FAST MOVING TECHNOLOGY

STÄUBLI

Breakaway couplings

Product range

Secure your fluid lines

Breakaway couplings are safety components used to prevent one of the most serious safety hazards in the process of loading fluid media: the unwanted and disproportionate tensile load on the load line. It happens, for example, when tanker trucks or rail tank wagons move off too soon or by ships drifting. Such tensile loads can mechanically damage or even destroy both the connection points and the load line itself. It can even lead to uncontrolled leakage of the media being loaded, posing a corresponding hazard to humans and the environment.

Multiple advantages for your installations

- Operators and environment are protected from leakage of hazardous substances.
- Media loss is limited to the minimum.
- Loading lines are protected.
- Customized solutions from DN 25 to DN 200 to meet a large scope of applications.
- Direction of flow is irrelevant in regards to the flow rate.
- Applicable for many fluids (liquids and gases).
- Robust design withstanding even harsh conditions.
- No uncontrolled spill.

Stäubli safety breakaway couplings are typically equipped with two functions to avoid above mentioned risks:

- A defined separating mechanism, which separates the line between the mobile unit and the loading system below the permissible load.
- Valves for both sectioning points to prevent the fluid from leaking.

Application areas:

- Loading processes by means of hose lines.
- Hose and pipe loading arms.
- Loading stations.
- Filling processes.
- Mobile tanking systems.

Two types of separation mechanism

- **Via breaking pins ("force-limiting release")**
  - Hose is transferring the force that initiates the release.
  - Release through 3 breaking pins with defined release force.

- **Via steel cable ("distance-limiting release")**
  - Steel cable transfers the force that initiates the release.
  - One side of the coupling is typically attached to a fixed point.

Summary

Safety breakaway couplings...

Industrial

ABS

- Breaking pins
- Disc valve closure

The **universal** couplings for a broad range of applications.

ABH

- Breaking pins
- Cone valve closure

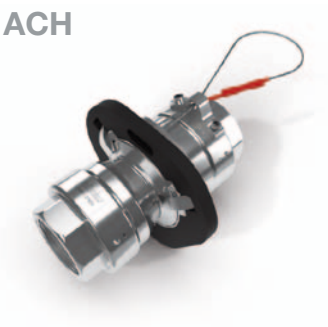
The **universal** couplings for a broad range of applications that require **high flow** rates and low pressure loss.

ACS

- Control cable
- Disc valve closure

The basic technology for all lines of **low tensile strength** and for pressures and/or nominal widths at which breaking pin technology reaches its limits.

ACH



- Control cable
- Cone valve closure

The high-performance coupling with **high flow** rates and low pressure loss for all lines of **low tensile strength** and for pressures and/or nominal widths at which breaking pin technology reaches its limits.

Separation mechanism via breaking pins

Separation mechanism via steel cable

… at a glance

Marine

MBS

- Breaking pins
- Disc valve closure

The **universal** couplings for applications that require a **radial stress-resistant** breakaway coupling.

MBH

- Breaking pins
- Cone valve closure

The high-performance couplings with **high flow** rates and low pressure loss for applications that require a **radial stress-resistant** breakaway coupling.

Cryogenic

KBH

- Breaking pins
- Cone valve closure

For cryogenic media such as LNG and other low-temperature media.

Separation mechanism via breaking pins

ABS series

The standard safety breakaway coupling

The ABS series breakaway couplings separate the line at a defined tensile load. Typically one side of the coupling is attached to a rig and fixed point, the other to a hose line. The ABS series is your economic solution for a wide range of applications.

Your advantages

- Universally deployable breakaway coupling.
- Compact design.
- Releases when force is applied axial or up to 90° (any direction) to the plane of the coupling.

Technical data

	ABS20-DN25	ABS40-DN50	ABS50-DN65	ABS60-DN80	ABS75-DN100
Hose nominal diameter	DN 25	DN 50	DN 65	DN 80	DN 100
Equivalent flow diameter (mm)	20	40	50	60	75
Maximum allowable pressure PS (bar)	up to 25				
Minimum and maximum allowable temperature TS (°C)*	-40 to +150 (Aluminum: -40 to +60)				
Shut-off double					

* Seal type may further limit the temperature range.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

Connection

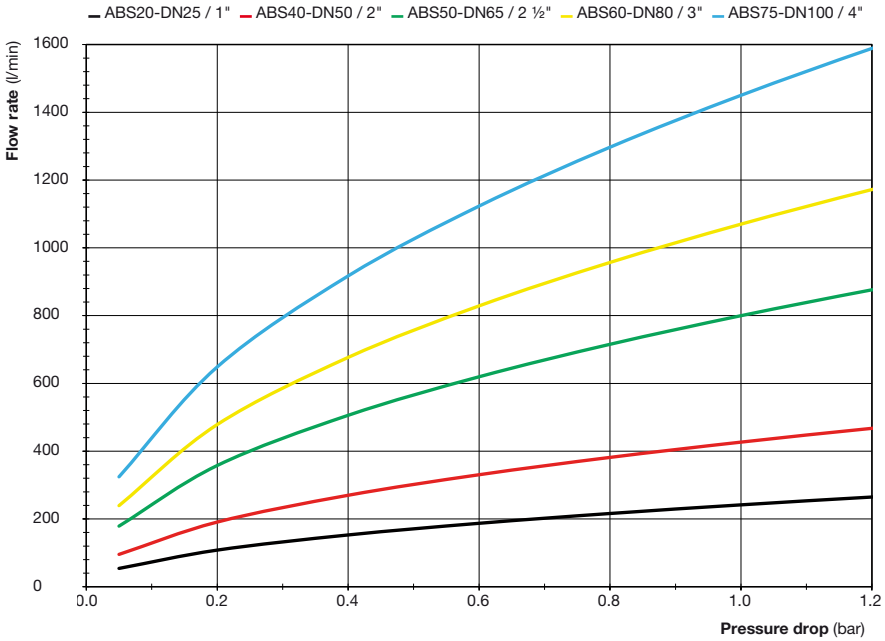
- Thread: BSP or NPT
- Fixed flange: EN 1092-1, ASME B16.5, TTMA

Other connections upon request (also via adapters screwed and glued in BSP or NPT thread)

Construction

- Predominantly stainless steel
- Aluminum
- Hastelloy® upon request

Hydraulic flow rate / pressure drop charts



Test conditions:
Fluid: water 20 °C

How to build your ABS part number

ABS40-DN50	.	108	.	108	/	IC8	/	JE	/	100
1		2		3		4		5		6

To build your part number, choose the following elements. All of these are mandatory elements.

1 Model

to be chosen ..... page 9

2 Connection type on fixed side

to be chosen ..... page 9

3 Connection type on hose side

to be chosen ..... page 9

4 Material series (predominantly)

Code

- Stainless steel 316 ..... IC6*
- Stainless steel 316 Ti **IC8**
- Aluminum EN AW 5083 ..... L4*

* depending on nominal width

5 Type of seal

Code

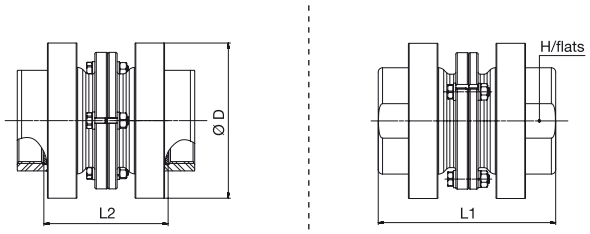
- Nitrile (NBR) ..... JN
- Ethylene-Propylene (EPDM) .....**JE**
- Fluorocarbon (FPM)..... JV
- Perfluoroelastomer (FFKM) 6375.....JK1

6 Release force

Model	Release forces in kN**	
ABS20-DN25	3.2	7.0
ABS40-DN50	**10.0**	15.0
ABS50-DN65	15.0	20.0
ABS60-DN80	20.0	27.5
ABS75-DN100	30.0	44.0
results in:	**PN16**	**PN25**

