

Catalogue 50 **H**₂ **Refuelling High-Performance Components for Hydrogen Vehicles and Fuelling Stations**

Fuelling technology for hydrogen Date: 05/2014



WEH[®] - We Engineer Hightech

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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 CNG 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[®] H_2 Products especially in the fuelling nozzles and achieve the necessary safety standards for use at self-service fuelling stations.

OVERVIEW FUELLING NOZZLES / BREAKAWAY COUPLINGS

Overview of fuelling nozzles						
Туре	Page		Car	Bus/	Bus/truck	
TK17 H ₂ 70 MPa	10		I			
TK17 H_2 70 MPa with data interface	14		Ĩ			
TK17 H ₂ 35 MPa	18		I			
TK17 H_2 35 MPa with data interface	22		I			
TK16 H ₂	26					
TK16 H_2 with data interface	30		I			
TK16 H ₂ High-Flow	64			\checkmark		
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TK25 H ₂	72			۲		
Overview of service nozz	zles					
Туре	e Page Discharging of H ₂ fuel tanks - car					
ТК6 Н ₂	102					
Overview of breakaway o	couplings					
Туре	Page	Car	Car - Inline	Bus/truck	Bus/truck - Inline	
TSA1 H ₂ 70 MPa	34	I				
TSA1 H ₂	38	I				
TSA2 H ₂	44		I			
TSA5 H ₂	76			Ĩ		
TSA6 H ₂	80				I	

OVERVIEW FILTERS

Overview of filters					
Туре	Page	Car	Bus/truck	Car fuelling station	Bus/truck fuelling station
TSF2 H ₂	92	I	I	I	I
TSF2 H ₂ Coalescing	96	I	I	I	I
TSF4 H ₂	98	I	I	۲	I

>> 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	Druck PN	250 bar	350 bar	350 bar	700 bar	250 bar	350 bar
TK16 H ₂	250 bar		V	\checkmark	\checkmark		
TK16 H ₂ TK16 H ₂ with IR*	350 bar		I	I	I		
TK16 H ₂ High-Flow TK16 H ₂ High-Flow with IR*	350 bar			I	₹		
TK17 H_2 35 MPa TK17 H_2 35 MPa with IR*	350 bar		I	I	I		
TK17 H ₂ 70 MPa TK17 H ₂ 70 MPa with IR*	700 bar				I		
TK25 H ₂	250 bar						
TK25 H ₂	350 bar						I

* IR = infrared 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

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

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

INTERNATIONAL STANDARDS AND APPROVALS

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

- PED97/23/EC: CE0036
- 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.

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 bestopped 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 H_2 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 H_2 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.

* HF = High-Flow

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		
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	PED97/23/EC: CE0036 SAE J2600:2002 SAE TIR J2799			

ORDERING | WEH[®] TK17 H₂ 70 MPa Fuelling Nozzle

approx. dimensions (mm)

	Part No.	Description	Pressure (PN)	Inlet B1 (external thread)
	C1-94441	TK17 H ₂ 70 MPa	700 bar / 10,000 psi	UNF 9/16"-18*
R - 1	* 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 $^{\odot}$ TK17 H $_2$ 70 MPa Fuelling Nozzle:

High pressure filling hoses

B2 ____

High pressure filling hose for connecting fuelling nozzle and TSA1 H_2 70 MPa breakaway coupling. Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 6.3 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

B1

>> 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		

Spare parts

Various parts are available as spares for the TK17 $\rm H_{2}$ 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 H**₂**70 MPa with Data Interface**

DESCRIPTION

Features

- Left or right single-handed operation
- Compatible with WEH[®] TN1 H₂ 70 MPa 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 H_2 70 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 bestopped 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 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 H_2 70 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 $\rm H_{2}$ fast filling of cars at self-service fuelling stations.

