

GATHER Couplings

The better connection



GATHER Couplings

About GATHER Industrie

Page 3

DBG Standard

Page 4–5

DBG-CSP

Page 6–7

DBG-SV

Page 8–9

DBG-CUP

Page 10–11

Capacity Charts

Page 12–13

Hansen Series HK

Page 14–15

Hansen Series ST

Page 16–17

Special solutions

Page 18–20

Accessories

Page 21–23

Industries & Applications

Page 24–25

GATHER Contact details

Backpage

www.gather-industrie.com

More than 50 years of experience

In-depth knowledge, broadly diversified solutions

GATHER Industrie GmbH is a medium-sized family business based in Wülfrath, North Rhine-Westphalia – with more than 50 years of experience and a focus on quality and innovation.

As a premium manufacturer of magnetically coupled gear pumps, metering systems and quick connect couplings for pipes and hoses, the company serves numerous industries and customers, e.g. the chemical, pharmaceutical, medical and food industries. With their expert knowledge in handling non-lubricating liquids, GATHER offers solutions which enable the customer to work with process reliability and durability.

From the “idea to series production”, GATHER Industrie develops not only standard products but also completely new technical solutions according to customer requirements. At the same time we succeed in managing the balancing act from single pieces to the production of small and large series for OEM customers.



1965

Foundation

50+

Employees

30+

Countries

The GATHER products



Metering and process pumps



Metering systems



Couplings

Flat-face quick disconnect coupling

GATHER's flat-face quick disconnect couplings of the double shut-off DBG series can be operated with one hand. They are designed in such a way that no liquids escape when disconnected and no air pockets enter the pipe system when connected. The design of their internal structure allows inline cleaning CIP (Cleaning in Place).

All components are sufficiently washed around, product adhesions are completely removed. The pressure drop in the quick disconnect coupling is very low, as the flushability is achieved by its inner contour which ensures a favourable flow. All seals are located on the inside, which means increased operational safety.

TECHNICAL DATA DBG Standard

Materials Stainless steel (1.4404, 1.4021)
Hastelloy®, titanium

Seals* FKM, EPDM, FFKM, FVMQ, NBR,
CR et al. (also FDA-compliant)

Temperature range .. -120 up to +325 °C
(according to seal type)

* other elastomers on request!

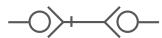


Features and advantages

DBG Standard

- + dry-break, robust and safe for every application
- + DBG series, DN 4 to DN 65
- + over 500,000 coupling cycles
- + the price cutter made of simple, alloyed steel

Double shut-off, dry-break, sterilisable

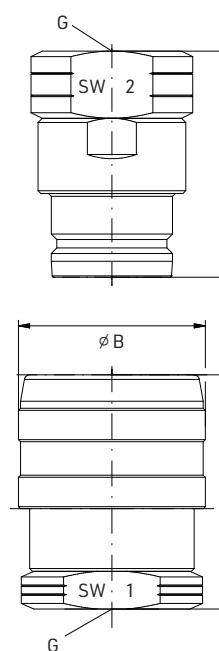


- + temperature range from -120 up to +325°C
- + one-hand operability
- + dry-break connection: no environmental damages or risks to persons from leaking liquids or gases
- + inclusion-free coupling: no air or dirt ingress into the pipe system
- + CIP-capable (Cleaning in Place): inline cleaning without product residues
- + seal replacement on the socket in the installed state
- + all connection types: numerous thread types, hose nozzles, flanges, special connections
- + stainless steel rustfree, Hastelloy®, titanium
- + special types:
 - with hose break protection
 - with electronic recognition system
 - with mechanical coding
 - with handles
- + ready-to-install couplings for docking systems
- + series types ex stock



Technical data of the DGB series

SERIES	NOMINAL WIDTH	ALLOWABLE OPERATING PRESSURE [bar] ¹⁾	MAX LOSS [ml] ²⁾	STANDARD CONNECTION
DBG 1	DN 4	320	0.01	G 1/4
DBG 2	DN 6	400	0.02	G 1/4
DBG 3	DN 10	400	0.02	G 3/8
DBG 4	DN 12	300	0.03	G 1/2
DBG 6	DN 20	300	0.06	G 3/4
DBG 8	DN 25	300	0.10	G 1
DBG 12	DN 40	50	0,30	G 1.1/2
DBG 16	DN 50	40	2.20	G 2
DBG 20	DN 65	30	3.60	G 2.1/2



