

2019

H₂ Refuelling

High-performance components
for hydrogen vehicles and fuelling stations

Fuelling technology for hydrogen

Catalogue 50 | V1.0



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» Introduction

ILLUSTRATIONS



WEH® 70 MPa Technology: TK17 H₂ 70 MPa fuelling nozzle with filling hose and TSA1 H₂ 70 MPa breakaway coupling incl. dispenser mounting

» Introduction

A VISION FOR A GLOBAL CHALLENGE

With great foresight for a future global challenge, WEH Gas Technology has been a pioneer in the field of alternative fuels since 1986. The aim was to develop their own H₂ fuelling system with maximum safety and outstanding functionality. For acceptability reasons the system should give the operator the 'feel' of a conventional refuelling system despite the highly complex technology.

This is where WEH as a pioneer sets international standards. Today, hydrogen filling stations and fuel cell vehicles around the world are equipped almost exclusively with WEH[®] Fuelling Components. Through intensive research and development, WEH has become a reliable and valued partner of the automotive industry in this cutting-edge technology.

In 2004, the California Fuel Cell Partnership has rewarded WEH's commitment with the „Incentive Award“ for the Certification of the TK16 H₂ fuelling nozzle. WEH has also contributed considerably to the EU-funded projects Clever, CUTE and StorHy. WEH has been committed in a number of projects worldwide promoting alternative drive systems thus also being an initiator for a mobile society with a future.

A complete range of products for H₂ refuelling is available - from fuelling nozzles, hoses, breakaway couplings and filters for fuelling stations to receptacles and check valves in vehicles.

All components are protected by a patent and cover all applications for refuelling cars, buses and trucks.

The well proven design, ease of operation, safety and reliability of all WEH[®] Products has led to widespread customer acceptance of alternative fuels and play a major part in the development of refuelling systems for alternative fuels.

An advanced product for a high performance application

WEH[®]'s Hydrogen Product Line has been designed expressly for the demanding applications of high-pressure hydrogen refuelling systems. All products suit the extreme flow and temperature conditions found in practical operation. Naturally all WEH[®] Products are constructed of high-quality materials. Throughout many years of experience and numerous tests special seal designs and sealing materials have been developed, which meet the demands of the medium and the application.

Test center

Modern, unique testing facilities ensure a comprehensive review of our products from the design phase to series production.

Unique WEH[®] Jaw locking mechanism

All fuelling nozzles have the unique jaw locking mechanism developed by WEH. The jaw locking system is superior to ball locking systems in that it tolerates dirt and reduces wear on the receptacle of the vehicle.



Enhanced safety by integrating a dirt particle filter

Using an integrated particle filter avoids dirt ingress and therefore leakage from the receptacle which gives enhanced safety and reliability - essential features for the volatile nature of H₂ products.

Technically advanced safety features

Hydrogen refuelling can be dangerous if unsuitable products are used. WEH[®] Products have a very high safety standard to reduce risk factors. Effective safety systems feature in all WEH[®] H₂ Products especially in the fuelling nozzles and achieve the necessary safety standards for use at self-service fuelling stations.

» Overview

OVERVIEW FUELLING NOZZLES / BREAKAWAY COUPLINGS

Overview of fuelling nozzles					
Type	Page	Car		Bus/truck	
TK17 H ₂ 70 MPa	10	✓			
TK17 H ₂ 70 MPa ENR with exchangeable data interface	14	✓			
TK17 H ₂ 35 MPa	18	✓			
TK17 H ₂ 35 MPa with data interface	22	✓			
TK16 H ₂	26	✓			
TK16 H ₂ with data interface	30	✓			
TK16 H ₂ High-Flow	64			✓	
TK16 H ₂ High-Flow with data interface	68			✓	
TK25 H ₂	72			✓	

Overview of service nozzles		
Type	Page	Discharging of H ₂ fuel tanks – car
TK6 H ₂	102	✓

Overview of breakaway couplings					
Type	Page	Car	Car - Inline	Bus/truck	Bus/truck - Inline
TSA1 H ₂ 70 MPa	34	✓			
TSA1 H ₂	38	✓			
TSA2 H ₂	44		✓		
TSA5 H ₂	76			✓	
TSA6 H ₂	80				✓

OVERVIEW FILTERS

Overview of filters					
Type	Page	Car	Bus/truck	Car fuelling station	Bus/truck fuelling station
TSF2 H ₂	92	✓	✓	✓	✓
TSF2 H ₂ Coalescing	96	✓	✓	✓	✓
TSF4 H ₂	98	✓	✓	✓	✓

» Overview

OVERVIEW PRESSURE RANGE / CODING

All WEH® Fuelling nozzles and receptacles have a coding for the gas type and the pressure range thus not allowing connection to natural gas vehicles and other pressure ranges.

OVERVIEW	Receptacle	TN1 H ₂	TN1 H ₂ TN1 H ₂ for IR*	TN1 H ₂ High-Flow TN1 H ₂ High-Flow for IR*	TN1 H ₂ 70 MPa TN1 H ₂ 70 MPa for IR*	TN5 H ₂	TN5 H ₂
Fuelling Nozzle	<i>Druck PN</i>	250 bar	350 bar	350 bar	700 bar	250 bar	350 bar
TK16 H ₂	250 bar	✓	✓	✓	✓		
TK16 H ₂ TK16 H ₂ with IR*	350 bar		✓	✓	✓		
TK16 H ₂ High-Flow TK16 H ₂ High-Flow with IR*	350 bar			✓	✓		
TK17 H ₂ 35 MPa TK17 H ₂ 35 MPa with IR*	350 bar		✓	✓	✓		
TK17 H ₂ 70 MPa TK17 H ₂ 70 MPa ENR**	700 bar				✓		
TK25 H ₂	250 bar					✓	✓
TK25 H ₂	350 bar						✓

* IR = infrared data interface / ** ENR = exchangeable data interface

NATIONAL AND INTERNATIONAL PROJECTS

Today WEH is the world market leader for alternative fuelling components and partner to the automotive industry. In addition, WEH is worldwide active in numerous projects for the promotion of the use of alternative methods of propulsion thus being an important driving force for a future-oriented mobile society.

Supplier for CUTE
(Clean Urban Transport for Europe – EU funded project, supported by the 5. Framework Programme of the EU).
Follow-up program: CHIC



NRW Project
Project partner for the development of the 700 bar technology for vehicles and portable fuel cell systems funded by the state of North Rhine Westphalia

StorHy Project
Head of the working group WP4 funded by the EU - Development of hydrogen components for 700 bar



» Standards, approvals and memberships

INTERNATIONAL STANDARDS AND APPROVALS

The following overview shows the standards and approvals of WEH® Products. For detailed information see the respective product.

- Regulation (EC) No. 79/2009
- SAE J2600:2002
- SAE TIR 2799
- SAE J2601
- ATEX
- NEC Class 1 Zone 1
- KHKS 0220

WEH is certified to ISO 9001:2015



MEMBERSHIPS

WEH Gas Technology is a member of the German Hydrogen and Fuel Cell Association.



» Fuelling Nozzle TK17 H₂ 70 MPa

DESCRIPTION



Features

- Left or right single-handed operation
- Compatible with WEH[®] TN1 H₂ 70 MPa receptacle profile
- WEH[®] EASY-TURN 250° swivel joint
- Easy operation
- Extremely high flow rate → short filling times
- Plastic thermal protection
- Hand grip with magnet
- WEH[®] Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH[®] TK17 H₂ 70 MPa was developed for refuelling cars with compressed hydrogen (CGH₂). The fuelling nozzle with single-handed operation is just as quick and easy to use as the common petrol nozzle and has a similar look and feel. Simply lift the nozzle from the dispenser mounting and place it onto the vehicle's receptacle. 250° rotation makes for easy engagement with the vehicle's fuel receptacle. Compress the actuation lever until locking lever engages and the fuelling procedure begins. The gaseous hydrogen can only flow through the line if there is a safe connection. After refuelling disengage the nozzle's locking lever and disconnect. Please note that refuelling may be stopped or paused at any time. The hand grip has a magnet for actuation of the magnet switch for activation of the dispenser. The WEH[®] TK17 H₂ 70 MPa has a coding specifically for pressure range and gas type and thus the coding will not allow connection to natural gas vehicles or other pressure ranges.

Safety

WEH[®] TK17 H₂ 70 MPa offers optimum safety to the operator. The fuelling nozzle remains connected to the receptacle until the system is depressurized.

Application

Fuelling nozzle for H₂ fast filling of cars at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

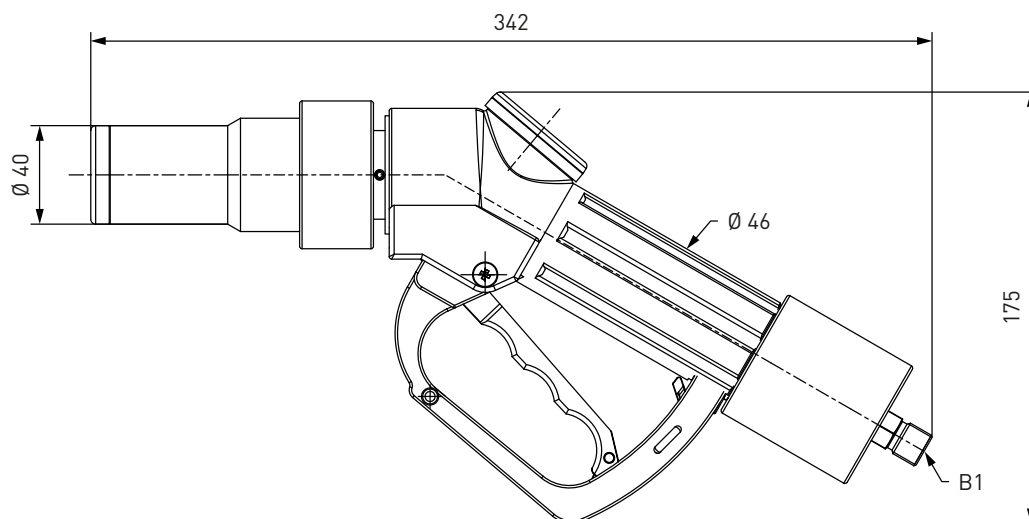
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	3 mm	On request
Pressure range	PN = 700 bar (10,000 psi) PS = 875 bar PT = 1255 bar	
Temperature range	-40 °C up to +85 °C [-40 °F up to +185 °F]	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection and hand grip with magnet. Without gas recirculation	On request
Weight	Approx. 1.75 kg (3.86 lbs.)	
Registration	SAE J2600:2002 SAE TIR J2799	

» Fuelling Nozzle TK17 H₂ 70 MPa

ORDERING | WEH® TK17 H₂ 70 MPa Fuelling Nozzle

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)
C1-94441-X01	TK17 H ₂ 70 MPa	700 bar / 10,000 psi	UNF 9/16" -18*

* 60° inner cone

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK17 H₂ 70 MPa Fuelling Nozzle:

High pressure filling hoses

High pressure filling hose for connecting fuelling nozzle and TSA1 H₂ 70 MPa breakaway coupling.
Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 4.5 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-108609	UNF 9/16" -18*	3 m
E68-108610	UNF 9/16" -18*	4 m
E68-108611	UNF 9/16" -18*	5 m

* DKJ 58°

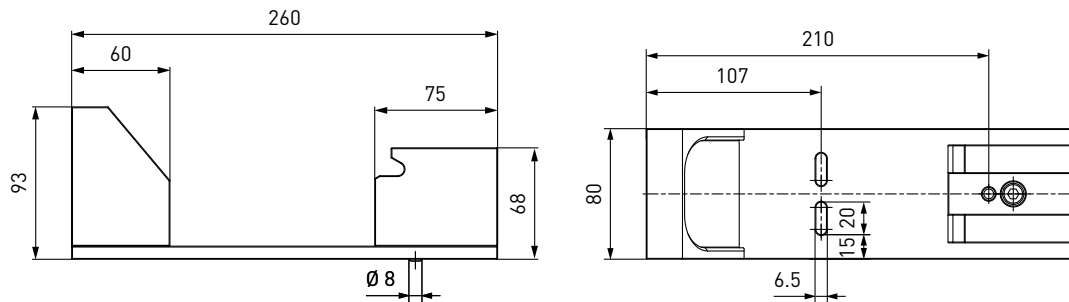
» Fuelling Nozzle TK17 H₂ 70 MPa

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

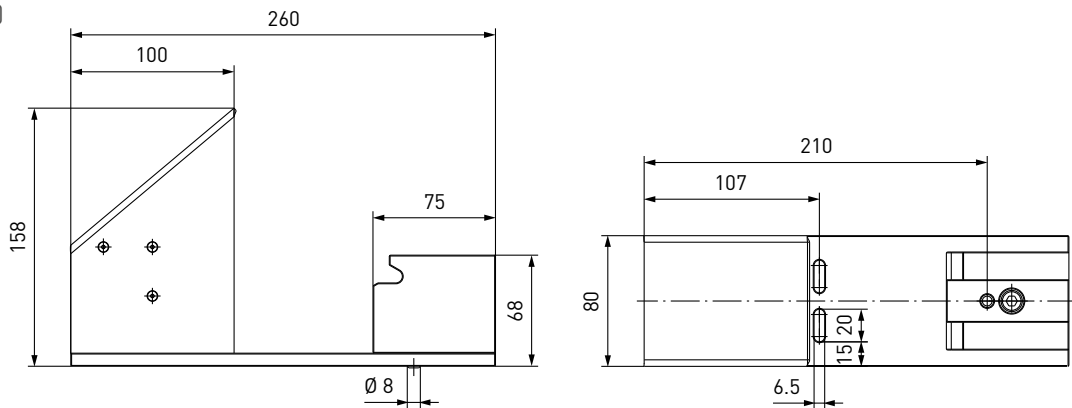
Switch actuated mounting

approx. dimensions (mm)



Switch actuated mounting with weather protection

approx. dimensions (mm)

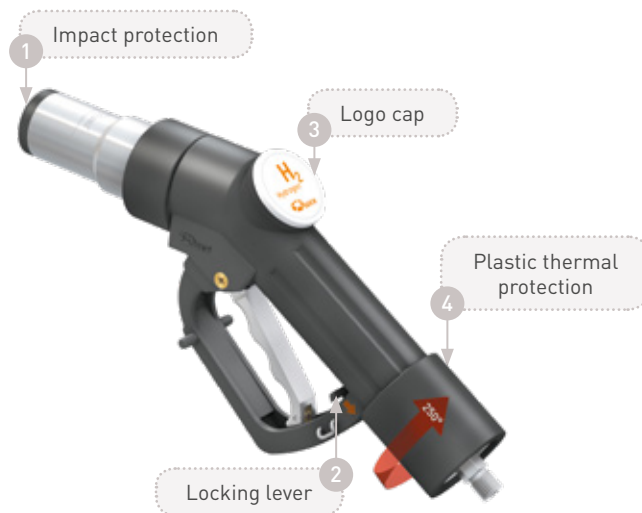


Part No.	Description
C1-79830	Mounting (switch actuated)
C1-91281	Mounting (switch actuated) with weather protection

»» Fuelling Nozzle TK17 H₂ 70 MPa

Spare parts

Various parts are available as spares for the TK17 H₂ 70 MPa fuelling nozzle.



Part No.	Description
E80-80187	1 Impact protection
E80-84030	2 Locking lever
E69-67826	3 Logo cap
E80-101120	4 Plastic thermal protection
E99-44923	Maintenance spray

When ordering please quote the part no. imprinted on the fuelling nozzle.

» Fuelling Nozzle TK17 H₂ 70 MPa ENR

DESCRIPTION



Features

- Left or right single-handed operation
- Compatible with WEH® TN1 H₂ 70 MPa Receptacle profile
- Exchangeable data interface (ENR)
- Integrated purging line for nitrogen purging
- Prepared for dispenser mounting with purging system
- WEH® EASY-TURN 250° swivel joint
- Increased robustness in case of improper handling
- Easy operation
- High flow rate → short filling times
- Protection against impact and cold
- Plastic thermal protection
- Hand grip with magnet
- WEH® Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH® TK17 H₂ 70 MPa ENR fuelling nozzle with exchangeable data interface (ENR = exchangeable nozzle receiver) was developed for refuelling cars with compressed hydrogen (CGH₂). The fuelling nozzle provides the same proven characteristics as the already known TK17 H₂ 70 MPa.

The new TK17 H₂ 70 MPa ENR is additionally equipped with a purging line, that allows purging with nitrogen during and after fuelling process. This can prevent ingress of moisture and formation of ice crystals when filling with pre-cooled hydrogen. Removing the fuelling nozzle from the receptacle is thus facilitated even in unfavorable climatic conditions.

The efficiency of the purging line has been successfully tested in compliance with the freezing test 7.26 from the draft version of ISO 17268.

The WEH® TK17 H₂ 70 MPa ENR offers optimum safety for the operator thanks to the locking mechanism. The fuelling nozzle remains connected to the receptacle until the locking lever is released by the operator.

Application

Fuelling nozzle for hydrogen fast filling of cars at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		25 MPa	35 MPa	35 MPa HF*	70 MPa
RECEPTACLE - pressure range/coding	25 MPa	✓			
	35 MPa	✓	✓		
	35 MPa HF*	✓	✓	✓	
	70 MPa	✓	✓		✓

* HF = High-Flow

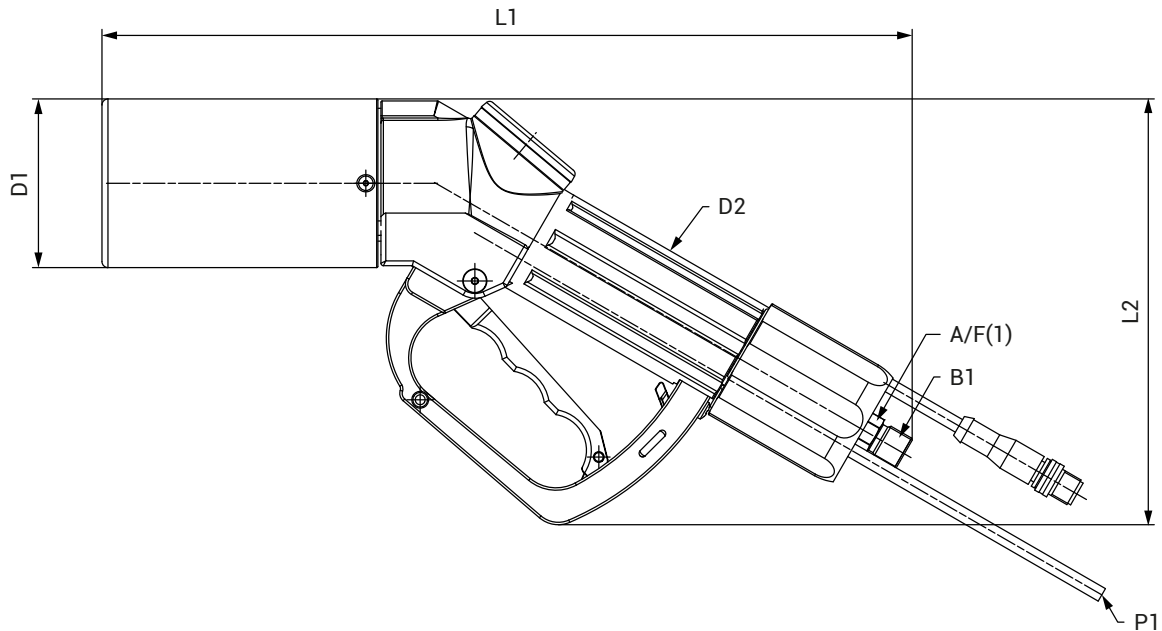
TECHNICAL DATA

Characteristics	Basic version
Nominal bore DN	3 mm
Pressure range	PN = 70 MPa PS = 87.5 MPa PT = 125.5 MPa
Temperature range	-40 °C up to +85 °C [-40 °F up to +185 °F]
Material	Corrosion resistant
Sealing material	Hydrogen compatible
Design	With plastic thermal protection, cold protection, hand grip with magnet, exchangeable data interface acc. to SAE J2799 and integrated purging line
Weight	Approx. 2.2 kg (4.85 lbs.)
Medium for purging	Nitrogen
Nominal bore DN of purging line	4 mm
Media temperature range of purging medium	-20 °C up to +85 °C [-4 °F up to +185 °F]
Flow rate during purging	500 l/h
Registration	Fuelling nozzle: SAE TIR J2799, tests acc. to SAE J2600:2002 IR data interface: ATEX, NEC or KTL

» Fuelling Nozzle TK17 H₂ 70 MPa ENR

ORDERING | WEH® TK17 H₂ 70 MPa ENR Fuelling nozzle

approx. dimensions (mm)



Part no.	Description	Pressure (PN)	B1 (external thread)	P1	L1	L2	D1	D2	A/F(1)
C1-160702-X01	TK17 H ₂ 70 MPa ENR (ATEX IR data interface)	70 MPa	UNF 9/16"-18*	∅ 6	339	175	70	46	14
C1-160701-X01	TK17 H ₂ 70 MPa ENR (NEC IR data interface)	70 MPa	UNF 9/16"-18*	∅ 6	339	175	70	46	14
C1-164846	TK17 H ₂ 70 MPa ENR (KTL IR data interface)	70 MPa	UNF 9/16"-18*	∅ 6	339	175	70	46	14

* 60° inner cone

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK17 H₂ 70 MPa ENR Fuelling nozzle:

Hose set

Hose set for connecting fuelling nozzle and TSA1 H₂ 70 MPa breakaway coupling, complete with high pressure filling hose (suitable for pre-cooled hydrogen), data cable, purging line and braided protection hose as cover. Design of high pressure filling hose: max. operating pressure PS: 87.5 MPa / nominal bore DN: 4.5 mm



Part no.	B1/B2 (internal thread)	P1/P2	Hose length
E68-161886	UNF 9/16"-18*	∅ 6	3 m
E68-161887	UNF 9/16"-18*	∅ 6	4 m
E68-161888	UNF 9/16"-18*	∅ 6	5 m

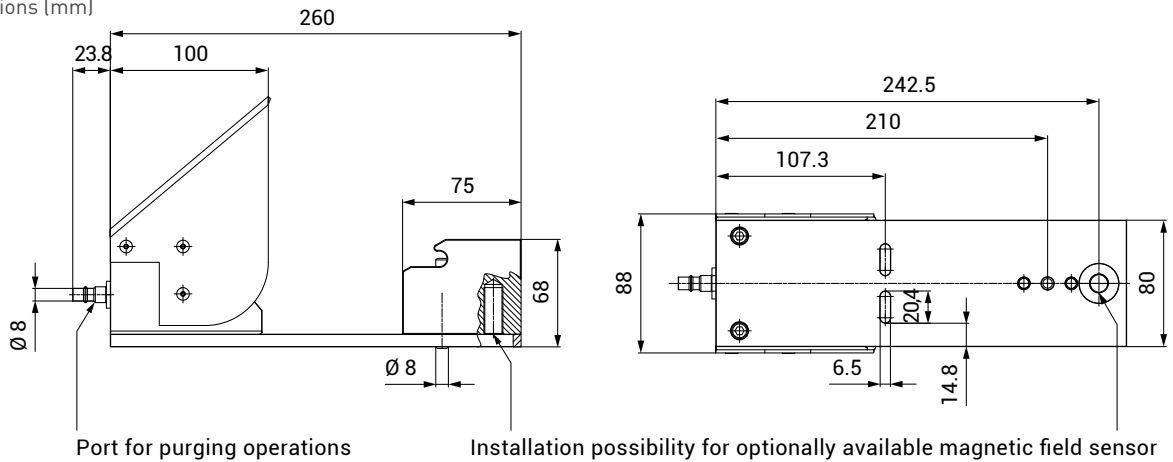
* DKJ 58°

» Fuelling Nozzle TK17 H₂ 70 MPa ENR

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. The mounting is equipped with a port for purging operations, that allows purging of the fuelling nozzle whilst not in use. Optionally a magnetic field sensor can be installed.

approx. dimensions (mm)



Part no.	Description
C1-122121	Mounting (switch actuated) with weather protection, special cover for impact protection sleeve and purging system
E68-123980	Magnetic field sensor with 2 m cable, explosion-proof acc. to ATEX

Data cable

Part no.	Description	Hose length
E68-96194	Data cable suitable for 4 m hose set	4.45 m
E68-96193	Data cable for connecting with the converter	3.45 m

Other lengths on request

TNS1 H₂ Service receptacle

To prevent damage in the fuelling nozzle while purging or leak testing during maintenance in the course of which pressure is applied, we recommend the use of a service receptacle. The receptacle also protects the fuelling nozzle from dirt ingress whilst not in use.



Part no.	Description
C1-148079	TNS1 H ₂ Service receptacle incl. protection cap

» Fuelling Nozzle TK17 H₂ 70 MPa ENR

SPARE PARTS

Various parts are available as spares for the WEH® TK17 H₂ 70 MPa ENR Fuelling nozzle.



Part no.	Description
W137968	1 Impact protection sleeve (incl. 3 countersunk screws)
W137969	2 ATEX IR data interface (incl. 3 cylinder screws, 3 countersunk screws and o-ring)
W140915	2 NEC IR data interface (incl. 3 cylinder screws, 3 countersunk screws and o-ring)
W166319	2 KTL IR data interface (incl. 3 cylinder screws, 3 countersunk screws and o-ring)
E80-84030	3 Locking lever
E69-161748	4 Logo cap
E80-162272	5 Plastic thermal protection (cold protection)
E99-44923	Maintenance spray

When ordering please specify the part no. engraved on the fuelling nozzle.

» Fuelling Nozzle TK17 H₂ 35 MPa

DESCRIPTION



Features

- Left or right single-handed operation
- Compatible with WEH[®] TN1 H₂ receptacle profile
- WEH[®] EASY-TURN 250° swivel joint
- Easy operation
- Extremely high flow rate → short filling times
- Plastic thermal protection
- Hand grip with magnet
- WEH[®] Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH[®] TK17 H₂ 35 MPa was developed for refuelling cars with compressed hydrogen (CGH₂). The fuelling nozzle with single-handed operation is just as quick and easy to use as the common petrol nozzle and has a similar look and feel. Simply lift the nozzle from the dispenser mounting and place it onto the vehicle's receptacle. 250° rotation makes for easy engagement with the vehicle's fuel receptacle. Compress the actuation lever until locking lever engages and the fuelling procedure begins. The gaseous hydrogen can only flow through the line if there is a safe connection. After refuelling disengage the nozzle's locking lever and disconnect. Please note that refuelling may be stopped or paused at any time. The hand grip has a magnet for actuation of the magnet switch for activation of the dispenser. The WEH[®] TK17 H₂ 35 MPa has a coding specifically for pressure range and gas type and thus the coding will not allow connection to natural gas vehicles or other pressure ranges.

Safety

WEH[®] TK17 H₂ 35 MPa offers optimum safety to the operator. The fuelling nozzle remains connected to the receptacle until the system is depressurized.