** Other release forces upon request.

Part numbers



Female thread

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
ABS20-DN25	Female thread	BSP 1"	77	112.5	90	41	1.1	**ABS20-DN25.105.105**[4]
		NPT 1"	77	140.5	120.2	41	1.3	**ABS20-DN25.205.205**[4]
	Flanges	EN 1092-1 (PN40 Form B) DN25	115	104.5	-	-	3.2	**ABS20-DN25.A54.A54**[4]
		ASME B16.5 (150 psi) 1"	108	104.5	-	-	2.4	**ABS20-DN25.B15.B15**[4]
		ASME B16.5 (300 psi) 1"	124	104.5	-	-	3.4	**ABS20-DN25.B25.B25**[4]
ABS40-DN50	Female thread	BSP 2"	108	123.5	86.5	70	2.4	**ABS40-DN50.108.108**
		NPT 2"	108	143.5	121.4	70	2.9	**ABS40-DN50.208.208**
	Flanges	EN 1092-1 (PN40 Form B) DN50[3]	165	103.5	-	-	6.9	**ABS40-DN50.A57.A57**[4]
		ASME B16.5 (150 psi) 2"	152.4	103.5	-	-	6.0	**ABS40-DN50.B18.B18**[4]
		ASME B16.5 (300 psi) 2"	165.1	103.5	-	-	7.3	**ABS40-DN50.B28.B28**[4]
		TTMA 2" DN50	114.3	103.5	-	-	3.1	**ABS40-DN50.C02.C02**[4]
ABS50-DN65	Female thread	BSP 2 ½"	133	147.5	106.5	85	5.4	**ABS50-DN65.109.109**[4]
		NPT 2 ½"	-	-	-	-	-	**ABS50-DN65.209.209**[4]
	Flanges	EN 1092-1 (PN16 Form B) DN65	185	123.5	-	-	8.3	**ABS50-DN65.A38.A38**[4]
ABS60-DN80	Female thread	BSP 3"	148	174.5	131.5	100	5.7	**ABS60-DN80.10A.10A**
		NPT 3"	148	202.5	163.6	100	6.7	**ABS60-DN80.20A.20A**
	Flanges	EN 1092-1 (PN16 Form B) DN80	200	149.5	-	-	12.0	**ABS60-DN80.A39.A39**[4]
		EN 1092-1 (PN40 Form B) DN80	200	149.5	-	-	13.0	**ABS60-DN80.A59.A59**[4]
		ASME B16.5 (150 psi) 3"	190.5	149.5	-	-	12.1	**ABS60-DN80.B1A.B1A**[4]
		ASME B16.5 (300 psi) 3"	209.6	149.5	-	-	15.1	**ABS60-DN80.B2A.B2A**[4]
		TTMA 3" DN80	142.9	149.5	-	-	6.0	**ABS60-DN80.C03.C03**[4]
ABS75-DN100	Female thread	BSP 4"	169	209	166	125	10.1	**ABS75-DN100.10C.10C**
		NPT 4"	169	236.5	193.6	125	11.4	**ABS75-DN100.20C.20C**
	Flanges	EN 1092-1 (PN16 Form B) DN100	220	188	-	-	15.8	**ABS75-DN100.A3A.A3A**[4]
		ASME B16.5 (150 psi) 4"	228.6	188.5	-	-	18.5	**ABS75-DN100.B1C.B1C**[4]
		ASME B16.5 (300 psi) 4"	254	188	-	-	26.0	**ABS75-DN100.B2C.B2C**[4]
		TTMA 4" DN100	168	177.5	-	-	9.9	**ABS75-DN100.C04.C04**[4]

[1] The weight applies to stainless steel only with an approximate tolerance of +/-5%.
[2] Add the code of options at the end of the part-number: see page 8.
[3] Compatible to EN 1092-1 (PN 16 Form B) DN50.
[4] Not available for aluminum version.

ABH series

The safety breakaway coupling with a high flow rate

The ABH series breakaway coupling is a consistent further development of the Stäubli breakaway coupling programme. Along with the same safe triggering as seen in the ABS series, this series minimises the pressure loss within the coupling or allows an approx. 4 times higher flow rate at a constant pressure loss. This saves energy and time during the loading process.

Your advantages

- Highest flow rates.
- Significant reduction of the pressure loss.
- Releases when force is applied axial or up to 90° (any direction) to the plane of the coupling.

Technical data

	ABH40-DN50	ABH65-DN80	ABH80-DN100	ABH110-DN150
Hose nominal diameter	DN 50	DN 80	DN 100	DN 150
Equivalent flow diameter (mm)	40	65	80	110
Maximum allowable pressure PS (bar)	up to 25			
Minimum and maximum allowable temperature TS (°C)*	-40 to +150 (Aluminum: -40 to +60)			
Shut-off double				

* Seal type may further limit the temperature range.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

Connection

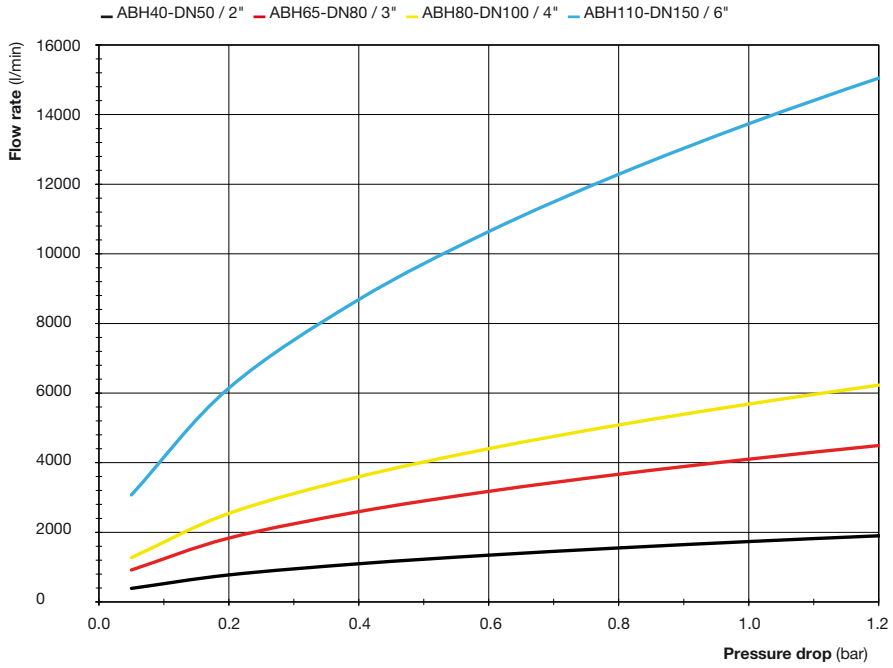
- Thread: BSP, NPT
- Fixed flange: EN 1092-1, ASME B16.5

Other connections upon request (also via adapters screwed and glued in BSP or NPT thread)

Construction

- Predominantly stainless steel
- Aluminum
- Hastelloy® upon request (not ABH110-DN150)

Hydraulic flow rate / pressure drop charts



Test conditions:
Fluid: water 20 °C

How to build your ABH part number

ABH40-DN50	.	108	.	108	/	IC8	/	JE	/	120
1		2		3		4		5		6

To build your part number, choose the following elements. All of these are mandatory elements.

