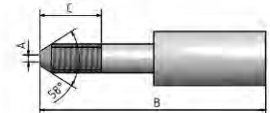


**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 6 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Blue  
**Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 9,8 mm    | 20,4 mm   | --                                   | 1.920 bar      | 250 mm      | 1,000 kg/m   | 5,5 mm    |
| 0,39 inch | 0,80 inch | --                                   | 27.840 psi     | 9,84 inch   | 0,672 lbs/ft | 0,22 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |    | Sleeve  |
|---------------|--------|----------|-----------------|----|---|----|---|
|               |        |          | A               | B  | C | ⚙️ |   |
| <b>Sleeve</b> |        |          |                 |    |   |    |   |
| 11060102      | -      | Steel    | 26,6            | 64 | - | -  |  |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |    | Insert  |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|----|---|
|                   |                |                 |     | A               | B   | C  | ⚙️ |   |
| <b>HP fitting</b> |                |                 |     |                 |     |    |    |   |
| 41060204C         | 9/16"x18UNF LH | Stainless steel | -   | 5,5             | 114 | 24 | -  |  |

| Part no.                               | Thread | Material        | Nut      | Dimensions (mm) |    |   |    | Insert  |
|--|--------|-----------------|----------|-----------------|----|---|----|---|
|  |        |                 |          | A               | B  | C | ⚙️ |   |
| <b>Universal female swivel 24°/60°</b> |        |                 |          |                 |    |   |    |   |
| 21060304C                              | G1/2"  | Stainless steel | 51060311 | 5,5             | 78 | - | 27 |  |

| Part no.                         | Thread  | Material        | Nut                          | Dimensions (mm) |    |   |    | Insert  |
|----------------------------------|---------|-----------------|------------------------------|-----------------|----|---|----|---|
|                                  |         |                 |                              | A               | B  | C | ⚙️ |   |
| <b>Female swivel with O-Ring</b> |         |                 |                              |                 |    |   |    |   |
| 21060204C                        | M22x1,5 | Stainless steel | 51060201, 51060205           | 5,5             | 90 | - | 30 |  |
| 21060224C                        | M24x1,5 | Stainless steel | 51320205, 51321206, 51360206 | 5,5             | 93 | - | 32 |   |

| Part no.          | Thread  | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|---------|----------|--------------|-----------------|------|------|----|------------|
|                   |         |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |         |          |              |                 |      |      |    |            |
| 51060311          | G1/2"   | Steel    | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060201          | M22x1,5 | Steel    | 2 axial      | 14,2            | 23   | 14   | 30 |            |
| 51060205          | M22x1,5 | AISI 316 | 2 axial      | 14,2            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5 | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5 | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material |   | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|---|-----------------|----|---|---|---------------------------|
|                     |        |          |   | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |   |                 |    |   |   |                           |
| 1.852630.5          | -      | AISI 316 | - | 24,4            | 20 | - | - |                           |

| Part no.                           | Size (mm)      | Material | Crimp ring |  |  |  |  | Hose protection |
|------------------------------------|----------------|----------|------------|--|--|--|--|-----------------|
|                                    |                |          |            |  |  |  |  |                 |
| 1.903037                           | ID Ø30, OD Ø39 | PVC      | 1003941    |  |  |  |  |                 |
| <b>Hose protection with spiral</b> |                |          |            |  |  |  |  |                 |
| 1.913038                           | ID Ø30, OD Ø38 | PVC      | 1004145    |  |  |  |  |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) |  | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--|--------------------|
|          |                  |                     |                        |  |  |                    |
| 9106400  | 600,00           | 800,00              | 20,40                  | 20-25  |  |                    |



| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9086400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.903037        | -               | 1003941    | -              |
| with securing grip                    | 1.903037        | -               | -          | 9086400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.913038        | -               | 1004145    | -              |
| with securing grip                    | 1.913038        | -               | -          | 9086400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

**Hydraulics:** Pressure test equipment (valves, tooling and control panels)



**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 8 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Chrome yellow  
**Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.0:1)    |                |             |              |           |
| 9,8 mm    | 24,0 mm   | --               | 3.035 bar      | 320 mm      | 1,730 kg/m   | 6,0 mm    |
| 0,39 inch | 0,94 inch | --               | 44.000 psi     | 12,60 inch  | 1,163 lbs/ft | 0,24 inch |

| Part no.      | Thread | Material     | Dimensions (mm) |      |   |   | Sleeve |
|---------------|--------|--------------|-----------------|------|---|---|--------|
|               |        |              | A               | B    | C | ⚙ |        |
| <b>Sleeve</b> |        |              |                 |      |   |   |        |
| 11080109      |        | carbon steel | 31              | 82,7 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |       |      |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-------|------|---|--------|
|                   |                |                 |     | A               | B     | C    | ⚙ |        |
| <b>HP fitting</b> |                |                 |     |                 |       |      |   |        |
| 41060204E         | 9/16"x18UNF LH | Stainless steel |     | 6               | 128,6 | 23,8 | - |        |
| 41060104E         | M14x1,5 LH     | Stainless steel |     | 6               | 128,6 | 23,8 | - |        |
| 41060114E         | M18x1,5 LH     | Stainless steel |     | 6               | 145   | 28   | - |        |

| Part no.                         | Thread  | Material        | Nut                | Dimensions (mm) | ⚙ | Diagram |
|----------------------------------|---------|-----------------|--------------------|-----------------|---|---------|
| <b>Female swivel with O-Ring</b> |         |                 |                    |                 |   |         |
| 21060204E                        | M24x1,5 | Stainless steel | 51321206, 51361206 | 6 99 - 32       |   |         |

| Part no.                    | Thread     | Material        | Nut      | Dimensions (mm) | ⚙ | Diagram |
|-----------------------------|------------|-----------------|----------|-----------------|---|---------|
| <b>Type M female swivel</b> |            |                 |          |                 |   |         |
| 21060604E                   | 7/8"x14UNF | Stainless steel | 51060605 | 6 93 - 30       |   |         |

| Part no.          | Thread     | Material | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|------------|----------|--------------|-----------------|----|----|----|------------|
|                   |            |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |            |          |              |                 |    |    |    |            |
| 51060605          | 7/8"x14UNF | AISI 316 | 1 radial     | 16,65           | 30 | 24 | 30 |            |
| 51321206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 23 | 16 | 32 |            |
| 51361206          | M24x1,5    | Steel    | 2 axial      | 16,8            | 28 | 21 | 32 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.852630.5          | -      | AISI 316 | -            | 28              | 20 | - | - |                           |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.953350E                 | PU       | 1005054    | 50              | 470    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9106400                                 | 600,00           | 800,00              | 20,40                  | 20-25  |                    |
| <b>Hose securing grip long version</b>  |                  |                     |                        |  |                    |
| 910640L                                 | 600,00           | 1.010,00            | 20,40                  | 20-25  |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
 We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

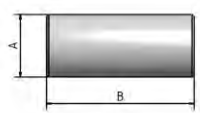
- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Grease injection

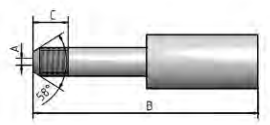
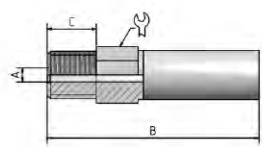
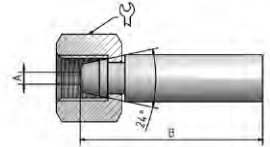


**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight    | Insert ID    |
|-----------|-----------|------------------|----------------|-------------|-----------|--------------|
|           |           | -- (SF 2.5:1)    |                |             |           |              |
| 12,9 mm   | 19,3 mm   | --               | 690 bar        | 1.725 bar   | 200 mm    | 0,435 kg/m   |
| 0,51 inch | 0,76 inch | --               | 10.005 psi     | 25.010 psi  | 7,87 inch | 0,291 lbs/ft |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve   |
|---------------|--------|----------|-----------------|----|---|---|--|
|               |        |          | A               | B  | C | ⚙ |  |
| <b>Sleeve</b> |        |          |                 |    |   |   |  |
| 11320101      | -      | Steel    | 26              | 58 | - | - |  |

| Part no.                               | Thread         | Material | Nut                | Dimensions (mm) |     |      |    | Insert  |
|--|----------------|----------|--------------------|-----------------|-----|------|----|---|
|  |                |          |                    | A               | B   | C    | ⚙  |   |
| <b>MP fitting</b>                      |                |          |                    |                 |     |      |    |   |
| 41320205A                              | 9/16"x18UNF LH | AISI 316 | -                  | 8,5             | 109 | 12,7 | -  |  |
| <b>Male fitting</b>                    |                |          |                    |                 |     |      |    |   |
| 31320401A                              | 1/2"x14NPTF    | Steel    | -                  | 8,5             | 90  | 18   | 22 |  |
| 31320405A                              | 1/2"x14NPTF    | AISI 316 | -                  | 8,5             | 90  | 18   | 22 |   |
| <b>Universal female swivel 24°/60°</b> |                |          |                    |                 |     |      |    |   |
| 21320311A                              | G1/2"          | Steel    | 51060311           | 8,5             | 73  | -    | 27 |  |
| 21320315A                              | G1/2"          | AISI 316 | 51060315, 51060311 | 8,5             | 73  | -    | 27 |   |

| Part no.                         | Thread  | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|----------------------------------|---------|----------|----------|-----------------|----|---|----|--------|
|                                  |         |          |          | A               | B  | C |    |        |
| <b>Female swivel with O-Ring</b> |         |          |          |                 |    |   |    |        |
| 21320101A                        | M22x1,5 | Steel    | 51360221 | 8,5             | 85 | - | 30 |        |
| 21320241A                        | M24x1,5 | Steel    | 51321206 | 8,5             | 80 | - | 32 |        |
| 21320245A                        | M24x1,5 | AISI 316 | 51320205 | 8,5             | 80 | - | 32 |        |

| <b>Type M female swivel</b> |          |          |                    |     |    |   |    |  |
|-----------------------------|----------|----------|--------------------|-----|----|---|----|--|
| 21320641A                   | 1"x12UNF | Steel    | 51360641           | 8,5 | 74 | - | 32 |  |
| 21320645A                   | 1"x12UNF | AISI 316 | 51360645, 51360643 | 8,5 | 74 | - | 32 |  |


| Part no.          | Thread   | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|----------|----------|--------------|-----------------|------|------|----|------------|
|                   |          |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |          |          |              |                 |      |      |    |            |
| 51360641          | 1"x12UNF | Steel    | 1 radial     | 16,8            | 28   | 22   | 32 |            |
| 51360645          | 1"x12UNF | AISI 316 | 1 radial     | 16,8            | 28   | 22   | 32 |            |
| 51060311          | G1/2"    | Steel    | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060315          | G1/2"    | AISI 316 | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51360221          | M22x1,5  | Steel    | 1 radial     | 16,8            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5  | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5  | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|
|                     |        |          | A               | B    | C  |   |                           |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |
| I.852125.1          | -      | Steel    | -               | 23,3 | 20 | - |                           |
| I.852125.5          | -      | AISI 316 | -               | 23,3 | 20 | - |                           |

| Part no. | Size (mm)      | Material | Crimp ring | Hose protection |
|----------|----------------|----------|------------|-----------------|
|          |                |          |            |                 |
| I.913038 | ID Ø30, OD Ø38 | PVC      | I004145    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9086400  | 600,00           | 780,00              | 20,40                  | 15-20  |                    |

|                                       |                |          |            | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| Part no.                              | Size (mm)      | Material | Crimp ring |                 |
| <b>Hose protection without spiral</b> |                |          |            |                 |
| I.903037                              | ID Ø30, OD Ø39 | PVC      | I003941    |                 |



|                                       |                 |                 |            |                | Accessories combinations |
|---------------------------------------|-----------------|-----------------|------------|----------------|--------------------------|
| <b>Without hose protection</b>        |                 |                 |            |                |                          |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |                          |
| Securing grip                         |                 | -               | -          | 9086400        |                          |
| <b>Hose protection without spiral</b> |                 |                 |            |                |                          |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |                          |
| Protection hose                       | I.903037        | -               | I003941    | -              |                          |
| with securing grip                    | I.903037        | -               | -          | 9086400        |                          |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |                          |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |                          |
| Protection hose                       | I.913038        | -               | I004145    | -              |                          |
| with securing grip                    | I.913038        | -               | -          | 9086400        |                          |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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# Hose Type 13/2WR

I32WR2281

**SPIR STAR®**

Silver Mongoose

ID13 - Series: O

## Applications


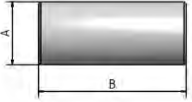
- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Grease injection, nitrogen service, Gaseous media handling


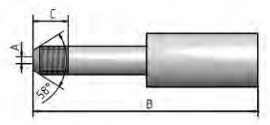
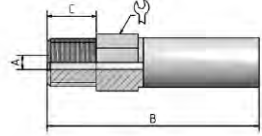
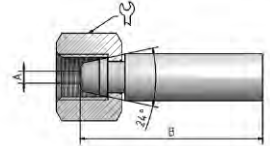


## Technical Information

- Inner Core:** Polyamide (PA)
- Pressure Support:** 2 open layers, 2 dense layers of high-tensile steel wire
- Outer Cover:** Polyurethane (TPU)
- Color:** Silver
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 12,8 mm   | 22,2 mm   | --                                   | 1.040 bar      | 150 mm      | 0,590 kg/m   | 7,5 mm    |
| 0,50 inch | 0,87 inch | --                                   | 15.080 psi     | 5,91 inch   | 0,395 lbs/ft | 0,30 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve  |
|---------------|--------|----------|-----------------|----|---|---|---|
|               |        |          | A               | B  | C |  |   |
| <b>Sleeve</b> |        |          |                 |    |   |   |  |
| I1330206WR    | -      | Steel    | 27,5            | 63 | - | -   |   |
| I1330205WR    | -      | AISI 316 | 27,5            | 63 | - | -   |   |

| Part no.                               | Thread         | Material | Nut                | Dimensions (mm) |     |    |   | Insert  |
|--|----------------|----------|--------------------|-----------------|-----|----|---|---|
|  |                |          |                    | A               | B   | C  |  |   |
| <b>MP fitting</b>                      |                |          |                    |                 |     |    |   |  |
| 41360205O                              | 9/16"x18UNF LH | AISI 316 | -                  | 7,5             | 118 | 13 | -   |   |
| <b>Male fitting</b>                    |                |          |                    |                 |     |    |   |  |
| 31360401O                              | 1/2"x14NPTF    | Steel    | -                  | 7,5             | 99  | 18 | 22  |   |
| 31360405O                              | 1/2"x14NPTF    | AISI 316 | -                  | 7,5             | 99  | 18 | 22  |   |
| <b>Universal female swivel 24°/60°</b> |                |          |                    |                 |     |    |   |  |
| 21360332O                              | G1/2"          | Steel    | 51060311           | 7,5             | 81  | -  | 27  |   |
| 21360335O                              | G1/2"          | AISI 316 | 51060315, 51060311 | 7,5             | 81  | -  | 27  |   |

| Part no.                         | Thread  | Material | Nut                | Dimensions (mm) |    |   | ⌀  | Insert |
|----------------------------------|---------|----------|--------------------|-----------------|----|---|----|--------|
|                                  |         |          |                    | A               | B  | C |    |        |
| <b>Female swivel with O-Ring</b> |         |          |                    |                 |    |   |    |        |
| 21360122O                        | M22x1,5 | Steel    | 51360221           | 7,5             | 97 | - | 30 |        |
| 21360242O                        | M24x1,5 | Steel    | 51321206           | 7,5             | 89 | - | 32 |        |
| 21360245O                        | M24x1,5 | AISI 316 | 51320205, 51320206 | 7,5             | 89 | - | 32 |        |

| <b>Type M female swivel</b> |          |          |                    |                 |    |   |    |  |
|-----------------------------|----------|----------|--------------------|-----------------|----|---|----|--|
| Part no.                    | Thread   | Material |                    | Dimensions (mm) |    |   |    |  |
|                             |          |          |                    | A               | B  | C | ⌀  |  |
| 21360642O                   | 1"x12UNF | Steel    | 51360641           | 7,5             | 84 | - | 32 |  |
| 21360645O                   | 1"x12UNF | AISI 316 | 51360645, 51360641 | 7,5             | 84 | - | 32 |  |

| Part no.          | Thread   | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|----------|----------|--------------|-----------------|------|------|----|------------|
|                   |          |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |          |          |              |                 |      |      |    |            |
| 51360641          | 1"x12UNF | Steel    | 1 radial     | 16,8            | 28   | 22   | 32 |            |
| 51360645          | 1"x12UNF | AISI 316 | 1 radial     | 16,8            | 28   | 22   | 32 |            |
| 51060311          | G1/2"    | Steel    | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51060315          | G1/2"    | AISI 316 | 1 radial     | 16,7            | 23,5 | 13,5 | 27 |            |
| 51360221          | M22x1,5  | Steel    | 1 radial     | 16,8            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5  | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |
| 51320205          | M24x1,5  | AISI 316 | 1 radial     | 16,8            | 23   | 16   | 32 |            |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection without spiral</b> |                |          |            |                 |
| I.903037                              | ID Ø30, OD Ø39 | PVC      | 1003941    |                 |
| I.903542                              | ID Ø35, OD Ø42 | PVC      | -          |                 |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection with spiral</b> |                |          |            |                 |
| I.913038                           | ID Ø30, OD Ø38 | PVC      | 1004145    |                 |
| I.913240                           | ID Ø32, OD Ø40 | PVC      | -          |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9106400                                 | 600,00           | 800,00              | 20,40                  | 20-25  |                    |



| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9106400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.903037        | -               | 1003941    | -              |
| with securing grip                    | 1.903542        | -               | -          | 9106400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.913038        | -               | 1004145    | -              |
| with securing grip                    | 1.913240        | -               | -          | 9106400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Grease injection, chemical injection, control of subsea hydraulic components, nitrogen service, Gaseous media handling



