

# baromax Fittings

for connecting of tube components in high pressure plants



General

DESCRIPTION



Features

- Pressure-resistant **up to 10,000 bar**
- Special sealing contour for **leak-free connection**
- **Optimized flow rate**, as nominal width of Fittings is higher than that of tubes
- **Easy conversion/replacement** thanks to identical size of cross, T and angle piece

baromax Fittings from WEH® are specially designed for **connecting tube components** in high pressure systems of 2,500 bar to 10,000 bar. The Fittings are available for all common tube diameters in high pressure systems and can be delivered with metric or imperial connection threads.

**The pressure-tight connection** is established because the outer cone on the tube ends has a smaller angle than the inner cone of the Fittings. This causes the metal contact surfaces to become deformed in the plastic area, which guarantees leak-free connection even **under the highest pressure loads**.

For the pressure ranges 2,500 bar and 4,200 bar, the fitting is manufactured using the **common global standard of a 58° outer cone in a 60° inner cone**.

For the pressure ranges 7,000 bar and 10,000 bar, we developed a **special fitting** with 116° and 120° and offer these exclusively. This achieves a considerably enhanced sealing effect.

To attach the outer cone on the tube ends and for reworking or repair of the inner cone, WEH® offers all the **necessary tools**.

Applications

baromax Fittings from WEH® are designed as a standard for **hydraulic high pressure systems**.

Typical applications include hydraulic systems in hydroforming and water jet plants, high-pressure test stands, isostatic pressure for manufacturing ceramics as well as high-pressure applications in chemistry and food processing.

TECHNICAL DATA

Characteristics	Basic Version
Pressure Range (PS)	2,500 bar, 4,200 bar, 7,000 bar, 10,000 bar (depending on design)
Media	Air, Water, Hydraulic oil (exclusively non-hazardous oils pursuant to fluid group 2 DGR)
Media Temperature Range	+5 °C up to +50 °C
Material	High-strength stainless steel

Other Designs on Request

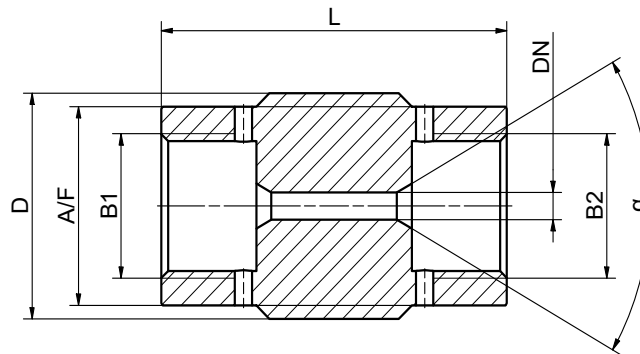
Ordering

**ORDERING** | Straight Connection

Straight connections with **two identical ports**, available with all common high-pressure connection sizes. With two **diagonally arranged mounting bores**. The identical pattern of holes on angle, T, and cross pieces facilitates any future conversions and expansions of the pipe system.

**Special designs** with different connection threads or for deviating pressure ranges are available on request. Special materials for **challenging media or conditions** of use are available on request.

approx. dimensions (mm)



Part No.	Product Series	Pressure (PS)	Nominal Bore (DN)	External Tube Diameter	Thread (B1 = B2)	α	D	L	A/F
C1-185527	FT-F2-S1	2,500 bar	3	1/4"	M16x1,5	60 °	25.0	40.0	22.0
C1-185681	FT-F2-S1	2,500 bar	3	1/4"	9/16"-18 UNF	60 °	25.0	40.0	22.0
C1-185685	FT-F2-S1	2,500 bar	6	3/8"	M20x1,5	60 °	32.0	48.0	27.0
C1-185689	FT-F2-S1	2,500 bar	6	3/8"	3/4"-16 UNF	60 °	32.0	48.0	27.0
C1-185506	FT-F2-S1	2,500 bar	8	9/16"	M30x2	60 °	40.0	70.0	36.0
On request	FT-F2-S1	2,500 bar	8	9/16"	1 1/8"-12 UNF	60 °	40.0	70.0	36.0
C1-185526	FT-F2-S2	4,200 bar	3	1/4"	M16x1,5	60 °	25.0	40.0	22.0
C1-184929	FT-F2-S2	4,200 bar	3	1/4"	9/16"-18 UNF	60 °	25.0	40.0	22.0
C1-185682	FT-F2-S2	4,200 bar	4	3/8"	M20x1,5	60 °	32.0	48.0	27.0
C1-185671	FT-F2-S2	4,200 bar	4	3/8"	3/4"-16 UNF	60 °	32.0	48.0	27.0
C1-185505	FT-F2-S2	4,200 bar	5	9/16"	M30x2	60 °	40.0	70.0	36.0
C1-185690	FT-F2-S2	4,200 bar	5	9/16"	1 1/8"-12 UNF	60 °	40.0	70.0	36.0
On request	FT-F2-S3	7,000 bar	2	1/4"	M16x1,5	120 °	25.0	40.0	22.0
On request	FT-F2-S3	7,000 bar	2	1/4"	9/16"-18 UNF	120 °	25.0	40.0	22.0
On request	FT-F2-S4	10,000 bar	2	1/4"	M16x1,5	120 °	25.0	40.0	22.0
On request	FT-F2-S4	10,000 bar	2	1/4"	9/16"-18 UNF	120 °	25.0	40.0	22.0
On request	FT-F2-S4	10,000 bar	2	3/8"	M20x1,5	120 °	32.0	48.0	27.0
On request	FT-F2-S4	10,000 bar	2	3/8"	3/4"-16 UNF	120 °	32.0	48.0	27.0

