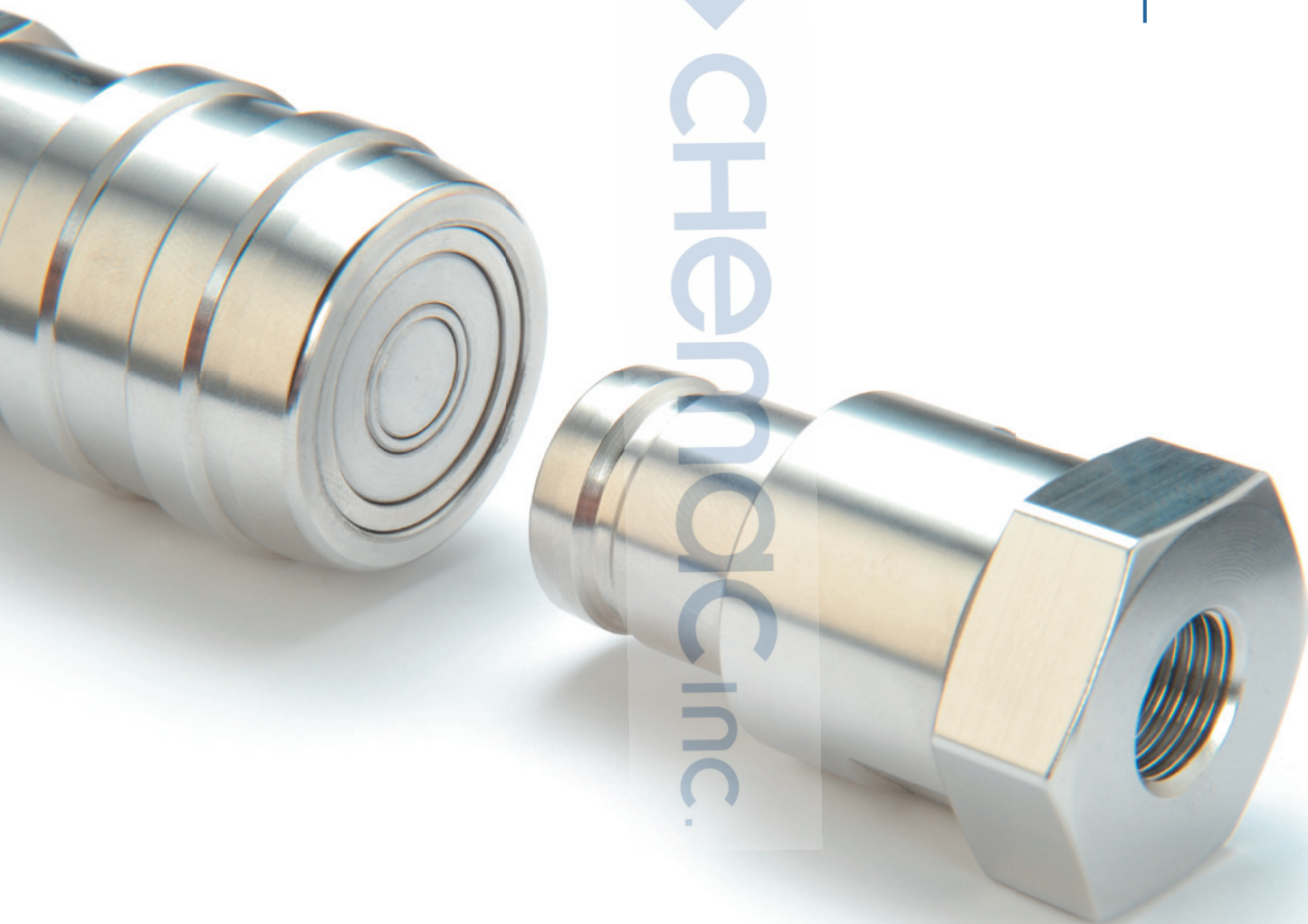


Tube-Hose Quick-Disconnect Couplings

Original GATHER and Hansen Couplings
The Better Connection



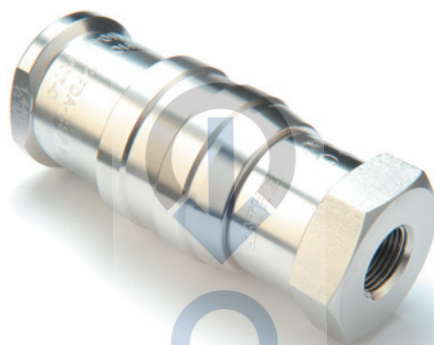
The GATHER Products



Gear Pump and Wankel Pump

GATHER magnetic drive gear pumps are designed for dosing as well as process pump operations.

They are complemented by the Wankel (rotary piston) pump ensuring excellent conveying and pressurizing performance. The distinctive mark of these hermetically sealed pumps is long service life and non-pulsation dosing, especially of non-lubricating liquid such as water, salt solutions and solvents but also of acid and caustic solutions.



Quick-Disconnect Couplings

The safe, robust and quickly disconnectable hose-tube joining method for almost all liquid and gaseous media.

With double or single shutoff function or unrestricted medium passage in sizes ranging between DN 4 and DN 125.

The original Hansen couplings and the flat-face, non-leakage couplings of GATHER's own DBG series are especially versatile.



Filters and Valves


For dosing performance enhancement and gear pump protection GATHER offers tailored accessories:

High-grade overflow valves and filters of stainless steel and Hastelloy as well as simple non-return valves.

Contents

	Page		Page		Page
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Flat-Face Quick-Disconnect Couplings of DBG Series	4	Original Hansen Tube-Hose Quick-Disconnect Coupling of STT Series	10	Accessories for DBG and HKT Series	15
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The Tube-Hose Quick-Disconnect Coupling



The tube-hose quick-disconnect couplings of GATHER and Hansen insure a safe and expedient means to separate the connections between hose-to-tube – suited for almost any kind of liquid and gas. The couplings facilitate work and save time if connections have to be frequently changed as during loading operations. Our range of products also includes various cost-effective and robust plug-type couplings of the highest quality that may easily be adapted to meet individual requirements.

The time proven original Hansen couplings comprising of types HKT and STT with double or single shutoff function or unrestricted passage, in sizes ranging between DN 4 and DN 125. Moreover, couplings of DBG series with double shutoff function are available. Particularly these GATHER-own flat-face leakage-free couplings have proven their worth through CIP capability and robust construction. With more than ½ million coupling cycles the DBG series is the top-of-the-line model on the market and is available in stainless steel 1.4021/1.4404, in Hastelloy and Titanium.