1 Model

to be chosen ..... page 13

2 Connection type on fixed side

to be chosen ..... page 13

3 Connection type on hose side

to be chosen ..... page 13

4 Material series (predominantly)

Code

- Stainless steel 316 Ti **IC8**
- Aluminum EN AW 5083 ..... L4*

* depending on nominal width

5 Type of seal

Code

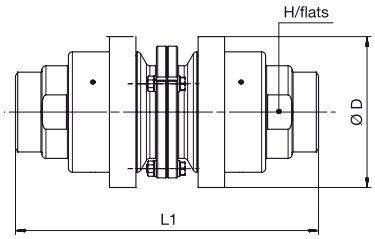
- Nitrile (NBR) ..... JN
- Ethylene-Propylene (EPDM) ..... **JE**
- Fluorocarbon (FPM) ..... JV
- Perfluoroelastomer (FFKM) 6375 ..... JK1

6 Release force

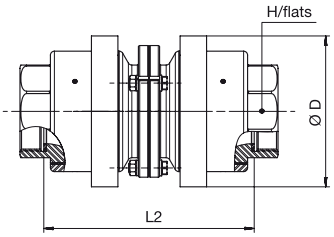
Model	Release forces in kN**	
ABH40-DN50	**12.0**	15.0
ABH65-DN80	22.0	30.0
ABH80-DN100	30.0	44.0
ABH110-DN150	60.0	92.0
results in:	**PN16**	**PN25**

** Other release forces upon request.

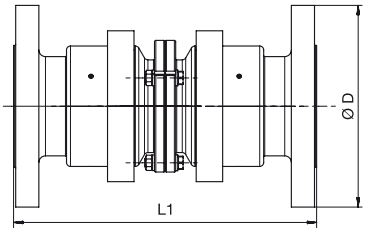
Part numbers



Male thread



Female thread



Flange

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
ABH40-DN50	Female thread	BSP 2"	114	195	159	70	5.2	**ABH40-DN50.108.108**
		NPT 2"	114	201	178.9	70	5.3	**ABH40-DN50.208.208**[4]
	Male thread	BSP 2"	114	235	-	70	5.4	**ABH40-DN50.158.158**
		NPT 2"	114	244	221.9	70	5.5	**ABH40-DN50.258.258**[4]
	Flanges	EN 1092-1 (PN40 Form B) DN50[3]	165	229	-	-	10.1	**ABH40-DN50.A57.A57**[4]
		ASME B16.5 (150 psi) 2"	152.4	229	-	-	9.3	**ABH40-DN50.B18.B18**[4]
		ASME B16.5 (300 psi) 2"	165.1	229	-	-	10.7	**ABH40-DN50.B28.B28**[4]
ABH65-DN80	Female thread	BSP 3"	153.6	270	228	100	13.4	**ABH65-DN80.10A.10A**
		NPT 3"	153.6	288	249	100	14.1	**ABH65-DN80.20A.20A**[4]
	Male thread	BSP 3"	153.6	318	-	100	13.6	**ABH65-DN80.15A.15A**
		NPT 3"	153.6	345	306.1	100	13.9	**ABH65-DN80.25A.25A**[4]
	Flanges	EN 1092-1 (PN16 Form B) DN80	200	316	-	-	19.6	**ABH65-DN80.A39.A39**[4]
		EN 1092-1 (PN40 Form B) DN80	200	324	-	-	21.1	**ABH65-DN80.A59.A59**[4]
		ASME B16.5 (150 psi) 3"	190.5	316	-	-	21.5	**ABH65-DN80.B1A.B1A**[4]
		ASME B16.5 (300 psi) 3"	209.6	316	-	-	24.6	**ABH65-DN80.B2A.B2A**[4]
ABH80-DN100	Female thread	BSP 4"	185.6	336	294	125	23.7	**ABH80-DN100.10C.10C**
		NPT 4"	185.6	358	315.1	125	24.8	**ABH80-DN100.20C.20C**[4]
	Male thread	BSP 4"	185.6	386	-	125	24.3	**ABH80-DN100.15C.15C**
		NPT 4"	185.6	417	374.1	125	24.9	**ABH80-DN100.25C.25C**[4]
	Flanges	EN 1092-1 (PN16 Form B) DN100	220	392	-	-	31.3	**ABH80-DN100.A3A.A3A**[4]
		EN 1092-1 (PN40 Form B) DN100	235	400	-	-	34.4	**ABH80-DN100.A5A.A5A**[4]
		ASME B16.5 (150 psi) 4"	228.6	380	-	-	34.7	**ABH80-DN100.B1C.B1C**[4]
		ASME B16.5 (300 psi) 4"	254	390	-	-	42.4	**ABH80-DN100.B2C.B2C**[4]
ABH110-DN150	Flanges	EN 1092-1 (PN40 Form B) DN150	285	432	-	-	56.2	**ABH110-DN150.A5C.A5C**[4]
		ASME B16.5 (150 psi) 6"	279.4	432	-	-	58.8	**ABH110-DN150.B1E.B1E**[4]
		ASME B16.5 (300 psi) 6"	317.5	440	-	-	75.2	**ABH110-DN150.B2E.B2E**[4]

[1] The weight applies to stainless steel only with an approximate tolerance of +/-5%.
[2] Add the code of options at the end of the part-number: see page 12.
[3] Compatible to EN 1092-1 (PN 16 Form B) DN50.
[4] Not available for aluminum version.

ACS series

The standard safety breakaway coupling with control cable

Breaking pins require the breakaway forces to be transferred by the hose. This may lead to difficulties at higher nominal widths, variating pressures and/or fragile hoses. With ACS breakaway couplings the force for release will be transfered via a cable but not the hose line. They have a lower threshold why even low forces are sufficient to release the ACS.

Your advantages

- Compact design.
- Releases when force is applied axial or up to 90° (any direction) to the plane of the coupling.

Technical data

	ACS20-DN25	ACS40-DN50	ACS60-DN80	ACS75-DN100	ACS110-DN150	ACS150-DN200
Hose nominal diameter	DN 25	DN 50	DN 80	DN 100	DN 150	DN 200
Equivalent flow diameter (mm)	20	40	60	75	110	150
Maximum allowable pressure PS (bar)	up to 25					
Minimum and maximum allowable temperature TS (°C)*	-40 to +150					
Shut-off double						

* Seal type may further limit the temperature range.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

Connection

- Thread: BSP, NPT
- Fixed flange: EN 1092-1, ASME B16.5 (ACS110-DN150 and ACS150-DN200 only)

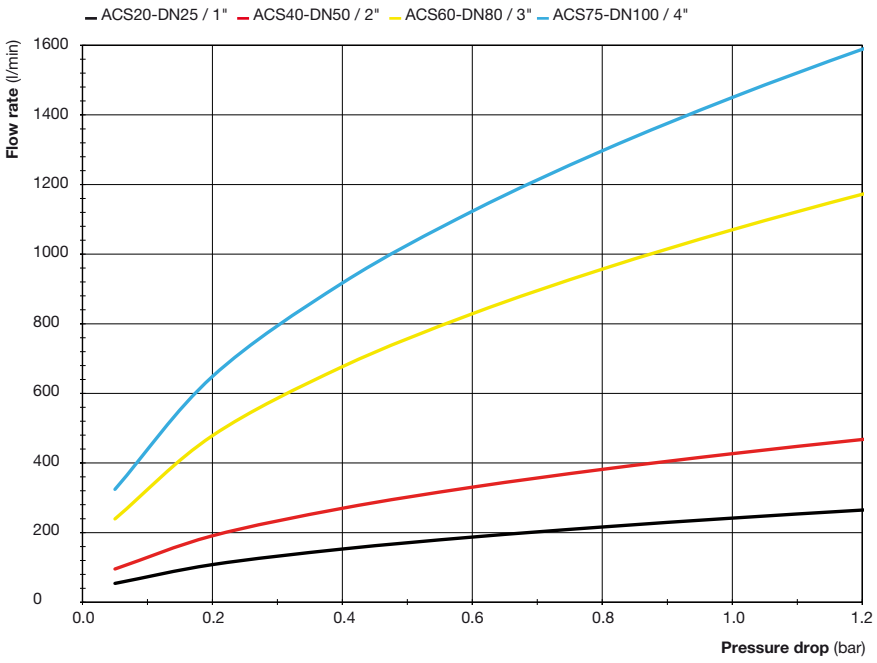
Other connections upon request (also via adapters screwed and glued in BSP or NPT thread)

Construction

- Predominantly stainless steel
- Hastelloy® upon request (not ACS110-DN150 and ACS150-DN200)