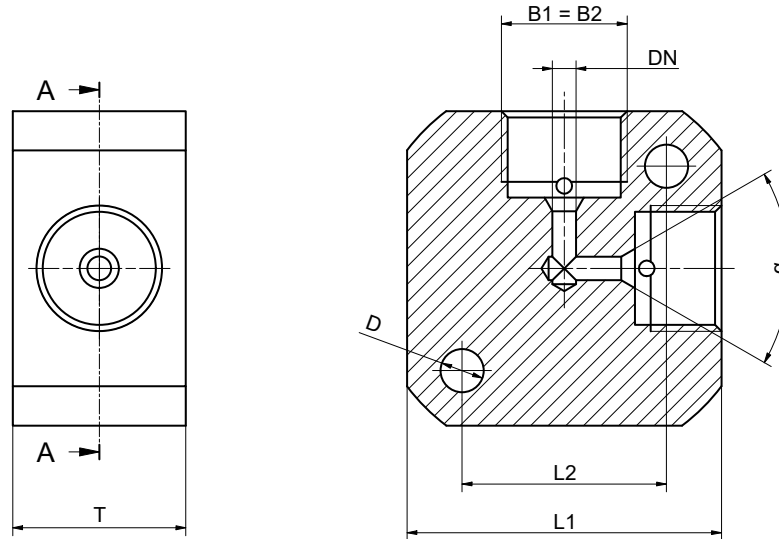
Ordering

**ORDERING** | Elbow Piece

Elbow pieces with **two identical ports**, available with all common high-pressure connections. With two **diagonally arranged mounting bores**. The identical pattern of holes on angle, T, and cross pieces facilitates any future conversions and expansions of the pipe system.

**Special designs** with different connection threads or for deviating pressure ranges are available on request. Special materials for **challenging media or conditions** of use are available on request.

approx. dimensions (mm)



Part No.	Product Series	Pressure (PS)	Nominal Bore (DN)	External Tube Diameter	Thread (B1 = B2)	α	Wide/Height (L1)	Depth (T)	Distance Mounting bores (L2)	D
C1-185375	FT-F1-S1	2,500 bar	3	1/4"	M16x1,5	60 °	40.0	22.0	26.0	5.5
C1-185178	FT-F1-S1	2,500 bar	3	1/4"	9/16"-18 UNF	60 °	40.0	22.0	26.0	5.5
C1-185711	FT-F1-S1	2,500 bar	6	3/8"	M20x1,5	60 °	48.0	27.0	34.0	5.5
On request	FT-F1-S1	2,500 bar	6	3/8"	3/4"-16 UNF	60 °	48.0	27.0	34.0	5.5
C1-185715	FT-F1-S1	2,500 bar	8	9/16"	M30x2	60 °	70.0	36.0	48.0	6.5
C1-185716	FT-F1-S1	2,500 bar	8	9/16"	1 1/8"-12 UNF	60 °	70.0	36.0	48.0	6.5
C1-185338	FT-F1-S2	4,200 bar	3	1/4"	M16x1,5	60 °	40.0	22.0	26.0	5.5
C1-185372	FT-F1-S2	4,200 bar	3	1/4"	9/16"-18 UNF	60 °	40.0	22.0	26.0	5.5
C1-185584	FT-F1-S2	4,200 bar	4	3/8"	M20x1,5	60 °	48.0	27.0	34.0	5.5
C1-185710	FT-F1-S2	4,200 bar	4	3/8"	3/4"-16 UNF	60 °	48.0	27.0	34.0	5.5
C1-180995	FT-F1-S2	4,200 bar	5	9/16"	M30x2	60 °	70.0	36.0	48.0	6.5
C1-185631	FT-F1-S2	4,200 bar	5	9/16"	1 1/8"-12 UNF	60 °	70.0	36.0	48.0	6.5
On request	FT-F1-S3	7,000 bar	2	1/4"	M16x1,5	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S3	7,000 bar	2	1/4"	9/16"-18 UNF	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	1/4"	M16x1,5	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	1/4"	9/16"-18 UNF	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	3/8"	M20x1,5	120 °	48.0	27.0	34.0	5.5
On request	FT-F1-S4	10,000 bar	2	3/8"	3/4"-16 UNF	120 °	48.0	27.0	34.0	5.5