Application

Fuelling nozzle for H₂ fast filling of cars at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

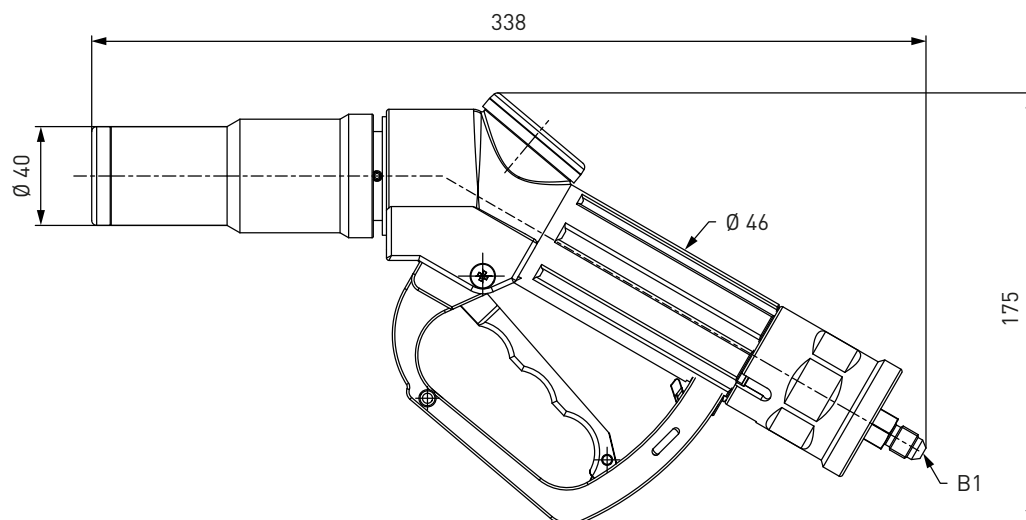
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	4 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C [-40 °F up to +185 °F]	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection and hand grip with magnet. Without gas recirculation	On request
Weight	Approx. 1.75 kg (3.86 lbs.)	
Registration	SAE J2600:2002	

» Fuelling Nozzle TK17 H₂ 35 MPa

ORDERING | WEH® TK17 H₂ 35 MPa Fuelling Nozzle

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)
C1-111066-X01	TK17 H ₂ 35 MPa	350 bar / 5,000 psi	UNF 7/16" -20*

* acc. to SAE J514, 37°

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK17 H₂ 35 MPa Fuelling Nozzle:

Filling hoses

Filling hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-60801	UNF 7/16" -20*	3 m
E68-60804	UNF 7/16" -20*	4 m
E68-60805	UNF 7/16" -20*	5 m

* acc. to SAE JIC, 37°

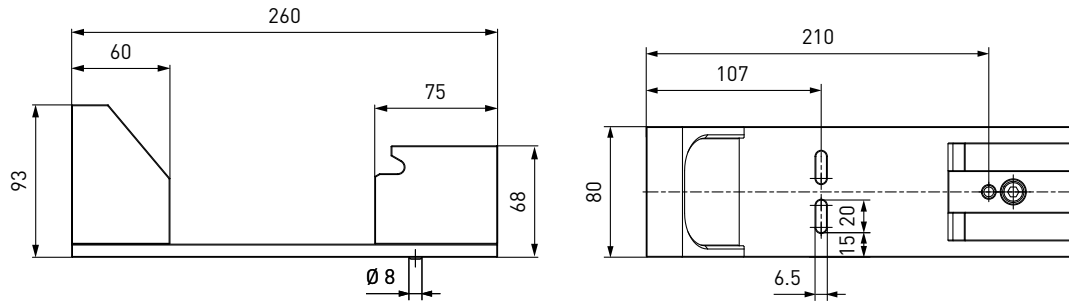
» Fuelling Nozzle TK17 H₂ 35 MPa

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

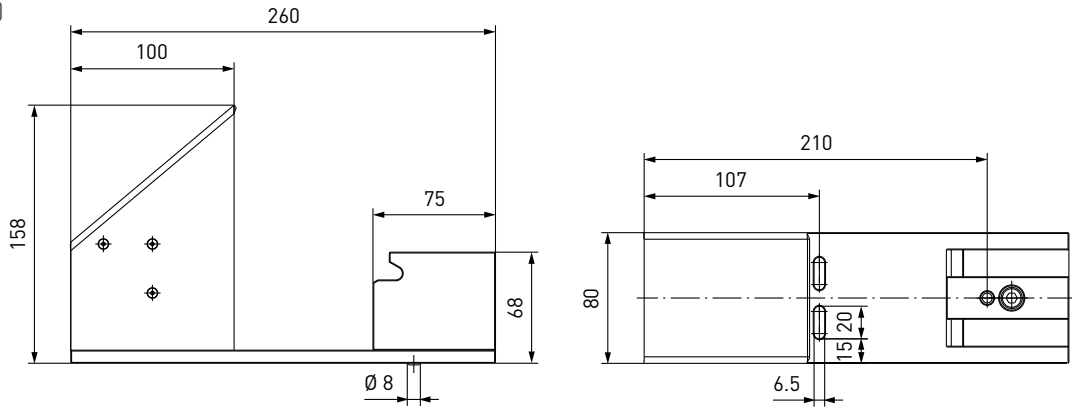
Switch actuated mounting

approx. dimensions (mm)



Switch actuated mounting with weather protection

approx. dimensions (mm)



Part No.	Description
C1-79830	Mounting (switch actuated)
C1-91281	Mounting (switch actuated) with weather protection

» Fuelling Nozzle TK17 H₂ 35 MPa

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose are available on request.

Spare parts

Various parts are available as spares for the TK17 H₂ 35 MPa fuelling nozzle.



Part No.	Description
E80-80187	1 Impact protection
E80-84030	2 Locking lever
E69-67826	3 Logo cap
E99-44923	Maintenance spray

When ordering please quote the part no. imprinted on the fuelling nozzle.

» Fuelling Nozzle TK17 H₂ 35 MPa with Data Interface

DESCRIPTION



Features

- Left or right single-handed operation
- Compatible with WEH® TN1 H₂ receptacle profile
- Integrated data interface acc. to SAE J2601
- WEH® EASY-TURN 250° swivel joint
- Easy operation
- Extremely high flow rate → short filling times
- Plastic thermal protection
- Hand grip with magnet
- WEH® Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH® TK17 H₂ 35 MPa with Data Interface was developed for refuelling cars with compressed hydrogen (CGH₂). The fuelling nozzle with single-handed operation is just as quick and easy to use as the common petrol nozzle and has a similar look and feel.

Simply lift the nozzle from the dispenser mounting and place it onto the vehicle's receptacle. 250° rotation makes for easy engagement with the vehicle's fuel receptacle. Compress the actuation lever until locking lever engages and the fuelling procedure begins. The gaseous hydrogen can only flow through the line if there is a safe connection. After refuelling disengage the nozzle's locking lever and disconnect. Please note that refuelling may be stopped or paused at any time. The hand grip has a magnet for actuation of the magnet switch for activation of the dispenser.

The WEH® TK17 H₂ 35 MPa has an interface (IR) for data transfer between vehicle and fuelling station.

Furthermore the fuelling nozzle has a coding specifically for pressure range and gas type and thus the coding will not allow connection to natural gas vehicles or other pressure ranges.

Safety

WEH® TK17 H₂ 35 MPa with data interface offers optimum safety to the operator. The fuelling nozzle remains connected to the receptacle until the system is depressurized.

Application

Fuelling nozzle for H₂ fast filling of cars at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

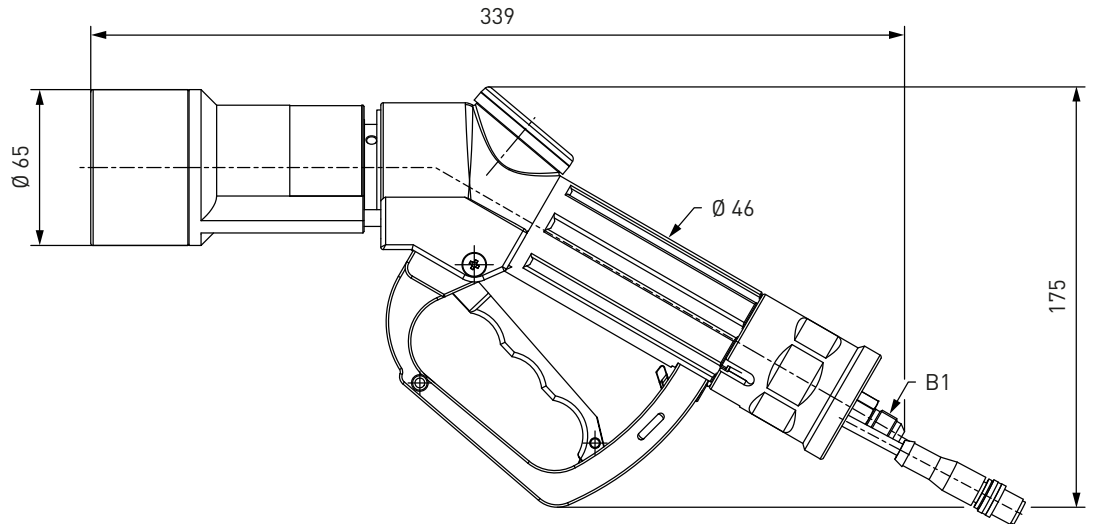
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	4 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection, hand grip with magnet and data interface. Without gas recirculation	On request
Weight	Approx. 2.2 kg (4.85 lbs.)	
Registration	SAE J2600:2002 Data interface: SAE J2601 / ATEX	Data interface: SAE J2601 / NEC Class 1 Zone 1

» Fuelling Nozzle TK17 H₂ 35 MPa with Data Interface

ORDERING | WEH® TK17 H₂ 35 MPa Fuelling Nozzle with Data Interface

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)
C1-111065-X01	TK17 H ₂ 35 MPa	350 bar / 5,000 psi	UNF 7/16"-20*

* acc. to SAE J514, 37°

On request the TK17 H₂ 35 MPa fuelling nozzle with data interface is also available with registration acc. to NEC Class 1 Zone 1 (acc. to SAE J2601).

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK17 H₂ 35 MPa Fuelling Nozzle with Data Interface:

Filling hoses

Filling hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-111445	UNF 7/16"-20*	3 m
E68-111446	UNF 7/16"-20*	4 m
E68-111447	UNF 7/16"-20*	5 m

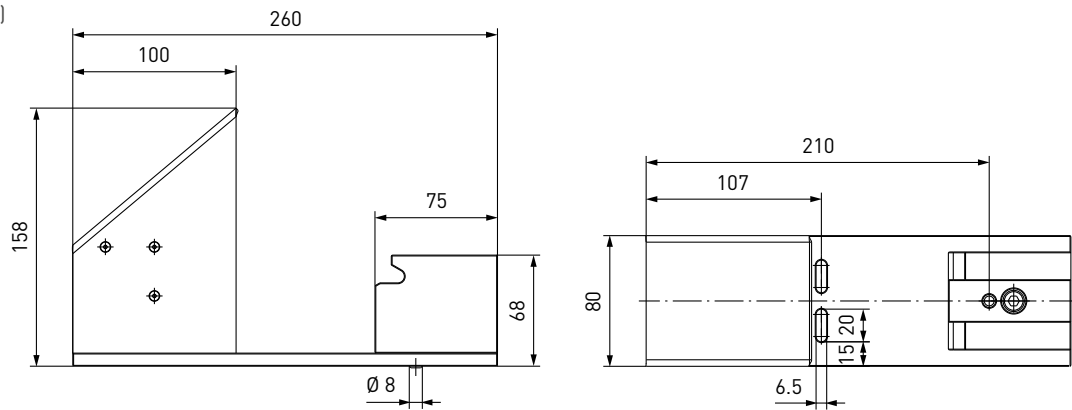
* acc. to SAE JIC, 37°

» Fuelling Nozzle TK17 H₂ 35 MPa with Data Interface

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

approx. dimensions (mm)



Part No.	Description
C1-91281	Mounting (switch actuated) with weather protection

» Fuelling Nozzle TK17 H₂ 35 MPa with Data Interface

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose are available on request.

Data cable

Data cable for connecting controller and dispenser.

Part No.	Description
E68-96193	Data cable 3.45 m

Spare parts

Various parts are available as spares for the TK17 H₂ 35 MPa fuelling nozzle with data interface.

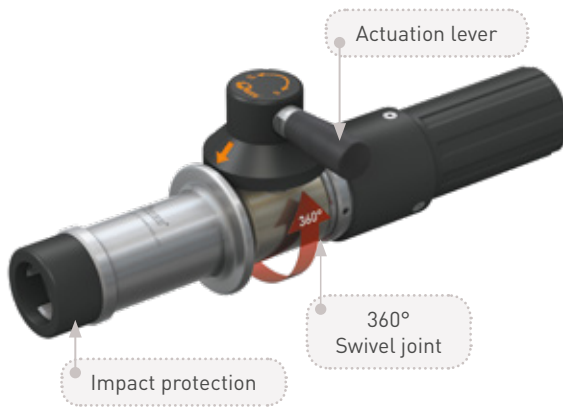


Part No.	Description
E80-84030	1 Locking lever
E69-67826	2 Logo cap
E99-44923	Maintenance spray

When ordering please quote the part no. imprinted on the fuelling nozzle.

» Fuelling Nozzle TK16 H₂

DESCRIPTION



Features

- Compatible with WEH® TN1 H₂ receptacle profile
- WEH® EASY-TURN 360° swivel joint for actuation lever
- Easy operation
- Extremely high flow rate → short filling times
- Recirculation of the vented gas
- Plastic thermal protection
- WEH® Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH® TK16 H₂ Fuelling Nozzle makes refuelling with compressed hydrogen (CGH₂) even more easy for the operator. The TK16 H₂ is very light in weight and therefore easy to operate.

The actuation lever is located on the integrated swivel joint making it easy to rotate into the optimal actuating position. The actuation lever needs less effort to actuate the nozzle.

The WEH® TK16 H₂ has a coding specifically for pressure range and gas type and thus the coding will not allow connection to natural gas vehicles or other pressure ranges.

Safety

WEH® TK16 H₂ offers optimum safety to the operator.

The fuelling nozzle remains connected to the receptacle until the gas between inlet valve and receptacle is depressurized.

Application

Fuelling nozzle for H₂ fast filling of cars at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

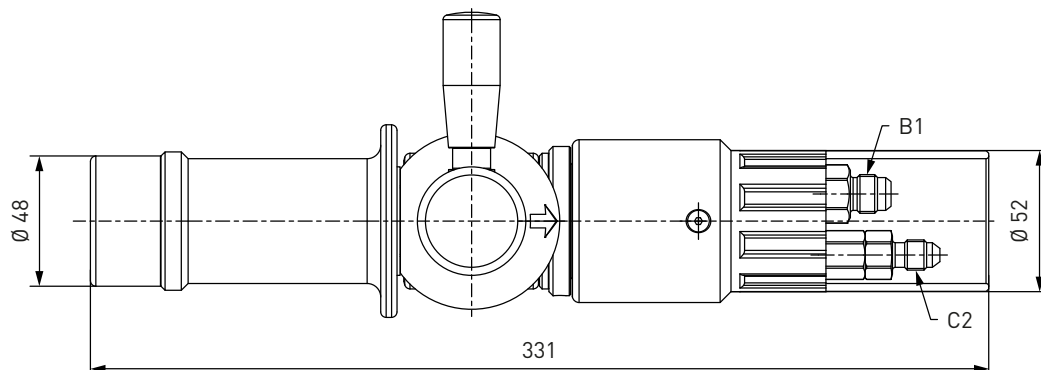
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	PN = 250 bar (3,600 psi) PS = 350 bar PT = 525 bar PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C [-40 °F up to +185 °F]	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection and gas recirculation	On request
Weight	Approx. 1.75 kg (3.86 lbs.)	
Registration	SAE J2600:2002	

» Fuelling Nozzle TK16 H₂

ORDERING | WEH® TK16 H₂ Fuelling Nozzle

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)	Gas recirculation C2 (external thread)
C1-45695-X4-X01	TK16 H ₂	250 bar / 3,600 psi	UNF 9/16"-18*	UNF 7/16"-20*
C1-45696-X5-X01	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 7/16"-20*

* acc. to SAE J514, 37°

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK16 H₂ Fuelling Nozzle:

Filling and venting hoses

Filling and venting hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-60917	UNF 9/16"-18*	UNF 7/16"-20*	3 m
C1-60920	UNF 9/16"-18*	UNF 7/16"-20*	4 m
C1-60923	UNF 9/16"-18*	UNF 7/16"-20*	5 m

* acc. to SAE JIC, 37°

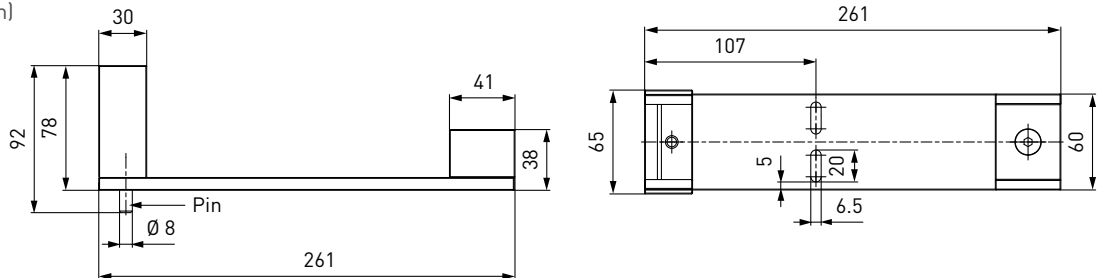
» Fuelling Nozzle TK16 H₂

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

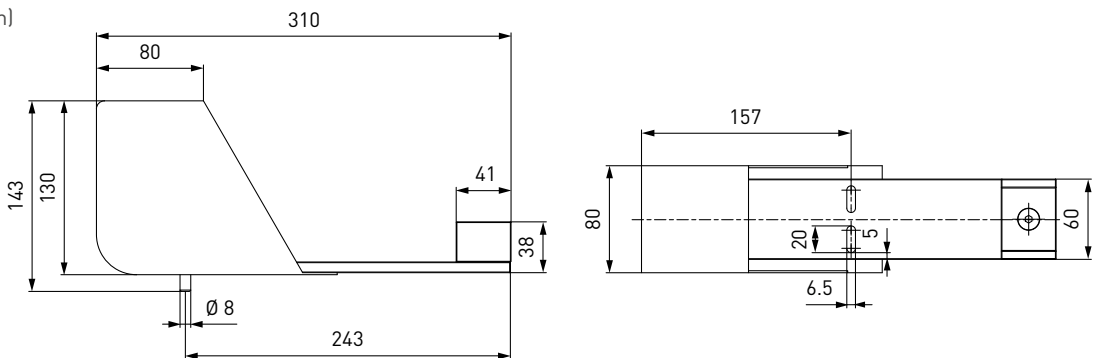
Switch actuated (with pin) resp. not switch actuated mounting

approx. dimensions (mm)



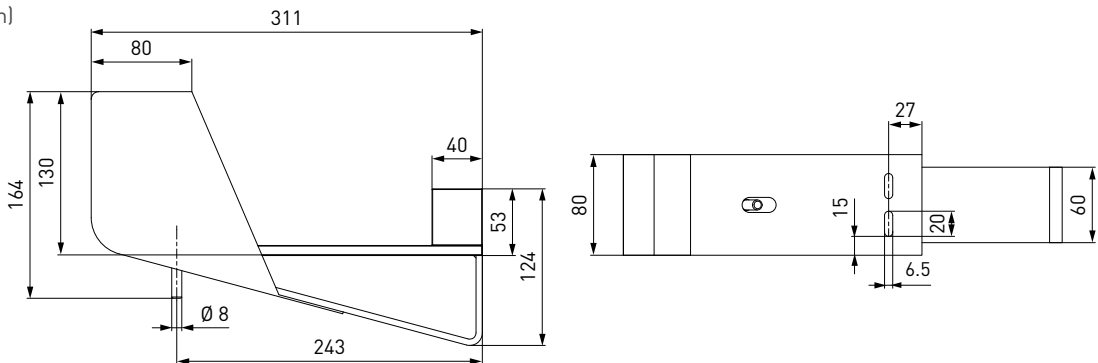
Switch actuated mounting with weather protection

approx. dimensions (mm)



Switch actuated mounting with weather protection and angle plate 15°

approx. dimensions (mm)



Part No.	Description
C1-55209	Mounting (switch actuated)
C1-55212	Mounting (not switch actuated)
C1-82152	Mounting (switch actuated) with weather protection
C1-112643	Mounting (switch actuated) with weather protection and angle plate 15°

» Fuelling Nozzle TK16 H₂

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose resp. the port 'C2' to the venting hose are available on request.

Spare parts

Various parts are available as spares for the TK16 H₂ fuelling nozzle.



Part No.	Description
E80-45857	1 Impact protection
W72504	2 Actuation lever
E99-44923	Maintenance spray

» Fuelling Nozzle TK16 H₂ with Data Interface

DESCRIPTION



Features

- Compatible with WEH® TN1 H₂ receptacle profile
- Integrated data interface acc. to SAE J2601
- WEH® EASY-TURN 240° swivel joint for actuation lever
- Easy operation
- Extremely high flow rate → short filling times
- Recirculation of the vented gas
- Plastic thermal protection
- WEH® Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH® TK16 H₂ Fuelling Nozzle with Data Interface makes refuelling with compressed hydrogen (CGH₂) even more easy for the operator. The TK16 H₂ with data interface features ease of operation, making refuelling more comfortable for the operator. The actuation lever is located on the integrated swivel joint making it easy to rotate into the optimal actuating position. The actuation lever needs less effort to actuate the nozzle.

The WEH® TK16 H₂ has an interface (IR) for data transfer between vehicle and fuelling station.

Furthermore the fuelling nozzle has a coding specifically for pressure range and gas type and thus the coding will not allow connection to natural gas vehicles or other pressure ranges.

Safety

WEH® TK16 H₂ with data interface offers optimum safety to the operator.

The fuelling nozzle remains connected to the receptacle until the gas between inlet valve and receptacle is depressurized.

Application

Fuelling nozzle for H₂ fast filling of cars at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

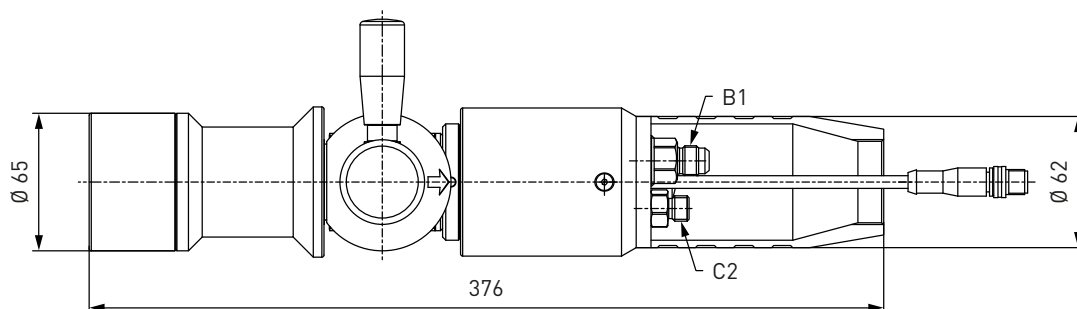
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection, gas recirculation and data interface	On request
Weight	Approx. 2.4 kg (5.29 lbs.)	
Registration	SAE J2600:2002 Data interface: SAE J2601 / ATEX	Data interface: SAE J2601 / NEC Class 1 Zone 1

» Fuelling Nozzle TK16 H₂ with Data Interface

ORDERING | WEH® TK16 H₂ Fuelling Nozzle with Data Interface

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1	Gas recirculation C2
C1-103471-X01	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16" -18* external thread	M12x1.5 external thread
C1-100208-X01	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16" -18** internal thread	UNF 9/16" -18** internal thread
C1-101987-X01	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16" -18** internal thread	UNF 7/16" -20** internal thread

* acc. to SAE J514, 37°

** 60° cone, MP-fitting

On request the TK16 H₂ fuelling nozzle with data interface is also available with registration acc. to NEC Class 1 Zone 1 (acc. to SAE J2601).

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK16 H₂ Fuelling Nozzle with Data Interface:

Filling and venting hoses

Filling and venting hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm (filling hose) resp. 2 mm (venting hose)



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-90698	UNF 9/16" -18*	M12x1.5	3 m
C1-94428	UNF 9/16" -18*	M12x1.5	4 m
C1-94429	UNF 9/16" -18*	M12x1.5	5 m

* acc. to SAE JIC, 37°

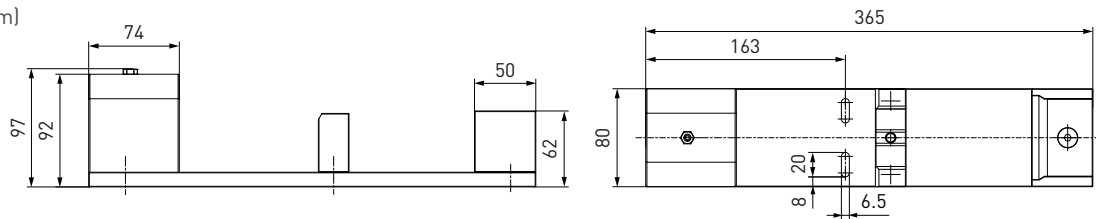
» Fuelling Nozzle TK16 H₂ with Data Interface

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

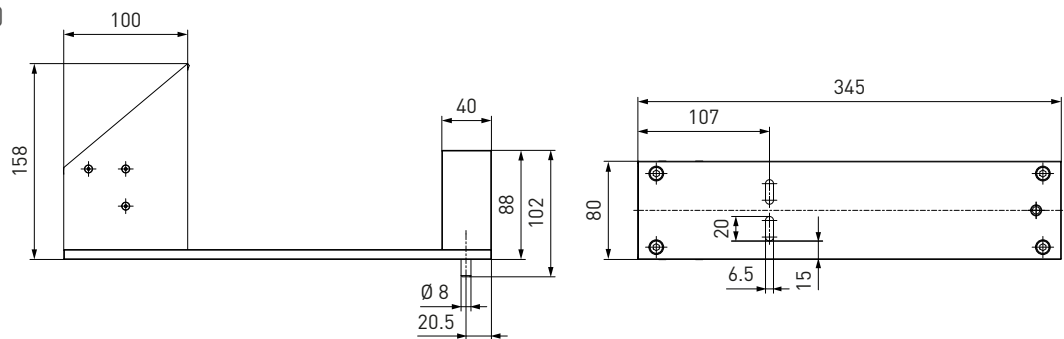
Not switch actuated mounting with protection of front sleeve

approx. dimensions (mm)



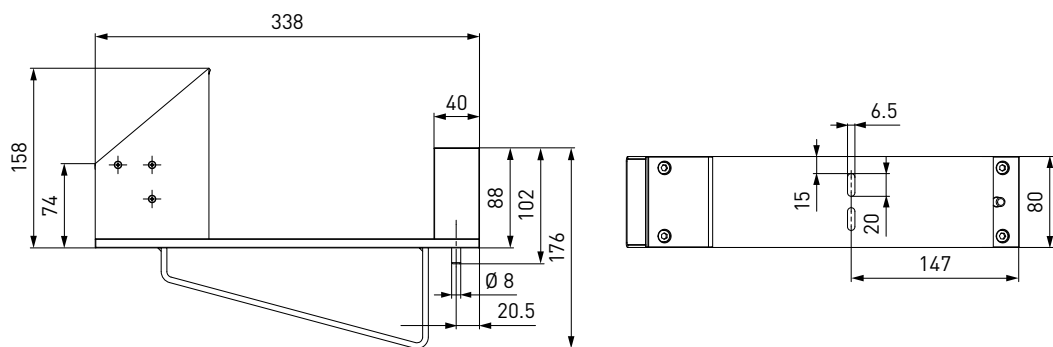
Switch actuated mounting with weather protection

approx. dimensions (mm)



Switch actuated mounting with weather protection and angle plate 15°

approx. dimensions (mm)



Part No.	Description
C1-94671	Mounting (not switch actuated) with protection of front sleeve
C1-90675	Mounting (switch actuated) with weather protection
C1-114632	Mounting (switch actuated) with weather protection and angle plate 15°

» Fuelling Nozzle TK16 H₂ with Data Interface

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose resp. the port 'C2' to the venting hose are available on request.