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		
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. 2.3 kg (5.07 lbs.)			
Registration	PED97/23/EC: CE0036 SAE J2600:2002 / SAE TIR J2799 Data interface: SAE J2601 / ATEX	Approval acc. to KHKS 0220 Data interface: SAE J2601 / NEC Class 1 Zone 1		

>> Fuelling Nozzle **TK17 H**₂**70 MPa with Data Interface**

ORDERING | WEH[®] TK17 H₂70 MPa Fuelling Nozzle with Data Interface

approx. dimensions (mm)

	Part No.	Description	Pressure (PN)	Inlet B1 (external thread)
	C1-97270	TK17 H_2 70 MPa	700 bar / 10,000 psi	UNF 9/16"-18*
	* 60° inner cone			

On request the TK17 H₂ 70 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 70 MPa Fuelling Nozzle with Data Interface:

High pressure filling hoses

High pressure filling hose for connecting fuelling nozzle and TSA1 H₂ 70 MPa breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 6.3 mm

Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-108615	UNF 9/16"-18*	3 m
E68-108614	UNF 9/16"-18*	4 m
E68-108613	UNF 9/16"-18*	5 m
* DK 1 500		

>> Fuelling Nozzle **TK17** H₂ **70** MPa with Data Interface

Dispenser mounting

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

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 H_2 70 MPa fuelling nozzle with data interface.

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

When ordering please quote the part no. imprinted 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 H_2 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 bestopped 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 H_2 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 H_2 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.

* 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	PED97/23/EC: CE0036 SAE J2600:2002	

ORDERING | WEH[®] TK17 H₂35 MPa Fuelling Nozzle

approx. dimensions (mm)

Part No.	Description	Pressure (PN)	Inlet B1 (external thread)
C1-111066	TK17 H ₂ 35 MPa	350 bar / 5,000 psi	UNF 7/16"-20*
* acc. to SAE J514, 3	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 $^{\odot}$ TK17 H $_2$ 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

B2 333		
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	

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 $\rm H_{2}$ 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 H**, **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 H_2 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 bestopped 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 $\check{}$,

thus the coding will not allow connection to natural gas vehicles or other pressure ranges.

Safety

WEH[®] TK17 H_2 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.

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	PED97/23/EC: CE0036 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 H₂35 MPa Fuelling Nozzle with Data Interface

approx. dimensions (mm)

On request the TK17 H_2 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 $^{\circledast}$ TK17 H $_{
m 2}$ 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

C1-91281

Mounting (switch actuated) with weather protection

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 H_2 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 H**₂

DESCRIPTION

The WEH[®] TK16 H_2 Fuelling Nozzle makes refuelling with compressed hydrogen (CGH₂) even more easy for the operator. The TK16 H_2 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 H_2 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 H_2 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 H_2 fast filling of cars at self-service fuelling stations.

TECHNICAL DATA

Characteristic	Basic version	Options
Nominal bore DN	8 mm	On request
Pressure range	N = 110 bar (1,600 psi) PS = 140 bar PT = 210 bar N = 250 bar (3,600 psi) PS = 350 bar PT = 525 bar N = 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	PED97/23/EC: CE0036 SAE J2600:2002	

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	TK16 H ₂	250 bar / 3,600 psi	UNF 9/16"-18*	UNF 7/16"-20*
C1-45696	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 7/16"-20*
C1-106575	TK16 H ₂	110 bar / 1,600 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

B2	
C1	C2

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 H**₂

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)

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 H_2 fuelling nozzle.

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

>> Fuelling Nozzle TK16 H, 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 H_2 Fuelling Nozzle with Data Interface makes refuelling with compressed hydrogen (CGH₂) even more easy for the operator. The TK16 H_2 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.

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 and data interface	On request
Weight	Approx. 2.4 kg (5.29 lbs.)	
Registration	PED97/23/EC: CE0036 SAE J2600:2002 Data interface: SAE J2601 / ATEX	Data interface: SAE J2601 / NEC Class 1 Zone 1

ORDERING | WEH[®] TK16 H₂ Fuelling Nozzle with Data Interface

approx. dimensions (mm)

C1-103471	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16"-18* external thread	M12x1.5 external thread
C1-100208	TK16 H ₂	350 bar / 5,000 psi	UNF 9/16"-18** internal thread	UNF 9/16"-18** internal thread
C1-101987	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 H_2 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)

B2 C1			M		B1 B1 C2
	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

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°	

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 H_2 fuelling nozzle with data interface.