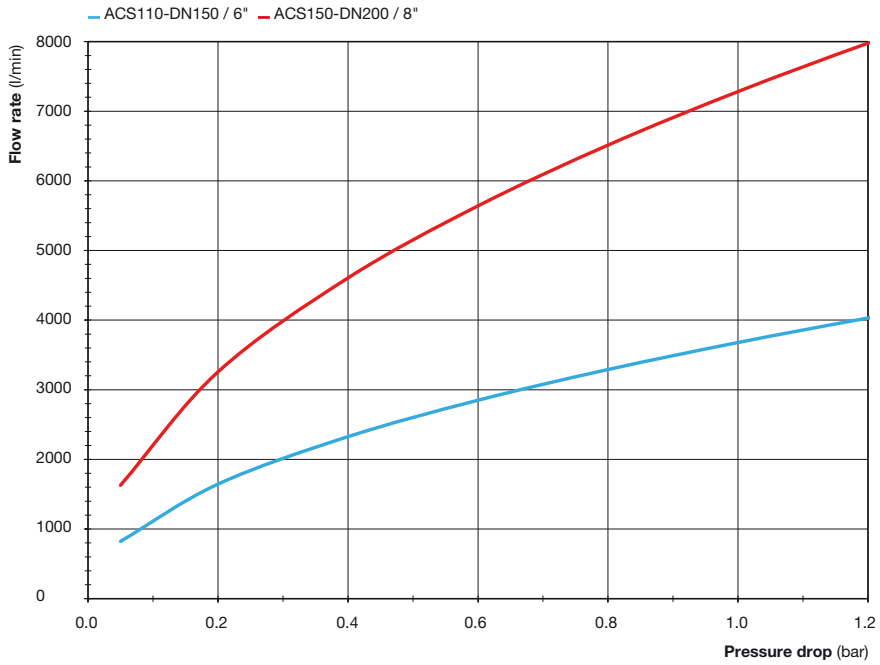
Hydraulic flow rate / pressure drop charts

Test conditions: Water (20 °C)



Hydraulic flow rate / pressure drop charts

Test conditions: Water (20 °C)



How to build your ACS part number

ACS40-DN50	.	108	.	108	/	IC8	/	JE
1		2		3		4		5

To build your part number, choose the following elements. All of these are mandatory elements.

1 Standard part number

to be chosen ..... page 17

2 Connection type on fixed side

to be chosen ..... page 17

3 Connection type on hose side

to be chosen ..... page 17

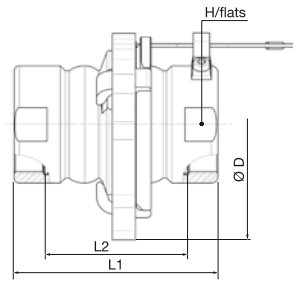
4 Material series (predominantly) Code

- Stainless steel 316 Ti **IC8**

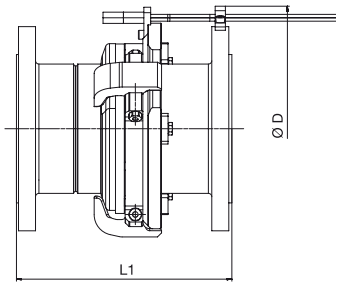
5 Type of seal Code

- Nitrile (NBR) ..... JN
- Ethylene-Propylene (EPDM) ..... **JE**
- Fluorocarbon (FPM) ..... JV
- Perfluoroelastomer (FFKM) 6375 ..... JK1

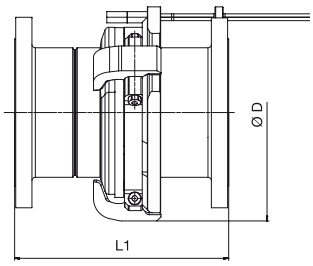
Part numbers



Female thread



6": Flange EN 1092-1 (PN16 Form B), ASME B16.5 (150psi) and ASME B16.5 (300 psi)
8": Flange EN 1092-1 (PN25 Form B) ASME B16.5 (300 psi)



6": Flange EN 1092-1 (PN 40 Form B)
8": Flange EN 1092-1 (PN16 Form B) ASME B16.5 (150 psi)

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
ACS20-DN25	Female thread	BSP 1"	100	112.5	91.5	41	1.2	**ACS20-DN25.105.105**
		NPT 1"	100	140.5	105.8	41	1.3	**ACS20-DN25.205.205**
ACS40-DN50	Female thread	BSP 2"	140	123.5	86.5	67	2.5	**ACS40-DN50.108.108**
		NPT 2"	140	143.5	105.1	67	2.8	**ACS40-DN50.208.208**
ACS60-DN80	Female thread	BSP 3"	210	174.5	131.5	100	7.5	**ACS60-DN80.10A.10A**
		NPT 3"	210	202.5	141.5	100	8.5	**ACS60-DN80.20A.20A**
ACS75-DN100	Female thread	BSP 4"	275	208.5	165.5	125	13.8	**ACS75-DN100.10C.10C**
		NPT 4"	275	242.5	176.5	125	15.0	**ACS75-DN100.20C.20C**
ACS110-DN150	Flanges	EN 1092-1 (PN16 Form B) DN150	314	307	-	-	51.6	**ACS110-DN150.A3C.A3C**
		EN 1092-1 (PN40 Form B) DN150	339	315	-	-	60.3	**ACS110-DN150.A5C.A5C**
		ASME B16.5 (150 psi) 6"	314	314	-	-	53.3	**ACS110-DN150.B1E.B1E**
		ASME B16.5 (300 psi) 6"	338	390	-	-	72.3	**ACS110-DN150.B2E.B2E**
ACS150-DN200	Flanges	EN 1092-1 (PN16 Form B) DN200	423	364	-	-	99.2	**ACS150-DN200.A3D.A3D**
		EN 1092-1 (PN25 Form B) DN200	478	404	-	-	108.7	**ACS150.DN200.A4D.A4D**
		ASME B16.5 (150 psi) 8"	423	373	-	-	103.5	**ACS150-DN200.B1F.B1F**
		ASME B16.5 (300 psi) 8"	478	484	-	-	131.7	**ACS150-DN200.B2F.B2F**

[1] The weight applies to stainless steel only with an approximate tolerance of +/-5%.
[2] Add the code of options at the end of the part-number: see page 16.

ACH series

The control cable safety breakaway coupling with a high flow rate

ACH series is the flow-optimized variant of the ACS with the same benefits but for faster transfer of your fluid in order to safe time and money. The ACH breakaway couplings provide an approx. 4 times higher flow rate with no increase of the pressure loss or an approx. 4 times lower pressure loss at a constant flow.

Your advantages

- Highest flow rates.
- Significant reduction of the pressure loss.
- Releases when force is applied axial or up to 90° (any direction) to the plane of the coupling.

Technical data

	ACH40-DN50	ACH65-DN80	ACH80-DN100	ACH110-DN150	ACH150-DN200
Hose nominal diameter	DN 50	DN 80	DN 100	DN 150	DN 200
Equivalent flow diameter (mm)	40	65	80	110	150
Maximum allowable pressure PS (bar)	up to 25				
Minimum and maximum allowable temperature TS (°C)*	-40 to +150				
Shut-off double					

* Seal type may further limit the temperature range.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

Connection

- Thread: BSP, NPT
- Fixed flange: EN 1092-1, ASME B16.5

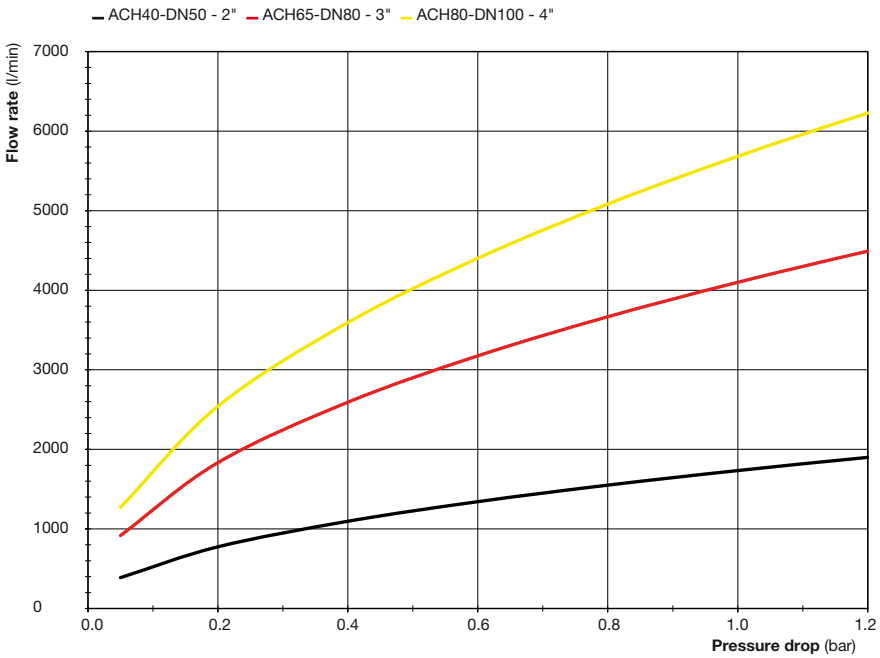
Other connections upon request (also via adapters screwed and glued in BSP or NPT thread)

