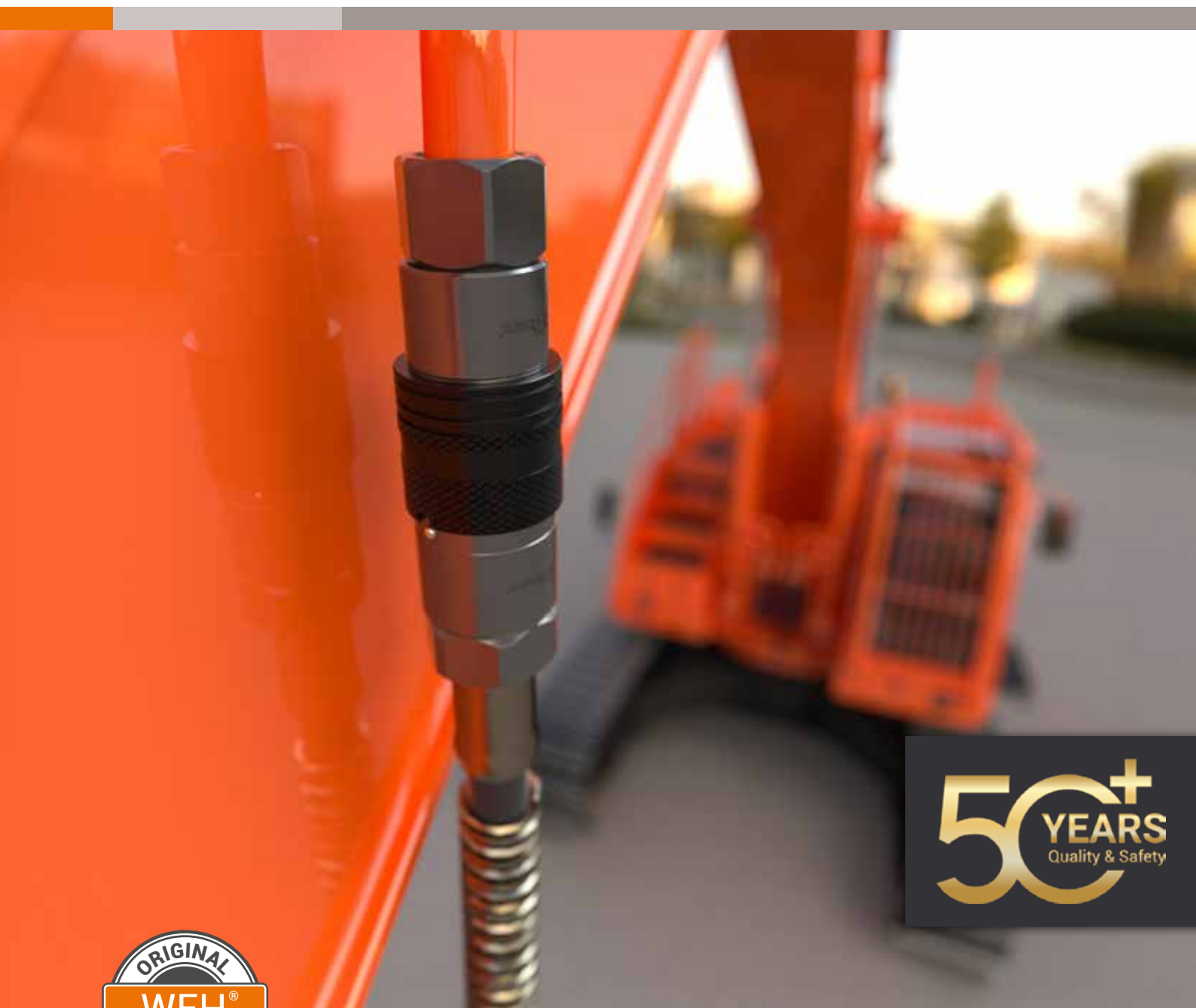



# WEH® Flat-Face

The quick connect couplings for hydraulic systems





# Fast and clean changes with flat-face couplings

The solution for hydraulic applications and systems

Do you have **hydraulic applications** in which lines are frequently connected and disconnected? And they have to meet the requirement of withstanding hard impacts with dynamic force (hammer strikes up to 8 tons) and sudden changes in flow direction?

Then **WEH® Flat-Face Couplings** are the right choice for you.

We deliver impressively long service life, high resistance under “heavy-duty” applications as well as **high bursting and operating pressure**.