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

>> Breakaway Coupling TSA1 H, 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 H_2 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
Registration	PED97/23/EC: CE0036	

ORDERING | WEH $^{\textcircled{m}}$ TSA1 H $_2$ 70 MPa Breakaway Coupling without gas recirculation

approx. dimensions (mm)

Part No.	Description	Pressure (PN)	B1 (internal thread)	B2 (external thread)
C1-93837	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 $^{\odot}$ TSA1 H₂ 70 MPa Breakaway Coupling without gas recirculation, for data interface

approx. dimensions (mm)

and the

Part No.	Description	Pressure (PN)	B1 (internal thread)	B2 (external thread)
C1-96938	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
ACCESSORIES

The following accessories are available for the WEH $^{\odot}$ TSA1 H $_2$ 70 MPa Breakaway Coupling:

Filling hoses

Suitable filling hose for the TSA1 $\rm H_2$ 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 H_2 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 H**₂

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 H_2 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 H_2 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.

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
Registration	PED97/23/EC: CE0036	

ORDERING | WEH $^{\circ}$ TSA1 H₂ Breakaway Coupling with gas recirculation, external thread

approx. dimensions (mm)



50 0	Part No.	Description	DN	Pressure (PN)	B1 (external thread)	B2 (external thread)	C1 (external thread)	C2 (external thread)
	C1-18834	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	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	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 H**₂

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	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 $^{\circ}$ 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	TSA1 H ₂ with filter (40 micron)	4	350 bar / 5,000 psi	G1/2"	UNF 9/16"-18*	M12x1.5**	G1/4"	
* +	* + CAE 154/ 050							

* acc. to SAE J514, 37 ** 24° inner cone

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	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 H**₂

ACCESSORIES

The following accessories are available for the WEH $^{\odot}$ 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)





Return pulley (hose pulley)

Return pulley for breakaway couplings without dispenser mounting to be used at H₂ fuelling stations.

Part No.	Description
C1-46287	Return pulley (hose pulley)

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 H_2 breakaway coupling.

Part No.	Description
W94249	Receptacle insert for TSA1 $\rm H_2$ with gas recirculation (C1-18834, C1-67741)
W108401	Receptacle insert for TSA1 $\rm H_2$ with gas recirculation (C1-99345)
W74608	Receptacle insert for TSA1 $\rm H_{2}$ 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 H**₂

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 H_2 Filter (see page 92) when using the TSA2 H_2 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.

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
Registration	PED97/23/EC: CE0036	

ORDERING | WEH $^{\textcircled{B}}$ TSA2 H $_2$ 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	TSA2 H ₂	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 7/16"-20*
* acc. to SAE J514, 3	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	$TSA2\:H_2$	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J514, 37°



>> Inline Breakaway Coupling **TSA2 H**₂

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.

B1	Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1 (external thread)	Outlet B2 (internal thread)
BZ	C1-134710	TSF2 H ₂	40	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*
	C1-134711	$TSF2\;H_2$	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 H_2 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.

Spare parts

Various parts are available as spares for the TSA2 $\rm H_2$ 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 H, 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.



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	e 1 00 0010 (Regulation (EC) No. 79/2009) SAE J2600:2002 SAE TIR J2799			

ORDERING | WEH $^{\textcircled{m}}$ TN1 H $_2$ 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 $^{\textcircled{8}}$ 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 H₂70 MPa

ORDERING | WEH $^{\textcircled{R}}$ 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

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 0-Lok $^{\ensuremath{\mathbb{B}}}$ Face Seal* for tube Ø 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 H_2 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 H_2 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 H_2 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 H_2 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.



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) PED97/23/EC: CE0036 SAE J2600:2002	

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	TN1 H ₂ (CE)	8	250 bar / 3,600 psi	Tube Ø 3/8"*
C1-31316	TN1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube Ø 3/8"*
C1-70661	TN1 H ₂ (CE)	8	250 bar / 3,600 psi	Tube Ø 10"*
C1-35426	TN1 H ₂ (e1)	8	350 bar / 5,000 psi	Tube Ø 10*

* double ferrule fitting



>> Receptacle TN1 H₂

ORDERING | WEH[®] TN1 H_2 Receptacle with tube fitting, without filter

approx. dimensions (mm)





Part No.	Description	DN	Pressure (PN)	Port B2
C1-18480	TN1 H ₂ (CE)	8	250 bar / 3,600 psi	Tube Ø 3/8"*
C1-18481	TN1 H ₂ (CE)	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



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 Ø 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 H_2 receptacle from dirt ingress.