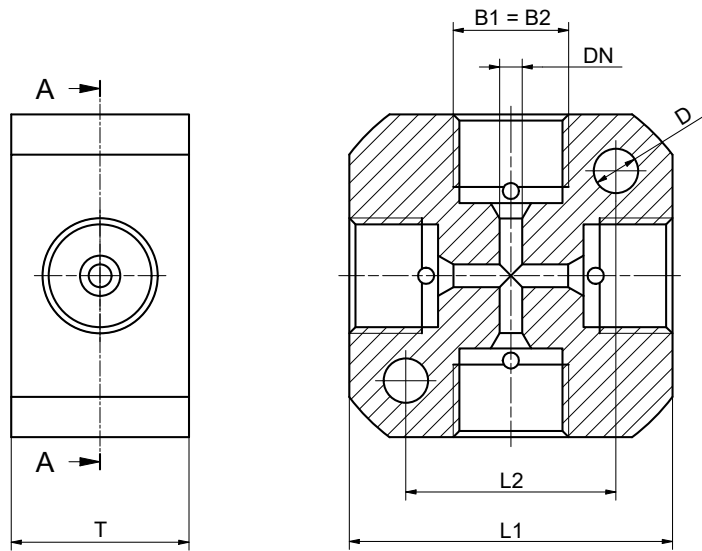
Ordering

**ORDERING** | Cross piece

Cross pieces with **four identical ports**, available with all common high-pressure connection sizes. With two **diagonally arranged mounting bores**. The identical pattern of holes on angle, T and cross pieces facilitates any future conversions and expansions of the pipe system.

**Special designs** with different connection threads or for deviating pressure ranges are available on request. Special materials for **challenging media or conditions** of use are available on request.

approx. dimensions (mm)



Part No.	Product Series	Pressure (PS)	Nominal Bore (DN)	External Tube Diameter	Thread (B1 = B2)	α	Wide/ Height (L1)	Depth (T)	Distance Mounting bores (L2)	D
C1-185383	FT-F1-S1	2,500 bar	3	1/4"	M16x1,5	60 °	40.0	22.0	26.0	5.5
C1-185171	FT-F1-S1	2,500 bar	3	1/4"	9/16"-18 UNF	60 °	40.0	22.0	26.0	5.5
C1-185756	FT-F1-S1	2,500 bar	6	3/8"	M20x1,5	60 °	48.0	27.0	34.0	5.5
C1-185177	FT-F1-S1	2,500 bar	6	3/8"	3/4"-16 UNF	60 °	48.0	27.0	34.0	5.5
C1-185729	FT-F1-S1	2,500 bar	8	9/16"	M30x2	60 °	70.0	36.0	48.0	6.5
C1-185755	FT-F1-S1	2,500 bar	8	9/16"	1 1/8"-12 UNF	60 °	70.0	36.0	48.0	6.5
C1-185326	FT-F1-S2	4,200 bar	3	1/4"	M16x1,5	60 °	40.0	22.0	26.0	5.5
C1-185379	FT-F1-S2	4,200 bar	3	1/4"	9/16"-18 UNF	60 °	40.0	22.0	26.0	5.5
C1-185629	FT-F1-S2	4,200 bar	4	3/8"	M20x1,5	60 °	48.0	27.0	34.0	5.5
C1-185753	FT-F1-S2	4,200 bar	4	3/8"	3/4"-16 UNF	60 °	48.0	27.0	34.0	5.5
C1-185728	FT-F1-S2	4,200 bar	5	9/16"	M30x2	60 °	70.0	36.0	48.0	6.5
C1-185754	FT-F1-S2	4,200 bar	5	9/16"	1 1/8"-12 UNF	60 °	70.0	36.0	48.0	6.5
On request	FT-F1-S3	7,000 bar	2	1/4"	M16x1,5	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S3	7,000 bar	2	1/4"	9/16"-18 UNF	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	1/4"	M16x1,5	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	1/4"	9/16"-18 UNF	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	3/8"	M20x1,5	120 °	48.0	27.0	34.0	5.5
On request	FT-F1-S4	10,000 bar	2	3/8"	3/4"-16 UNF	120 °	48.0	27.0	34.0	5.5