Flat-Face coupling of DBG series

For all couplings GATHER Industrie offers a wide selection of threaded connections as well as threaded adapters, flanges and special connecting elements are available. It goes without saying that the medium* does not exit when connecting/disconnecting a dry-break coupling. Product reliability and long service life are fundamentals adopted by GATHER Industrie. The tube-hose quick-disconnect couplings additionally satisfy TA-Luft requirements and can also be furnished as FDA-compliant products!

*aside from surface wetting

Advantages

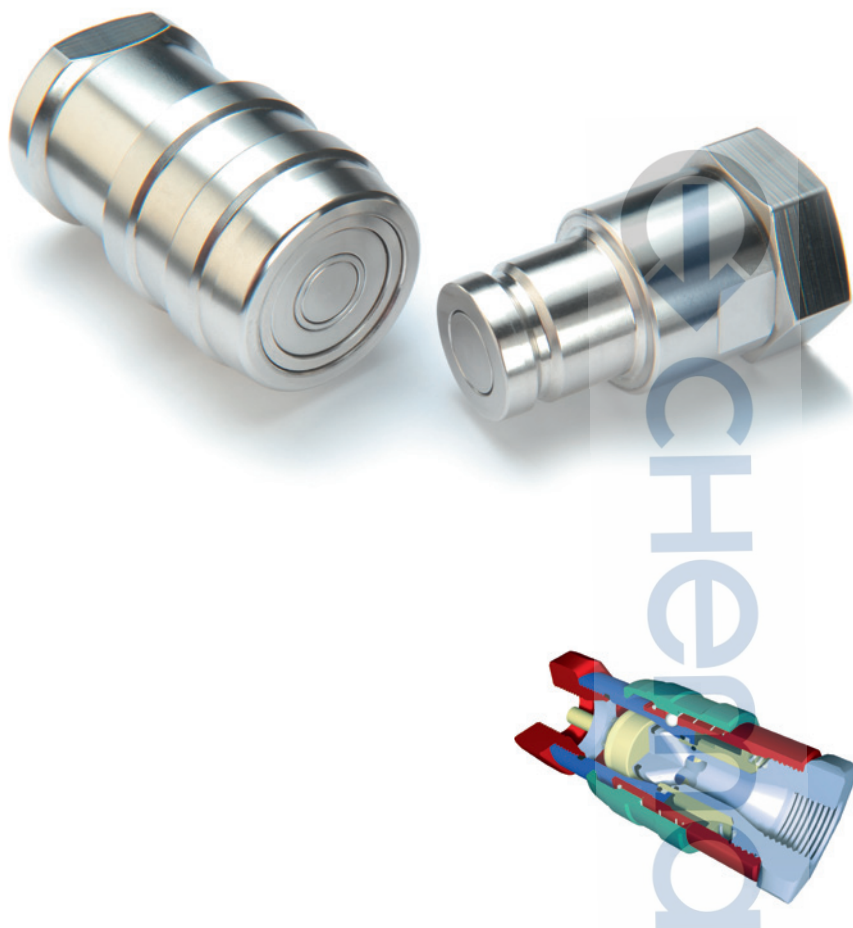
- Saving time when changing connections
- Ease of operation ensuring safe connection/disconnection
- Cost-efficient and robust basic models
- Short delivery times
- Safe handling through non-spill design, break-away devices and codings systems
- Suited for almost any application
- All kinds of special materials upon request
- CIP (Cleaning in Place) and SIP (Steaming/Sterilization in Place) functions upon request



Standard coupling series HKT

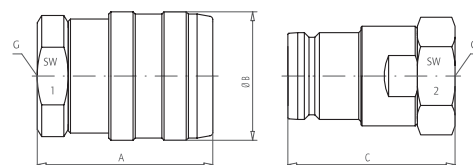
Flat-Face Quick-Disconnect Couplings of DBG Series

Double shutoff, non-spill, can be sterilized



Description

Flat-face quick-disconnect couplings of Gather series DBG feature double-shutoff function for single hand operation. Their design prevents liquids from spilling when the coupling is disconnected and air from entering the line system when the connection is made. Their inside configuration enables an inline cleaning of the coupling (CIP: Cleaning In Place) to be performed. Media sufficiently washes around all coupling components, any product deposits are completely removed. The pressure drop caused by the quick-disconnect coupling is very low due to the favorable contour of the inner components resulting in optimum flow conditions. All seals are located internally which enhances operational safety.



Technical Data of DBG Series									
Series	DBG 1	DBG 2	DBG 3	DBG 4	DBG 6	DBG 8	DBG 12	DBG 16	DBG 20
Nominal diameter	DN 4	DN 6	DN 10	DN 12	DN 20	DN 25	DN 40	DN 50	DN 65
Adm. operating pressure [bar]*	320	400	400	300	300	300	260	200	100
Max. loss through wetting of valves [ml]	0.01	0.02	0.02	0.03	0.06	0.10	0.30	2.20	3.60
Dimensions [mm]									
Female thread G	1/4	1/4	3/8	1/2	3/4	1	1 1/2	2	2 1/2
A	49	58	64	70	79	84	112	120	131
B	25	36	42	49	58	67	78	148**	170**
C	45	53	59	64	76	81	90	105	135
Coupled	84	96	96	115	131	142	171	193	225
Width A/F 1/2	22/22	30/30	36/36	41/41	46/46	55/50	65/70	75/65	95/95

* coupled at 20°C

** Diameter of handle

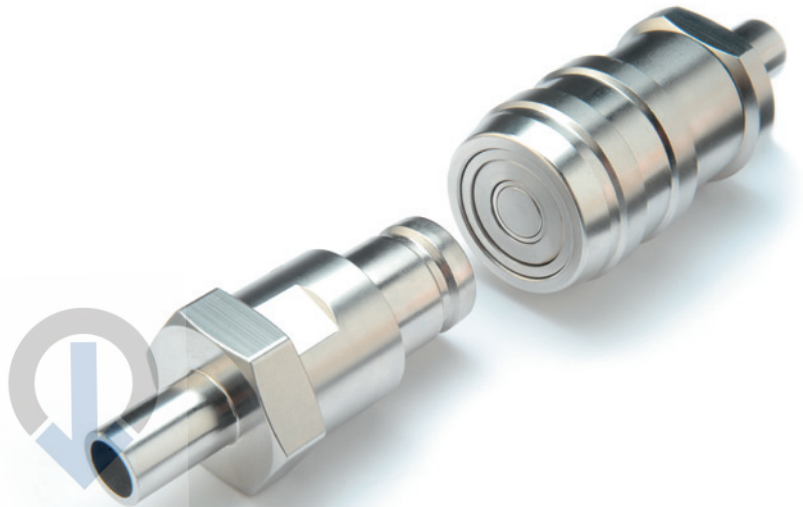
Function

Principle: First sealing, then clearing the passage!

