CRYONICA криогенные технологии

HEROSE

Valves for oil filled transformers and industrial use

Catalogue 2007

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Main content

Quickfinder

Valves for oil filled transformers and industrial use

Appendix

Product range

Safety valves for gases, vapours and fluids

Media: Gases, vapours, fluids and refrigerants
Sizes: 1/4“ to 2“
Temperature: -50°C (-58°F) to +225°C (+437°F)
Pressure: 0,2 bar (3 psi) to 30 bar (435 psi)

Safety valves for Cryogenic Service

Media: liquefied gases such as oxygen, nitrogen, argon, carbon dioxide etc.
Sizes: DN6 (1/4“) to DN25 (1“)
Temperature: -270°C (-454°F) to +225°C (+437°F)
Pressure: 0,2 bar (3 psi) to 45 bar (653 psi)

Globe valves, control valves, check valves and fillsystems for Cryogenic Service

Media: liquefied gases such as oxygen, nitrogen, argon, krypton etc.
Sizes: DN10 (3/8“) to DN50 (2“) (bronze)
DN10 (3/8“) to DN100 (4“) (stainless steel)
Temperature: -196°C (-320°F) to +120°C (+280°F)
Pressure: up to 50 bar (725 psi)

Drain valves, three-way valves and gate valves for oil filled transformers

Media: transformer oil
Sizes: DN15 (1/2“) to DN100 (4“)
Temperature: -25°C (-13°F) to +115°C (+239°F)
Pressure: up to 16 bar (232 psi)

DIN EN valves made of bronze/brass

Media: non-flammable and non-toxic fluids, gases and vapours
Sizes: DN6 (1/4“) to DN150 (6“)
Temperature: -10°C (+14°F) to +200°C (+392°F)
Pressure: up to 40 bar (580 psi)

Valve type acc. to Part No. in ascending order

Part Number	Page	Description
01021.X.0000	17	Globe Valve
01021.X.5000	17	Globe/Check Valve
01028.X.0000	25	Self Closing Globe Valve
01131.X.0000	18	Globe Valve, angled type
01343.X.161*	28 - 32	Control Valve
03021.X.0160	19	Globe Valve
03021.X.5160	19	Globe/Check Valve
03050.X.0160	20	Globe Valve
03080.X.0000	21	Globe Valve
03090.X.0000	22	Globe Valve
03199.X.0060	8	Outlet Valve for oil filled transformers
03432.X.0000	23	Bellow sealed Globe Valve
04010.X.0000	24	Needle Valve
04020.X.0000	26	Control Valve
04041.X.0160	27	Control Valve
05011.X.0000	33	Check Valve
05012.X.0000	33	Check Valve
05040.X.0000	38	Check Valve, swing type
05082.X.0000	35	Check Valve
05083.X.0000	34	Check Valve
05110.X.0000	36	Check Valve
05115.X.0000	37	Check Valve
05321.X.0000	39	Check Valve, disc type
05337.X.0000	40	Check Valve, disc type
05338.X.0000	41	Check Valve, disc type
08010.X.0000	42	Pressure reducing Valve
08011.X.0000	43	Pressure reducing Valve
08012.X.0000	44	Pressure reducing Valve
08015.X.0000	45	Pressure reducing Valve
08023.X.0000	46	Pressure reducing Valve
08161.X.0000	48	Strainer
08170.X.0000	49	Strainer
08180.X.0000	47	Strainer
08181.X.0000	47	Strainer
09010.X.0000	50	Gate Valve
09012.X.0000	51	Gate Valve
09061.X.0160	52	Gate Valve
09065.X.0160	12	Gate Valve for oil filled transformers
09065.X.9001	12	Gate Valve for oil filled transformers
09065.X.0160	55	Gate Valve
09065.X.9001	55	Gate Valve
09320.X.0160	54	Gate Valve
09320.X.9001	11	Gate Valve for oil filled transformers
09420.X.0160	10	Gate Valve
09420.X.0160	53	Gate Valve for oil filled transformers
12170.X.0160	13	Plug cock for oil filled transformers
14170.X.LINK	14	Three-way Plug cock for oil filled transformers
14170.X.RECH	14	Three-way Plug cock for oil filled transformers
14175.X.0160	15	Three-way Plug cock for oil filled transformers
27511.X.**PO	30	Pneumatic Actuator for Control Valve Type 01343
50077.0028.0105	9	Gate Valve for oil filled transformers
55322.X.0105	16	Plug key for Type 12170, 14170 and 14175
Typ 40* & 08002*	31 – 32	Accessories for Control Valve Type 01343

Valves for oil filled Transformers and industrial use - Content

CRYONICA криогенные технологии HEROSE

Bronze Outlet Valves for oil filled Transformers

Bronze Gate Valves for oil filled Transformers

Bronze Plug cock for oil filled Transformers

Bronze Three-way Plug cock for oil filled Transformers

Bronze Plug key

Globe Valves and Globe/Check Valves for industrial use

Bellow sealed Globe Valves for industrial use

Brass Needle Valves for industrial use

Bronze Self Closing Globe Valves for industrial use

Bronze Control Valves for industrial use

Valves for oil filled Transformers and industrial use - Content

CRYONICA HEROSE
криогенные технологии

Stainless steel Control Valves with pneumatic Actuator for industrial use

Check Valves for industrial use

Check Valves, swing type and Check Valves, disc type for industrial use

Pressure reducing Valves for industrial use

Strainer for industrial use

Bronze Gate Valves for industrial use

Valves for oil filled transformers
Type 03199

Outlet Valves, DIN 42568
Bronze body, screwed topwork in brass
Outlet with cap and chain

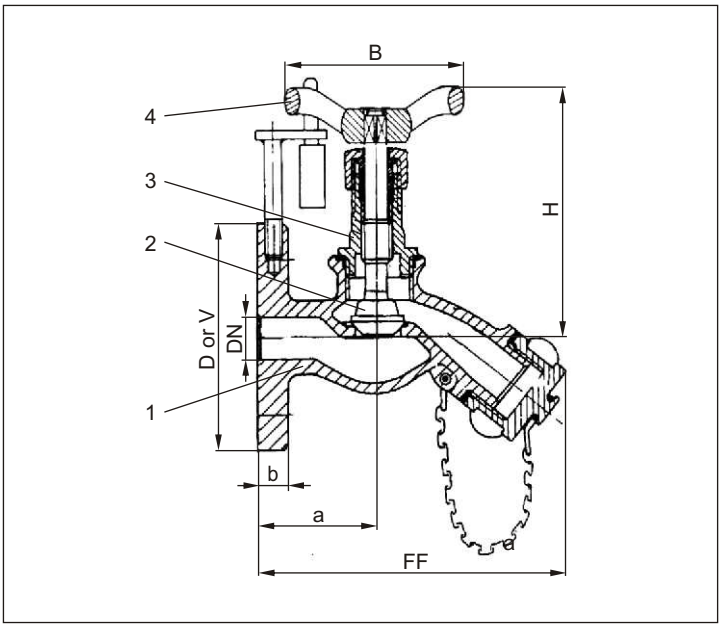
Part No. 03199.0150.0060
Inlet: round flange drilled acc. to DIN PN 6

Part No. 03199.0320.0060
Inlet: square flange drilled acc. to DIN PN 6

Available options - on request only:
· Handwheel in cast iron
· Handwheel in bronze
· Valve with opening indicator
· Valve with locking device (with or without lock)

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Disc	CW617N	B 283 UNS C38000
3	Headpiece	CW617N	B 283 UNS C38000
4	Handwheel	Polyamid (synthetic material)	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 03199	Technical data		
Nominal size	**DN**	**15**	**32**
Dimension code	FF	110	130
Face-to-face dimension	H	95	135
Round-Flange-Ø	D	80	-
Square-Flange-Ø	V	-	90
Length	a	44	55
Width of flange	b	10	13
Weight	ca. kg	1.0	2.3

Dimensions in mm.

Valves for oil filled transformers
Type 50077

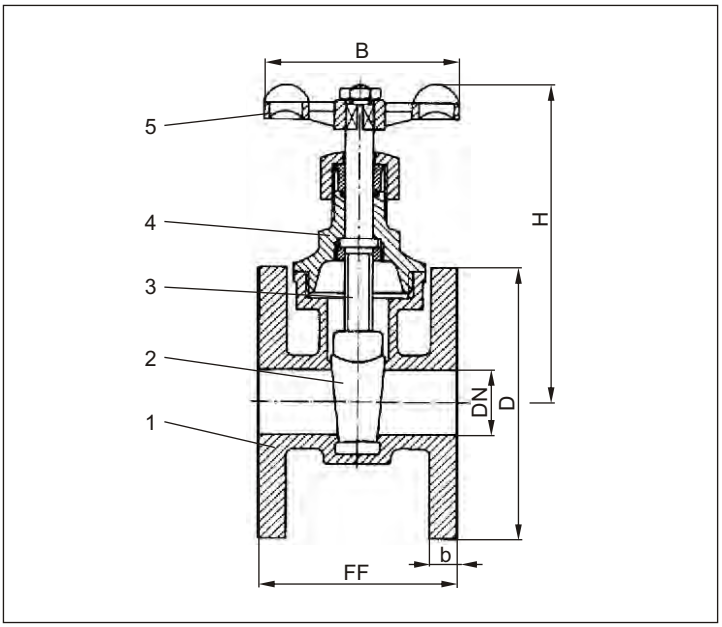
Flanged Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring)
and non rising stem, flanged connection PN16

Part No. 50077.0028.0105

Available options - on request only:
· Handwheel in bronze

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 50077.0028	Technical data	
Nominal size	**DN**	**25**
Face-to-face dimension	FF	75
Height	H	115
Flange diameter	D	115
Width of flange	b	10
Handwheel-Ø	B	70
Weight	ca. kg	2.4

Dimensions in mm.

Valves for oil filled transformers
Type 09420

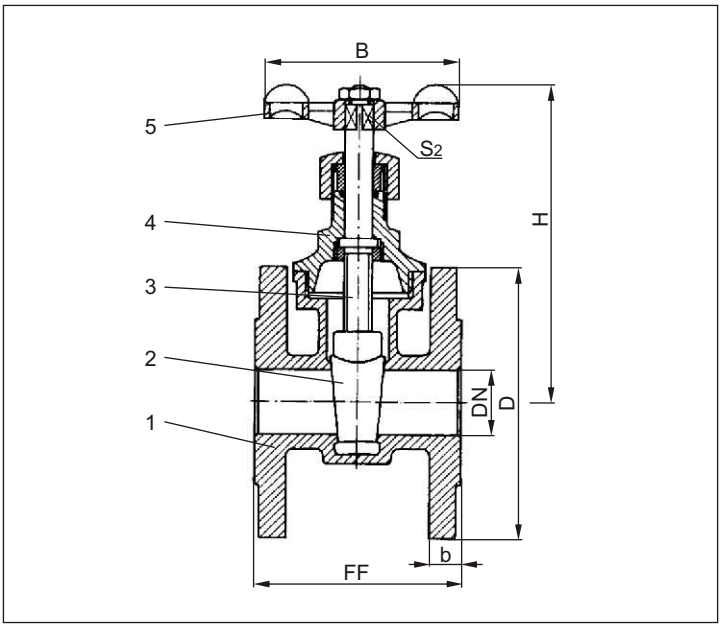
Flanged Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring)
and non rising stem
flanged connection acc. to DIN EN 1092-1 PN16

Part No. 09420.X.0160

Available options - on request only:
· Handwheel in cast iron
· Handwheel in bronze

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

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Type 09420	Technical data							
Nominal size	**DN**	**20**	**25**	**32**	**40**	**50**	**65**	**80**
Dimension code	.X.	0200	0250	0320	0400	0500	0650	0800
Face-to-face dimension	FF	75	80	90	100	110	130	150
Height	H	105	115	130	150	180	220	250
Flange diameter	D	105	115	140	150	165	185	200
Width of flange	b	12	12	14	14	16	16	18
Handwheel-Ø	B	70	70	80	90	110	150	160
Wrench size across flats	S_2	7	8	9	9	11	12	13
Weight	ca. kg	1.8	2.3	3.6	4.6	6.4	9.4	12.1

Dimensions in mm.

Valves for oil filled transformers
Type 09320

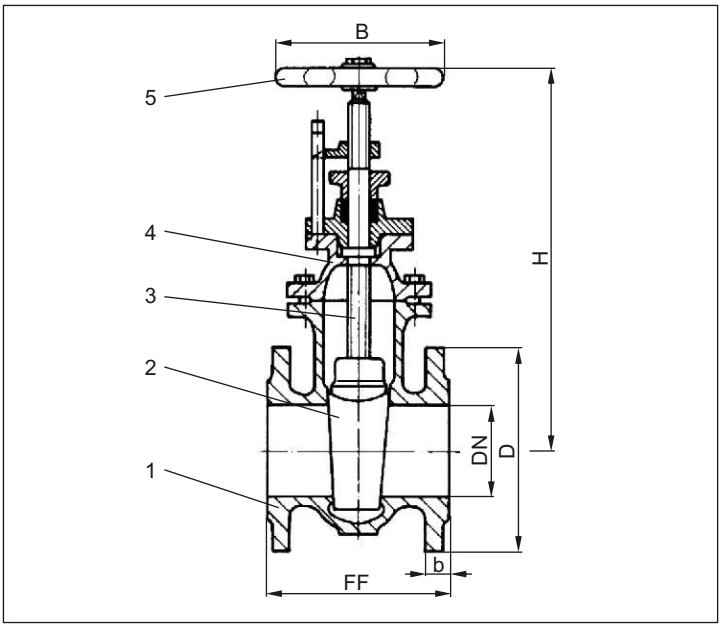
Flanged Gate Valves, PN16, DIN EN 12288
Bronze body and topwork
with maintenance-free gland packing (O-Ring) and non rising stem
flanged connection acc. to DIN EN 1092-1 PN16

Part No. 09320.X.9001
· Valve with opening indicator

Available options - on request only:
· Valve with opening indicator and locking device without lock
· special flanged connections

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +100°C /+212°F (373K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW710R	No reference
4	Headpiece	CC491K	B 62 UNS C83600
5	Handwheel	0.6025	A 48-83 Gr. 35B



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

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Type 09320	Technical data						
Nominal size	**DN**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0500	0650	0800	1000	1250	1500
Max working pressure	PN	16	16	16	16	10	10
Face-to-face dimension	FF	150	170	180	190	200	210
Height	H	255	295	315	345	400	430
Flange diameter	D	165	185	200	220	250	285
Width of flange	b	16	16	18	20	20	22
Handwheel-Ø	B	120	160	160	160	200	200
Weight	ca. kg	12.0	17.0	21.0	28.0	36.0	46.0

Dimensions in mm.

Valves for oil filled transformers
Type 09065

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Flanged Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring)
and non rising stem
flanged connection acc. to DIN EN 1092-1 PN16

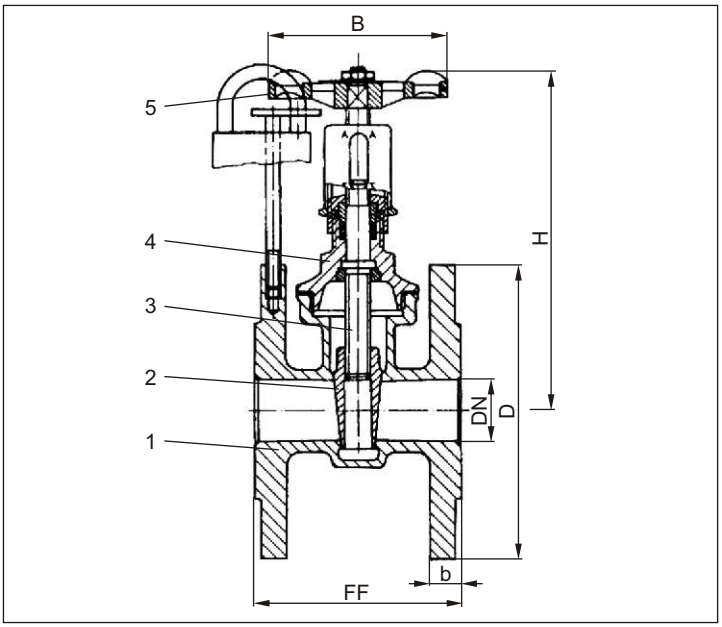
Part No. 09065.X.0160
Valve with opening indicator

Part No. 09065.X.9001
Valve with opening indicator and locking device without lock

Available options - on request only:
· Handwheel in cast iron
· Handwheel in bronze
· Valve with opening indicator and locking device with lock
· special flanged connections

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

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Type 09065	Technical data						
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**
Dimension code	.X.	0250	0320	0400	0500	0650	0800
Face-to-face dimension	FF	80	90	100	110	130	150
Height	H	140	160	180	290	290	290
Flange diameter	D	115	140	150	165	185	200
Width of flange	b	12	14	14	16	16	18
Handwheel-Ø	B	70	80	90	110	150	160
Weight	ca. kg	2.5	4.2	4.8	6.7	8.8	12.5

Dimensions in mm.