Construction

- Predominantly stainless steel

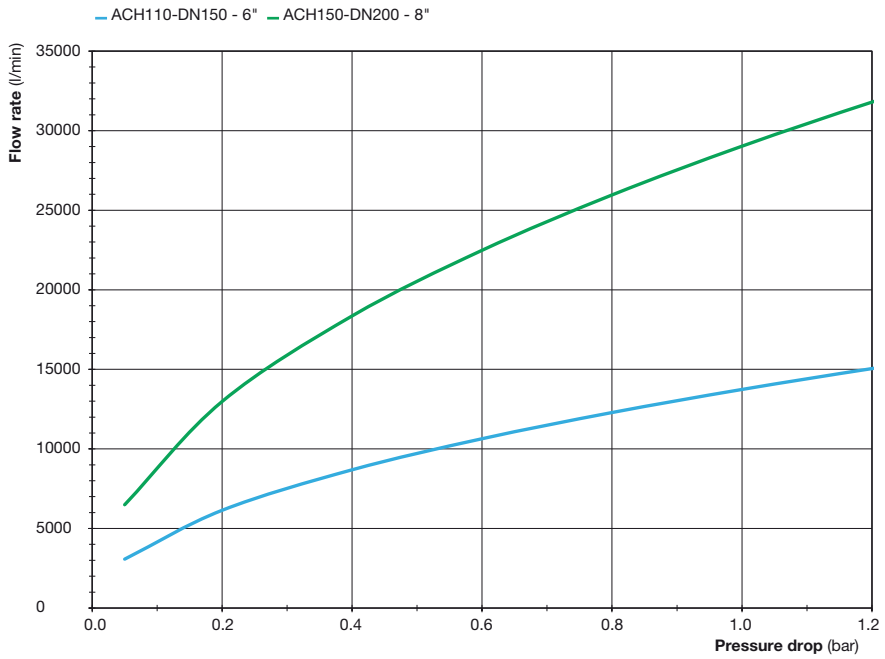
Hydraulic flow rate / pressure drop charts

Test conditions: Water (20 °C)



Hydraulic flow rate / pressure drop charts

Test conditions: Water (20 °C)



How to build your ACH part number

ACH40-DN50	.	108	.	108	/	IC8	/	JE
1		2		3		4		5

To build your part number, choose the following elements. All of these are mandatory elements.

1 Model

to be chosen ..... page 21

2 Connection type on fixed side

to be chosen ..... page 21

3 Connection type on hose side

to be chosen ..... page 21

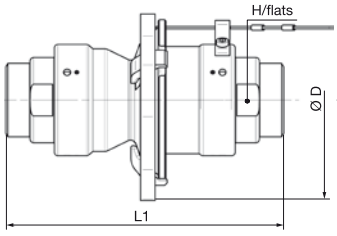
4 Material series (predominantly) Code

- Stainless steel 316 Ti **IC8**

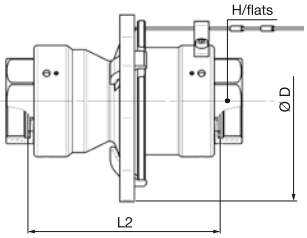
5 Type of seal Code

- Nitrile (NBR) ..... JN
- Ethylene-Propylene (EPDM) ..... **JE**
- Fluorocarbon (FPM) ..... JV
- Perfluoroelastomer (FFKM) 6375 ..... JK1

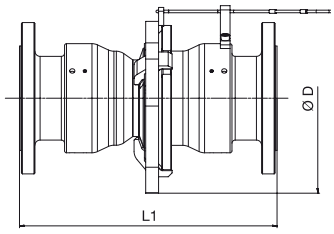
Part numbers



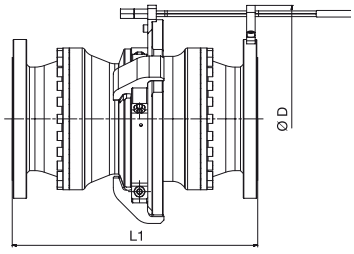
Male thread



Female thread



Flanges (all except ACH110-DN150 and ACH150-DN200)



Flanges (ACH110-DN150 and ACH150-DN200)

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
ACH40-DN50	Female thread	BSP 2"	165	195	159	70	5.6	**ACH40-DN50.108.108**
		NPT 2"	165	201	179	70	5.8	**ACH40-DN50.208.208**
	Male thread	BSP 2"	165	235	-	70	5.9	**ACH40-DN50.158.158**
		NPT 2"	165	244	205.6	70	6.0	**ACH40-DN50.258.258**
	Flanges	EN 1092-1 (PN40 Form B) DN50[3]	188.5	229	-	-	10.7	**ACH40-DN50.A57.A57**
		ASME B16.5 (150 psi) 2"	188.5	229	-	-	9.8	**ACH40-DN50.B18.B18**
		ASME B16.5 (300 psi) 2"	188.5	229	-	-	11.2	**ACH40-DN50.B28.B28**
ACH65-DN80	Female thread	BSP 3"	220	270	228	100	15.9	**ACH65-DN80.10A.10A**
		NPT 3"	220	288	249	100	16.4	**ACH65-DN80.20A.20A**
	Male thread	BSP 3"	220	318	-	100	16.1	**ACH65-DN80.15A.15A**
		NPT 3"	220	332	270	100	16.4	**ACH65-DN80.25A.25A**
	Flanges	EN 1092-1 (PN16 Form B) DN80	240	316			22.3	**ACH65-DN80.A39.A39**
		EN 1092-1 (PN40 Form B) DN80	240	324	-	-	23.8	**ACH65-DN80.A59.A59**
		ASME B16.5 (150 psi) 3"	240	316	-	-	24.1	**ACH65-DN80.B1A.B1A**
		ASME B16.5 (300 psi) 3"	240	316	-	-	27.2	**ACH65-DN80.B2A.B2A**
ACH80-DN100	Female thread	BSP 4"	295	336	294	125	25.9	**ACH80-DN100.10C.10C**
		NPT 4"	295	378	315	125	26.9	**ACH80-DN100.20C.20C**
	Male thread	BSP 4"	295	386	-	125	26.5	**ACH80-DN100.15C.15C**
		NPT 4"	295	417	351	125	27.1	**ACH80-DN100.25C.25C**
	Flanges	EN 1092-1 (PN16 Form B) DN100	295	392	-	-	33.5	**ACH80-DN100.A3A.A3A**
		EN 1092-1 (PN40 Form B) DN100	295	400	-	-	36.8	**ACH80-DN100.A5A.A5A**
		ASME B16.5 (150 psi) 4"	295	380	-	-	36.4	**ACH80-DN100.B1C.B1C**
		ASME B16.5 (300 psi) 4"	295	390	-	-	44.2	**ACH80-DN100.B2C.B2C**
ACH110-DN150	Flanges	EN 1092-1 (PN16 Form B) DN150	400	432	-	-	78.9	**ACH110-DN150.A3C.A3C**
		EN 1092-1 (PN40 Form B) DN150	400	440			86.4	**ACH110.DN150.A5C.A5C**
		ASME B16.5 (150 psi) 6"	400	432	-	-	82.4	**ACH110-DN150.B1E.B1E**
		ASME B16.5 (300 psi) 6"	400	440	-	-	98.4	**ACH110-DN150.B2E.B2E**
ACH150-DN200	Flanges	EN 1092-1 (PN16 Form B) DN200	460	532	-	-	146.9	**ACH150-DN200.A3D.A3D**
		EN 1092-1 (PN25 Form B) DN200	460	543	-	-	154.9	**ACH150.DN200.A4D.A4D**
		ASME B16.5 (150 psi) 8"	460	542	-	-	152.8	**ACH150-DN200.B1F.B1F**
		ASME B16.5 (300 psi) 8"	460	553	-	-	161.9	**ACH150-DN200.B2F.B2F**

[1] The weight applies with an approximate tolerance of +/-5%.
[2] Add the code of options at the end of the part-number: see page 20.
[3] Compatible to EN 1092-1 (PN 16 Form B) DN50.

