



# WEH®-Filling rig Type TS150



**METALIKA**  
Locking systems **KACIN**  
www.metalika-kacin.com



## Linear filling rig (LKF) for filling of gases

The linear filling rig TS150 is designed to fill gas cylinders of different sizes up to 10 litres nominal volume. The TS150 rig is designed for ease of operation by utilising the type TW54/TW57 WEH-Quick Connector to achieve connection and commencement of filling within seconds. For this purpose the cylinders needn't be placed on the pallet filling rig.

They are simply placed on the support. The weight of the cylinder is equalized by a spring and the connection can be made without screwing. The type TS150 is supplied as a single unit but units may be connected in series to make a multiple filling rig or units added to an existing rig if required.



### Connecting procedure:

1. Place the cylinder in the cylinder holder. Press the cylinder down if necessary onto the spring balanced receiver until the lateral connection of the cylinder valve is opposite the WEH-Connector.

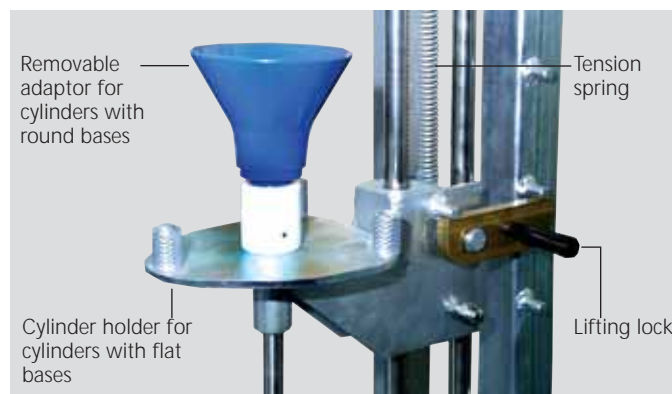
2. Insert the cylinder valve into/onto the WEH-Connector.

3. Connecting is effected by lowering the safety loop.

4. Filling can now be effected.

### Safety facility:

When filling, a safety peg protrudes, locks the housing and makes unintentional disconnection under pressure impossible.



# WEH®-Filling rig Type TS150

## Technical Data:

### Application:

Linear filling rig for filling pressure vessels.

### Thread size of the connector:

- Standard connection for internal thread DIN 477 for 200 bar and 300 bar
- Other connections acc. to the corresponding national standard available
- Special connections available

### Weight:

approx. 40 kg

### Temperature range:

+ 5°C up to + 80°C standard  
+ 5°C up to + 60°C oxygen  
+ 5°C up to + 70°C respiratory air

### Pressure range:

Pressure range 200 bar:  
PN = 200 bar  
PS = 250 bar  
PT = 375 bar

Pressure range 300 bar:  
PN = 300 bar  
PS = 375 bar  
PT = 565 bar

The max. pressure of the WEH-Connector must not be exceeded!