Valves for oil filled transformers
Type 12170

Plug cock in bronze, DIN 42544-A
with gland packing and square tap,
with cap and safety catch

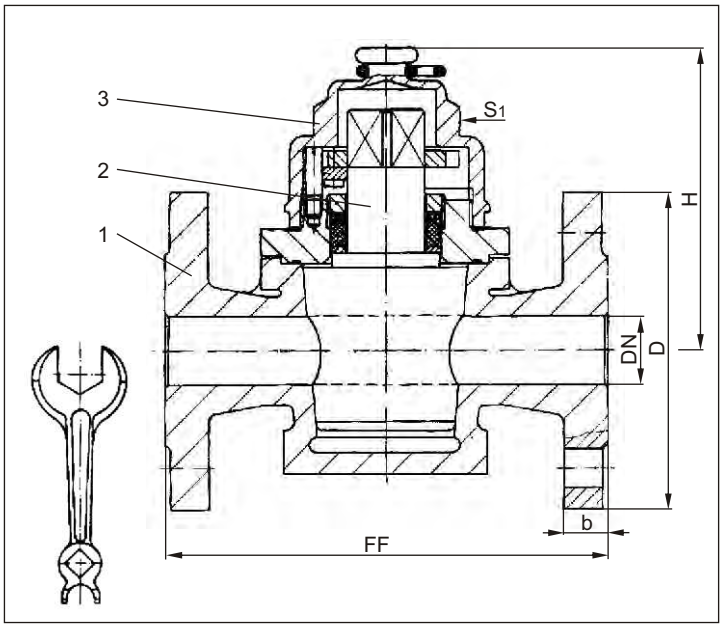
Part No. 12170.X.0160
with round flanges drilled acc. to DIN PN 10

Part No. 55322.0003.0105
Plug key in bronze for plug cock DN 25

Part No. 55322.0004.0105
Plug key in bronze for plug cock DN 80

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Plug	CC491K	B 62 UNS C83600
3	Cap	CC491K	B 62 UNS C83600



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 12170	Technical data		
Nominal size	**DN**	**25**	**80**
Face-to-face dimension	FF	160	290
Height	H	110	155
Round-Flange-Ø	D	115	220
Width of flange	b	16	20
Wrench size across flats	S_1	46	71
Weight	ca. kg	6.4	10.0

Dimensions in mm.

Valves for oil filled transformers
Type 14170

Three-way plug cock in bronze, DIN 42544-B
with gland packing and square tap,
with cap and safety catch,
with T-port and round flanges drilled acc. to DIN PN 10

Part No. 14170.X.LINK
Standard version, plug position stop left

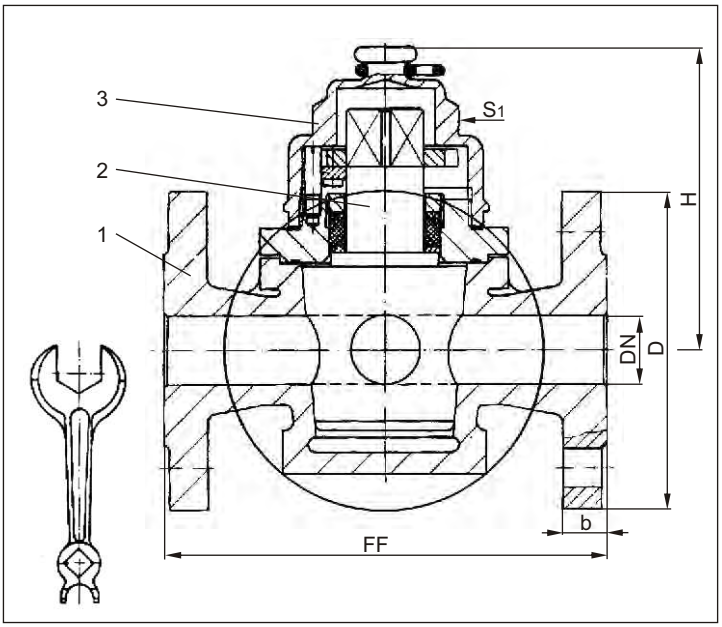
Part No. 14170.X.RECH
Plug position stop right

Part No. 55322.0003.0105
Plug key in bronze for three-way plug cock DN 25

Part No. 55322.0004.0105
Plug key in bronze for three-way plug cock DN 80

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Plug	CC491K	B 62 UNS C83600
3	Cap	CC491K	B 62 UNS C83600



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 14170	Technical data		
Nominal size	**DN**	**25**	**80**
Face-to-face dimension	FF	160	290
Height	H	110	155
Round-Flange-Ø	D	115	220
Width of flange	b	16	20
Wrench size across flats	S_1	46	71
Weight	ca. kg	7.9	22.0

Dimensions in mm.

Valves for oil filled transformers
Type 14175

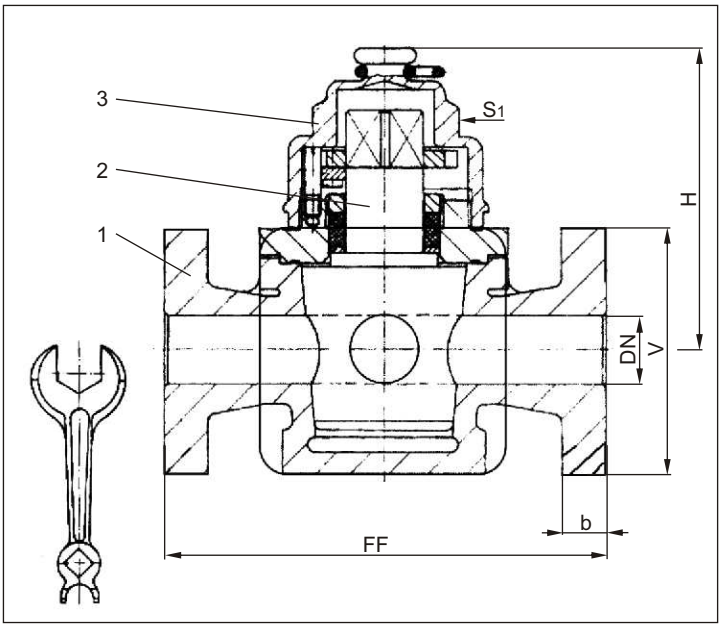
Three-way plug cock in bronze, DIN 42544-C
with gland packing and square tap,
with cap and safety catch,
with T-port and square flanges drilled acc. to Ø132x4xØ18

Part No. 14175.X.0160
Standard version, plug position stop left

Part No. 55322.0004.0105
Plug key in bronze for three-way plug cock DN 80

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximal 5.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Plug	CC491K	B 62 UNS C83600
3	Cap	CC491K	B 62 UNS C83600



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 14175	Technical data	
Nominal size	**DN**	**80**
Face-to-face dimension	FF	290
Height	H	155
Square-Flange-Ø	V	125
Width of flange	b	18
Wrench size across flats	S_1	71
Weight	ca. kg	22.0

Dimensions in mm.

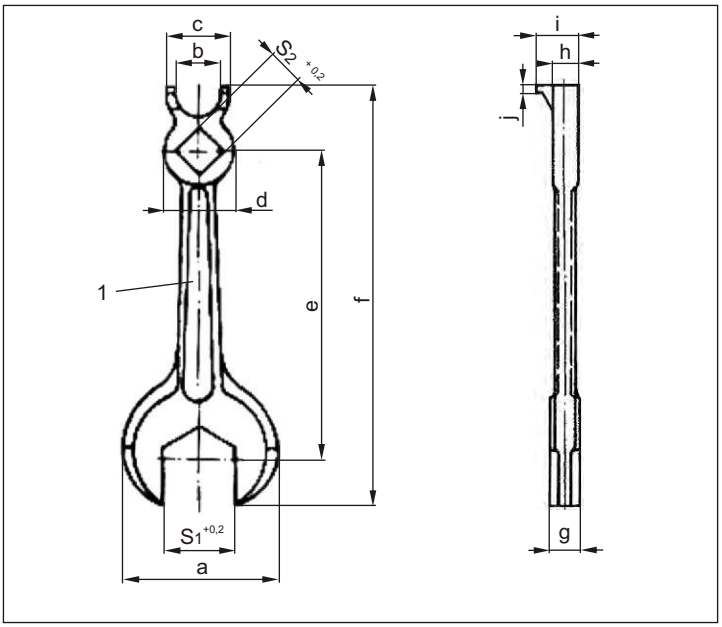
Valves for oil filled transformers
Type 55322

Plug key in bronze, DIN 42544

Part No. 55322.0003.0105
Plug key in bronze for three-way plug cock DN 25

Part No. 55322.0004.0105
Plug key in bronze for three-way plug cock DN 80

Materials		DIN EN	ASTM
1	Plug key	CC491K	B 62 UNS C83600



Type 55322	Technical data		
Nominal size	**DN**	**25**	**80**
Dimension code		0003.0105	0004.0105
Length	a	96	146
Length	b	30	56
Length	c	40	75
Length	d	43	75
Length	e	188.5	481.5
Length	f	260	588
Length	g	18	25
Length	h	15	20
Length	i	27	44
Length	j	5	5
Wrench size across flats	S_1	46.5	71
Wrench size across flats	S_2	22.2	41.2
Weight	ca. kg	0.9	3.8

Dimensions in mm.

Globe Valves
Type 01021

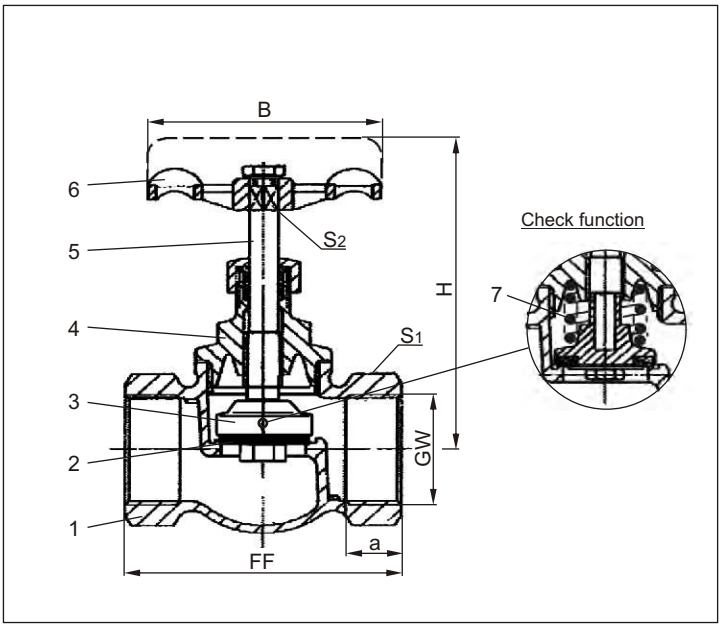
Globe Valves, PN16, DIN 3844
Bronze body, screwed topwork in brass

Part No. 01021.X.0000
Part No. 01021.X.5000 Globe/Check Valve
Female thread connection (G) acc. to ISO 7-1 Rp

Available options - on request only:
· Handwheel in plastic DIN 388-1
· Valve with safety plate in brass

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	PTFE	
3	Disc	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Stem	CW612N	B 283 UNS C37700
6	Handwheel	Zinc diecasting	
7	Spring	1.4310	A 276 Grade 302



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

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Type 01021	Technical data								
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	50	50	60	70	80	95	105	130
Height	H	75	75	85	95	105	120	130	145
Socket depth	a	9	10	13	14	17	19	19	23
Handwheel-Ø	B	40	40	50	60	70	80	90	110
Wrench size across flats	S_1	22	22	27	32	41	50	58	70
Wrench size across flats	S_2	4.5	4.5	5	6	7	8	9	9
Weight	ca. kg	0.25	0.25	0.3	0.43	0.7	1.0	1.3	2.1

Dimensions in mm.

Globe Valves
Type 01131

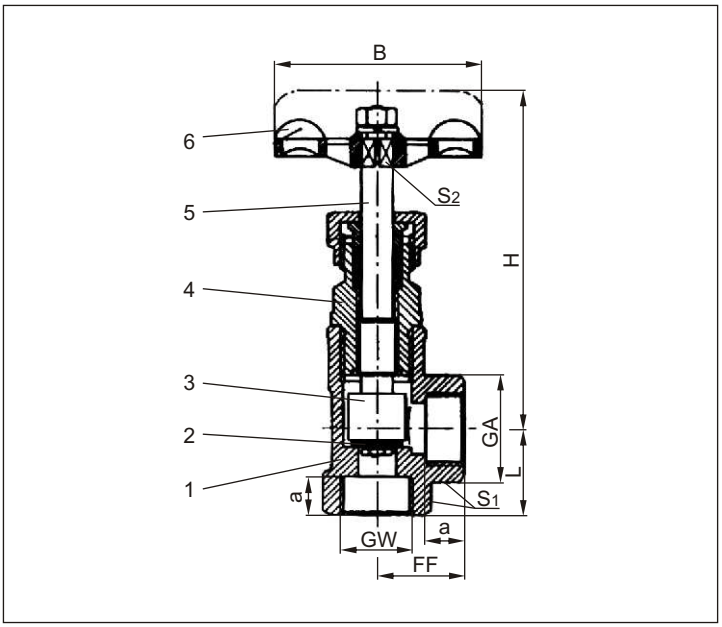
Globe Valves, angle type, PN16
Bronze body, screwed topwork in brass

Part No. 01131.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Available options - on request only:
· external parts nickel plated

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	PTFE	
3	Disc	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Stem	CW612N	B 283 UNS C37700
6	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 01131	Technical data					
Nominal size	**GW**	**1/2**	**3/4**	**1**	**1-1/2**	**2**
Dimension code	.X.	0400	0600	1000	1400	2000
Face-to-face dimension	FF	25	37.5	42.5	48	56
Length	L	25	35	36	48	56
Height	H	95	110	135	155	190
Socket depth	a	12	19	19	18	20
Thread size	GA	1/2	3/4	1	1-1/2	2
Handwheel-Ø	B	70	70	80	80	80
Wrench size across flats	S_1	27	32	41	58	70
Wrench size across flats	S_2	7	8	9	8	9
Weight	ca. kg	0.4	0.6	1.0	1.6	2.5

Dimensions in mm.

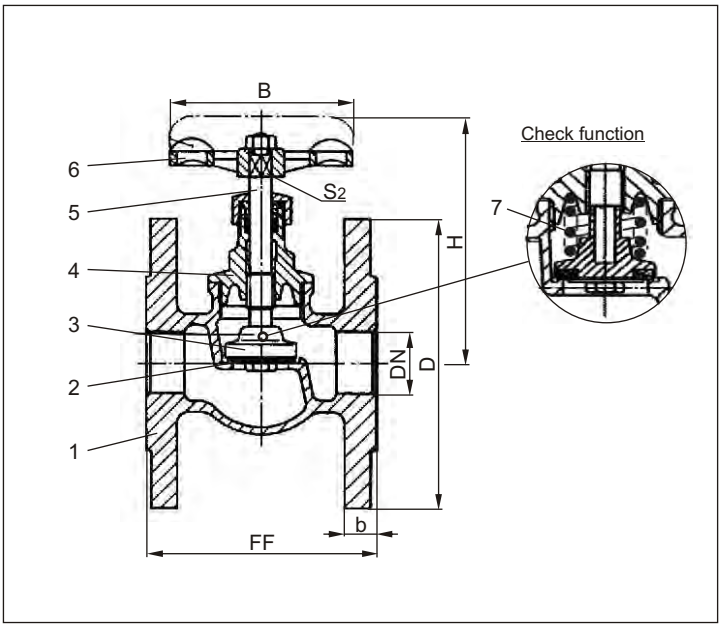
Globe Valves
Type 03021

Globe Valves, PN16
Bronze body, screwed topwork in brass

Part No. 03021.X.0160
Part No. 03021.X.5160 Globe/Check Valve
Flanged connection acc. to DIN EN 1092-1 PN16

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	PTFE	
3	Disc	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Stem	CW612N	B 283 UNS C37700
6	Handwheel	Zinc diecasting	
7	Spring	1.4310	A 276 Grade 302



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 03021	Technical data					
Nominal size	**DN**	**20**	**25**	**32**	**40**	**50**
Dimension code	.X.	0200	0250	0320	0400	0500
Face-to-face dimension	FF	80	90	95	110	125
Height	H	95	105	120	130	145
Flange diameter	D	105	115	140	150	165
Width of flange	b	12	12	14	14	16
Handwheel-Ø	B	60	70	80	90	110
Wrench size across flats	S_2	6	7	8	9	9
Weight	ca. kg	1.9	2.5	3.8	4.4	6.5

Dimensions in mm.

