walther präzision

WalCoDo®

WALTHER CONNECTING & DOCKING

H_2

Hydrogen Refueling Systems

Series HG

The WALTHER **high pressure refueling systems** of the HG series were developed for safe and fast refueling with gaseous hydrogen. The usual application is the refueling of vehicles with fuel cell drive up to an operating pressure of 875 bar.

The refueling nozzles are tested and validated to SAE J2600:2002 - 70 MPa, the worldwide standards of the refueling interface.

WALTHER-PRÄZISION has significantly contributed to the achievement of the standard and thus set the standard of high-pressure sealing in 2006. We are offering a validated technology for the mobility of the future.

Hydrogen Refueling System

Product finder

Image	Description	Feature + options	Max. operating pressure [bar / psi]	Operating temperature [°C / F]	Type	Page
	Parking station / holster with integrated purging system „dry Connect“, stainless steel plate version	Simple and safe parking of the refuelling nozzle and actuation system to detect the correct parking	Purge pressure max. 6	-40 to +85 -40 to +185	HG-004-B	4
	Refueling nozzle for gaseous hydrogen acc. to SAE J2600:2002 - 70 MPa with or without IR module	Simple and reliable operation in push-pull technology and highest safety through pressure-active unlocking protection	875 12,688	-40 to +85 -40 to +185	HG-004-0	6
	Breakaway coupler, shut-off valves, connection to hose set and dispenser	Non-destructive emergency separation at approx. 600 N and safe pressure reduction by using the venting tool	875 12,688	-40 to +85 -40 to +185	HG-006	8
	Hose set for a reliable connection between the refueling nozzle and the breakaway coupling, length = 4,000 mm	Consisting of HP hose 70 MPa and IR cable with e-plug and protective hose	875 12,688	-40 to +85 -40 to +185	95721-B	10
	Venting tool for the for a safe pressure relief after separation	Easy operation by connecting to the breakaway coupler (nipple-side) and venting by turning the screw with suitable tools	875 12,688	-40 to +85 -40 to +185	HG-006-B	11
	Refueling receptacle for gaseous hydrogen acc. to SAE J2600:2002 - 70 MPa, connection inner thread 9/16-18 UNF 2B	Robust and reliable design for bulkhead connection and dust cap with tab	875 12,688	-40 to +85 -40 to +185	HG-004-9	12

We would be happy to provide you with support and advice. Please contact us:

+49 (0) 2129 / 567-405

info@walther-praezision.de

Parking Station / Holster HG-004

Characteristics:

- Integrated connection for purging system with nitrogen or dry air
- High operating comfort and safe locking system
- Robust mechanical actuation to detect the correct parking of the refueling nozzle
- Reliable protection of the refueling nozzle with front-side sealing
- Multiple mounting angles are possible

Benefits:

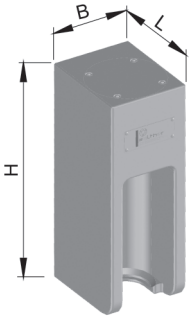
- A freezing of the refueling nozzle is thus safely prevented
- Misuse is impossible
- Simple and reliable proximity switch on customer side
- Damage is avoided, low service costs. Penetration of air, water or pollution is prevented.
- Adaptable design of the dispenser

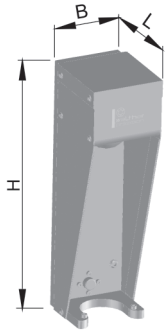
Parking Station / Holster HG-004

Feature chart | Parking Station / Holster

	Technical features	WEDISO	Options
Standard	• End connection G 1/4 female thread as interface to connect gas supply with nitrogen or dry air • Actuator system for refueling nozzle detection by customer provided initiator • Easy assembly via a provided mounting plate • Multiple mounting angles	**Material** AAAV: stainless steel, POM-C, black **Seals** FKM	
Optional	• Alternatively we offer a parking station made of high quality aluminium full material design	**Material** AAAT: aluminium, POM-C, black	

HG-004-B-Y08
Full material aluminium housing
(Optional)





HG-004-B-Y14
Stainless steel plate housing housing
(Standard)

Product chart | Parking station / Holster

Product type	A	B	H	L	ID no.	Part number
Parking station (Standard)	BSPP 1/4 for gas supply	92	306	109	146061	HG-004-B-00006-AAAV-Y14
Parking station (Optional)	BSPP 1/4 for gas supply	110	305	135	115782	HG-004-B-00004-AAAT-Y08

A - Connection (dry air/nitrogen) / not shown **B** - Width [mm] **H** - Height [mm] **L** - Length [mm]