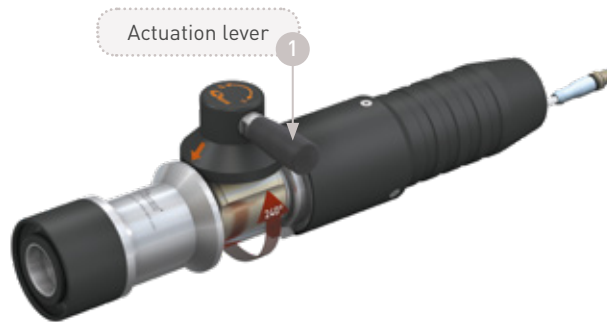
Data cable

Data cable for connecting controller and dispenser.

Part No.	Description
E68-96193	Data cable 3.45 m

Spare parts

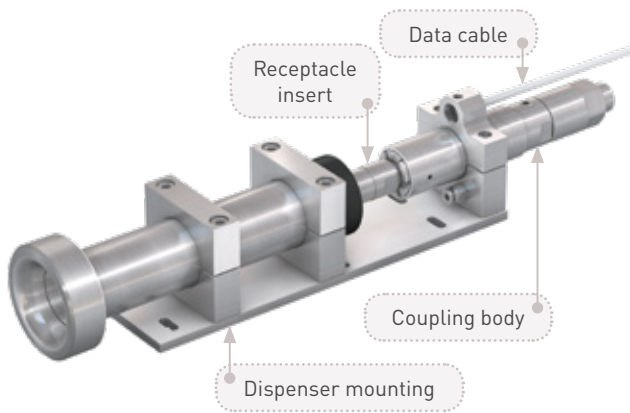
Various parts are available as spares for the TK16 H₂ fuelling nozzle with data interface.



Part No.	Description
W72504	1 Actuation lever
E99-44923	Maintenance spray

» Breakaway Coupling TSA1 H₂ 70 MPa

DESCRIPTION



Features

- Re-usable without factory reservicing
- Installation at the dispenser
- Small compact design
- Integrated cleanable filter (20 micron)
- Incl. dispenser mounting

The WEH[®] TSA1 H₂ 70 MPa Breakaway Coupling was developed specifically for 700 bar technology. The breakaway is installed directly at the dispenser of the car fuelling station. In the event of accidental deployment, e.g. driving a vehicle from the dispenser with the nozzle remaining in the vehicle fuel port, the coupling will separate the connections between dispenser and hose sealing both ends. This protects largely the receptacle, the fuelling nozzle and the dispenser against damage. The detached coupling can be easily reattached and placed back in service after having been function tested.

The integrated filter provides clean hydrogen and is easy to maintain.

WEH[®] Breakaway Coupling consists of a coupling body, a receptacle insert and a dispenser mounting.

The TSA1 H₂ 70 MPa for fuelling nozzles with data interface additionally contain a data cable for the data interface.

On request we also offer complete nozzle-hose-assemblies consisting of a fuelling nozzle, a hose set and a breakaway coupling.

Application

Breakaway coupling for car fuelling stations for direct installation at the dispenser.

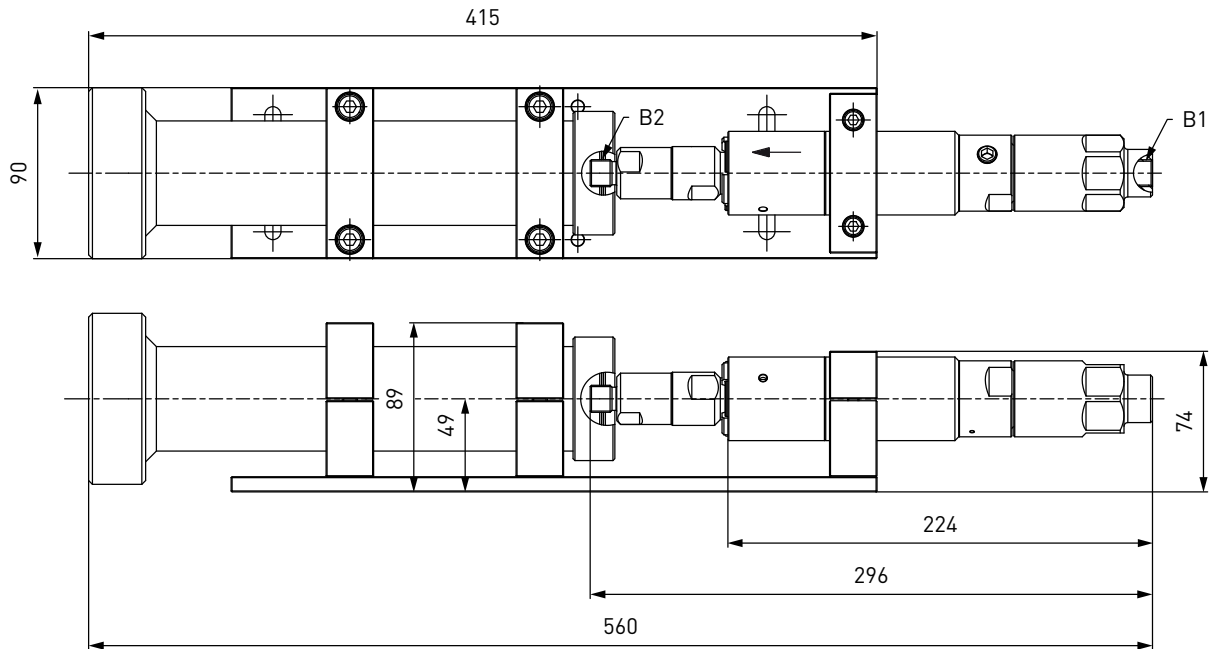
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	4 mm	On request
Pressure range	PN = 700 bar (10,000 psi) PS = 875 bar PT = 1255 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Breakaway force	300 - 600 N	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Design	With filter (20 micron) and dispenser mounting Incl. data cable (only for breakaways for fuelling nozzles with data interface)	On request

» Breakaway Coupling TSA1 H₂ 70 MPa

ORDERING | WEH® TSA1 H₂ 70 MPa Breakaway Coupling without gas recirculation

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	B1 (internal thread)	B2 (external thread)
C1-93837-X01	TSA1 H ₂ 70 MPa with filter (20 micron)	700 bar / 10,000 psi	UNF 9/16"-18*	UNF 9/16"-18**

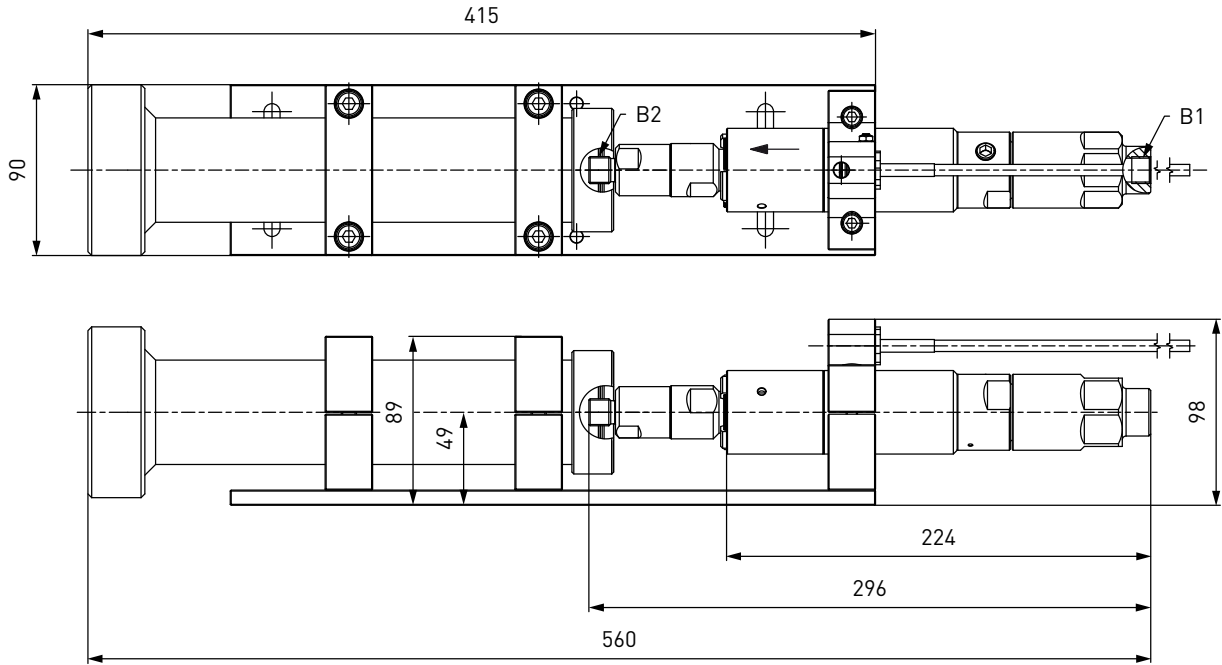
* 60° cone, MP-fitting

** 60° inner cone

» Breakaway Coupling TSA1 H₂ 70 MPa

ORDERING | WEH® TSA1 H₂ 70 MPa Breakaway Coupling without gas recirculation, for data interface

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	B1 (internal thread)	B2 (external thread)
C1-96938-X01	TSA1 H ₂ 70 MPa with filter (20 micron)	700 bar / 10,000 psi	UNF 9/16"-18*	UNF 9/16"-18**

* 60° cone, MP-fitting

** 60° inner cone

» Breakaway Coupling TSA1 H₂ 70 MPa

ACCESSORIES

The following accessories are available for the WEH® TSA1 H₂ 70 MPa Breakaway Coupling:

Filling hoses

Suitable filling hose for the TSA1 H₂ 70 MPa breakaway coupling are available on request.

Fittings

Stainless steel fittings for connecting port 'B2' to the filling hose are available on request.

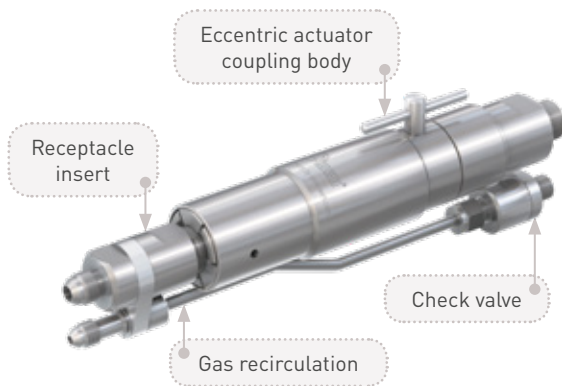
Spare parts

Various parts are available as spares for the TSA1 H₂ 70 MPa breakaway coupling.

Part No.	Description
W92182	Receptacle insert for TSA1 H ₂ 70 MPa (C1-93837, C1-96938)
C1-123477	Spare seal set for receptacle insert W92182
E69-67754	Wire filter insert 20 micron (incl. spring and o-ring)

» Breakaway Coupling TSA1 H₂

DESCRIPTION



Features

- Re-usable without factory reservicing
- Installation at the dispenser
- Small compact design
- Integrated cleanable filter (40 resp. 20 micron)
- Check valve at venting line
- No additional tool necessary

The WEH[®] TSA1 H₂ Breakaway Coupling offers additional safety for your car fuelling station. The breakaway is installed between the dispenser and the filling hose resp. filling and venting hose. In the event of accidental deployment, e.g. driving a vehicle from the dispenser with the nozzle remaining in the vehicle fuel port, the coupling will separate the connections between dispenser and hose sealing both ends. This protects largely the receptacle, the fuelling nozzle and the dispenser against damage. The detached coupling can be easily reattached and placed back in service after having been function tested. The integrated filter provides clean hydrogen and is easy to maintain.

The WEH[®] Breakaway Coupling consists of a coupling body, a receptacle insert and a gas recirculation with check valve. The breakaway is also available without gas recirculation.

The TSA1 H₂ for fuelling nozzles with data interface additionally contain a dispenser mounting incl. data cable for the data interface.

On request we also offer complete nozzle-hose-assemblies consisting of a fuelling nozzle, a hose set and a breakaway coupling.

Application

Breakaway coupling for car fuelling stations for direct installation at the dispenser.

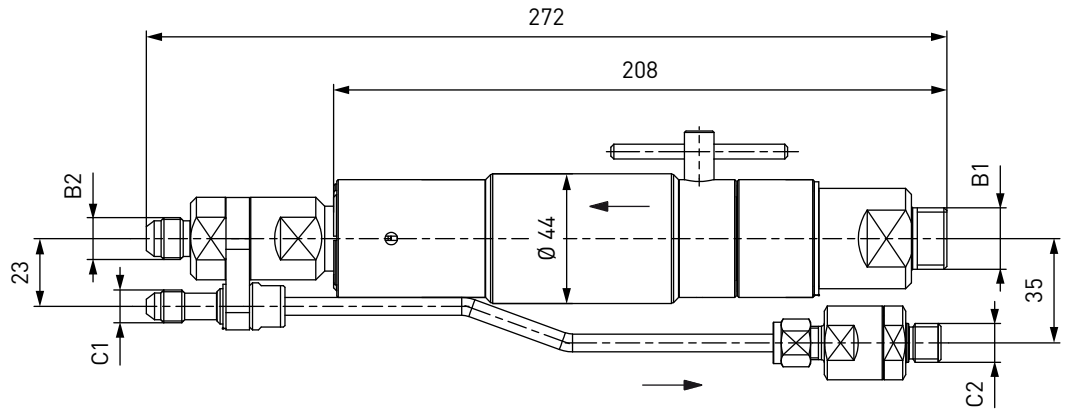
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 8 mm, depending on design	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C [-40 °F up to +185 °F]	On request
Breakaway force	300 - 600 N	On request
Material	Corrosion resistant stainless steel, aluminium	On request
Sealing material	Hydrogen compatible	On request
Design	With resp. without gas recirculation With filter (40 resp. 20 micron) Incl. dispenser mounting and data cable (only for breakaways for fuelling nozzles with data interface)	On request

» Breakaway Coupling TSA1 H₂

ORDERING | WEH® TSA1 H₂ Breakaway Coupling with gas recirculation, external thread

approx. dimensions (mm)

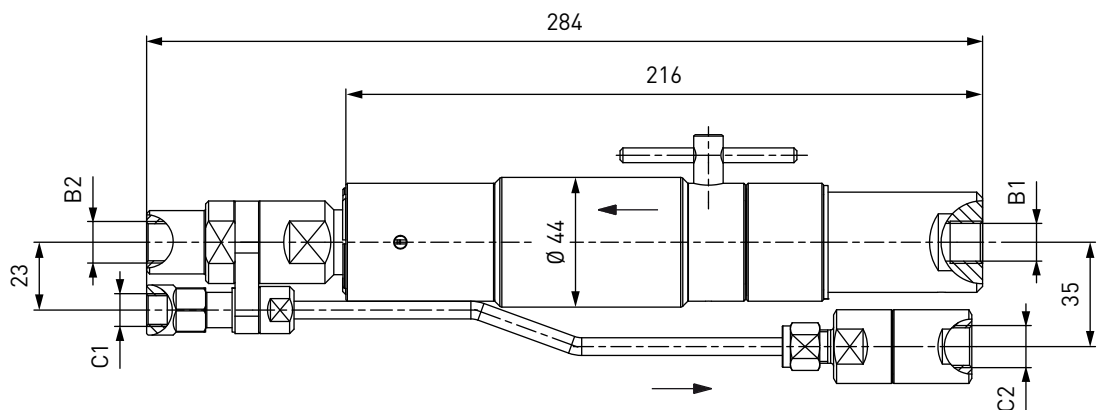


Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)	C1 (external thread)	C2 (external thread)
C1-18834-X7-X01	TSA1 H ₂ with filter (40 micron)	8	350 bar / 5,000 psi	G1/2"	UNF 9/16"-18*	UNF 7/16"-20*	G1/4"
C1-67741-X1-X01	TSA1 H ₂ with filter (20 micron)	8	350 bar / 5,000 psi	G1/2"	UNF 9/16"-18*	UNF 7/16"-20*	G1/4"

* acc. to SAE J514, 37°

ORDERING | WEH® TSA1 H₂ Breakaway Coupling with gas recirculation, internal thread

approx. dimensions (mm)



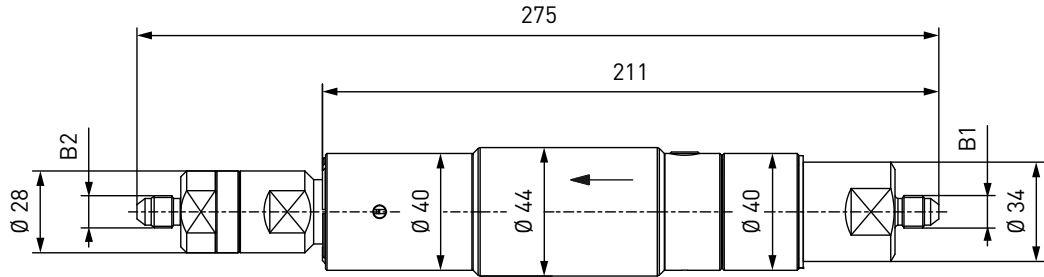
Part No.	Description	DN	Pressure (PN)	B1/B2 (internal thread)	C1 (internal thread)	C2 (internal thread)
C1-99345-X01	TSA1 H ₂ with filter (40 micron)	5	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 7/16"-20*	UNF 9/16"-18*

* 60° cone, MP-fitting

» Breakaway Coupling TSA1 H₂

ORDERING | WEH® TSA1 H₂ Breakaway Coupling without gas recirculation, external thread

approx. dimensions (mm)

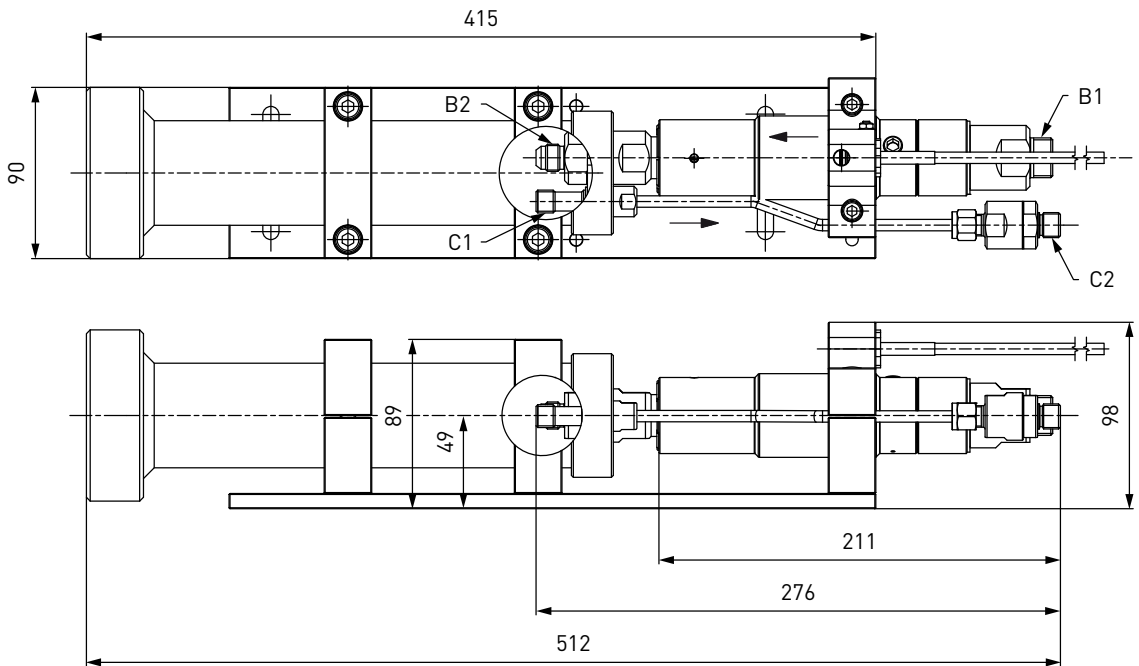


Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)
C1-111068-X01	TSA1 H ₂ with filter (40 micron)	4	350 bar / 5,000 psi	UNF 7/16"-20*	UNF 7/16"-20*

* acc. to SAE J514, 37°

ORDERING | WEH® TSA1 H₂ Breakaway Coupling with gas recirculation, for data interface

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)	C1 (external thread)	C2 (external thread)
C1-90679-X01	TSA1 H ₂ with filter (40 micron)	4	350 bar / 5,000 psi	G1/2"	UNF 9/16"-18*	M12x1.5**	G1/4"

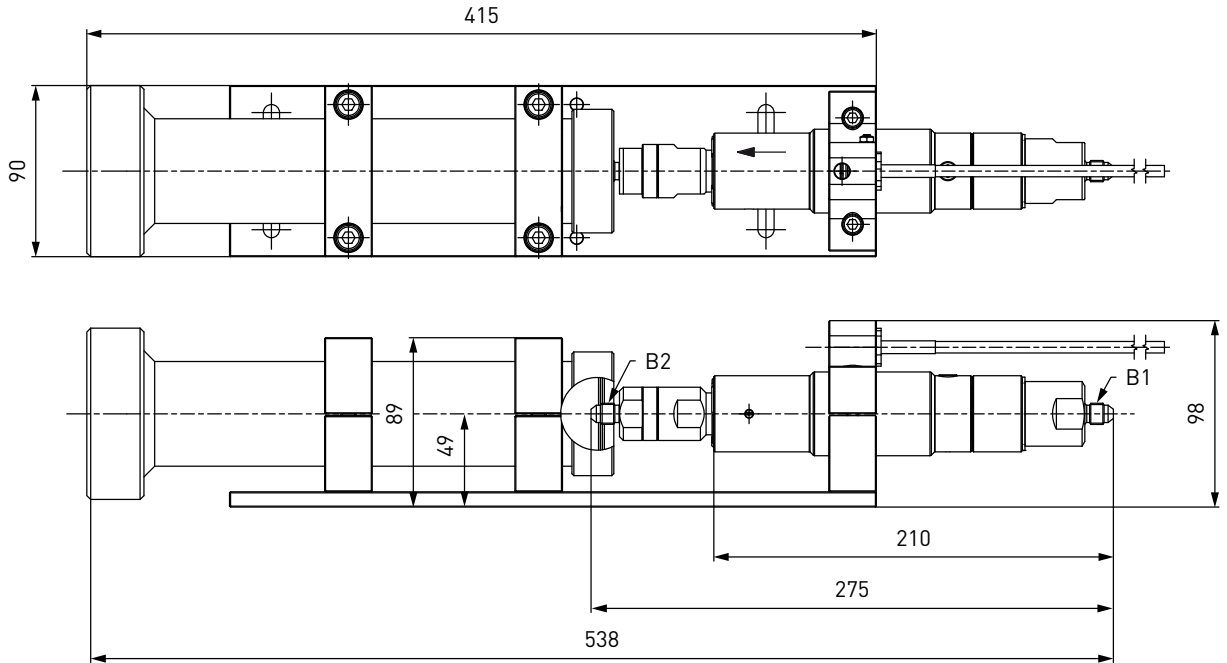
* acc. to SAE J514, 37°

** 24° inner cone

» Breakaway Coupling TSA1 H₂

ORDERING | WEH® TSA1 H₂ Breakaway Coupling without gas recirculation, for data interface

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)
C1-111069-X01	TSA1 H ₂ with filter (40 micron)	4	350 bar / 5,000 psi	UNF 7/16"-20*	UNF 7/16"-20*

* acc. to SAE J514, 37°

» Breakaway Coupling TSA1 H₂

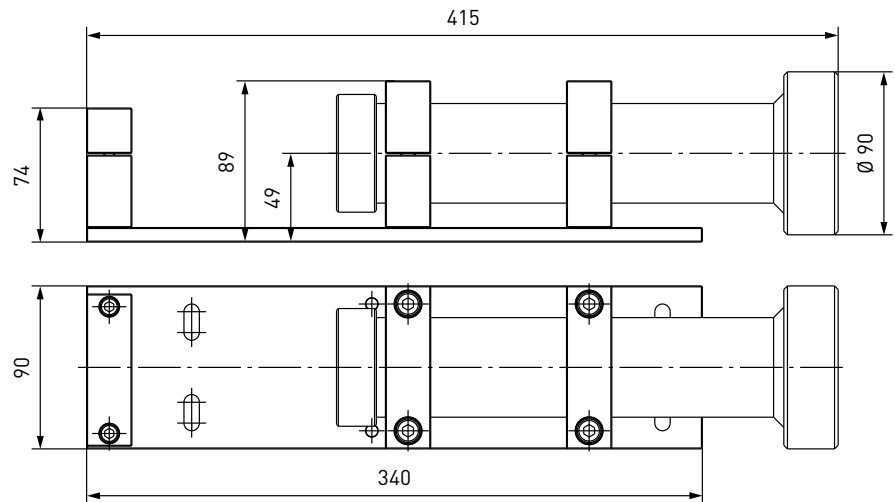
ACCESSORIES

The following accessories are available for the WEH® TSA1 H₂ Breakaway Coupling:

Dispenser mounting for breakaway coupling

The breakaway coupling can also be used with a dispenser mounting. The mounting is firmly attached to the dispenser. The integrated guide tube provides a straight pull-off force. The dispenser mounting can be used instead of a return pulley (hose pulley).

approx. dimensions (mm)



Bestellnummer	Beschreibung
C1-69275	Dispenser mounting for TSA1 H ₂ in combination with TK16 H ₂ or TK17 H ₂ 35 MPa

» Breakaway Coupling TSA1 H₂

Filling and venting hoses

Suitable filling and venting hoses for the TSA1 H₂ breakaway coupling are available on request.