MBS series

The standard safety breakaway coupling for marine applications

The MBS series has been specially developed for applications between two hose lines typically found in maritime environment. The innovative design is characterised by its high resistance to lateral forces that can affect the coupling, causing it to release unintentionally.

Your advantages

- High stability when lateral forces act on the coupling.
- Controlled separation through breaking pins.
- Secure separation when subjected to an axial tensile load.
- Suitable for reeling with hose on drums.
- Releases only when force is applied axial to the coupling.

Technical data

	MBS20-DN25	MBS35-DN50	MBS60-DN80	MBS75-DN100
Hose nominal diameter	DN 25	DN 50	DN 80	DN 100
Equivalent flow diameter (mm)	20	35	60	75
Maximum allowable pressure PS (bar)	up to 25			
Minimum and maximum allowable temperature TS (°C)*	-40 to +150			
Shut-off double				

* Seal type may further limit the temperature range.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

Connection

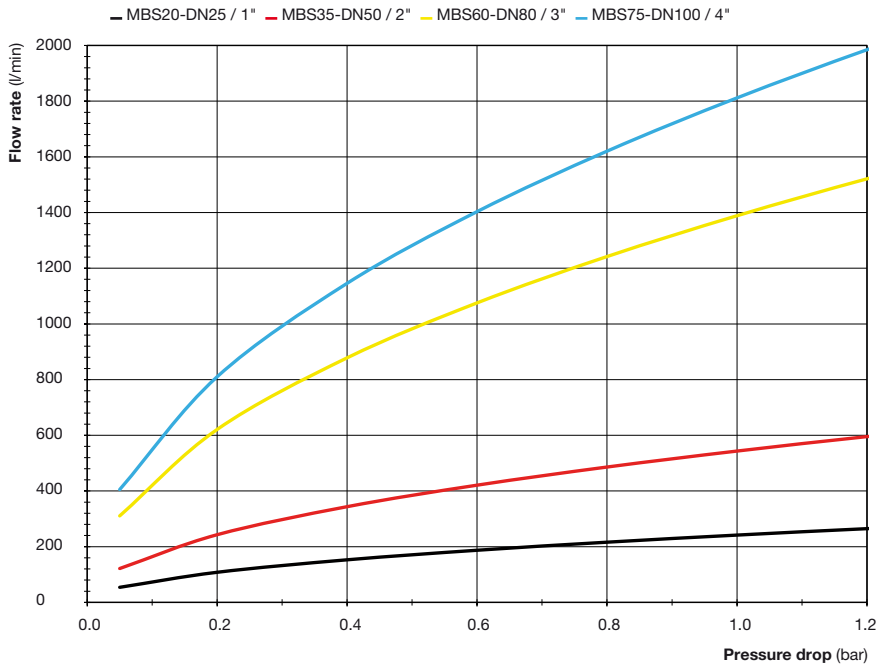
- Thread: BSP, NPT
- Fixed flange: EN 1092-1, ASME B16.5

Other connections upon request (also via adapters screwed and glued in BSP or NPT thread)

Construction

- Predominantly stainless steel

Hydraulic flow rate / pressure drop charts



Test conditions:
Fluid: water 20 °C

How to build your MBS part number

MBS35-DN50	.	108	.	108	/	IC8	/	JE	/	100
1		2		3		4		5		6

To build your part number, choose the following elements. All of these are mandatory elements.

1 Model

to be chosen ..... page 24

2 Connection type on side 1

(can be different from side 2)

to be chosen ..... page 24

3 Connection type on side 2

(can be different from side 1)

to be chosen ..... page 24

4 Material series (predominantly)

Code

- Stainless steel 316 Ti **IC8**

5 Type of seal

Code

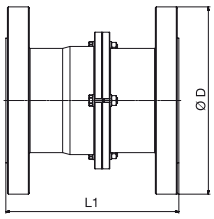
- Nitrile (NBR) ..... JN
- Ethylene-Propylene (EPDM) ..... **JE**
- Fluorocarbon (FPM) ..... JV
- Perfluoroelastomer (FFKM) 6375 ..... JK1

6 Release force

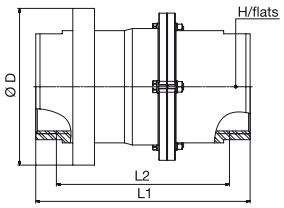
Model	Release forces in kN*	
MBS20-DN25	3.2	7.0
MBS35-DN50	**10.0**	15.0
MBS60-DN80	20.0	30.0
MBS75-DN100	30.0	44.0
results in:	**PN16**	**PN25**

* Other release forces upon request.

Part numbers



Flange



Female thread

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
MBS20-DN25	Female thread	BSP 1"	77	112.5	92.5	41	1.2	**MBS20-DN25.105.105**
		NPT 1"	77	140.5	120.2	41	1.4	**MBS20-DN25.205.205**
	Flanges	EN 1092-1 (PN40 Form B) DN25	115	-	140.5	-	3.4	**MBS20-DN25.A54.A54**
MBS35-DN50	Female thread	BSP 2"	108	123.5	86.5	70	3	**MBS35-DN50.108.108**
		NPT 2"	108	143.5	121.4	70	3.3	**MBS35-DN50.208.208**
	Flanges	EN 1092-1 (PN16 Form B) DN50[3]	165	-	150.5	-	7.6	**MBS35-DN50.A37.A37**
MBS60-DN80	Female thread	BSP 3"	148	174.5	131.5	100	6.5	**MBS60-DN80.10A.10A**
		NPT 3"	148	202.5	163.6	100	7.3	**MBS60-DN80.20A.20A**
	Flanges	ASME B16.5 (150 psi) 3"	190.5	-	176	-	13.5	**MBS60-DN80.B1A.B1A**
MBS75-DN100	Female thread	BSP 4"	200	202.5	162.5	125	13	**MBS75-DN100.10C.10C**
		NPT 4"	200	241.5	198.6	125	14.2	**MBS75-DN100.20C.20C**
	Flanges	ASME B16.5 (150 psi) 4"	228.6	-	259	-	24	**MBS75-DN100.B1C.B1C**

[1] The weight applies with an approximate tolerance of +/-5%.
[2] Add the code of options above at the end of the part-number.
[3] Compatible to EN 1092-1 (PN 40 Form B) DN50.

MBH series

The marine safety breakaway coupling with a high flow rate

The MBH series provides the same benefits as the MBS but allows an approx. 4 times higher flow rate.

Your advantages

- High stability when lateral forces act on the coupling.
- Highest flow rates.
- Significant reduction of the pressure loss.
- Releases only when force is applied axial to the coupling.