**Technical Information**



- Inner Core:** Polyamide (PA)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]


| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 12,8 mm   | 22,0 mm   | --               | 1.400 bar      | 200 mm      | 0,880 kg/m   | 7,5 mm    |
| 0,50 inch | 0,87 inch | --               | 20.300 psi     | 7,87 inch   | 0,590 lbs/ft | 0,30 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⌀ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 11340232      | -      | Steel    | 29,2            | 65 | - | - |        |
| 11340105      | -      | AISI 316 | 29,2            | 63 |   |   |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |                |                 |     | A               | B   | C  | ⌀ |        |
| <b>HP fitting</b> |                |                 |     |                 |     |    |   |        |
| 41360214C         | 9/16"x18UNF LH | Stainless steel | -   | 7,5             | 118 | 24 | - |        |
| <b>MP fitting</b> |                |                 |     |                 |     |    |   |        |
| 41360204C         | 3/4"x16UNF LH  | Stainless steel | -   | 7,5             | 121 | 25 | - |        |

| Part no.                               | Thread   | Material        | Nut                          | Dimensions (mm) |      |      | ⌀  | Insert                    |
|--|----------|-----------------|------------------------------|-----------------|------|------|----|---------------------------|
|  |          |                 |                              | A               | B    | C    |    |                           |
| <b>Universal female swivel 24°/60°</b> |          |                 |                              |                 |      |      |    |                           |
| 21340314B                              | G1/2"    | Stainless steel | 51060315, 51060311           | 7,5             | 81   | -    | 27 |                           |
| <b>Female swivel with O-Ring</b>       |          |                 |                              |                 |      |      |    |                           |
| 21360244C                              | M24x1,5  | Stainless steel | 51320205, 51321206           | 7,5             | 89   | -    | 32 |                           |
| <b>Type M female swivel</b>            |          |                 |                              |                 |      |      |    |                           |
| 21360644C                              | 1"x12UNF | Stainless steel | 51360645, 51360641, 51360643 | 7,5             | 84   | -    | 32 |                           |
| Part no.                               | Thread   | Material        | Relief bores                 | Dimensions (mm) |      |      | ⌀  | Swivel nut                |
|  |          |                 |                              | A               | B    | C    |    |                           |
| <b>Swivel nut</b>                      |          |                 |                              |                 |      |      |    |                           |
| 51360641                               | 1"x12UNF | Steel           | 1 radial                     | 16,8            | 28   | 22   | 32 |                           |
| 51360645                               | 1"x12UNF | AISI 316        | 1 radial                     | 16,8            | 28   | 22   | 32 |                           |
| 51060311                               | G1/2"    | Steel           | 1 radial                     | 16,7            | 23,5 | 13,5 | 27 |                           |
| 51060315                               | G1/2"    | AISI 316        | 1 radial                     | 16,7            | 23,5 | 13,5 | 27 |                           |
| 51321206                               | M24x1,5  | Steel           | 2 axial                      | 16,8            | 23   | 16   | 32 |                           |
| 51320205                               | M24x1,5  | AISI 316        | 1 radial                     | 16,8            | 23   | 16   | 32 |                           |
| Part no.                               | Thread   | Material        |                              | Dimensions (mm) |      |      | ⌀  | Tube cleaning accessories |
|  |          |                 |                              | A               | B    | C    |    |                           |
| <b>Marking ring</b>                    |          |                 |                              |                 |      |      |    |                           |
| 1.852630.5                             | -        | AISI 316        | -                            | 26              | 20   | -    | -  |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Hose protection   |
|---------------------------------------|----------------|----------|------------|---|
| <b>Hose protection without spiral</b> |                |          |            |   |
| I.903037                              | ID Ø30, OD Ø39 | PVC      | I003941    |  |
| I.903542                              | ID Ø35, OD Ø42 | PVC      | -          |   |
| <b>Hose protection with spiral</b>    |                |          |            |   |
| I.913038                              | ID Ø30, OD Ø38 | PVC      | I004145    |  |
| I.913240                              | ID Ø32, OD Ø40 | PVC      | -          |   |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip  |
|---|------------------|---------------------|------------------------|--|---|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |   |
| 9106400                                 | 600,00           | 800,00              | 20,40                  | 20-25  |  |

| Accessories combinations              |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>        |                 |                 |            |                |
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                         |                 | -               | -          | 9106400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | I.903037        | -               | I003941    | -              |
| with securing grip                    | I.903542        | -               | -          | 9106400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | I.913038        | -               | I004145    | -              |
| with securing grip                    | I.913240        | -               | -          | 9106400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Gaseous media handling



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 12,8 mm   | 23,4 mm   | --                                   | 1.800 bar      | 300 mm      | 1,160 kg/m   | 7,5 mm    |
| 0,50 inch | 0,92 inch | --                                   | 26.100 psi     | 11,81 inch  | 0,777 lbs/ft | 0,30 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|--------|
|               |        |          | A               | B  | C |        |
| <b>Sleeve</b> |        |          |                 |    |   |        |
| 11360275      | -      | AISI 316 | 29              | 85 |   |        |
| 11360279      | -      | Steel    | 29              | 85 |   |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      | Insert |  |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|--------|--|
|                   |                |                 |     | A               | B   | C    |        |  |
| <b>HP fitting</b> |                |                 |     |                 |     |      |        |  |
| 41360104E         | M18x1,5 LH     | Stainless steel | -   | 7,5             | 157 | 28   | -      |  |
| 41360204E         | M20x1,5 LH     | Stainless steel | -   | 7,5             | 162 | 38   | -      |  |
| 41360214E         | 9/16"x18UNF LH | Stainless steel | -   | 7,5             | 127 | 23,8 | -      |  |

| <b>Female swivel with O-Ring</b> |         |                 |          |     |     |   |    |  |
|----------------------------------|---------|-----------------|----------|-----|-----|---|----|--|
| 21360244E                        | M24x1,5 | Stainless steel | 51361206 | 8,5 | 115 | - | 32 |  |

| <b>Type M female swivel</b> |          |                 |                              |     |    |   |    |  |
|-----------------------------|----------|-----------------|------------------------------|-----|----|---|----|--|
| 21360644E                   | 1"x12UNF | Stainless steel | 51360645, 51360641, 51360643 | 7,5 | 96 | - | 32 |  |

| Part no.          | Thread   | Material        | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|----------|-----------------|--------------|-----------------|----|----|----|------------|
|                   |          |                 |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |          |                 |              |                 |    |    |    |            |
| 51360641          | 1"x12UNF | Steel           | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51360643          | 1"x12UNF | Stainless steel | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51360645          | 1"x12UNF | AISI 316        | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51361206          | M24x1,5  | Steel           | 2 axial      | 16,8            | 28 | 21 | 32 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.852630.5          | -      | AISI 316 | -            | 27,4            | 20 | - | - |                           |

| Part no. | Size (mm)      | Material | Crimp ring | Hose protection |
|----------|----------------|----------|------------|-----------------|
|          |                |          |            |                 |
| 1.913240 | ID Ø32, OD Ø40 | PVC      | 1004145    |                 |
| 1.914051 | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9106400  | 600,00           | 800,00              | 20,40                  | 20-25  |                    |

| Accessories combinations           |                 |  |                 |            |                |
|------------------------------------|-----------------|--|-----------------|------------|----------------|
| <b>Without hose protection</b>     |                 |  |                 |            |                |
| Description                        |                 |  | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                      |                 |  | -               | -          | 9106400        |
| <b>Hose protection with spiral</b> |                 |  |                 |            |                |
| Description                        | Protection hose |  | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                    | 1.913240        |  | -               | 1004145    | -              |
| with securing grip                 | 1.914051        |  | -               | -          | 9106400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 12,7 mm   | 24,8 mm   | --                                   | 2.000 bar      | 300 mm      | 1,200 kg/m   | 7,5 mm    |
| 0,50 inch | 0,98 inch | --                                   | 29.000 psi     | 11,81 inch  | 0,804 lbs/ft | 0,30 inch |

| Part no. | Thread | Material | Dimensions (mm) |    |   | ⚙ | Sleeve |
|----------|--------|----------|-----------------|----|---|---|--------|
|          |        |          | A               | B  | C |   |        |
| 11360289 | -      | Steel    | 29,7            | 85 |   |   |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      | ⚙ | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 41360104E         | M18x1,5 LH     | Stainless steel | -   | 7,5             | 157 | 28   | - |        |
| 41360204E         | M20x1,5 LH     | Stainless steel | -   | 7,5             | 162 | 38   | - |        |
| 41360214E         | 9/16"x18UNF LH | Stainless steel | -   | 7,5             | 127 | 23,8 | - |        |

| <b>Female swivel with O-Ring</b> |         |                 |          |     |     |   |    |  |
|----------------------------------|---------|-----------------|----------|-----|-----|---|----|--|
| 21360244E                        | M24x1,5 | Stainless steel | 51361206 | 8,5 | 115 | - | 32 |  |

| <b>Type M female swivel</b> |          |                 |                              |     |    |   |    |  |
|-----------------------------|----------|-----------------|------------------------------|-----|----|---|----|--|
| 21360644E                   | 1"x12UNF | Stainless steel | 51360645, 51360641, 51360643 | 7,5 | 96 | - | 32 |  |

| Part no.          | Thread   | Material        | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|----------|-----------------|--------------|-----------------|----|----|----|------------|
|                   |          |                 |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |          |                 |              |                 |    |    |    |            |
| 51360641          | 1"x12UNF | Steel           | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51360643          | 1"x12UNF | Stainless steel | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51360645          | 1"x12UNF | AISI 316        | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51361206          | M24x1,5  | Steel           | 2 axial      | 16,8            | 28 | 21 | 32 |            |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection with spiral</b> |                |          |            |                 |
| 1.914051                           | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9136400                                 | 600,00           | 800,00              | 24,30                  | 25-30  |                    |

| Accessories combinations           |                 |                 |            |                |
|------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>     |                 |                 |            |                |
| Description                        |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                      |                 | -               | -          | 9106400        |
| <b>Hose protection with spiral</b> |                 |                 |            |                |
| Description                        | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                    | 1.914051        | -               | 1005054    | -              |
| with securing grip                 | 1.914051        | -               | -          | 9106400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 8 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Chrome yellow
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.1:1)    |                |             |              |           |
| 12,8 mm   | 27,7 mm   | --               | 2.800 bar      | 350 mm      | 2,085 kg/m   | 7,5 mm    |
| 0,50 inch | 1,09 inch | --               | 40.600 psi     | 13,78 inch  | 1,397 lbs/ft | 0,30 inch |

| Part no.      | Thread | Material | Nut | Dimensions (mm) |      |   | ⚙ | Sleeve |
|---------------|--------|----------|-----|-----------------|------|---|---|--------|
|               |        |          |     | A               | B    | C |   |        |
| <b>Sleeve</b> |        |          |     |                 |      |   |   |        |
| I1380116      | -      | Steel    | -   | 31,6            | 86,5 | - | - |        |

| Part no.          | Thread         | Material        | Nut | Dimensions (mm) |     |      | ⚙ | Insert |
|-------------------|----------------|-----------------|-----|-----------------|-----|------|---|--------|
|                   |                |                 |     | A               | B   | C    |   |        |
| <b>HP fitting</b> |                |                 |     |                 |     |      |   |        |
| 41360104E         | M18x1,5 LH     | Stainless steel | -   | 7,5             | 157 | 28   | - |        |
| 41360204E         | M20x1,5 LH     | Stainless steel | -   | 7,5             | 162 | 38   | - |        |
| 41360214E         | 9/16"x18UNF LH | Stainless steel | -   | 7,5             | 127 | 23,8 | - |        |

| Part no.                         | Thread  | Material        | Nut      | Dimensions (mm) |     |   | ⚙  | Insert |
|----------------------------------|---------|-----------------|----------|-----------------|-----|---|----|--------|
|                                  |         |                 |          | A               | B   | C |    |        |
| <b>Female swivel with O-Ring</b> |         |                 |          |                 |     |   |    |        |
| 21360244E                        | M24x1,5 | Stainless steel | 51361206 | 8,5             | 115 | - | 32 |        |

| Part no.                    | Thread   | Material        | Nut                          | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|----------|-----------------|------------------------------|-----------------|----|---|----|--------|
|                             |          |                 |                              | A               | B  | C |    |        |
| <b>Type M female swivel</b> |          |                 |                              |                 |    |   |    |        |
| 21360644E                   | 1"x12UNF | Stainless steel | 51360645, 51360641, 51360643 | 7,5             | 96 | - | 32 |        |

| Part no.          | Thread   | Material | Relief bores | Dimensions (mm) |    |    | ⌀  | Swivel nut |
|-------------------|----------|----------|--------------|-----------------|----|----|----|------------|
|                   |          |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |          |          |              |                 |    |    |    |            |
| 51360641          | 1"x12UNF | Steel    | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51360645          | 1"x12UNF | AISI 316 | 1 radial     | 16,8            | 28 | 22 | 32 |            |
| 51361206          | M24x1,5  | Steel    | 2 axial      | 16,8            | 28 | 21 | 32 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.853034.5          | -      | AISI 316 | -            | 31,5            | 20 | - | - |                           |

| Part no.                              | Size (mm)      | Material | Crimp ring | Dimensions (mm) |        | Hose protection |
|---------------------------------------|----------------|----------|------------|-----------------|--------|-----------------|
|                                       |                |          |            | Ø               | Length |                 |
| <b>Hose protection without spiral</b> |                |          |            |                 |        |                 |
| 1.903542                              | ID Ø35, OD Ø42 | PVC      | 1004348    |                 |        |                 |
| 1.904252                              | ID Ø42, OD Ø52 | PVC      | -          |                 |        |                 |
| <b>Hose protection with spiral</b>    |                |          |            |                 |        |                 |
| 1.913541                              | ID Ø32, OD Ø40 | PVC      | 1004348    |                 |        |                 |
| 1.914051                              | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |        |                 |
| 1.914553                              | ID Ø45, OD Ø53 | PVC      | -          |                 |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.953545                  | PU       | 1005054    | 54              | 350    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9138400  | 600,00           | 800,00              | 36,80                  | 25-30  |                    |