Globe Valves
Type 03050

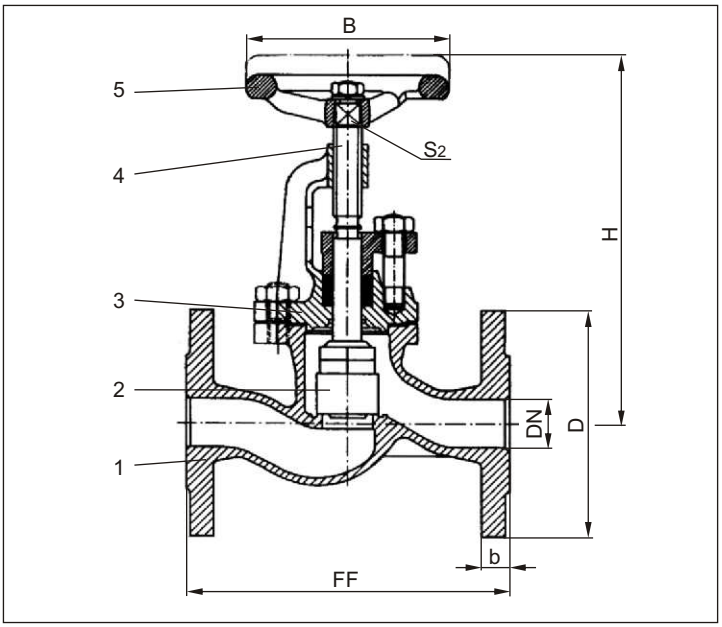
Globe Valves, PN16, DIN 86 260-A
Bronze body and topwork
metal to metal seated

Part No. 03050.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16
face-to-face dimension acc. to DIN EN 558-1, Reihe 1

Available options - on request only:
· Disc with PTFE seal
· Valve with control disc (tapered design) and PTFE seal

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Disc	CC491K	B 62 UNS C83600
3	Headpiece	CC491K	B 62 UNS C83600
4	Stem	CW710R	no reference
5	Handwheel	cast iron	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

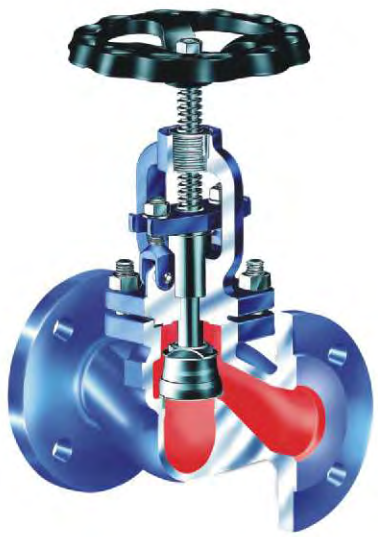
Type 03050	Technical data									
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	160	180	200	230	290	310	350	400	480
Height	H	210	220	250	250	315	335	375	420	460
Flange diameter	D	115	140	150	165	185	200	220	250	285
Width of flange	b	12	14	14	16	16	18	20	20	22
Handwheel-Ø	B	100	125	150	150	185	200	200	225	250
Wrench size across flats	S_2	9	11	12	12	14	17	17	19	22
Weight	ca. kg	6.0	8.0	10.0	12.0	17.0	23.0	30.0	50.0	65.0

Dimensions in mm.

Globe Valves
Type 03080

Globe Valves, PN16, DIN 3356-1
Body and topwork in cast iron
seat and disc in stainless steel, metal to metal seated

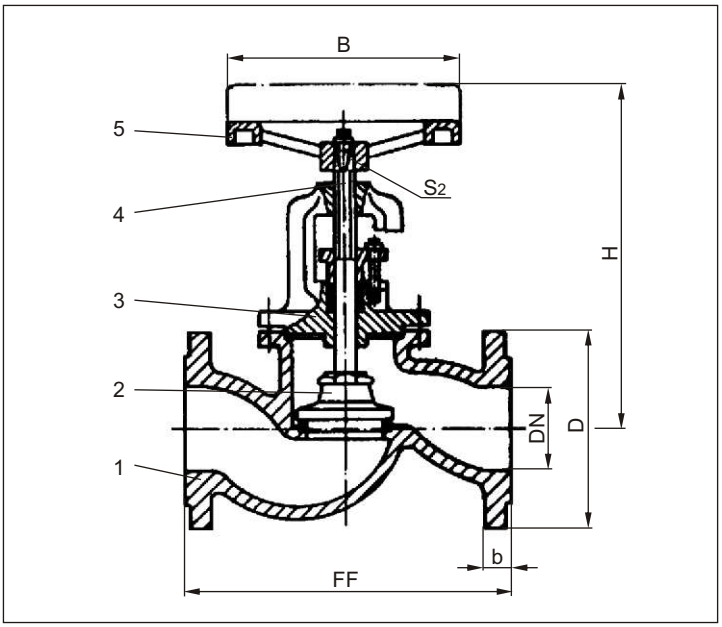
Part No. 03080.X.0000
Flanged connection acc. to DIN EN 1092-1 PN16
face-to-face dimension acc. to DIN EN 558-1, Reihe 1



Available options - on request only:
· Angled Valves
· Valve with control disc

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

Materials		DIN EN	ASTM
1	Body	0.6025	A 48-83 Gr. 35B
2	Disc	1.4021	A 276 Grade 420
3	Headpiece	0.6025	A 48-83 Gr. 35B
4	Stem	1.4021	A 276 Grade 420
5	Handwheel	cast iron	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

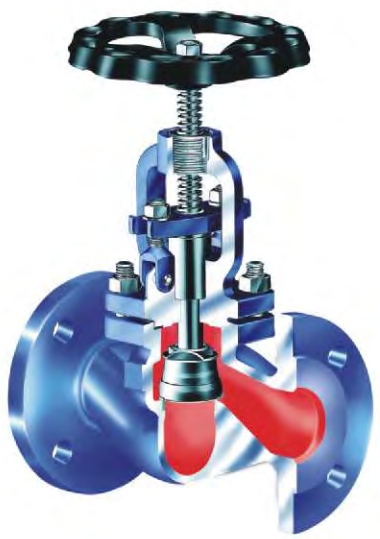
Type 03080	Technical data											
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	180	180	190	190	225	235	265	290	345	375	465
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285
Width of flange	b	12	12	12	14	14	16	16	18	20	20	22
Handwheel-Ø	B	120	120	140	140	160	160	180	200	225	250	300
Wrench size across flats	S_2	10	10	12	12	13	13	14	15	17	18	21
Weight	ca. kg	3.5	4.0	5.0	6.8	9.3	11.7	16.0	23.5	35.0	52.0	75.5

Dimensions in mm.

Globe Valves
Type 03090

Globe Valves, PN40, DIN 3356-1
Body and topwork in cast steel
seat and disc in stainless steel, metal to metal seated

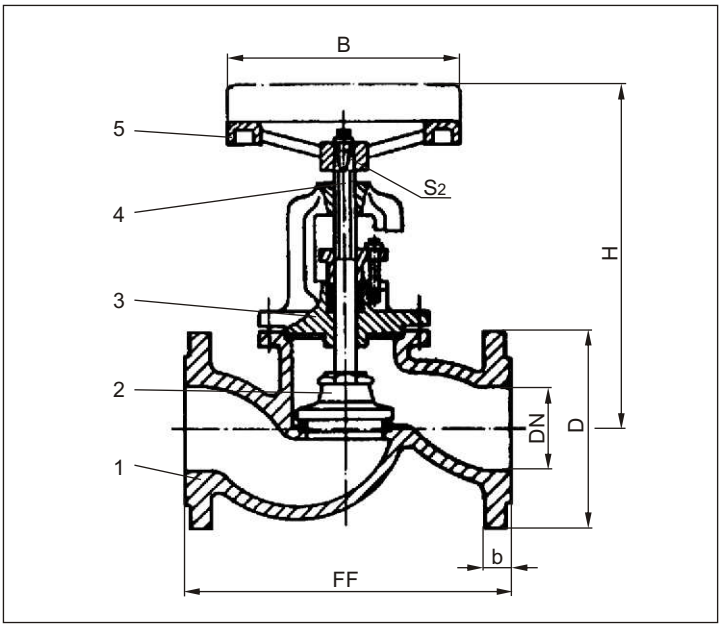
Part No. 03090.X.0000
Flanged connection acc. to DIN EN 1092-1 PN40
face-to-face dimension acc. to DIN EN 558-1, Reihe 1



Available options - on request only:
· Angled Valves
· Valve with control disc

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +400°C / +752°F (673K)

Materials		DIN EN	ASTM
1	Body	1.0619	A 216 Grade WCB
2	Disc	1.4021	A 276 Grade 420
3	Headpiece	1.0619	A 216 Grade WCB
4	Stem	1.4021	A 276 Grade 420
5	Handwheel	cast iron	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 03090	Technical data											
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	190	190	205	205	245	255	295	325	380	425	520
Flange diameter	D	95	105	115	140	150	165	185	200	235	270	300
Width of flange	b	12	12	12	14	14	16	16	18	20	20	22
Handwheel-Ø	B	120	120	140	140	160	160	180	200	225	250	300
Wrench size across flats	S_2	10	10	12	12	13	13	14	15	17	18	21
Weight	ca. kg	4.4	5.4	6.3	7.0	10.5	13.8	21.0	27.5	40.0	61.0	88.5

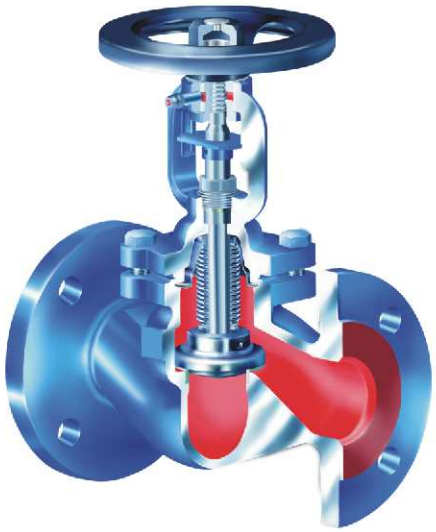
Dimensions in mm.

Globe Valves
Type 03432 - Bellow Sealed Globe Valve

Bellow Sealed Globe Valves, PN40
Body and topwork in cast steel
disc and bellow in stainless steel, metal to metal seated

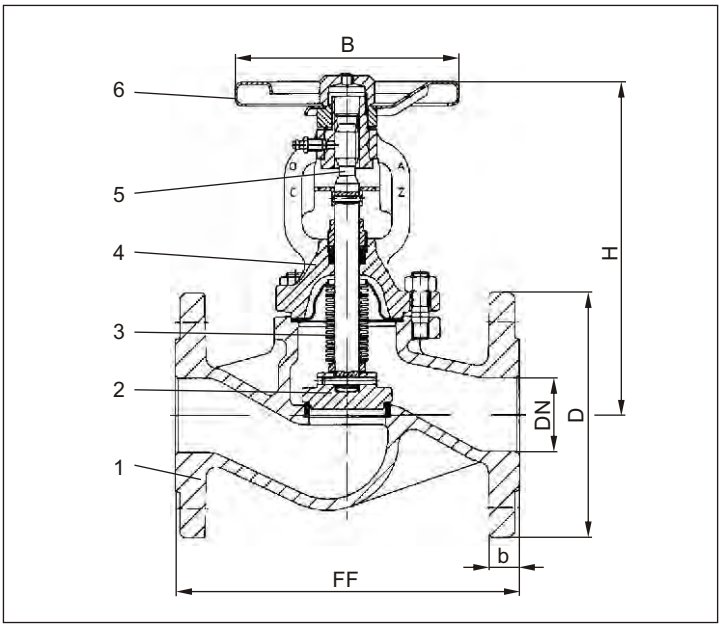
Part No. 03432.X.0000
Flanged connection acc. to DIN EN 1092-1 PN40
face-to-face dimension acc. to DIN EN 558-1, Reihe 1

Available options - on request only:
· Angled Valves



Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +400°C / +752°F (673K)

Materials		DIN EN	ASTM
1	Body	1.0619	A 216 Grade WCB
2	Disc	1.4021	A 276 Grade 420
3	Bellow	1.4571	A 276 Grade 316Ti
4	Headpiece	1.0619	A 216 Grade WCB
5	Stem	1.4021	A 276 Grade 420
6	Handwheel	cast iron	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 03432	Technical data											
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	191	191	197	200	218	220	238	257	340	360	390
Flange diameter	D	95	105	115	140	150	165	185	200	235	270	300
Width of flange	b	12	12	12	14	14	16	16	18	20	20	22
Handwheel-Ø	B	125	125	125	125	150	150	175	225	300	300	400
Weight	ca. kg	4.3	4.8	6.3	7.3	10.3	12.6	19.0	25.0	35.0	56.0	74.0

Dimensions in mm.

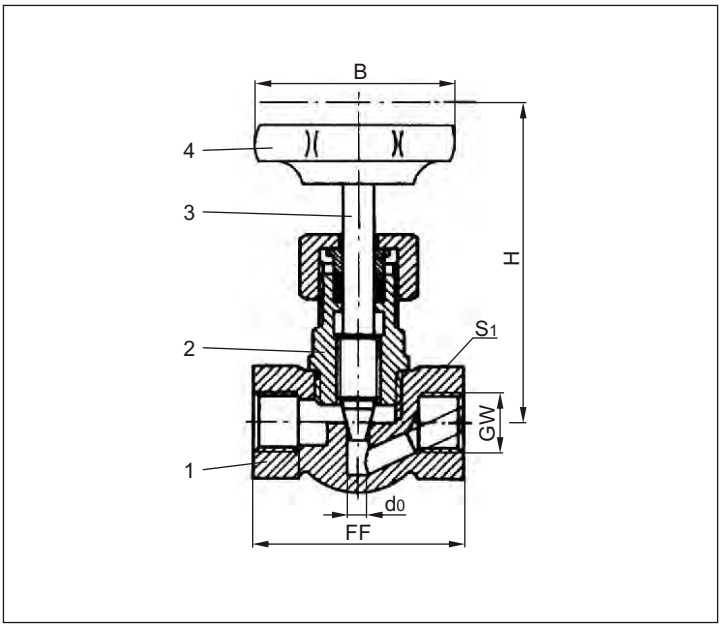
Needle Valves
Type 04010

Needle Valves, PN40
Brass body and topwork
with needle cone

Part No. 04010.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +100°C / +212°F (373K)

Materials		DIN EN	ASTM
1	Body	CW614N	B 283 UNS C38500
2	Headpiece	CW612N	B 283 UNS C37700
3	Stem	CW612N	B 283 UNS C37700
4	Handwheel	Plastic	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 04010	Technical data						
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**
Dimension code	.X.	0200	0300	0400	0600	1000	1200
Face-to-face dimension	FF	50	50	5	67	75	110
Height	H	80	80	80	90	95	105
Flow diameter	d_0	5.0	6.0	6.5	9.0	11.0	13.0
Handwheel-Ø	B	50	50	65	65	65	90
Wrench size across flats	S_1	22	22	25	32	40	54
Weight	ca. kg	0.30	0.30	0.35	0.55	0.75	1.80

Dimensions in mm.