Technical data

	MBH40-DN50	MBH65-DN80	MBH80-DN100	MBH110-DN150
Hose nominal diameter	DN 50	DN 80	DN 100	DN 150
Equivalent flow diameter (mm)	40	65	80	110
Maximum allowable pressure PS (bar)	up to 25			
Minimum and maximum allowable temperature TS (°C)*	-40 to +150			
Shut-off double				

* Seal type may further limit the temperature range.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

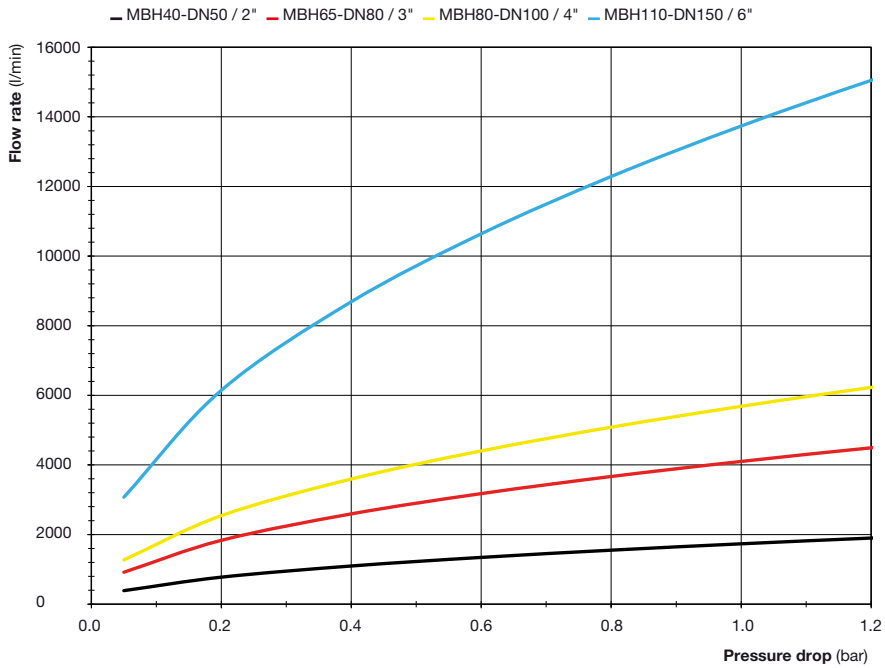
Connection

- Thread: BSP, NPT
- Fixed flange: ASME B16.5, EN1092-1 upon request

Construction

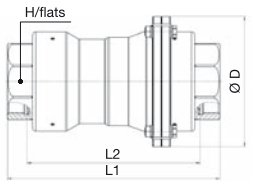
- Predominantly stainless steel

Hydraulic flow rate / pressure drop charts

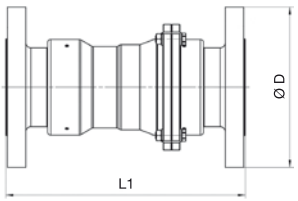


Test conditions:
Fluid: water 20 °C

Part numbers



Female thread



Flange

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
MBH40-DN50	Female thread	BSP 2"	119.5	195	159	70	5.3	**MBH40-DN50.108.108**
	Flanges	ASME B16.5 (150 psi) 2"	152.4	229	-	-	9.4	**MBH40-DN50.B18.B18**
MBH65-DN80	Female thread	BSP 3"	166	270	228	100	13.6	**MBH65-DN80.10A.10A**
		NPT 3"	166	288	249	100	14.2	**MBH65-DN80.20A.20A**
	Flanges	ASME B16.5 (150 psi) 3"	190.5	316	-	-	21.6	**MBH65-DN80.B1A.B1A**
		ASME B16.5 (300 psi) 3"	209.6	316	-	-	24.7	**MBH65-DN80.B2A.B2A**
MBH80-DN100	Female thread	BSP 4"	210	336	294	125	26.3	**MBH80-DN100.10C.10C**
		NPT 4"	210	358	315.1	125	27.1	**MBH80-DN100.20C.20C**
	Flanges	ASME B16.5 (150 psi) 4"	228.6	380	-	-	37.2	**MBH80-DN100.B1C.B1C**
		ASME B16.5 (300 psi) 4"	254	390	-	-	44.9	**MBH80-DN100.B2C.B2C**
MBH110-DN150	Flanges	ASME B16.5 (150 psi) 6"	279.4	432	-	-	67.4	**MBH110-DN150.B1E.B1E**

[1] The weight applies with an approximate tolerance of +/-5%.
[2] Add the code of options below at the end of the part-number.

How to build your MBH part number

MBH40-DN50 . 108 . 108 / IC8 / JE / 120

1 **2** **3** **4** **5** **6**

To build your part number, choose the following elements. All of these are mandatory elements.

1 Model

to be chosen ..... page 27

2 Connection type on side 1

(can be different from side 2)

to be chosen ..... page 27

3 Connection type on side 2

(can be different from side 1)

to be chosen ..... page 27

4 Material series (predominantly)

Code

- Stainless steel 316 Ti **IC8**

5 Type of seal

Code

- Nitrile (NBR) ..... JN
- Ethylene-Propylene (EPDM) ..... **JE**
- Fluorocarbon (FPM) ..... JV
- Perfluoroelastomer (FFKM) 6375 ..... JK1

6 Release force

Model	Release forces in kN*	
MBH40-DN50	**12.0**	15.0
MBH65-DN80	22.0	30.0
MBH80-DN100	30.0	44.0
MBH110-DN150	60.0	90.0
results in:	**PN16**	**PN25**

* Other release forces upon request.

KBH series

The safety breakaway coupling for cryogenic media

Even under normal circumstances, the process of loading fluid media requires a high standard of safety technology in the area of fittings. When the temperature factor is added to the mix, for example for cryogenic media, the requirements enter a new dimension. For low-temperature applications, Stäubli has the KBH breakaway coupling, which also supports Stäubli safety standards for the unique challenges posed by cryogenics.

Your advantages

- Safe function in the temperature range from -196 °C to +65 °C.
- Small residual amount.
- Releases when force is applied axial or up to 90° (any direction) to the plane of the coupling.
- Controlled separation through breaking pins.
- Steamlined design with high flow rate / low pressure loss.

Technical data

	KBH20-DN25	KBH20-DN32	KBH35-DN40	KBH35-DN50	KBH60-DN65	KBH60-DN80	KBH75-DN100
Hose nominal diameter	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
Equivalent flow diameter (mm)	20	20	35	35	60	60	75
Maximum allowable pressure PS (bar)	up to 40						
Minimum and maximum allowable temperature TS (°C)	-196 to +65						
Shut-off double							