**Accessories combinations**

| <b>Without hose protection</b>        |                 |                 |            |                |
|---------------------------------------|-----------------|-----------------|------------|----------------|
| Description                           |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                       |                 | 1.953545        | 1005054    | -              |
| Securing grip                         |                 | -               | -          | 9138400        |
| <b>Hose protection without spiral</b> |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.903542        | -               | 1004348    | -              |
| with bend restrictor                  | 1.904252        | 1.953545        | 1005054    | -              |
| with securing grip                    | 1.904252        | -               | -          | 9138400        |
| <b>Hose protection with spiral</b>    |                 |                 |            |                |
| Description                           | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                       | 1.913541        | -               | 1004348    | -              |
| with bend restrictor                  | 1.914553        | 1.953545        | 1005054    | -              |
| with securing grip                    | 1.914051        | -               | -          | 9138400        |

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The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Grease injection, chemical injection, control of subsea hydraulic components, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 16,0 mm   | 25,5 mm   | --                                   | 1.040 bar      | 250 mm      | 1,002 kg/m   | 10,5 mm   |
| 0,63 inch | 1,00 inch | --                                   | 15.080 psi     | 9,84 inch   | 0,671 lbs/ft | 0,41 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 11640112      | -      | Steel    | 32,7            | 69 | - | - |        |
| 11640115      | -      | AISI 316 | 32,6            | 69 | - | - |        |

| Part no.            | Thread        | Material | Nut | Dimensions (mm) |     |    |    | Insert |
|---------------------|---------------|----------|-----|-----------------|-----|----|----|--------|
|                     |               |          |     | A               | B   | C  | ⚙  |        |
| <b>MP fitting</b>   |               |          |     |                 |     |    |    |        |
| 41640305B           | 3/4"x16UNF LH | AISI 316 | -   | 10,5            | 120 | 18 | -  |        |
| <b>Male fitting</b> |               |          |     |                 |     |    |    |        |
| 31640401B           | 3/4"x14NPT    | Steel    | -   | 10,5            | 101 | 18 | 27 |        |

| Part no.                         | Thread | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|----------------------------------|--------|----------|----------|-----------------|----|---|----|--------|
|                                  |        |          |          | A               | B  | C |    |        |
| <b>Female swivel with O-Ring</b> |        |          |          |                 |    |   |    |        |
| 21640101B                        | M30x2  | Steel    | 51640201 | 10,5            | 98 | - | 41 |        |

|                             |              |          |          |      |    |   |    |  |
|-----------------------------|--------------|----------|----------|------|----|---|----|--|
| <b>Type M female swivel</b> |              |          |          |      |    |   |    |  |
| 21640605B                   | 1 5/16"x12UN | AISI 316 | 52040645 | 10,5 | 99 | - | 46 |  |

|                          |              |          |          |      |    |   |    |  |
|--------------------------|--------------|----------|----------|------|----|---|----|--|
| <b>JIC female swivel</b> |              |          |          |      |    |   |    |  |
| 21640645B                | 1 1/16"x12UN | AISI 316 | 51640605 | 10,5 | 84 | - | 36 |  |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 51640605          | 1 1/16"x12UN | AISI 316 | 1 radial     | 20,1            | 29   | 23   | 36 |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |
| 51640201          | M30x2        | Steel    | 1 radial     | 20,5            | 28   | 15   | 41 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   | ⌀ | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.853034.5          | -      | AISI 316 | -            | 29,3            | 20 | - | - |                           |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection with spiral</b> |                |          |            |                 |
| 1.914051                           | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9136400                                 | 600,00           | 800,00              | 24,30                  | 25-30  |                    |



| Accessories combinations           |                 |                 |            |                |
|------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>     |                 |                 |            |                |
| Description                        |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                      |                 | -               | -          | 9136400        |
| <b>Hose protection with spiral</b> |                 |                 |            |                |
| Description                        | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                    | 1.914051        | -               | 1005054    | -              |
| with securing grip                 | 1.914051        | -               | -          | 9136400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.



**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Grease injection, chemical injection, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 15,9 mm   | 27,7 mm   | --                                   | 1.520 bar      | 320 mm      | 1,520 kg/m   | 10,5 mm   |
| 0,63 inch | 1,09 inch | --                                   | 22.040 psi     | 12,60 inch  | 1,022 lbs/ft | 0,41 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C |   |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 11660102      | -      | Steel    | 35              | 68 | - | - |        |

| Part no.          | Thread     | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |            |                 |     | A               | B   | C  |   |        |
| <b>HP fitting</b> |            |                 |     |                 |     |    |   |        |
| 41660114C         | M18x1,5 LH | Stainless steel | -   | 10,5            | 141 | 28 | - |        |

| <b>Female swivel with O-Ring</b> |        |                 |          |      |     |   |    |  |
|----------------------------------|--------|-----------------|----------|------|-----|---|----|--|
| Part no.                         | Thread | Material        | Nut      | A    | B   | C |    |  |
| 21660104C                        | M30x2  | Stainless steel | 51640201 | 10,5 | 98  | - | 41 |  |
| 21660204C                        | M36x2  | Stainless steel | 52040201 | 10,5 | 102 | - | 46 |  |

| <b>Type M female swivel</b> |              |                 |          |      |     |   |    |  |
|-----------------------------|--------------|-----------------|----------|------|-----|---|----|--|
| Part no.                    | Thread       | Material        | Nut      | A    | B   | C |    |  |
| 21660604C                   | 1 5/16"x12UN | Stainless steel | 52040645 | 10,5 | 100 | - | 46 |  |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |
| 51640201          | M30x2        | Steel    | 1 radial     | 20,5            | 28   | 15   | 41 |            |
| 52040201          | M36x2        | Steel    | 1 radial     | 25,5            | 38   | 22   | 46 |            |

| Part no.                              | Size (mm)      | Material | Crimp ring | ⌀ | Length | Hose protection |
|---------------------------------------|----------------|----------|------------|---|--------|-----------------|
|                                       |                |          |            |   |        |                 |
| <b>Hose protection without spiral</b> |                |          |            |   |        |                 |
| 1.904252                              | ID Ø42, OD Ø52 | PVC      | I005257    |   |        |                 |
| <b>Hose protection with spiral</b>    |                |          |            |   |        |                 |
| 1.914051                              | ID Ø40, OD Ø47 | PVC      | I005054    |   |        |                 |
| 1.915158                              | ID Ø50, OD Ø58 | PVC      | I006064    |   |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.953845                  | PU       | I005257    | 56              | 350    |                 |
| <b>Hose securing grip</b> |          |            |                 |        |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9136400                                 | 600,00           | 800,00              | 24,30                  | 25-30  |                    |
| <b>Hose securing grip</b>               |                  |                     |                        |  |                    |

### Accessories combinations

| Without hose protection        |                 |                 |            |                |
|--------------------------------|-----------------|-----------------|------------|----------------|
| Description                    |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                  |                 | -               | -          | 9136400        |
| Hose protection without spiral |                 |                 |            |                |
| Description                    | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                | 1.904252        | -               | 1005257    | -              |
| with bend restrictor           | 1.904252        | 1.953845        | 1005257    | -              |
| with securing grip             | 1.904252        | -               | -          | 9136400        |
| Hose protection with spiral    |                 |                 |            |                |
| Description                    | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                | 1.914051        | -               | 1005054    | -              |
| with bend restrictor           | 1.915158        | 1.953845        | 1005257    | -              |
| with securing grip             | 1.914051        | -               | -          | 9136400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Gaseous media handling



**Technical Information**

- Inner Core:** Polyoxymethylene (POM)
- Pressure Support:** 8 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Chrome yellow
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 15,9 mm   | 31,8 mm   | --                                   | 2.000 bar      | 400 mm      | 2,523 kg/m   | 10,5 mm   |
| 0,63 inch | 1,25 inch | --                                   | 29.000 psi     | 15,75 inch  | 1,690 lbs/ft | 0,41 inch |

| Part no. | Thread | Material | Dimensions (mm) |    |   | ⚙ | Sleeve |
|----------|--------|----------|-----------------|----|---|---|--------|
|          |        |          | A               | B  | C |   |        |
| 11680242 | -      | Steel    | 35              | 72 | - | - |        |

| Part no.  | Thread     | Material        | Nut | Dimensions (mm) |     |    | ⚙ | Insert |
|-----------|------------|-----------------|-----|-----------------|-----|----|---|--------|
|           |            |                 |     | A               | B   | C  |   |        |
| 41660114C | M18x1,5 LH | Stainless steel | -   | 10,5            | 141 | 28 | - |        |

| Part no.  | Thread | Material        | Nut      | Dimensions (mm) |     |   | ⚙  | Female swivel with O-Ring |
|-----------|--------|-----------------|----------|-----------------|-----|---|----|---------------------------|
|           |        |                 |          | A               | B   | C |    |                           |
| 21660104C | M30x2  | Stainless steel | 51640201 | 10,5            | 98  | - | 41 |                           |
| 21660204C | M36x2  | Stainless steel | 52040201 | 10,5            | 102 | - | 46 |                           |

| Part no.  | Thread       | Material        | Nut      | Dimensions (mm) |     |   | ⚙  | Type M female swivel |
|-----------|--------------|-----------------|----------|-----------------|-----|---|----|----------------------|
|           |              |                 |          | A               | B   | C |    |                      |
| 21660604C | 1 5/16"x12UN | Stainless steel | 52040645 | 10,5            | 100 | - | 46 |                      |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |
| 51640201          | M30x2        | Steel    | 1 radial     | 20,5            | 28   | 15   | 41 |            |
| 52040201          | M36x2        | Steel    | 1 radial     | 25,5            | 38   | 22   | 46 |            |

| Part no.                              | Size (mm)      | Material | Crimp ring | ⌀ | Length | Hose protection |
|---------------------------------------|----------------|----------|------------|---|--------|-----------------|
|                                       |                |          |            |   |        |                 |
| <b>Hose protection without spiral</b> |                |          |            |   |        |                 |
| 1.904252                              | ID Ø42, OD Ø52 | PVC      | I005257    |   |        |                 |
| <b>Hose protection with spiral</b>    |                |          |            |   |        |                 |
| 1.914051                              | ID Ø40, OD Ø47 | PVC      | I005054    |   |        |                 |
| 1.915158                              | ID Ø50, OD Ø58 | PVC      | -          |   |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.953845                  | PU       | I005257    | 56              | 350    |                 |
| <b>Hose securing grip</b> |          |            |                 |        |                 |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
|   |                  |                     |                        |  |                    |
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9204400                                 | 600,00           | 820,00              | 35,10                  | 30-40  |                    |
| <b>Hose securing grip</b>               |                  |                     |                        |  |                    |

## Accessories combinations

| Without hose protection        |                 |                 |            |                |
|--------------------------------|-----------------|-----------------|------------|----------------|
| Description                    |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                |                 | 1.953845        | 1005257    | -              |
| Securing grip                  |                 | -               | -          | 9204400        |
| Hose protection without spiral |                 |                 |            |                |
| Description                    | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                | 1.904252        | -               | 1005257    | -              |
| with bend restrictor           | 1.904252        | 1.953845        | 1005257    | -              |
| with securing grip             | 1.904252        | -               | -          | 9204400        |
| Hose protection with spiral    |                 |                 |            |                |
| Description                    | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                | 1.914051        | -               | 1005054    | -              |
| with bend restrictor           | 1.915158        | 1.953845        | 1005257    | -              |
| with securing grip             | 1.915158        | -               | -          | 9204400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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**Applications**

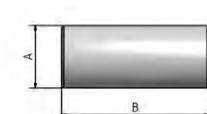
- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Grease injection, nitrogen service

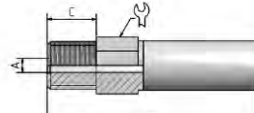


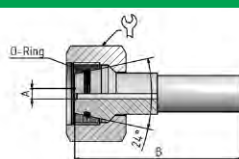
**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight    | Insert ID    |
|-----------|-----------|------------------|----------------|-------------|-----------|--------------|
|           |           | -- (SF 2.5:1)    |                |             |           |              |
| 19,0 mm   | 26,2 mm   | --               | 520 bar        | 1.300 bar   | 240 mm    | 0,750 kg/m   |
| 0,75 inch | 1,03 inch | --               | 7.540 psi      | 18.850 psi  | 9,45 inch | 0,503 lbs/ft |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve   |
|---------------|--------|----------|-----------------|----|---|---|--|
|               |        |          | A               | B  | C | ⚙ |  |
| <b>Sleeve</b> |        |          |                 |    |   |   |  |
| 12020101      | -      | Steel    | 34,2            | 69 | - | - |  |

| Part no.            | Thread       | Material | Nut | Dimensions (mm) |     |    |    | Insert  |
|---------------------|--------------|----------|-----|-----------------|-----|----|----|---|
|                     |              |          |     | A               | B   | C  | ⚙  |   |
| <b>Male fitting</b> |              |          |     |                 |     |    |    |   |
| 32020421A           | 1"x11 1/2NPT | Steel    | -   | 13              | 111 | 25 | 36 |  |
| 32020425A           | 1"x11 1/2NPT | AISI 316 | -   | 13              | 111 | 25 | 36 |   |

| Part no.                         | Thread | Material | Nut                | Dimensions (mm) |     |   |    | Insert  |
|----------------------------------|--------|----------|--------------------|-----------------|-----|---|----|---|
| <b>Female swivel with O-Ring</b> |        |          |                    |                 |     |   |    |   |
| 22020201A                        | M36x2  | Steel    | 52040211, 52040201 | 13              | 115 | - | 46 |  |

| Part no.                    | Thread       | Material | Nut      | Dimensions (mm) |    |   |    | Insert  |
|-----------------------------|--------------|----------|----------|-----------------|----|---|----|---|
| <b>Type M female swivel</b> |              |          |          |                 |    |   |    |   |
| 22020645A                   | 1 5/16"x12UN | AISI 316 | 52040645 | 13              | 89 | - | 46 |  |

| Part no.                 | Thread       | Material | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|--------------------------|--------------|----------|----------|-----------------|----|---|----|--------|
|                          |              |          |          | A               | B  | C |    |        |
| <b>JIC female swivel</b> |              |          |          |                 |    |   |    |        |
| 22020605A                | 1 5/16"x12UN | AISI 316 | 52040605 | 13              | 87 | - | 46 |        |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52040605          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 34,5 | 14,5 | 46 |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |
| 52040211          | M36x2        | Steel    | 1 radial     | 25,5            | 30   | 18   | 46 |            |

| Part no.            | Thread | Material | Dimensions (mm) |    |    | ⌀ | Tube cleaning accessories |  |
|---------------------|--------|----------|-----------------|----|----|---|---------------------------|--|
|                     |        |          | A               | B  | C  |   |                           |  |
| <b>Marking ring</b> |        |          |                 |    |    |   |                           |  |
| 1.853034.5          | -      | AISI 316 | -               | 30 | 20 | - | -                         |  |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9136400                                 | 600,00           | 800,00              | 24,30                  | 25-30  |                    |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
| <b>Hose protection with spiral</b> |                |          |            |                 |
| 1.914051                           | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |

| Accessories combinations |                 |                 |            |                |
|--------------------------|-----------------|-----------------|------------|----------------|
| Description              | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose          | 1.914051        | -               | 1005054    | -              |
| with securing grip       | 1.914051        | -               | -          | 9136400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.  
 The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.  
 Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.  
 The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.  
 \*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.  
 We reserve our rights for technical changes without notice. Subject to printing errors.