¹⁾static, coupled at 20 °C ²⁾by wetting the valves

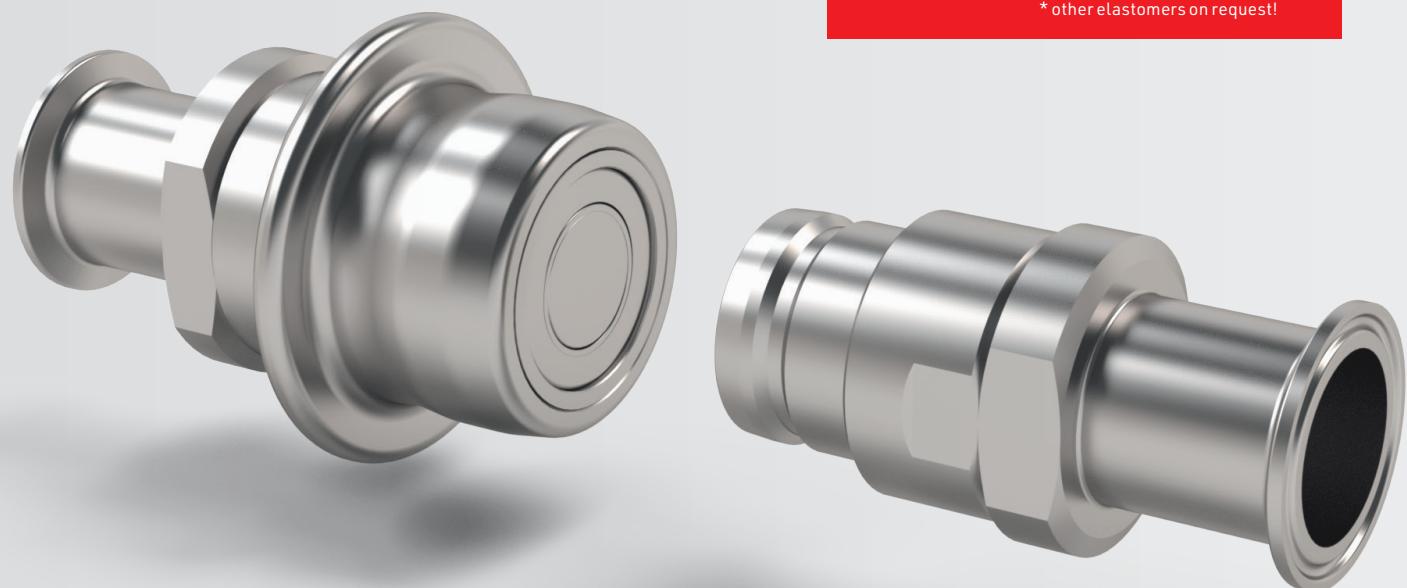
Flat-face sterile coupling

Specially designed sterile version for pharmaceutical and food applications, based on the high-quality DBG standard.

The proven DBG design forms the basis of this flat-sealing sterile coupling. This design also works according to the principle: First seal, then release flow. This prevents air pockets during connection and leakage during disconnection.

The coupling, made of stainless steel 1.4404 in hygiene class H3 (surface roughness Ra ≤ 0.8 µm), is used with its compliant sealing compounds wherever the highest hygienic standards are required.

The design without dead space makes in-line sterilisation with steam (SIP – „Sterilization in Place“) possible. In addition to free welding ends, a whole range of commercially available sterile connections is available.



TECHNICAL DATA DBG-CSP

Stainless Steel Edelstahl (1.4404, 1.4021)
..... Hastelloy®, titanium

Seals* FKM, EPDM, FFKM, FVMQ, NBR,
CR et al. (also FDA-compliant)

Temperature range .. -55 up to +300 °C
(according to seal type)

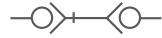
* other elastomers on request!

Features and advantages

DBG-CSP

- + dry-break, robust and safe for every application
- + especially in the pharmaceutical industry, $Ra \leq 0,8 \mu m$
- + special product line within the DBG series, DN 6 to 40
- + unique in its class

Double shut-off, dry-break, sterilisable



- + flat-face design enables non-drip disconnection and inclusion-free coupling
- + leakage-free separation and connection of pipe and hose lines under aseptic conditions
- + sterizable in-line: no disassembly, no dismantlement required
- + suitable for temperatures from -55 to +300 °C
- + FDA-compliant, steam-resistant seals inside the coupling, no damage from the outside
- + very good flow behaviour through flow-optimized inner contour
- + simple design enables quick replacement of the sealing rings
- + easy attachment to already existing sterile connections such as aseptic screw connections, Triclamp ...
- + quick connection and disconnection of liquid and gas lines without loss of medium
- + nominal widths from DN 6 to DN 40
- + dry-break disconnection: no environmental damage or danger to persons through leakage liquids or gases
- + inclusion-free coupling: no air or dirt ingress into the pipe system
- + CIP-capable (Cleaning in Place): in-line cleaning without product residues
- + seal replacement on the socket in the installed state
- + $Ra \leq 0,8 \mu m$
- + FDA-compliant
- + all connection types: numerous thread types, hose nozzles, flanges, special connections



When coupled, the sterile coupling is shut off to the outside. When disconnecting, it is important that the exposed front-end valve surfaces are not touched by the operator. Cleaning these surfaces, for example with ethanol and a short drying break before re-coupling provides additional safety. The coupling can be equipped with protection against accidental contact and protective caps as a support.

Dry-break tank coupling

The hose couplings of the DBG SV series have self-closing shut-off valves. When disconnecting, there are no liquid leakages from the hose and container, no air or dirt enters the line system when connecting. These dry-break hose couplings offer a high degree of safety during refueling, filling and decanting, because despite

frequent coupling, environmental damage or hazards to persons due to leaking liquids are excluded. The liquids do not come into contact with the ambient air. Coupling and uncoupling is very easy and smooth, even if the lines are under residual pressure.

TECHNICAL DATA DBG-SV

Materials Stainless steel (1.4404, 1.4021)

Hastelloy[®], titanium

Seals*

FKM, EPDM, FFKM, FVMQ, NBR,
CR et al. (also FDA-compliant)

Temperature range -55 up to +300 °C
(according to seal type)

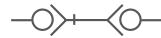
* other elastomers on request!