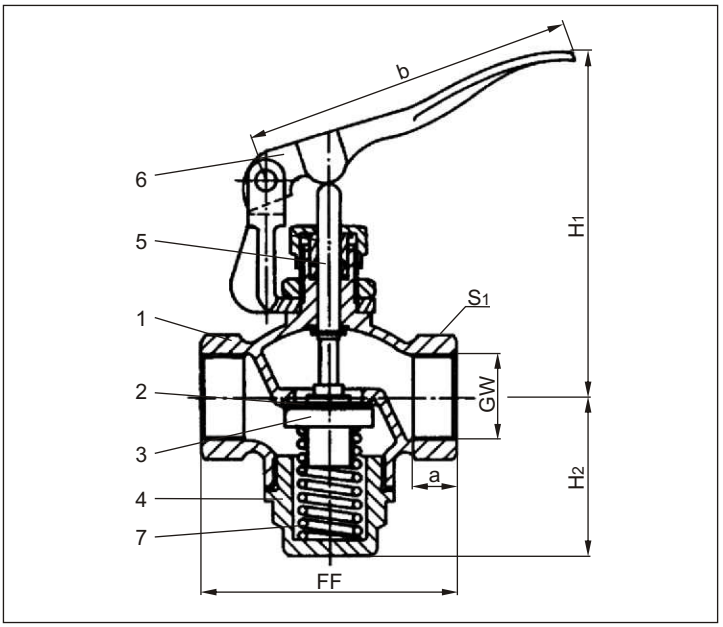
Self Closing Globe Valves
Type 01028

Self closing Globe Valve, PN16
Bronze body and lever,
gland with FPM O-Rings

Part No. 01028.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures: -10°C / +14°F (263K) up to +165°C / +329°F (438K)
Pay attention to pressure-temperature reduction.

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	FPM (VITON)	
3	Disc	CW612N	B 283 UNS C37700
4	Plug	CW612N	B 283 UNS C37700
5	Stem	1.4104	A 276 Grade 430F
6	Lever	CC491K	B 62 UNS C83600
7	Spring	1.4310	A 276 Grade 302



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Type 01028	Technical data			
Nominal size	**GW**	**1/2**	**3/4**	**1**
Dimension code	.X.	0400	0600	1000
Face-to-face dimension	FF	70	80	95
Height	H_1	120	120	130
Height	H_2	50	55	60
Socket depth	a	12	14	16
Length	b	123	123	123
Wrench size across flats	S_1	27	33	41
Weight	ca. kg	0.8	0.9	1.4

Dimensions in mm.

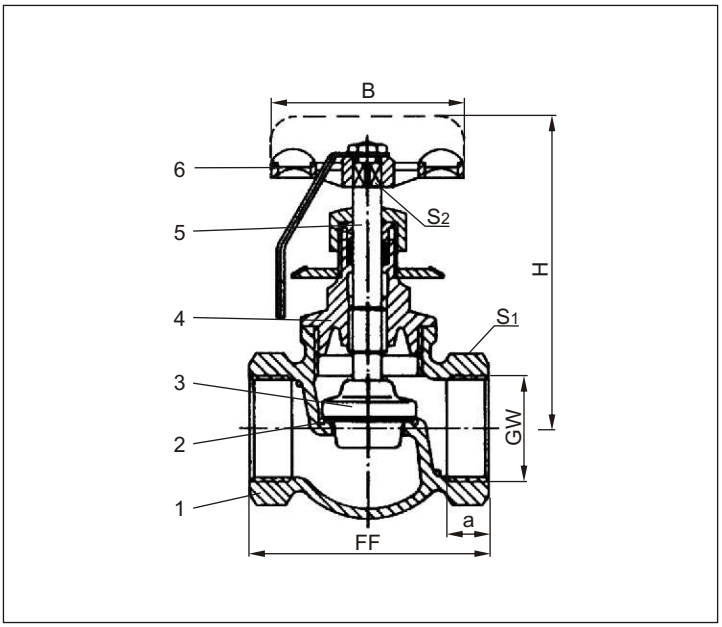
Control Valves
Type 04020

Control Valves, PN16, DIN 3844
Control characteristic: linear
Bronze body, screwed topwork in brass
with opening indicator

Part No. 04020.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	PTFE	
3	Control disc	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Stem	CW612N	B 283 UNS C37700
6	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 04020	Technical data							
Nominal size	**GW**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	50	60	70	80	95	105	130
Height	H	75	85	95	105	120	130	145
Socket depth	a	10	13	14	17	19	19	23
Handwheel-Ø	B	40	50	60	70	80	90	110
Wrench size across flats	S_1	22	27	32	41	50	58	70
Wrench size across flats	S_2	4.5	5	6	7	8	9	9
Weight	ca. kg	0.35	0.4	0.5	0.7	1.1	1.4	2.3
Kvs – Value	m^3/h	1.5	2.0	4.0	6.0	12.0	16.0	25.0

Dimensions in mm.

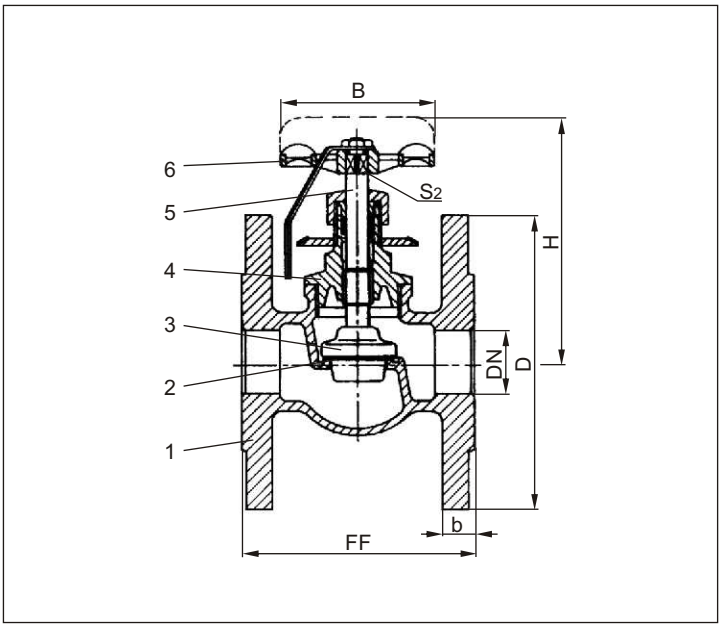
Control Valves
Type 04041

Control Valves, PN16
Control characteristic: linear
Bronze body, screwed topwork in brass
with opening indicator

Part No. 04041.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	PTFE	
3	Control disc	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Stem	CW612N	B 283 UNS C37700
6	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 04041	Technical data						
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**
Dimension code	.X.	0150	0200	0250	0320	0400	0500
Face-to-face dimension	FF	65	80	90	95	110	125
Height	H	85	95	105	120	130	145
Flange diameter	D	95	105	115	140	150	165
Width of flange	b	10	12	12	14	14	16
Handwheel-Ø	B	50	60	70	80	90	110
Wrench size across flats	S_2	5	6	7	8	9	9
Weight	ca. kg	1.4	2.0	2.6	3.9	4.5	6.6
Kvs – Value	m^3/h	2.0	4.0	6.0	12.0	16.0	25.0

Dimensions in mm.

Type 01343 - Actuated Control Valve

Control Valves with Pneumatic Actuator, PN50 (DN150 = PN40)
Control characteristic: linear or equal percentage
Stainless steel body and topwork
Actuator - air opens, spring closes or contrary
“live loaded” gland packing
“ cleaned and degreased for oxygen service " - the actuator is not cleaned and degreased for oxygen

Part No. 01343.X.161*
*Butt weld connection for stainless steel pipes acc. to DIN EN ISO 1127 or ASTM A312

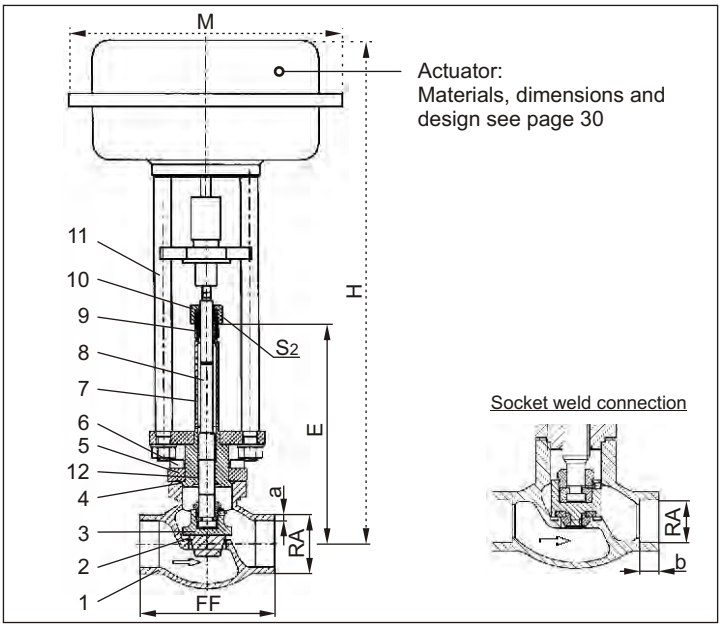
Part No. 01343.X.1614
Socket weld connection for stainless steel pipes acc. to DIN EN ISO 1127 and ASTM A312

Accessories for Control Valves - see page 31 & 32

Available options - on request only:
· Welded stainless steel stubs acc. to DIN EN ISO 1127 or ASTM A312 - length FF + 150mm
· Actuator - “ cleaned and degreased for oxygen ”
· Electric actuator
· Bellow sealed option

Applications:
Approved for air gases and cryogenic liquefied gases such as oxygen, nitrogen, krypton, carbon dioxide, argon, dinitrogen monoxide, trifluormethan, carbon oxide, methane, ethane and ethylene.
Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials		DIN EN	ASTM
1	Body	1.4308	A 351 CF8
2	Valve seal	PTFE / Carbon filled (25%)	
3	Disc	1.4301	A 276 Grade 304
4	Bonnet gasket	PTFE	
5	Headpiece	1.4301	A 276 Grade 304
6	Bolts	1.4301/A2	A 194 B8
7	Elongation tube	1.4541	A 213 TP 321
8	Stem	1.4301	A 276 Grade 304
9	Gland packing	Graphite / PTFE	
10	Gland nut	1.4305	A 276 Grade 303
11	Pillars	1.4301	A 276 Grade 304
12	Bush	CW452K	B 103 UNS C51900



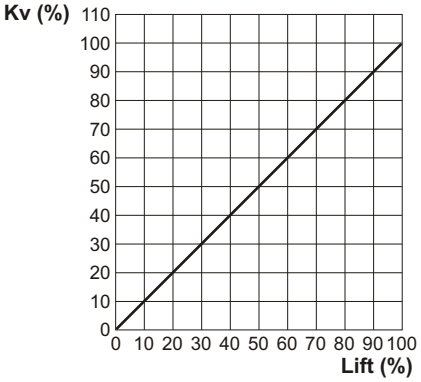
Standard marking acc. to Pressure Equipment Directive 97/23/EG (PED).

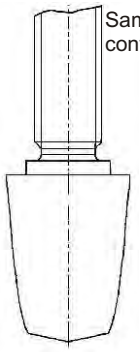
Type 01343 - Control Valve		Technical data												
Nominal size	**DN**	**10**	**15**	**15**	**20**	**25**	**32**	**40**	**40**	**50**	**65**	**80**	**100**	**150**
Dimension code	.X.	1012	1517	1521	2026	2533	3238	4042	4048	5060	6570	8088	0114	0168
Face-to-face dimension	FF	70	85	85	100	115	115	130	130	155	205	245	280	400
Height	H	dependent on actuator												
Length	E	195	195	195	200	200	230	230	230	235	300	300	300	350
Outside pipe-Ø DIN EN ISO 1127	RA	12.0	17.2	21.3	26.9	33.7	38.0	42.4	48.3	60.3	76.1	88.9	114.3	168.3
Wall thickn. pipe DIN EN ISO 1127	a	1.0	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6	3.2	6.0	7.1
Outside pipe-Ø ASTM A312	RA	13.72	17.15	21.34	26.67	33.40	-	42.16	48.26	60.33	73.03	88.90	114.3	168.3
Wall thickness pipe ASTM A312	a	S10	S40	S10	S10	S10	-	S10	S10	S10	S40	S10	S40	S40
Socket depth	b	6	10	10	13	13	-	13	13	16	16	16	20	-
Actuator-Ø	M	dependent on actuator												
Wrench size across flats	S_2	30	30	30	30	30	36	36	36	36	36	36	41	41
Weight w/o actuator	ca. kg	1.9	2.15	2.2	2.4	3.1	3.8	6.5	6.5	9.0	15.2	20.0	28.0	61.0
Kvs – Value linear/ equal percent.	m^3/h	see table page 29												
Cv – Value linear/ equal percent.	gal /min	see table page 29												

Dimensions in mm.

Type 01343 Control valve	Flow coefficient for Control Valves – Control characteristic linear Kvs-Value in m^3/h, Cv-Value in gal/min																	
Lift in mm	20		20		20		30		30		30		40		40		40	
Seat-Ø in mm	15		20		25		32		36		45		62		76		94	
Nominal size	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv
DN 15	3.5	4.1																
DN 20			6.3	7.3														
DN 25					10.0	11.6												
DN 32							16.0	18.6										
DN 40									19.0	22.1								
DN 50											30.0	34.9						
DN 65													in preparation					
DN 80															in preparation			
DN 100																	in preparation	

Ideal inhärent linear characteristic line acc. to DIN IEC 60534 Part 2-4

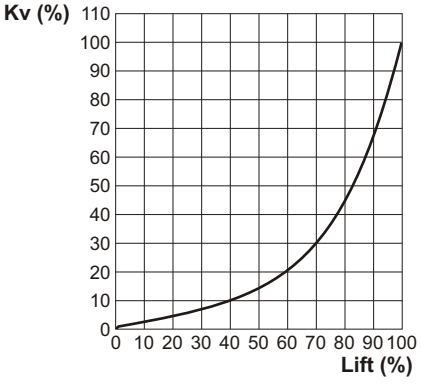


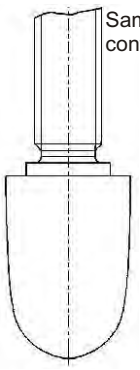


Sample drawing cone, control charactristic linear

Type 01343 Control valve	Flow coefficient for Control Valves – Control characteristic equal percentage Kvs-Value in m^3/h, Cv-Value in gal/min																	
Lift in mm	20		20		20		30		30		30		40		40		40	
Seat-Ø in mm	15		20		25		32		36		45		62		76		94	
Nenngröße	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv	Kvs	Cv
DN 15	3.5	4.1																
DN 20			4.0 6.0	1.7 7.0														
DN 25					2.5 4.5 6.3 10.0	2.9 5.2 7.3 11.6												
DN 32							10.0 14.0	11.6 16.3										
DN 40									10.0 19.0	11.6 22.1								
DN 50											10.0 16.0 25.0 30.0	11.6 18.6 29.1 34.9						
DN 65													in preparation					
DN 80															in preparation			
DN 100																	in preparation	

Ideal inhärent equal percentage characteristic curve acc. to DIN IEC 60534 Part 2-4





Sample drawing cone, control charactristic equal percentage

Type 27511 - Pneumatic Actuator

Pneumatic Actuators
Standard actuator - air opens, spring closes
maximum air pressure for operation 6.0 bar ü
Actuator coating outside - Epoxy resin