#### Why are we so confident about our products?

In part because the plug-in fitting (TRN1) is optimized during the manufacturing process using the case hardening method. In this way, we achieve **maximum possible surface hardness** on the entire front part of the fitting. This is a major advantage in challenging applications.

The **WEH® Flat-Face Quick Connect Couplings** are not only **tough, they are also good for the environment**. In contrast to the old ISO-A or ISO-B couplings with conical valves, the loss of media is significantly lower when changing with a flat-face coupling. Our flat-sealing system ensures that no hydraulic oil leaks out. This is not only good for the environment, it is also good for your budget. No cleaning costs, no refills of hydraulic oil.

With **WEH® Flat-Face Quick Connect Couplings**, your work is fast, easy, clean and safe. **Our couplings significantly exceed the requirements of the applied standard ISO 16028 in many aspects** (more info on Page 9).

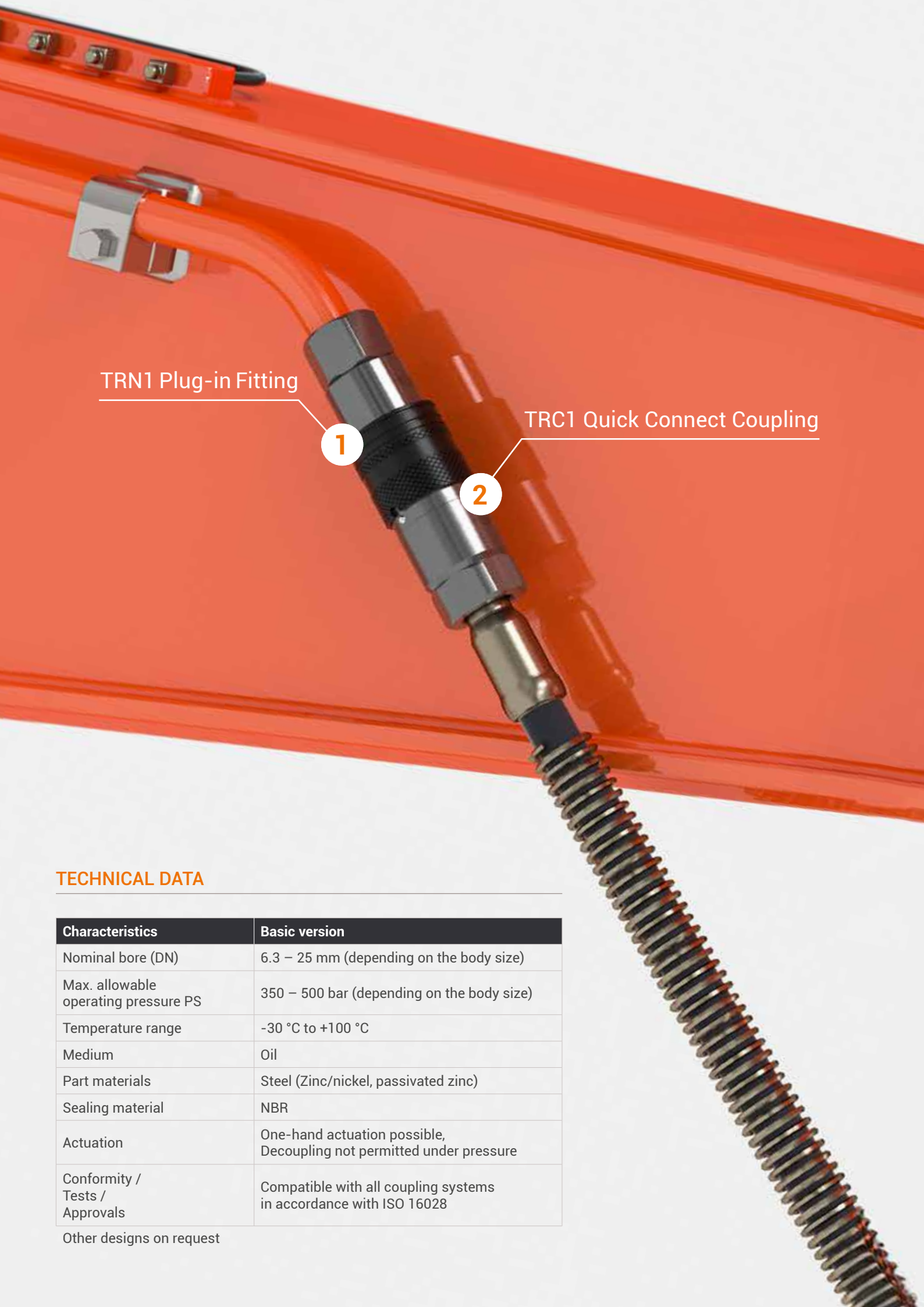
The **WEH® Quick Coupling System** comprises the TRC1 Quick Connect Coupling and the TRN1 Plug-in Fitting. The coupling system **can be connected on both sides to conventional hydraulic hoses with fittings with BSP thread**. Other connection sizes and types on request.