Features and advantages

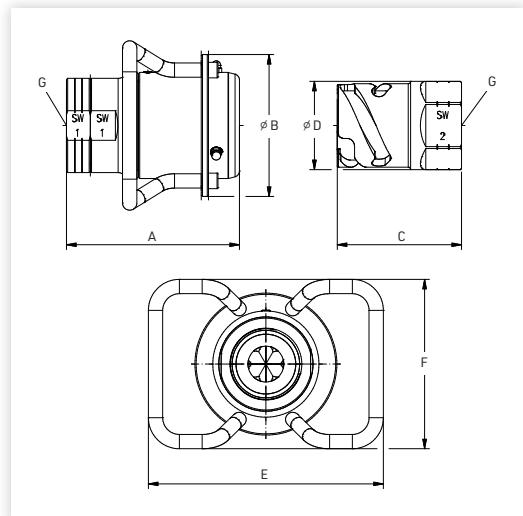
DBG-SV

Double shut-off, dry-break and capable of connecting under residual pressure



Function

During coupling, sockets and plugs are pushed into each other. The coupling is shut off externally. A good third of a turn locks the socket with the plug and then opens the valves which release the media flow. The dead space-free design prevents air inclusions during connecting and drip losses during disconnecting.



Technical Data of the DBG-SV series

SERIES	DBG-SV8	DBG-SV12	DBG-SV16	DBG-SV20
NOMINAL WIDTH	DN 25	DN 40	DN 50	DN 65
ALLOW. OPERATING PRESSURE [bar] ¹⁾	65	40	25	16
MAX LOSS [ml] ²⁾	0.1	0.3	2.2	3.6

¹⁾static, coupled at 20 °C

²⁾max leakage by wetting the valves

Dimensions [mm]

FEMALE THREAD G	1	1 1/2	2	2 1/2
A	107	135	145	152
B	115	115	119	140
C	81	103	104	133
D	56	75	74	100
E	172	187	197	232
F	143	143	142	142
coupled	142	187	195	228
SW 1/2	55 & Ø 6/50	65/70	75/65	95/90

Dry-break coupling under pressure

The special feature of the DBG-CUP is its possibility to connect a pipe with a hose without pressure relief, whereas both of them can be under pressure. The series owes this property to the unique

CUP SYSTEM®. The CUP valve is designed in such a way that the system pressure has hardly any influence on the coupling force.

TECHNICAL DATA DBG-CUP

Materials Stainless steel (1.4404)
Seals* FKM, EPDM, FFKM,
etal. (also FDA-compliant)

Temperature range -55 up to +300 °C
(according to seal type)

* other elastomers on request!

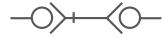


Features and advantages

DBG-CUP

- + Special series DBG-CUP, DN 12 to 25
- + dry-break, robust and safe for every application
- + CUP SYSTEM® – connection under pressure
- + unique in its class

Double shut-off, both parts connectable under pressure



- + Temperature range from -55 up to +300 °C
- + one-hand operability
- + dry-break disconnection: no environment damages or risks to persons from leaking liquids or gases
- + inclusion-free coupling: nor air or dirt ingress into the pipe system
- + CIP-capable (Cleaning In Place): In-line cleaning without product residues
- + Seal replacement on the socket in the installed state
- + Stainless steel rustfree
- + Special types:
 - with hose break protection
 - with electronic recognition system
 - with mechanical coding
 - with handles
- + ready-to-install couplings for docking systems
- + Series types ex stock



Technical Data of the DBG-CUP series

SERIES	NOMINAL WIDTH	ALLOWABLE OPERATION PRESSURE [bar] ¹⁾	STANDARD CONNECTION
DBG-CUP 4	DN 12	90	G 3/4
DBG-CUP 6	DN 20	90	G 1
DBG-CUP 8	DN 25	90	G 1 1/4