When the coupling is connected the ring valve of the socket and the flat valve of the plug are pushed open. Before the valves clear the passage they seal off the interior against ambient influences.

Due to the coupling design without dead spaces, air cannot ingress when the coupling is connected; neither can spillage occur during separation.

With more than ½ million coupling cycles, the robust DBG series is the top-of-the-line model on the market.

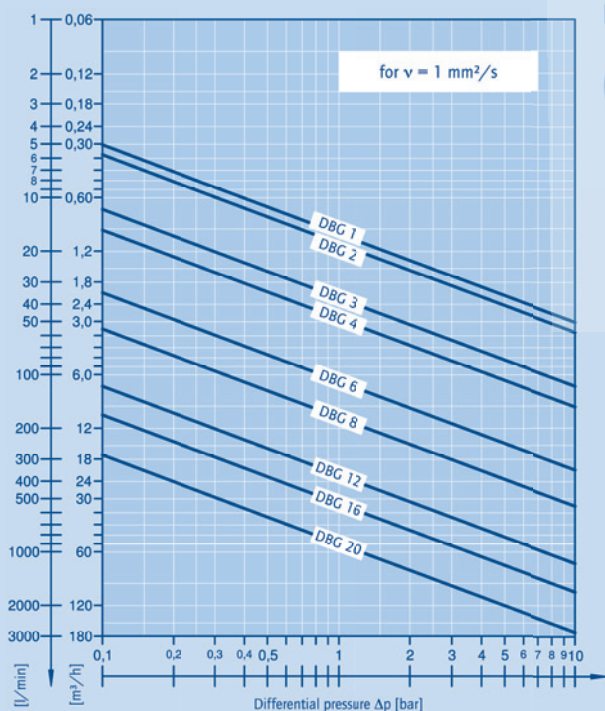


Special features of CSP

The CSP model of the DBG series is of sterile design and can be sterilized inline (while mounted) using steam (SIP – Steaming in Place).

The product is made of stainless steel 1.4404 with special surface roughness $Ra \leq 0.8 \mu m$ (electropolished) and, on request, provided with free welding ends or sterile connections.

Capacity Chart of DBG Series



General Technical Data of DBG Series

Materials Stainless steel (1.4404, 1.4021)
Hastelloy
Titanium

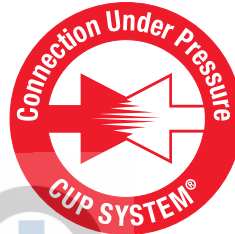
Seals FPM, EPDM, FFKM,
FVMQ, NBR, CR etc.
(also FDA compliant)

NEW

Temperature range -80°C to $+325^\circ\text{C}$
(depending on type of seal)

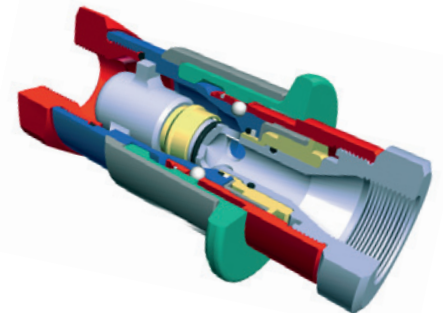
Flat-Face Quick-Disconnect Couplings of DBG-CUP Series

Double shutoff, both ends connectable under pressure



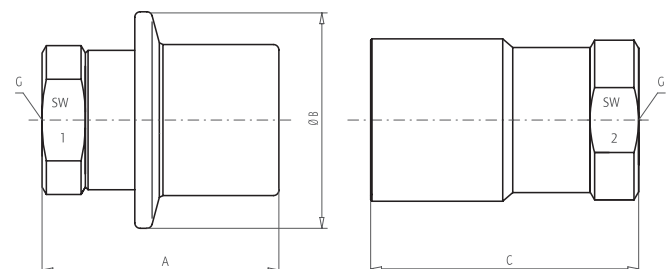
Description

Flat-face quick-disconnect couplings of Gather series DBG-CUP feature double-shutoff function for single hand operation. Their design prevents liquids from spilling when the coupling is disconnected and air from entering the line system when the connection is made. Their inside configuration enables an inline cleaning of the coupling (CIP: Cleaning In Place). Media sufficiently washes around all coupling components, any product deposits are completely removed. The pressure drop caused by the quick-disconnect coupling is very low due to the favorable contour of the inner components resulting in optimum flow conditions. All seals are located internally which enhances operational safety.



Technical Data of DBG-CUP Series

Series	DBG-CUP 4	DBG-CUP 6	DBG-CUP 8
Nominal diameter	DN 12	DN 20	DN 25
Perm. operating pressure [bar]*	90	90	90
Max. loss through wetting of valves [ml]	0.01	0.02	0.02
Dimensions [mm]			
Female thread G	¾	1	1 ¼
A	79	88	100
B	70	80	87
C	88	99	108
coupled	137	152	170
Width A/F 1/2	41/46	50/55	55/60



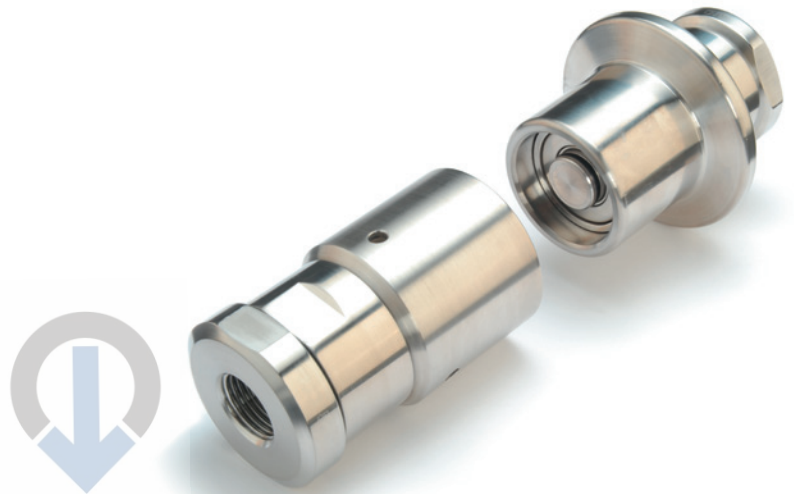
* coupled at 20°C

Function

Principle: First sealing, then clearing the passage!