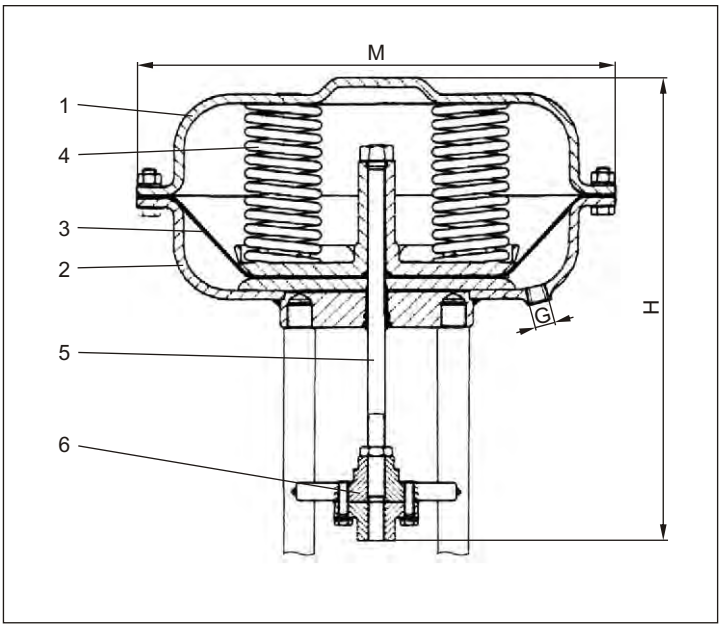
Available options - on request only:
· Actuator - spring opens, air closes
· Actuator - cleaned and degreased for oxygen service
· Pneumatic actuator with override handwheel

Overview - required actuator sizes for different working pressures

Code in Table	Part No. Actuator
A	27511.15A6.3SPO
B	27511.35B6.6GPO
C	27511.60A6.6GPO
D	27511.60C6.7GPO
E	27511.41B6.6SPO
F	27511.41C6.2SPO

Nom. Size	Lift in mm	Working pressure in bar											
		2	4	5	6	8	10	15	17	20	25	30	35	40
DN 10	14	A	A	A	A	A	A	A	A	A	A	A	A	A
DN 15	14	A	A	A	A	A	A	A	A	A	A	A	A	A
DN 20	12	A	A	A	A	A	A	A	A	A	A	B	B	B
DN 25	14	A	A	A	A	A	A	A	B	B	B	B	B	B
DN 32	15	A	A	A	A	A	A	B	B	B	B	B	B	C
DN 40	18	B	B	B	B	B	B	B	B	B	C	C	C	C
DN 50	19	B	B	B	B	B	B	C	C	C	D	D	E	E
DN 65	25	C	C	C	C	C	C	D	D	E	E	E	F	o.r.
DN 80	30	C	C	C	D	D	E	E	E	F	F	F	o.r.	o.r.
DN 100	30	C	C	D	D	E	E	F	o.r. – on request					
DN 150	40	D	E	F	o.r. – on request									

Materials		DIN EN	ASTM
1	Body	1.0333	A 619 Grade 1008
2	Body	1.0333	A 619 Grade 1008
3	Diaphragm	NBR	
4	Springs	1.1200	A 576 Grade 1045
5	Actuator stem	1.4301	A 276 Grade 304
6	Coupling	CC333G	B 148 UNS C95800



Type 27511	Technical data						
Part No. Actuator		27511					
		.15A6.3SPO	.35B6.6GPO	.60A6.6GPO	.60C6.7GPO	.41B6.6SPO	.41C6.2SPO
Diameter actuator	M	162	210	320	320	415	415
Height	H	204	260	296	339	399	570
Thread	G	M12	M12	M12	M12	M16	M16
Diaphragm area	cm^2	120	280	530	530	1000	1000
Spring range	bar	0.9 – 2.0	0.8 – 3.0	0.8 – 2.8	0.7 – 3.0	0.6 – 2.3	1.0 – 2.5
Regulating lift	mm	20	35	40	60	60	80
Weight	ca. kg	3.0	5.0	12.5	14.0	47.0	76.0

Dimensions in mm.

Accessories for Control Valves

3/2 way Solenoid Valve
direct acting solenoid valve DN3, fast acting, for neutral medium like air and water
port connections G1/4, body in brass, NBR seal,
circuit function: power free - outlet balanced, Pressure range 0 - 10.0 bar, Voltage tolerance ±10%,
Ambient temperature max +55°C / 131°F, with flat seal and fixing screw

Standard version
Protecting class IP65, with cable plug for cable-ø7 mm, Medium temperature: 0°C / 32°F up to +80°C / 176°F

Part No. 40060.0200.C024
Operating voltage 24V, AC (50Hz)

Part No. 40060.0200.C110
Operating voltage 110V, AC (50Hz)

Part No. 40060.0200.C230
Operating voltage 230V, AC (50Hz)

Part No. 40060.0200.C24D
Operating voltage 24V, DC


Standard version

EEx-protected version
Protecting class IP65 EEx ed IIC T5, with cable 3 x 0.75 mm^2, Medium temperature: 0°C / 32°F up to +70°C / 158°F
semi time-lag fuse acc. to nominal voltage

Part No. 40061.0200.C024
Operating voltage 24V, UC

Part No. 40061.0200.C230
Operating voltage 230V, UC

UC = DC and AC


EEx-protected version

Available options - on request only:
· Solenoid Valve " cleaned and degreased for oxygen "
· other port connections (1/4"NPT, G1/8), body and seat material 1.4401
· seal material EPDM or FPM, circuit function: power free - outlet pressure loaded

Position and Limit Switches
Limit switch (0/100%) with parallel roller lever and fixing device, quick-break switch,
Max. fuse rating 6A gL/gD D-fuse, Switching frequency 3600/h,

Part No. 40070.0011.0000Z - Standard version
Protecting class IP65 acc. to EN 60529,
Rated operating current/-voltage Ie/Ue: 6A / 400VAC, 3 cable entries M16 x 1.5,
change-over contact with double break (1 break contact / 1 make contact),
Ambient temperature -20°C / -4°F up to +80°C / 176°F


Standard version

Part No. 40071.0011.0000Z - EEx-protected version
Protecting class IP67 acc. to EN 60529, EEX d IIC T6,
Rated operating current/-voltage Ie/Ue: 5A / 250VAC, with cable 4 x 0.75 mm^2,
change-over contact with single break (1 break contact / 1 make contact),
Ambient temperature -20°C / -4°F up to +65°C / 149°F


EEx-protected version

Available options - on request only:
· overrun limit switch to signal intermediate positions

Inductive proximity switches
Functions: inductive, Switching element function NAMUR NC, Output polarity NAMUR, Rated operating distance 2mm,
Assured operating distance 0 - 1.62 mm, Installation embeddable,
Nominal voltage 8V, Switch frequency 0 - 1000 Hz, Short-circuit and reverse polarity protection,
Indication of the switching state all direction LED yellow, with cable 2 x 0.34 mm^2 and fixing device

Part No. 40080.1235.0000Z
Protecting class IP67 acc. to EN 60529, EEX ia IIC T6

Accessories for Control Valves

Air Control sets
Diaphragmn pressure regulator with secondary ventilation,
Installation position vertical - drain plug at bottom,
Inlet pressure maximal 16.0 bar, Pore diameter in filter element 5µm,
filter element in Polyethylen (sintered), port connections G1/4, brass body,
with NBR seal, tank capacity maximal 0.35 cm^3 condensate, condensate draining manuel,
Ambient temperature max +60°C / 140°F,
including pressure gauge and fixing accessories


Condensate-tank Polycarbonat


Condensate-tank brass

Part No. 08002.021K.0000Z
condensate tank Polycarbonat, control range 0.5 - 10.0 bar,

Available options - on request only:
· condensate tank in brass, control range 0.5 - 16.0 bar,
· port connections G1/8

Electropneumatic positioner for pneumatic Actuator
ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !
Protecting class IP65 acc. to EN 60529, with fixing device

Part No. 40090.6136.0000
Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/4

Electrical connection: screw type terminals 2.5 mm^2, cable gland: M 20 x 1.5

Set point x: 4 - 20 mA with 2 conductor connections
0/4 - 20 mA with 3/4 conductor connections
Auxiliary power with 3/4 conductor connections: UH: 18-30V DC

Internal resistance: Ri = 500 Ohm (2-wire)
Ri = 50 Ohm (3/4-wire)
Ambient temperature: -30°C / -22°F up to +80°C / 176°F

Part No. 40090.6137.0000
Digital electropneumatic positioner with Self-tuning after manuel release,
3 step opening characteristic, lift range 10 - 80 mm adjustable, with key pad
operating voltage: 24 V DC 0.4 A, electrical power consumption: ca 10W 4-wire circuit,
Inlet air pressure: max. 6.0 bar - connection with female thread G1/8, Air output: 70l/min

Electrical connection: screw type terminals 1.5 mm^2, 2 x PG9 cable bushings

Signal input: 0/4 - 20 mA or 0 - 10V
Auxiliary power 24 V = ca 0.4 A

Internal resistance: Ri = ca. 200 Ohm

Pneumatic positioner for pneumatic Actuator
ATTENTION - operate only with dry, oil-free air acc. to IEC654-2 !
Protecting class IP54 acc. to EN 60529, with fixing device

Part No. 40090.0981.0000
Operation: simple, Inlet air pressure: max. 6.0 bar - connection with female thread G1/8

Independent adjustment of stroke range and zero,
Signal range 0.2 - 1.0 bar or split range down to Δw 0.2 bar,
adjustable amplification and damping,
Ambient temperature: -40°C / -40°F up to +80°C / 176°F

other available positioner - on request only::
· analog positioner

Check Valves
Type 05011, Type 05012

Check Valves, PN16, DIN EN 3845-2
Bronze body, screwed cap in brass

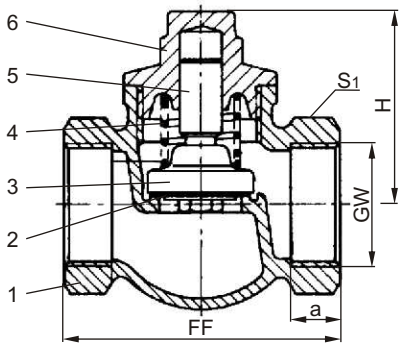
Part No. 05011.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp
Disc with FPM seal

Part No. 05012.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp
Disc with PTFE seal

Available options - on request only:
· Disc with EPDM seal
· Disc with NBR seal

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Seal Type 05011	FPM	
2	Seal Type 05012	PTFE	
3	Disc	CW612N	B 283 UNS C37700
4	Spring	1.4310	A 276 Grade 302
5	Guide piece	CW612N	B 283 UNS C37700
6	Cap	CW612N	B 283 UNS C37700



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05011 & 05012	Technical data							
Nominal size	**GW**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	50	60	70	80	95	105	130
Height	H	40	40	50	55	55	65	75
Socket depth	a	10	13	14	17	19	19	23
Wrench size across flats	S_1	22	27	32	41	50	58	70
Weight	ca. kg	0.2	0.3	0.4	0.6	0.9	1.3	2.0

Dimensions in mm.

Check Valves
Type 05083

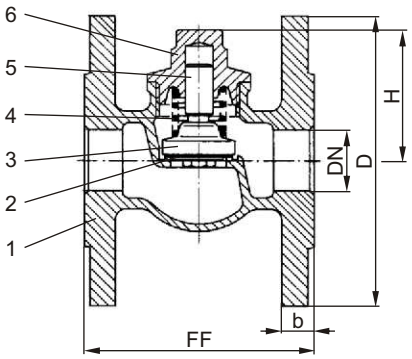
Check Valves, PN16
Bronze body, screwed cap in brass

Part No. 05083.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16
Disc with FPM seal

Available options - on request only:
· Disc with PTFE seal

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Valve seal	FPM	
3	Disc	CW612N	B 283 UNS C37700
4	Spring	1.4310	A 276 Grade 302
5	Guide piece	CW612N	B 283 UNS C37700
6	Cap	CW612N	B 283 UNS C37700



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05083	Technical data					
Nominal size	**DN**	**20**	**25**	**32**	**40**	**50**
Dimension code	.X.	0200	0250	0320	0400	0500
Face-to-face dimension	FF	80	90	95	110	125
Height	H	50	55	55	65	75
Flange diameter	D	105	115	140	150	165
Width of flange	b	12	12	14	14	16
Weight	ca. kg	1.9	2.6	3.7	4.3	6.4

Dimensions in mm.

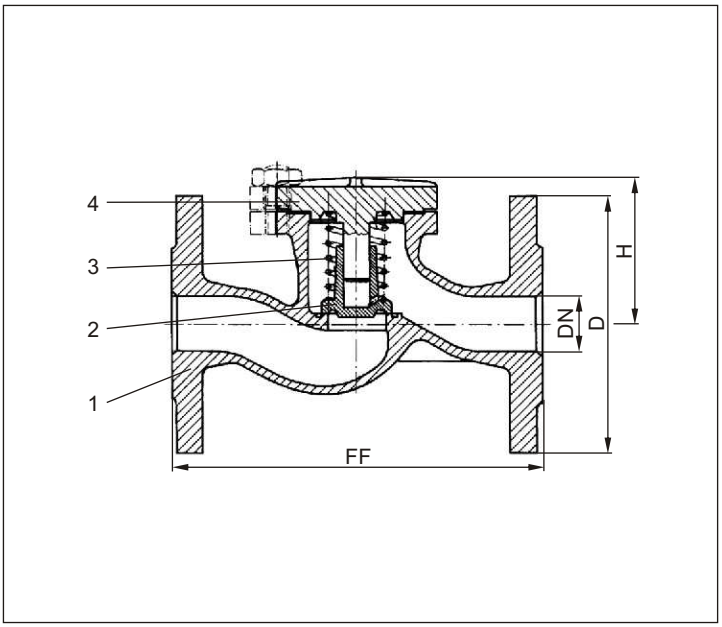
Check Valves
Type 05082

Check Valves, PN16
Bronze body and cap
metal to metal seated

Part No. 05082.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Disc	CC491K	B 62 UNS C83600
3	Spring	1.4310	A 276 Grade 302
4	Cap	CC491K	B 62 UNS C83600



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

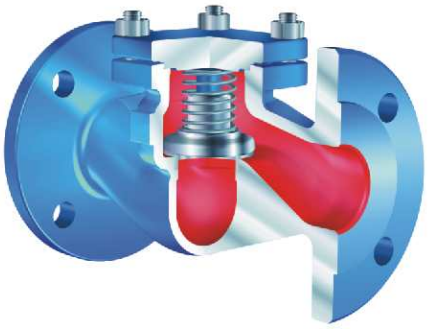
Type 05082	Technical data										
Nominal size	**DN**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	150	160	180	200	230	290	310	350	400	480
Height	H	70	75	80	90	100	110	130	150	170	190
Flange diameter	D	105	115	140	150	165	185	200	220	250	285
Weight	ca. kg	4.0	5.0	6.0	8.5	11.0	15.0	20.0	25.0	40.0	55.0

Dimensions in mm.

Check Valves
Type 05110

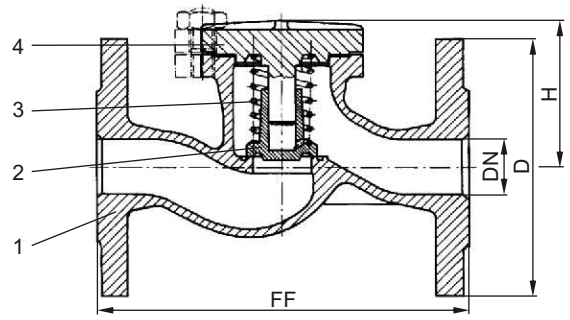
Check Valves, PN16
Body and cap in cast iron
seat and disc in stainless steel, metal to metal seated

Part No. 05110.X.0000
Flanged connection acc. to DIN EN 1092-1 PN16
face-to-face dimension acc. to DIN EN 558-1, Reihe 1



Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 13.0 bar: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

Materials		DIN EN	ASTM
1	Body	0.6025	A 48-83 Gr. 35B
2	Disc	1.4021	A 276 Grade 420
3	Spring	1.4310	A 276 Grade 302
4	Cap	0.6025	A 48-83 Gr. 35B



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

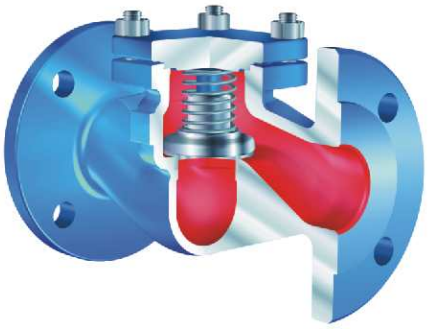
Type 05110	Technical data											
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	70	70	80	80	85	95	110	130	155	165	215
Flange diameter	D	95	105	115	140	150	165	185	200	235	270	300
Weight	ca. kg	2.4	3.0	3.8	5.7	7.4	10.3	15.2	20.4	31.0	49.0	69.0

Dimensions in mm.