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



>> Check Valve TVR1 H₂70 MPa

DESCRIPTION



Features

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

With the TVR1 H_2 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 H_2 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 (CE approval).

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	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	e 1 00 0009 (Regulation (EC) No. 79/2009)	CE approval on request		

ORDERING | WEH $^{\odot}$ 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 H₂70 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

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 H,

DESCRIPTION



Features

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

With the TVR1 H_2 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 H_2 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 (CE approval).

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	e 1 00 0005 (Regulation (EC) No. 79/2009) PED97/23EC: CE0036	

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	TVR1 H ₂ (CE)	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	TVR1 H ₂ (CE)	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	TVR1 H ₂ (CE)	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	TVR1 H ₂ (CE)	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	TVR1 H ₂ (CE)	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	65.0	20.0

* double ferrule fitting



>> Check Valve **TVR1 H**₂

ORDERING | WEH $^{\textcircled{m}}$ TVR1 H $_2$ 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

ORDERING | WEH $^{\textcircled{8}}$ 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	TVR1 H ₂ (CE)	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 H**₂ **High-Flow**

DESCRIPTION



The WEH[®] TK16 H_2 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 H_2 High-Flow only fits the WEH[®] TN1 H_2 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 H_2 fast filling of buses and trucks at self-service fuelling stations.



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	PED97/23EC: CE0036 SAE J2600:2002	

ORDERING | WEH[®] TK16 H, High-Flow Fuelling Nozzle

approx. dimensions (mm)





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

B2	
C1	C2

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	

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 $\rm H_{2}$ High-Flow fuelling nozzle.



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



>> Fuelling Nozzle TK16 H, High-Flow with Data Interface

DESCRIPTION



The WEH[®] TK16 H_2 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 H_2 High-Flow with data interface only fits the WEH[®] TN1 H_2 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.



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 and data interface	On request
Weight	Approx. 2.4 kg (5.29 lbs.)	
Registration	PED97/23EC: CE0036 SAE J2600:2002 Data interface: SAE J2601 / ATEX	Data interface: SAE J2601 / NEC Class 1 Zone 1

>> Fuelling Nozzle **TK16 H**₂ **High-Flow with Data Interface**

ORDERING | WEH[®] TK16 H, High-Flow Fuelling Nozzle with Data Interface

approx. dimensions (mm)



* acc. to SAE J514, 37°

On request the TK16 H_2 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 H**₂ **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



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°	

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 spr		Maintenance spray	



>> Fuelling Nozzle **TK25 H**₂

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 H_2 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 H_2 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.



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	PED97/23/EC: CE0036 SAE J2600:2002	
ORDERING | WEH[®] TK25 H₂ Fuelling Nozzle

approx. dimensions (mm)





* 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 H_2 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 H**₂

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

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 H_2 fuelling nozzle.



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



>> Breakaway Coupling **TSA5 H**₂

DESCRIPTION



The WEH[®] TSA5 H_2 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.

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			
Registration	PED97/23/EC: CE0036				

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	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 H**₂

ACCESSORIES

The following accessories are available for the WEH $^{\odot}$ 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)





Return pulley (hose pulley)

Return pulley for breakaway couplings to be used at H₂ fuelling stations.

Part No.	Description	
	C1-46287	Return pulley (hose pulley)

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 H_2 breakaway coupling:

Part No.	Description
W63194	Receptacle insert for TSA5 $\rm H_2$ 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 H,

DESCRIPTION



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.

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			
Registration	PED97/23/EC: CE0036				

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	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 H**₂

Spare parts

Various parts are available as spares for the TSA6 H_2 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



>> Receptacle TN1 H, 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 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.



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	e 1 00 0003 (Regulation (EC) No. 79/2009) SAE J2600:2002				

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 H, 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 Ø 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 Ø 12.7 (1/2°)

* Face Seal acc. to SAE J1453

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

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 Ø 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 H_2 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 H, Fuelling Nozzles.