When the coupling is connected the ring valve of the socket and the flat valve of the plug are pushed open. Before the valves clear the passage they seal off the interior against ambient influences. Because of the coupling design without dead spaces air cannot ingress when the coupling is connected, neither can spillage occur during separation.

Due to the unique valve design socket and plug can be coupled under pressure.

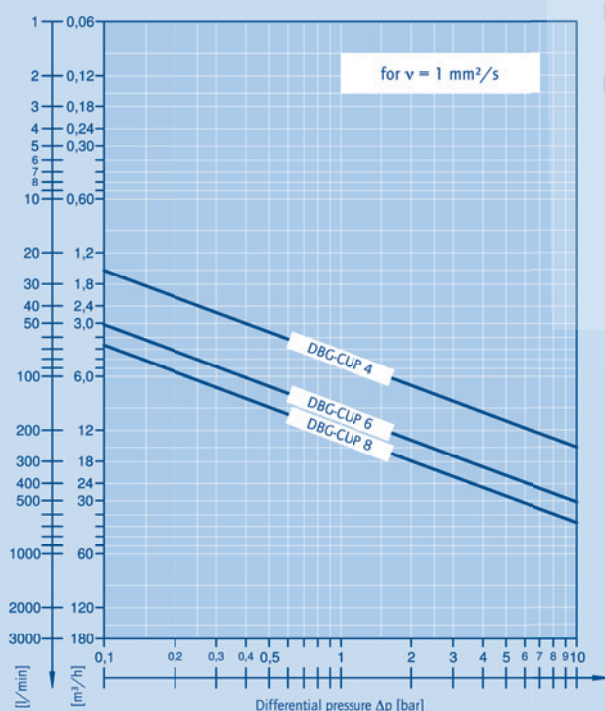


CUP - Special features

CUP - Connection under pressure

The DBG-CUP series features tube-to-hose connection with both components pressurized without the need to first release the pressure. This is due to the merits offered by the unique CUP- SYSTEM®. The design of the CUP valve makes sure the system pressure has minimal influence on the coupling force.

Capacity Chart of DBG-CUP Series



General Technical Data of the DBG-CUP Series

Materials	Stainless steel 1.4404
Seals	FPM, EPDM, FFKM etc. (also FDA compliant)

NEW

Temperature range -80 °C to +325 °C
(depends on type of seal)

Original Hansen Tube-Hose Quick-Disconnect Coupling of HKT Series

Double shutoff versions (single or non-shutoff versions also available)

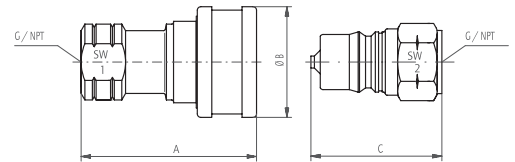
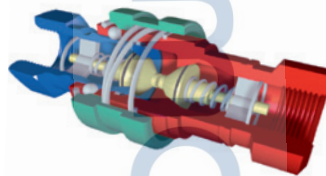


Description

Quick-disconnect couplings of series HK are of double-shutoff, single-shutoff or straight-through design. The double-shutoff type is recommendable for hazardous media such as acids, solutions, hot water or steam. In single-shutoff couplings and depending on the individual application either the socket or the plug accommodates the integrated shut-off valve.

When the connection is made the valves will not be caused to open before the coupling has been positively sealed off to the outside. On the other hand, the connection will not be separated before the valves have been closed.

This quick-disconnect coupling features non-spill operating characteristics.



Technical Data of HKT Series												
Series		HKT 1	HKT 2	HKT 3	HKT 4	HKT 6	HKT 8	HKT 10	HKT 12		HKT 20	
Nominal diameter		DN 4	DN 6	DN 10	DN 12	DN 20	DN 25	DN 32	DN 40	DN 40	DN 60	DN 60
Admissible operating pressure [bar]*	MS	200	185	150	155	140	100	80	100	100	50	50
	ST	275	255	255	345	275	275	120	150	150	100	100
	VA	345	255	255	290	240	170	120	150	150	100	100
Max. liquid loss [ml]		0.5	0.9	2.1	3.5	9.4	17.0	48.0	91.0	91.0	210.0	210.0
Dimensions [mm]												
Female thread G/NPT		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/4	1 1/2	2	2 1/2
A		49	58	65	75	89	105	115	123	123	141	156
B		25	30	36	48	56	66	70	82	82	105	105
C		32	39	45	51	59	71	108	122	122	140	155
Coupled		60	72	80	94	106	129	174	190	190	216	246
Width A/F 1/2		15/15	19/19	23/23	29/29	34/34	45/42	61/61	61/61	61/61	96/96	102/102

MS = Brass, ST = Steel, VA = Stainless Steel

* coupled at 20°C

Function

Principle: First sealing, then clearing the passage!
When the coupling is connected the valves of the socket and the plug are pushed open. Before the valves clear the passage they seal off the interior against ambient influences. Due to the robust design air inclusions during coupling and residual leakage during separation are minimized.

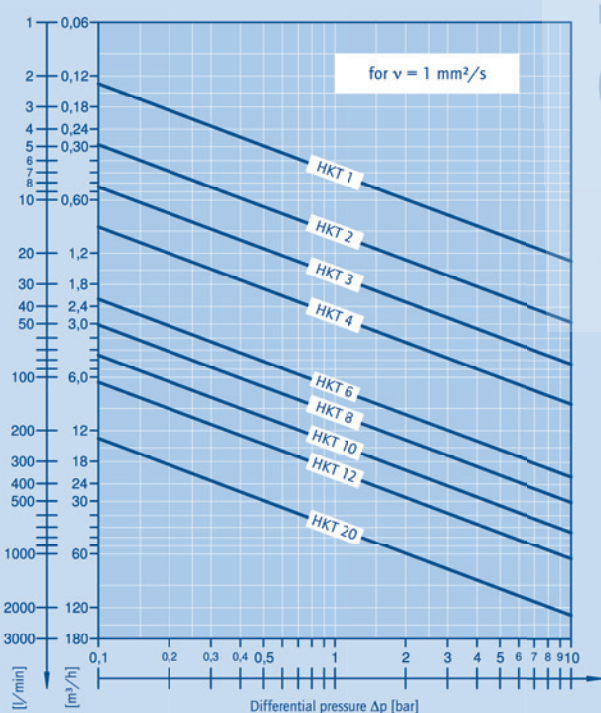


DN 125, HKG 50

Special types

DN 80 and DN 125 (see figure to the right)
Based on ISO 7241-1 Series B of size DN 80