¹⁾static coupled at 20 °C

Capacity Charts

DBG Standard DBG-CSP



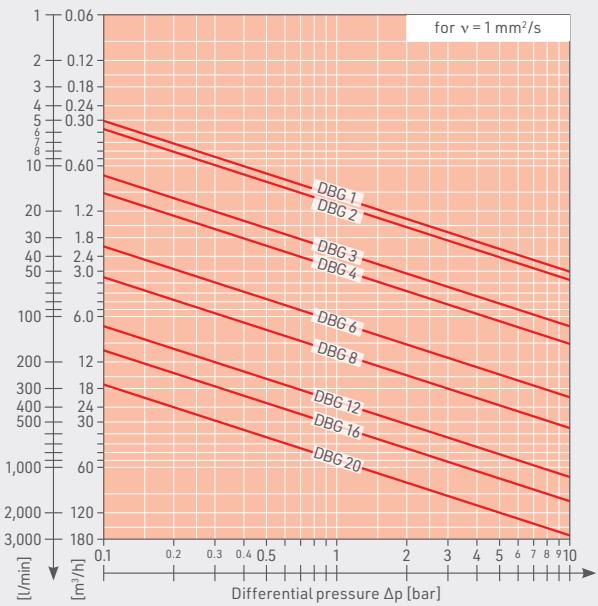
DBG-SV



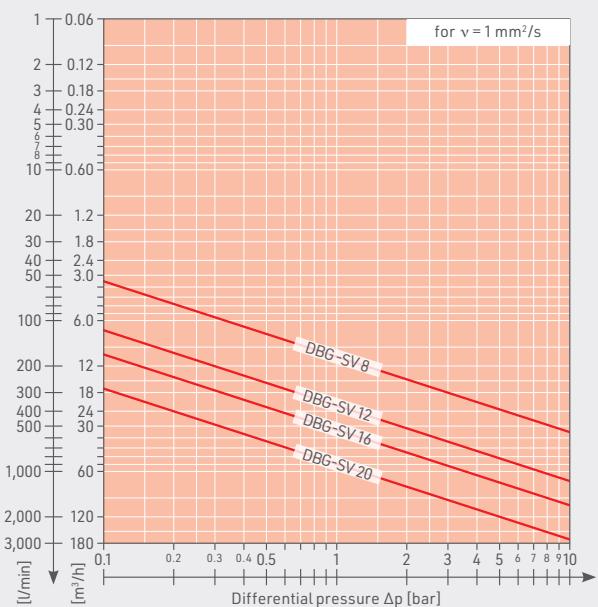
DBG-CUP



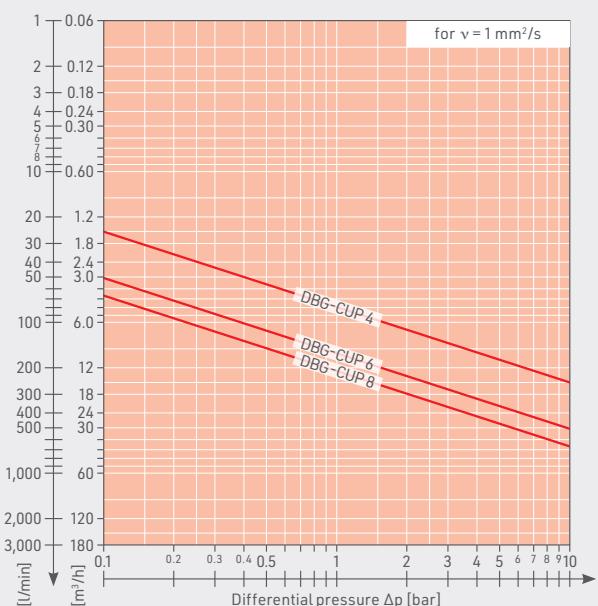
Series DBG and DBG-CSP



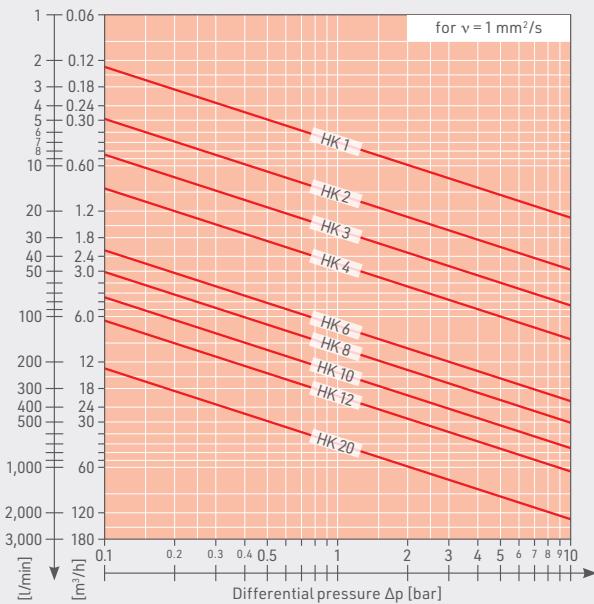
Series DBG-SV



Series DBG-CUP



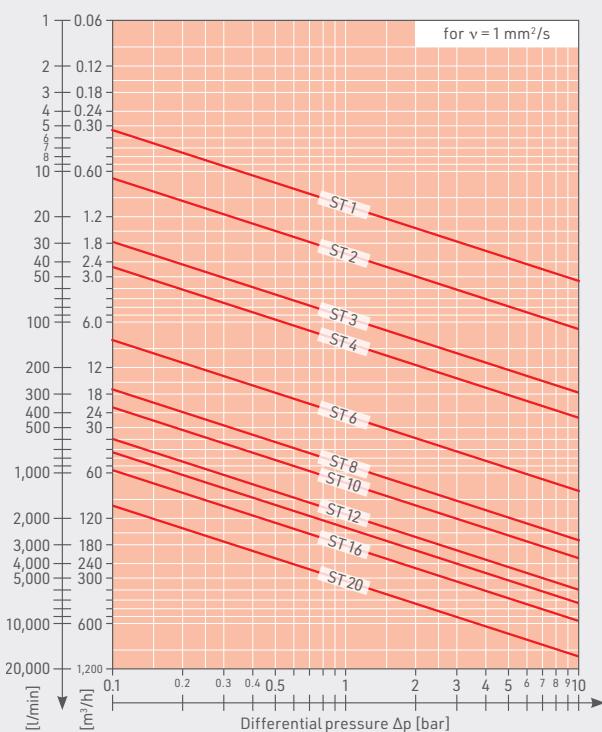
Hansen Series HK



Hansen Series HK



Hansen Series ST



Hansen Series ST



Original Hansen double shut-off hydraulic coupling

The quick disconnect couplings of the HK series are single shut-off, double shut-off or straight-through. The double shut-off version is to be earmarked for hazardous fluids such as acids, alkalis, hot water or steam. Single shut-off couplings can be equipped with a non-return valve in the socket or plug, depending on the application.