Fittings

Stainless steel fittings for connecting port 'B2' to the filling hose resp. port 'C1' to the venting hose are available on request.

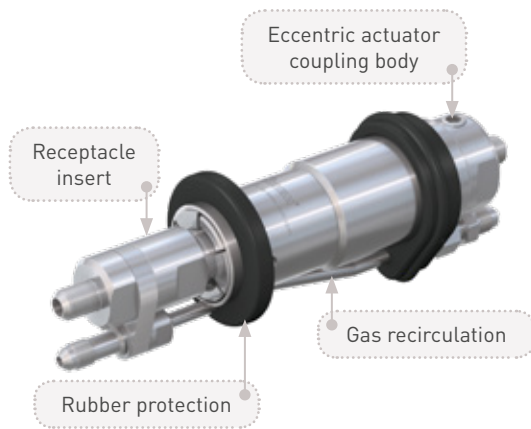
Spare parts

Various parts are available as spares for the TSA1 H₂ breakaway coupling.

Part No.	Description
W94249	Receptacle insert for TSA1 H ₂ with gas recirculation (C1-18834, C1-67741)
W108401	Receptacle insert for TSA1 H ₂ with gas recirculation (C1-99345)
W74608	Receptacle insert for TSA1 H ₂ without gas recirculation (C1-111068, C1-111069)
W108154	Receptacle insert for TSA1 H ₂ with gas recirculation (C1-90679)
C1-119056	Spare seal set for receptacle insert W94249, W108401, W108154
C1-119054	Spare seal set for receptacle insert W74608
E69-9061	Wire filter insert 40 micron (incl. spring and o-ring)
E69-67754	Wire filter insert 20 micron (incl. spring and o-ring)
E69-46414	Copper disc for G1/4" external thread (port C2)
E69-45950	Copper disc for G1/2" external thread (port B1)

» Inline Breakaway Coupling TSA2 H₂

DESCRIPTION

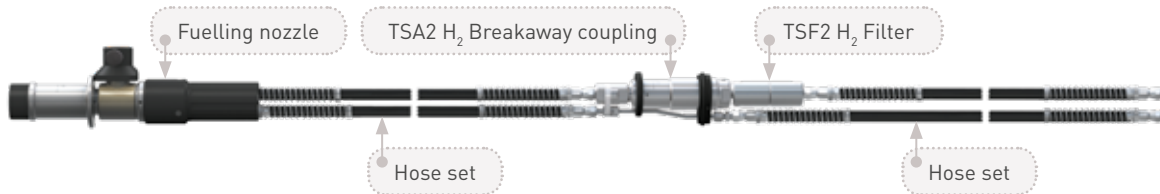


Features

- Re-usable without factory reservicing
- Installation inbetween the filling and venting hoses
- Small compact design
- Rubber protection
- Eccentric actuation via an allen wrench

The WEH[®] TSA2 H₂ Inline Breakaway Coupling which is installed inbetween the filling hose resp. filling and venting hoses, is also available for bus and truck fuelling stations. In the event of accidental deployment, e.g. driving a vehicle from the dispenser with the nozzle remaining in the vehicle fuel port, the coupling will separate the connections between dispenser and hose sealing both ends. This protects largely the receptacle, the fuelling nozzle and the dispenser against damage. The detached coupling can be easily reattached and placed back in service after having been function tested. The WEH[®] Breakaway Coupling consists of a coupling body, a receptacle insert and a gas recirculation. The breakaway is also available without gas recirculation.

We recommend the installation of a WEH[®] TSF2 H₂ Filter (see page 92) when using the TSA2 H₂ inline breakaway coupling. The filter protects your system from dirt ingress.



On request we also offer complete nozzle-hose-assemblies consisting of a fuelling nozzle, a hose set and an inline breakaway coupling.

Application

Inline breakaway coupling for car fuelling stations for installation inbetween the filling hoses resp. filling and venting hoses.

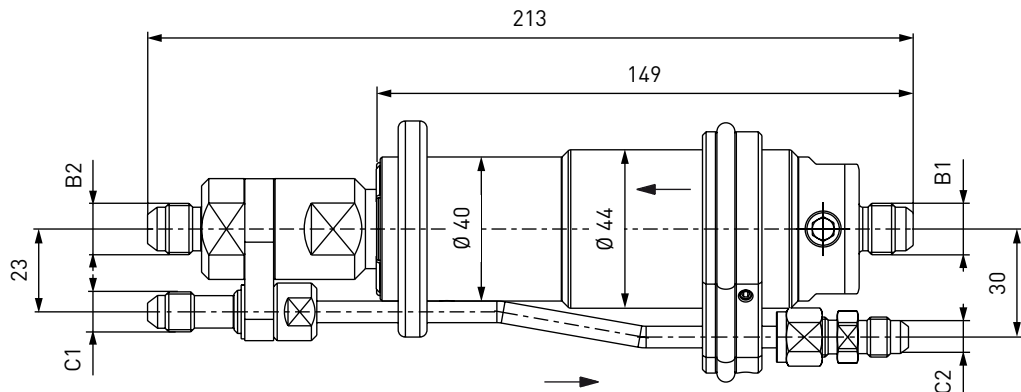
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C [-40 °F up to +185 °F]	On request
Breakaway force	300 - 600 N	On request
Material	Corrosion resistant stainless steel, aluminium	On request
Sealing material	Hydrogen compatible	On request
Design	With resp. without gas recirculation	On request

» Inline Breakaway Coupling TSA2 H₂

ORDERING | WEH® TSA2 H₂ Inline Breakaway Coupling with gas recirculation

approx. dimensions (mm)

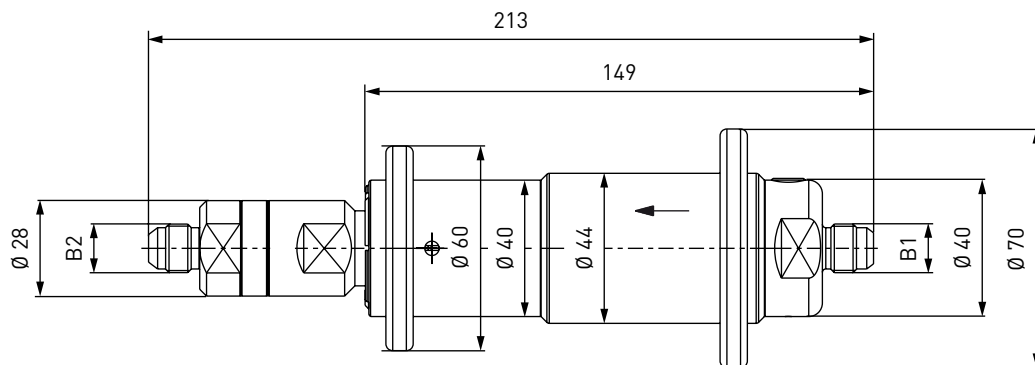


Part No.	Description	DN	Pressure (PN)	B1/B2 (external thread)	C1/C2 (external thread)
C1-77240-X01	TSA2 H ₂	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 7/16"-20*

* acc. to SAE J514, 37°

ORDERING | WEH® TSA2 H₂ Inline Breakaway Coupling without gas recirculation

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)
C1-77227-X01	TSA2 H ₂	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J514, 37°

»» Inline Breakaway Coupling TSA2 H₂

ACCESSORIES

The following accessories are available for the WEH® TSA2 H₂ Inline Breakaway Coupling:

Filter TSF2 H₂

We recommend the installation of a WEH® TSF2 H₂ Filter (see page 92) when using the TSA2 H₂ inline breakaway coupling. The filter protects your system from dirt ingress. The TSF2 H₂ is installed as prefilter in the media inlet between inline breakaway coupling and filling hose.



Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (internal thread)
C1-134710-X01	TSF2 H ₂	40	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*
C1-134711-X01	TSF2 H ₂	20	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J514, 37°

Filling and venting hoses

Suitable filling and venting hoses for the TSA2 H₂ inline breakaway coupling are available on request.

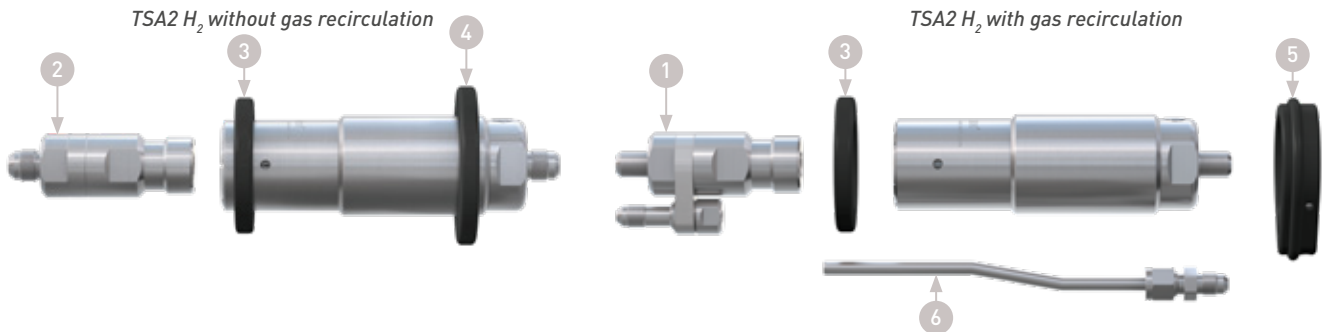
Fittings

Stainless steel fittings for connecting port 'B1/B2' to the filling hose resp. port 'C1/C2' to the venting hose are available on request.

» Inline Breakaway Coupling TSA2 H₂

Spare parts

Various parts are available as spares for the TSA2 H₂ breakaway coupling:



Part No.	Description
W94249	① Receptacle insert for TSA2 H ₂ with gas recirculation
W60006	② Receptacle insert for TSA2 H ₂ without gas recirculation
E80-71324	③ Front rubber protection
E80-71325	④ Rear rubber protection
W72525	⑤ Mounting flange
E80-118808	⑥ Gas recirculation tube, bend 7°
C1-119056	Spare seal set for receptacle insert W94249
C1-119054	Spare seal set for receptacle insert W60006

» Receptacle TN1 H₂ 70 MPa

DESCRIPTION



Features

- Low-noise refuelling
- Integrated self-cleaning particle filter (20 micron)
- Integrated high-flow check valve
- Sealing-friendly design
- Coding for pressure range / gas type

The WEH[®] TN1 H₂ 70 MPa Receptacle is designed specifically for hydrogen refuelling of cars with a pressure range of 70 MPa. Due to the internal aerodynamic design the receptacle gives low noise (no high frequency whistle) combined with maximum flow rate and fast filling. The receptacle is a very durable unit, minimizing maintenance and down-time. The WEH[®] TN1 H₂ 70 MPa Receptacle has an integrated check valve system which is designed to minimize the effect that dirt particles have on the sealing components within the receptacle. The TN1 H₂ 70 MPa is also equipped with a coding for pressure range and gas type.

Enhanced safety by integrating a particle filter

Using an integrated particle filter avoids dirt ingress and therefore leakage from the receptacle which gives enhanced safety.

Application

Receptacle for refuelling of cars with hydrogen.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

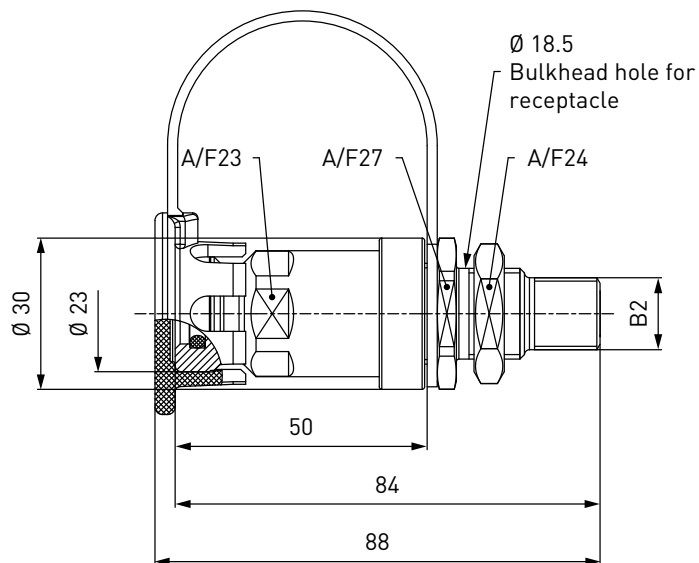
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	3 mm	On request
Pressure range	PN = 700 bar (10,000 psi) PS = 875 bar PT = 1255 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With protection cap, with integrated particle filter (20 micron) and integrated check valve	On request
Registration	e1 00 0010 (Regulation (EC) No. 79/2009) SAE J2600:2002 SAE TIR J2799	

» Receptacle TN1 H₂ 70 MPa

ORDERING | WEH® TN1 H₂ 70 MPa Receptacle with external thread

approx. dimensions (mm)

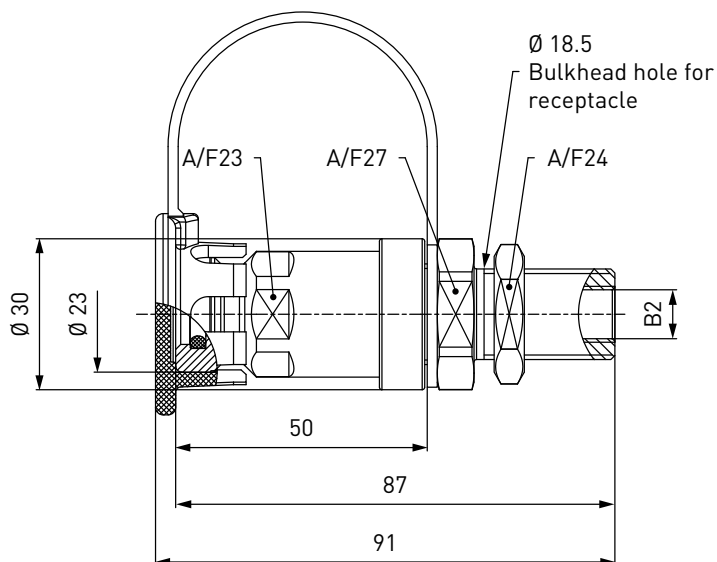


Part No.	Description	DN	Pressure (PN)	Port B2 (external thread)
C1-84087	TN1 H ₂ 70 MPa (e1)	3	700 bar / 10,000 psi	UNF 9/16" -18 for sealing with O-Lok® Face Seal* for tube Ø 6 (1/4")

* Face Seal acc. to SAE J1453

ORDERING | WEH® TN1 H₂ 70 MPa Receptacle with internal thread (autoclave)

approx. dimensions (mm)



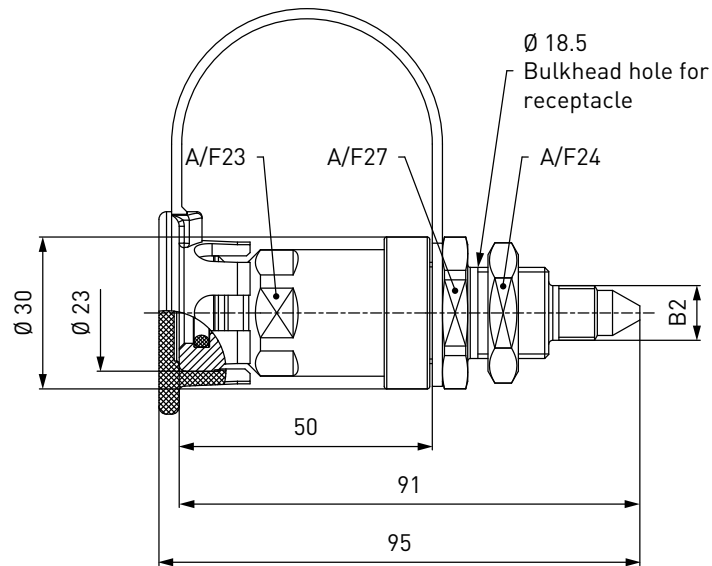
Part No.	Description	DN	Pressure (PN)	Port B2 (internal thread)
C1-87745	TN1 H ₂ 70 MPa (e1)	3	700 bar / 10,000 psi	UNF 7/16" -20*

* 60° cone, MP-fitting

» Receptacle TN1 H₂ 70 MPa

ORDERING | WEH® TN1 H₂ 70 MPa Receptacle with external thread (autoclave)

approx. dimensions (mm)



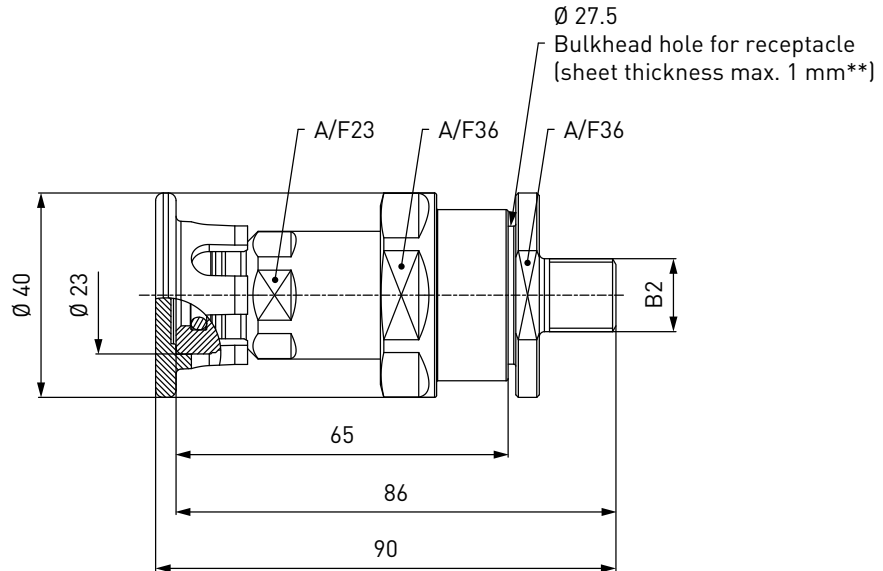
Part No.	Description	DN	Pressure (PN)	Port B2 (external thread)
C1-88565	TN1 H ₂ 70 MPa (e1)	3	700 bar / 10,000 psi	UNF 7/16" -20*

* 60° outer cone

» Receptacle TN1 H₂ 70 MPa

ORDERING | WEH® TN1 H₂ 70 MPa Receptacle with external thread, prepared for data interface

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Port B2 (external thread)
C1-84883	TN1 H ₂ 70 MPa (e1)	3	700 bar / 10,000 psi	UNF 9/16"-18 for sealing with O-Lok® Face Seal* for tube $\varnothing 6$ (1/4")

* Face Seal acc. to SAE J1453

** Please indicate when ordering if thicker sheet metals are needed!
Data interface not included!

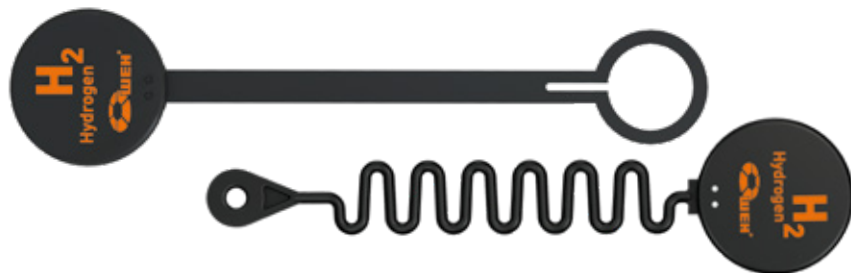
Other connection sizes and versions on request.

SPARE PARTS

Various parts are available as spares for the WEH® TN1 H₂ 70 MPa Receptacle:

Protection cap

Protection cap with a strap to protect the TN1 H₂ 70 MPa receptacle from dirt ingress.



Part No.	Description
C1-87803	Protection cap
C1-85984	Protection cap for receptacles prepared for data interface

» Receptacle TN1 H₂

DESCRIPTION



Features

- Low-noise refuelling
- Version with and without integrated self-cleaning particle filter (50 resp. 40 micron)
- Integrated high-flow check valve
- Sealing-friendly design
- Coding for pressure range / gas type

The WEH[®] TN1 H₂ Receptacle is designed specifically for hydrogen refuelling of cars. Due to the internal aerodynamic design the receptacle gives low noise (no high frequency whistle) combined with maximum flow rate and fast filling. The receptacle is a very durable unit, minimizing maintenance and down-time. The WEH[®] TN1 H₂ Receptacle has an integrated check valve system which is designed to minimize the effect that dirt particles have on the sealing components within the receptacle. The TN1 H₂ is also equipped with a coding for pressure range and gas type.

Enhanced safety by integrating a particle filter

Using an integrated particle filter avoids dirt ingress and therefore leakage from the receptacle which gives enhanced safety.

Application

Receptacle for refuelling of cars with hydrogen.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

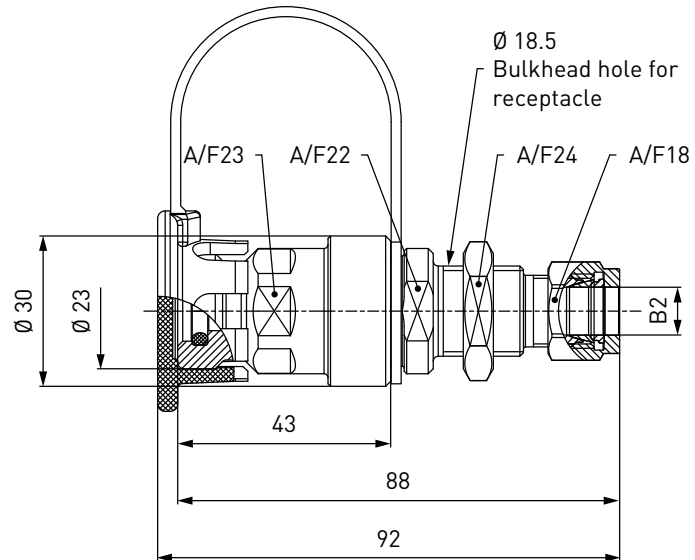
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	PN = 250 bar (3,600 psi) PS = 350 bar PT = 525 bar PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	Pressure range 110 bar resp. 500 bar on request
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With protection cap, with resp. without integrated particle filter (50 resp. 40 micron), integrated check valve and fittings (only for receptacles with tube fitting)	On request
Registration	e 1 00 0008 (Regulation (EC) No. 79/2009) SAE J2600:2002	

» Receptacle TN1 H₂

ORDERING | WEH® TN1 H₂ Receptacle with tube fitting and filter (50 micron)

approx. dimensions (mm)



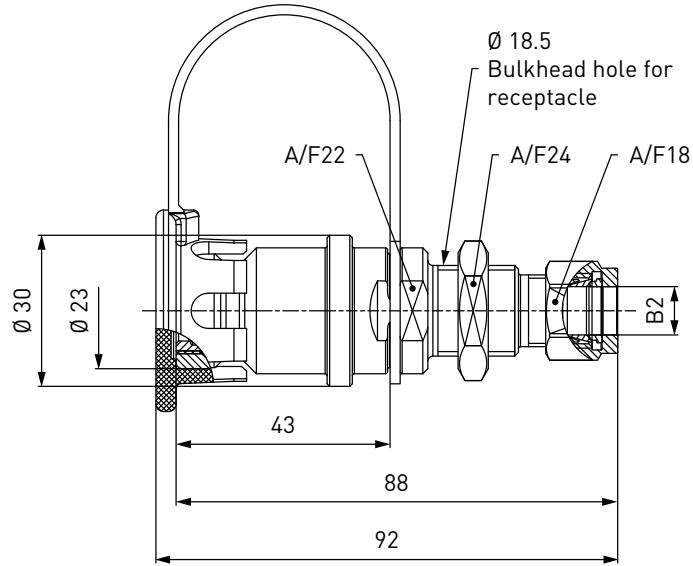
Part No.	Description	DN	Pressure (PN)	Port B2
C1-31315-X1-X01	TN1 H ₂	8	250 bar / 3,600 psi	Tube $\varnothing 3/8''^*$
C1-31316	TN1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube $\varnothing 3/8''^*$
C1-70661-X01	TN1 H ₂	8	250 bar / 3,600 psi	Tube $\varnothing 10''^*$
C1-35426	TN1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube $\varnothing 10''^*$

* double ferrule fitting

» Receptacle TN1 H₂

ORDERING | WEH® TN1 H₂ Receptacle with tube fitting, without filter

approx. dimensions (mm)



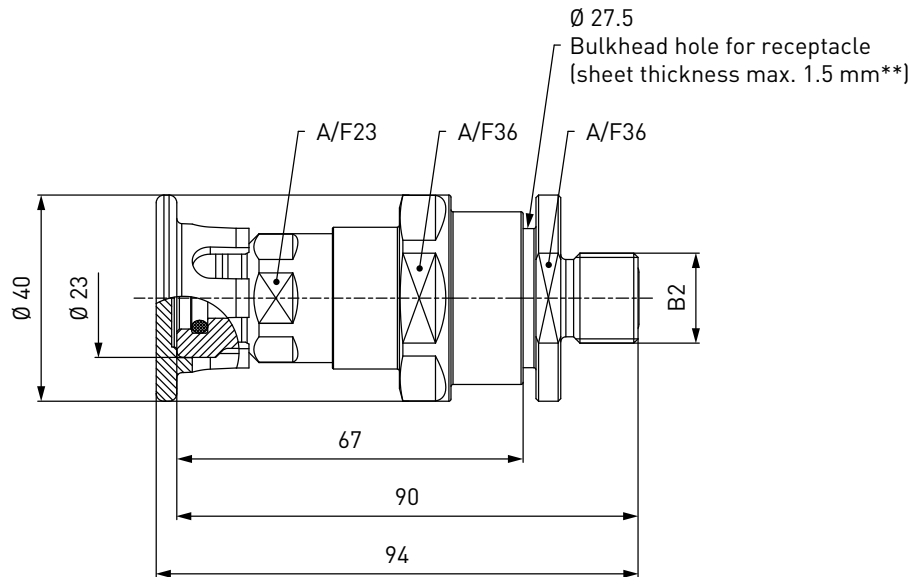
Part No.	Description	DN	Pressure (PN)	Port B2
C1-18480/4-X01	TN1 H ₂	8	250 bar / 3,600 psi	Tube Ø 3/8"*
C1-18481/4-X01	TN1 H ₂	8	350 bar / 5,000 psi	Tube Ø 3/8"*
C1-32456	TN1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube Ø 10*

* double ferrule fitting

» Receptacle TN1 H₂

ORDERING | WEH® TN1 H₂ Receptacle prepared for data interface, with filter (40 micron)

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Port B2 (external thread)
C1-85965	TN1 H ₂ (e1)	8	350 bar / 5,000 psi	UN 11/16" - 16 for sealing with O-Lok® Face Seal* for tube $\varnothing 10$ (3/8")

* Face Seal acc. to SAE J1453

** Please indicate when ordering if thicker sheet metals are needed!
Data interface and fittings not included!

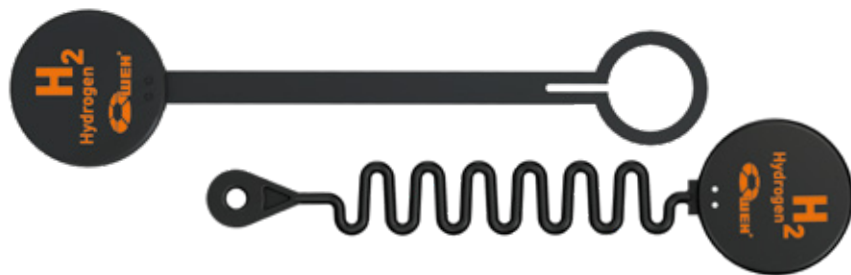
Other connection sizes and versions on request.