Sealing

- PTFE

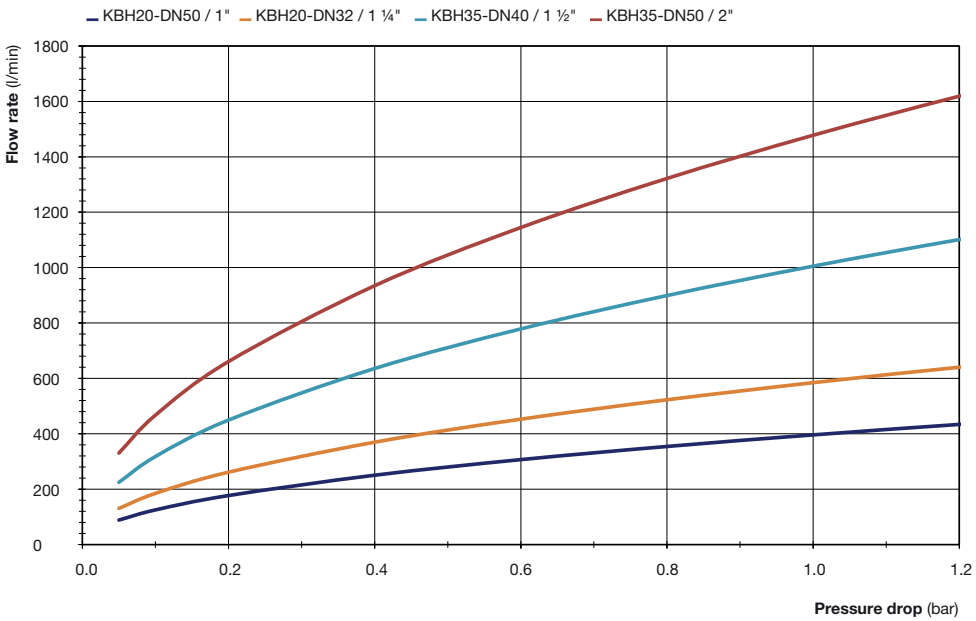
Connection

- Thread: NPT
- Fixed flange: EN 1092-1, ASME B16.5

Construction

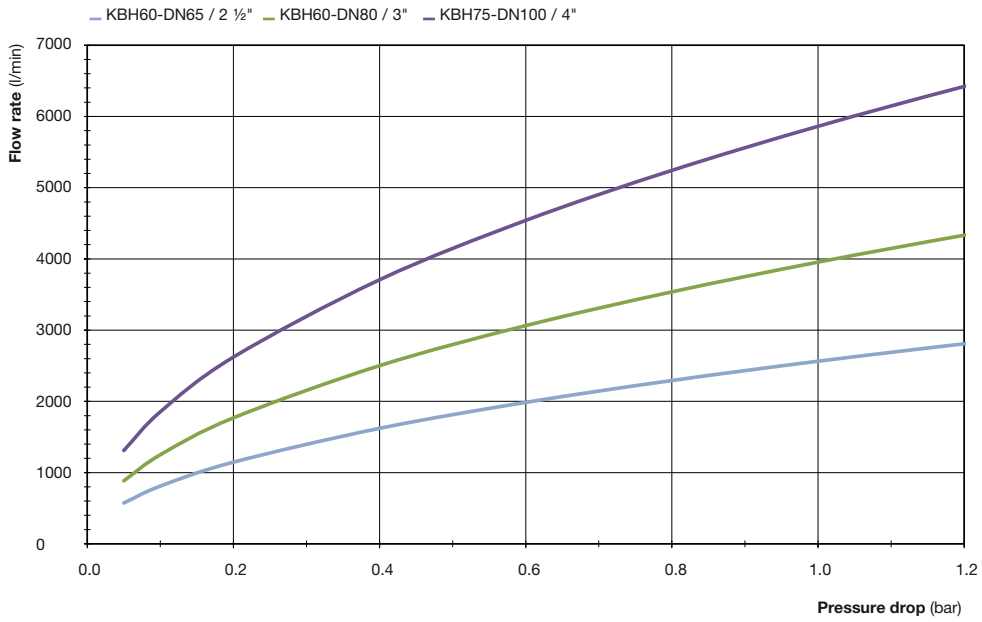
- Predominantly stainless steel

Hydraulic flow rate / pressure drop charts



Test conditions:
Fluid: LNG (-164 °C)
Density: 449.3 kg/m^3
Viskosity: 0.125 mPa-s

Hydraulic flow rate / pressure drop charts



Test conditions:
Fluid: LNG (-164 °C)
Density: 449.3 kg/m³
Viskosity: 0.125 mPa-s

How to build your KBH part number

KBH35-DN50	.	208	.	208	/	IC5	/	JT	/	160
1		2		3		4		5		6

To build your part number, choose the following elements. All of these are mandatory elements.

1 Model
to be chosen ..... page 31

2 Connection type on fixed side
to be chosen ..... page 31

3 Connection type on hose side
to be chosen ..... page 31

4 Material series (predominantly) Code
- Stainless steel 316 L **IC5**

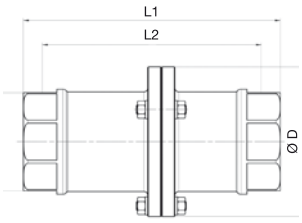
5 Type of seal Code
- PTFE ..... **JT**

6 Release force

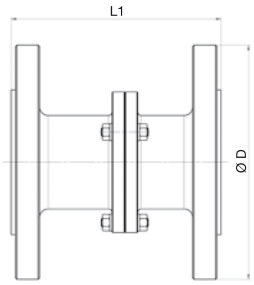
Model	Release forces in kN*		
KBH20-DN25	7.0	12.0	18.0
KBH20-DN32	7.0	12.0	18.0
KBH35-DN40	10.0	16.0	26.0
KBH35-DN50	10.0	**16.0**	26.0
KBH60-DN65	22.0	34.0	54.0
KBH60-DN80	22.0	34.0	54.0
KBH75-DN100	28.0	46.0	74.0
results in:	**PN16**	**PN25**	**PN40**

(PN40 not possible for flange ASA150 and EN PN16).
* Other release forces upon request.

Part numbers



Female thread



Flange

Model	Description	Connection	Dimensions (mm)				Weight[1] (kg)	Part numbers[2]
			ØD	L1	L2	H/flats		
KBH20-DN25	Female thread	NPT 1"	69.5	164	143.7	38	1.27	KBH20-DN25.205.205
	Flanges	EN 1092-1 (PN40 Form B) DN25	115	132	-	-	3.40	KBH20-DN25.A54.A54
		ASME B16.5 (150 psi) 1"	108	124.4	-	-	2.56	KBH20-DN25.B15.B15
		ASME B16.5 (300 psi) 1"	124	131	-	-	3.62	KBH20-DN25.B25.B25
KBH20-DN32	Female thread	NPT 1 ¼"	79.5	165	143.7	50	1.59	KBH20-DN32.206.206
	Flanges	EN 1092-1 (PN40 Form B) DN32	140	132	-	-	4.73	KBH20-DN32.A55.A55
		ASME B16.5 (150 psi) 1 ¼"	117.3	127.4	-	-	3.30	KBH20-DN32.B16.B16
		ASME B16.5 (300 psi) 1 ¼"	133.4	134.2			4.59	KBH20-DN32.B26.B26
KBH35-DN40	Female thread	NPT 1 ½"	89	170	148.7	55	2.22	KBH35-DN40.207.207
	Flanges	EN 1092-1 (PN40 Form B) DN40	150	145.8	-	-	5.6	KBH35-DN40.A56.A56
		ASME B16.5 (150 psi) 1 ½"	127	144.8	-	-	4.46	KBH35-DN40.B17.B17
		ASME B16.5 (300 psi) 1 ½"	155.4	151	-	-	6.64	KBH35-DN40.B27.B27
KBH35-DN50	Female thread	NPT 2"	99	169.5	147.4	65	2.71	KBH35-DN50.208.208
	Flanges	EN 1092-1 (PN40 Form B) DN50	165	147.8	-	-	7.36	KBH35-DN50.A57.A57
		ASME B16.5 (150 psi) 2"	152.4	146	-	-	6.42	KBH35-DN50.B18.B18
		ASME B16.5 (300 psi) 2"	165.1	152.6	-	-	7.87	KBH35-DN50.B28.B28
KBH60-DN65	Female thread	NPT 2 ½"	139	234.1	199.5	85	7.48	KBH60-DN65.209.209
	Flanges	EN 1092-1 (PN40 Form B) DN65	185	203.7	-	-	12.81	KBH60-DN65.A58.A58
		ASME B16.5 (150 psi) 2 ½"	177.8	204.5	-	-	12.77	KBH60-DN65.B19.B19
		ASME B16.5 (300 psi) 2 ½"	190.5	210.5			14.37	KBH60-DN65.B29.B29
KBH60-DN80	Female thread	NPT 3"	149	244.7	205.8	100	8.57	KBH60-DN80.20A.20A
	Flanges	EN 1092-1 (PN40 Form B) DN80	200	213.7	-	-	15.66	KBH60-DN80.A59.A59
		ASME B16.5 (150 psi) 3"	190.5	213.5	-	-	14.86	KBH60-DN80.B1A.B1A
		ASME B16.5 (300 psi) 3"	209.6	222.5	-	-	18.16	KBH60-DN80.B2A.B2A
KBH75-DN100	Female thread	NPT 4"	179	263	220.1	125	12.88	KBH75-DN100.20C.20C
	Flanges	EN 1092-1 (PN16 Form B) DN100	220	219.3	-	-	18.26	KBH75-DN100.A3A.A3A
		EN 1092-1 (PN40 Form B) DN100	235	227	-	-	21.45	KBH75-DN100.A5A.A5A
		ASME B16.5 (150 psi) 4"	228.6	227	-	-	21.25	KBH75-DN100.B1C.B1C
		ASME B16.5 (300 psi) 4"	254	243	-	-	29.23	KBH75-DN100.B2C.B2C

[1] The weight applies with an approximate tolerance of +/-5%.
[2] Add the code of options at the end of the part-number: see page 30.

RC1850300B

● Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

www.staubli.com

STÄUBLI