Capacity Chart of HKT Series



General Technical Data of HKT Series

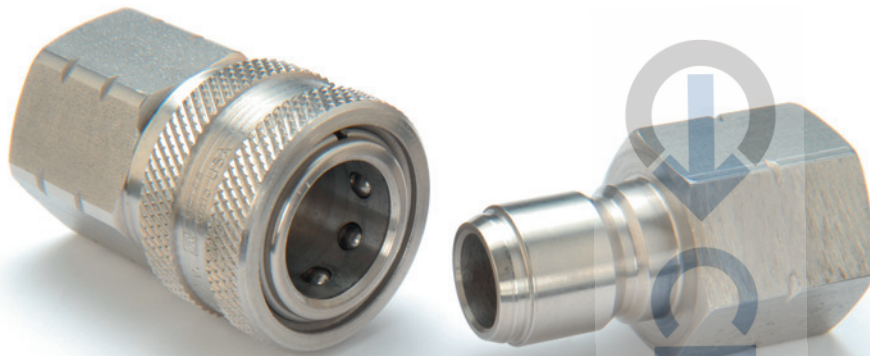
Materials	Stainless steel (1.4305, 1.4401)
	Steel – yellow chromated, free of chromium (VI)
	Brass – passivated
	Brass – nickel plated
	Hastelloy
Seals	Titanium
	NBR, FPM, EPDM, CR,
	FVMQ, PTFE, FFKM etc. (also FDA compliant)

NEW

Temperature range –80 °C to +325 °C
(depending on type of seal)

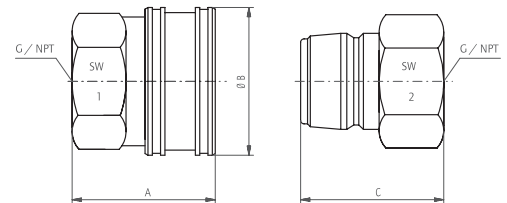
Original Hansen Tube-Hose Quick-Disconnect Coupling of STT Series

Non-shutoff version



Description

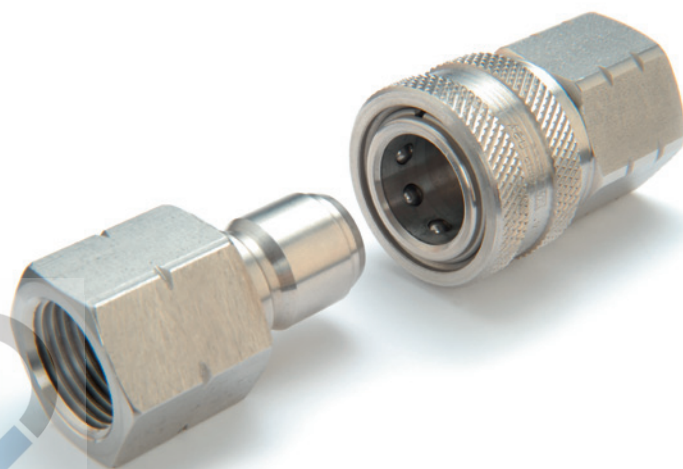
Coupling series STT is of extremely robust design. It proves especially useful if the flow of highly viscous media (e. g. grease) and must be ensured that a shutoff function is not required.



Technical Data of STT Series											
Series		STT 1	STT 2	STT 3	STT 4	STT 6	STT 8	STT 10	STT 12	STT 16	STT 20
Nominal diameter		DN 4	DN 6	DN 10	DN 12	DN 20	DN 25	DN 32	DN 40	DN 50	DN 60
Permissible operating pressure [bar]*	MS	190	360	190	150	115	90	115	100	100	60
	ST	230	380	290	240	145	140	185	150	150	100
	VA	290	520	435	250	210	140	150	170	100	-
Dimensions [mm]											
Female thread G ₁ /NPT		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
A		27	38	41	49	53	59	63	74	79	87
B		18	24	29	34	43	51	63	79	95	114
C		25	37	42	49	51	57	64	73	77	86
Coupled		43	57	61	75	77	88	98	107	111	124
Width A/F 1/2 (applies to NPT)		15/13	21/18	26/21	29/26	37/31	45/40	51/51	67/58	77/70	89/83

MS = Brass, ST = Steel, VA = Stainless Steel

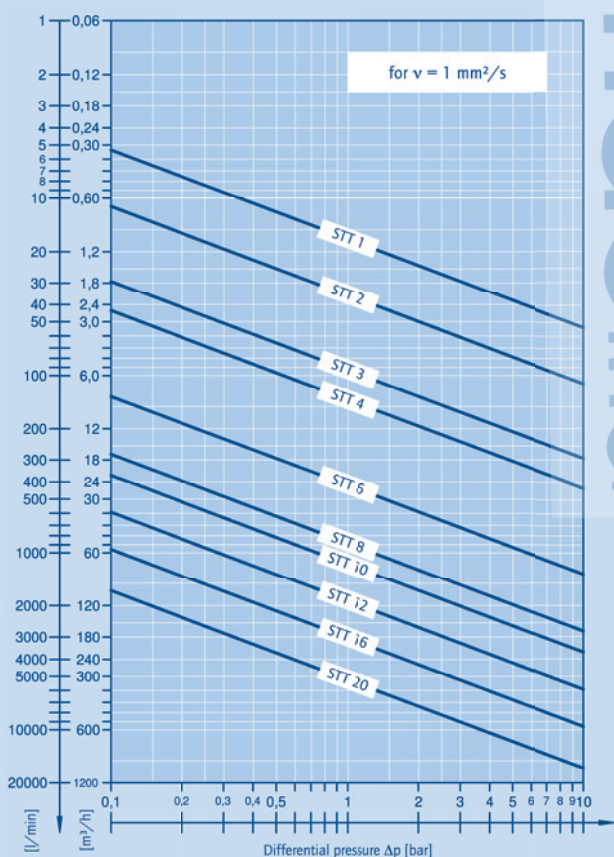
* coupled at 20 °C



Special features

Modified GATHER-own version (STG series) can be manufactured with an excellent surface finish of $Ra \leq 0.8 \mu m$ (electropolished) for use with pharmaceutical applications or made of special materials such as Hastelloy or Titanium.