#### Another tip:

Order the **protection cap** as well. In this case, clean work includes not just the coupling itself, but the entire hydraulic system.

#### Your advantages at a glance

- ▶ Flat-sealing design
- ▶ Safety lock
- ▶ Single-hand operation
- ▶ Coupling possible under residual pressure
- ▶ Reduced contamination of hydraulics systems
- ▶ Leak-free decoupling
- ▶ High performance



TRN1 Plug-in Fitting

1

TRC1 Quick Connect Coupling

2

## TECHNICAL DATA

Characteristics	Basic version
Nominal bore (DN)	6.3 – 25 mm (depending on the body size)
Max. allowable operating pressure PS	350 – 500 bar (depending on the body size)
Temperature range	-30 °C to +100 °C
Medium	Oil
Part materials	Steel (Zinc/nickel, passivated zinc)
Sealing material	NBR
Actuation	One-hand actuation possible, Decoupling not permitted under pressure
Conformity / Tests / Approvals	Compatible with all coupling systems in accordance with ISO 16028

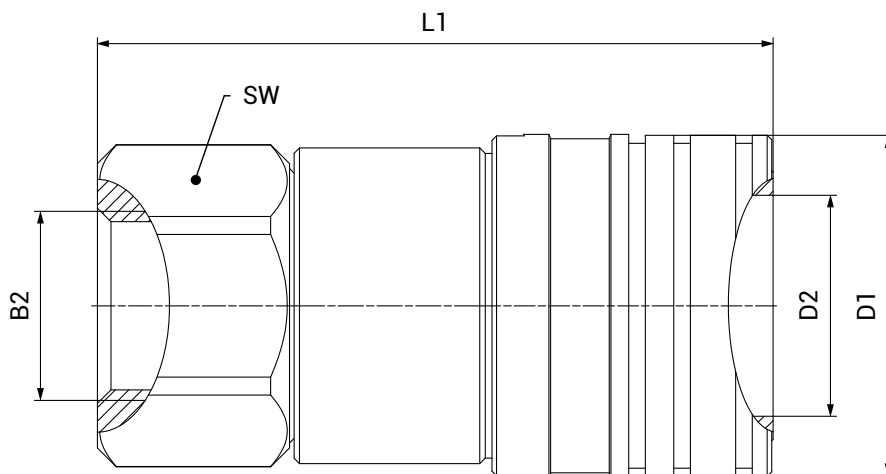
Other designs on request

# TRC1 Quick Connect Coupling

Flat-Face



Part No.	Description	DN	Max. allowable operating pressure PS	Min. burst pressure	B2 (Female thread)	L1	D1	D2	A/F	Flow volume in l/min at $\Delta P$ 3 bar	Leakage (decoupled)
<b>C1-183781</b>	TRC1-S1	6.3	500 bar	1500 bar	G1/4"	58.2	26.8	16.1	21	24	0.02 ml
<b>C1-183782</b>	TRC1-S2	10.0	400 bar	1200 bar	G3/8"	67.6	30.8	19.7	25	44	0.03 ml
<b>C1-183783</b>	TRC1-S3	12.5	400 bar	1200 bar	G1/2"	75.0	37.8	24.5	32	93	0.04 ml
<b>C1-183784</b>	TRC1-S4	16.0	400 bar	1200 bar	G3/4"	80.0	40.8	27.0	36	139	0.06 ml
<b>C1-183785</b>	TRC1-S5	19.0	400 bar	1200 bar	G3/4"	99.0	45.8	30.0	41	188	0.10 ml
<b>C1-183786</b>	TRC1-S6	25.0	350 bar	1200 bar	G1"	109	55.0	36.0	46	330	0.11 ml