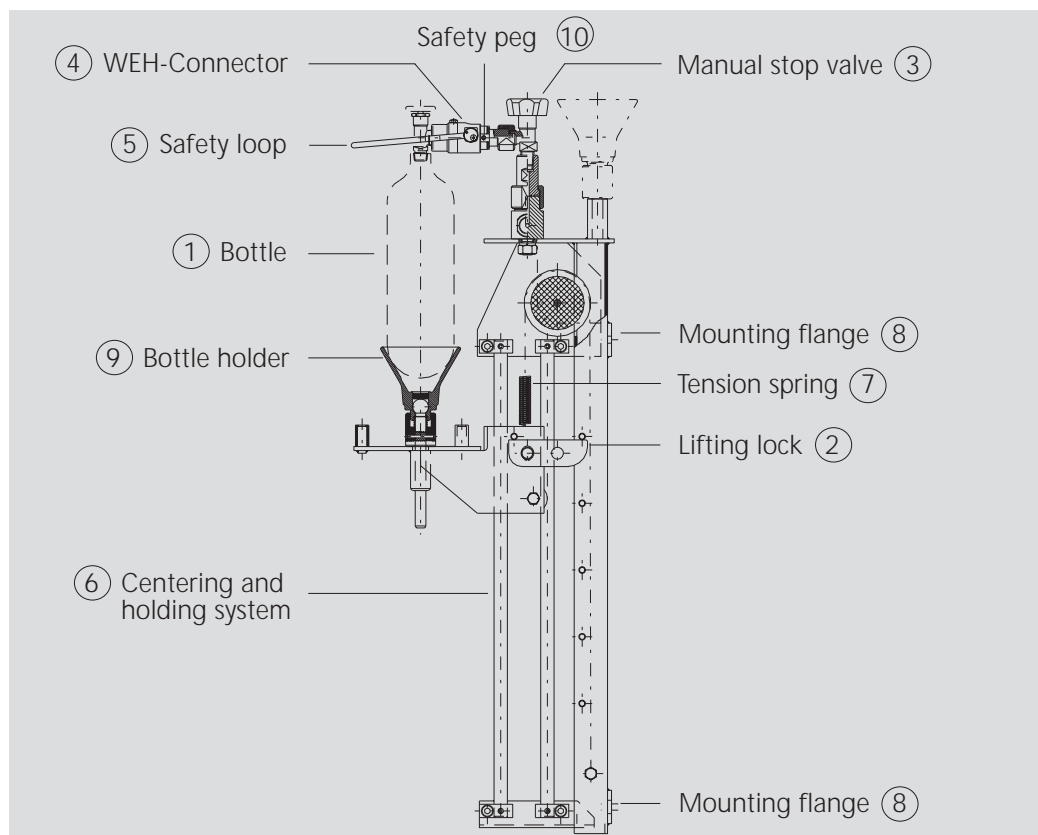
### Medium:

Oxygen, nitrogen, inert gases, CO<sub>2</sub>, air, medical gases etc.

### Design:

Cylinder holder for small cylinders up to 10 litres. WEH-Quick Connector to be connected to the cylinder valve, according to the specific type of gas. You can choose from wall mounting or optional installation on mobile base frame. Cylinder holder in galvanized steel, all other parts in corrosion resistant material.

## Dimensions (mm):



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**WEH®-Filling Rig**

**Type TS200 and TS250**



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**Radial Filling Rigs for  
Small Gas Cylinders**

**For your safety – WEH**

Type TS200/TS250

**Filling Rigs**

Rev.: 2005/06/00056-1-3; Date: 07/00

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# for your application

## The WEH-Connector for filling high pressure gas cylinders

Starting in 1983 WEH have been developing technically advanced quick connectors for filling gas cylinders. WEH-Connectors are used for applications where gas cylinders have to be filled, tested and transported. They are an excellent choice for each application where continuous connecting and disconnecting is necessary. Filling of gas cylinders is effected in different cylinder filling stands by means of WEH Connectors that can be connected to a large variety of cylinder valves. The ergonomic fast connection and filling of gas cylinders means that the WEH Connector offers a cost effective investment. WEH can offer connectors for many filling applications. On enquiry special types will be developed for your specific needs.

## Look to the future

The latest launch is a complete filling rig that is designed for economical filling of gas cylinders. The whole filling procedure has been optimized thus reducing connecting and filling times. Another feature is the ergonomic handling being a key attribute in daily use.



## WEH – a useful connection

Continuous development of new applications for our customers offers you leading-edge technology in connection design. We can

offer you today a radial filling rig for small cylinders with our patented connectors in combination with innovative filling technology that we make under licence.



# WEH®-Filling rig



**METALIKA**  
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## Type TS200 and TS250

### Radial filling rig for small cylinders (RKF)

1 to 10 small gas cylinders for compressed gases with standard valves can be filled simultaneously at up to 300 bar. The size of these cylinders may vary between 0.5 l and 10.0 l nominal volume. The filling rig is also suitable for gas valves with internal or external threads and PIN-Index valves.



**Connecting procedure:**  
1. Place the cylinder in the cylinder holder.



2. Press the cylinder down if necessary onto the spring balanced receiver until the lateral connection of the cylinder valve is opposite the WEH Connector.