During connecting the valves do not push against each other until the coupling is shut off to the outside. Conversely, they are only separated when the valves are closed. This type of quick disconnect coupling works splash-free.

TECHNICAL DATA HANSEN HK

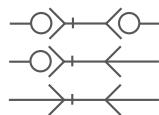
Materials	Stainless steel (1.4305, 1.4401) Steel yellow chromated, Chromium (VI) free, Brass passivated, Brass nickel-plated, Hastelloy®, titanium
Seals	NBR, FPM, EPDM, CR, FVMQ, PTFE, FFKM et al. (also FDA-compliant)



Features and advantages

Hansen Series HK

Double shut-off design
(single shut-off or straight-through available)



Principle: First seal, then release the flow!

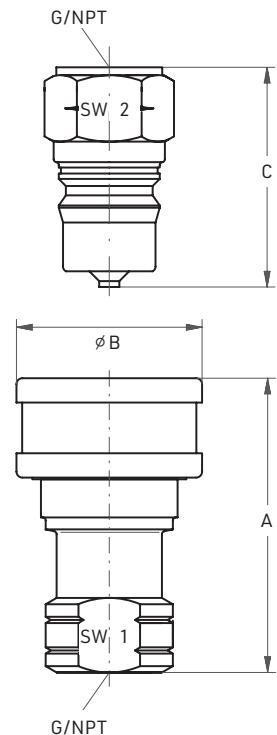
During connecting the valves of the socket and the plug push against each other. Before the valves release the flow, the interior is sealed against the environment. The robust design minimises air inclusion during connecting and residual leakage during disconnecting.

Technical data of the HK series

SERIES	NOMINAL WIDTH	ALLOWABLE OPERATING PRESSURE [bar]*			MAX. LOSS [ml]
		MS	ST	VA	
HK 1	DN 4	200	275	345	0,5
HK 2	DN 6	185	255	255	0,9
HK 3	DN 10	150	255	255	2,1
HK 4	DN 12	155	345	290	3,5
HK 6	DN 20	140	275	240	9,4
HK 8	DN 25	100	275	170	17,0
HK 10	DN 32	80	120	120	48,0
HK 12	DN 40	100	150	150	91,0
HK 20	DN 60	50	100	100	210,0

legend: MS = Brass, ST = Steel, VA = Stainless steel

*static, coupled at 20 °C



Dimensions of the HK series

SERIES	THREAD*	A	B	C	COUPLED	SW 1/2
HK 1	1/8	49	25	32	60	15/15
HK 2	1/4	58	30	39	72	19/19
HK 3	3/8	65	36	45	80	23/23
HK 4	1/2	75	48	51	94	29/29
HK 6	5/8	89	56	89	106	34/34
HK 8	1	105	66	71	129	45/42
HK 10	1 1/4	115	70	108	174	61/61
HK 12	1 1/4	123	82	122	190	61/61
	1 1/2	123	82	122	190	61/61
HK 20	2	141	105	140	216	96/96
	3	178	105	173	286	102/102

*female thread G/NPT

Hansen Series ST

Original Hansen coupling with straight-through design

The ST coupling series is characterized by its extremely robust design. It is particularly eligible for applications where the flow must be guaranteed even with highly viscous liquids such as greases and a shut-off can be dispensed with.

TECHNICAL DATA HANSEN ST

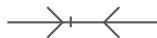
Materials	Stainless steel (1.4305, 1.4401) Steel yellow chromated, Chromium (VI) free, Brass passivated, Brass nickel-plated, Hastelloy®, titanium
Seals	FPM, EPDM, FFKM, FVMQ, NBR, CR et al. (also FDA-compliant)



Features and advantages

Hansen Series ST

Non-shut-off version



Special feature

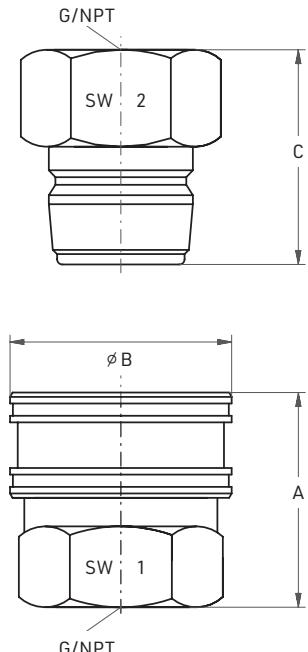
GATHER's in-house modification (STG series) can be produced with a particularly good surface finish $R_a \leq 0.8 \mu\text{m}$ (electro-polished) for pharmaceutical applications or manufactured using special materials such as Hastelloy® or titanium.