Check Valves
Type 05115

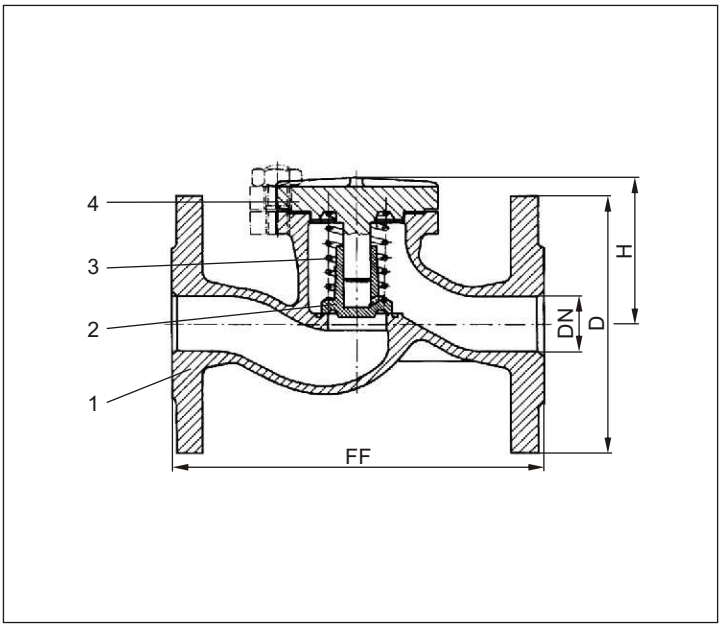
Check Valves, PN40
Body in cast steel
seat and disc in stainless steel, metal to metal seated

Part No. 05115.X.0000
Flanged connection acc. to DIN EN 1092-1 PN40
face-to-face dimension acc. to DIN EN 558-1, Reihe 1



Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 40.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 33.0 bar: -10°C / +14°F (263K) up to +225°C / +437°F (498K)
up to max. 21.0 bar: -10°C / +14°F (263K) up to +400°C / +752°F (673K)

Materials		DIN EN	ASTM
1	Body	1.0619	A 216 Grade WCB
2	Disc	1.4021	A 276 Grade 420
3	Spring	1.4310	A 276 Grade 302
4	Cap DN15 - 65	1.0402	A 576 Grade 1020
4	Cap DN80 - 150	1.0425	no reference



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05115	Technical data										
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	70	70	80	80	85	95	110	130	155	165	215
Flange diameter	D	95	105	115	140	150	165	185	200	235	270	300
Weight	ca. kg	3.8	4.9	5.9	7.1	10.4	12.3	22.7	28.5	40.0	64.0	90.0

Dimensions in mm.

Swing Check Valves
Type 05040

Check Valves, swing type, PN16
Bronze body, screwed cap in brass
Female thread connection (G) acc. to ISO 7-1 Rp

Part No. 05040.X.0000
Metal to metal seated

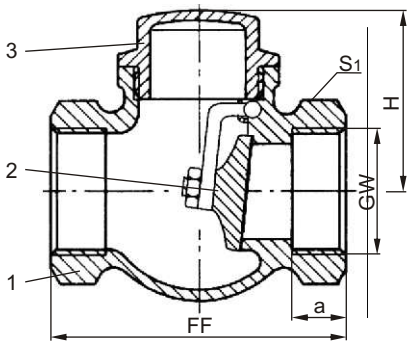
Part No. 05040.X.0200
Disc with Silicone seal

Part No. 05040.X.0600
Disc with EPDM seal

Part No. 05040.X.0700
Disc with FPM seal

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Swing	CW612N	B 283 UNS C37700
3	Cap	CW612N	B 283 UNS C37700



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05040	Technical data							
Nominal size	**GW**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**	**2-1/2**
Dimension code	.X.	0400	0600	1000	1200	1400	2000	2400
Face-to-face dimension	FF	60	70	80	95	105	130	160
Height	H	40	49	56	60	70	80	105
Flow diameter	d_0	13	17	22	28	31	46	60
Socket depth	a	12	13	15	16	18	20	20
Wrench size across flats	S_1	27	34	41	51	55	70	90
Weight	ca. kg	0.28	0.45	0.70	0.96	1.40	2.10	3.70
Kvs – Value	m^3/h	5.5	10.2	20.2	34.7	44.9	104.0	175.0

Dimensions in mm.

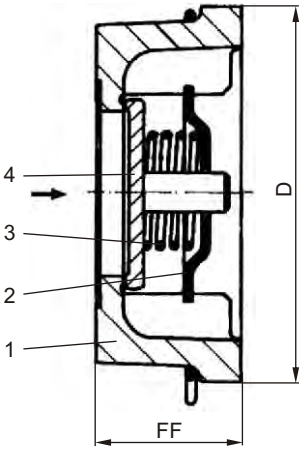
Disc Check Valves
Type 05321

Check Valves, disc type, PN16
Body in brass,

Part No. 05321.X.0000
Metal to metal seated
with closing spring and center ring,
for mounting between two flanges

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -60°C / -76°F (213K) up to +120°C / +248°F (393K)
up to max. 13.0 bar: -60°C / -76°F (213K) up to +225°C / +437°F (498K)

Materials		DIN EN	ASTM
1	Body	CW710R	no reference
2	Spring cap	1.4571	A 276 Grade 316Ti
3	Spring	1.4571	A 276 Grade 316Ti
4	Disc	1.4006	A 182 Grade F6



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05321	Technical data									
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	16	19	22	28	31.5	40	46	50	60
Disc diameter	D	40	47	56	72	82	95	115	132	152
Weight	ca. kg	0.1	0.2	0.25	0.5	0.7	1.1	1.4	2.0	3.2

Dimensions in mm.

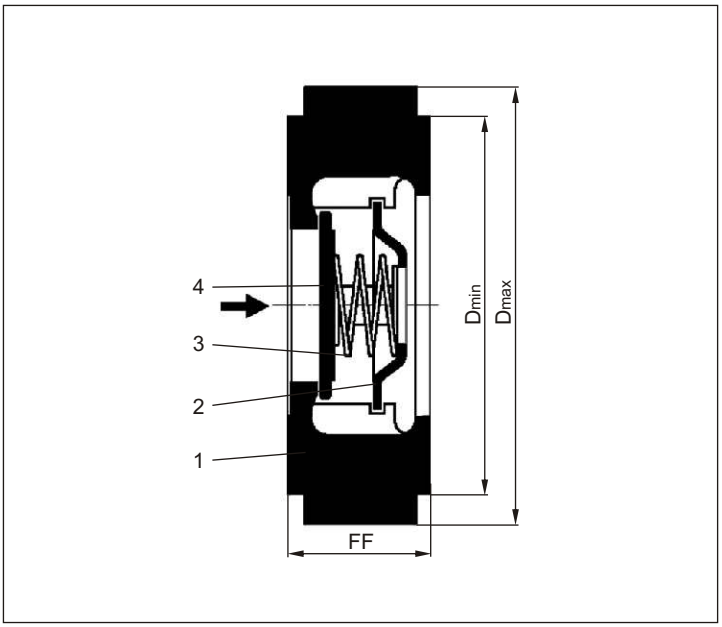
Disc Check Valves
Type 05337

Check Valves, disc type, PN40
Body in chromium steel,

Part No. 05337.X.0000
Metal to metal seated
with closing spring,
for mounting between two flanges

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 40.0 bar: -10°C / +14°F (263K) up to +200°C / +392°F (473K)
up to max. 36.0 bar: -10°C / +14°F (263K) up to +300°C / +572°F (573K)

Materials		DIN EN	ASTM
1	Body	1.4317	A 743 CA6 NM
2	Spring cap	1.4571	A 276 Grade 316Ti
3	Spring	1.4571	A 276 Grade 316Ti
4	Disc	1.4006	A 182 Grade F6



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05337	Technical data									
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	16	19	22	28	31.5	40	46	50	60
Disc diameter	D_{min}	44	53	64	73	83	96	110	128	151
Disc diameter	D_{max}	67	76	82	93	104	118	136	158	186
Weight	ca. kg	0.27	0.38	0.52	0.80	1.12	1.78	2.43	3.37	5.34

Dimensions in mm.

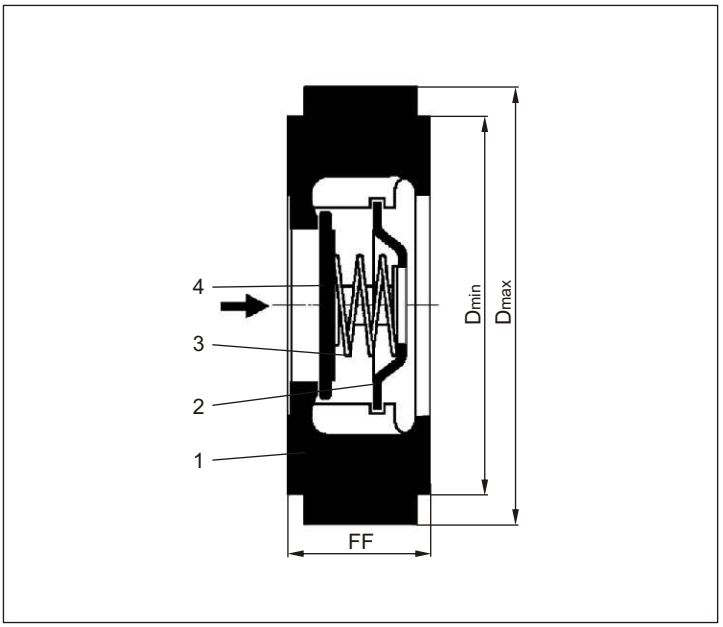
Disc Check Valves
Type 05338

Check Valves, disc type, PN40
Body in stainless steel,

Part No. 05338.X.0000
Metal to metal seated
with closing spring,
for mounting between two flanges

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 40.0 bar: -200°C / -328°F (73K) up to +150°C / +302°F (423K)
up to max. 24.0 bar: -200°C / -328°F (73K) up to +500°C / +932°F (773K)

Materials		DIN EN	ASTM
1	Body	1.4408	A 351 CF 8M
2	Spring cap	1.4571	A 276 Grade 316Ti
3	Spring	1.4571	A 276 Grade 316Ti
4	Disc	1.4571	A 276 Grade 316Ti



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 05338	Technical data									
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	16	19	22	28	31.5	40	46	50	60
Disc diameter	D_{min}	44	53	64	73	83	96	110	128	151
Disc diameter	D_{max}	67	76	82	93	104	118	136	158	186
Weight	ca. kg	0.27	0.38	0.52	0.80	1.12	1.78	2.43	3.37	5.34

Dimensions in mm.

Pressure Reducing Valves
Type 08010

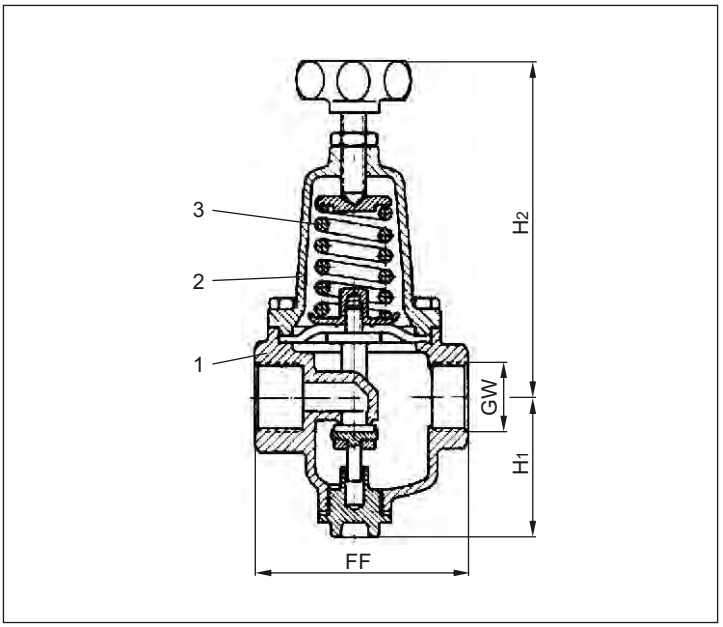
Pressure Reducing Valves
Bronze body, with balanced seat,
disc with NBR seal, pressure gauge connection G1/4,
inlet pressure: up to max. 25.0 bar,
outlet pressure: 1.5 up to 8.0 bar
greatest reducing ratio: 10 : 1

Part No. 08010.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Picture:
Accessory pressure gauge - not included with valve

Applications:
Suitable for compressed air, nitrogen and similar non-inflammable, non-toxic gases.
Working temperature: -10°C / +14°F (263K) up to +75°C / +167°F (348K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Bonnet (GW 1/4 – 1)	CW614N	B 283 UNS C38500
2	Bonnet (GW 1-1/4 – 2)	0.6025	A 48-83 Gr. 35B
3	Spring	1.1200	A 576 Grade 1045



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08010	Technical data								
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	85	95	104	108	147
Height	H_1	48	48	48	48	55	61	61	64
Height	H_2	110	110	120	120	155	200	200	260
Weight	ca. kg	0.85	0.85	1.10	1.10	1.60	3.60	3.65	7.00

Dimensions in mm.

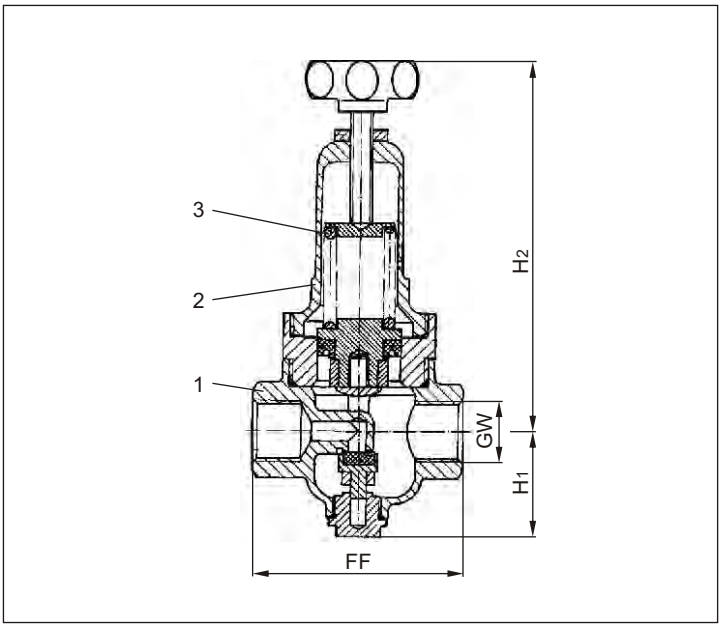
Pressure Reducing Valves
Type 08011

Pressure Reducing Valves
Bronze body, with balanced seat,
disc with NBR seal, pressure gauge connection G1/4,
with piston control
inlet pressure: up to max. 40.0 bar,
outlet pressure: 1.5 up to 20.0 bar
greatest reducing ratio: 6 : 1

Part No. 08011.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for compressed air, nitrogen and similar non-inflammable, non-toxic gases.
Working temperature: -10°C / +14°F (263K) up to +75°C / +167°F (348K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Bonnet (GW 1/4 – 1)	CW614N	B 283 UNS C38500
2	Bonnet (GW 1-1/4 – 2)	0.6025	A 48-83 Gr. 35B
3	Spring	1.1200	A 576 Grade 1045



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08011	Technical data								
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	85	95	104	108	147
Height	H_1	48	48	48	48	55	61	61	64
Height	H_2	130	130	140	140	185	230	230	295
Weight	ca. kg	1.20	1.15	1.70	1.70	2.65	5.95	6.10	9.80

Dimensions in mm.