SPARE PARTS

Various parts are available as spares for the WEH® TN1 H₂ Receptacle:

Protection cap

Protection cap with a strap to protect the TN1 H₂ receptacle from dirt ingress.



Part No.	Description
C1-87803	Protection cap
C1-85984	Protection cap for receptacles prepared for data interface

» Check Valve TVR1 H₂ 70 MPa

DESCRIPTION



Features

- Robust construction
- Low-noise opening and closing
- Corrosion resistant stainless steel
- High leak tightness

With the TVR1 H₂ 70 MPa WEH offers a high performance check valve for use with hydrogen cars or fuelling stations of the latest generation. The check valve system is designed to minimize the effect of dirt particles on the sealing components within the unit. The WEH® TVR1 H₂ 70 MPa Check Valve is constructed of corrosion-resistant stainless steel achieving a very durable unit due to its robust internal structure.

Application

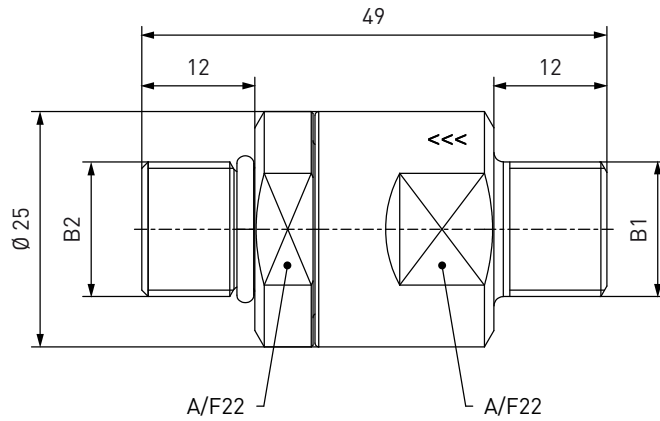
Check valve for cars (e1 approval), also suitable for installation in fuelling stations.

TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 4 mm, depending on design	On request
Pressure range	PN = 700 bar (10,000 psi) PS = 875 bar PT = 1255 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Design	With resp. without integrated particle filter (20 micron) and incl. fittings (only for check valves with tube fitting)	On request
Registration	e1 00 0009 (Regulation (EC) No. 79/2009)	

Check Valve TVR1 H₂ 70 MPa

ORDERING | WEH® TVR1 H₂ 70 MPa Check Valve with external thread on both sides (Face Seal at the inlet)
approx. dimensions (mm)

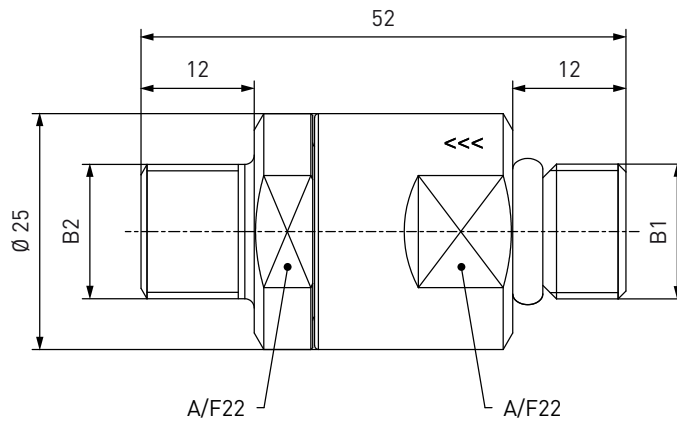


Part No.	Description	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (external thread)
C1-117366	TVR1 H ₂ 70 MPa (e1)	4	700 bar / 10,000 psi	UNF 9/16"-18 for sealing with O-Lok® Face Seal** for tube Ø 6 (1/4")	UNF 9/16"-18*

* acc. to SAE J1926

** Face Seal acc. to SAE J1453

ORDERING | WEH® TVR1 H₂ 70 MPa Check Valve with external thread on both sides (Face Seal at the outlet)
approx. dimensions (mm)



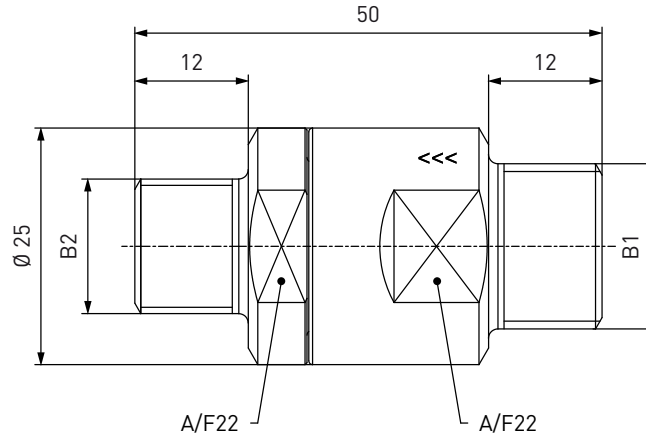
Part No.	Description	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (external thread)
C1-76958	TVR1 H ₂ 70 MPa (e1)	4	700 bar / 10,000 psi	UNF 9/16"-18*	UNF 9/16"-18 for sealing with O-Lok® Face Seal** for tube Ø 6 (1/4")

* acc. to SAE J1926

** Face Seal acc. to SAE J1453

Check Valve TVR1 H₂ 70 MPa

ORDERING | WEH® TVR1 H₂ 70 MPa Check Valve with external thread on both sides (Face Seal on both sides)
approx. dimensions (mm)

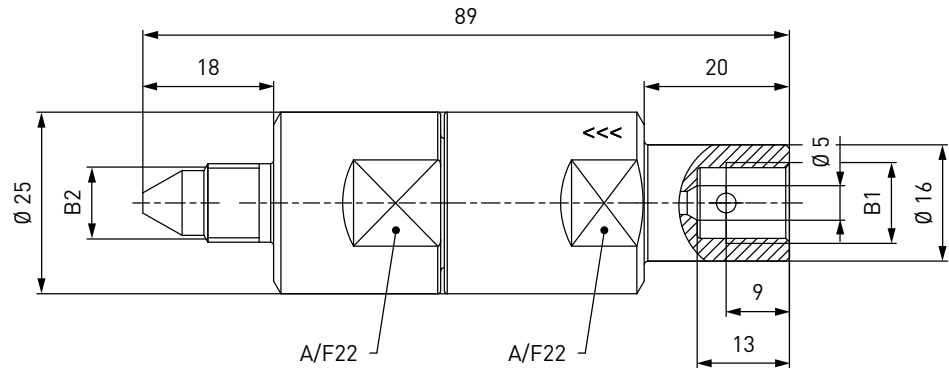


Part No.	Description	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (external thread)
C1-76959	TVR1 H ₂ 70 MPa (e1)	4	700 bar / 10,000 psi	UN 11/16"-16 for sealing with O-Lok® Face Seal* for tube Ø 10 (3/8")	UNF 9/16"-18 for sealing with O-Lok® Face Seal* for tube Ø 6 (1/4")

* Face Seal acc. to SAE J1453

Check Valve TVR1 H₂ 70 MPa

ORDERING | WEH® TVR1 H₂ 70 MPa Check Valve with internal / external thread and filter (20 micron)
approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (external thread)
C1-87743	TVR1 H ₂ 70 MPa (e1)	2.5	700 bar / 10,000 psi	UNF 7/16" -20*	UNF 7/16" -20**

* 60° cone, MP-fitting
** 59° cone, MP-fitting

Other connection sizes and versions on request.

» Check Valve TVR1 H₂

DESCRIPTION



Features

- Robust construction
- Low-noise opening and closing
- Corrosion resistant stainless steel
- High leak tightness

With the TVR1 H₂ WEH offers a high performance check valve for use with hydrogen. The check valve system is designed to minimize the effect of dirt particles on the sealing components within the unit. The WEH[®] TVR1 H₂ Check Valve is constructed of corrosion-resistant stainless steel achieving a very durable unit due to its robust internal structure.

Application

Check valve for cars (e1 approval), also suitable for installation in fuelling stations.

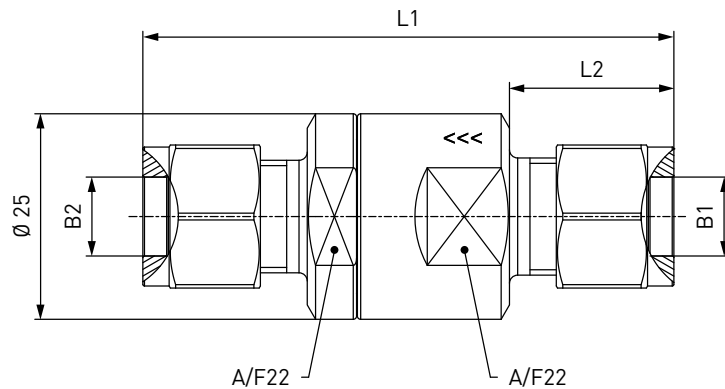
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 8 mm, depending on design	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel (inner components partially made of brass: C1-18485)	On request
Sealing material	Hydrogen compatible	On request
Design	Incl. fittings (only for check valves with tube fitting)	With integrated particle filter
Registration	e1 00 0005 (Regulation (EC) No. 79/2009)	

Check Valve TVR1 H₂

ORDERING | WEH® TVR1 H₂ Check Valve with tube fitting on both sides

approx. dimensions (mm)



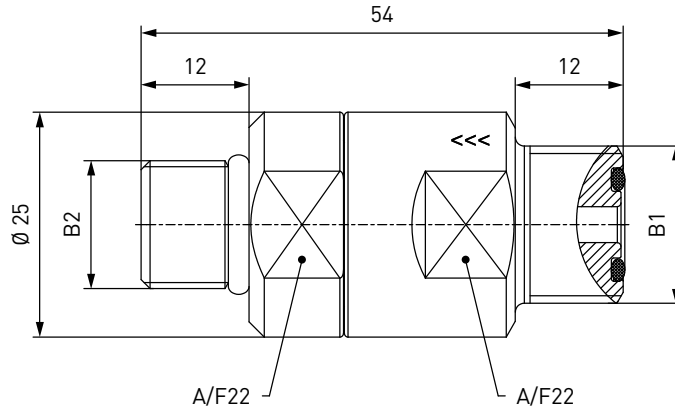
Part No.	Description	DN	Pressure (PN)	Inlet B1	Outlet B2	L1	L2
C1-42741	TVR1 H ₂ (e1)	5	350 bar / 5,000 psi	Tube Ø 6*	Tube Ø 6*	63.0	18.0
C1-33824-X01	TVR1 H ₂	5	350 bar / 5,000 psi	Tube Ø 6*	Tube Ø 6*	63.0	18.0
C1-35547	TVR1 H ₂ (e1)	5	350 bar / 5,000 psi	Tube Ø 1/4"*	Tube Ø 1/4"*	64.5	18.5
C1-133820-X01	TVR1 H ₂	5	350 bar / 5,000 psi	Tube Ø 1/4"*	Tube Ø 1/4"*	64.5	18.5
C1-133821	TVR1 H ₂ (e1)	6	350 bar / 5,000 psi	Tube Ø 8*	Tube Ø 8*	66.0	20.5
C1-43260-X01	TVR1 H ₂	6	350 bar / 5,000 psi	Tube Ø 8*	Tube Ø 8*	66.0	20.5
C1-18485	TVR1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*	65.0	20.0
C1-81898-X01	TVR1 H ₂	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*	65.0	20.0
C1-43215	TVR1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	65.0	20.0
C1-133822-X01	TVR1 H ₂	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	65.0	20.0

* double ferrule fitting

» Check Valve TVR1 H₂

ORDERING | WEH® TVR1 H₂ Check Valve with external thread on both sides

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (external thread)
C1-108879	TVR1 H ₂ (e1)	4	350 bar / 5,000 psi	UN 11/16"-16 for sealing with O-Lok® Face Seal** for tube Ø 10 (3/8")	UNF 9/16"-18*

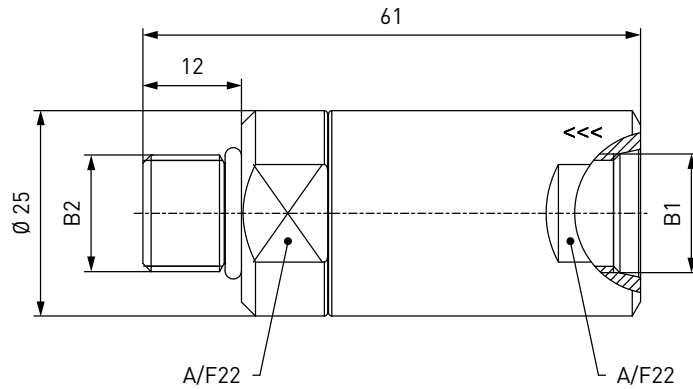
* acc. to SAE J1926

** Face Seal acc. to SAE J1453

Check Valve TVR1 H₂

ORDERING | WEH® TVR1 H₂ Check Valve with internal and external thread

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (external thread)
C1-34575-X2-X01	TVR1 H ₂	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J1926

Other connection sizes and versions on request.

» Fuelling Nozzle TK16 H₂ High-Flow

DESCRIPTION



Features

- Compatible with WEH[®] TN1 H₂ High-Flow receptacle profile
- WEH[®] EASY-TURN 360° swivel joint for actuation lever
- Easy operation
- Higher flow rate → shorter filling times
- Filling rate approx. 100 - 120 g/sec.
- Recirculation of the vented gas
- Plastic thermal protection
- WEH[®] Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH[®] TK16 H₂ High-Flow Fuelling Nozzle provides a faster hydrogen refuelling solution for buses and trucks. An increased flow rate achieves even faster filling times.

The actuation lever is located on the integrated swivel joint making it easy to rotate into the optimal actuating position. The actuation lever needs less effort to actuate the nozzle.

Internal coding for pressure range and gas type ensures that the TK16 H₂ High-Flow only fits the WEH[®] TN1 H₂ High-Flow Receptacle.

Safety

WEH[®] TK16 H₂ High-Flow offers optimum safety to the operator.

The fuelling nozzle remains connected to the receptacle until the gas between inlet valve and receptacle is depressurized.

Application

Fuelling nozzle for H₂ fast filling of buses and trucks at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

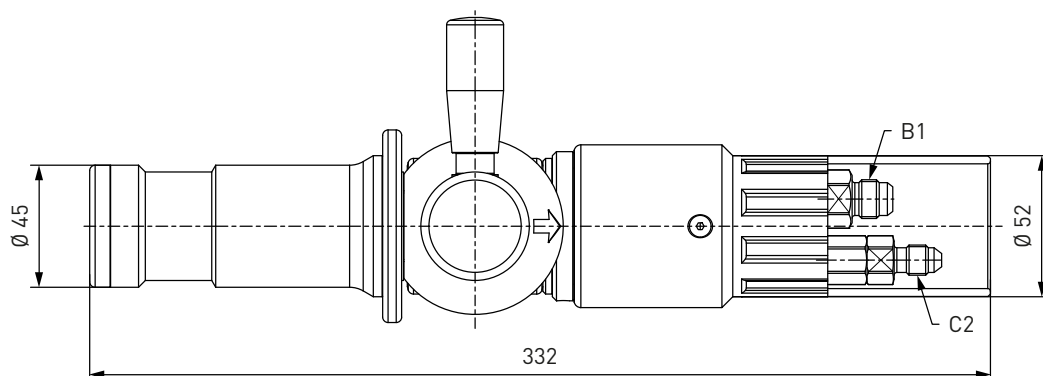
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection and gas recirculation	On request
Weight	Approx. 1.8 kg (3.97 lbs.)	
Registration	SAE J2600:2002	

» Fuelling Nozzle TK16 H₂ High-Flow

ORDERING | WEH® TK16 H₂ High-Flow Fuelling Nozzle

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)	Gas recirculation C2 (external thread)
C1-85042-X01	TK16 H ₂ High-Flow	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 7/16"-20*

* acc. to SAE J514, 37°

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK16 H₂ High-Flow Fuelling Nozzle:

Filling and venting hoses

Filling and venting hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-60917	UNF 9/16"-18*	UNF 7/16"-20*	3 m
C1-60920	UNF 9/16"-18*	UNF 7/16"-20*	4 m
C1-60923	UNF 9/16"-18*	UNF 7/16"-20*	5 m

* acc. to SAE JIC, 37°

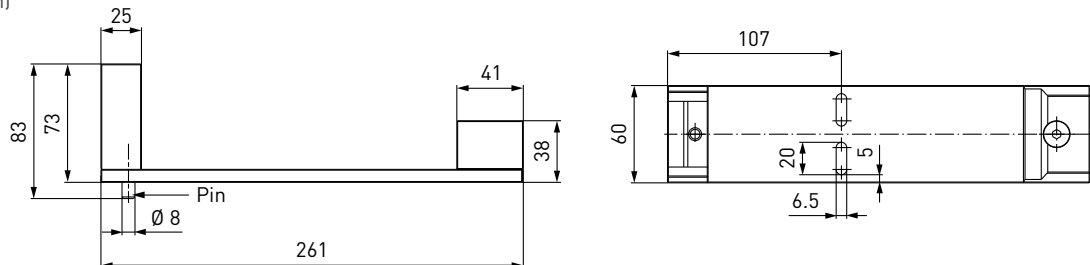
» Fuelling Nozzle TK16 H₂ High-Flow

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

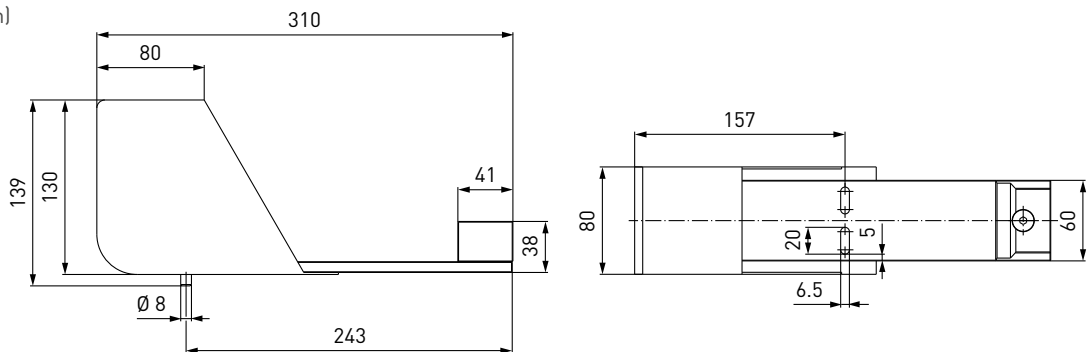
Switch actuated (with pin) resp. not switch actuated mounting

approx. dimensions (mm)



Switch actuated mounting with weather protection

approx. dimensions (mm)



Part No.	Description
C1-86860	Mounting (switch actuated)
C1-109880	Mounting (not switch actuated)
C1-109678	Mounting (switch actuated) with weather protection

» Fuelling Nozzle TK16 H₂ High-Flow

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose resp. the port 'C2' to the venting hose are available on request.

Spare parts

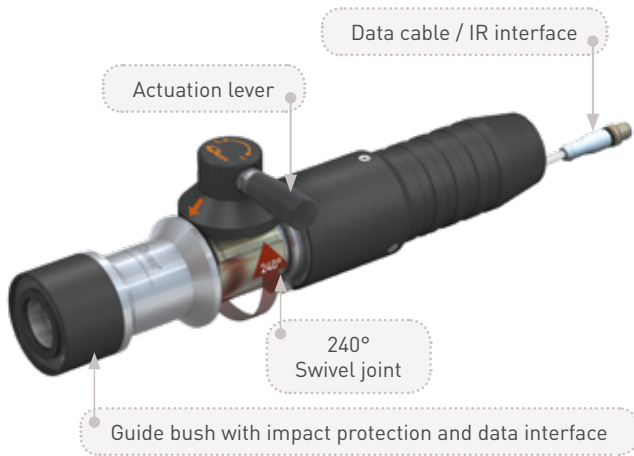
Various parts are available as spares for the TK16 H₂ High-Flow fuelling nozzle.



Part No.	Description
E80-85045	1 Impact protection
W72504	2 Actuation lever
E99-44923	Maintenance spray

» Fuelling Nozzle TK16 H₂ High-Flow with Data Interface

DESCRIPTION



Features

- Compatible with WEH® TN1 H₂ High-Flow receptacle profile
- Integrated data interface acc. to SAE J2601
- WEH EASY-TURN® 240° swivel joint for actuation lever
- Easy operation
- Higher flow rate → shorter filling times
- Filling rate approx. 100 - 120 g/sec.
- Recirculation of the vented gas
- Plastic thermal protection
- WEH® Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH® TK16 H₂ High-Flow Fuelling Nozzle with Data Interface provides a faster hydrogen refuelling solution for buses and trucks. An increased flow rate achieves even faster filling times.

The actuation lever is located on the integrated swivel joint making it easy to rotate into the optimal actuating position. The actuation lever needs less effort to actuate the nozzle.

Internal coding for pressure range and gas type ensures that the TK16 H₂ High-Flow with data interface only fits the WEH® TN1 H₂ High-Flow Receptacle.

Furthermore the fuelling nozzle has an interface (IR) for data transfer between vehicle and fuelling station.

Safety

WEH® TK16 H₂ High-Flow with data interface offers optimum safety to the operator.

The fuelling nozzle remains connected to the receptacle until the gas between inlet valve and receptacle is depressurized.

Application

Fuelling nozzle for H₂ fast filling of buses and trucks at self-service fuelling stations.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

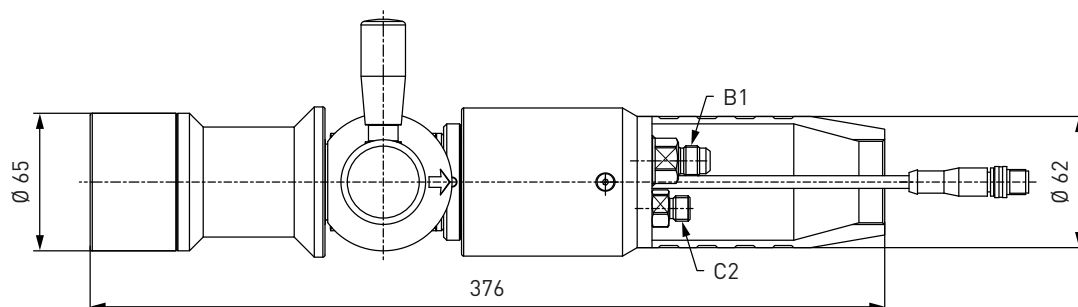
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection, gas recirculation and data interface	On request
Weight	Approx. 2.4 kg (5.29 lbs.)	
Registration	SAE J2600:2002 Data interface: SAE J2601 / ATEX	Data interface: SAE J2601 / NEC Class 1 Zone 1

» Fuelling Nozzle TK16 H₂ High-Flow with Data Interface

ORDERING | WEH® TK16 H₂ High-Flow Fuelling Nozzle with Data Interface

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)	Gas recirculation C2 (external thread)
C1-94315-X01	TK16 H ₂ High-Flow	350 bar / 5,000 psi	UNF 9/16"-18*	M12x1.5

* acc. to SAE J514, 37°

On request the TK16 H₂ High-Flow fuelling nozzle with data interface is also available with registration acc. to NEC Class 1 Zone 1 (acc. to SAE J2601).

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK16 H₂ High-Flow Fuelling Nozzle with Data Interface:

Filling and venting hoses

Filling and venting hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm (filling hose) resp. 2 mm (venting hose)



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-90698	UNF 9/16"-18*	M12x1.5	3 m
C1-94428	UNF 9/16"-18*	M12x1.5	4 m
C1-94429	UNF 9/16"-18*	M12x1.5	5 m

* acc. to SAE JIC, 37°

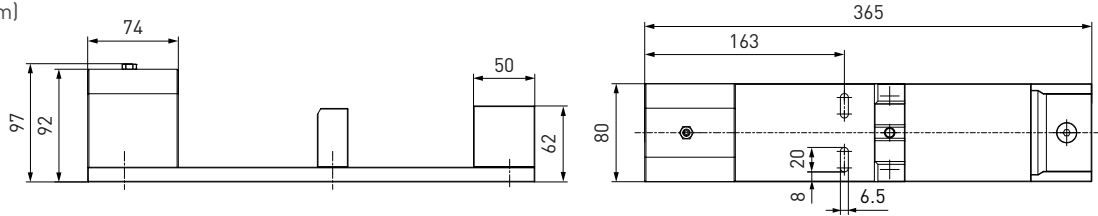
» Fuelling Nozzle TK16 H₂ High-Flow with Data Interface

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

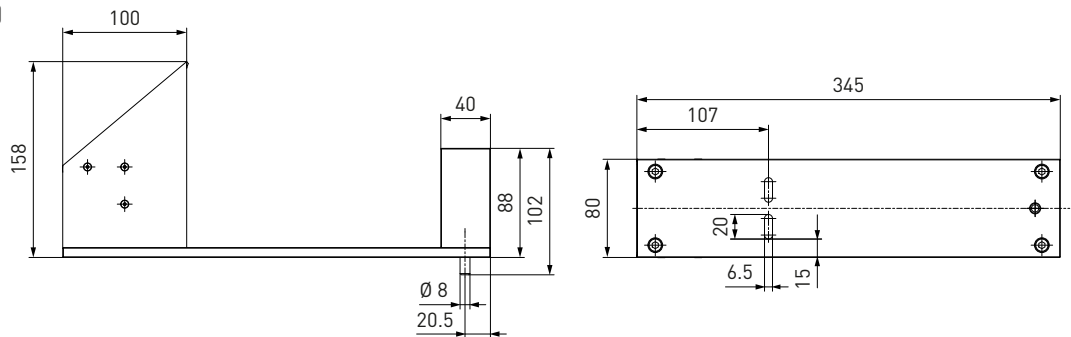
Not switch actuated mounting with protection of front sleeve

approx. dimensions (mm)



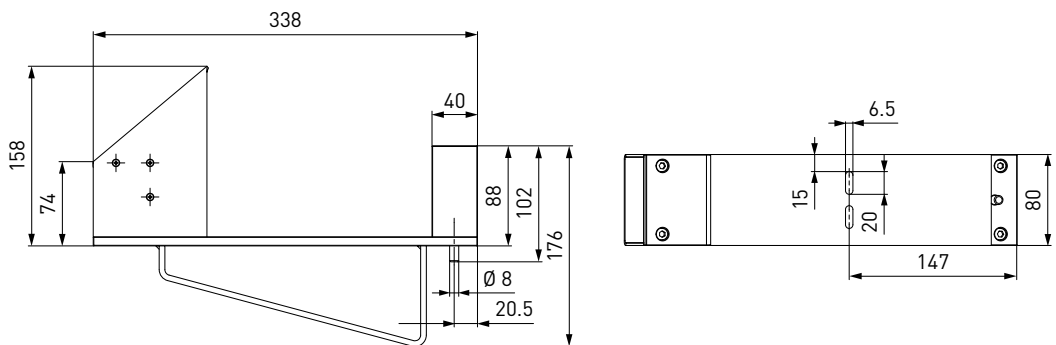
Switch actuated mounting with weather protection

approx. dimensions (mm)



Switch actuated mounting with weather protection and angle plate 15°

approx. dimensions (mm)



Part No.	Description
C1-94671	Mounting (not switch actuated) with protection of front sleeve
C1-90675	Mounting (switch actuated) with weather protection
C1-114632	Mounting (switch actuated) with weather protection and angle plate 15°

»» Fuelling Nozzle TK16 H₂ High-Flow with Data Interface

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose resp. the port 'C2' to the venting hose are available on request.