Technical data of the ST series

SERIES	NOMINAL WIDTH	ALLOWABLE OPERATING PRESSURE [bar]*		
		MS	MS/ST	VA
ST 1	DN 4	190	230	290
ST 2	DN 6	360	380	520
ST 3	DN 10	190	290	435
ST 4	DN 12	150	240	250
ST 6	DN 20	115	145	210
ST 8	DN 25	90	140	140
ST 10	DN 32	115	185	150
ST 12	DN 40	100	150	170
ST 16	DN 50	100	150	100
ST 20	DN 60	60	100	-

legend: MS = Brass, MS/ST = Socket brass /plug steel, VA = Stainless steel

*static, coupled at 20 °C



Dimensions of the ST series [mm]

SERIE	GEWINDE ¹⁾	A	B	C	GEKUPPELT	SW 1/2 ²⁾
ST 1	1/8	27	18	25	43	15/13
ST 2	1/4	38	24	37	57	21/18
ST 3	3/8	41	29	42	61	26/21
ST 4	1/2	49	34	49	75	29/26
ST 6	3/4	53	43	51	77	37/31
ST 8	1	59	51	57	88	45/40
ST 10	1 1/4	63	63	64	98	51/51
ST 12	1 1/2	74	79	73	107	67/58
ST 16	2	79	95	77	111	77/70
ST 20	2 1/2	87	114	86	124	89/83

¹⁾female thread G/NPT ²⁾applies to NPT

GATHER Special solutions

Colour-coded flat-face quick disconnect coupling



The flat-face quick disconnect couplings of the GATHER DBG series are also available as special solution for optical identification.

The **colour-coded coupling** combines a simple handling of the DBG and increased safety during operation. Almost unlimited combinations are possible due to coloured anodized aluminium.

GATHER Special solution HKG 24

Cooling & lubrication application in the steel industry – nominal width DN80



The GATHER lightweight coupling made of aluminium is often used for coupling of cooling and lubricating fluids in the steel industry. Due to its construction, it is light, robust and very user-friendly to operate.

Especially set-up times can be significantly reduced due to quick uncoupling and coupling. This leads to increased efficiency and time saving.

Features

- + lightweight construction made of aluminium
- + proven conical valve technology
- + robust surface (chemically nickel-plated)
- + user-friendly handling thanks to circular blank and handles

Standard Coupling adapter for 2 inch barrel connections

The GATHER Coupling adapter made of stainless steel with short connection thread can be used for all standard industrial barrels. The self-closing plug is screwed into the 2 inch barrel thread by hand and can be tightened with an open-end wrench over the hexagonal wrench flat protruding from the barrel collar. The O-ring provides a secure seal and prevents leaks and production stops.

Our proven DBG coupling technology enables a simple, quick and dry-break connection.

Features

- + wide wrench flat protruding beyond the barrel collar
- + self-closing double shut-off valves (plug and socket)
- + short connection thread for 2 inch barrel connections (standard)
- + shorter machine set-up times
- + surfaces according to hygiene class H3 ($R_a \leq 0,8 \mu\text{m}$) on request
- + seals in different – also FDA-compliant – materials available



Coupling adapter for IBC containers

The GATHER coupling adapter made of stainless steel for IBC containers is quickly screwed in the standardized thread (S60x6) of the outlet opening. Based on the proven DBG coupling technology a very simple, quick and dry-break connection is possible.

Features

- + plug end with welding end according to DIN 11866 / A / DN32
- + welded-on S60x6 container connection
- + seals in different – also FDA-compliant – materials (EPDM, FKM)
- + surfaces conforming to hygiene class H3 ($R_a \leq 0,8 \mu\text{m}$) on request



Multicoupling – The ideal interface



A multicoupling system which can be put together individually and combines different operating fluids in a single interface. The product is robust, durable and easy to use.

Thanks to the perfectly matched adaptive inserts, you can flexibly integrate different diameters, connection types and media in a multiple coupling. The multicoupling system offers many advantages such as increased productivity, space optimization, operator and plant safety. The risk of faulty connections is excluded.

GATHER develops customer-oriented solutions according to your specifications.



Features

- + maximum efficiency
- + several connections in one coupling
- + connecting and disconnecting even under pressure
- + shorter machine set-up times
- + tool-free installation
- + robust and durable
- + individual combination of connections
- + ideal for machine plant and prototype construction

Applications:

Engine test benches, reactors, temperature control of injection moulding tools, rolling mills, cooling of electronic components, etc.

Accessories

Accessories for emergency release couplings

Double shut-off, release by traction rope

A hose line which is used to convey hazardous fluids must have a predetermined breaking point. The latter prevents the escape of hazardous liquids or flammable gases in the event of unexpectedly occurring tensile forces. Usually, flange couplings screwed together with a tear-off bolt are used for this purpose. If this coupling has come off in an emergency, more effort will be required to reassemble the connection; the manufacturer's customer service must re-bolt the coupling.



Emergency separation function

Our double shut-off quick coupling with its de-coupling by traction rope offers a more cost-effective solution: A wire rope attached to the sliding sleeve of the coupling socket pulls it in the opening direction when pulling forces on the hose occur. The plug located in the socket is unlocked, the valves of both coupling parts close. Only then does the plug slide out of the sealing ring of the socket. After unlocking, both parts can be connected again by simply plugging them into each other; the coupling is immediately ready for use again. The wire length is selected in such a way that the sliding sleeve of the socket moves in the opening direction before the hose tightens.

Advantages

- + No shear pins or shear bolts need to be replaced after an emergency separation; simply plugging them into each other is sufficient to restore the connection.
- + Emergency release coupling and quick coupling are combined in one system.
- + The coupling does not have to be in the middle of the hose to function properly, but is attached directly to the engine: In an emergency, the vehicle will not drive off with a disconnected hose piece, but the entire hose will remain at the loading station!