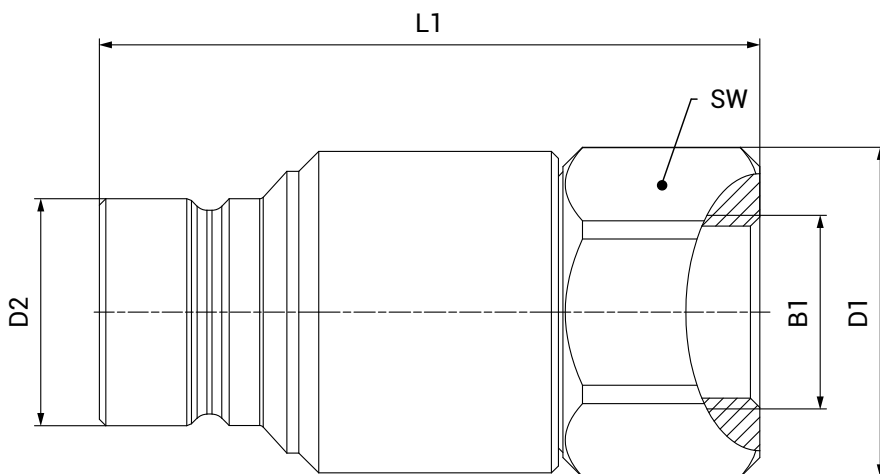


# TRN1 Plug-in Fitting

Flat-Face



Part No.	Description	DN	Max. allowable operating pressure PS	Min. burst pressure	B2 (Female thread)	L1	D1	D2	A/F	Flow volume in l/min at $\Delta P$ 3 bar	Leakage (decoupled)
C1-183775	TRN1-S1	6.3	500 bar	1500 bar	G1/4"	58.2	26.8	16.1	21	24	0.02 ml
C1-183776	TRN1-S2	10.0	400 bar	1200 bar	G3/8"	67.6	30.8	19.7	25	44	0.03 ml
C1-183777	TRN1-S3	12.5	400 bar	1200 bar	G1/2"	75.0	37.8	24.5	32	93	0.04 ml
C1-183778	TRN1-S4	16.0	400 bar	1200 bar	G3/4"	80.0	40.8	27.0	36	139	0.06 ml
C1-183779	TRN1-S5	19.0	400 bar	1200 bar	G3/4"	99.0	45.8	30.0	41	188	0.10 ml
C1-183780	TRN1-S6	25.0	350 bar	1200 bar	G1"	109	55.0	36.0	46	330	0.11 ml