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
Registration	PED97/23/EC: CE0036	

ORDERING | WEH $^{\textcircled{B}}$ TN5 H₂ Receptacle with tube fitting

approx. dimensions (mm)





D	Part No.	Description	DN	Pressure (PN)	Port B2	A/F(1)
	C1-49772	TN5 H ₂ (CE)	8	350 bar / 5,000 psi	Tube Ø 12*	22
	C1-90840	TN5 H ₂ (CE)	10	250 bar / 3,600 psi	Tube Ø 1/2"*	22
	C1-46714	TN5 H ₂ (CE)	10	350 bar / 5,000 psi	Tube Ø 1/2"*	22
	C1-19136	TN5 H ₂ (CE)	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^{\circledast} TN5 H₂ Receptacle:

Protection cap

Protection cap with a strap to protect the TN5 $\rm H_{2}$ receptacle from dirt ingress.





>> Check Valve **TVR5 H**,

DESCRIPTION



Features

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

The WEH[®] TVR5 H_2 is the largest of our check valves. It is most efficient and developed specifically for H_2 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 H_2 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.

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
Registration	PED97/23/EC: CE0036	

ORDERING | WEH $^{\textcircled{m}}$ TVR5 H $_2$ Check Valve with tube fitting on both sides

approx. dimensions (mm)



Part No.	Description	DN	Pressure (PN)	Inlet B1	Outlet B2		A/F
C1-30216	TVR5 H_2	11	350 bar / 5,000 psi	Tube Ø 12*	Tube Ø 12*	110	22
C1-30215	TVR5 H_2	14	350 bar / 5,000 psi	Tube Ø 16*	Tube Ø 16*	111	25

* double ferrule fitting

ORDERING | WEH $^{\textcircled{m}}$ TVR5 H $_{2}$ Check Valve with internal thread on both sides

approx. dimensions (mm)

0.1)



	Part No.	Description	DN	Pressure (PN)	Inlet B1 (internal thread)	Outlet B2 (internal thread)
	C1-43326	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 H**₂

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 H_2 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 H, 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 $^{(m)}$ 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 (CE approval).

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	PED97/23/EC: CE0036	e1 approval on request

ORDERING | WEH $^{\textcircled{B}}$ 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	TSF2 H ₂ (CE)	40	4	350 bar / 5,000 psi	Tube Ø 1/4"*	Tube Ø 1/4"*
C1-18487	TSF2 H ₂ (CE)	40	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*
C1-36033	TSF2 H ₂ (CE)	40	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*

* double ferrule fitting

ORDERING | WEH $^{\textcircled{m}}$ TSF2 H $_2$ Filter with internal thread on both sides

approx. dimensions (mm)



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

* acc. to SAE J1926



>> Filter **TSF2 H**₂

ORDERING | WEH $^{\textcircled{m}}$ 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	TSF2 H ₂ (CE)	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	TSF2 H ₂ (CE)	40	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*
C1-134711	TSF2 H ₂ (CE)	20	8	350 bar / 5,000 psi	UNF 9/16"-18*	UNF 9/16"-18*

* acc. to SAE J514, 37°

SPARE PARTS

Various parts are available as spares for the $\rm WEH^{\circledast}\,\rm TSF2\,\rm H_{2}$ 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 H**₂

DESCRIPTION



Features

- Fine filter with high particle removal efficiency
- (efficiency of approx. 99.9% > 0.3 micron)
- For installation onboard $\rm H_2$ 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 (CE approval).

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	e 1 00 0004 (Regulation (EC) No. 79/2009) PED97/23EC: CE0036				

ORDERING | WEH $^{\textcircled{B}}$ TSF2 H $_2$ 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	TSF2 H ₂ (CE)	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 $\rm WEH^{\circledast}$ TSF2 $\rm H_{2}$ 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 H_2 coalescing filter with filter cartridge Ø 38.0 mm.

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



>> Filter **TSF4 H**₂

DESCRIPTION



Features

- For hydrogen free of impurities
- Filter insert can be cleaned
- For installation onboard $\rm H_2$ 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 H_2 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 H_2 powered vehicles, but can also be used for fuelling stations and dispensers.

The WEH[®] TSF4 H_2 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 H_2 buses and trucks.