**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Chemical injection, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 18,8 mm   | 28,8 mm   | --               | 1.040 bar      | 250 mm      | 1,350 kg/m   | 13,0 mm   |
| 0,74 inch | 1,13 inch | --               | 15.080 psi     | 9,84 inch   | 0,905 lbs/ft | 0,51 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C |   |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 12040131      | -      | Steel    | 36,9            | 72 | - | - |        |

| Part no.          | Thread      | Material        | Nut | Dimensions (mm) |     |    |   | Insert |
|-------------------|-------------|-----------------|-----|-----------------|-----|----|---|--------|
|                   |             |                 |     | A               | B   | C  |   |        |
| <b>MP fitting</b> |             |                 |     |                 |     |    |   |        |
| 42060304C         | 1"x14UNS LH | Stainless steel | -   | 13              | 158 | 30 | - |        |

| Part no.                         | Thread | Material | Nut      | Dimensions (mm) |     |   |    | Insert |
|----------------------------------|--------|----------|----------|-----------------|-----|---|----|--------|
|                                  |        |          |          | A               | B   | C |    |        |
| <b>Female swivel with O-Ring</b> |        |          |          |                 |     |   |    |        |
| 22060202C                        | M36x2  | Steel    | 52040201 | 13              | 127 | - | 46 |        |

| Part no.                    | Thread       | Material        | Nut      | Dimensions (mm) |     |   | ⌀  | Insert |
|-----------------------------|--------------|-----------------|----------|-----------------|-----|---|----|--------|
|                             |              |                 |          | A               | B   | C |    |        |
| <b>Type M female swivel</b> |              |                 |          |                 |     |   |    |        |
| 22060644C                   | 1 5/16"x12UN | Stainless steel | 52040645 | 13              | 107 | - | 46 |        |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |
| 52040201          | M36x2        | Steel    | 1 radial     | 25,5            | 38   | 22   | 46 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |  |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|--|
|                     |        |          | A               | B    | C  |   |                           |  |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |  |
| 1.853034.5          | -      | AISI 316 | -               | 32,6 | 20 | - | -                         |  |

| Part no. | Size (mm)      | Material | Crimp ring | Hose protection |
|----------|----------------|----------|------------|-----------------|
|          |                |          |            |                 |
| 1.914051 | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9136400  | 600,00           | 800,00              | 24,30                  | 25-30  |                    |

**Accessories combinations**

| <b>Without hose protection</b>     |                 |                 |            |                |
|------------------------------------|-----------------|-----------------|------------|----------------|
| Description                        |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                      |                 | -               | -          | 9136400        |
| <b>Hose protection with spiral</b> |                 |                 |            |                |
| Description                        | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                    | 1.914051        | -               | 1005054    | -              |
| with securing grip                 | 1.914051        | -               | -          | 9136400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Chemical injection, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 18,8 mm   | 32,8 mm   | --                                   | 1.400 bar      | 350 mm      | 2,170 kg/m   | 13,0 mm   |
| 0,74 inch | 1,29 inch | --                                   | 20.300 psi     | 13,78 inch  | 1,454 lbs/ft | 0,51 inch |

| Part no.      | Thread | Material | Nut | Dimensions (mm) |    |   | Sleeve |
|---------------|--------|----------|-----|-----------------|----|---|--------|
|               |        |          |     | A               | B  | C |        |
| <b>Sleeve</b> |        |          |     |                 |    |   |        |
| 12060116      | -      | Steel    | -   | 37,2            | 91 | - | -      |

| Part no.          | Thread      | Material        | Nut | Dimensions (mm) |     |    | Insert |
|-------------------|-------------|-----------------|-----|-----------------|-----|----|--------|
|                   |             |                 |     | A               | B   | C  |        |
| <b>MP fitting</b> |             |                 |     |                 |     |    |        |
| 42060304E         | 1"x14UNS LH | Stainless steel | -   | 13              | 171 | 30 | -      |

| Part no.                         | Thread | Material | Nut      | Dimensions (mm) |     |   | Insert |
|----------------------------------|--------|----------|----------|-----------------|-----|---|--------|
|                                  |        |          |          | A               | B   | C |        |
| <b>Female swivel with O-Ring</b> |        |          |          |                 |     |   |        |
| 22060206E                        | M36x2  | Steel    | 52040201 | 13              | 126 | - | 46     |

| Part no.                    | Thread       | Material        | Nut      | Dimensions (mm) |     |   | Insert |
|-----------------------------|--------------|-----------------|----------|-----------------|-----|---|--------|
|                             |              |                 |          | A               | B   | C |        |
| <b>Type M female swivel</b> |              |                 |          |                 |     |   |        |
| 22060644E                   | 1 5/16"x12UN | Stainless steel | 52040645 | 13              | 119 | - | 46     |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52040201          | M36x2        | Steel    | 1 radial     | 25,5            | 38   | 22   | 46 |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |

| Part no.                           | Size (mm)      | Material | Crimp ring | Dimensions (mm) |        | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|--------|-----------------|
|                                    |                |          |            | Ø               | Length |                 |
| <b>Hose protection with spiral</b> |                |          |            |                 |        |                 |
| 1.914051                           | ID Ø40, OD Ø47 | PVC      | 1005054    |                 |        |                 |
| 1.914553                           | ID Ø45, OD Ø53 | PVC      | -          |                 |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.954355                  | PU       | 1005560    | 59              | 450    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9204400  | 600,00           | 820,00              | 35,10                  | 30-40  |                    |

| Accessories combinations           |                 |                 |            |                |  |
|------------------------------------|-----------------|-----------------|------------|----------------|--|
| <b>Without hose protection</b>     |                 |                 |            |                |  |
| Description                        |                 | Bend restrictor | Crimp ring | Securing grips |  |
| Bend restrictor                    |                 | 1.954355        | 1005560    | -              |  |
| Securing grip                      |                 | -               | -          | 9204400        |  |
| <b>Hose protection with spiral</b> |                 |                 |            |                |  |
| Description                        | Protection hose | Bend restrictor | Crimp ring | Securing grips |  |
| Protection hose                    | 1.914051        | -               | 1005054    | -              |  |
| with bend restrictor               | 1.914553        | 1.954355        | 1005560    | -              |  |
| with securing grip                 | 1.914553        | -               | -          | 9204400        |  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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**Applications**

- Waterblast:** Surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Chemical injection, nitrogen service, Gaseous media handling

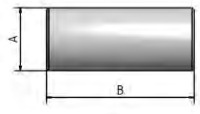


**Technical Information**

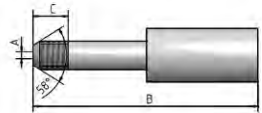
- Inner Core:** Polyamide (PA)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +70°C [-22°F to 158°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 18,8 mm   | 32,8 mm   | --                                   | 1.600 bar      | 350 mm      | 2,170 kg/m   | 13,0 mm   |
| 0,74 inch | 1,29 inch | --                                   | 23.200 psi     | 13,78 inch  | 1,454 lbs/ft | 0,51 inch |

| Part no.      | Thread | Material | Nut | Dimensions (mm) |    |   | Sleeve |
|---------------|--------|----------|-----|-----------------|----|---|--------|
|               |        |          |     | A               | B  | C |        |
| <b>Sleeve</b> |        |          |     |                 |    |   |        |
| 12060116      | -      | Steel    | -   | 37,2            | 91 | - | -      |



| Part no.          | Thread      | Material        | Nut | Dimensions (mm) |     |    | Insert |
|-------------------|-------------|-----------------|-----|-----------------|-----|----|--------|
|                   |             |                 |     | A               | B   | C  |        |
| <b>MP fitting</b> |             |                 |     |                 |     |    |        |
| 42060304E         | 1"x14UNS LH | Stainless steel | -   | 13              | 171 | 30 | -      |



| Part no.                         | Thread | Material | Nut      | Dimensions (mm) |     |   | Insert |
|----------------------------------|--------|----------|----------|-----------------|-----|---|--------|
|                                  |        |          |          | A               | B   | C |        |
| <b>Female swivel with O-Ring</b> |        |          |          |                 |     |   |        |
| 22060206E                        | M36x2  | Steel    | 52040201 | 13              | 126 | - | 46     |



| Part no.                    | Thread       | Material        | Nut      | Dimensions (mm) |     |   | Insert |
|-----------------------------|--------------|-----------------|----------|-----------------|-----|---|--------|
|                             |              |                 |          | A               | B   | C |        |
| <b>Type M female swivel</b> |              |                 |          |                 |     |   |        |
| 22060644E                   | 1 5/16"x12UN | Stainless steel | 52040645 | 13              | 119 | - | 46     |



| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52040645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 25,5            | 31,5 | 11,5 | 46 |            |
| 52040201          | M36x2        | Steel    | 1 radial     | 25,5            | 38   | 22   | 46 |            |

| Part no.                           | Size (mm)      | Material | Crimp ring | Dimensions (mm) |        | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|--------|-----------------|
|                                    |                |          |            | Ø               | Length |                 |
| <b>Hose protection with spiral</b> |                |          |            |                 |        |                 |
| 1.914051                           | ID Ø40, OD Ø47 | PVC      | I005054    |                 |        |                 |
| 1.914553                           | ID Ø45, OD Ø53 | PVC      | -          |                 |        |                 |

| Part no.                  | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|---------------------------|----------|------------|-----------------|--------|-----------------|
|                           |          |            | Ø               | Length |                 |
| <b>PU bend restrictor</b> |          |            |                 |        |                 |
| 1.954355                  | PU       | I005560    | 59              | 450    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9204400  | 600,00           | 820,00              | 35,10                  | 30-40  |                    |

| Accessories combinations           |                 |                 |            |                |  |
|------------------------------------|-----------------|-----------------|------------|----------------|--|
| <b>Without hose protection</b>     |                 |                 |            |                |  |
| Description                        |                 | Bend restrictor | Crimp ring | Securing grips |  |
| Bend restrictor                    |                 | 1.954355        | I005560    | -              |  |
| Securing grip                      |                 | -               | -          | 9204400        |  |
| <b>Hose protection with spiral</b> |                 |                 |            |                |  |
| Description                        | Protection hose | Bend restrictor | Crimp ring | Securing grips |  |
| Protection hose                    | 1.914051        | -               | I005054    | -              |  |
| with bend restrictor               | 1.914553        | 1.954355        | I005560    | -              |  |
| with securing grip                 | 1.914553        | -               | -          | 9204400        |  |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Nitrogen service



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 2 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Green
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2.5:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 24,8 mm   | 33,5 mm   | --                                   | 440 bar        | 300 mm      | 0,950 kg/m   | 16,5 mm   |
| 0,98 inch | 1,32 inch | --                                   | 6.380 psi      | 11,81 inch  | 0,636 lbs/ft | 0,65 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 12520121      | -      | Steel    | 40              | 75 | - | - |        |

| Part no.            | Thread        | Material | Nut | Dimensions (mm) |     |    |    | Insert |
|---------------------|---------------|----------|-----|-----------------|-----|----|----|--------|
|                     |               |          |     | A               | B   | C  | ⚙  |        |
| <b>Male fitting</b> |               |          |     |                 |     |    |    |        |
| 32530411T           | 1"x11 1/2NPTF | Steel    | -   | 16,5            | 120 | 25 | 36 |        |
| 32530415T           | 1"x11 1/2NPTF | AISI 316 | -   | 16,5            | 120 | 25 | 36 |        |

| Part no.  | Thread | Material | Nut      | Dimensions (mm) | ⚙    |
|-----------|--------|----------|----------|-----------------|------|
| 22530201T | M42x2  | Steel    | 52520201 | 16,5 110        | - 50 |

**Female swivel with O-Ring**

| Part no.          | Thread | Material | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|--------|----------|--------------|-----------------|----|----|----|------------|
|                   |        |          |              | A               | B  | C  | ⚙  |            |
| <b>Swivel nut</b> |        |          |              |                 |    |    |    |            |
| 52520201          | M42x2  | Steel    | 1 radial     | 30,2            | 34 | 22 | 50 |            |



| Part no.            | Thread | Material | Dimensions (mm) |      |    |   |   | Tube cleaning accessories |
|---------------------|--------|----------|-----------------|------|----|---|---|---------------------------|
|                     |        |          | A               | B    | C  |   |   |                           |
| <b>Marking ring</b> |        |          |                 |      |    |   |   |                           |
| 1.854246.5          | -      | AISI 316 | -               | 37,5 | 25 | - | - |                           |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) |  | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--|--------------------|
|          |                  |                     |                        |  |  |                    |
| 9204400  | 600,00           | 820,00              | 35,10                  | 30-40  |  |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

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The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

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**Applications**

- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels), hydraulic tools (instrumentation packages for gauges, control of service equipment, hydraulic jacks, hydraulic tools)
- Oil and Gas:** Chemical injection, nitrogen service, Gaseous media handling



**Technical Information**

- Inner Core:** Polyamide (PA)
- Pressure Support:** 4 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Silver
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
|           |           | -- (SF 2.5:1)    |                |             |              |           |
| 24,8 mm   | 36,3 mm   | --               | 900 bar        | 300 mm      | 1,715 kg/m   | 19,0 mm   |
| 0,98 inch | 1,43 inch | --               | 13.050 psi     | 11,81 inch  | 1,149 lbs/ft | 0,75 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C |   |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 12540235      | -      | AISI 316 | 45,9            | 75 | - | - |        |

| Part no.            | Thread        | Material        | Nut | Dimensions (mm) |     |    |    | Insert |
|---------------------|---------------|-----------------|-----|-----------------|-----|----|----|--------|
|                     |               |                 |     | A               | B   | C  |    |        |
| <b>Male fitting</b> |               |                 |     |                 |     |    |    |        |
| 3254040B            | 1"x11 1/2NPTF | Stainless steel | -   | 19              | 117 | 25 | 36 |        |

| Part no.                         | Thread | Material        | Nut                | Dimensions (mm) |     |   |    | Insert |
|----------------------------------|--------|-----------------|--------------------|-----------------|-----|---|----|--------|
|                                  |        |                 |                    | A               | B   | C |    |        |
| <b>Female swivel with O-Ring</b> |        |                 |                    |                 |     |   |    |        |
| 22540204B                        | M42x2  | Stainless steel | 52520201, 52521215 | 19              | 118 | - | 50 |        |

| Part no.                    | Thread       | Material        | Nut      | Dimensions (mm) |    |   | ⌀  | Insert |
|-----------------------------|--------------|-----------------|----------|-----------------|----|---|----|--------|
|                             |              |                 |          | A               | B  | C |    |        |
| <b>Type M female swivel</b> |              |                 |          |                 |    |   |    |        |
| 22540644B                   | 1 5/16"x12UN | Stainless steel | 52530645 | 19              | 98 | - | 41 |        |

|                          |              |                 |          |    |    |   |    |  |
|--------------------------|--------------|-----------------|----------|----|----|---|----|--|
| <b>JIC female swivel</b> |              |                 |          |    |    |   |    |  |
| 22540604B                | 1 5/16"x12UN | Stainless steel | 52530605 | 19 | 96 | - | 41 |  |

| Part no.          | Thread       | Material | Relief bores | Dimensions (mm) |      |      | ⌀  | Swivel nut |
|-------------------|--------------|----------|--------------|-----------------|------|------|----|------------|
|                   |              |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |              |          |              |                 |      |      |    |            |
| 52530645          | 1 5/16"x12UN | AISI 316 | 1 radial     | 27,1            | 31,5 | 11,5 | 41 |            |
| 52530605          | 1 5/16"x12UN | AISI 316 | 1 radial     | 27,1            | 34,5 | 14,5 | 41 |            |
| 52520201          | M42x2        | Steel    | 1 radial     | 30,2            | 34   | 22   | 50 |            |
| 52521215          | M42x2        | AISI 316 | 2 axial      | 30,2            | 34   | 24   | 50 |            |

| Part no.            | Thread | Material | Dimensions (mm) |      |    | ⌀ | Tube cleaning accessories |  |
|---------------------|--------|----------|-----------------|------|----|---|---------------------------|--|
|                     |        |          | A               | B    | C  |   |                           |  |
| <b>Marking ring</b> |        |          |                 |      |    |   |                           |  |
| 1.854246.5          | -      | AISI 316 | -               | 40,3 | 25 | - | -                         |  |

| Part no.                                | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|---|------------------|---------------------|------------------------|--|--------------------|
| <b>Hose securing grip short version</b> |                  |                     |                        |  |                    |
| 9204400                                 | 600,00           | 820,00              | 35,10                  | 30-40  |                    |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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# Hose Type 25/6