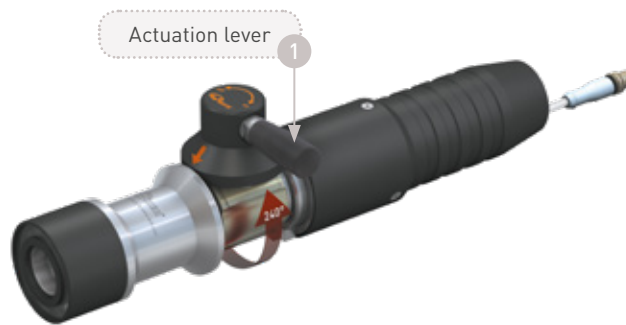
Data cable

Data cable for connecting controller and dispenser.

Part No.	Description
E68-96193	Data cable 3.45 m

Spare parts

Various parts are available as spares for the TK16 H₂ High-Flow fuelling nozzle with data interface.



Part No.	Description
W72504	1 Actuation lever
E99-44923	Maintenance spray

» Fuelling Nozzle TK25 H₂

DESCRIPTION



Features

- Compatible with WEH® TN5 H₂ receptacle profile
- Safety features when not connected
- Extremely high flow rate → short filling times
- Recirculation of the vented gas
- Plastic thermal protection
- WEH® Jaw locking mechanism
- High-grade materials
- Coding for pressure range / gas type

The WEH® TK25 H₂ Fuelling Nozzle meets all requirements placed on a fuelling nozzle for bus and truck refuelling. Thus making hydrogen refuelling as easy as gasoline refuelling.

Simply place the TK25 H₂ fuelling nozzle onto the receptacle and with a 180° turn of the actuation lever the filling procedure can start.

Safety

WEH® TK25 H₂ offers optimum safety to the operator.

The fuelling nozzle remains connected to the receptacle until the gas between inlet valve and receptacle is depressurized.

Application

Fuelling nozzle for H₂ fast filling of buses and trucks at self-service fuelling stations.

NOZZLE - pressure range/coding		
	250 bar	350 bar
RECEPTACLE - pressure range/coding		
250 bar	✓	
350 bar	✓	✓

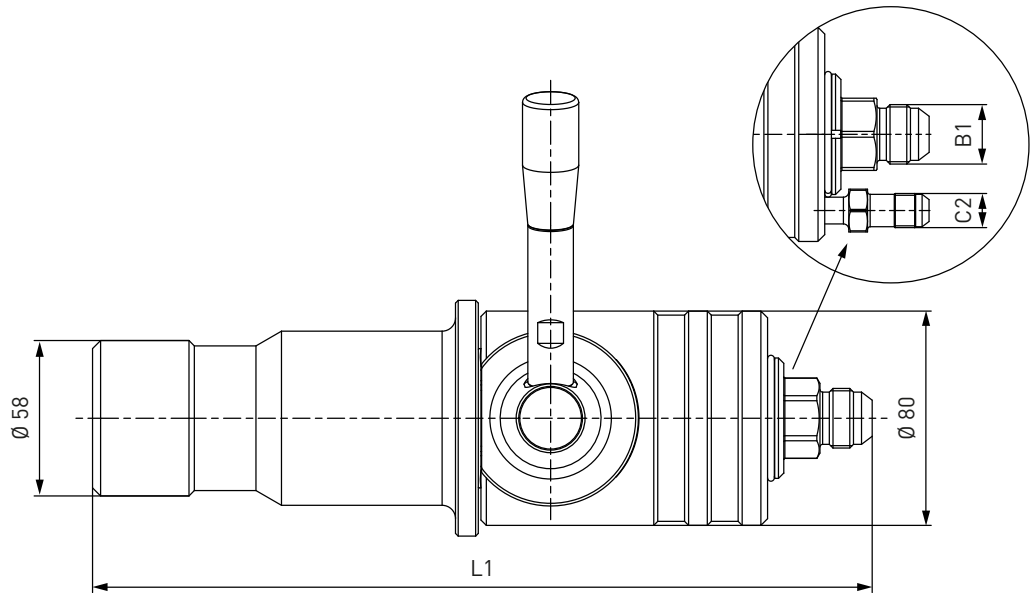
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	12 mm	On request
Pressure range	PN = 250 bar (3,600 psi) PS = 350 bar PT = 500 bar PN = 350 bar (5,000 psi) PS = 450 bar PT = 645 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection and gas recirculation	On request
Weight	Approx. 4.6 kg (10.14 lbs.)	
Registration	SAE J2600:2002	

» Fuelling Nozzle TK25 H₂

ORDERING | WEH® TK25 H₂ Fuelling Nozzle

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (external thread)	Gas recirculation C2 (external thread)	L1
C1-62529-X01	TK25 H ₂	250 bar / 3,600 psi	UNF 7/8"-14*	UNF 9/16"-18*	290
C1-62527-X1-X01	TK25 H ₂	350 bar / 5,000 psi	UNF 7/8"-14*	UNF 9/16"-18*	297

* acc. to SAE J514, 37°

Complete nozzle-hose-assemblies consisting of fuelling nozzle, hose set and breakaway coupling are available on request.

ACCESSORIES

The following accessories are available for the WEH® TK25 H₂ Fuelling Nozzle:

Filling and venting hoses

Filling and venting hose for connecting fuelling nozzle and TSA5 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-33046	UNF 7/8"-14*	UNF 9/16"-18*	3 m
C1-33047	UNF 7/8"-14*	UNF 9/16"-18*	4 m
C1-44255	UNF 7/8"-14*	UNF 9/16"-18*	5 m

* acc. to SAE JIC, 37°

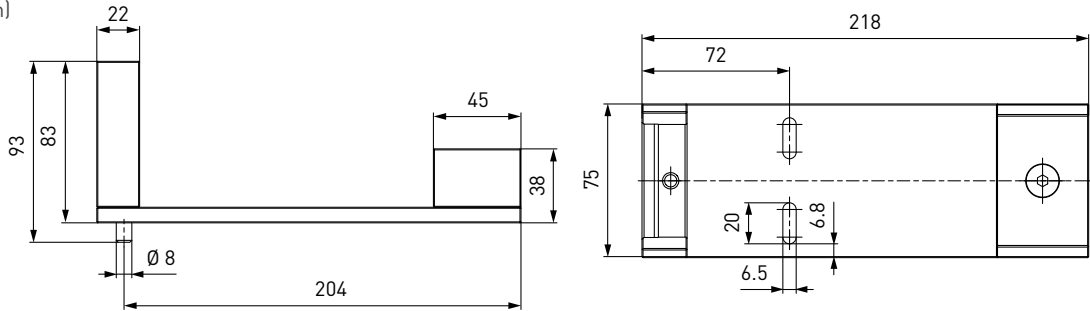
» Fuelling Nozzle TK25 H₂

Dispenser mounting

Mounting for safe attachment of the fuelling nozzle to the dispenser. Design: Aluminium, stainless steel

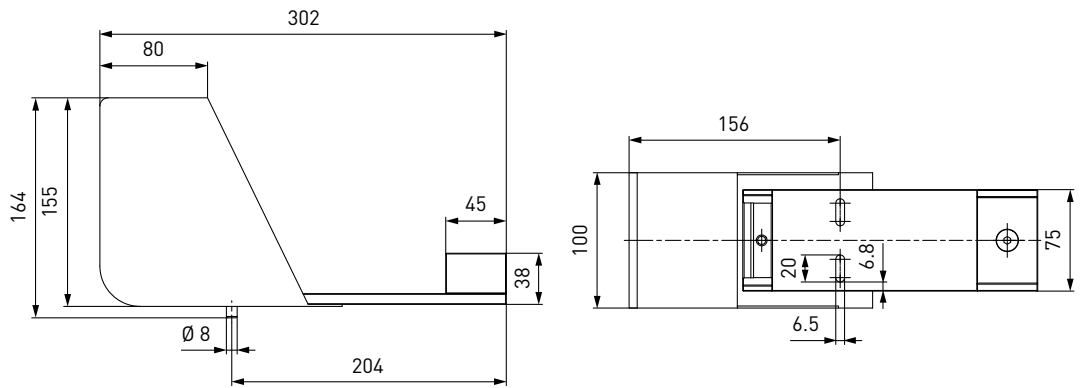
Switch actuated mounting (C1-83005)

approx. dimensions (mm)



Switch actuated mounting with weather protection (C1-82153)

approx. dimensions (mm)



Part No.	Description
C1-83005	Mounting (switch actuated)
C1-82153	Mounting (switch actuated) and weather protection

» Fuelling Nozzle TK25 H₂

Fittings

Stainless steel fittings for connecting port 'B1' to the filling hose resp. the port 'C2' to the venting hose are available on request.

Spare parts

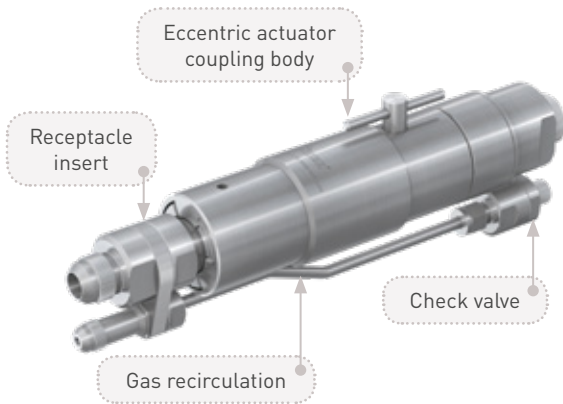
Various parts are available as spares for the TK25 H₂ fuelling nozzle.



Part No.	Description
W6631	1 Actuation lever
E99-44923	Maintenance spray

» Breakaway Coupling TSA5 H₂

DESCRIPTION



Features

- Re-usable without factory reservicing
- Installation at the dispenser
- Small compact design
- Integrated cleanable filter (40 micron)
- Check valve at venting line
- No additional tool necessary

The WEH[®] TSA5 H₂ Breakaway Coupling offers additional safety for your bus and truck fuelling station. The breakaway is installed between the dispenser and the filling/venting hose. In the event of accidental deployment, e.g. driving a vehicle from the dispenser with the nozzle remaining in the vehicle fuel port, the coupling will separate the connections between dispenser and hose sealing both ends. This protects largely the receptacle, the fuelling nozzle and the dispenser against damage. The detached coupling can be easily reattached and placed back in service after having been function tested.

The integrated filter provides clean hydrogen and is easy to maintain.

The WEH[®] Breakaway Coupling consists of a coupling body, a receptacle insert and a gas recirculation with check valve.

On request we also offer complete nozzle-hose-assemblies consisting of a fuelling nozzle, a hose set and a breakaway coupling.

Application

Breakaway coupling for bus and truck fuelling stations for direct installation at the dispenser.

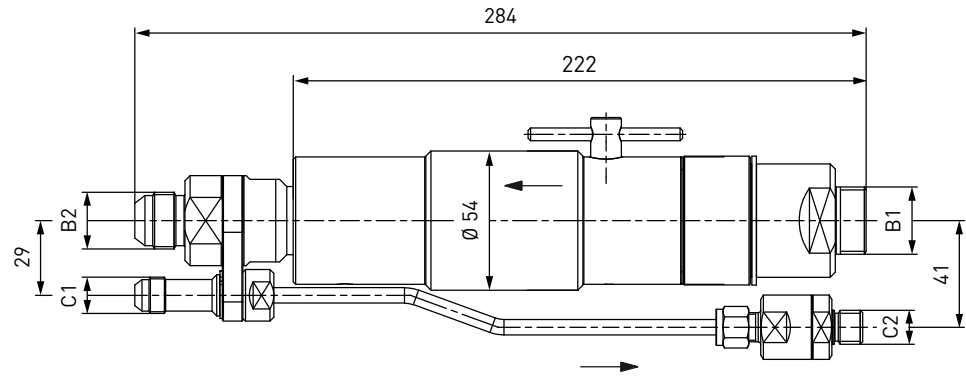
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	12 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Breakaway force	300 - 600 N	On request
Material	Corrosion resistant stainless steel, aluminium	On request
Sealing material	Hydrogen compatible	On request
Design	With gas recirculation and filter (40 micron)	On request

» Breakaway Coupling TSA5 H₂

ORDERING | WEH® TSA5 H₂ Breakaway Coupling with gas recirculation

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)	C1 (external thread)	C2 (external thread)
C1-17941-X7-X01	TSA5 H ₂ with filter (40 micron)	12	350 bar / 5,000 psi	G3/4"	UNF 7/8"-14*	UNF 9/16"-18*	G1/4"

* acc. to SAE J514, 37°

» Breakaway Coupling TSA5 H₂

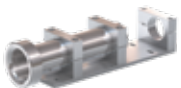
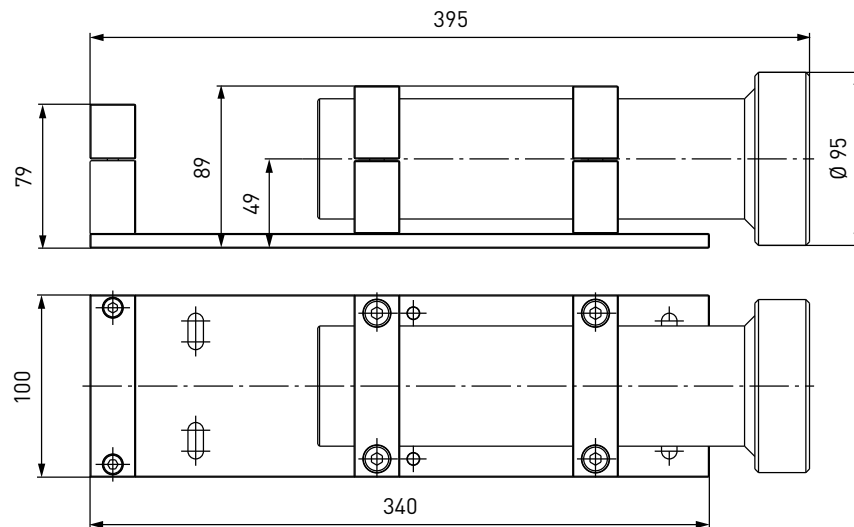
ACCESSORIES

The following accessories are available for the WEH® TSA5 H₂ Breakaway Coupling:

Dispenser mounting for breakaway coupling

The breakaway coupling can also be used with a dispenser mounting. The mounting is firmly attached to the dispenser. The integrated guide tube provides a straight pull-off force. The dispenser mounting can be used instead of a return pulley (hose pulley).

approx. dimensions (mm)



Part No.	Description
C1-82110	Dispenser mounting for TSA5 H ₂

» Breakaway Coupling TSA5 H₂

Filling and venting hoses

Suitable filling and venting hoses for the TSA5 H₂ breakaway coupling are available on request.

Fittings

Stainless steel fittings for connecting port 'B2' to the filling hose resp. port 'C1' to the venting hose are available on request.

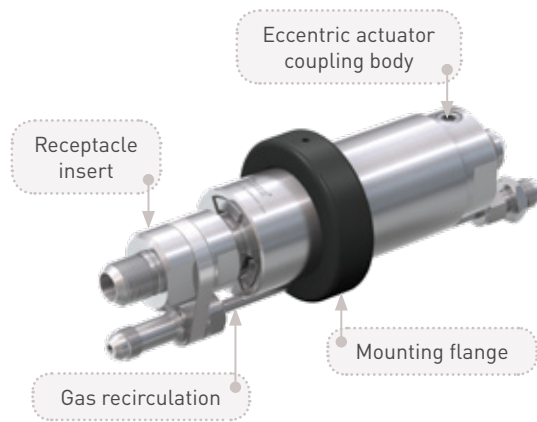
Spare parts

Various parts are available as spares for the TSA5 H₂ breakaway coupling:

Part No.	Description
W63194	Receptacle insert for TSA5 H ₂ with gas recirculation
C1-119726	Spare seal set for receptacle insert W63194
E69-9062	Wire filter insert 40 micron
E69-46414	Copper disc for G1/4" external thread (port C2)
E69-45951	Copper disc for G3/4" external thread (port B1)

» Inline Breakaway Coupling TSA6 H₂

DESCRIPTION



Features

- Re-usable without factory reservicing
- Installation inbetween the filling and venting hoses
- Small compact design
- Mounting flange
- Eccentric actuation via an allen wrench

The WEH® TSA6 H₂ Inline Breakaway Coupling which is installed inbetween the filling and venting hoses, is also available for bus and truck fuelling stations. In the event of accidental deployment, e.g. driving a vehicle from the dispenser with the nozzle remaining in the vehicle fuel port, the coupling will separate the connections between dispenser and hose sealing both ends. This protects largely the receptacle, the fuelling nozzle and the dispenser against damage. The detached coupling can be easily reattached and placed back in service after having been function tested.

The WEH® Breakaway Coupling consists of a coupling body, a receptacle insert and a gas recirculation.

On request we also offer complete nozzle-hose-assemblies consisting of a fuelling nozzle, a hose set and an inline breakaway coupling.

Application

Inline breakaway coupling for bus and truck fuelling stations for installation inbetween the filling and venting hoses.

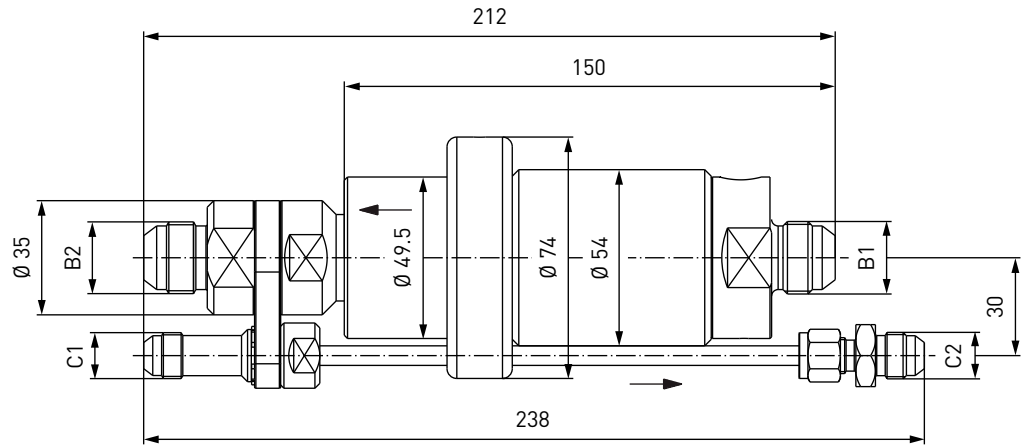
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	12 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Breakaway force	300 - 600 N	On request
Material	Corrosion resistant stainless steel, aluminium	On request
Sealing material	Hydrogen compatible	On request
Design	With gas recirculation	On request

» Inline Breakaway Coupling TSA6 H₂

ORDERING | WEH® TSA6 H₂ Inline Breakaway Coupling with gas recirculation

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	B1/B2 (external thread)	C1/C2 (external thread)
C1-82323-X01	TSA6 H ₂	12	350 bar / 5,000 psi	UNF 7/8"-14*	UNF 9/16"-18*

* acc. to SAE J514, 37°

ACCESSORIES

The following accessories are available for the WEH® TSA6 H₂ Inline Breakaway Coupling:

Filling and venting hoses

Suitable filling and venting hoses for the TSA6 H₂ inline breakaway coupling are available on request.

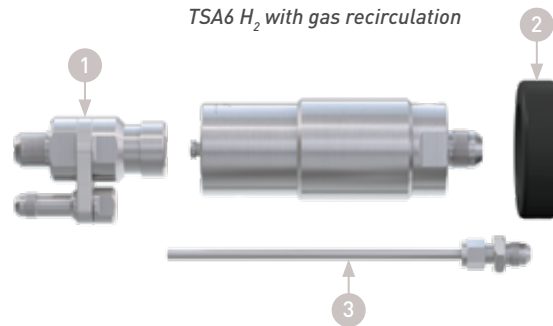
Fittings

Stainless steel fittings for connecting port 'B1/B2' to the filling hose resp. port 'C1/C2' to the venting hose are available on request.

» Inline Breakaway Coupling **TSA6 H₂**

Spare parts

Various parts are available as spares for the TSA6 H₂ breakaway coupling:



Part No.	Description
C1-82779	1 Receptacle insert for TSA6 H ₂ with gas recirculation
C1-106550	2 Mounting flange
E80-71101	3 Gas recirculation tube, straight
C1-119726	Spare seal set for receptacle insert W82779

» Inline Breakaway Coupling **TSA6 H₂**

» Receptacle TN1 H₂ High-Flow

DESCRIPTION



Features

- Flow rate approx. 100 - 120 g/sec.
- Low-noise refuelling
- Integrated self-cleaning particle filter (40 micron)
- Integrated high-flow check valve
- Sealing-friendly design
- Coding for pressure range / gas type

The WEH[®] TN1 H₂ High-Flow Receptacle was developed to be used with the WEH[®] TK16 H₂ High-Flow Fuelling Nozzle, enabling to refuel buses and trucks from now on at car fuelling stations. Refuelling with a higher speed occurs either with a TK16 H₂ Fuelling Nozzle or with a TK16 H₂ High-Flow Fuelling Nozzle. Due to the internal aerodynamic design the receptacle gives low noise (no high frequency whistle) combined with maximum flow rate and fast filling. The receptacle is a very durable unit, minimizing maintenance and down-time. The WEH[®] TN1 H₂ High-Flow Receptacle has an integrated check valve system which is designed to minimize the effect that dirt particles have on the sealing components within the receptacle. The TN1 H₂ High-Flow is also equipped with a coding for pressure range and gas type.

Enhanced safety by integrating a particle filter

Using an integrated particle filter avoids dirt ingress and therefore leakage from the receptacle which gives enhanced safety.

Application

Receptacle for refuelling of buses and trucks with hydrogen.

		NOZZLE - pressure range/coding			
		250 bar	350 bar	350 bar HF*	700 bar
RECEPTACLE - pressure range/coding	250 bar	✓			
	350 bar	✓	✓		
	350 bar HF*	✓	✓	✓	
	700 bar	✓	✓		✓

* HF = High-Flow

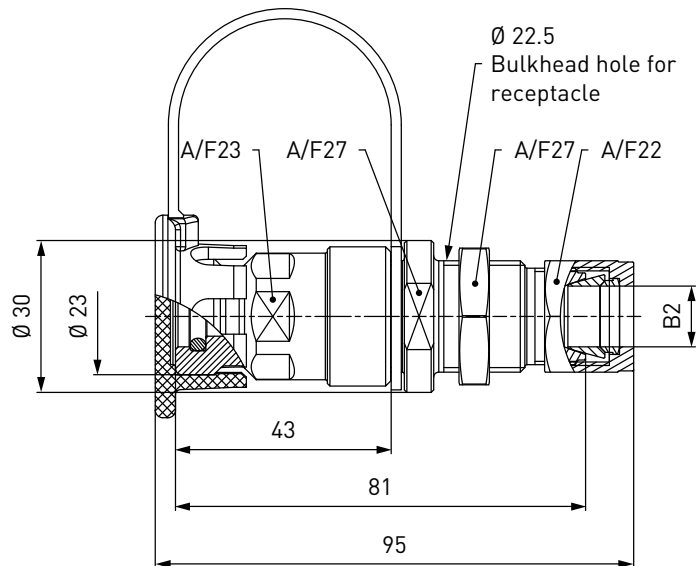
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 8 mm, depending on design	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With protection cap, integrated particle filter (40 micron), integrated check valve and fittings (only for receptacles with tube fitting)	On request
Registration	e1 00 0003 (Regulation (EC) No. 79/2009) SAE J2600:2002	

» Receptacle TN1 H₂ High-Flow

ORDERING | WEH® TN1 H₂ High-Flow Receptacle with tube fitting

approx. dimensions (mm)



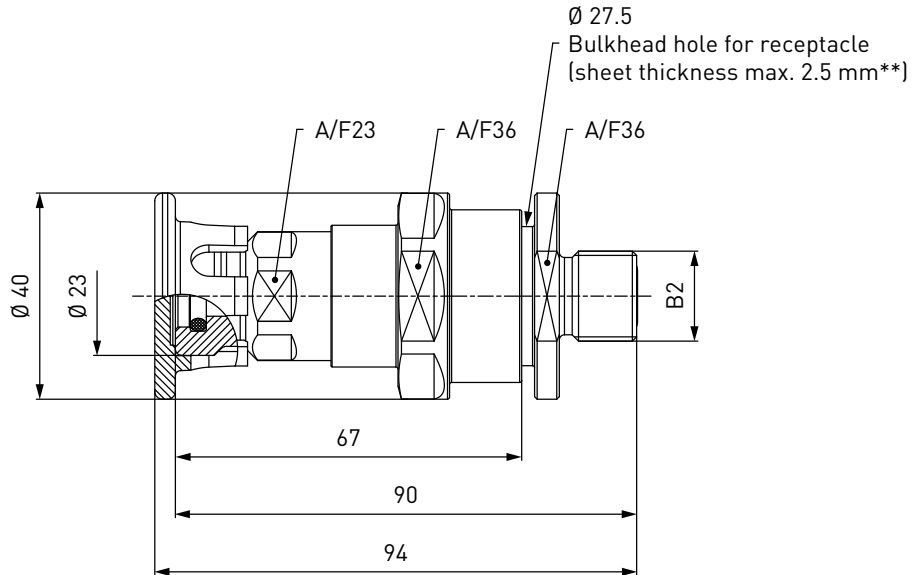
Part No.	Description	DN	Pressure (PN)	Port B2
C1-85040	TN1 H ₂ High-Flow (e1)	8	350 bar / 5,000 psi	Tube Ø 12*

* double ferrule fitting

» Receptacle TN1 H₂ High-Flow

ORDERING | WEH® TN1 H₂ High-Flow Receptacle with external thread, prepared for data interface

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Port B2 (external thread)
C1-94306	TN1 H ₂ High-Flow (e1)	6	350 bar / 5,000 psi	UN 11/16"-16 for sealing with O-Lok® Face Seal* for tube $\varnothing 10$ (3/8")
C1-112679	TN1 H ₂ High-Flow (e1)	8	350 bar / 5,000 psi	UN 13/16"-16 for sealing with O-Lok® Face Seal* for tube $\varnothing 12.7$ (1/2")

* Face Seal acc. to SAE J1453

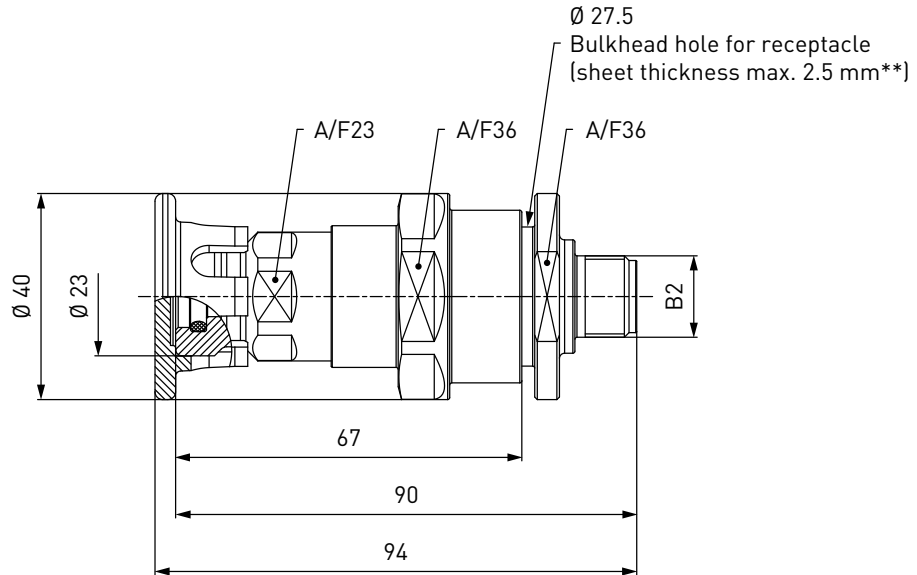
** Please indicate when ordering if thicker sheet metals are needed!