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

Application

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

TSF4 H₂ T-Filter

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 PED97/23/EC: CE0036		e1 approval on request

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	TSF4 H ₂ (CE)	10	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*	128	20
C1-69045	TSF4 H ₂ (CE)	10	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	128	20
C1-36032	TSF4 H ₂ (CE)	40	8	350 bar / 5,000 psi	Tube Ø 10*	Tube Ø 10*	129	20
C1-30214	TSF4 H ₂ (CE)	40	10	350 bar / 5,000 psi	Tube Ø 12*	Tube Ø 12*	133	22
C1-59447	TSF4 H ₂ (CE)	10	10	350 bar / 5,000 psi	Tube Ø 1/2"*	Tube Ø 1/2"*	133	22
C1-49130	TSF4 H ₂ (CE)	40	9	350 bar / 5,000 psi	Tube Ø 1/2"*	Tube Ø 1/2"*	133	22
C1-30213	TSF4 H ₂ (CE)	40	12	350 bar / 5,000 psi	Tube Ø 16"*	Tube Ø 16"*	134	23

* double ferrule fitting



>> Filter **TSF4 H**₂

ORDERING | WEH $^{\textcircled{m}}$ TSF4 H $_2$ 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	TSF4 H ₂ (CE)	40	10	350 bar / 5,000 psi	NPT 3/8"	NPT 3/8"	122
C1-104263	TSF4 H ₂ (CE)	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	TSF4 H ₂ (CE)	40	12	350 bar / 5,000 psi	G1/2"	G1/2"

ORDERING | WEH[®] TSF4 H₂ T-Filter with tube fitting on both sides approx. dimensions (mm)



-	10
657	.
	12

Part No.	Description	Filter (micron)	DN	Pressure (PN)	Inlet B1	Outlet B2	
C1-117286	TSF4 H ₂ (CE)	40	6	350 bar / 5,000 psi	Tube Ø 8*	Tube Ø 8*	140
C1-70379	TSF4 H ₂ (CE)	10	8	350 bar / 5,000 psi	Tube Ø 3/8"*	Tube Ø 3/8"*	140
C1-58026	TSF4 H ₂ (CE)	10	10	350 bar / 5,000 psi	Tube Ø 12*	Tube Ø 12*	145
C1-73987	TSF4 H ₂ (CE)	10	10	350 bar / 5,000 psi	Tube Ø 1/2"*	Tube Ø 1/2"*	145
C1-47886	TSF4 H ₂ (CE)	40	12	350 bar / 5,000 psi	Tube Ø 16*	Tube Ø 16*	145
C1-69040	TSF4 H ₂ (CE)	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 $\rm WEH^{\circledast}$ TSF4 $\rm H_{2}$ 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 H**₂

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 H_2 fuel tanks of cars through the filling receptacle. Only to be used with WEH[®] TN1 H_2 Receptacles without a filter. Operation only by specially trained personnel. Not for self-service operation!

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		
Registration	PED97/23/EC: CE0036			

ORDERING | WEH[®] TK6 H_2 Service Nozzle with venting valve

approx. dimensions (mm)



 Part No.
 Description
 Pressure (PN)
 Discharge B2 (external thread)

 C1-104732
 TK6 H2
 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)





	5)
C1-114907 TK6 H ₂ 350 bar / 5,000 psi UNF 9/16"-18	¢

* acc. to SAE J514, 37°



>> Service Nozzle **TK6 H**₂

ACCESSORIES

The following accessories are available for the $\rm WEH^{\circledast}$ TK6 $\rm H_{2}$ Service Nozzle:

Hoses

Hoses for connection to the TK6 H_2 service nozzle, complete with fittings and press-fittings supported by coil spring stubs.

B2		E1
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 Receptacle **TN10 H**₂

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[®] TN10 H_2 Service Receptacle has been designed for this specific purpose. It is mounted on the underside of the H_2 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[®] TN10 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 TN10 H₂ may only be used in connection with a suitable locking device or shut-off valve (e.g. ball valve)!

