Type **TW850**

**WEH® Connector for pressure and function tests**

of components with bead, rim, collar, flange, stub or external thread
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Dear Customer!

Thank you for deciding to use a WEH® Product. The WEH® Connector TW850 has been specially developed for pressure and function testing of components with bead, rim, collar, flange, stub or external thread.

Each delivery must contain:

a) A delivery note  
b) An original WEH test report (this does not apply to spare parts)  
c) WEH operating instructions  

For missing documents please contact WEH.

Our ‘General Terms and Conditions’ apply.

Read these operating and safety instructions carefully and follow them whilst using the WEH® Product.

The statements in these instructions correspond to the state of knowledge at the time of printing. Failure to observe these instructions may result in a loss of warranty. Any variations to these instructions have to be confirmed by the WEH QA management in writing.

Any violation of WEH GmbH operating instructions will result in a loss of all customer claims under warranty. In addition, WEH GmbH will accept no liability for consequential damage, including but not limited to, damage caused to persons or property.

1 GENERAL SAFETY INSTRUCTIONS

For your own safety, please observe the following instructions.

1.1 Please conform to any relevant legal directives, such as for instance any national legislation on safety and health at work. Observe the relevant approval standards and directives.

1.2 These operating instructions should be made available to each person responsible for installation, operation and maintenance of the product.

1.3 If these operating instructions are not completely understood by operators, contact WEH GmbH before attempting to use the product.

1.4 Where dangerous operating conditions exist, appropriate safety measures must be taken.

1.5 In case of damage and queries concerning the proper functioning of the product, do not use the product until clarification has been sought. The product should only be dismantled by WEH.

1.6 Service personnel as defined by these instructions are persons able to evaluate the work entrusted to them and to recognize possible dangers according to their knowledge and experience and their knowledge of the applicable standards.

1.7 WEH GmbH is not responsible for any damage resulting from factors outside their control.

1.8 Transportation and storage facilities suitable for the protection of the product must be used at all times.

1.9 WEH® Products may only be repaired by the manufacturer. Please contact WEH GmbH.

1.10 Observe the torques indicated in these operating instructions. Tightening with a higher torque can result in fracture damage when the system is pressurized.
2 APPLICATION

The application is defined in the catalogue and in the accompanying product documentation. Please check that the product markings, delivery note and test report correspond to the application. If you are not certain about correct installation please contact us before using the equipment.

2.1 Safety instructions for application

2.1.1 Ensure the proper use: The product may be used only if the specified operating pressure and temperature are not exceeded, and the design criteria and media defined in the order are complied with. Please check that the product documentation supplied corresponds to the product marking.

2.1.2 Ensure that the connection sizes comply with those of the product. Please check that the product documentation supplied corresponds to the product marking.

2.1.3 Suitability for application: When selecting a component, the total system design must be considered to ensure safe, trouble-free performance. The correct selection of components, materials, temperature and pressure ranges as well as proper installation, operation and maintenance are the responsibility of the customer.

2.1.4 Only use the product for a pressure range up to max. 630 bar (PS) and within a temperature range of +5 °C up to +80 °C (depending on the operating medium being used).

2.1.5 Possible consequences of non-compliance with the safety instructions are:
- Risk of fingers being crushed when connecting
- Risk of personal injury and damage to property by parts that may become detached under high pressure
- Risk of personal injury by media escaping at high pressure
- Risk of personal injury due to unsecured hose lines

2.1.6 When selecting the appropriate connector for your application please consider the following parameters:
- Possible tolerances of the test piece
- Pressure range
- Resistance to the media used
- Temperature
- Environment and radial load
- Pulsating pressures or vibrations

2.1.7 Caution: The clamping jaws of the product are designed to grip the test piece. Keep fingers and other objects away from the clamping jaws when actuating the connector. Pinching or crushing might occur.

2.1.8 Caution: As a rule, WEH® Connectors TW850 are not fitted with an internal shut-off valve and will not prevent loss of media when disconnecting. Therefore it is important to disconnect it only under absolutely safe conditions.

2.1.9 This WEH® Product is generally and exclusively classified as pressure accessory for piping in accordance with Article 2 (5) of the Pressure Equipment Directive 2014/68/EU. This WEH® Product may not be used (i) as safety accessory or (ii) for vessels as defined by the Pressure Equipment Directive 2014/68/EU. Therefore, the application of this WEH® Product must comply with the classification as pressure accessory for piping. The assessment with regard to a different classification can, however, be made on request.
3 INSTALLATION

3.1 Safety instructions for installation

3.1.1 Check the product for external damage.

3.1.2 Please check that the specifications in the product documentation and the product marking conform to the application.