256201

**SPIR STAR®**

ULTRAFLOW

ID25 - Series: C

## Applications

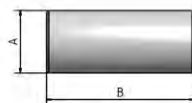
- Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning, ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)
- Hydraulics:** Pressure test equipment (valves, tooling and control panels)
- Oil and Gas:** Chemical injection, nitrogen service, Gaseous media handling

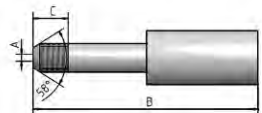


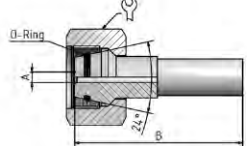
## Technical Information

- Inner Core:** Polyamide (PA)
- Pressure Support:** 6 layers of high-tensile steel wire
- Outer Cover:** Polyamide (PA)
- Color:** Blue
- Temperature:** -30°C to +60°C [-22°F to 140°F]

| Ø ID      | Ø OD      | Working Pressure<br>--<br>(SF 2,1:1) | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|--------------------------------------|----------------|-------------|--------------|-----------|
| 24,8 mm   | 39,8 mm   | --                                   | 1.400 bar      | 600 mm      | 2,800 kg/m   | 17,5 mm   |
| 0,98 inch | 1,57 inch | --                                   | 20.300 psi     | 23,62 inch  | 1,876 lbs/ft | 0,69 inch |

| Part no. | Thread | Material | Dimensions (mm) |    |   | ⚙️ | Sleeve  |
|----------|--------|----------|-----------------|----|---|----|---|
|          |        |          | A               | B  | C |    |   |
| 12560232 | -      | Steel    | 49              | 80 | - | -  |  |

| Part no.  | Thread      | Material        | Nut | Dimensions (mm) |     |    | ⚙️ | Insert  |
|-----------|-------------|-----------------|-----|-----------------|-----|----|----|---|
|           |             |                 |     | A               | B   | C  |    |   |
| 42560304C | 1"x14UNS LH | Stainless steel | -   | 17,5            | 165 | 30 | -  |  |

| Part no.  | Thread | Material        | Nut      | Dimensions (mm) |     |   | ⚙️ | Insert  |
|-----------|--------|-----------------|----------|-----------------|-----|---|----|---|
|           |        |                 |          | A               | B   | C |    |   |
| 22560204C | M42x2  | Stainless steel | 52520201 | 17,5            | 122 | - | 50 |  |

| Part no.          | Thread | Material | Relief bores | Dimensions (mm) |    |    |    | Swivel nut |
|-------------------|--------|----------|--------------|-----------------|----|----|----|------------|
|                   |        |          |              | A               | B  | C  |    |            |
| <b>Swivel nut</b> |        |          |              |                 |    |    |    |            |
| 52520201          | M42x2  | Steel    | 1 radial     | 30,2            | 34 | 22 | 50 |            |

| Part no.            | Thread | Material | Relief bores | Dimensions (mm) |    |   |   | Tube cleaning accessories |
|---------------------|--------|----------|--------------|-----------------|----|---|---|---------------------------|
|                     |        |          |              | A               | B  | C |   |                           |
| <b>Marking ring</b> |        |          |              |                 |    |   |   |                           |
| 1.854246.5          | -      | AISI 316 | -            | 43,8            | 25 | - | - |                           |

| Part no. | Size (mm)      | Material | Crimp ring | Hose protection |
|----------|----------------|----------|------------|-----------------|
|          |                |          |            |                 |
| 1.915158 | ID Ø50, OD Ø58 | PVC      | 1006064    |                 |

| Part no. | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|----------|------------------|---------------------|------------------------|--|--------------------|
|          |                  |                     |                        |  |                    |
| 9256400  | 600,00           | 880,00              | 48,00                  | 50-60  |                    |

| Accessories combinations           |                 |                 |            |                |
|------------------------------------|-----------------|-----------------|------------|----------------|
| <b>Without hose protection</b>     |                 |                 |            |                |
| Description                        |                 | Bend restrictor | Crimp ring | Securing grips |
| Securing grip                      |                 | -               | -          | 9256400        |
| <b>Hose protection with spiral</b> |                 |                 |            |                |
| Description                        | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                    | 1.915158        | -               | 1006064    | -              |
| with securing grip                 | 1.915158        | -               | -          | 9256400        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*1) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

We reserve our rights for technical changes without notice. Subject to printing errors.

**Applications**

**Waterblast:** Heat exchanger tube cleaning, surface preparation (concrete removal, surface cleaning of buildings, paint removal), tank and vessel cleaning

**Technical Information**

**Inner Core:** Polyoxymethylene (POM)  
**Pressure Support:** 4 layers of high-tensile steel wire  
**Outer Cover:** Polyamide (PA)  
**Color:** Blue  
**Temperature:** -30°C to +100°C [-22°F to 210°F]



| Ø ID      | Ø OD      | Working Pressure | Burst Pressure | Bend Radius | Weight       | Insert ID |
|-----------|-----------|------------------|----------------|-------------|--------------|-----------|
| 8,0 mm    | 14,6 mm   | -- (SF 3,8:1)    | 1.000 bar      | 200 mm      | 0,390 kg/m   | 4,5 mm    |
| 0,31 inch | 0,57 inch | --               | 14.500 psi     | 7,87 inch   | 0,261 lbs/ft | 0,18 inch |

| Part no.      | Thread | Material | Dimensions (mm) |    |   |   | Sleeve |
|---------------|--------|----------|-----------------|----|---|---|--------|
|               |        |          | A               | B  | C | ⚙ |        |
| <b>Sleeve</b> |        |          |                 |    |   |   |        |
| 10840102HW    | -      | Steel    | 20,2            | 58 | - | - |        |

| Part no.                                     | Thread         | Material        | Nut                | Dimensions (mm) |     |      |    | Insert |
|--|----------------|-----------------|--------------------|-----------------|-----|------|----|--------|
|  |                |                 |                    | A               | B   | C    | ⚙  |        |
| <b>HP fitting</b>                            |                |                 |                    |                 |     |      |    |        |
| 40840204HW                                   | 9/16"x18UNF LH | Stainless steel |                    | 4,5             | 112 | 23,8 |    |        |
| <b>Male fitting flat seal</b>                |                |                 |                    |                 |     |      |    |        |
| 30840304HW                                   | G1/4"          | Stainless steel |                    | 4,5             | 85  | 15   | 12 |        |
| <b>Female swivel with O-Ring</b>             |                |                 |                    |                 |     |      |    |        |
| 20840204HW                                   | M22x1,5        | Stainless steel | 51060201, 51060205 | 4,5             | 83  | -    | 30 |        |
| 20840224HW                                   | M24x1,5        | Stainless steel | 51321206           | 4,5             | 91  | -    | 32 |        |
| <b>Universal female swivel 24°/60° heavy</b> |                |                 |                    |                 |     |      |    |        |
| 20840304HW                                   | G3/8"          | Stainless steel | 50840305, 50860301 | 4,5             | 76  |      | 24 |        |

| Part no.          | Thread  | Material | Relief bores | Dimensions (mm) |      |      |    | Swivel nut |
|-------------------|---------|----------|--------------|-----------------|------|------|----|------------|
|                   |         |          |              | A               | B    | C    |    |            |
| <b>Swivel nut</b> |         |          |              |                 |      |      |    |            |
| 50860301          | G3/8"   | Steel    | 1 radial     | 12,5            | 18,5 | 15,5 | 24 |            |
| 50840305          | G3/8"   | AISI 316 | 1 radial     | 12,2            | 18,5 | 13,5 | 24 |            |
| 51060201          | M22x1,5 | Steel    | 2 axial      | 14,2            | 23   | 14   | 30 |            |
| 51060205          | M22x1,5 | AISI 316 | 2 axial      | 14,2            | 25   | 14   | 30 |            |
| 51321206          | M24x1,5 | Steel    | 2 axial      | 16,8            | 23   | 16   | 32 |            |

| Part no.                           | Size (mm)      | Material | Crimp ring | Hose protection |
|------------------------------------|----------------|----------|------------|-----------------|
|                                    |                |          |            |                 |
| 1.902228                           | ID Ø22, OD Ø28 | PVC      | 1002830    |                 |
| <b>Hose protection with spiral</b> |                |          |            |                 |
| 1.912229                           | ID Ø22, OD Ø35 | PVC      | 1003035    |                 |

| Part no.                      | Material | Crimp ring | Dimensions (mm) |        | Bend restrictor |
|-------------------------------|----------|------------|-----------------|--------|-----------------|
|                               |          |            | Ø               | Length |                 |
| <b>Rubber bend restrictor</b> |          |            |                 |        |                 |
| 1.9518100                     | Rubber   | 1003640    | 39              | 130    |                 |

| Part no.                               | Mesh length (mm) | Overall length (mm) | Breaking strength (kN) | Suitable for SPIR STAR® hose outer diameter (mm) | Hose securing grip |
|--|------------------|---------------------|------------------------|--|--------------------|
|  |                  |                     |                        |  |                    |
| 9056400                                | 600,00           | 740,00              | 10,20                  | 10-15  |                    |
| <b>Hose securing grip long version</b> |                  |                     |                        |  |                    |
| 905640L                                | 600,00           | 990,00              | 10,20                  | 10-15  |                    |

## Accessories combinations

| Without hose protection                |                 |                 |            |                |
|--|-----------------|-----------------|------------|----------------|
| Description                            |                 | Bend restrictor | Crimp ring | Securing grips |
| Bend restrictor                        |                 | 1.9518100       | 1003640    | -              |
| Securing grip                          |                 | -               | -          | 9056400        |
| Bend restrictor and securing grip      |                 | 1.9518100       | 1003640    | 905640L        |
| Hose protection without spiral         |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.902228        | -               | 1002830    | -              |
| with bend restrictor                   | 1.902228        | 1.9518100       | 1003640    | -              |
| with securing grip                     | 1.902228        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.902228        | 1.9518100       | 1003640    | 905640L        |
| Hose protection with spiral            |                 |                 |            |                |
| Description                            | Protection hose | Bend restrictor | Crimp ring | Securing grips |
| Protection hose                        | 1.912229        | -               | 1003035    | -              |
| with bend restrictor                   | 1.912229        | 1.9518100       | 1003640    | -              |
| with securing grip                     | 1.912229        | -               | -          | 9056400        |
| with bend restrictor and securing grip | 1.912229        | 1.9518100       | 1003640    | 905640L        |

Production related variations of the burst pressure of up to 5 % are possible. Other colors upon request.

The safety factors between the burst pressure and the working pressure as well as the test pressure depend on the operating conditions. For gaseous media the outer cover is to be pinpricked.

Regarding the safety factor for gaseous media please contact your local SPIR STAR® assembling center.

The indicated working pressure refers to the hose only. Depending on the used fitting the permitted working pressure of a hose assembly may be less.

\*) Blast-Pro® fittings may only be used for tube cleaning operations inside the tube. They have not been designed for the use outside of tubes.

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# SPIR STAR® High-Pressure Hose Assemblies

## Instructions on Installing and Operating



### Important Comment

Before installing and operating the product, these Installing and Operating Instructions have to be read carefully. Comments and remarks regarding dangers have to be observed in particular.

These Instructions are valid on condition that the proper product has been selected for the application. Selection and dimensioning of the product is not the subject of these Instructions. If these Instructions are not observed or if they are misinterpreted, SPIR STAR® AG will be exempt from any product liability and guarantee. This applies also if our product is taken apart or if it is modified.

These Instructions shall be kept in a safe place and – if our product is passed on, whether individually or as a part of a machine – shall be passed along in order to be at the disposal of the user.

### Safety Information

- Only trained personnel may execute the installation of our product and set it into operation.
- Check the high-pressure hose assemblies for kinks, wear and tear, corrosion, cracks and other damages each time before using them.
- High-pressure hose assemblies showing kinks, cracks, corrosion, leaking fittings or damages of the outer cover reaching down to the reinforcing steel wires have to be exchanged.
- Use only high-pressure hose assemblies the allowable working pressure of which you know.
- Do not use leaking high-pressure hose assemblies.
- Use only clean, filtered media in order to extend the “life span” of the high-pressure hoses.
- If a malfunction is suspected, the product or the machine it was mounted to shall be put out of operation immediately and the high-pressure hose assembly exchanged.

### Hazards

- Hazard by a bursting hose assembly.  
A hazard may originate from fragments flying around.
- Hazard by a leaking hose assembly.  
Leaking media, especially if emerging in a very thin jet, may cause severe cuts and even cut off limbs. Hot media may lead to scalding. Admixtures to the water may cause irritations and burns.
- Hazard by a hot medium inside the hose assembly.  
Touching the hot surface of the hose assembly may lead to severe burns.
- Hazard by the alteration of the length of the hose assembly.  
High-pressure hose assemblies shorten under pressure. This can make the operator lose his stability, and the hose assembly may lose its operational safety.
- Hazard by hose fittings and components joining hose assemblies.  
Hazards may originate from hose fittings and components joining hose assemblies if these become unfastened, break off or are pulled out as this may lead to an uncontrollable lashing movement of the hose assembly (whip effect).
- Hazard by hoses lying about.  
Hoses lying about create a potential stumbling hazard.

## 1. Marking

Hose type and batch number are printed on the hose at regular distances. The ferrules are marked with the max. allowable working pressure, the name of the manufacturer, the date of production (month of the year and year), the serial number and, upon the customer's request, identified with a customer's serial number.



## 2. Intended purpose

SPIR STAR® High-pressure hose is thought for applications with water using pressure sources with low pulsation rates ( $\pm 5\%$ ).

The following working temperatures are allowed:

| Product series | Allowed working temperatures |
|----------------|------------------------------|
| In general     | -30°C to +60°C               |
| Series HT      | -20°C to +150°C              |
| Series PPA     | -20°C to +80°C               |
| Series F*)     | -70°C to +200°C              |

\*) The max. allowable working pressure of the product series „F“ decreases by 5% in the temperature range between 24°C and 100°C, by 10% in the range between >100°C and 150°C, and by 20% in the range between >150°C and 200°C

If SPIR STAR® High-pressure hoses are to be used with aggressive media like alkaline solutions and acids for example, it is necessary to send a written inquiry on the resistance to SPIR STAR® AG before using them.

If SPIR STAR® High-pressure hoses are to be used with gaseous media, a safety factor of 1:6 between working pressure and burst pressure is to be observed. In this case the outer cover of the hose has to be pricked (perforated) every 10 mm with a suitable device or a spring-actuated prick punch.