Data interface not included!

» Receptacle TN1 H₂ High-Flow

ORDERING | WEH® TN1 H₂ High-Flow Receptacle with tube fitting, prepared for data interface

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Port B2
C1-105920	TN1 H ₂ High-Flow (e1)	6	350 bar / 5,000 psi	Tube $\varnothing 10^*$

* double ferrule fitting

** Please indicate when ordering if thicker sheet metals are needed!
Data interface and fittings not included!

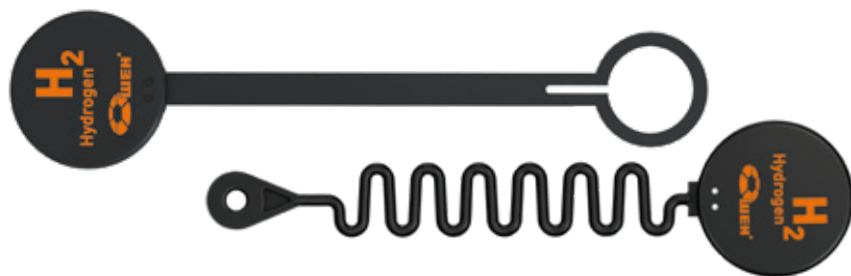
Other connection sizes and versions on request.

SPARE PARTS

Various parts are available as spares for the WEH® TN1 H₂ High-Flow Receptacle:

Protection cap

Protection cap with a strap to protect the TN1 H₂ High-Flow receptacle from dirt ingress.



Part No.	Description
C1-87803	Protection cap
C1-85984	Protection cap for receptacles prepared for data interface

» Receptacle TN5 H₂

DESCRIPTION



Features

- Low-noise refuelling
- Integrated self-cleaning particle filter (50 micron)
- Integrated high-flow check valve
- Sealing-friendly design
- Coding for pressure range / gas type

The WEH[®] TN5 H₂ Receptacle is designed specifically for hydrogen refuelling of buses and trucks. Due to the internal aerodynamic design the receptacle gives low noise (no high frequency whistle) combined with maximum flow rate and fast filling. The receptacle is a very durable unit, minimizing maintenance and down-time. The WEH[®] TN5 H₂ Receptacle has an integrated check valve system which is designed to minimize the effect that dirt particles have on the sealing components within the receptacle. The TN5 H₂ is also equipped with a coding for pressure range and gas type.

Enhanced safety by integrating a particle filter

Using an integrated particle filter avoids dirt ingress and therefore leakage from the receptacle which gives enhanced safety.

Application

Receptacle for refuelling of buses and trucks with hydrogen, to be used with WEH[®] TK25 H₂ Fuelling Nozzles.

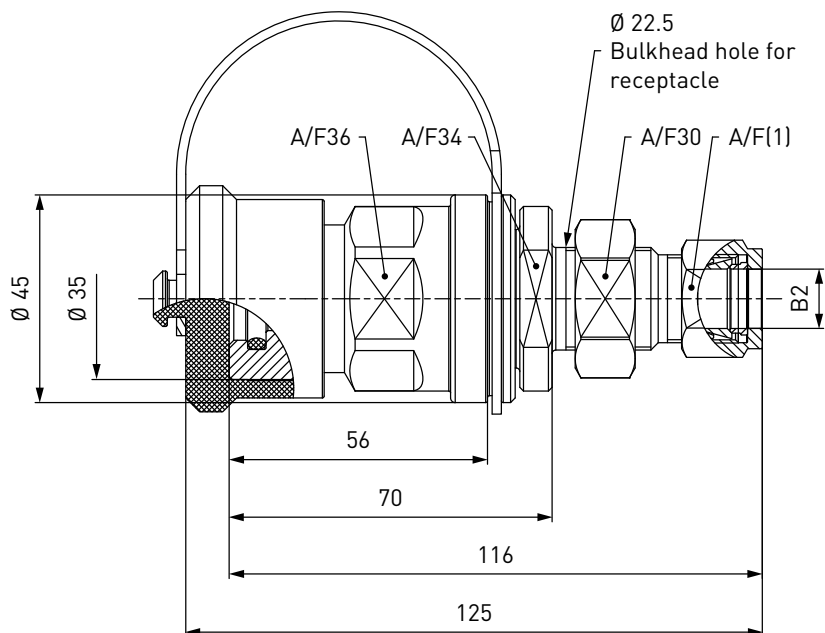
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 12 mm, depending on design	On request
Pressure range	PN = 250 bar (3,600 psi) PS = 350 bar PT = 525 bar PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With protection cap, integrated particle filter (50 micron), integrated check valve and fittings	On request

» Receptacle TN5 H₂

ORDERING | WEH® TN5 H₂ Receptacle with tube fitting

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Port B2	A/F(1)
C1-49772-X1-X01	TN5 H ₂	8	350 bar / 5,000 psi	Tube Ø 12*	22
C1-90840-X01	TN5 H ₂	10	250 bar / 3,600 psi	Tube Ø 1/2"*	22
C1-46714-X01	TN5 H ₂	10	350 bar / 5,000 psi	Tube Ø 1/2"*	22
C1-19136-X1-X01	TN5 H ₂	12	350 bar / 5,000 psi	Tube Ø 16*	25

* double ferrule fitting

Other connection sizes and versions on request.

SPARE PARTS

Various parts are available as spares for the WEH® TN5 H₂ Receptacle:

Protection cap

Protection cap with a strap to protect the TN5 H₂ receptacle from dirt ingress.



Part No.	Description
C1-134306	Protection cap

» Check Valve TVR5 H₂

DESCRIPTION



Features

- Robust construction
- Low-noise opening and closing
- Corrosion resistant stainless steel
- High leak tightness

The WEH® TVR5 H₂ is the largest of our check valves. It is most efficient and developed specifically for H₂ buses and trucks. The check valve system is designed to minimize the effect of dirt particles on the sealing components within the unit. The WEH® TVR5 H₂ Check Valve is constructed of corrosion-resistant stainless steel achieving a very durable unit due to its robust internal structure.

Application

Check valve for buses and trucks, also suitable for installation in fuelling stations.

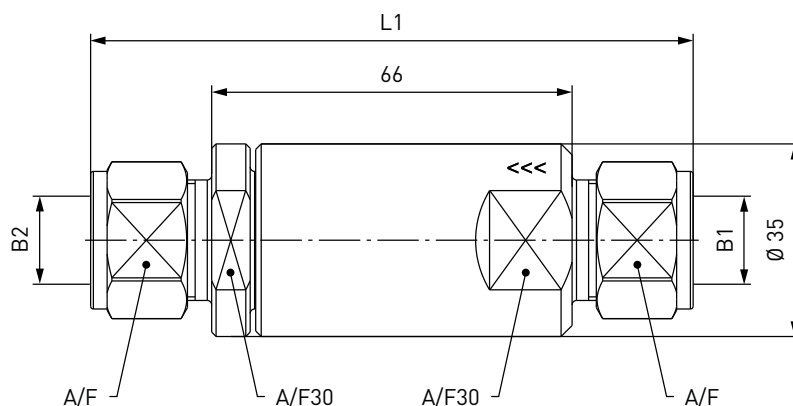
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 14 mm, depending on design	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Design	Incl. fittings (only for check valves with tube fitting)	On request

Check Valve TVR5 H₂

ORDERING | WEH® TVR5 H₂ Check Valve with tube fitting on both sides

approx. dimensions (mm)

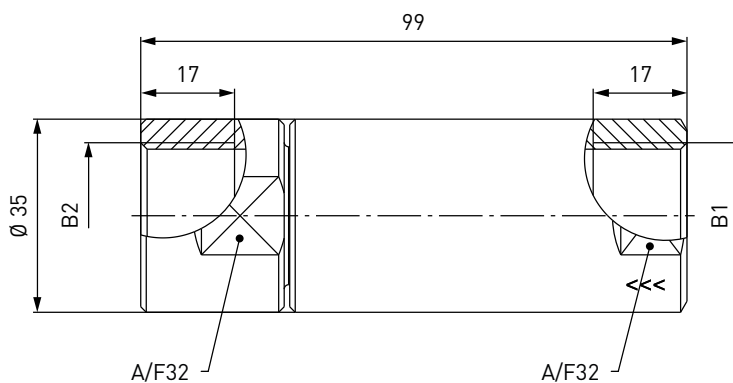


Part No.	Description	DN	Pressure (PN)	Inlet B1	Outlet B2	L1	A/F
C1-30216-X1-X01	TVR5 H ₂	11	350 bar / 5,000 psi	Tube Ø 12*	Tube Ø 12*	110	22
C1-30215-X1-X01	TVR5 H ₂	14	350 bar / 5,000 psi	Tube Ø 16*	Tube Ø 16*	111	25

* double ferrule fitting

ORDERING | WEH® TVR5 H₂ Check Valve with internal thread on both sides

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (internal thread)
C1-43326-X1-X01	TVR5 H ₂	12	350 bar / 5,000 psi	G3/4"*	G3/4"*

* acc. to DIN 3852-2

Other connection sizes and versions on request.

» Filter TSF2 H₂

DESCRIPTION



Features

- For hydrogen free of impurities
- Filter insert can be cleaned
- For installation onboard H₂ vehicles and in fuelling stations
- Also suitable as prefilter for inline breakaways

Contaminants in the gas flow can enter the vehicle's storage tank during refuelling. These dirt particles in the hydrogen fuel may cause damage to the sealing components. WEH, therefore, offers the WEH[®] TSF2 H₂ Filter Series for clean hydrogen. Solid particles are captured reliably.

The filter element can be removed and is re-usable after having been cleaned.

The WEH[®] TSF2 H₂ Filter is mainly used for fuelling stations and dispensers.

In order to meet the different requirements of the dispenser manufacturers, WEH offers a wide variety of connection configurations - tube fitting / internal thread on both ends or internal and external thread.

For use as a prefilter in the WEH[®] TSA2 H₂ Inline Breakaway Coupling, WEH offers a special design with external and internal thread.

Application

Filter for installation onboard H₂ vehicles (e1 approval) and in fuelling stations.

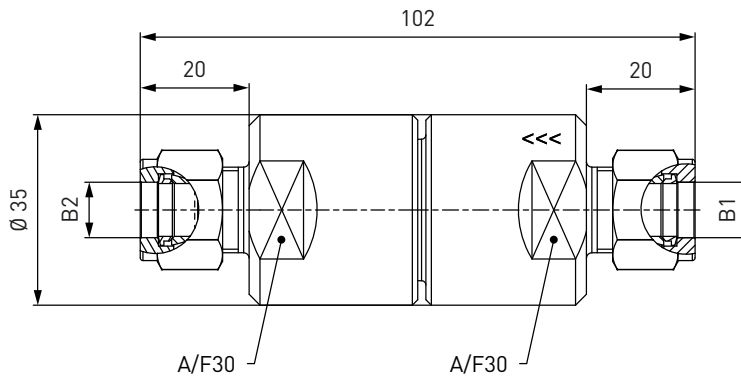
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Max. 8 mm, depending on design	On request
Pressure range	PN = 300 bar (4,350 psi) PS = 400 bar PT = 600 bar PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Filter element	40 resp. 20 micron	On request
Design	Incl. fittings (only for filters with tube fitting)	On request
Registration	e1 approval on request	

» Filter TSF2 H₂

ORDERING | WEH® TSF2 H₂ Filter with tube fitting on both sides

approx. dimensions (mm)

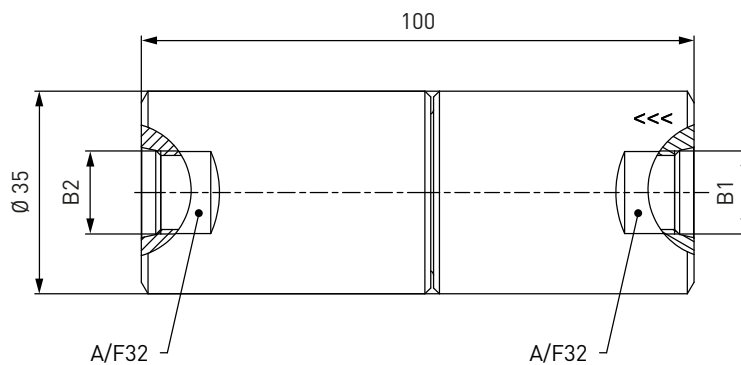


Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1	Outlet B2
C1-54095-X01	TSF2 H ₂	40	4	350 bar / 5,000 psi	Tube Ø 1/4"*	Tube Ø 1/4"*
C1-18487-X01	TSF2 H ₂	40	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*
C1-36033-X01	TSF2 H ₂	40	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*

* double ferrule fitting

ORDERING | WEH® TSF2 H₂ Filter with internal thread on both sides

approx. dimensions (mm)



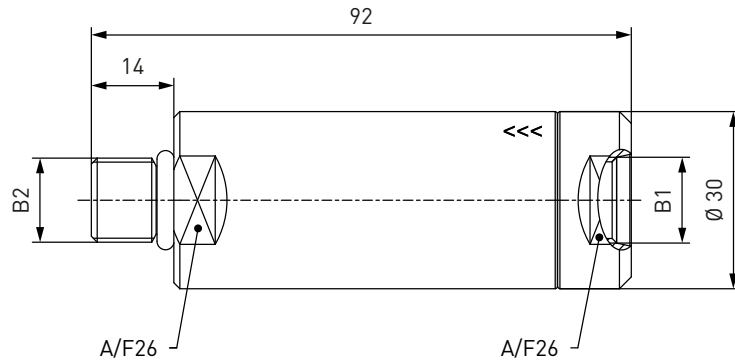
Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (internal thread)
C1-34576-X01	TSF2 H ₂	40	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J1926

» Filter TSF2 H₂

ORDERING | WEH® TSF2 H₂ Filter with internal and external thread

approx. dimensions (mm)

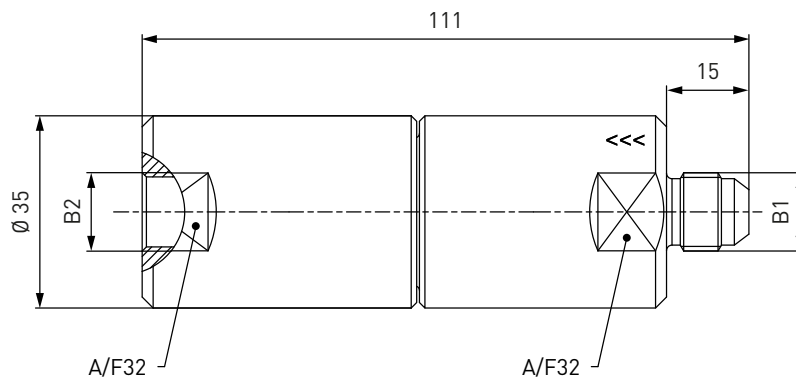


Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (external thread)
C1-17011-X01	TSF2 H ₂	40	8	300 bar / 4,350 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J1926

ORDERING | WEH® TSF2 H₂ Filter with external and internal thread (also suitable as prefilter for TSA2 H₂)

approx. dimensions (mm)



Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (internal thread)
C1-134710-X01	TSF2 H ₂	40	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*
C1-134711-X01	TSF2 H ₂	20	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J514, 37°

» Filter TSF2 H₂

SPARE PARTS

Various parts are available as spares for the WEH® TSF2 H₂ Filter:

Part No.	Description
E69-9061	Wire filter insert 40 micron (incl. spring and o-ring)
E69-67754	Wire filter insert 20 micron (incl. spring and o-ring)

» Coalescing filter TSF2 H₂

DESCRIPTION



Features

- Fine filter with high particle removal efficiency
- (efficiency of approx. 99.9% > 0.3 micron)
- For installation onboard H₂ vehicles and in fuelling stations
- Protection of critical components in the fuel system
- Wear resistant
- Ease of maintenance

Clean, filtered gases are essential to guarantee the proper function of components for vehicles and fuelling stations when refuelling with hydrogen. The WEH® TSF2 H₂ Coalescing Filter was developed to remove particles from the gas flow. Coalescing Filters are more effective in comparison to regular particle filters due to the high particle removal efficiency. When filtering the gas flow, the coalescing filter reliably removes contaminants such as oil, water and dirt particles which are contained in the gas. This contamination is isolated by the coalescing filter. Hydrogen flows through the filter, whereas contaminants such as oil, water and other aerosols coalesce, and drop into the sump of the filter, where they are separated into a drain port.

The WEH® TSF2 H₂ is easy to maintain and can be installed onboard vehicles and in fuelling stations at any time.

Application

Coalescing filter for installation onboard H₂ vehicles (e1 approval) and in fuelling stations.

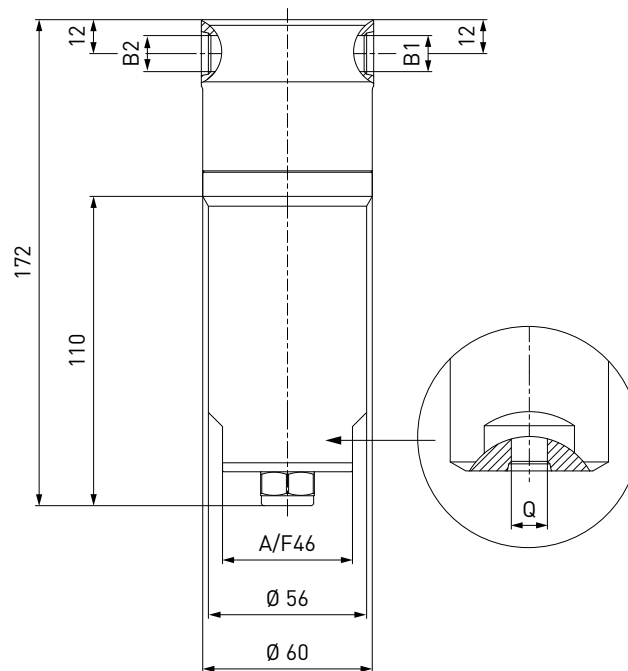
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	10 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Filter element	< 1 micron	On request
Design	Incl. plug	On request
Registration	e1 00 0004 (Regulation (EC) No. 79/2009)	

» Coalescing filter TSF2 H₂

ORDERING | WEH® TSF2 H₂ Coalescing Filter with filter cartridge Ø 38.0 mm

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (internal thread)	Drain port Q (internal thread)
C1-89635	TSF2 H ₂ (e1)	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*	UNF 9/16"-18*
C1-120710-X01	TSF2 H ₂	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J1926

SPARE PARTS

Various parts are available as spares for the WEH® TSF2 H₂ Coalescing Filter:

Plug

Plug with polyurethane o-ring for closing the drain port 'Q' (end of the filter).



Part No.	Description	Port (external thread)
E69-93336	Plug with o-ring	UNF 9/16"-18*

* acc. to SAE J1926

Filter cartridge

For TSF2 H₂ coalescing filter with filter cartridge Ø 38.0 mm.



Part No.	Description	Length
E69-89626	Filter cartridge	90.0 mm

» Filter TSF4 H₂

DESCRIPTION



Features

- For hydrogen free of impurities
- Filter insert can be cleaned
- For installation onboard H₂ vehicles and in fuelling stations

Contaminants in the gas flow can enter the vehicle's storage tank during refuelling. These dirt particles in the hydrogen fuel may cause damage to the sealing components. WEH, therefore, offers the WEH[®] TSF4 H₂ Filter Series for clean hydrogen. Solid particles are captured reliably.

The filter element can be removed and is re-usable after having been cleaned.

The filter is mainly used for onboard H₂ powered vehicles, but can also be used for fuelling stations and dispensers.

The WEH[®] TSF4 H₂ is available as round filter and as T-filter. The round filter is available with tube fitting or internal thread on both sides or external and internal thread. The T-filter has been specially designed for use in H₂ buses and trucks.

The filter can be removed for cleaning purposes without tedious unscrewing of the media lines.



TSF4 H₂ T-Filter

Application

Filter for installation onboard H₂ vehicles (e1 approval) and in fuelling stations.

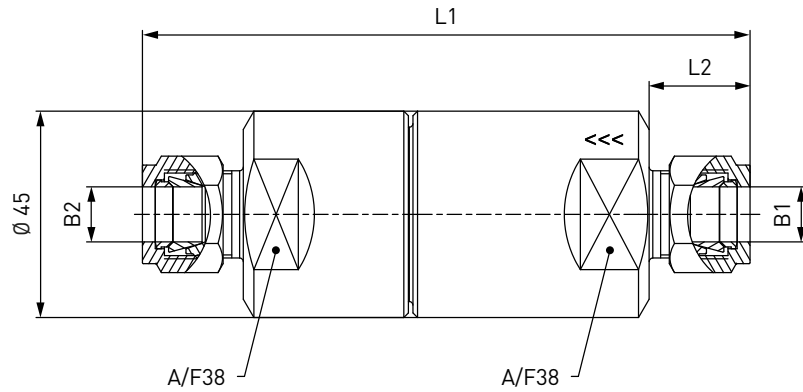
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	Depending on design	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Filter element	40 resp. 10 micron	On request
Design	Incl. fittings (only for filters with tube fitting)	On request
Registration	e1 approval on request	

» Filter TSF4 H₂

ORDERING | WEH® TSF4 H₂ Round Filter with tube fitting on both sides

approx. dimensions (mm)



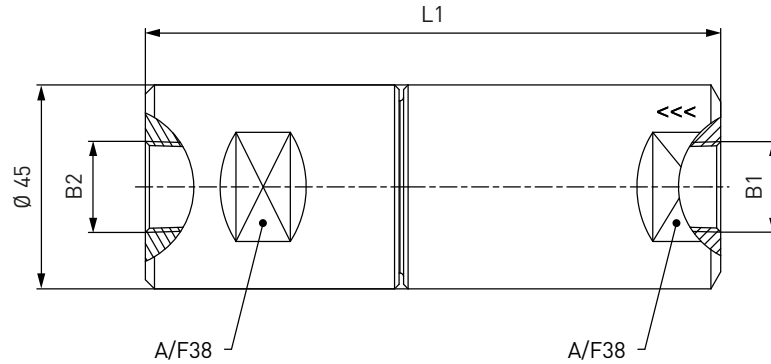
Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1	Outlet B2	L1	L2
C1-33157-X01	TSF4 H ₂	10	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*	128	20
C1-69045-X01	TSF4 H ₂	10	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	128	20
C1-36032-X01	TSF4 H ₂	40	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	129	20
C1-30214-X01	TSF4 H ₂	40	10	350 bar / 5,000 psi	Tube Ø 12*	Tube Ø 12*	133	22
C1-59447-X01	TSF4 H ₂	10	10	350 bar / 5,000 psi	Tube Ø 1/2"*	Tube Ø 1/2"*	133	22
C1-49130-X01	TSF4 H ₂	40	9	350 bar / 5,000 psi	Tube Ø 1/2"*	Tube Ø 1/2"*	133	22
C1-30213-X1-X01	TSF4 H ₂	40	12	350 bar / 5,000 psi	Tube Ø 16"*	Tube Ø 16"*	134	23

* double ferrule fitting

» Filter TSF4 H₂

ORDERING | WEH® TSF4 H₂ Round Filter with internal thread on both sides

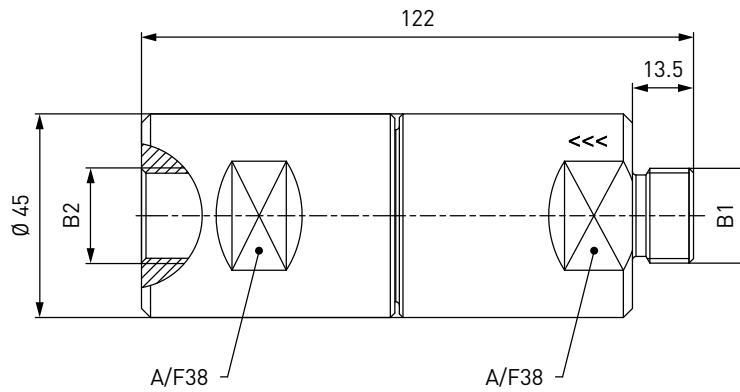
approx. dimensions (mm)



Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (internal thread)	L1
C1-104265-X01	TSF4 H ₂	40	10	350 bar / 5,000 psi	NPT 3/8"	NPT 3/8"	122
C1-104263-X01	TSF4 H ₂	40	12	350 bar / 5,000 psi	NPT 1/2"	NPT 1/2"	127

ORDERING | WEH® TSF4 H₂ Round Filter with external and internal thread

approx. dimensions (mm)

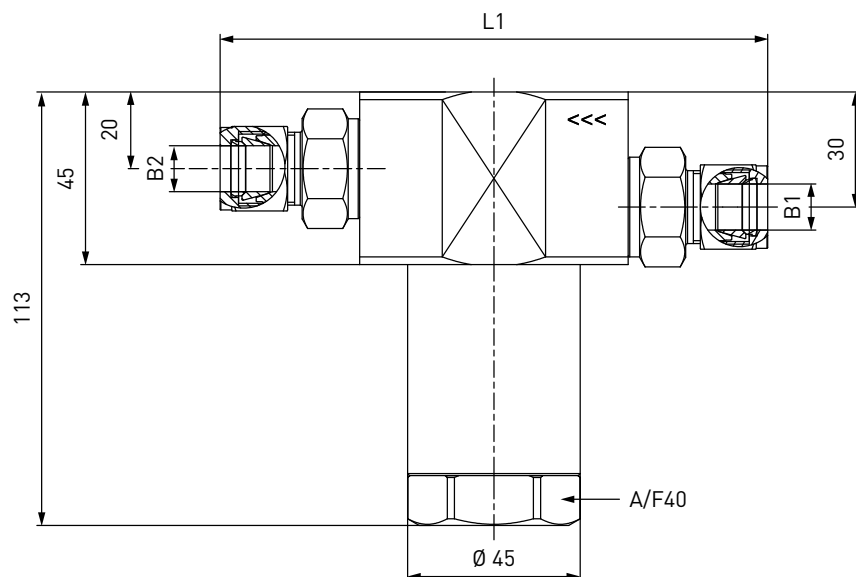


Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (internal thread)
C1-36114-X01	TSF4 H ₂	40	12	350 bar / 5,000 psi	G1/2"	G1/2"

» Filter TSF4 H₂

ORDERING | WEH® TSF4 H₂ T-Filter with tube fitting on both sides

approx. dimensions (mm)



Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1	Outlet B2	L1
C1-117286-X01	TSF4 H ₂	40	6	350 bar / 5,000 psi	Tube Ø 8*	Tube Ø 8*	140
C1-70379-X01	TSF4 H ₂	10	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*	140
C1-58026-X01	TSF4 H ₂	10	10	350 bar / 5,000 psi	Tube Ø 12*	Tube Ø 12*	145
C1-73987-X01	TSF4 H ₂	10	10	350 bar / 5,000 psi	Tube Ø 1/2"*	Tube Ø 1/2"*	145
C1-47886-X01	TSF4 H ₂	40	12	350 bar / 5,000 psi	Tube Ø 16*	Tube Ø 16*	145
C1-69040-X01	TSF4 H ₂	10	12	350 bar / 5,000 psi	Tube Ø 16*	Tube Ø 16*	145

* double ferrule fitting

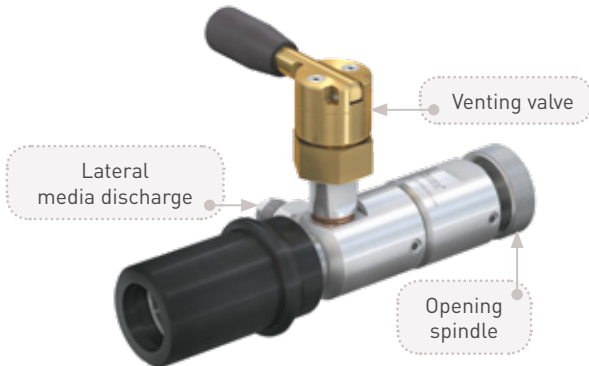
SPARE PARTS

Various parts are available as spares for the WEH® TSF4 H₂ Filter:

Part No.	Description
E69-9062	Wire filter insert 40 micron
E69-9063	Wire filter insert 10 micron
E51-47589	O-ring for filter insert (only T-filter)

» Service Nozzle TK6 H₂

DESCRIPTION



Features

- Discharge through the filling receptacle
- Knurled spindle actuation
- No additional locking device required
- Version with and without venting valve
- Plastic thermal protection
- Only suitable for WEH[®] TN1 H₂ Receptacles (without a filter)

Cars running on hydrogen have to be serviced and checked regularly, a process involving the discharge of their pressurized fuel tanks. The WEH[®] TK6 H₂ Service Nozzle has been designed for this specific purpose.