Electronic coding system



When manufacturing formulae in the production of basic material and active ingredients, storage tanks must be assigned to the correct reactors. An identification system mounted on the coupling and integrated in the operating handles helps in the recognition of the lines. This system consists of a code carrier which contains information, and the read head which reads the stored information and transmits it to the control room. The control room can be used to control and check whether the allocation of tank and reactor is correct. When connected, the read head of the recognition system is in contact with the code carrier. The control room releases the connections and the fluid can be conveyed into the reactor.

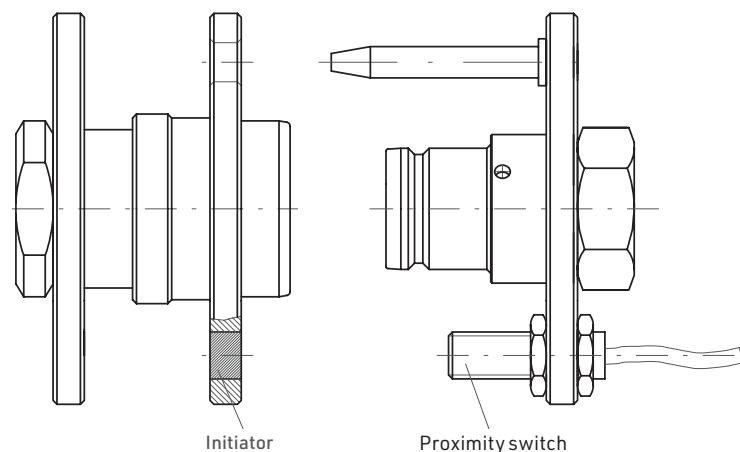
Identification system

Ex-protected (ATEX)

Connection to SPS or PC serial, parallel, BUS

This system enables the user to:

- + Connect and disconnect hose lines without loss of media
- + Check the correct allocation of containers
- + Avoid product mixing due to incorrectly connected lines
- + Prevent expensive production errors



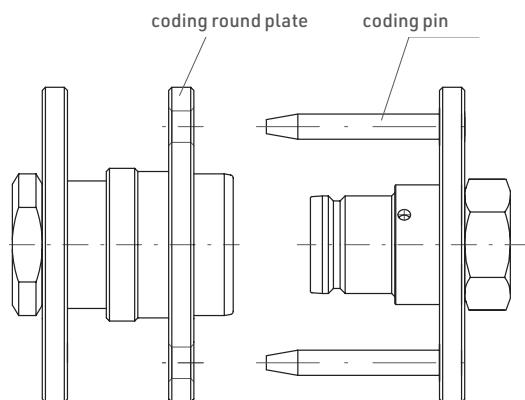
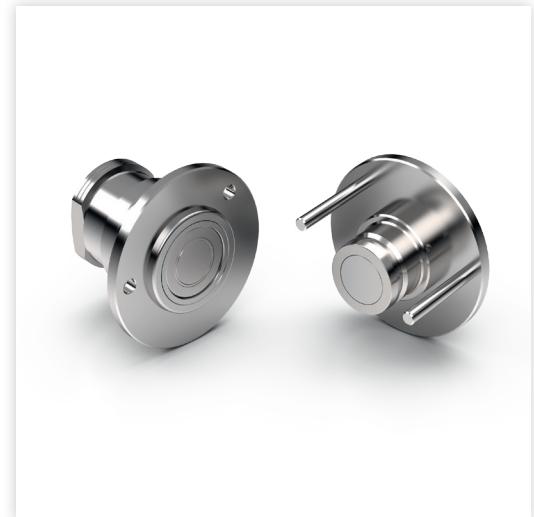
With round plate handles and electronic detection system

Mechanical coding system

If different products are filled or transferred, certain products must not come into contact with each other. The connections to the lines must be unmistakable. The mechanical coding of the pipe-hose-quick-coupling serves this purpose.

The mechanical coding system allows different codings. It remains very clearly visible from the outside even during the coupling process and can be easily turned into position. In doing so, the hose is not twisted. Time-consuming trial and error of the correct coding is no longer required and colour coding is not necessary either.

If the allocation of container and hose has been incorrect, the valves can never be pushed open, and thus result in product mixing. If the coupling is placed at an angle, the valves will not open.



Accessories for DBG and HK series

Dust caps

The safe protection against contamination of the coupling or valve surfaces.

Materials: plastic, aluminum, stainless steel



Use in all sectors of industry – GATHER has the solution!

GATHER products are used in almost all sectors of industry. Wherever precise coupling, delivering or dosing of fluids matters. Whether lubricating or non-lubricating, whether low-viscosity or viscous, whether coupling, pump or complete system (incl. pump control circuit).

Our engineering is your solution!