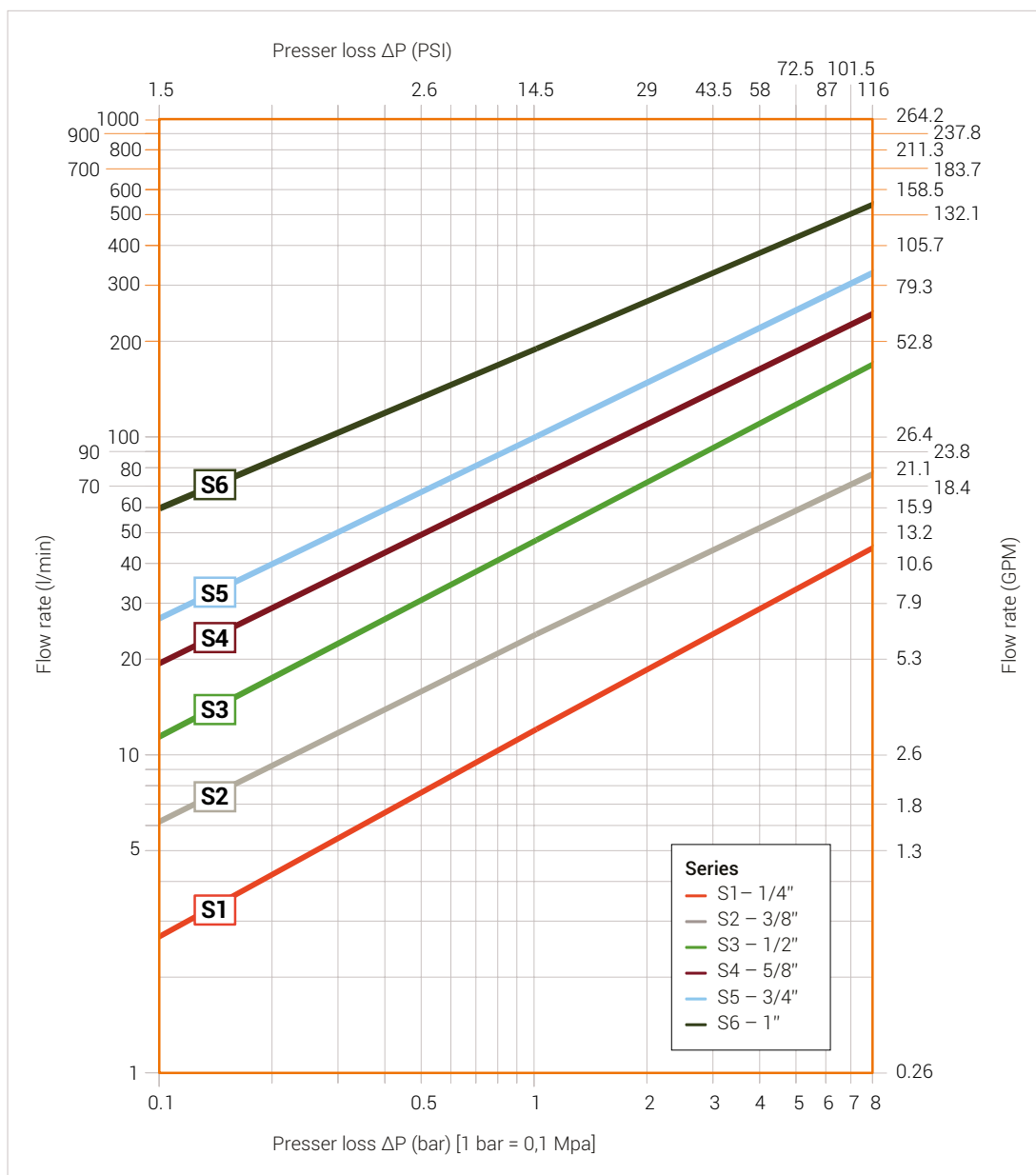
# Flow rates

## Important parameters

One important parameter for the use of a quick connect coupling is the flow rate. With the WEH® Flat-Face, you achieve **excellent flow values in your hydraulic system.**

**Another interesting insight:** In the diagrams, you can see which flow you can achieve with WEH® Quick Connect Couplings at a specific pressure loss. Please note that this information is only valid in the combination of TRN1 with TRC1, not for coupling with competitor products.

Series	Housing size in inches	Flow rate in l/min @ ΔP 3 bar
S1	1/4"	24
S2	3/8"	44
S3	1/2"	93
S4	5/8"	139
S5	3/4"	188
S6	1"	330



Note:  
The inch figures after the individual serial numbers correspond to the housing size in inches. The size of the media connect may be different.

# Protection caps

## Accessories

**The majority of breakdowns in hydraulic systems** are caused by contamination.

Dirt that gets on the couplings or plug-in fittings when decoupled can enter the hydraulic circuit after coupling. **Our clear recommendation:** Use protection caps and always place them on the quick connect coupling and plug-in fitting after detaching the couplings.

This prevents any contamination of the contact surface of couplings and plug-in fittings, and thus protects your hydraulic system.

### By the way:

The protection caps can be attached to the coupling and plug-in fitting to prevent loss.

When the coupling and plug-in fitting are connected, the protection caps can be stuck together.

This prevents any contamination of the protection cap.

Part No.	Description
W183989	Protection cap for quick connect coupling TRC-S1
W183990	Protection cap for quick connect coupling TRC-S2
W183991	Protection cap for quick connect coupling TRC-S3
W183992	Protection cap for quick connect coupling TRC-S4
W183993	Protection cap for quick connect coupling TRC-S5
W183994	Protection cap for quick connect coupling TRC-S6
W183995	Protection cap for plug-in fitting TRN-S1
W183996	Protection cap for plug-in fitting TRN-S2
W183997	Protection cap for plug-in fitting TRN-S3
W183998	Protection cap for plug-in fitting TRN-S4
W183999	Protection cap for plug-in fitting TRN-S5
W184000	Protection cap for plug-in fitting TRN-S6



# Applications

Industries that rely on flat-sealing couplings



Anywhere work is carried out using hydraulics, the WEH® Flat-Face Quick Connect Couplings are reliable helpers. **Fast, easy, safe, clean and effective:** If these characteristics are essential and you need to quickly connect and disconnect lines in your daily work, flat-face couplings offer you a real advantage. The **quick release couplings**, as these couplings are also referred to, are used in the construction industry, agriculture and forestry, mining, manufacturing or mechanical and plant engineering.