3. Insert the cylinder valve into the WEH Connector.



4. Connecting is effected by lowering the safety loop. Rotate the distribution head to the next position for connecting the next cylinder.

## Type TS200 and TS250

### Technical Data:

**Application:**  
Rotating rig for filling of small cylinders.

**Operating pressure PB:**  
From vacuum to max. 300 bar  
The pressure range of the WEH-Connector used has to be observed!

**Temperature range:**  
+ 5°C up to + 95°C  
see page 11

**Medium:**  
Compressed gases

**Design:**  
TS200:  
Version to receive small cylinders up to a max. height of approx. 580 mm.

TS250:  
Version for cylinders with a height between 532 mm and 830 mm.

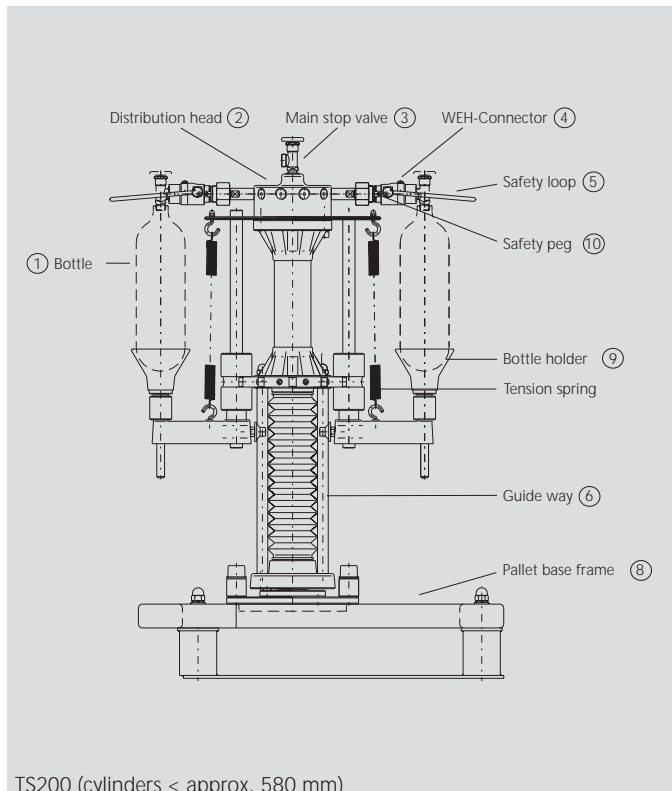
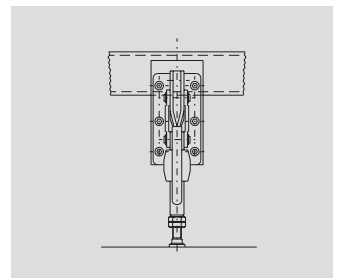
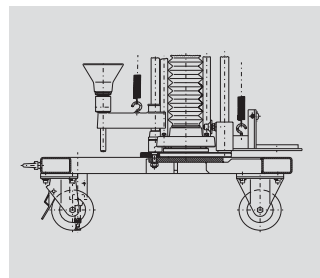
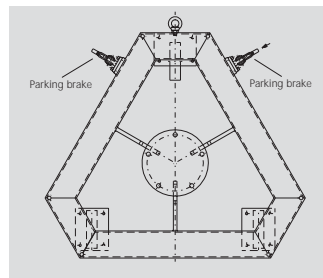
10 WEH quick connectors to suit the appropriate valve (see page 9).

Load bearing central column in steel, lacquered, distribution head in corrosion resistant stainless steel, cylinder holder in lacquered aluminium. All other parts in corrosion resistant material. Pallet base frame in galvanised steel.