Refueling Nozzle HG-004

Characteristics:

- Double locking technology
- Pressure-active locking system (form fit)
- IR module can be exchanged on-site
- Scraper ring at the front removes moisture and dirt between connecting
- Ergonomic design with push-pull technology

Benefits:

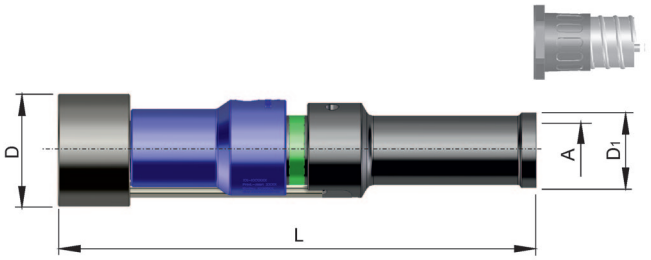
- Disconnecting under pressure is safely prevented
- Maintenance and service friendly = low service costs
- Penetration of dirt and moisture is prevented
- Simple and reliable operation = high customer acceptance

Refueling Nozzle HG-004

Feature chart | Quick coupling systems

	Technical features	WEDISO	Options
Standard	• High protection by dual locking technology and pressure-active locking system • Suitable for Ultracoldfill until -40° C gas temperature • With or without IR technology according to SAE J2601 and with ATEX conformity • End connection 9/16-18 UNF male thread for HP hose	**Material** Stainless steel, POM-C, black/blue **Seals** H_2 resistant	BB = manufacturing according to DIN EN 10204-3.1 Y16 = with IR interface Y17 = without IR interface
Optional	• IR module can be exchanged on-site Fully-developed technology applied since 2001 • Tested and validated according to SAE J2600:2002 - 70 MPa		

HG-004-0-...-Y16/Y17
High pressure refueling nozzle



Hose side

Product chart | Quick coupling systems

NB	Product type	A	D	D1	L	ID no.	Part number
4	Refueling nozzle (with IR)	9/16-18 UNF with sealing cone	75	50	319	160627	HG-004-0-XX004-AABA-Y16-BB
4	Refueling nozzle (without IR)	9/16-18 UNF with sealing cone	75	50	319	160886	HG-004-0-XX004-AABA-Y17-BB

NB - Nominal bore [mm] **A** - Connection **D / D1**- Diameter [mm] **L** - Length [mm]

Breakaway Coupling HG-006

Characteristics:

- Unique and IP protected system with integrated pressure compensation
- Large deflection in all directions due to rope suspension
- Non-destructive emergency release
- Venting with special utility tool possible (see page 11)

Benefits:

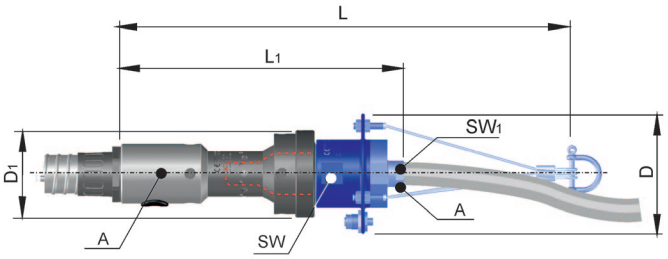
- Blow-back proven design and close to power-neutral emergency release
- Consistent level of the necessary emergency release forces
- Quick and easy restoring of the operational readiness
- Highest level of safety at emergency release

Breakaway Coupling HG-006

Feature chart | Quick coupling system

	Technical features	WEDISO	Options
Standard	• Suitable for Ultracoldfill until -40° C gas temperature • Breakaway IR-plug for emergency separation • Impact protection • Consistent emergency separation force by unique design principle • Connectable with venting tool for safe ventilation after an emergency separation	**Material** Stainless steel, PUR special **Seals** H_2 resistant	BB = manufacturing according to DIN EN 10204 -3.1
Optional	• After an emergency separation, simple recovery of availability by manual connection • Safe initiation of emergency separation force by reliable deviation of suspension		

IR cable L = 5 m for connection with station-side IR-control unit
HG-006-2-XX002-AAAL-Y06-BB: Breakaway Coupling, hose side, shutting off for connection to the hose package, type 95721
HG-006-0-XX004-AAAK-Y06-BB: Breakaway Coupling, station side (flexible connecting line provided by customer)
HG-006-B-0002-AAAD-Y01-BB: Venting tool for safe ventilation after emergency seperation, connectable with HG-006-2-....-Y06



connection to dispencer

HG-006-2-....-Y06
Hose side

HG-006-0-....-Y06
Station side

Product chart | Quick coupling system

NB	Product type	A	SW	SW_1	D	D_1	L_1	L	ID no.	Part number
6	Breakaway coupling (station side)	HP end connection female thread with sealing cone, 9/16-18 UNF-2B Nova Swiss 3/8“	60	21	110		260	417	144413	HG-006-0-XX004-AAAK-Y06-BB
6	Breakaway coupling (hose side)	9/16-18 UNF with sealin cone (HD hose), M40 x 1,5 mm (protection hose)				80	260	417	144414	HG-006-2-XX002-AAAL-Y06-BB