3.1.3 Check the product for any damage in transit.

3.1.4 Installation must only be effected in depressurized condition.

3.1.5 Safety restraints, chains or guards are recommended for additional operator safety when used under hazardous conditions.

3.1.6 Avoid using too short media hose lines and narrow bending radii. Lateral forces may cause leakage and hamper the connection procedure.

3.1.7 The assembly data indicated (tightening torques, assembly turns etc.) are max. values and only valid for components delivered by WEH. The customer is responsible to check whether the counterparts are designed to withstand these max. values determined by WEH GmbH.

3.1.8 When using sealing rings to seal the ports, we recommend the use of USIT rings instead of copper sealing rings.
3.2 Installation

3.2.1 Connect the media inlet port ‘B1’ of the WEH® Connector pressure-tight to the port of the media hose line.
For the tightening torque, please refer to the table below.

3.2.2 Check the connection of the media hose line to the WEH® Connector at port ‘B1’.

3.2.3 Check the function of the WEH® Connector by connecting it several times.

3.2.4 During assembly of NPT connections, please proceed as follows:
Wrap Teflon tape around the tapered screw connection (1.5 layers), screw it into the port so that it is finger-tight and install it in accordance with the information in the table below.

<table>
<thead>
<tr>
<th>Inlet B1*</th>
<th>Torque G thread</th>
<th>Assembly turns NPT thread**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” internal thread</td>
<td>15 Nm</td>
<td>2.0–3.0</td>
</tr>
<tr>
<td>3/8” internal thread</td>
<td>45 Nm</td>
<td>2.0–3.0</td>
</tr>
<tr>
<td>1/2” internal thread</td>
<td>65 Nm</td>
<td>2.0–3.0</td>
</tr>
</tbody>
</table>

* G-thread as standard NPT-thread on request!
** One turn corresponds to a 360° rotation.
Please observe the port size marked on your product!

4 OPERATION

4.1 Safety instructions for operation

4.1.1 Check the front seal for damage before every actuation.

4.1.2 Observe the right order when connecting and disconnecting the WEH® Connector.

4.1.3 Connecting and disconnecting must be carried out when the system is depressurized.

4.1.4 Do not use excessive force when connecting.

4.1.5 Do only connect to faultless test piece ports.

4.1.6 Check the WEH® Connector for smooth functioning.

4.1.7 Align the WEH® Connector straight to the test piece to prevent damage to the front seal caused by possible sharp edges of the test piece.

4.1.8 Caution: The clamping jaws of the product are designed to grip the test piece.
Keep fingers and other objects away from the clamping jaws when actuating the connector. Pinching or crushing might occur.
4.2 Operation

Connection

4.2.1 Pull back the sliding sleeve (Pos. 1) of the WEH® Connector fully
⇒ The clamping jaws are now open (Figure 1).

4.2.2 Align the WEH® Connector straight to the test piece (see 4.1.7).

4.2.3 Push the sliding sleeve forward until it stops (Figure 2)
⇒ The clamping jaws close. The outer edge of the diameter of the clamping jaws should not be visible.

Caution: The connector is properly connected when it engages onto the test piece with an audible click and the straight outer edge of the clamping jaw diameter is completely covered by the sliding sleeve (Pos. 1).

4.2.4 The pressure-tight connection is established.

4.2.5 Apply the medium ⇒ the system will be pressurized by the test pressure ⇒ test will be performed.

Disconnection

4.2.6 Release the test pressure on ‘B1’ completely.

4.2.7 Pull back the sliding sleeve (Pos. 1) completely as far as it will go
⇒ Remove the WEH® Connector from the test piece by pulling it straight back.

Figure 1

Figure 2
5 ACCESSORIES | SPARE PARTS

Screw plugs
If the WEH® Connector is used as a plug, port 'B1' must be closed by means of a steel screw plug (O-ring made of NBR 70° shore) for high pressure ranges. The customer is responsible for checking the seal's compatibility with the media being used!

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W9329</td>
<td>Screw plug for high pressure (50–350 bar, G1/8” external thread)</td>
</tr>
<tr>
<td>W9331</td>
<td>Screw plug for high pressure (50–350 bar, G3/8” external thread)</td>
</tr>
<tr>
<td>W9332</td>
<td>Screw plug for high pressure (50–350 bar, G1/2” external thread)</td>
</tr>
</tbody>
</table>

Spare parts
The following parts are available for product maintenance:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On request</td>
<td>Front seal*</td>
</tr>
<tr>
<td>W136538</td>
<td>O-ring picker set (consisting of 3 O-ring pickers, Part No. E98-101969)**</td>
</tr>
<tr>
<td>E99-40</td>
<td>WEH® High performance grease</td>
</tr>
</tbody>
</table>

* Please ask for a front seal indicating the C1 number engraved on your unit.
** NOTE: The O-ring picker is manufactured from plastic and has to be considered as a consumable product!