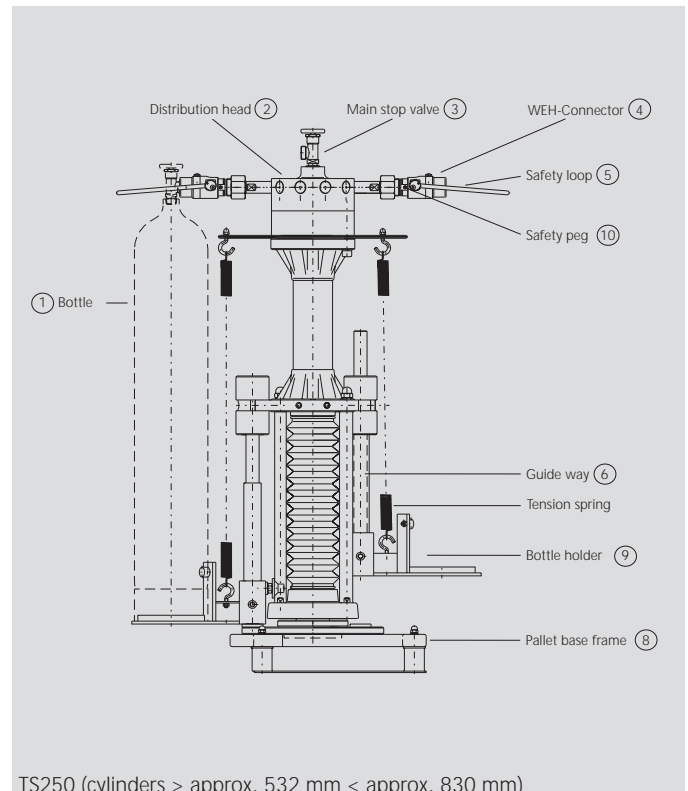
**Weight:**  
approx. 180 kg

### Option:

Mobile ground frame with wheels and parking brake



TS200 (cylinders < approx. 580 mm)



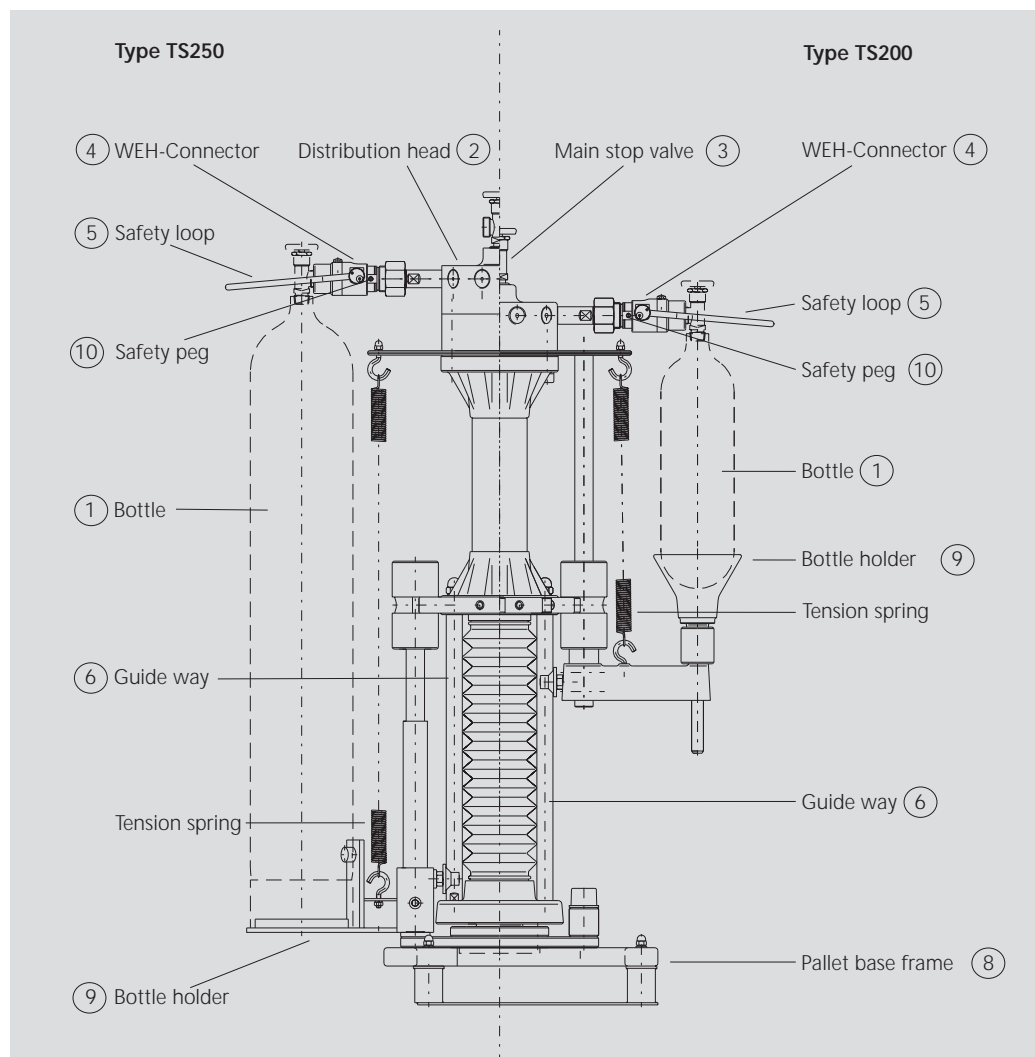
TS250 (cylinders > approx. 532 mm < approx. 830 mm)