Capacity Chart of STT Series



General Technical Data of STT Series

Materials	Stainless steel (1.4305, 1.4401)
	Steel – yellow chromated, free of chromium (VI)
	Brass – passivated
	Brass – nickel plated
	Hastelloy
	Titanium
Seals	FPM, EPDM, FFKM,
	FVMQ, NBR, CR etc. (also FDA compliant)

NEW

Temperature range -80°C to $+325^\circ\text{C}$
(depending on type of seal)

Hose Couplings of DBF Series

Double shutoff, non-spill, connectable under pressure



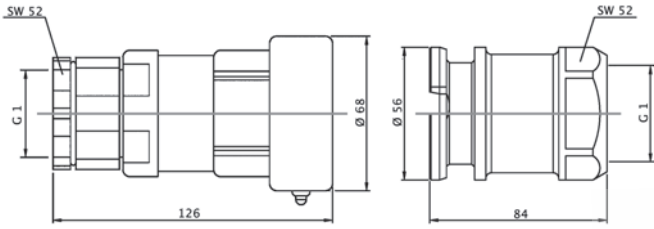
Description

Hose couplings of type DBF are fitted with automatically closing shutoff valves. Upon disconnection no liquid will escape from the hose or tank, and when the connection is made neither air nor dirt will enter the line system. These non-spill hose couplings offer a high degree of safety when filling or refilling media. Environmental damage or hazard to persons due to spilled liquid is ruled out even if the couplings are connected/disconnected frequently. The liquid will not come into contact with ambient air. Connecting and disconnecting is a very simple and easy task even when the lines are under pressure.

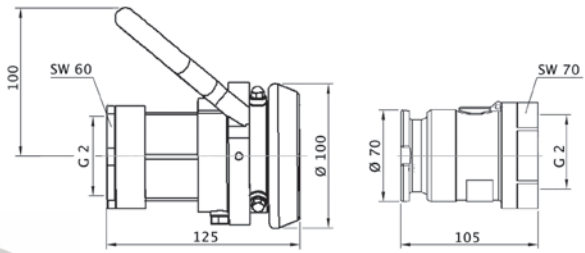
Technical Data of DBF Series					
Series	DBF 8	DBF 16	DBF 20	DBF 30	DBF 40
Nominal diameter	DN 25	DN 50	DN 65	DN 80	DN 100
Permissible operating pressure [bar]*	10				
Bursting pressure [bar]	50				
Operating pressure on coupling/disconnecting [bar]	max. 4				
Temperature range	-60 °C to +100 °C				
Materials	Stainless steel, aluminum, aluminum bronze				
Seals	FPM, EPDM, NBR, FFKM, ...				
Max. liquid loss during disconnection [ml]	1.2	2.5	3.2	4	5
Female thread G	3/4, 1, 1 1/4	1 1/2, 2	2 1/2, 3	3	4
Other connections	Flange, male thread (also for cutting ring joints), hose sockets, welding ends etc.				
Applications	All kinds of chemicals, fuels, mineral oil, HC connections etc.				
Coding (Non-interchangeability)	20 variants in total				
Protective caps	Plastic or metal				

* coupled at 20 °C

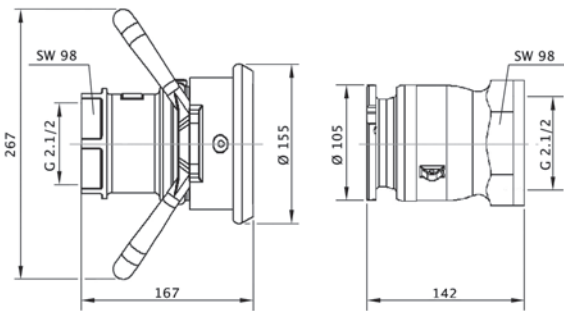
Dimensions



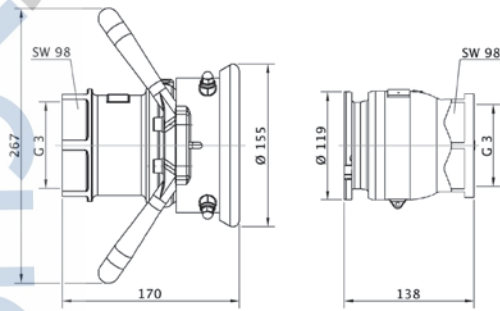
DBF 8



DBF 16



DBF 20



DBF 30

Function

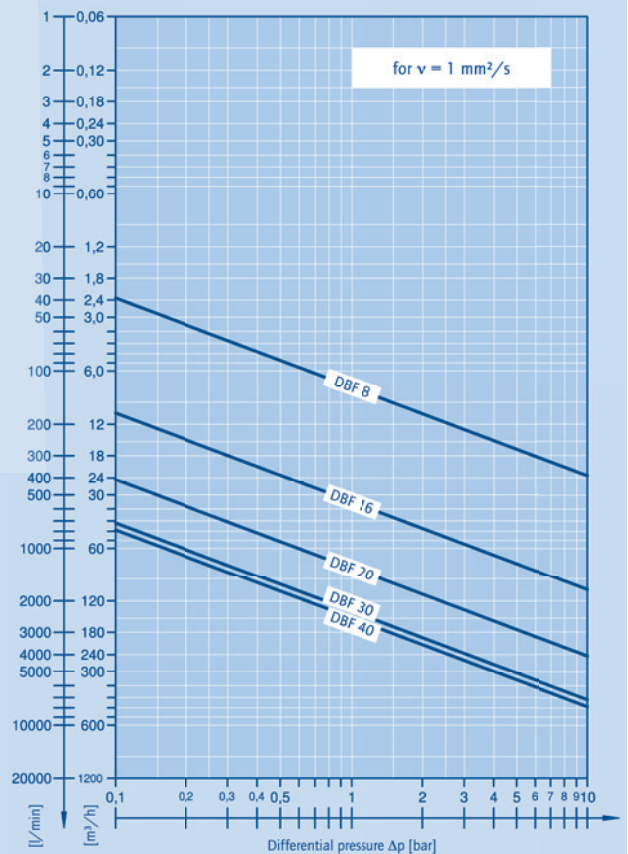
During coupling, the socket and plug are pushed into each other. The coupling is sealed off towards the outside. By a one-third turn the socket and plug interlock and open the valves so that the media passage is cleared. Because of the coupling design without dead spaces, air cannot ingress when the coupling is connected, neither can spillage occur during separation.