6 STORAGE

6.1 Protect the product against damage, dirt ingress, improper storage and excessive temperature fluctuations.

6.2 Store the product, the accessories and spare parts in the original packaging until use.
7 MAINTENANCE

Violation of WEH maintenance instructions specified in this document will result in a loss of warranty. In addition, WEH GmbH will accept no liability for consequential damage, in particular for damage caused to property and / or for personal injury.

7.1 Safety instructions for maintenance.

7.1.1 Do not dismantle the product.

7.1.2 WEH® Products may only be repaired by the manufacturer. Please contact WEH GmbH.

7.1.3 Only use original WEH® Spare parts. These fit the application correctly and are subject to strict quality control.

7.1.4 Do not clean the WEH® Connector with soap solutions. Soap solutions may form a layer that can hamper proper connector operation. Clean the connector by blowing it off with compressed air and remove adhering dirt using a damp and soft cloth. Do not use solvents; only clean water.

7.1.5 Avoid connector contact with any mineral oil-based chemicals that can cause product contamination and damage.

7.2 Maintenance

7.2.1 Daily check the surface of the front seal. Replace the front seal if tears, cracks or damage are visible (see chapter 8 – Seal replacement). The front seal should be replaced at least every 1,000 cycles. Should this interval be too long, shorter intervals must be determined.

7.2.2 Even with proper selection and installation, product life may be significantly reduced without a continuing maintenance program. Frequency of maintenance should be determined by the demands of the application and risk potential.

7.2.3 Regularly check the product for proper operation. Immediate withdrawal for repair or replacement of the product is required if positive gripping, sealing and/or proper performance is not being achieved.

7.2.4 Check the clamping jaws regularly for dirt accumulation. Dirt particles can interfere with the gripping and sealing function, posing a potential hazard.

7.2.5 Regularly check the product for sufficient lubrication to ensure proper functioning. The appropriate interval for lubrication depends on various operating conditions [connection cycles, media used, temperature and ambient conditions] and has to be established accordingly.
8 SEAL REPLACEMENT

Caution: Before installing, visually inspect the connector and check for correct type, body material, clamping jaws, sealing material and part number.

8.1 To remove the old front seal, hold the connector in open position (Figure 3).

8.2 Push the front seal in the direction of the inner diameter with a flat repair tool and remove it. WEH recommends using the O-ring picker Part No. E98-101969.

8.3 As soon as a gap becomes visible between the sealing disc (Figure 3) and the front seal, insert the repair tool into the gap, lift the seal and remove it.
Caution: Make sure the surface of the sealing disc is not damaged in the process.

8.4 Clean the recess of dirt and other residues.

8.5 Check that the size and material of the replacement front seal are correct.

8.6 Depending on the application and sealing material, apply a thin layer of a suitable lubricant to the new front seal.

8.7 Insert the new front seal.
Caution: The new front seal must be properly seated in the intended recess.

8.8 Actuate the connector. Visually check the connector for proper clamping and sealing function.

8.9 Connect the WEH® Connector to a test piece and pull the connector gently to ensure that it has engaged properly and that the clamping jaws grip before introducing the pressurized test medium.
Caution: The connector is properly connected when it engages onto the test piece with an audible click.

Determine a regular interval for inspection and lubrication. The media and environment are decisive factors in establishing this interval to prevent dryness and/or dirt accumulation. Difficulty of operation after continual use indicates need for lubrication or maintenance.
## 9 DIMENSIONS

approx. dimensions (mm)

<table>
<thead>
<tr>
<th>Body size</th>
<th>Inlet B1</th>
<th>D1</th>
<th>D2</th>
<th>L1</th>
<th>SW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G1/8” internal thread</td>
<td>36.0</td>
<td>22.0</td>
<td>75.0</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>G3/8” internal thread</td>
<td>41.0</td>
<td>27.0</td>
<td>80.0</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>G3/8” internal thread</td>
<td>46.0</td>
<td>30.0</td>
<td>80.0</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>G1/2” internal thread</td>
<td>52.0</td>
<td>33.0</td>
<td>120.0</td>
<td>30</td>
</tr>
</tbody>
</table>

Other body sizes available on request

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Contact

For queries and further information, please do not hesitate to contact us.

**Manufacturer:**

**WEH GmbH Precision Connectors**

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