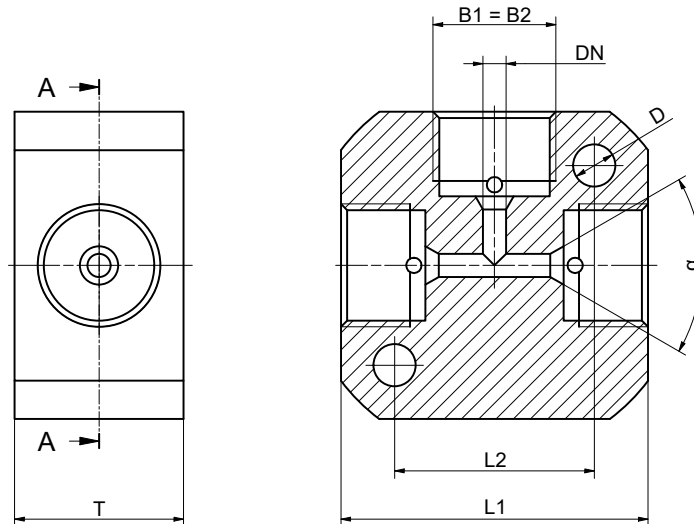
Ordering

**ORDERING** | T piece

T pieces with **three identical ports**, available with all common high-pressure connection sizes. With two **diagonally arranged mounting bores**. The identical pattern of holes on angle, T, and cross pieces facilitates any future conversions and expansions of the pipe system.

**Special designs** with different connection threads or for deviating pressure ranges are available on request. Special materials for **challenging media or conditions** of use are available on request.

approx. dimensions (mm)



Part No.	Product Series	Pressure (PS)	Nominal Bore (DN)	External Tube Diameter	Thread (B1 = B2)	α	Wide/Height (L1)	Depth (T)	Distance Mounting bores (L2)	D
C1-185344	FT-F1-S1	2,500 bar	3	1/4"	M16x1,5	60 °	40.0	22.0	26.0	5.5
C1-185180	FT-F1-S1	2,500 bar	3	1/4"	9/16"-18 UNF	60 °	40.0	22.0	26.0	5.5
C1-186016	FT-F1-S1	2,500 bar	6	3/8"	M20x1,5	60 °	48.0	27.0	34.0	5.5
C1-186017	FT-F1-S1	2,500 bar	6	3/8"	3/4"-16 UNF	60 °	48.0	27.0	34.0	5.5
C1-185985	FT-F1-S1	2,500 bar	8	9/16"	M30x2	60 °	70.0	36.0	48.0	6.5
C1-185987	FT-F1-S1	2,500 bar	8	9/16"	1 1/8"-12 UNF	60 °	70.0	36.0	48.0	6.5
C1-185350	FT-F1-S2	4,200 bar	3	1/4"	M16x1,5	60 °	40.0	22.0	26.0	5.5
C1-185361	FT-F1-S2	4,200 bar	3	1/4"	9/16"-18 UNF	60 °	40.0	22.0	26.0	5.5
C1-186014	FT-F1-S2	4,200 bar	4	3/8"	M20x1,5	60 °	48.0	27.0	34.0	5.5
C1-186015	FT-F1-S2	4,200 bar	4	3/8"	3/4"-16 UNF	60 °	48.0	27.0	34.0	5.5
C1-185983	FT-F1-S2	4,200 bar	5	9/16"	M30x2	60 °	70.0	36.0	48.0	6.5
C1-185986	FT-F1-S2	4,200 bar	5	9/16"	1 1/8"-12 UNF	60 °	70.0	36.0	48.0	6.5
On request	FT-F1-S3	7,000 bar	2	1/4"	M16x1,5	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S3	7,000 bar	2	1/4"	9/16"-18 UNF	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	1/4"	M16x1,5	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	1/4"	9/16"-18 UNF	120 °	40.0	22.0	26.0	5.5
On request	FT-F1-S4	10,000 bar	2	3/8"	M20x1,5	120 °	48.0	27.0	34.0	5.5
On request	FT-F1-S4	10,000 bar	2	3/8"	3/4"-16 UNF	120 °	48.0	27.0	34.0	5.5