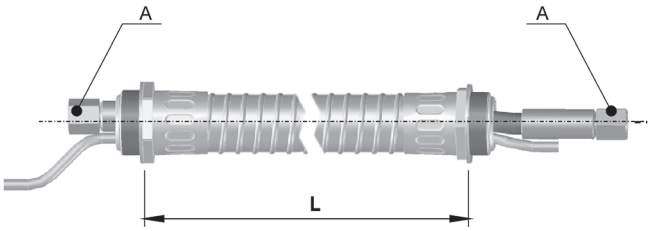
NB - Nominal bore [mm] **A** - Connection **SW / SW_1** - Wrench size [mm] **D / D_1**- Diameter [mm] **L / L_1** - Length [mm]

Hose Package 95721

Feature chart | Hose package

Description:

- Hose set L = 4,000 mm for connection of refueling nozzle with breakaway coupling including IR cable
- Protection hose is pricked so that condensation water can drain
- Protection hose made of high-quality PUR, high pressure hose - plastic with stainless steel wire reinforcement
- Electronically conductive



Product chart | Hose package

NB	Product type	A	L	ID no.	Part number
4	Hose set	HP hose: (Spir Star) 9/16-18 UNF M-Swivel protection hose: M40 x 1,5, cable 5-way double-sided M12 E-plug/emergency separation plug	4,000	121137	95721-B-00007-AAAC
4	Hose set	HP hose: (Parker) 9/16-18 UNF M-Swivel protection hose: M40 x 1,5, cable 5-way double-sided M12 E-plug/emergency separation plug	4,000	141099	95721-B-00008-AAAD

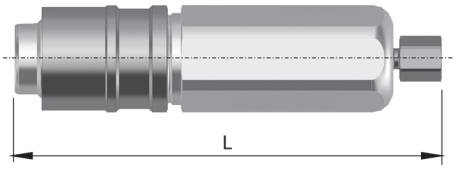
NB - Nominal bore [mm] **A** - Connection **L** - Length [mm]

Venting Tool

Feature chart | Quick coupling systems

Description:

- Safe ventilation of breakaway coupling (hose side) after an emergency separation
- Stainless steel, bronze
  BB = manufacturing according to
  DIN EN 10204-3.1



Product chart | Quick coupling systems

NB	Product type	L	ID no.	Part number
6	Venting tool	198	85108	HG-006-B-00002-AAAD-Y01-BB

NB - Nominal bore [mm] **L -** Length [mm]

Refueling Receptacle HG-004

Feature chart | Receptacle

Description:

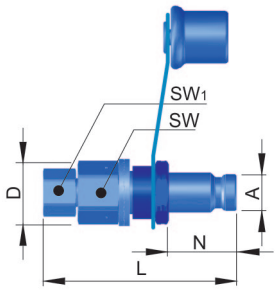
- Suitable for ultracoldfill until -40° C gas temperature
- Interfaces to the vehicle for bulkhead 2 - 4 mm and reception IR transmitter (car side)
- Available with different high pressure end connections
- No maintenance necessary due to high-quality materials including dust cap made of PUR
- Successfully tested according to:
  TRANS/WP.29/GRPE/2004/3 Part 1
  resp. EIHP 12B; SAE J2600:2002 - 70 MPa