The service nozzle is simply engaged onto the WEH[®] TN1 H₂ Receptacle of the car and the knurled spindle fully turned until the receptacle is fully open. Discharge can now take place through the lateral media discharge vent.

Application

Service nozzle for discharging of H₂ fuel tanks of cars through the filling receptacle. Only to be used with WEH[®] TN1 H₂ Receptacles without a filter. Operation only by specially trained personnel. Not for self-service operation!

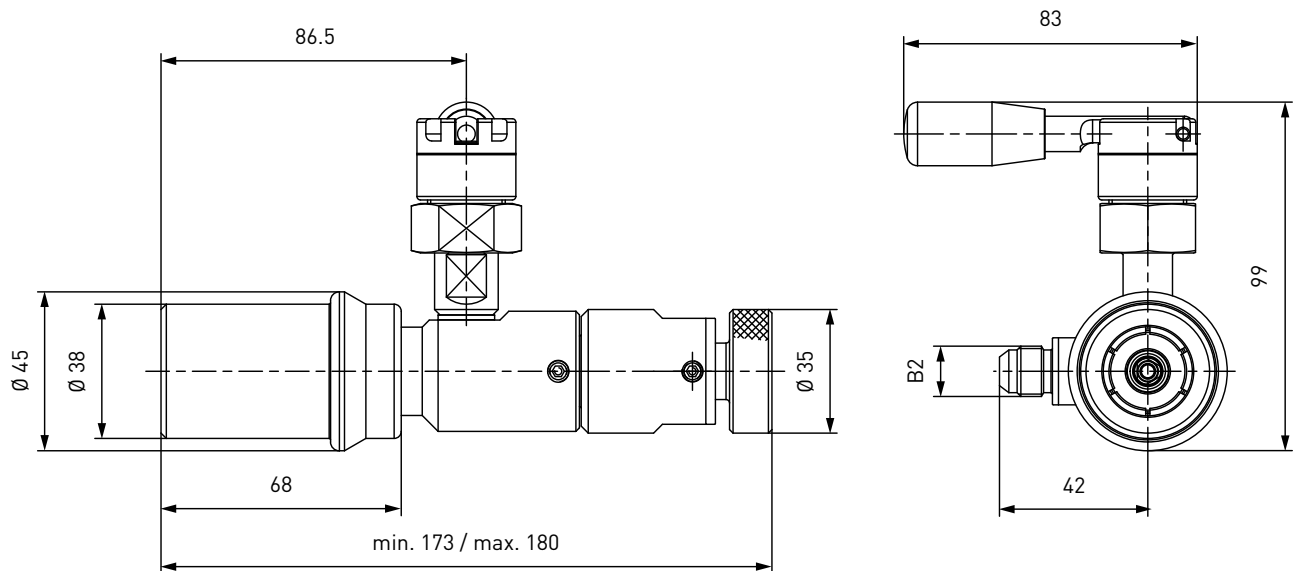
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	6 mm	On request
Pressure range	PN = 350 bar (5,000 psi) PS = 450 bar PT = 675 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant	On request
Sealing material	Hydrogen compatible	On request
Design	With plastic thermal protection, opening spindle and with resp. without venting valve	On request
Weight	Approx. 1.2 kg (2.65 lbs.) with venting valve resp. approx. 1 kg (2.21 lbs.) without venting valve	

» Service Nozzle TK6 H₂

ORDERING | WEH® TK6 H₂ Service Nozzle with venting valve

approx. dimensions (mm)

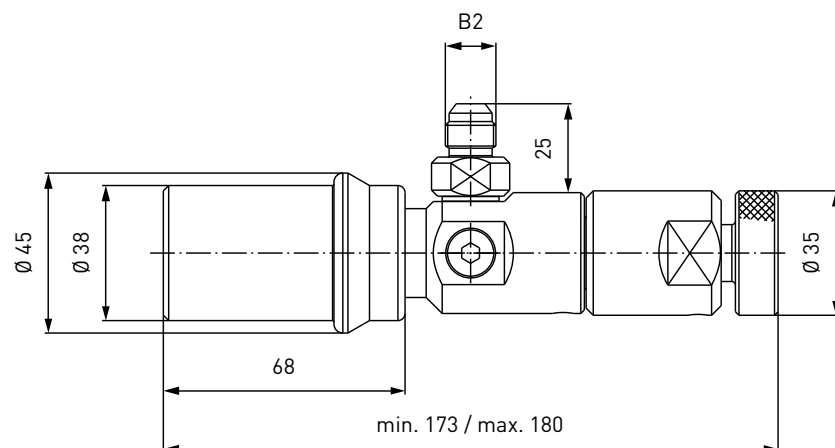


Part No.	Description	Pressure (PN)	Discharge B2 (external thread)
C1-104732-X01	TK6 H ₂	350 bar / 5,000 psi	UNF 9/16"-18*

* acc. to SAE J514, 37°

ORDERING | WEH® TK6 H₂ Service Nozzle without venting valve

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Discharge B2 (external thread)
C1-114907-X01	TK6 H ₂	350 bar / 5,000 psi	UNF 9/16"-18*

* acc. to SAE J514, 37°

» Service Nozzle TK6 H₂

ACCESSORIES

The following accessories are available for the WEH® TK6 H₂ Service Nozzle:

Hoses

Hoses for connection to the TK6 H₂ service nozzle, complete with fittings and press-fittings supported by coil spring stubs.



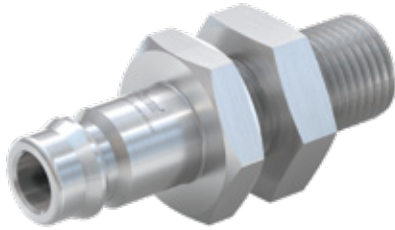
Part No.	Hose B1/B2 (internal thread)	Hose length
E68-60809	UNF 9/16"-18*	3 m
E68-60812	UNF 9/16"-18*	4 m
E68-60813	UNF 9/16"-18*	5 m

* acc. to SAE J514, 37°

» Service Nozzle **TK6 H₂**

» Service Receptacle TNS10 H₂

DESCRIPTION



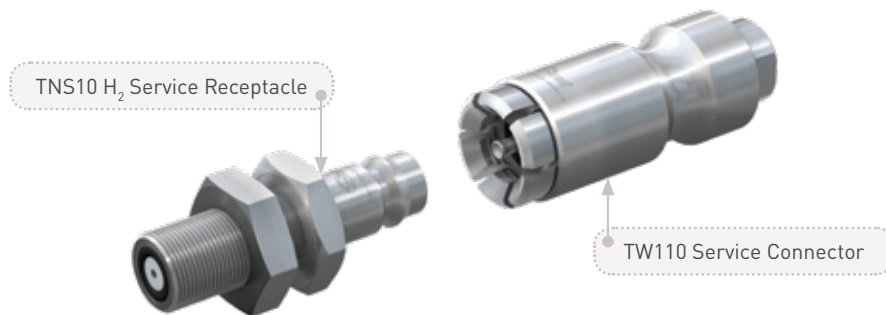
Features

- Integrated shut-off valve
- Reduces chatter during discharging
- Sealing-friendly design
- Incl. protection cap

Vehicles running on hydrogen have to be serviced and checked regularly. To achieve this, it is necessary to discharge all pressure vessels resp. fuel tanks. The WEH® TNS10 H₂ Service Receptacle has been designed for this specific purpose. It is mounted on the underside of the H₂ vehicle and provides simple discharging of the fuel tank.

The WEH® TW110 Service Nozzle needs only to be placed onto the service receptacle and discharging can commence. After discharging, disconnect the service nozzle and refit the protection cap in order to protect the service receptacle from dirt and damage whilst not in use. The included protection cap protects the service receptacle from dirt and damage whilst not in use.

We recommend that the WEH® TNS10 H₂ Service Receptacle is used with the WEH® TW110 Service Connector. This is specially designed to work with the service receptacle.



Application

Service receptacle for discharging hydrogen.

Operation only by specially trained service personnel. Not for self-service operation!

Note: The TNS10 H₂ may only be used in connection with a suitable locking device or shut-off valve (e.g. ball valve)!

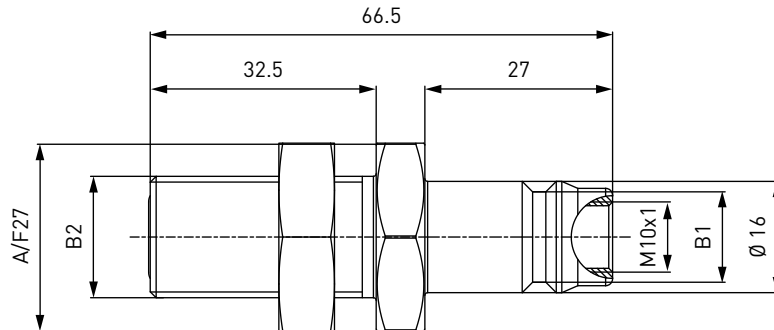
TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	6 mm	On request
Pressure range	PN = 16 bar (230 psi) PS = 20 bar PT = 30 bar	
Temperature range	-40 °C up to +85 °C (-40 °F up to +185 °F)	On request
Material	Corrosion resistant stainless steel	On request
Sealing material	Hydrogen compatible	On request
Design	Incl. integrated shut-off valve, bulkhead fitting and protection cap	On request

Service Receptacle TNS10 H₂

ORDERING | WEH® TNS10 H₂ Service Receptacle

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Port B1	Port B2 (external thread)
C1-151481	TNS10 H ₂	6	16 bar / 230 psi	Ø 13	UN 11/16"-16 for sealing with O-Lok® Face Seal* for tube Ø 10 (3/8")

* Face Seal acc. to SAE J1453

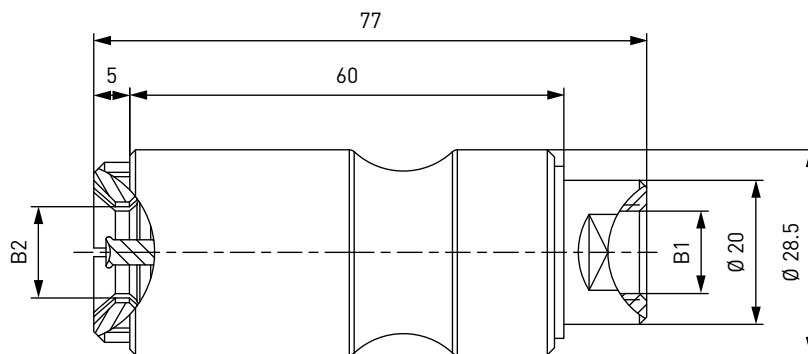
ACCESSORIES

The following accessories are available for the WEH® TNS10 H₂ Service Receptacle:

WEH® TW110 Service Connector

Service nozzle with integrated shut-off valve for discharging the pressure vessels and fuel tanks of vehicles running on hydrogen.

approx. dimensions (mm)



Part No.	Description	Pressure (PN)	Discharge B1 (internal thread)	Port B2
C1-84461	TW110	16 bar / 230 psi	G1/4"	Ø 13

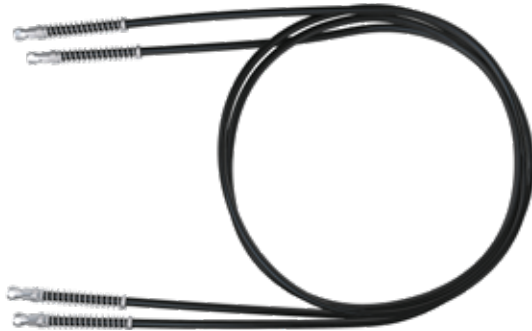
Protection cap

Protection cap to protect the TNS10 H₂ service receptacle from dirt ingress.

Part No.	Description
E49-83726	Protection cap

» Filling and Venting Hoses

DESCRIPTION



Features

- Different lengths available
- Tailor-made according to customers' specifications

We offer hydrogen hoses for connecting fuelling nozzle and breakaway coupling or dispenser. The hoses are available with the appropriated fittings. The filling resp. filling and venting hoses (hose set) can be delivered in different standard sizes. On request the hydrogen hoses are also available in other lengths.

Application

Hydrogen hoses for installation at the dispenser.

TECHNICAL DATA

Characteristic	Basic version
Pressure range	Max. 450 bar / 6,530 psi (Hoses for TK16 H ₂ , TK16 H ₂ High-Flow, TK17 H ₂ 35 MPa, TK25 H ₂ , TK6 H ₂) Max. 875 bar / 12,690 psi (Hoses for TK17 H ₂ 70 MPa)
Temperature range	-40 °C up to +60 °C (-40 °F up to +140 °F)
Sealing material	Hydrogen compatible

» Filling and Venting Hoses

ORDERING | Filling hose for TK17 H₂ 70 MPa

High pressure filling hose for connecting fuelling nozzle and TSA1 H₂ 70 MPa breakaway coupling.
Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 4.5 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-108609	UNF 9/16"-18*	3 m
E68-108610	UNF 9/16"-18*	4 m
E68-108611	UNF 9/16"-18*	5 m

* DKJ 58°

ORDERING | Filling hose for TK17 H₂ 70 MPa ENR

High pressure filling hose (suitable for pre-cooled hydrogen) for connecting fuelling nozzle and TSA1 H₂ 70 MPa breakaway coupling, complete with cable for data interface, purging line and braided protection hose as cover.
Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 4.5 mm



Part no.	Filling hose B1/B2 (internal thread)	P1/P2	Hose length
E68-161886	UNF 9/16"-18*	Ø 6	3 m
E68-161887	UNF 9/16"-18*	Ø 6	4 m
E68-161888	UNF 9/16"-18*	Ø 6	5 m

* DKJ 58°

ORDERING | Filling hose for TK17 H₂ 35 MPa

Filling hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.
Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-60801	UNF 7/16"-20*	3 m
E68-60804	UNF 7/16"-20*	4 m
E68-60805	UNF 7/16"-20*	5 m

* acc. to SAE JIC, 37°

» Filling and Venting Hoses

ORDERING | Filling hose for TK17 H₂ 35 MPa with data interface

Filling hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-111445	UNF 7/16" -20*	3 m
E68-111446	UNF 7/16" -20*	4 m
E68-111447	UNF 7/16" -20*	5 m

* acc. to SAE JIC, 37°

ORDERING | Hose set for TK16 H₂ (250 bar / 350 bar) and TK16 H₂ High-Flow (350 bar)

Filling and venting hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-60917	UNF 9/16" -18*	UNF 7/16" -20*	3 m
C1-60920	UNF 9/16" -18*	UNF 7/16" -20*	4 m
C1-60923	UNF 9/16" -18*	UNF 7/16" -20*	5 m

* acc. to SAE JIC, 37°

ORDERING | Hose set for TK16 H₂ (350 bar) and TK16 H₂ High-Flow (350 bar) with data interface

Filling and venting hose for connecting fuelling nozzle and TSA1 H₂ breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm (filling hose) resp. 2 mm (venting hose)



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-90698	UNF 9/16" -18*	M12x1.5	3 m
C1-94428	UNF 9/16" -18*	M12x1.5	4 m
C1-94429	UNF 9/16" -18*	M12x1.5	5 m

* acc. to SAE JIC, 37°

» Filling and Venting Hoses

ORDERING | Hose set for TK25 H₂ (250 bar / 350 bar)

Filling and venting hose for connecting fuelling nozzle and TSA5 H₂ breakaway coupling, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Filling hose B1/B2 (internal thread)	Venting hose C1/C2 (internal thread)	Hose length
C1-33046	UNF 7/8"-14*	UNF 9/16"-18*	3 m
C1-33047	UNF 7/8"-14*	UNF 9/16"-18*	4 m
C1-44255	UNF 7/8"-14*	UNF 9/16"-18*	5 m

* acc. to SAE JIC, 37°

ORDERING | Hose for TK6 H₂ (350 bar)

Hoses for connection to the service nozzle, complete with fittings and press-fittings supported by coil spring stubs.

Design: max. operating pressure PS: 450 bar (6,530 psi) / nominal bore DN: 6.35 mm



Part No.	Hose B1/B2 (internal thread)	Hose length
E68-60809	UNF 9/16"-18*	3 m
E68-60812	UNF 9/16"-18*	4 m
E68-60813	UNF 9/16"-18*	5 m

* acc. to SAE JIC, 37°

» Technical appendix

Definitions

Abbreviation	Definition	
Pressure specifications		
PN	Nominal pressure	Nominal pressure after temperature compensation at 15 °C
PS	Max. allowable operating pressure	Maximum allowable operating pressure acc. to Pressure Equipment Directive 2014/68/EU, Article 2 paragraph 8
PT	Hydrostatic test pressure	Hydrostatic test pressure acc. to Pressure Equipment Directive 2014/68/EU, Annex I no. 7.4
PP	Pilot pressure	Actuation pressure for hydraulic and pneumatic components
PC	Cracking pressure	Pressure at which the check valve opens and the first indication of flow occurs
MAWP	Max. allowable working pressure	Max. allowable operating pressure at which the weakest point of the system or the vessel (e.g. cylinder valve) can operate at a certain temperature during normal operation.
Dimensions		
L1, L2, L3 ...	Length specification	
D1, D2, D3 ...	Diameter specification	
A/F(1), A/F(2) ...	Wrench size specification	
Ports		
A / X	Customer-specific port (test piece, sample, cylinder valve, handwheel respiratory protective equipment)	
B1, B2, B3 ...	Media ports	
C1, C2, C3 ...	Gas recirculation ports	
P1, P2, P3 ...	Pilot pressure ports	
M	Measuring port	
Q	Drain port filter	
G	Mounting bores	
Others		
DN	Nominal bore	
µm	Max. diameter of the filtered particle	
Kv	Is the discharge of water in m ³ /h at a pressure drop of 1 bar, acc. to DIN/EN 60534-2	
Cv	Is the discharge of water in gallons per minute at a pressure drop of 1 psi, acc. to DIN/EN 60534-2	
IR	Infrared data interface	
ENR	Exchangeable data interface (exchangeable nozzle receiver)	
TS	Maximum allowable temperature acc. to Pressure Equipment Directive 2014/68/EU, Article 2 paragraph 9	
Breakaway force	Is the force range, in which the breakaway releases	
NC	Normally closed (initial position of shut-off valve)	
NO	Normally open (initial position of shut-off valve)	

»» Technical appendix

Technical explanations

Term	Definition
Temperature range	Is the temperature range in which the WEH® Product can be used.
Media temperature range	Is the temperature range of the medium used, which can flow through the WEH® Product (may change depending on the time of measurement).
Ambient temperature range	Is the temperature range of the environment in which the WEH® Product can be used.
Leak rate	Is the leak rate, which the WEH® Product max. exhibits under intended use.
Max. side load	<p>Is the max. allowable sum of all external forces that may act on the device under intended use.</p> <p>Note: External forces can affect the life time of WEH® Products and can cause damage. Tensile and transverse loads as well as vibrations and pressure impacts need to be considered, e.g. by user side measures such as on site mountings and similar. Therefore, lateral forces such as whipping hoses or other equipment must be avoided. WEH® Products should be installed in such a way, that lateral forces which could lead to leakage or damage can not occur. Special applications require a special consultation before selecting the product.</p>
Products with pneumatic actuation	The customer has to ensure there is adequate axial movement when pneumatically actuated WEH® Products are used in automated systems, see maximum side load. Ideally the products should be mounted with a floating joint or introduced individually to prevent the possibly existing clamping jaws getting blocked or jammed in the thread of the test piece.
Sealing material	<p>On request the WEH® Product can be adapted to customer specific applications regarding to the sealing materials used.</p> <p>The clarification of the media compatibility and suitability of the adapted WEH® Product for the final application is always the responsibility of the end user.</p>
Storage / life time of components	There are certain requirements for every WEH® Product. These are described in the corresponding product documentation.

Further explanations

Subject	Definition
Safe product selection	<p>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). You alone are responsible for the selection of WEH® Products and their configuration according to the requirements of your system. In doing so, please particularly consider your intended use, your performance data, your material compatibility, your system concept and your system limits as well as 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. 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.</p>
Explanation on the Pressure Equipment Directive	<p>In general, WEH® Products with a maximum allowable operating pressure of more than 0.5 bar (PS) fall within the scope of application of the Pressure Equipment Directive 2014/68/EU. These WEH® Products are generally and exclusively classified as pressure accessories for piping in accordance with Article 2 (5) of the Pressure Equipment Directive 2014/68/EU. Based on the conducted classification, the conformity with the Pressure Equipment Directive 2014/68/EU is generally established under Article 4 (3) of the Pressure Equipment Directive 2014/68/EU. In these cases, the application of WEH® Products must correspond to their classification as pressure accessories for piping, and they may not be used either (i) as safety accessories or (ii) for vessels within the meaning of the Pressure Equipment Directive 2014/68/EU.</p> <p>For some products a different classification and/or categorisation is required or can be conducted on request. In these cases, a conformity assessment procedure in accordance with Annex III of the Pressure Equipment Directive 2014/68/EU can and will be conducted (if legally required) and the conformity can be declared by means of an EU Declaration of Conformity in accordance with Annex IV of the Pressure Equipment Directive 2014/68/EU. In these cases, the EU Declaration of Conformity is enclosed with the product.</p>

» Technical appendix

Further explanations

Subject	Definition
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.

» Brochure data

This catalogue was created diligently and on the basis of decades of experience.

All information/recommendations in this catalogue are non-binding and are particularly subject to possible deviations or changes. For any binding information/recommendations, please refer to the verified information/recommendations in our individual orders. Particularly, due to the wide range of possible applications of WEH® Products and the unknown parameters and operating conditions linked to them, the accuracy and/or completeness of the information/recommendations in this catalogue cannot be guaranteed with respect to certain individual cases. In doing so, we would like to refer once again to the information/recommendations provided in individual orders.

The application limits indicated in this catalogue (e.g. for pressure, temperature, etc.) are generally theoretical values determined in a test environment. As the concrete operating conditions could differ, we cannot ensure that these values apply to a specific customer application. During the practical use, you should particularly consider that the mutual influence of operational parameters could result in changes of the maximum values. Especially, in case of any unusual operating conditions, please contact WEH before using any WEH® Products. We therefore strongly recommend that you also require any necessary binding information/recommendations to be included by us in the individual orders.

Furthermore, we point out that we cannot assume any warranty or accept any responsibility for printing errors, incomplete information or misinterpretations. Product images are particularly provided for illustrative purposes only. Moreover, dimensions and other technical details in this catalogue are non-binding information and are provided for illustrative purposes only. The product's exact form and design result exclusively from the specific individual order. In particular, certain information/recommendations in the catalogue only become integral part of the contract if they have been expressly contractually agreed.

Only the latest version of our catalogue and other product related documents is valid and applicable. Please ensure that you always use the latest catalogue's and documents' versions. Please feel free to contact WEH at any time and request the latest versions.

In case of deliveries and other services, our General Terms and Conditions and the Know-How Protection and Quality Assurance Agreement shall apply unless otherwise expressly agreed.

As a general rule, please appreciate that we cannot accept the General Terms and Conditions of our customers or third parties. Thank you for your understanding.



» Design and production

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