## Type TS200 and TS250

The filling rig is connected by means of a flexible hose to the central main stop valve (Pos. 3) which has the same termination as the cylinder valve. The gas flow is distributed to ten single cylinders (Pos. 1) via the radial bores of the rotating distribution head (Pos. 2) and the rigid cylinder connectors (Pos. 4). Equalization of the different heights and weights of the

cylinders is effected by specific cylinder holders (Pos. 9) and by the centering system (Pos. 6). The distributor head (Pos. 2) engages at every cylinder position and the holder system (Pos. 6 and 9) facilitate the loading of the filling rig with small cylinders. The safety loop (Pos. 5) at the quick connector (Pos. 4) enables safe filling.

The safety peg (Pos. 10) prevents disconnection while the filling line is still pressurized thus offering additional safety. The filling rig for small cylinders can be easily transported with the pallet ground frame by means of a fork-lift. On request type TS200/TS250 is also available with a mobile ground frame.







## Type TS200 and TS250

- Small 'Footprint' only 0.64 m<sup>2</sup>.
- Rotating head means that it can be loaded from one position, even if situated in a corner
- Easy to transport which means that the filling rig can be stored away from the filling point when not in use.
- The filling rig can be easily connected to existing filling points without additional and expensive tubing.
- No loss of time caused by distances between the transport bundle (e.g. pallet) and the filling connector. The cylinder can be loaded to the filling rig directly from the bundle.
- The combination of WEH-Connectors and the counterbalance system of the cylinder holder ensures ease of connection with minimum effort.
- Varying cylinder sizes can be filled without additional pedestals, plug-ins, mountings that are necessary for other filling rigs.
- Filling hoses are not required as rigid filling connectors (Pos. 4) are used, therefore, the costs for these flexible filling hoses subject to wear and tear can be spared.
- The safety loop (Pos. 5) of the quick connector prevents disconnection of the cylinder and the valve during the filling procedure.
- The filling rigs can also be supplied with oxygen compatible components.