Material: Stainless steel, PUR
Special seals: H_2 resistant

BB = manufacturing according to
DIN EN 10204-3.1

High pressure refueling receptacle,

SAE J2600:2002 - 70 MPa

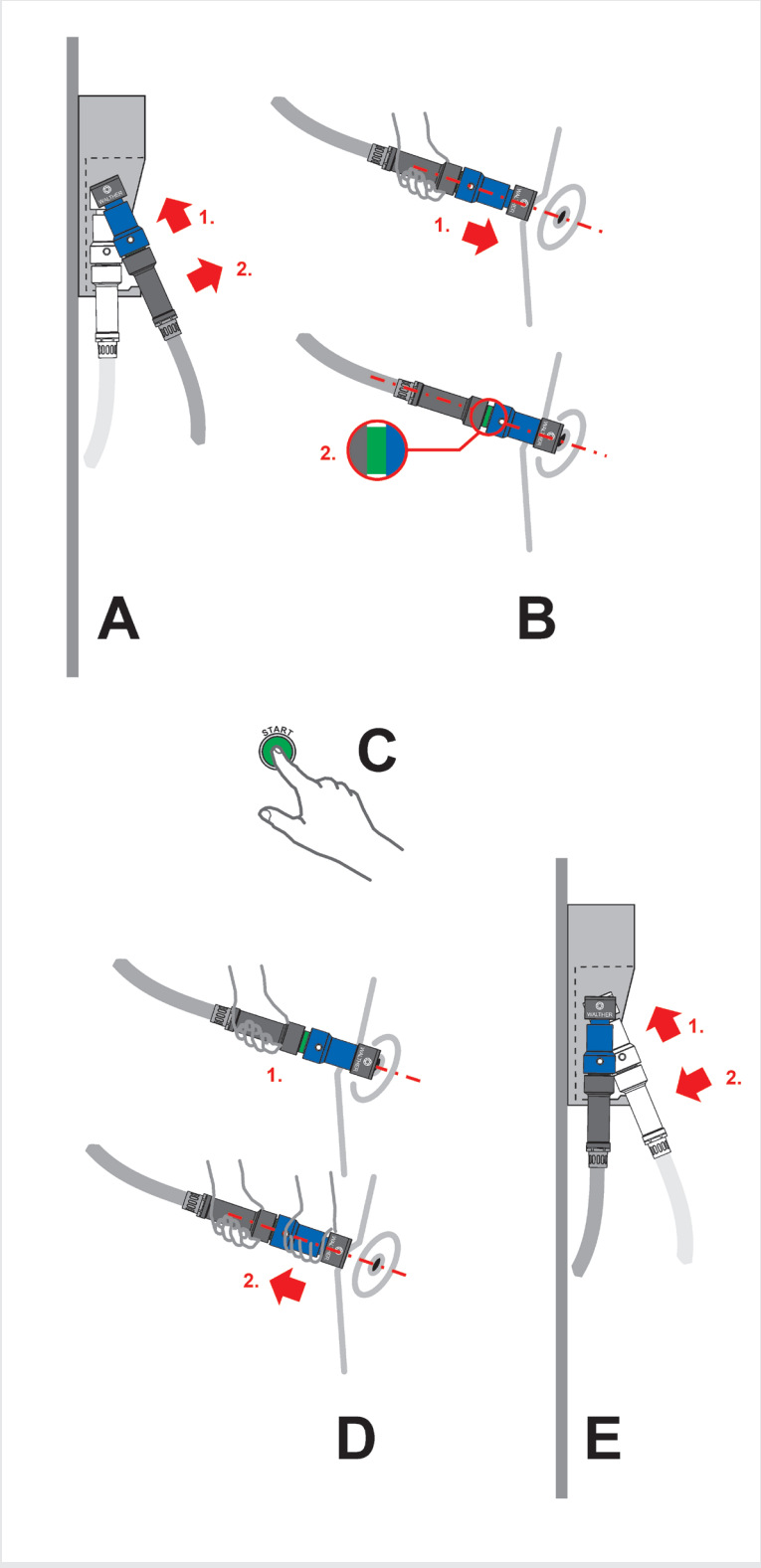


Product chart | Quick coupling system

NB	Product type	A	SW	SW1	D	L	N	ID no.	Part number
4	Refueling receptacle	23	36	32	42	121	40	98432	HG-004-9-SA514-AAAL-Y07-BB

NB - Nominal bore [mm] **A** - Connection **SW / SW1** - Wrench size [mm] **D** - Diameter [mm] **N** - Adaptor [mm] **L** - Length [mm]

Description of the Refueling Process



Step A - Start refueling process

1.
Hold on to the black grip and push the refueling nozzle upwards.
2.
Remove the refueling nozzle out of the parking station/holster.

Step B - Engage nozzle with receptacle

1.
To connect push the refueling nozzle straight onto the receptacle.
2.
A green ring signals a successful locking.
The refueling nozzle is ready for refueling the fuel cell car!

Step C - Start refueling

Start the refueling process at the dispenser and wait 3-5 minutes for a full load of H_2 at 70 MPa.