Characteristic	Basic version	Options
Nominal bore DN	2 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

ORDERING | WEH[®] TN10 H₂ Service Receptacle

approx. dimensions (mm)





Part No.	Description	DN	Pressure (PN)	Port B1	Port B2 (external thread)
C1-79764	TN10 H ₂	2	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 $^{\odot}$ TN10 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)



0	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 TN10 H_2 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.

Characteristic	Basic version
Pressure range	Max. 450 bar / 6,530 psi (Hoses for TK16 $\rm H_2$, TK16 $\rm H_2$ High-Flow, TK17 $\rm H_2$ 35 MPa, TK25 $\rm H_2$, TK6 $\rm H_2$) Max. 875 bar / 12,690 psi (Hoses for TK17 $\rm H_2$ 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 H, 70 MPa

High pressure filling hose for connecting fuelling nozzle and TSA1 H_2 70 MPa breakaway coupling. Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 6.3 mm

B2		B1
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 with data interface

High pressure filling hose for connecting fuelling nozzle and TSA1 H₂ 70 MPa breakaway coupling, complete with hose fittings, plastic spiral hose and cable for data interface.

Design: max. operating pressure PS: 875 bar (12,690 psi) / nominal bore DN: 6.3 mm



Part No.	Filling hose B1/B2 (internal thread)	Hose length
E68-108615	UNF 9/16"-18*	3 m
E68-108614	UNF 9/16"-18*	4 m
E68-108613	UNF 9/16"-18*	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

			Million B
	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

B2			B
Part No.	Fillin (inte	ng hose B1/B2 ernal thread)	Hose length
E68-111445	UN	IF 7/16"-20*	3 m
E68-111446	UN	IF 7/16"-20*	4 m
E68-111447	UN	IF 7/16"-20*	5 m
*	70		

* 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

B2	E1
C1	C2

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 H, (350 bar) and TK16 H, High-Flow (350 bar) with data interface

Filling and venting hose for connecting fuelling nozzle and TSA1 H_2 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)

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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°

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

Filling and venting hose for connecting fuelling nozzle and TSA5 H_2 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

B2 223 1111 1111		
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 (59 °F)	
PS	Max. operating pressure	Maximum permissible operating pressure at 15 °C (59 °F) and normal conditions. The values mentioned in this catalogue have been measured at a temperature of 15 °C (59 °F). Note: At higher operating temperatures the permissible operating pressure has to be reduced accordingly to compensate for the effect of heat weakening component materials. Example values see table: Technical notes → Pressure - temperature - compensation The admissible operating pressure has been determined as follows: 100,000 x cycles impacting the component with 125 % of PN The pressure wave is sinusoidal. The test is performed at a room temperature of approx. 20 °C (68 °F).	
PT	Test pressure	Test pressure to which the component is tested for structural integrity during acceptance testing (normally PS x 1.43 up to 1.5)	
Dimensions			
L1, L2, L3	Length specification		
D1, D2, D3	Diameter specification		
Ports			
B1, B2,	Media ports		
C1, C2,	Gas recirculation ports		
P1, P2,	Compressed air ports		
Q	Drain port filter		
Others			
IR	Infrared data interface		
DN	Nominal diameter		
Micron	These specifications are nominal values		

>> Technical appendix

Technical notes

Term	Definition
Temperature range	The temperature ranges stated cover most common applications. The seal material used has higher or lower temperature limits dependant on material (e.g. NBR -30 °C up to +100 °C, FKM -20 °C up to +200 °C, EPDM -40 °C up to +150 °C resp. NBR -22 °F up to +212 °F, FKM -4 °F up to +392 °F, EPDM -40 °F up to +302 °F). Under such extreme temperature conditions the suitability of WEH [®] Products to the application has to be checked specifically. If necessary, we can develop special solutions.
Pressure - temperature - compensation	For higher temperatures the max. operating pressure needs to be reduced dependant on the application. Possible values therefore are: 50 °C (122 °F) - 5 %, 100 °C (212 °F) - 10 %, 150 °C (302 °F) - 20 %. In case of doubt, please contact us! When using certain materials, for example plastics, the valves need to be further derated.
Suitability for application	When selecting a component, the total system design must be considered to ensure safe, trouble free performance. The correct selection of a component, material, temperature, pressure range as well as proper installation, operation and maintenance are the responsibility of the customer.



>> Brochure data

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>> Design and production

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