# WEH®-Economic efficiency

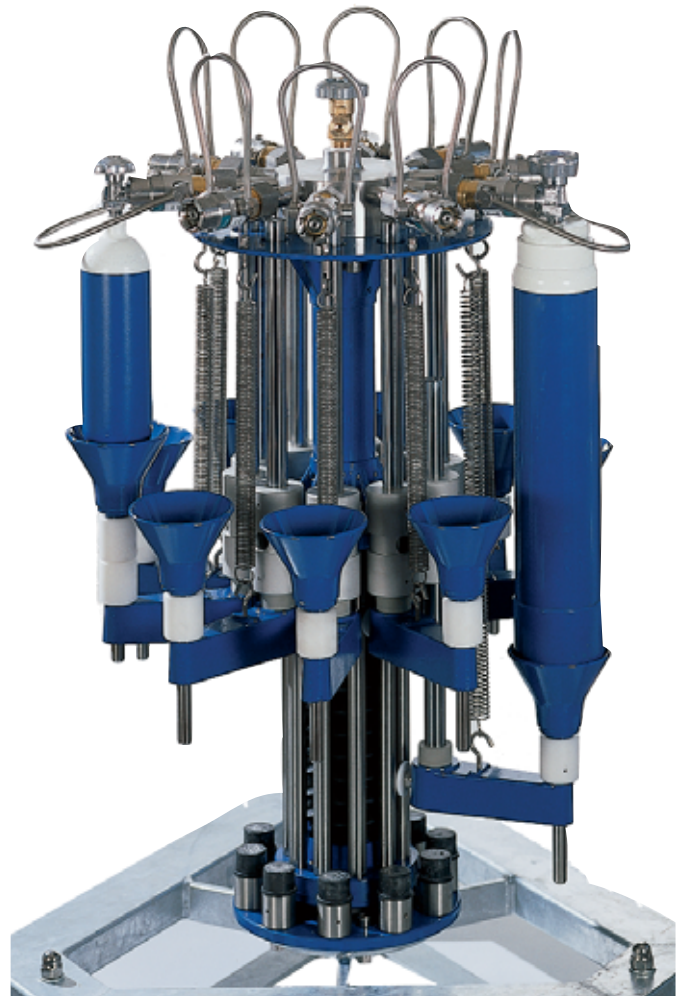
## Type TS200 and TS250

Using the same filling principle as for the filling of standard cylinders with 40 to 50 l nominal volume, it will always require the same time for the handling, loading of the filling rig, connecting the filling line, opening of the valve, etc.) independently of the cylinder size. Therefore, the economic efficiency decreases when cylinders with less volume are used. Up to now small gas cylinders have been filled in different filling rigs simultaneously with bigger gas pressure cylinders. The varying cylinder dimensions make flexible connection lines and temporary mountings, height adjustment etc. necessary.

Often there were no safety devices to prevent disconnection of the flexible high pressure hoses and of the filling connections. The cylinders with approx. 2 kg up to 20 kg often had to be lifted manually to the height of the bigger cylinders. When in-line filling

rigs were used the cylinders had to be carried from the transport bundle to the filling connection along the filling rigs. The higher the filling pressure that can be up to 300 bar, the thicker the tubing and hence the higher the costs for the tubing. In case of varying market demand it was extremely difficult to transport the rigid mounted filling rig. These disadvantages have been overcome with the specific filling rigs for small cylinders, type TS200 and TS250.

Comparing the time needed for the filling of 10 cylinders, we had savings in handling time of approx. 4 minutes compared to the pallet filling rig and of 5 minutes compared to the in-line filling rig. To take advantage of these savings, it is necessary that the bundle of full and empty cylinders is deposited near the filling rig.





# WEH®-Connectors for Type Type TS200 and TS250



WEH Connectors offer the best in connection design. No need for time consuming and expensive hand threading of connection lines. Pressure-tight connections are made in seconds with WEH Connectors.

Easy connection means no straining of muscles and joints contrary to conventional screw connection fittings so that filling can be effected rapidly and easily. WEH offers filling connectors for a large variety of valves. Please find set out

below 3 of our range of connectors For further details on connectors see our gas industry catalogue.

## WEH-Connector Type TW54 and TW57



### Application:

Filling gaseous media:  
TW54: for internal threads  
TW57: for external threads

### Thread size A:

- Connections acc. to the corresponding national standard, e.g. DIN 477, CGA etc.
- Special connections available
- Also for residual pressure valves

### Pressure range:

Max. 200 bar, vacuum. Other pressure ranges on request.

### Nominal pressure:

Max. 250 bar

### Temperature range:

See page 11

### Design:

Brass and corrosion resistant steel. Different designs available, e.g. operating loop, wire etc.

### Sealing material:

Dependant on media

### Adiabatic oxygen approval:

Type TW57: BAM  
Tgb.-Nr. 4-3455/94  
Type TW54: Air Liquide  
93/JPS57.124

## WEH-Connector Type TW49



### Application:

Filling gas cylinders with medical oxygen at Pin Index connection system.