Advantages

With proven rotary action feature:
Both ends connectable under pressure.

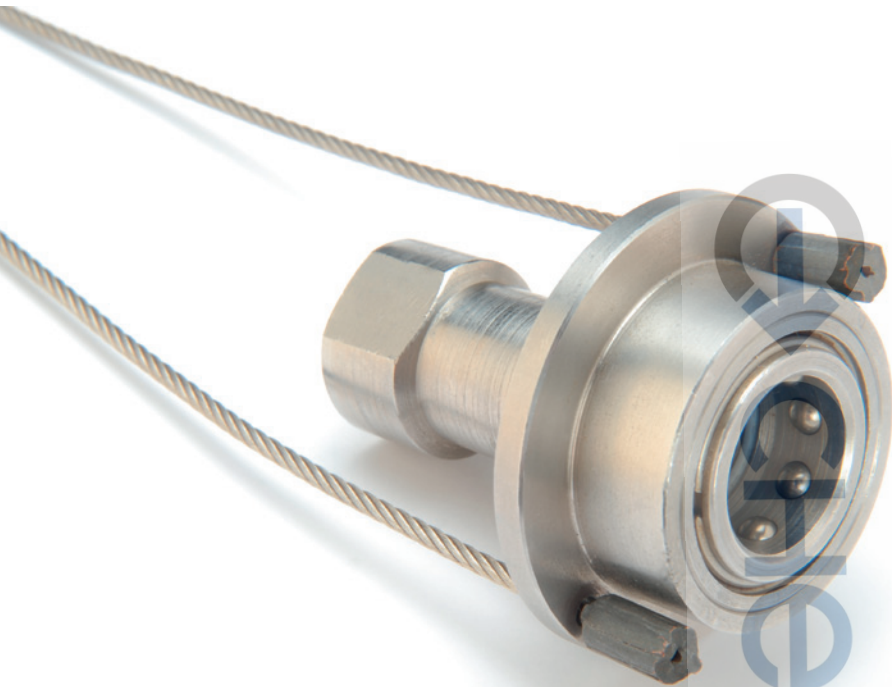
Type tested TÜ.AGG.312-99

Capacity Chart of DBF Series



Accessories for Break-away Couplings

Double shutoff, disconnected through wire rope pull



Series DBG and HKT for all nominal diameters

Description

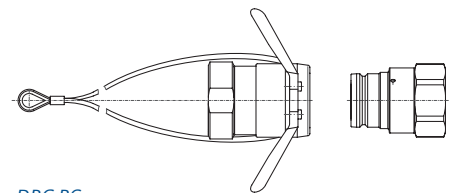
In a hoseline conveying hazardous media a predetermined breaking point has to be determined that prevents spillage of dangerous liquids or combustible gases in the event of unexpectedly exerted pull forces.

For this purpose, flanged couplings attached via tear-off pins are usually employed. If such a coupling becomes detached in an emergency and greater efforts are needed to restore the original state of the connection, i. e. manufacturer's service staff must come out to re-mount the coupling.

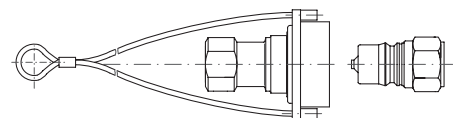
Emergency break function

Our quick-disconnect coupling with double-shutoff and wire rope break feature is a more cost-effective solution: A wire rope attached to the socket's sliding collar pulls the collar into the opening direction if the hose is torn off. The plug inside the socket is deinterlocked and the valves in both coupling components close. Now the plug is permitted to slide out of the socket's seal ring.

After separation both hose ends can be reconnected by simply plugging them together so that the coupling is again immediately ready for use. The rope wire length has been selected such that the sliding collar of the socket moves into opening direction before the hose tightens.



DBG-RC



HKT-RC

Accessories for DBG and HKT Series



Handles

Handles are available and facilitate the manipulation of large sizes primarily if the operator must wear gloves or work with full protective equipment.

Advantages

- Shear or tear-off pins need not be replaced after an emergency break, simply plugging the parts together restores the connection.
- The coupling offers break-away and quick-disconnect functions in a single system.
- To function properly the coupling needs not be arranged in the middle of the hose but is located on the vehicle itself. The vehicle thus does not leave carrying along a disconnected hose section, instead the entire hose remains at the loading station!



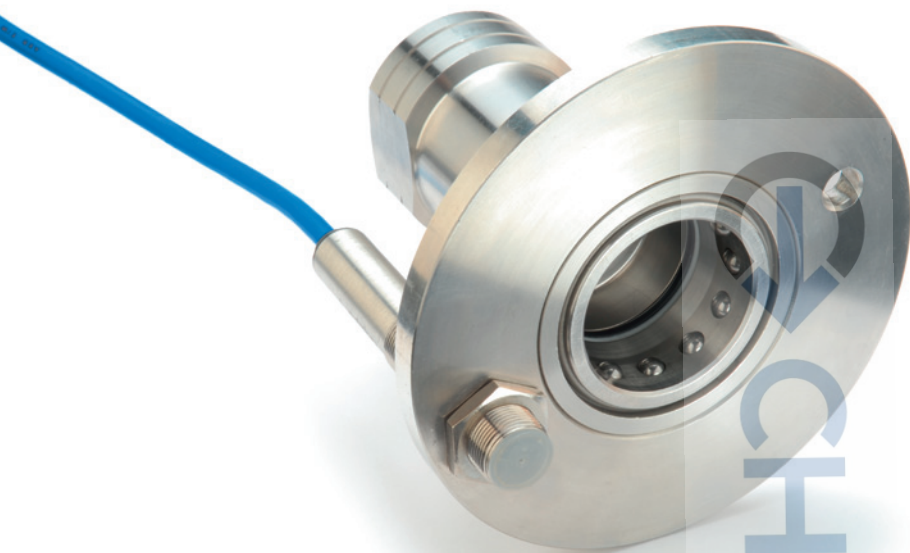
Dust caps

Safely protect coupling and valve surfaces against dirt accumulation.