Pressure Reducing Valves
Type 08012

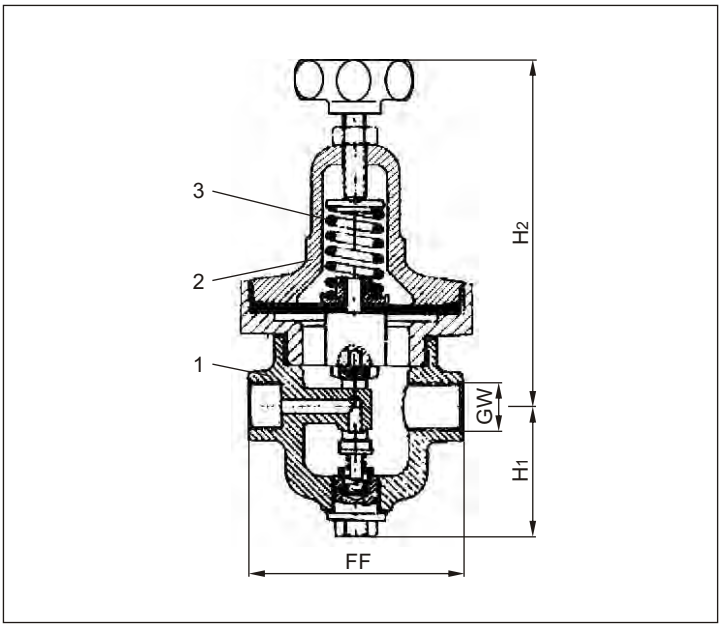
Pressure Reducing Valves
Bronze body, with balanced seat,
disc with NBR seal, pressure gauge connection G1/4,
inlet pressure: up to max. 25.0 bar,
outlet pressure: 0.2 up to 2.0 bar
greatest reducing ratio: 20 : 1

Part No. 08012.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Picture:
Accessory pressure gauge - not included with valve

Applications:
Suitable for compressed air, nitrogen and similar non-inflammable, non-toxic gases.
Working temperature: -10°C / +14°F (263K) up to +75°C / +167°F (348K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Bonnet (GW 1/4 – 1)	CW614N	B 283 UNS C38500
2	Bonnet (GW 1-1/4 – 2)	CC491K	B 62 UNS C83600
3	Spring	1.1200	A 576 Grade 1045



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08012	Technical data								
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	70	70	85	85	95	104	108	147
Height	H_1	47	47	47	47	55	60	60	66
Height	H_2	155	155	220	220	250	300	300	300
Weight	ca. kg	1.0	1.0	2.65	2.65	4.2	7.75	12.0	13.1

Dimensions in mm.

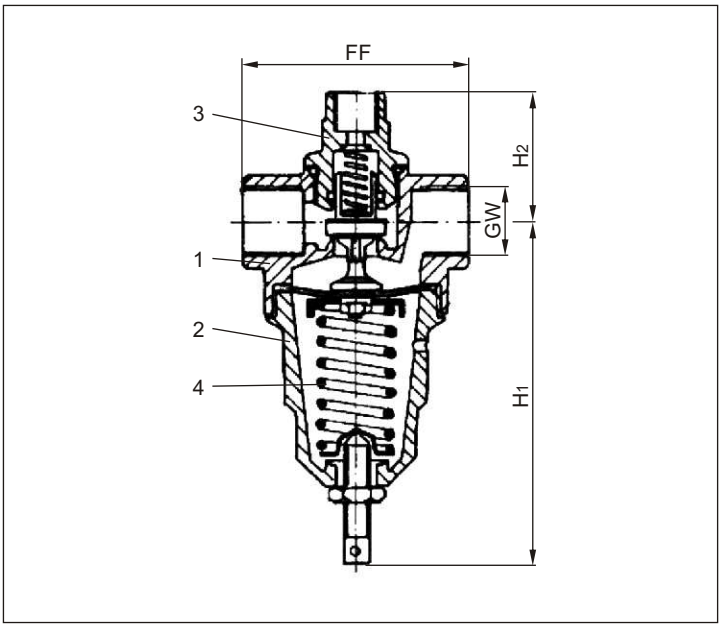
Pressure Reducing Valves
Type 08015

Pressure Reducing Valves
Bronze body, with balanced seat,
disc with NBR seal, pressure gauge connection G1/4,
inlet pressure: up to max. 40.0 bar,
outlet pressure: 1.0 up to 10.0 bar

Part No. 08015.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for compressed air, nitrogen and similar non-inflammable, non-toxic gases.
Working temperature: -10°C / +14°F (263K) up to +70°C / +158°F (343K)

Materials		DIN EN	ASTM
1	Body	CW612N	B 283 UNS C37770
2	Bonnet	synthetic material	
3	Headpiece	CW612N	B 283 UNS C37770
4	Spring	1.1200	A 576 Grade 1045



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08015	Technical data								
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	50	50	65	80	95	105	115	130
Height	H_1	90	90	105	105	150	160	200	210
Height	H_2	34	34	36	42	57	57	72	72
Weight	ca. kg	0.30	0.30	0.45	0.60	1.35	1.80	2.90	3.80

Dimensions in mm.

Pressure Reducing Valves
Type 08023

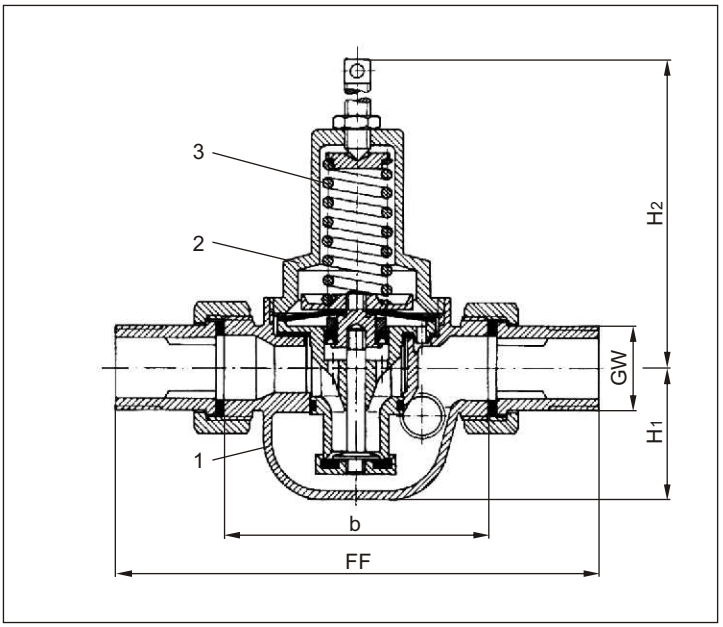
Pressure Reducing Valves
Bronze body, with balanced seat,
disc with NBR seal, pressure gauge connection G1/4,
inlet pressure: up to max. 25.0 bar,
outlet pressure: 0.6 up to 7.0 bar

Part No. 08023.X.0000
Union connections with male thread (G) acc. to ISO 228/1

Picture:
Accessory pressure gauge - not included with valve

Applications:
Suitable for water, non-viscous liquids, compressed air, and similar non-inflammable, non-toxic gases.
Working temperature: -10°C / +14°F (263K) up to +90°C / +194°F (368K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Bonnet	CC491K	B 62 UNS C83600
3	Spring	1.1200	A 576 Grade 1045



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08023	Technical data						
Nominal size	**GW**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	130	160	180	185	225	260
Body length	b	68	92	98	98	128	148
Height	H_1	30	42	46	46	52	75
Height	H_2	110	1110	150	160	190	265
Weight	ca. kg	0.80	1.30	1.70	1.90	3.60	6.70

Dimensions in mm.

Strainer
Type 08180, Type 08181

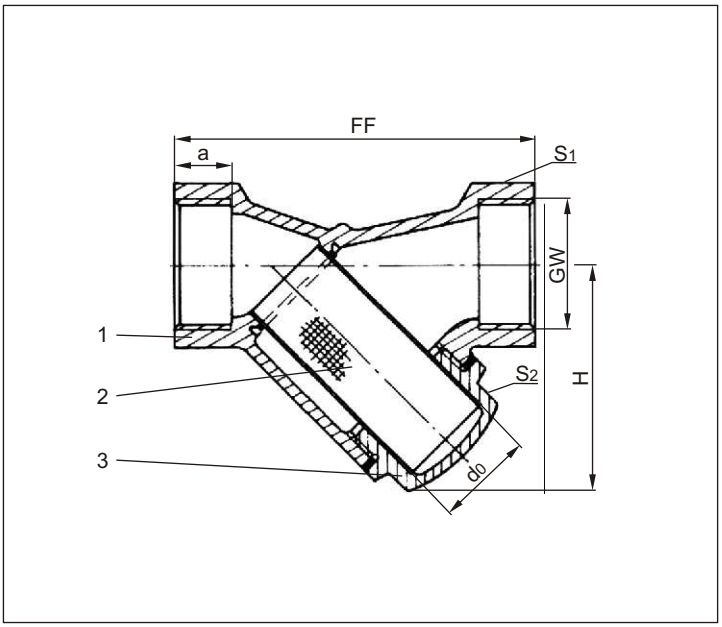
Strainer, PN16
Y-type pattern, Bronze body
stainless steel strainer screen,
Female thread connection (G) acc. to ISO 7-1 Rp

Part No. 08180.X.0000
screen with 0,6 mm mesh

Part No. 08181.X.0000
screen with 0,25 mm mesh

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +160°C / +320°F (433K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
3	Screen	1.4300	A 276 Grade 302
3	Plug	CW612N	B 283 UNS C37700



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08180 & 08181	Technical data								
Nominal size	**GW**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	55	55	65	75	90	110	120	150
Height	H	37	37	38	44	57	67	73	85
Socket depth	a	9	9	11	12	14	16	18	202
Flow diameter	d_0	11	11	12	18	24	31	37	45
Wrench size across flats	S_1	22	22	27	32	41	50	58	70
Wrench size across flats	S_2	17	17	19	22	27	36	41	50
Weight	ca. kg	0.20	0.20	0.25	0.35	0.50	0.85	1.00	1.70

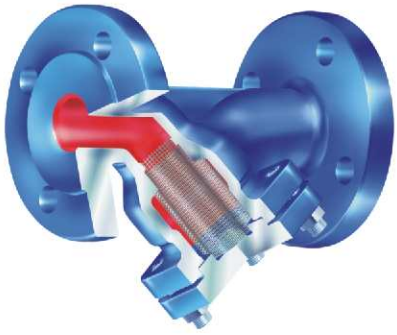
Dimensions in mm.

Strainer
Type 08161

Strainer, PN16
Body and cap in cast iron
Y-type pattern, stainless steel strainer screen

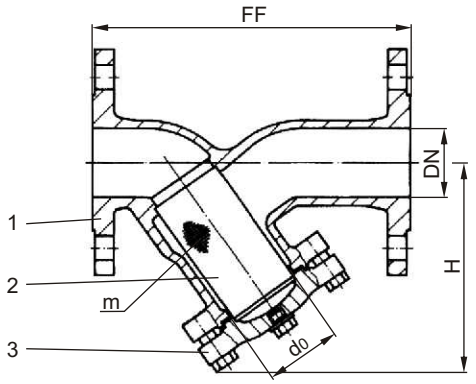
Part No. 08161.X.0000
Flanged connection acc. to DIN EN 1092-1 PN16
face-to-face dimension acc. to DIN EN 558-1, Reihe 1

Available options - on request only:
· screen with 0,25 mm mesh



Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 13.0 bar: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

Materials		DIN EN	ASTM
1	Body	0.6025	A 48-83 Gr. 35B
2	Screen	1.4301	A 276 Grade 304
3	Cap	0.6025	A 48-83 Gr. 35B



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08161	Technical data											
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	90	100	115	125	150	160	180	215	235	275	305
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285
Flow diameter	d_0	23	28	36	42	50	61.5	78.5	89.5	109.5	137.5	160
Mesh	m	1.0	1.0	1.0	1.0	1.0	1.0	1.25	1.25	1.6	1.6	1.6
Weight	ca. kg	3.0	4.0	5.0	7.0	9.0	12.0	16.0	21.0	30.0	43.0	61.0

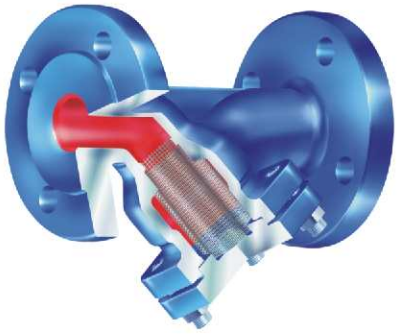
Dimensions in mm.

Strainer
Type 08170

Strainer, PN40
Body in cast steel
Y-type pattern, stainless steel strainer screen

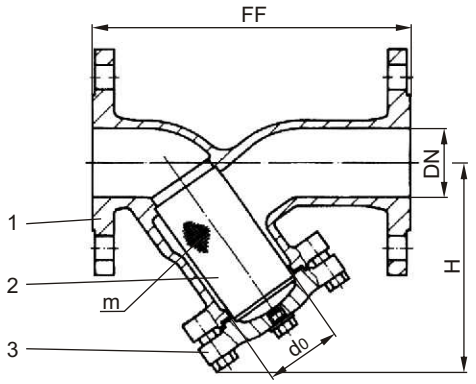
Part No. 08170.X.0000
Flanged connection acc. to DIN EN 1092-1 PN40
face-to-face dimension acc. to DIN EN 558-1, Reihe 1

Available options - on request only:
· screen with 0,25 mm mesh



Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 40.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 33.0 bar: -10°C / +14°F (263K) up to +225°C / +437°F (498K)
up to max. 21.0 bar: -10°C / +14°F (263K) up to +400°C / +752°F (673K)

Materials		DIN EN	ASTM
1	Body	1.0619	A 216 Grade WCB
2	Screen	1.4301	A 276 Grade 304
3	Cap DN15 - 65	1.0460	A 105 Grade II
3	Cap DN80 - 150	1.0425	no reference



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 08170	Technical data											
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	FF	130	150	160	180	200	230	290	310	350	400	480
Height	H	90	100	115	125	150	160	180	215	235	275	305
Flange diameter	D	95	105	115	140	150	165	185	200	235	270	300
Flow diameter	d_0	23	28	36	42	50	61.5	78.5	89.5	109.5	137.5	160
Mesh	m	1.0	1.0	1.0	1.0	1.0	1.0	1.25	1.25	1.6	1.6	1.6
Weight	ca. kg	4.0	5.0	6.0	8.0	10.0	13.0	19.0	24.5	35.0	51.0	71.0

Dimensions in mm.

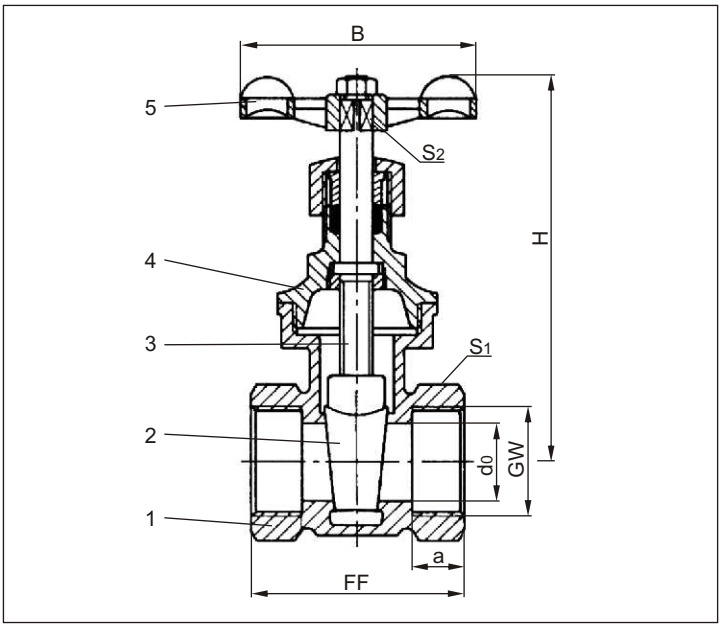
Gate Valves
Type 09010

Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with gland packing and non rising stem

Part No. 09010.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +150°C / +302°F (423K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 09010	Technical data						
Nominal size	**GW**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	55	60	68	76	80	93
Height	H	85	105	115	130	150	180
Socket depth	a	15.0	16.3	19.1	21.4	21.4	25.7
Flow diameter	d_0	12.0	17.5	23.2	29.0	36.0	47.0
Handwheel-Ø	B	60	70	70	80	90	110
Wrench size across flats	S_1	27	32	41	50	58	70
Wrench size across flats	S_2	6	7	8	9	9	11
Weight	ca. kg	0.36	0.54	0.82	1.10	1.60	2.40

Dimensions in mm.