Step D - Disengage refueling nozzle from receptable

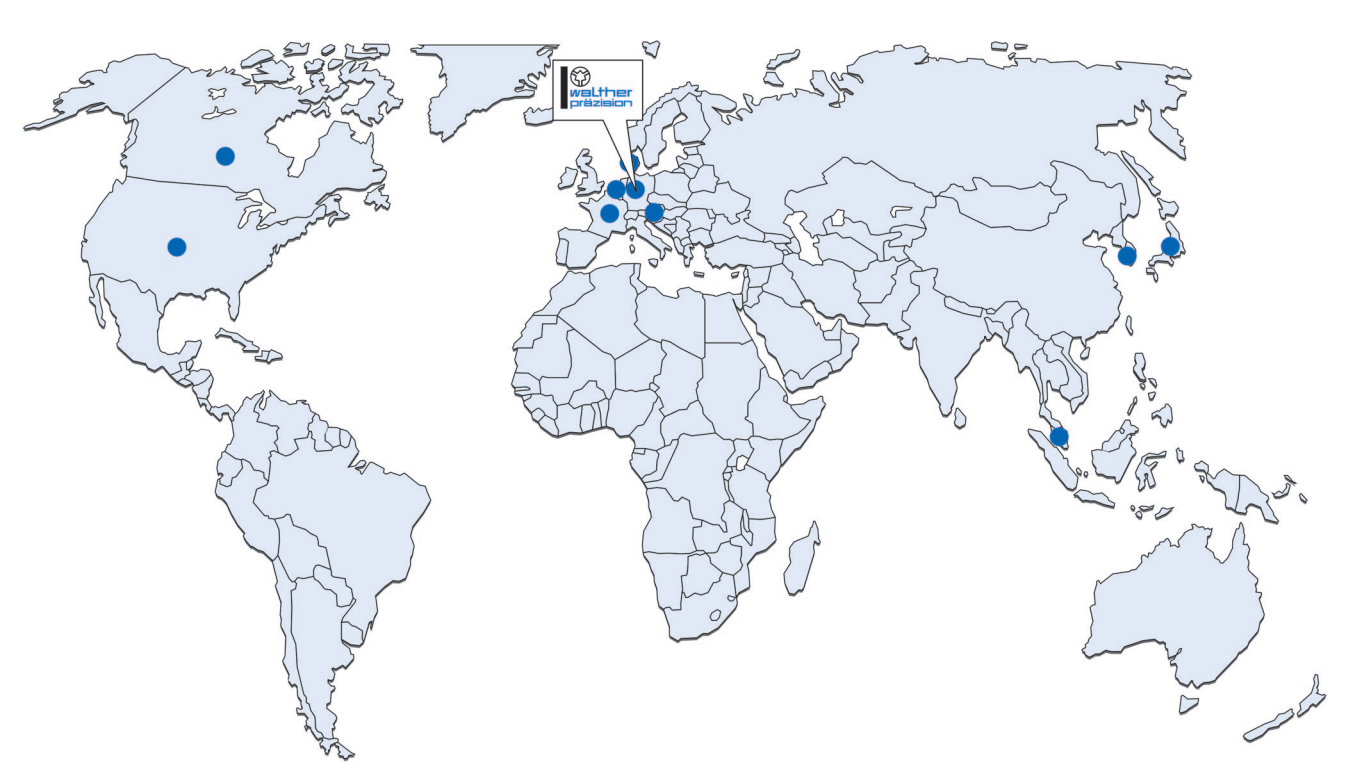
1.
Hold on to the black grip.
2.
Pull the blue sleeve backwards over the green ring with the free hand.

Step E - Finish refueling process

1.
Push the refueling nozzle upwards to the parking station/holster counterpart.
2.
Push the refueling nozzle into the locking mechanism inside the holster and double check that the nozzle is placed correctly.

The refueling process has finished successfully!

Worldwide in Operation for our Customers



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Safety Instructions and Liability

Liability

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Due to the different working modes and the versatile applications of quick coupling systems, WALTHER-PRÄZISION cannot guarantee with its dealership network that a particular quick coupling system is suitable for each specifc application. Not all technical details to be considered during the selection of a quick coupling system are analysed. The user is personally responsible for the following after conducting their own analyses.

- For the safe operation and the observance of maintenance and servicing.
- The selection of their quick coupling system.
- Meeting the end user requirements.
- The safety precautions that are necessary during the use of quick coupling systems to prevent personal injury and property damage.
- Independent technical alterations.

Safety Instructions

Our extensive safety instructions can be found on our website under „Service“ or by using the provided QR code.

Pressure Equipment Directive

In accordance with the Pressure Equipment Directive 2014/68/EU of the European Union the series HG is classifed as pressure-maintaining component. The member of the series HG (excluding hose, tools and accessory) are in conformance to the classification of the Pressure Equipment Directive and are delivered with CE marking.

WALTHER-PRÄZISION

Schnellkupplungssyteme / Quick Coupling Systems

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