Accessories

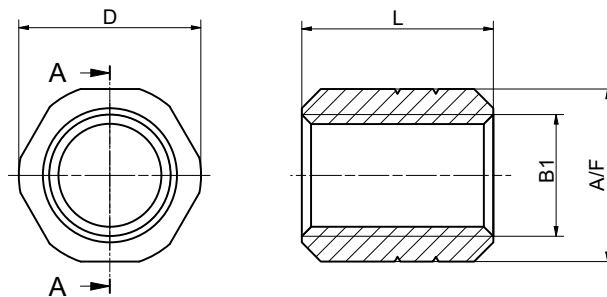
ACCESSORIES

The following accessories are available for the baromax Fittings from WEH®:

Pressure rings

Pressure rings for the fittings used in the high pressure area. In contrast to the competitors, our pressure rings are **not round on the outside, but instead feature a hexagonal wrench flat**. In this way, open-ended spanners can be used for installation and disassembly, which makes work considerably easier. Our pressure rings are interchangeable with almost all common high pressure fittings. The baromax pressure rings are manufactured using **stainless steel**.

approx. dimensions (mm)

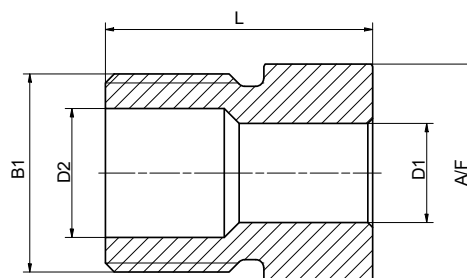


Part No.	Product Series	External Tube Diameter	Thread Size (B1)	Connection Types	L	A/F	D
C1-185394	FTZ-F3-S1	1/4"	1/4"-28 UNF LH	female thread	10.0	9.0	9.5
C1-185495	FTZ-F3-S1	3/8"	3/8"-24 UNF LH	female thread	13.5	12.0	12.7
C1-180993	FTZ-F3-S1	9/16"	9/16"-18 UNF LH	female thread	15.5	19.0	20.6

Pressure screw

Pressure screws for the fittings used in the high pressure area. Our pressure screws are interchangeable with almost all common high pressure fittings. For easier differentiation, our pressure screws are **specially marked on the wrench flat**: One groove for metric thread and two grooves for imperial thread. The baromax pressure screws are manufactured using **stainless steel**.

approx. dimensions (mm)



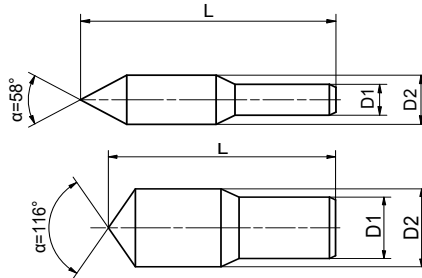
Part No.	Product Series	External Tube Diameter	Thread Size (B1)	Connection Types	D1	D2	L	A/F
C1-185522	FTZ-F1-S1	1/4"	M16x1,5	male thread	6.4	9.8	22.0	17.0
C1-185403	FTZ-F1-S1	1/4"	9/18"-18 UNF	male thread	6.4	9.8	22.0	17.0
C1-185521	FTZ-F1-S1	3/8"	M20x1,5	male thread	10.0	13.0	27.0	22.0
C1-185593	FTZ-F1-S1	3/8"	3/8"-16 UNF	male thread	10.0	13.0	27.0	22.0
C1-185588	FTZ-F1-S1	9/16"	M30x2	male thread	14.0	21.0	19.0	32.0
C1-185592	FTZ-F1-S1	9/16"	1 1/8"-12 UNF	male thread	14.0	21.0	19.0	32.0

Accessories/Spare parts

Plug

Plugs for the fittings used in the high pressure area.  
Our plugs are interchangeable with almost all common high pressure fittings.  
The baromax plugs are manufactured using **stainless steel**.

approx. dimensions (mm)