The maximum working pressure given on the ferrules must not be exceeded under any circumstances. This applies also to pressure peaks.

### 3. Installing / Setting into operation

While tightening the nuts of the fittings, care must be taken that the fittings are not turned within the ferrules.

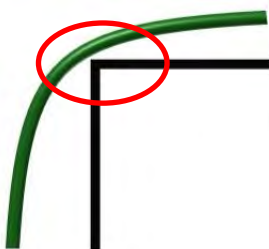
The nuts of the fittings must never be tightened while the high-pressure hose assembly is under pressure.

The hose assembly must be secured in an appropriate way if its weight might lead to excessive tensile strain, e.g. by hanging off high buildings.

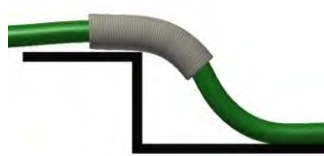
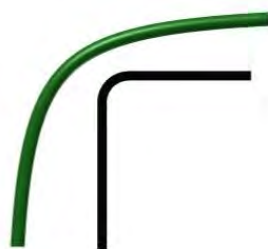
The high-pressure hose assembly must not be secured at the ferrule by means of a vise or a heavy pipe wrench.

The high-pressure hose assembly should be secured at both ends by an appropriate retaining device (hose arrestor) against lashing about in the case of the hose fitting breaking or being pulled out.

#### Wrong



#### Right



#### Comment

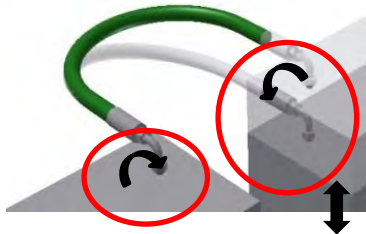
At installing, make sure that the required length exists to avoid "buckling" and tensioning of the hose during operation. The recommended minimum bend radius must not be exceeded. This can be achieved by using a bend restrictor. The bending of a hose may begin only after a length of  $\geq 1.5 \times d$ .

Twisting the hose during installation and operation, e.g. by blocking a rotary joint or installing the hose under a torsional load, must be avoided by all means.

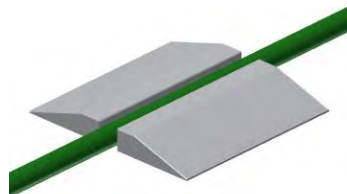
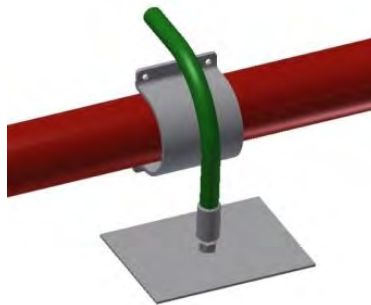
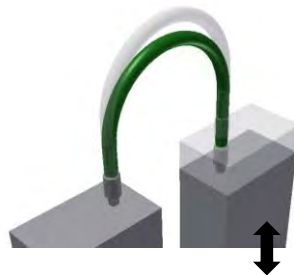
Because of their outer cover hoses have a certain abrasion resistance, but a hose may not be pulled over sharp edges because this may cause considerable damage to the hose.

Hose assemblies must be protected against damage that may lead to abrasion and cracking and thus to an early failure of the hose.

## Wrong



## Right



## Comment

Hose assemblies must not be bent exceeding the permitted bend radius. The figures for the minimum bend radius given in our catalogue refer to the inflexible laying of hose assemblies. In such cases elbow pieces or bends should be used. The bend of the hose may only start after a length of  $\geq 1.5 \times d$ .

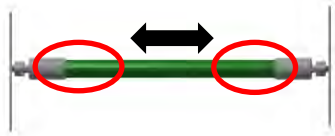
A twist of the hose assembly through movement should be avoided because of torsional loads acting on the valve or the tube cross section which might lead to failures.

Hose assemblies must be protected against the effect of temperatures if these exceed the values given in the catalog. Particular attention should be paid to the laying of hose assemblies in the range of heat sources. Hose assemblies should be protected by protecting equipment such as protecting hose.

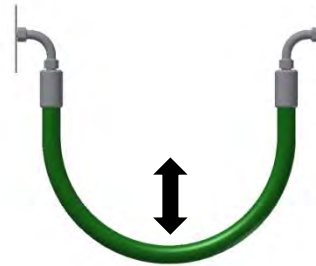
The development of hose loops must be avoided and counteracted. Tensile forces by pulling at those loops are also to be avoided.

Driving over unprotected hose assemblies with vehicles is not permitted. Ramps or similar are specifically to be used if driving over is necessary.

## Wrong



## Right



## Comment

Hose assemblies must not be installed under tension or pressure in the axial direction. You need working space where a lengthening and shortening may occur during use. In such cases, elbow pieces or bends are to be used. The bend of the hose may start only after a length of  $\geq 1.5 \times d$ .

Based on these examples, it is not possible to display all kinds of faulty or correct installing. In particularly difficult installation conditions, please contact SPIR STAR® AG.

In exceptional cases of application, special tests may be needed before selecting the hose.

### 4. Packing and Storage

If stored properly (in a dry place, at 23°C, no direct solar radiation etc.), SPIR STAR® High-pressure hose and fittings can be stored indefinitely.

After a storage period of more than 12 months, ready made hose assemblies should be pressure tested at 1.5 times the working pressure but not more than 4.000 bar for 30 seconds in an appropriate pressure test stand before using them.

If storing the hose assembly at temperatures near the freezing point, it must be emptied completely (danger of frost).

### 5. Duration of Use

The duration of the use of SPIR STAR® High-pressure hose assemblies depends very much on the respective operating conditions.

For that reason it is not possible to make a general statement.

## Care and Use of High-Pressure Hose

Following are SPIR STAR®'s lists of Do's & Don'ts for the proper and safe handling of high-pressure hose. The improper use of high-pressure hose can cause DEATH, personal injury or property damage. NEVER handle a leaking hose assembly. Treat any injury from high-pressure fluid seriously and seek immediate medical attention.

### Do's:

- Treat high-pressure hose with extreme caution. SPIR STAR® hoses are wire reinforced hoses and should be treated with the same care as a high-pressure containment vessel.
- When using hoses for water jetting, read and understand Recommended practices for the Use of Manually Operated High-pressure Water jet Equipment (Water jet Technology Association [+1/314-241-1445, [www.wjta.org](http://www.wjta.org)])
- Always visually inspect for frayed, damaged or wear spots before using.
- Check the hose end connections and threads for wear, rust, cracks, mechanical abuse or other deterioration that could produce a dangerous projectile.
- Know the working pressures and burst pressures of all hoses before using them.
- Always use clean, filtered water to prolong hose life. Some plants' water sources are high in sulphur, which may attack stainless steel.
- Always clean, drain and coil hoses after use. Soap and water usually provide an excellent cleaning agent.
- Always wear protective gloves, eyewear and garments when handling high-pressure hose and water jet lances.

### Don'ts:

- Never use a hose with cuts or wire showing through the outer cover.
- Never use a hose that has been kinked.
- Don't use a hose that has bubbles or blisters in the outer cover.
- Don't exceed the bend radius and pressure rating for each hose.
- Don't run over or crush the hose with heavy vehicles.
- Don't use a hose with corroded or leaking end connections. Take it out of service immediately.
- Don't use hoses that have been exposed to chemical attack or over temperature.
- Avoid using dirty water or water with sulphur compounds in it. Tests have documented that hoses fail more rapidly when using water sources from chemical plants and refineries.
- Don't bend the hose over scaffolding or pull heavy equipment with the hose.
- Don't let the hose support its own weight off towers or buildings.
- Don't apply torque to the hose assembly.
- Don't expect water jetting or hydraulic hose to last forever.

**Be Safe – Replace!**

## Series Descriptions

| HW-Series   |             |                                      |               |                         |                |             |
|-------------|-------------|--------------------------------------|---------------|-------------------------|----------------|-------------|
| Inner Liner | Outer Cover | Temperature                          | Safety Factor | Working Pressure        | Inner Diameter | Application |
| POM         | PA          | -30°C bis +100°C<br>-22°F bis +210°F | 3,8:1         | 1.000 bar<br>14.500 psi | 8 mm           | Waterblast  |

The HW-Series comprises hose type for the waterblast industry. These hose types were especially developed for the hot water application up to 100°C.

| HL-Series   |             |                                   |               |  |                          |             |
|-------------|-------------|-----------------------------------|---------------|--|--------------------------|-------------|
| Inner Liner | Outer Cover | Temperature                       | Safety Factor | Working Pressure                         | Inner Diameter           | Application |
| PA          | PUR         | -30°C to +60°C<br>-22°F to +140°F | 2,5:1         | 700 to 1.200 bar<br>10.150 to 17.400 psi | 5-6 mm<br>0,19-0,23 inch | Hydraulics  |
| POM         | PA          | -30°C to +60°C<br>-22°F to +140°F | 2,5:1         | 1,500 bar<br>21.750 psi                  | 5 mm<br>0,23 inch        | Hydraulics  |

The hydraulic market requires especially suited and optimized hoses. The HL hoses were especially developed for applications with bolt tensioners and the torsion-free pulling of screw connections.

| M-Series      |             |                                   |               |   |                        |             |
|---------------|-------------|-----------------------------------|---------------|---|------------------------|-------------|
| Inner Liner   | Outer Cover | Temperature                       | Safety Factor | Working Pressure                        | IDs                    | Application |
| BESNO P40 TLO | PA          | -30°C to +60°C<br>-22°F to +140°F | 4:1           | 345 to 1.035 bar<br>5.000 to 15.000 psi | 6-25 mm<br>0,23-1 inch | Oil & Gas   |

The M-Series comprises hose types with an inner core made of methanol-washed PA I I BESNO P40 TLO (Nylon I I), a material that has been tried and tested in the Offshore Industry for years. Because of the combination of the inner liner made of PA I I and the PA outer cover the hoses of this series are very flexible and lightweight while showing a low permeation rate as required for methanol applications.

| PPA®-Series |             |                                  |               |   |                        |             |
|-------------|-------------|----------------------------------|---------------|---|------------------------|-------------|
| Inner Liner | Outer Cover | Temperature                      | Safety Factor | Working Pressure                        | IDs                    | Application |
| PVDF        | PA          | -20°C to +80°C<br>-4°F to +176°F | 4:1           | 520 to 1.035 bar<br>7.500 to 15.000 psi | 5-25 mm<br>0,19-1 inch | Oil & Gas   |

The PPA-Series combines the advantages of the chemical-resisting PVDF as inner liner material and Polyamide, which has been tried and tested for years, as material of the outer cover. The hoses show a very low permeation rate with methanol applications. Furthermore, they feature a very high chemical resistance. For underwater applications in particular a very small volumetric expansion at maximum pressures is required additionally.  
Upon request the hoses can be delivered in long lengths, e.g. 6/4PPA up to 4.500 mtrs, as needed for offshore hose bundles.

| HT®-Series  |             |                                   |               |  |                           |             |
|-------------|-------------|-----------------------------------|---------------|--|---------------------------|-------------|
| Inner Liner | Outer Cover | Temperature                       | Safety Factor | Working pressure                         | IDs                       | Application |
| PVDF        | PVDF        | -20°C to +150°C<br>-4°F to +300°F | 4:1           | 690 to 1.035 bar<br>10.000 to 15.000 psi | 5-13 mm<br>0,19-0,51 inch | Oil & Gas   |

The HT Series was developed especially for the exacting demands of the HP/HT (high-pressure/high temperature) applications. PVDF is a material that is the world-wide standard in terms of heat and chemical resistance. Because of the unique combination of the materials the products are especially suited for Methanol Service Applications, for handling aggressive chemicals and for all applications that require an extremely low permeation rate. The Offshore Industry mainly requires high pressure hoses that feature a very small volumetric expansion at maximum pressures.  
Upon request the hoses can be delivered in long lengths, e.g 6/4HT up to 4.500 mtrs, as needed for offshore hose bundles.

| KF® Series   |       |   |               |                                      |                               |              |
|--|-------|---|---------------|--------------------------------------|-------------------------------|--------------|
| Core tube  | Cover | Temperature range                       | Safety factor | Working pressure                     | IDs                           | Applications |
| PTFE   | -     | -70 °C to +200 °C<br>[-94 °F to 392 °F] | 4:1           | 250 to 500 bar<br>3,625 to 7,250 psi | 6 - 32 mm<br>0.24 - 0.95 inch | Automotive   |
| <p>The KF Series can be used in hot-melt plants in car body and dashboard manufacture, in petrochemistry, plant construction, foaming and dispensing systems, as a transfer hose and in many other applications. Thanks to the outstanding qualities of the PTFE material used for the core tube, such as temperature resistance, chemical compatibility and anti-friction properties, this hose type can be used for a wide range of applications.</p> <p>Upon request, the KF Series is also available with an FEP core tube and a cover. For hoses with a cover, the temperature has to be reduced in accordance with the cover material.</p> |       |   |               |                                      |                               |              |

| Hydrogen® Series  |       |  |               |                  |     |              |
|---|-------|--|---------------|------------------|-----|--------------|
| Core tube   | Cover | Temperature range                      | Safety factor | Working pressure | IDs | Applications |
| POM   | PA    | -40 °C to +85 °C<br>[-94 °F to 185 °F] | 4:1           | 962.5 bar        | 6   | Hydrogen     |
| <p>The Hydrogen Series is suitable for use with pre-cooled hydrogen. The hydrogen hose made by SPIR STAR AG is mainly used as a refueling hose installed between the pump and nozzle at hydrogen refueling stations equipped with H35 and H70 refueling technology. The Hydrogen Series features low permeation and is gasproof. To meet even the highest requirements, the hydrogen hose is also certified to ISO 19880-5.</p> |       |  |               |                  |     |              |





| Pressure Range |           |    |           |    |           |    |
|----------------|-----------|----|-----------|----|-----------|----|
| ID             | Hose Type | WP | Hose Type | WP | Hose Type | WP |

**Waterblast**

heat exchanger tube cleaning

**0 to 500 bar WP**

|       |      |         |           |  |  |  |
|-------|------|---------|-----------|--|--|--|
| ID 25 | 25/2 | 440 bar | 6.380 psi |  |  |  |
|-------|------|---------|-----------|--|--|--|

**501 to 1040 bar WP**

|       |            |           |            |          |           |            |       |           |            |
|-------|------------|-----------|------------|----------|-----------|------------|-------|-----------|------------|
| ID 3  | 3/2        | 1.000 bar | 14.500 psi |          |           |            |       |           |            |
| ID 5  | 5/2        | 1.040 bar | 15.080 psi | 5/2OK    | 1.040 bar | 15.080 psi |       |           |            |
| ID 6  | 6/2        | 1.000 bar | 14.500 psi | 6/2OK    | 1.000 bar | 14.500 psi | 6/3   | 1.040 bar | 15.080 psi |
| ID 8  | 8/2        | 900 bar   | 13.050 psi | 8/2-1000 | 1.000 bar | 14.500 psi | 8/2WR | 1.040 bar | 15.080 psi |
|       | 8/4HW-1000 | 1.000 bar | 14.500 psi |          |           |            |       |           |            |
| ID 10 | 10/2       | 690 bar   | 10.005 psi |          |           |            |       |           |            |
| ID 13 | 13/2       | 690 bar   | 10.005 psi | 13/2WR   | 1.040 bar | 15.080 psi |       |           |            |
| ID 16 | 16/4       | 1.040 bar | 15.080 psi |          |           |            |       |           |            |
| ID 20 | 20/2       | 520 bar   | 7.540 psi  | 20/4     | 1.040 bar | 15.080 psi |       |           |            |
| ID 25 | 25/4       | 900 bar   | 13.050 psi |          |           |            |       |           |            |