**These applications are demanding** because they need to withstand rapid changes of direction and hard dynamic impacts. The satisfaction of customers from different industries demonstrates that the couplings work extremely well.

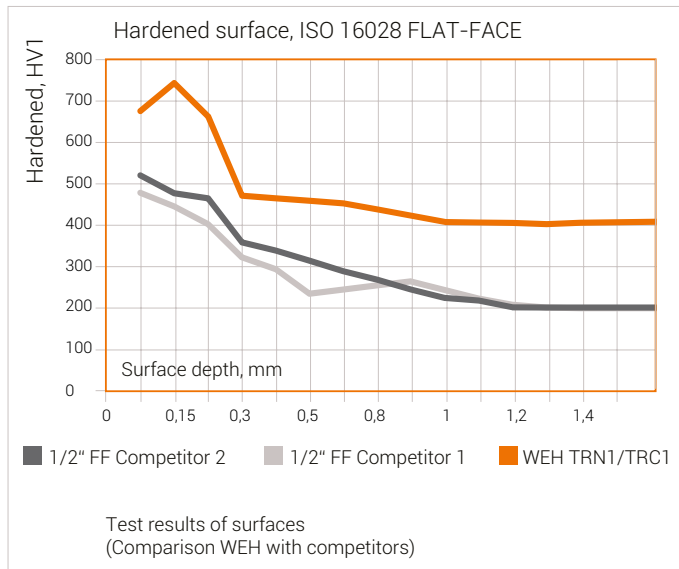
- 1 Construction equipment
- 2 Agriculture
- 3 Forestry
- 4 Mining
- 5 Manufacturing
- 6 Mechanical and plant engineering



# Better than the standard

Your advantages at a glance

**WEH® TRC1-TRN1 is considerably more stable and durable:**



The surface of the TRN1 plug-in fitting is specially hardened using the case hardening method. **This makes the surface hardness of the plug-in fittings around 30% higher than comparable plugin fittings from other providers.**

This pays off when it comes to durability – particularly for „heavy-duty“ uses and applications with a high operating pressure.

**WEH® TRC1-TRN1 is better than the standard requires:**

Maximum **operating and burst pressure** are far **above the requirements of ISO standard 16028**. That's why these quick couplings are particularly suitable for “heavy-duty” applications.

Thanks to special seal technology, there is a **significantly lower loss of media** (leakage) when uncoupling. This is not only economically efficient, it is also good for the environment.

Body size	Max. PS WEH® TRC1-TRN1	Minimum PS according to ISO 16028	Leakage WEH® TRC1-TRN1	permitted leakage according to ISO 16028
6.3	500	315	0.02	0.02
10	400	250	0.03	0.035
12.5	400	250	0.04	0.07
16	400	250	0.06	0.10
19	400	250	0.10	0.15
25	350	250	0.11	0.25



Ease of use



Quality



Safety



Efficiency



Environmental friendliness

## MAINTENANCE INSTRUCTIONS

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- Never put excessive strain on the quick connect coupling. Observe the maximum permitted operating pressure indicated in the data sheet. The information listed for burst pressure refer to products under unintended overload, without corrosion, without damages etc. Improper operation of the quick connect coupling can lead to personal injuries or death as well as material damages.
- Keep the quick connect coupling and plug-in fitting clean and protect against additional moisture. Before use, please wipe off.
- When decoupled, place the dust protection caps on the quick connect coupling and the plug-in fitting.
- Avoid damages to the front end surfaces.
- Regularly check the seal of the quick connect coupling and the moving parts. Replace the quick connect coupling if it is damaged.
- Check the plug-in fitting regularly. If ball indentations or abrasion are detected on the plug-in fitting, replace it. Worn plug-in fittings lead to a high level of wear on the quick connect coupling.
- Choose the appropriate port for your application. Ports that are too large cause unnecessary abrasion on the quick connect coupling.
- The dust protection caps can be stuck together when the quick connect coupling and plug-in fitting are coupled. This prevents any contamination of the dust protection cap.



## TECHNICAL EXPLANATIONS

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### **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)

### **Figures**

The illustrations and/or images used in this 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 descriptions. 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**

As a rule, WEH® Products are products which may be subject to wear and fatigue as a result of operation and depending on your individual application/use. Details – in particular regarding minimum inspection and maintenance intervals – can be found in the operating instructions of the specific WEH® Product.

## Contact

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

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