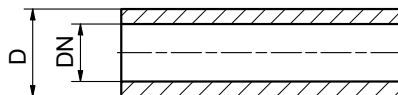


Part No.	Product Series	Pressure (PS)	External Tube Diameter	D1	D2	L	α
C1-185912	FTZ-F2-S1	2,500 bar + 4,200 bar	1/4"	6.4	9.5	34.0	58 °
C1-185918	FTZ-F2-S1	2,500 bar + 4,200 bar	3/8"	10.0	13.0	39.0	58 °
C1-185919	FTZ-F2-S1	2,500 bar + 4,200 bar	9/16"	14.0	20.6	48.0	58 °
On request	FTZ-F2-S1	7,000 bar + 10,000 bar	1/4"	6.4	9.5	31.0	116 °
On request	FTZ-F2-S1	7,000 bar + 10,000 bar	3/8"	10.0	13.0	36.0	116 °
On request	FTZ-F2-S1	7,000 bar + 10,000 bar	9/16"	14.0	20.6	44.0	116 °

Tubes

The baromax high pressure tubes are manufactured from **seamless cold drawn stainless steel**.

approx. dimensions (mm)



Part No.	Pressure (PS)	External Tube Diameter (D)	Nominal Bore (DN)
On request	2,500 bar	9/16"	8.0
On request	4,200 bar	1/4"	2.3
On request	4,200 bar	3/8"	3.2
On request	4,200 bar	9/16"	4.8
On request	7,000 bar	1/4"	1.6
On request	10,000 bar	3/8"	1.6

Special designs for deviating pressure ranges on request. Special materials for **challenging media or conditions** of use are available on request.



On request we can also offer you tube coils, tube nipples (tubes with prepared sealing cone) and hose lines.



## Technical Explanations

## TECHNICAL EXPLANATIONS

**Abbreviations/Definitions**

For explanation of abbreviations, definitions of terms and further explanations, see the applicable Technical Appendix of the corresponding catalog or visit [www.weh.com](http://www.weh.com)

**Illustrations**

The illustrations and/or images used in these data sheet are particularly provided for illustrative purposes only and may differ in some details from the actual product. For binding information, please refer to your individual orders.

**Safe product selection**

Our WEH® Products are designed to be operated by qualified professional users (insofar as WEH® Products are also designed to be operated by other users in individual cases, this is explicitly stated in the corresponding operating instructions). Please note that WEH does not know your system and therefore - also due to the large number of different potential applications of WEH® Products - cannot perform tests on all potential types of application. You alone are responsible for the selection, configuration and suitability of WEH® Products, especially according to the requirements of your system. Before purchasing WEH® Products, please particularly ensure that our products are compatible with your intended use, your performance data, your material and fluids, your system concept and your system limits according to our product specifications. Please also consider your technical and legal requirements for operation, handling and maintenance. The quality and safety of WEH® Products is our highest priority. For this reason, WEH® Products may not be used outside the specifications in the relevant data sheets and product descriptions. If you are not sure whether the WEH® Product is suitable for your system and intended use, please contact us in advance. We also strongly recommend that you refrain from using third-party spare parts or a combination of WEH® Products with unsuitable third-party products. You alone are responsible for reviewing the suitability of third-party products. WEH® Products and WEH® Spare parts comply with our quality and safety standards.

**Service life**

WEH® Products are generally products which may be subject to wear and fatigue during operation and depending on your individual application/use. For details - in particular regarding the corresponding minimum inspection and maintenance intervals - please refer to the respective operating instructions for the WEH® Product.

**Explanation on the Pressure Equipment Directive**

These WEH® Products are generally classified as pressure accessories in accordance with Article 2 (5) of the Pressure Equipment Directive 2014/68/EU and are considered to be similar to piping. These WEH® Products may not be used as safety accessories. Furthermore, it is pointed out, that these WEH® Products are designed and placed on the market in accordance with the requirements of Article 4 (3) of the Pressure Equipment Directive 2014/68/EU. The assessment with regard to a different classification can, however, be made on request.

**External change management**

WEH reserves the right to update, optimise and adjust its products continuously. This may result in corresponding changes of the product. Customers will be informed proactively or unsolicited by WEH only in individual cases about product updates, product optimisations and/or product adaptations that have been carried out. You are free to contact WEH at any time to request information about any product updates, product optimisations and/or product adjustments.

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**» Contact**

More questions? – Great! Don't hesitate to contact our experts.

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