**1041 to 1500 bar WP**

|       |           |           |            |           |           |            |     |           |            |
|-------|-----------|-----------|------------|-----------|-----------|------------|-----|-----------|------------|
| ID 3  | 3/2-1100  | 1.100 bar | 15.950 psi |           |           |            |     |           |            |
| ID 4  | 4/2       | 1.200 bar | 17.400 psi | 4/2H-1400 | 1.400 bar | 20.300 psi |     |           |            |
| ID 5  | 5/2H-1400 | 1.400 bar | 20.300 psi | 5/3       | 1.120 bar | 16.240 psi |     |           |            |
| ID 6  | 6/2-1100  | 1.100 bar | 15.950 psi | 6/2W      | 1.280 bar | 18.560 psi | 6/4 | 1.500 bar | 21.750 psi |
| ID 8  | 8/4       | 1.500 bar | 21.750 psi |           |           |            |     |           |            |
| ID 10 | 10/4      | 1.500 bar | 21.750 psi |           |           |            |     |           |            |
| ID 13 | 13/4      | 1.300 bar | 18.850 psi | 13/4H     | 1.400 bar | 20.300 psi |     |           |            |
| ID 25 | 25/6      | 1.400 bar | 20.300 psi |           |           |            |     |           |            |

**1501 to 2000 bar WP**

|       |          |           |            |       |           |            |  |
|-------|----------|-----------|------------|-------|-----------|------------|--|
| ID 3  | 3/4      | 2.000 bar | 29.000 psi |       |           |            |  |
| ID 5  | 5/4      | 1.800 bar | 26.100 psi |       |           |            |  |
| ID 6  | 6/4-1650 | 1.650 bar | 23.925 psi |       |           |            |  |
| ID 13 | 13/6     | 1.800 bar | 26.100 psi | 13/6H | 2.000 bar | 29.000 psi |  |

**2001 to 2500 bar WP**

|      |          |           |            |      |           |            |         |           |            |
|------|----------|-----------|------------|------|-----------|------------|---------|-----------|------------|
| ID 3 | 3/4-2100 | 2.100 bar | 30.450 psi |      |           |            |         |           |            |
| ID 4 | 4/4      | 2.200 bar | 31.900 psi |      |           |            |         |           |            |
| ID 5 | 5/6      | 2.500 bar | 36.250 psi |      |           |            |         |           |            |
| ID 8 | 8/6      | 2.100 bar | 30.450 psi | 8/6H | 2.500 bar | 36.250 psi | 8/6HDC1 | 2.500 bar | 36.250 psi |

**2500 to 4000 bar WP**

|      |               |           |            |     |           |            |
|------|---------------|-----------|------------|-----|-----------|------------|
| ID 3 | 3/6           | 2.800 bar | 40.600 psi |     |           |            |
| ID 4 | 4/4UHP-X-3035 | 3.035 bar | 44.000 psi | 4/6 | 2.800 bar | 40.600 psi |



| Pressure Range |           |    |           |    |           |    |
|----------------|-----------|----|-----------|----|-----------|----|
| ID             | Hose Type | WP | Hose Type | WP | Hose Type | WP |

## Waterblast

heat exchanger tube cleaning

|              |                       |           |            |                 |           |            |                      |           |            |
|--------------|-----------------------|-----------|------------|-----------------|-----------|------------|----------------------|-----------|------------|
| <b>ID 5</b>  | <b>5/6H</b>           | 2.800 bar | 40.600 psi | <b>5/6HDCI</b>  | 2.800 bar | 40.600 psi | <b>5/6UHP-X-3035</b> | 3.035 bar | 44.000 psi |
| <b>ID 6</b>  | <b>6/6H</b>           | 2.800 bar | 40.600 psi |                 |           |            |                      |           |            |
| <b>ID 8</b>  | <b>8/6UHP</b>         | 2.800 bar | 40.600 psi | <b>8/6UHP-X</b> | 3.035 bar | 44.000 psi |                      |           |            |
| <b>ID 10</b> | <b>10mmUHP-X-3035</b> | 3.035 bar | 44.000 psi |                 |           |            |                      |           |            |
| <b>ID 13</b> | <b>13mmUHP</b>        | 2.800 bar | 40.600 psi |                 |           |            |                      |           |            |



| Pressure Range |           |    |           |    |           |    |
|----------------|-----------|----|-----------|----|-----------|----|
| ID             | Hose Type | WP | Hose Type | WP | Hose Type | WP |

**Waterblast**

surface preparation (concrete removal, surface cleaning of buildings, paint removal)

**0 to 500 bar WP**

|              |             |         |           |  |  |  |
|--------------|-------------|---------|-----------|--|--|--|
| <b>ID 25</b> | <b>25/2</b> | 440 bar | 6.380 psi |  |  |  |
|--------------|-------------|---------|-----------|--|--|--|

**501 to 1040 bar WP**

|             |              |           |            |                   |           |            |             |           |            |
|-------------|--------------|-----------|------------|-------------------|-----------|------------|-------------|-----------|------------|
| <b>ID 8</b> | <b>8/2</b>   | 900 bar   | 13.050 psi | <b>8/2-1000</b>   | 1.000 bar | 14.500 psi | <b>8/2W</b> | 1.040 bar | 15.080 psi |
|             | <b>8/2WR</b> | 1.040 bar | 15.080 psi | <b>8/4HW-1000</b> | 1.000 bar | 14.500 psi |             |           |            |

|              |             |         |            |               |           |            |  |  |  |
|--------------|-------------|---------|------------|---------------|-----------|------------|--|--|--|
| <b>ID 13</b> | <b>13/2</b> | 690 bar | 10.005 psi | <b>13/2WR</b> | 1.040 bar | 15.080 psi |  |  |  |
|--------------|-------------|---------|------------|---------------|-----------|------------|--|--|--|

|              |             |           |            |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 16</b> | <b>16/4</b> | 1.040 bar | 15.080 psi |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|

|              |             |         |           |             |           |            |  |  |  |
|--------------|-------------|---------|-----------|-------------|-----------|------------|--|--|--|
| <b>ID 20</b> | <b>20/2</b> | 520 bar | 7.540 psi | <b>20/4</b> | 1.040 bar | 15.080 psi |  |  |  |
|--------------|-------------|---------|-----------|-------------|-----------|------------|--|--|--|

|              |             |         |            |  |  |  |  |  |  |
|--------------|-------------|---------|------------|--|--|--|--|--|--|
| <b>ID 25</b> | <b>25/4</b> | 900 bar | 13.050 psi |  |  |  |  |  |  |
|--------------|-------------|---------|------------|--|--|--|--|--|--|

**1041 to 1500 bar WP**

|             |            |           |            |  |  |  |  |  |  |
|-------------|------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 8</b> | <b>8/4</b> | 1.500 bar | 21.750 psi |  |  |  |  |  |  |
|-------------|------------|-----------|------------|--|--|--|--|--|--|

|              |             |           |            |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 10</b> | <b>10/4</b> | 1.500 bar | 21.750 psi |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|

|              |             |           |            |              |           |            |  |  |  |
|--------------|-------------|-----------|------------|--------------|-----------|------------|--|--|--|
| <b>ID 13</b> | <b>13/4</b> | 1.300 bar | 18.850 psi | <b>13/4H</b> | 1.400 bar | 20.300 psi |  |  |  |
|--------------|-------------|-----------|------------|--------------|-----------|------------|--|--|--|

|              |             |           |            |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 20</b> | <b>20/6</b> | 1.400 bar | 20.300 psi |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|

|              |             |           |            |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 25</b> | <b>25/6</b> | 1.400 bar | 20.300 psi |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|

**1501 to 2000 bar WP**

|              |             |           |            |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 10</b> | <b>10/6</b> | 1.920 bar | 27.840 psi |  |  |  |  |  |  |
|--------------|-------------|-----------|------------|--|--|--|--|--|--|

|              |             |           |            |              |           |            |  |  |  |
|--------------|-------------|-----------|------------|--------------|-----------|------------|--|--|--|
| <b>ID 13</b> | <b>13/6</b> | 1.800 bar | 26.100 psi | <b>13/6H</b> | 2.000 bar | 29.000 psi |  |  |  |
|--------------|-------------|-----------|------------|--------------|-----------|------------|--|--|--|

|              |             |           |            |                |           |            |  |  |  |
|--------------|-------------|-----------|------------|----------------|-----------|------------|--|--|--|
| <b>ID 16</b> | <b>16/6</b> | 1.520 bar | 22.040 psi | <b>16mmUHP</b> | 2.000 bar | 29.000 psi |  |  |  |
|--------------|-------------|-----------|------------|----------------|-----------|------------|--|--|--|

|              |                  |           |            |  |  |  |  |  |  |
|--------------|------------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 20</b> | <b>20/6-1600</b> | 1.600 bar | 23.200 psi |  |  |  |  |  |  |
|--------------|------------------|-----------|------------|--|--|--|--|--|--|

**2001 to 2500 bar WP**

|             |            |           |            |  |  |  |  |  |  |
|-------------|------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 5</b> | <b>5/6</b> | 2.500 bar | 36.250 psi |  |  |  |  |  |  |
|-------------|------------|-----------|------------|--|--|--|--|--|--|

|             |            |           |            |             |           |            |                |           |            |
|-------------|------------|-----------|------------|-------------|-----------|------------|----------------|-----------|------------|
| <b>ID 8</b> | <b>8/6</b> | 2.100 bar | 30.450 psi | <b>8/6H</b> | 2.500 bar | 36.250 psi | <b>8/6HDCI</b> | 2.500 bar | 36.250 psi |
|-------------|------------|-----------|------------|-------------|-----------|------------|----------------|-----------|------------|

**2500 to 4000 bar WP**

|             |            |           |            |            |           |            |  |  |  |
|-------------|------------|-----------|------------|------------|-----------|------------|--|--|--|
| <b>ID 4</b> | <b>4/6</b> | 2.800 bar | 40.600 psi | <b>4/8</b> | 3.200 bar | 46.400 psi |  |  |  |
|-------------|------------|-----------|------------|------------|-----------|------------|--|--|--|

|             |               |           |            |                 |           |            |                      |           |            |
|-------------|---------------|-----------|------------|-----------------|-----------|------------|----------------------|-----------|------------|
| <b>ID 5</b> | <b>5/6H</b>   | 2.800 bar | 40.600 psi | <b>5/6HDCI</b>  | 2.800 bar | 40.600 psi | <b>5/6UHP-X-3035</b> | 3.035 bar | 44.000 psi |
|             | <b>5mmUHP</b> | 3.200 bar | 46.400 psi | <b>5mmUHP-X</b> | 4.000 bar | 58.000 psi |                      |           |            |

|             |             |           |            |               |           |            |  |  |  |
|-------------|-------------|-----------|------------|---------------|-----------|------------|--|--|--|
| <b>ID 6</b> | <b>6/6H</b> | 2.800 bar | 40.600 psi | <b>6mmUHP</b> | 3.200 bar | 46.400 psi |  |  |  |
|-------------|-------------|-----------|------------|---------------|-----------|------------|--|--|--|

|             |               |           |            |                 |           |            |               |           |            |
|-------------|---------------|-----------|------------|-----------------|-----------|------------|---------------|-----------|------------|
| <b>ID 8</b> | <b>8/6UHP</b> | 2.800 bar | 40.600 psi | <b>8/6UHP-X</b> | 3.035 bar | 44.000 psi | <b>8mmUHP</b> | 3.200 bar | 46.400 psi |
|-------------|---------------|-----------|------------|-----------------|-----------|------------|---------------|-----------|------------|

|              |                       |           |            |  |  |  |  |  |  |
|--------------|-----------------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 10</b> | <b>10mmUHP-X-3035</b> | 3.035 bar | 44.000 psi |  |  |  |  |  |  |
|--------------|-----------------------|-----------|------------|--|--|--|--|--|--|

|              |                |           |            |  |  |  |  |  |  |
|--------------|----------------|-----------|------------|--|--|--|--|--|--|
| <b>ID 13</b> | <b>13mmUHP</b> | 2.800 bar | 40.600 psi |  |  |  |  |  |  |
|--------------|----------------|-----------|------------|--|--|--|--|--|--|



| Pressure Range |           |    |           |    |           |    |  |  |  |
|----------------|-----------|----|-----------|----|-----------|----|--|--|--|
| ID             | Hose Type | WP | Hose Type | WP | Hose Type | WP |  |  |  |

## Waterblast

tank and vessel cleaning

### 501 to 1040 bar WP

|       |            |           |            |      |           |            |
|-------|------------|-----------|------------|------|-----------|------------|
| ID 8  | 8/4HW-1000 | 1.000 bar | 14.500 psi |      |           |            |
| ID 16 | 16/4       | 1.040 bar | 15.080 psi |      |           |            |
| ID 20 | 20/2       | 520 bar   | 7.540 psi  | 20/4 | 1.040 bar | 15.080 psi |
| ID 25 | 25/4       | 900 bar   | 13.050 psi |      |           |            |

### 1041 to 1500 bar WP

|       |      |           |            |       |           |            |
|-------|------|-----------|------------|-------|-----------|------------|
| ID 8  | 8/4  | 1.500 bar | 21.750 psi |       |           |            |
| ID 10 | 10/4 | 1.500 bar | 21.750 psi |       |           |            |
| ID 13 | 13/4 | 1.300 bar | 18.850 psi | 13/4H | 1.400 bar | 20.300 psi |
| ID 20 | 20/6 | 1.400 bar | 20.300 psi |       |           |            |
| ID 25 | 25/6 | 1.400 bar | 20.300 psi |       |           |            |

### 1501 to 2000 bar WP

|       |           |           |            |         |           |            |
|-------|-----------|-----------|------------|---------|-----------|------------|
| ID 10 | 10/6      | 1.920 bar | 27.840 psi |         |           |            |
| ID 13 | 13/6      | 1.800 bar | 26.100 psi | 13/6H   | 2.000 bar | 29.000 psi |
| ID 16 | 16/6      | 1.520 bar | 22.040 psi | 16mmUHP | 2.000 bar | 29.000 psi |
| ID 20 | 20/6-1600 | 1.600 bar | 23.200 psi |         |           |            |

### 2001 to 2500 bar WP

|      |     |           |            |      |           |            |         |           |            |
|------|-----|-----------|------------|------|-----------|------------|---------|-----------|------------|
| ID 5 | 5/6 | 2.500 bar | 36.250 psi |      |           |            |         |           |            |
| ID 8 | 8/6 | 2.100 bar | 30.450 psi | 8/6H | 2.500 bar | 36.250 psi | 8/6HDCI | 2.500 bar | 36.250 psi |

### 2500 to 4000 bar WP

|       |                |           |            |          |           |            |               |           |            |
|-------|----------------|-----------|------------|----------|-----------|------------|---------------|-----------|------------|
| ID 5  | 5/6H           | 2.800 bar | 40.600 psi | 5/6HDCI  | 2.800 bar | 40.600 psi | 5/6UHP-X-3035 | 3.035 bar | 44.000 psi |
|       | 5mmUHP         | 3.200 bar | 46.400 psi | 5mmUHP-X | 4.000 bar | 58.000 psi |               |           |            |
| ID 6  | 6/6H           | 2.800 bar | 40.600 psi | 6mmUHP   | 3.200 bar | 46.400 psi |               |           |            |
| ID 8  | 8/6UHP         | 2.800 bar | 40.600 psi | 8/6UHP-X | 3.035 bar | 44.000 psi | 8mmUHP        | 3.200 bar | 46.400 psi |
| ID 10 | 10mmUHP-X-3035 | 3.035 bar | 44.000 psi |          |           |            |               |           |            |
| ID 13 | 13mmUHP        | 2.800 bar | 40.600 psi |          |           |            |               |           |            |



| Pressure Range |           |    |           |    |           |    |  |
|----------------|-----------|----|-----------|----|-----------|----|--|
| ID             | Hose Type | WP | Hose Type | WP | Hose Type | WP |  |