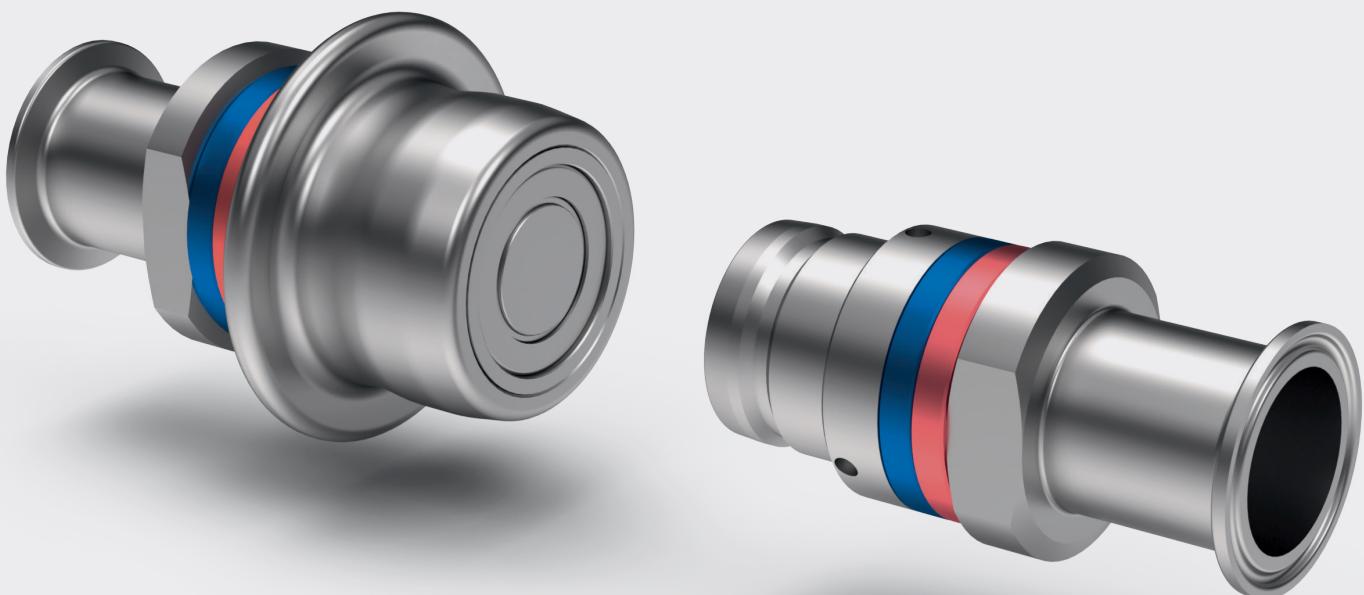
Depending on the geometric design, construction and material selection (bearings, gear wheels, seals, etc.) the **following operating ranges** can be covered:

Couplings

Nominal width DN 4 to DN 80

Temperature range -120 up to +325°C

both-sided / one-sided / not shut-off





Liquids for every industry and application



Chemical and Process Engineering

- + Water
- + Saline Solutions
- + Caustic Soda
- + Sulfuric Acid
- + Hydrochlorid Acid
- + Formic Acid
- + Nitric Acid
- + Phosphoric Acid
- + Alcohols (Methanol, Ethanol, Toluene, Xylene, etc.)
- + Tetrahydrofuran (THF)
- + Resins
- + Hydrocarbons
- + Barrier fluids for Double-Action Mech. Seals GLRD

Pharmaceutical and Cosmetics Industry

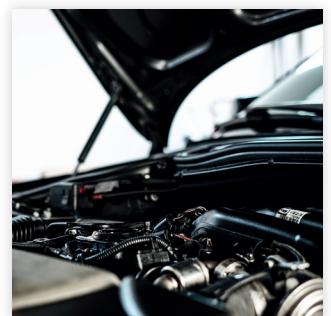
- + Nutrient solutions
- + Dyes
- + Perfumes
- + Hydrogen peroxide/H₂O₂
- + Vinegar essence
- + Enzymes
- + Various alkalis and acids
- + Cell fluids
- + Silicone oil

Medical Technology

- + Water
- + Active ingredients
- + Vaccines
- + Adhesives

Food Industry

- + Vegetable oils
- + Cooking fats
- + Yeast solutions
- + Fish oils
- + Nitric acid
- + Citric acid
- + Caustic sodas
- + Sulfuric acid
- + Tetrahop
- + Isohop
- + Caramel
- + Essences



Water Management

- + Caustic Soda
- + Sodium hypochlorite
- + Hydrochloric acid
- + Iron (II)Chloride
- + Iron (III)Chloride

Automotive Industry

- + Paints and varnishes
- + Petrol
- + Diesel
- + Kerosene
- + Additives for fuels
- + Cooling liquids

Steel Industry and Power Plants

- + Ammonia water
- + Urea (Adblue)
- + Cooling liquids
- + Water

Oil Industry

- + Crude oil
- + Petrols
- + Kerosene
- + Diesel
- + Solvent Yellow 124
- + Thermal oil
- + Various additives



Why GATHER Couplings?

Our offer includes quick disconnect couplings for pipe and hose lines for almost every application and industry. With the correct design of the coupling as well as the selection of materials and seals according to the fluid and requirements, we provide our customers with safe, fast and durable solutions. As a globally positioned supplier of standardized products (GATHER series DBG, HANSEN original), we also develop individual special solutions according to customer requirements, e.g. multicouplings, interconnecting logic, colour coding, handles, use of special materials Hastelloy®, titanium, etc. Our sales engineers and partners have extensive expertise and application knowledge and are your contacts. Either at your premises or at our headquarters in Wülfrath.

GATHER Industrie GmbH

Lise-Meitner-Straße 4
42489 Wülfrath
GERMANY

Phone +49 2058 89381-0

Coupling Technology

Phone +49 2058 89381-23
Fax +49 2058 89381-50
coupling@gather-industrie.com

Pump Technology

Filters and Valves
Phone +49 2058 89381-23
Fax +49 2058 89381-50
pump@gather-industrie.com



www.gather-industrie.com