Materials: Plastic, aluminum, stainless steel

Accessories for Coding Systems

Electronic version



Detection system

Explosion protection EEX ia IIC T4;
connectable to PLC or PC serial, parallel,
BUS

Description

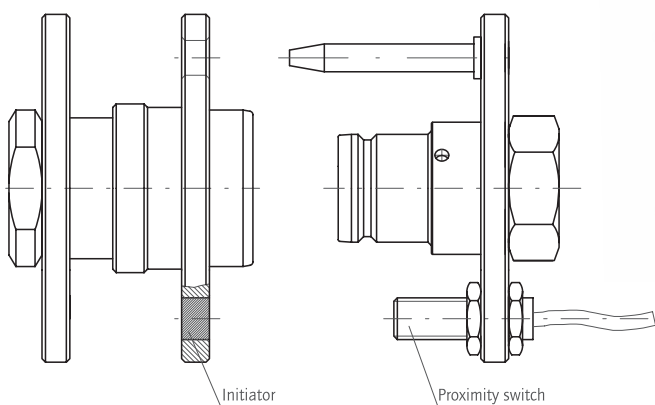
When preparing formulations for the production of parent substances and agents storage tanks must be correctly assigned to the respective reactors. A detection system arranged on the coupling and integrated into the actuating elements enables the relevant lines to be correctly identified.

This system comprises a code carrier providing the required information and a code reader relaying the respective data to the control room.

From the control room it can be verified whether the correct tank has been allocated to the relevant reactor.

When connected the code reader of the detection system is in contact with the code carrier.

From the control room the connection is cleared so that medium can be fed into the reactor.



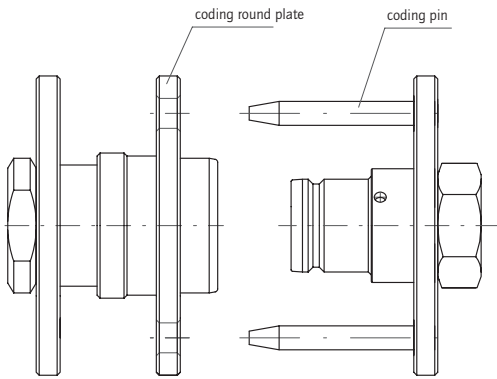
*With round plate handles and
electronic detection system*

This system allows the operator:

- To connect and disconnect hose lines without spillage
- To check that the right tank is connected to the reactor
- To avoid mixing of fluids due to a wrong tank/reactor connection.
- To prevent the costly production of faulty product

Accessories for Coding Systems

Mechanical version

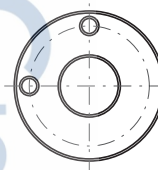


*Quick-disconnect coupling
with mechanical pin coding*

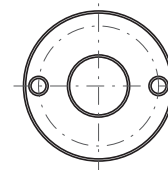
Description

When filling or refilling different types of product the respective lines must by no means be confused. This is warranted by a pin coding system available for our couplings.

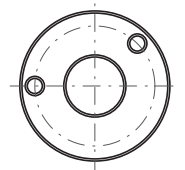
Our mechanical coding system offers an almost unlimited number of coding positions to be provided via the two pins. Coding can be easily verified from the outside. During connection the pins can be easily positioned without twisting of the hose. There is no need to tediously determine the correct coding positions, color coding is not necessary.



CD01
90°



CD02
180°



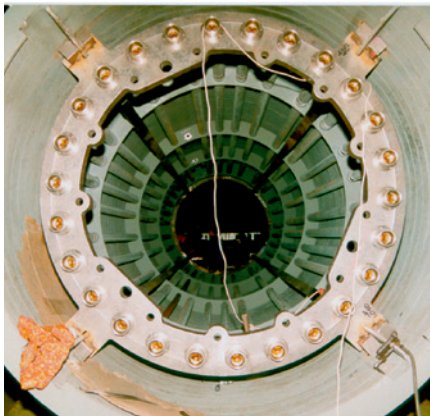
CD03
135°



Using a wrong hose on a given tank will reliably prevent the valves from opening and thus avoid undesired product mixing. Moreover, valve opening is also ruled out when the coupling is mounted obliquely.

Application Examples

Coupling Technology



Plant Construction

GATHER quick-disconnect couplings serve to separate and connect media lines in modern continuous casting plants, electric arc furnaces or rolling mills. Hydraulic high-pressure line components can be quickly replaced. Ready-to-mount GATHER multicouplings disconnect and join cooling lines in no time without any water leakage thus there is no need to empty the piping system.

Automatically operated GATHER couplings enable rollers to be replaced without oil losses. Quick-disconnect couplings from GATHER are robust as well as reliable and have proven their worth in rough day-to-day steel mill service.

Chemical Industry

Particularly, applications in the chemical industry set various off-standard requirements that quick-disconnect couplings must satisfy. GATHER Engineering develops technical solutions especially tailored to the individual needs of our customers. Aside from stainless steel other high-grade materials are used for these components such as Hastelloy or Titanium. Our modern CNC production facilities have also been set up to handle small-batch series for various special construction units and materials.

Bioprocess Technology

Uncontaminated biological cultures can only be produced in an aseptic environment using installations that warrant absolute tightness. GATHER dry-break couplings that can be sterilized enable virulent microorganisms to be safely handled. Working without spillage and air ingressing allows sterile connections to be made up very quickly and easily.

Exclusively FDA-compliant materials are used with surfaces meeting the requirements associated with GMP-conforming components.



Loading Systems

During the refilling and filling operation of rail or road tankers no hazardous substances are allowed to exit that place operating personnel in harms way. Hose couplings of series DBG and DBF are so-called dry-break couplings that insure hose lines are connected or separated without spillage.

The TÜV Rheinland inspection agency certifies the operational safety of these couplings. Nevertheless, these couplings are also first choice in all other applications where liquid media is to be handled without spillage at connecting points, particularly if high flow rates are involved.



Shipbuilding

For various media supply systems in shipbuilding applications hoses and piping are equipped with reliable GATHER quick-disconnect couplings. These couplings ensuring smooth loading and unloading operations on modern container ships with computer-assisted logistics.



Painting Technology

When individual paint composition needs have to be met the smallest paint flows are of great importance. GATHER quick-disconnect couplings of type DBG are the first-choice components particularly when frequent paint material changes are required due to their design without dead spaces which enables them to be flushed clean removing all residues. Containers are filled with surplus paint material and then disconnected. With the help of the flat-face quick-disconnect coupling type DBG other paint containers can be used without the mixing of paint materials occurring.

GATHER
INDUSTRIE

Quality – Made in Germany

Professional expertise:
Personal engineering consultation
inhouse and in the field

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