## Waterblast

ultra high-pressure waterjet cutting and hydro demolition (cutting and demolition of armoured concrete, pipelines, paper or steel)

### 501 to 1040 bar WP

|       |      |           |            |  |  |  |
|-------|------|-----------|------------|--|--|--|
| ID 20 | 20/4 | 1.040 bar | 15.080 psi |  |  |  |
| ID 25 | 25/4 | 900 bar   | 13.050 psi |  |  |  |

### 1041 to 1500 bar WP

|       |      |           |            |       |           |            |
|-------|------|-----------|------------|-------|-----------|------------|
| ID 10 | 10/4 | 1.500 bar | 21.750 psi |       |           |            |
| ID 13 | 13/4 | 1.300 bar | 18.850 psi | 13/4H | 1.400 bar | 20.300 psi |
| ID 20 | 20/6 | 1.400 bar | 20.300 psi |       |           |            |
| ID 25 | 25/6 | 1.400 bar | 20.300 psi |       |           |            |

### 1501 to 2000 bar WP

|       |           |           |            |       |           |            |
|-------|-----------|-----------|------------|-------|-----------|------------|
| ID 3  | 3/4       | 2.000 bar | 29.000 psi |       |           |            |
| ID 10 | 10/6      | 1.920 bar | 27.840 psi |       |           |            |
| ID 13 | 13/6      | 1.800 bar | 26.100 psi | 13/6H | 2.000 bar | 29.000 psi |
| ID 16 | 16mmUHP   | 2.000 bar | 29.000 psi |       |           |            |
| ID 20 | 20/6-1600 | 1.600 bar | 23.200 psi |       |           |            |

### 2001 to 2500 bar WP

|      |          |           |            |      |           |            |         |           |            |
|------|----------|-----------|------------|------|-----------|------------|---------|-----------|------------|
| ID 3 | 3/4-2100 | 2.100 bar | 30.450 psi |      |           |            |         |           |            |
| ID 5 | 5/6      | 2.500 bar | 36.250 psi |      |           |            |         |           |            |
| ID 8 | 8/6      | 2.100 bar | 30.450 psi | 8/6H | 2.500 bar | 36.250 psi | 8/6HDCI | 2.500 bar | 36.250 psi |

### 2500 to 4000 bar WP

|       |                |           |            |          |           |            |               |           |            |
|-------|----------------|-----------|------------|----------|-----------|------------|---------------|-----------|------------|
| ID 3  | 3/6            | 2.800 bar | 40.600 psi |          |           |            |               |           |            |
| ID 4  | 4/6            | 2.800 bar | 40.600 psi | 4/8      | 3.200 bar | 46.400 psi |               |           |            |
| ID 5  | 5/6H           | 2.800 bar | 40.600 psi | 5/6HDCI  | 2.800 bar | 40.600 psi | 5/6UHP-X-3035 | 3.035 bar | 44.000 psi |
|       | 5mmUHP         | 3.200 bar | 46.400 psi | 5mmUHP-X | 4.000 bar | 58.000 psi |               |           |            |
| ID 6  | 6/6H           | 2.800 bar | 40.600 psi |          |           |            |               |           |            |
| ID 8  | 8/6UHP         | 2.800 bar | 40.600 psi | 8/6UHP-X | 3.035 bar | 44.000 psi | 8mmUHP        | 3.200 bar | 46.400 psi |
| ID 10 | 10mmUHP-X-3035 | 3.035 bar | 44.000 psi |          |           |            |               |           |            |
| ID 13 | 13mmUHP        | 2.800 bar | 40.600 psi |          |           |            |               |           |            |

## Table of Pressure Drop Figures

| ID        | 3 mm       | 4 mm       | 5 mm       | 6 mm       | 8 mm       | 10 mm      | 13 mm      | 16 mm      | 20 mm      | 25 mm      |
|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Flow      | 0,118 inch | 0,157 inch | 0,197 inch | 0,236 inch | 0,315 inch | 0,394 inch | 0,512 inch | 0,630 inch | 0,787 inch | 0,984 inch |
| 3 l/min   | 22 bar     |            |            |            |            |            |            |            |            |            |
| 5 l/min   | 53 bar     | 14 bar     |            |            |            |            |            |            |            |            |
| 10 l/min  | 180 bar    | 46 bar     | 16 bar     |            |            |            |            |            |            |            |
| 15 l/min  | 365 bar    | 93 bar     | 32 bar     |            |            |            |            |            |            |            |
| 20 l/min  |            | 154 bar    | 53 bar     | 22 bar     |            |            |            |            |            |            |
| 30 l/min  |            | 313 bar    | 109 bar    | 46 bar     | 12 bar     |            |            |            |            |            |
| 40 l/min  |            |            | 180 bar    | 76 bar     | 19 bar     |            |            |            |            |            |
| 50 l/min  |            |            | 265 bar    | 112 bar    | 28 bar     | 10 bar     |            |            |            |            |
| 100 l/min |            |            |            | 375 bar    | 96 bar     | 33 bar     | 10 bar     |            |            |            |
| 150 l/min |            |            |            |            | 195 bar    | 67 bar     | 19 bar     | 7 bar      |            |            |
| 200 l/min |            |            |            |            | 322 bar    | 112 bar    | 32 bar     | 12 bar     | 4 bar      |            |
| 300 l/min |            |            |            |            |            | 227 bar    | 65 bar     | 24 bar     | 8 bar      | 3 bar      |
| 500 l/min |            |            |            |            |            |            | 159 bar    | 59 bar     | 21 bar     | 7 bar      |

| ID        | 3 mm       | 4 mm       | 5 mm       | 6 mm       | 8 mm       | 10 mm      | 13 mm      | 16 mm      | 20 mm      | 25 mm      |
|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Flow      | 0,118 inch | 0,157 inch | 0,197 inch | 0,236 inch | 0,315 inch | 0,394 inch | 0,512 inch | 0,630 inch | 0,787 inch | 0,984 inch |
| 3 l/min   | 319 psi    |            |            |            |            |            |            |            |            |            |
| 5 l/min   | 745 psi    | 203 psi    |            |            |            |            |            |            |            |            |
| 10 l/min  |            | 667 psi    |            |            |            |            |            |            |            |            |
| 15 l/min  |            | 1349 psi   | 464 psi    |            |            |            |            |            |            |            |
| 20 l/min  |            | 2234 psi   | 769 psi    | 319 psi    |            |            |            |            |            |            |
| 30 l/min  |            | 4540 psi   | 1581 psi   | 667 psi    | 174 psi    |            |            |            |            |            |
| 40 l/min  |            |            | 2611 psi   | 1102 psi   | 276 psi    |            |            |            |            |            |
| 50 l/min  |            |            | 3845 psi   | 1624 psi   | 406 psi    | 145 psi    |            |            |            |            |
| 100 l/min |            |            |            | 5439 psi   | 1392 psi   | 479 psi    | 145 psi    |            |            |            |
| 150 l/min |            |            |            |            | 2828 psi   | 972 psi    | 276 psi    | 102 psi    |            |            |
| 200 l/min |            |            |            |            | 4670 psi   | 1624 psi   | 464 psi    | 174 psi    | 58 psi     |            |
| 300 l/min |            |            |            |            |            | 3292 psi   | 943 psi    | 348 psi    | 116 psi    | 44 psi     |
| 500 l/min |            |            |            |            |            |            | 2306 psi   | 856 psi    | 305 psi    | 102 psi    |

| Flow        | ID | 3 mm          | 4 mm                                  | 5 mm                   | 6 mm                   | 8 mm          | 10 mm         | 13 mm         | 16 mm         | 20 mm         | 25 mm         |  |
|-------------|----|---------------|---------------------------------------|------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|--|
|             |    | 0,118<br>inch | 0,157<br>inch                         | 0,197<br>inch          | 0,236<br>inch          | 0,315<br>inch | 0,394<br>inch | 0,512<br>inch | 0,630<br>inch | 0,787<br>inch | 0,984<br>inch |  |
| 0,5 gal/min |    | 143 psi       | 37 psi                                |                        |                        |               |               |               |               |               |               |  |
| 1 gal/min   |    | 481 psi       | 124 psi                               | 42 psi                 |                        |               |               |               |               |               |               |  |
| 3 gal/min   |    | 3288<br>psi   | 847 psi<br>1404<br>psi<br>2071<br>psi | 288 psi                | 122 psi                |               |               |               |               |               |               |  |
| 4 gal/min   |    |               |                                       | 477 psi                | 202 psi                | 51 psi        |               |               |               |               |               |  |
| 5 gal/min   |    |               |                                       | 705 psi<br>1604<br>psi | 299 psi                | 76 psi        |               |               |               |               |               |  |
| 8 gal/min   |    |               |                                       | 680 psi<br>1005<br>psi | 173 psi                | 60 psi        |               |               |               |               |               |  |
| 10 gal/min  |    |               |                                       | 2370<br>psi            | 255 psi                | 88 psi        |               |               |               |               |               |  |
| 15 gal/min  |    |               |                                       | 2043<br>psi            | 518 psi                | 179 psi       | 52 psi        |               |               |               |               |  |
| 25 gal/min  |    |               |                                       | 4995<br>psi            | 1267<br>psi            | 438 psi       | 127 psi       |               |               |               |               |  |
| 40 gal/min  |    |               |                                       | 2885<br>psi            | 996 psi<br>1472<br>psi | 290 psi       | 107 psi       | 37 psi        |               |               |               |  |
| 50 gal/min  |    |               |                                       | 3352<br>psi            | 428 psi                | 158 psi       | 55 psi        |               |               |               |               |  |
| 80 gal/min  |    |               |                                       | 975 psi                | 361 psi                | 125 psi       | 43 psi        |               |               |               |               |  |
| 150 gal/min |    |               |                                       | 2928<br>psi            | 1083<br>psi            | 376 psi       | 130 psi       |               |               |               |               |  |

These pressure drop figures refer to a hose of 30 ft length. The medium is water at a temperature of 70 °F. In the part of the table marked red the flow velocity exceeds 15 m/s. This information is supplied without liability.

## Fitting Description

| JIC      |                      |                         |
|----------|----------------------|-------------------------|
| JIC Size | Offshore Description | Thread on Hose Assembly |
| #3       | 3/16"                | 3/8"x24 UNF             |
| #4       | 1/4"                 | 7/16"x20 UNF            |
| #5       |                      | 1/2"x20 UNF             |
| #6       | 3/8"                 | 9/16"x18 UNF            |
| #8       | 1/2"                 | 3/4"x16 UNF             |
| #10      | 5/8"                 | 7/8"x14 UNF             |
| #12      | 3/4"                 | 1 1/16"x12 UNF          |
| #16      | 1"                   | 1 5/16"x12 UNF          |

| Metric Female Swivel |                       |                      |
|----------------------|-----------------------|----------------------|
| Inner Diameter mm    | Series: light & heavy |                      |
|                      | Tube Outer-Ø          | Thread on Swivel Nut |
| 5                    | 8 S                   | M16x1.5              |
| 6                    | 10 S                  | M18x1.5              |
| 8                    | 12 S                  | M20x1.5              |
| 10                   | 14 S                  | M22x1.5              |
| 12                   | 16 S                  | M24x1.5              |
| 16                   | 20 S                  | M30x2                |
| 20                   | 25 S                  | M36x2                |
| 25                   | 30 S                  | M42x2                |



| Metric Male Thread |                     |                   |
|--------------------|---------------------|-------------------|
| Thread Size        | Coarse-Pitch Thread | Fine-Pitch Thread |
| M6                 | M6x1                |                   |
| M7                 | M7x1                |                   |
| M8                 | M8x1.25             |                   |
| M10                | M10x1.5             | M10x1             |
| M12                | M12x1.75            | M12x1.25          |

| High-Pressure and Medium-Pressure Connection |                     |               |                     |
|--|---------------------|---------------|---------------------|
| HP Connection                                | Thread on Gland Nut | MP Connection | Thread on Gland Nut |
| 1/4"   | 9/16"x18 UNF        | 1/4"          | 7/16"x20 UNF        |
| 3/8"   | 3/4"x16 UNF         | 3/8"          | 9/16"x18 UNF        |
| 9/16"  | 1 1/8"x12 UNF       | 9/16"         | 13/16"x16 UNF       |
|  |                     | 3/4"          | 3/4"x14 NPSM        |
|  |                     | 1"            | 1 3/8"x12 UNF       |

The development of the OnePiece Fittings® was made to revolutionize the tube cleaning industry

The unique fitting is specifically designed to be shorter and smaller in diameter compared to industry-standard fittings allowing it to accommodate small tubes and making it the solution of choice for tube cleaning. The decisive advantage lies in the crimping of the end-fitting reducing the overall diameter of the assembly. As a result, hose types with a greater ID and a larger volumetric flow can be used for a given tube ID.

OnePiece Fittings® at a glance:

- Excellent handling
- Easy cleaning of small tubes
- Easy cleaning of tube bends
- Higher cleaning efficiency while reducing operating time by using hose types with greater IDs
- Suitable for working pressure from 840 bar to 1,200 bar (12,180 psi to 17,400 psi)

Comparison between a standard high-pressure fitting and the new Blast-Pro™ fitting:



OnePiece Fittings® are already successfully being used in the US market and are available for the following hose types:

3/2, 4/2, 5/2, 5/2OK, 5/3, 6/2, 6/2OK, 6/3, 8/2 and 8/2PA.

The development of the Blast-Pro® fitting was made to revolutionize the tube cleaning industry

The unique fitting was specifically designed to be shorter and smaller in diameter compared to industry-standard fittings allowing it to accommodate tube bends and making it the solution of choice for tube cleaning. The decisive advantage lies in the crimping of the end-fitting reducing the overall diameter of the assembly. As a result, hose types with a greater ID and a larger volumetric flow can be used for a given tube ID.

Blast-Pro® at a glance:

- Excellent handling
- Easy cleaning of tube bends
- Higher cleaning efficiency while reducing operating time by using hose types with greater IDs
- Suitable for working pressure from 1,380 bar to 1,800 bar (20,000 psi to 26,100 psi)

Comparison between a standard high-pressure fitting and the new Blast-Pro® fitting:



Blast-Pro® fittings are already successfully being used in the US market and are available for the following hose types:

5/4, 6/4, 8/4 and 10/4.

**New Flex Lance Connection of SPIR STAR hose type 3/6 for 40,600 psi  
For StoneAge® BANSHEE® BNI3-40K and other interchangeable nozzles**

In close cooperation with the nozzle manufacturer StoneAge (USA), SPIR STAR has developed a revolutionary fitting design for small tube cleaning.

The innovative design combines all advantages of BANSHEE nozzles:

- Efficient tube cleaning as a result of the interaction of high-pressure hose and rotating nozzle
- Improved safety based on the selection of the best materials and proven design
- Shorter fittings allow cleaning with narrow bend radius
- Lesser number of assembled components make the tool simple to use and maintain

Key-Feature of the fitting design:

| ∅ OD Sleeve/<br>BANSHEE | Width across flats<br>of the insert | Approx total length:<br>fitting and nozzle | Working Pressure |
|-------------------------|-------------------------------------|--|------------------|
| 0.52 inch               | 0.44 inch                           | 5.197 inch                                 | 40,600 psi       |
| 13.0 mm                 | 11.0 mm                             | 132.0 mm                                   | 2,800 bar        |

The special fitting design **HP BANSHEE® connection 1/4"x28UNF LH** and **HP BANSHEE® connection 3/8"x24UNF LH** is available as of now for hose type 3/6.





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