### Pressure range:

Max. 250 bar

### Temperature range:

See page 11

### Medium:

Medical oxygen, other media on request.

### Design:

Housing brass, all other parts corrosion-resistant steel. The location pins code gas medium and prevent use with the wrong media. On request all parts in contact with the gas flow can be made out of brass.

### Sealing material:

Dependant on media.

### Adiabatic oxygen approval:

Air Liquide 94/JPS20

## Technical Information

### Pressure definition:

Abbreviation	Pressure type	Description/Explanation
PN	Nominal pressure	This is a standardised term
PS	Operating pressure	The max. pressure to which the component is subjected (1.25 x PN)
PT	Test pressure	The pressure to which the component is tested by the manufacturer ('once only' test, 1.43 – 1.5 x PS)
P1, P2, P3	Pilot pressure	For pneumatically actuated connectors. P1 – P3 is normally air pressure.

### Admissible operating pressure:

The admissible operating pressure has been determined as follows: 100,000 x cycles impacting the component with 125 % of PN.

The pressure wave is sinusoidal.

### Pressure/Temperature:

For higher temperatures the max. operating pressure needs to be reduced dependant on the application. Possible values therefore are: 50 °C – 5 %, 100 °C – 10 %, 150 °C – 20 %.

### Notice:

Maximum care has been taken compiling this catalogue based on many years of experience.

However we must point out, that all catalogue data is only valid, if it was expressly confirmed in the individual order. We cannot guarantee the veracity of the data and the introductions in individual cases due to the large variety of applications for WEH products, and the unknown parameters and conditions of use. We have to refer to the individual order.

The limits of use for pressure, temperature etc. in this catalogue are theoretical data calculated on the basis of tests. Because of different operating conditions we cannot guarantee that the data do accord with the special use of the client. It has to be considered, that in the practical use interactive interferences of data parameters can cause the change of the maximum values. Especially if the operating conditions are extreme, the WEH Company must be consulted before the use of the products.

Therefore the requested values should be stated in the individual order, especially for extreme operating conditions.

Furthermore we point out, that we cannot guarantee for misprints, uncompleted data or misinterpretation. The illustration of the products is for demonstration only.

The exact form and design of the product is only defined by the individual order. The brochure is only an integral part of the contract, if it is agreed expressly. Dimensions and other technical data in this catalogue are without obligation.

# Technical Information

## Temperature ranges:

Standard range:  
+5 °C up to +80 °C,  
special range: -100 °C up to +200 °C

The temperatures stated as standard cover most common applications. The seal material used has higher or lower temperature limits dependant on material (e.g. NBR -30 °C up to +100 °C, FKM -20 °C up to +200 °C, EPDM -40 °C up to +150 °C).

Under such extreme temperature conditions the suitability of WEH products to the application has to be checked specifically. If necessary, we can develop special solutions.

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# Fax reply

Type TS200/TS250



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Please make a copy of this form  
and fax it to:

**+49 7303 9609-9999**

Originator	_____	Position	_____
Company	_____	Department	_____
Address	_____	Telephone	_____
Postcode/City	_____	Telefax	_____

We are manufacturers of: \_\_\_\_\_

## Yes, I want to have more details

- Main Catalogue Quick Connectors
- Gas Catalogue
- Connectors  
for Refrigeraton and Air Conditioning
- Please contact us
- Offer
- Details of other  
WEH products  
(Please indicate your application)

## Please detail the following when requesting an offer:

Type of gas / Medium \_\_\_\_\_

Pressure range \_\_\_\_\_

Vacuum \_\_\_\_\_

Cylinder valve \_\_\_\_\_  
(connection dimensions:  
please send drawing and sample or specify if to DIN standard)

Cylinder size (mm) \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_

with optional mobile base frame  Yes  No

Valve protection  Yes  No  
(if yes, which one? Please  
send drawing and sample)

Remarks \_\_\_\_\_