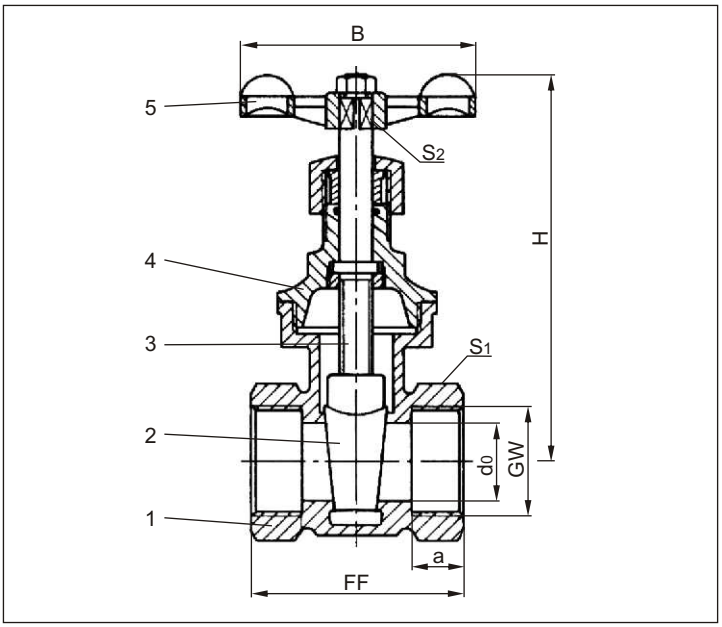
Gate Valves
Type 09012

Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring)
and non rising stem

Part No. 09012.X.0000
Female thread connection (G) acc. to ISO 7-1 Rp

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +180°C / +356°F (453K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 09012	Technical data						
Nominal size	**GW**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Face-to-face dimension	FF	55	60	68	76	80	93
Height	H	85	105	115	130	150	180
Socket depth	a	15.0	16.3	19.1	21.4	21.4	25.7
Flow diameter	d_0	12.0	17.5	23.2	29.0	36.0	47.0
Handwheel-Ø	B	60	70	70	80	90	110
Wrench size across flats	S_1	27	32	41	50	58	70
Wrench size across flats	S_2	6	7	8	9	9	11
Weight	ca. kg	0.36	0.54	0.82	1.10	1.60	2.40

Dimensions in mm.

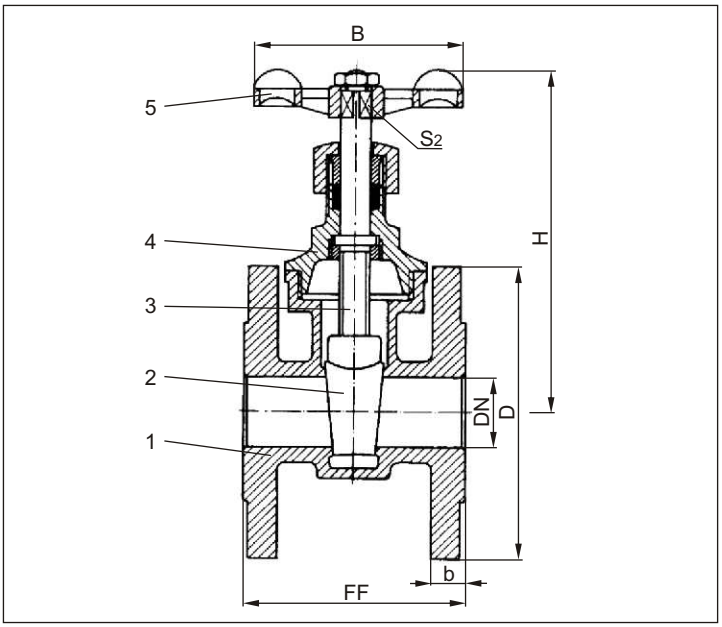
Gate Valves
Type 09061

Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with gland packing and non rising stem

Part No. 09061.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +150°C / +302°F (423K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 09061	Technical data							
Nominal size	**DN**	**20**	**25**	**32**	**40**	**50**	**65**	**80**
Dimension code	.X.	0200	0250	0320	0400	0500	0650	0800
Face-to-face dimension	FF	75	80	90	100	110	130	150
Height	H	105	115	130	150	180	220	250
Flange diameter	D	105	115	140	150	165	185	200
Width of flange	b	12	12	14	14	16	16	18
Handwheel-Ø	B	70	70	80	90	110	150	160
Wrench size across flats	S_2	7	8	9	9	11	12	13
Weight	ca. kg	1.8	2.3	3.6	4.6	6.4	9.4	12.1

Dimensions in mm.

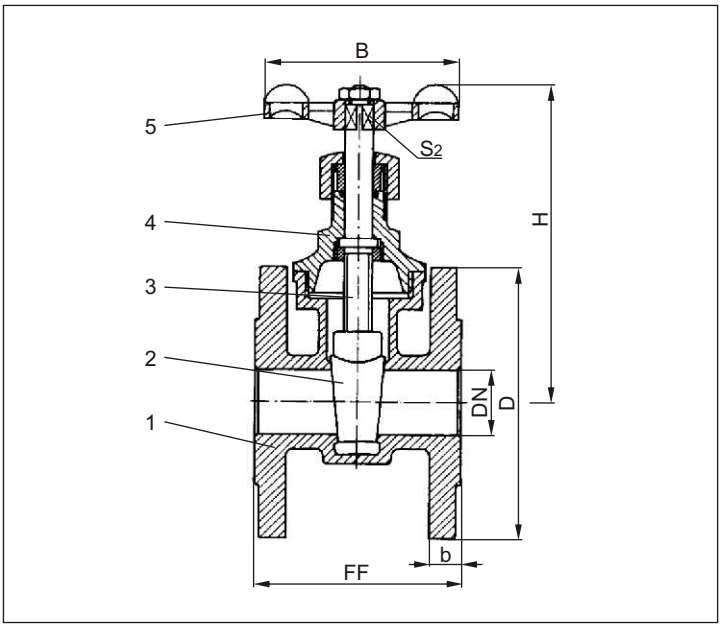
Gate Valves
Type 09420

Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring)
and non rising stem

Part No. 09420.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +180°C / +356°F (453K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 09420	Technical data							
Nominal size	**DN**	**20**	**25**	**32**	**40**	**50**	**65**	**80**
Dimension code	.X.	0200	0250	0320	0400	0500	0650	0800
Face-to-face dimension	FF	75	80	90	100	110	130	150
Height	H	105	115	130	150	180	220	250
Flange diameter	D	105	115	140	150	165	185	200
Width of flange	b	12	12	14	14	16	16	18
Handwheel-Ø	B	70	70	80	90	110	150	160
Wrench size across flats	S_2	7	8	9	9	11	12	13
Weight	ca. kg	1.8	2.3	3.6	4.6	6.4	9.4	12.1

Dimensions in mm.

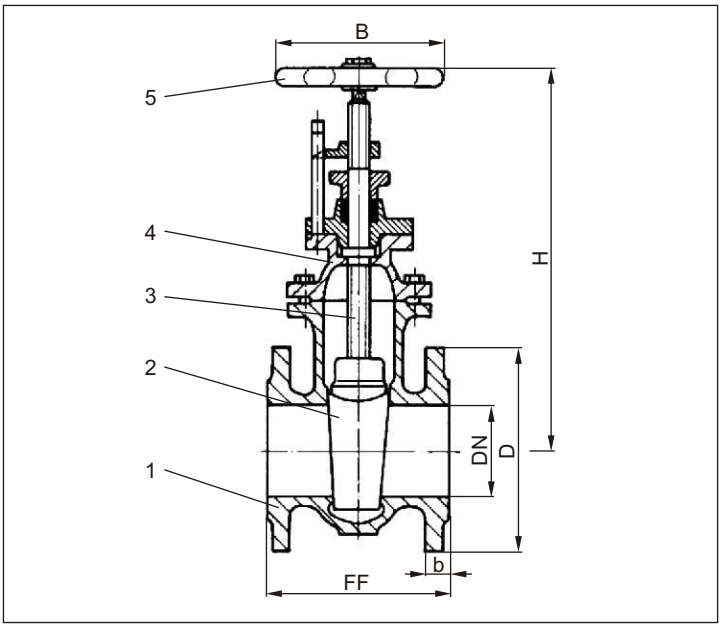
Gate Valves
Type 09320

Gate Valves, PN16, DIN EN 12288
Bronze body and topwork
with maintenance-free gland packing (O-Ring) and non rising stem
with opening indicator

Part No. 09320.X.0160
Flanged connection acc. to DIN EN 1092-1 PN16

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +150°C / +302°F (423K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW710R	No reference
4	Headpiece	CC491K	B 62 UNS C83600
5	Handwheel	0.6025	A 48-83 Gr. 35B



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 09320	Technical data						
Nominal size	**DN**	**50**	**65**	**80**	**100**	**125**	**150**
Dimension code	.X.	0500	0650	0800	1000	1250	1500
Max working pressure	PN	16	16	16	16	10	10
Face-to-face dimension	FF	150	170	180	190	200	210
Height	H	255	295	315	345	400	430
Flange diameter	D	165	185	200	220	250	285
Width of flange	b	16	16	18	20	20	22
Handwheel-Ø	B	120	160	160	160	200	200
Weight	ca. kg	12.0	17.0	21.0	28.0	36.0	46.0

Dimensions in mm.

Gate Valves
Type 09065

Gate Valves, PN16, DIN EN 12288
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring)
and non rising stem
flanged connection acc. to DIN EN 1092-1 PN16

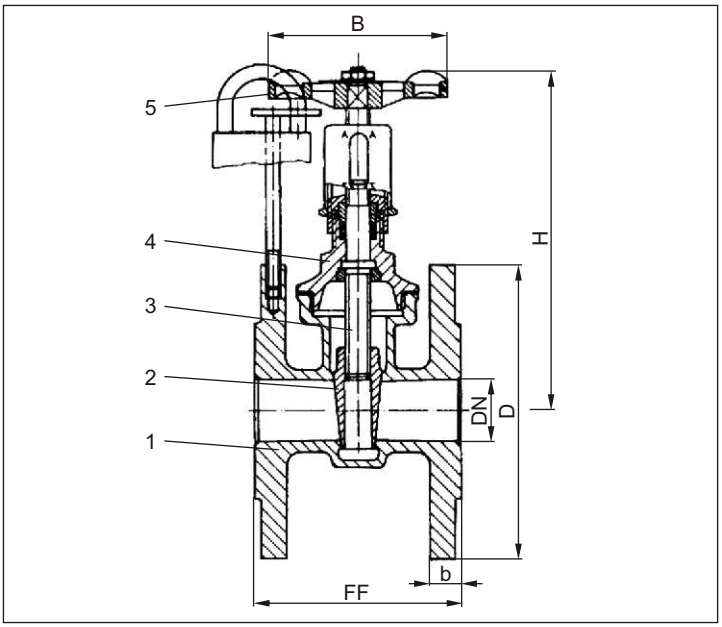
Part No. 09065.X.0160
Valve with opening indicator

Part No. 09065.X.9001
Valve with opening indicator and locking device without lock

Available options - on request only:
· Valve with opening indicator and locking device with lock

Applications:
Suitable for non-toxic, non-inflammable fluids, gases and vapours.
The laws, regulations and standards are to observe for the range of application.
Working temperatures and pressures:
up to max. 16.0 bar: -10°C / +14°F (263K) up to +80°C / +176°F (353K)
up to max. 10.0 bar: -10°C / +14°F (263K) up to +120°C / +248°F (393K)
up to max. 6.0 bar: -10°C / +14°F (263K) up to +180°C / +356°F (453K)

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW612N	B 283 UNS C37700
4	Headpiece	CW612N	B 283 UNS C37700
5	Handwheel	Zinc diecasting	



Essential: When ordering or requesting an offer please indicate flow medium, working pressure and working temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).

CE

Type 09065	Technical data						
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**
Dimension code	.X.	0250	0320	0400	0500	0650	0800
Face-to-face dimension	FF	80	90	100	110	130	150
Height	H	140	160	180	290	290	290
Flange diameter	D	115	140	150	165	185	200
Width of flange	b	12	14	14	16	16	18
Handwheel-Ø	B	70	80	90	110	150	160
Weight	ca. kg	2.5	4.2	4.8	6.7	8.8	12.5

Dimensions in mm.

Dimensions of DIN flanges

DN = Nominal diameter
D = Diameter of flange
Lk = Diameter of bolt circle
n = Number of holes
d = Diameter of holes

		PN 6				PN 10				PN 16				PN 25				PN 40			
DN		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
10	3/8“	75	50	4	11	90	60	4	14	90	60	4	14	90	60	4	14	90	60	4	14
15	1/2“	80	55	4	11	95	65	4	14	95	65	4	14	95	65	4	14	95	65	4	14
20	3/4“	90	65	4	11	105	75	4	14	105	75	4	14	105	75	4	14	105	75	4	14
25	1“	100	75	4	11	115	85	4	14	115	85	4	14	115	85	4	14	115	85	4	14
32	1-1/4“	120	90	4	14	140	100	4	18	140	100	4	18	140	100	4	18	140	100	4	18
40	1-1/2“	130	100	4	14	150	110	4	18	150	110	4	18	150	110	4	18	150	110	4	18
50	2“	140	110	4	14	165	125	4	18	165	125	4	18	165	125	4	18	165	125	4	18
65	2-1/2“	160	130	4	14	185	145	4	18	185	145	4	18	185	145	8	18	185	145	8	18
80	3“	190	150	4	18	200	160	8	18	200	160	8	18	200	160	8	18	200	160	8	18
100	4“	210	170	4	18	220	180	8	18	220	180	8	18	235	190	8	22	235	190	8	22
125	5“	240	200	8	18	250	210	8	18	250	210	8	18	270	220	8	26	270	220	8	26
150	6“	265	225	8	18	285	240	8	22	285	240	8	22	300	250	8	26	300	250	8	26
200	8“	320	280	8	18	340	295	8	22	340	295	8	22	360	310	12	26	375	320	12	30

		PN 63				PN 100				PN 160				PN 250				PN 320			
DN		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
10	3/8“	100	70	4	14	100	70	4	14	100	70	4	14	125	85	4	18	125	85	4	18
15	1/2“	105	75	4	14	105	75	4	14	105	75	4	14	130	90	4	18	130	90	4	18
20	3/4“	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1“	140	100	4	18	140	100	4	18	140	100	4	18	150	105	4	22	160	115	4	22
32	1-1/4“	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	1-1/2“	170	125	4	22	170	125	4	22	170	125	4	22	185	125	4	26	195	145	4	26
50	2“	180	135	4	22	195	145	4	26	195	145	4	26	200	150	8	26	210	160	8	26
65	2-1/2“	205	160	4	22	220	170	8	26	220	170	8	26	230	180	8	26	255	200	8	30
80	3“	215	170	4	22	230	180	8	26	230	180	8	26	255	200	8	30	275	220	8	30
100	4“	250	200	4	22	265	210	8	30	265	210	8	30	300	235	8	30	300	265	8	36

Material comparison DIN EN, DIN and ASTM Standard

Nonferrous materials

DIN EN new		DIN old		ASTM
CC490K	CuSn3Zn8Pb5-C	RG2	2.1098	-
CC491K	CuSn5Zn5Pb5-C	RG5	2.1096.01	B 62 UNS C83600
CC493K	CuSn7Zn4Pb7-C	RG7	2.1090	B 505 UNS C93200
CW450K	CuSn4	CUSN4	2.1016	B 103 UNS C51100
CW452K	CuSn6	CUSN6	2.1020	B 103 UNS C51900
CW453K	CuSn8	CUSN8	2.1030	B 103 UNS C52100
CW507L	CuZn36	CUZN36	2.0335	B 111 UNS C27000
CW508L	CuZn37	CUZN37	2.0321	B 111 UNS C27200
CW509L	CuZn40	CUZN40	2.0360	B 111 UNS C28000
CW610N	CuZn39Pb0,5	CUZN39PB	2.0372	B 111 UNS C28000
CW612N	CuZn39Pb2	MS58	2.0380.10	B 283 UNS C37770
CW614N	CuZn39Pb3	MS58	2.0401.08	B 283 UNS C38500
CW617N	CuZn40Pb2	MS58	2.0402.20	B 283 UNS C38000
CW710R	CuZn35Ni3Mn2AlPb	CUZN35NI	2.0540	-
CW713R	CuZn37Mn3Al2PbSi	CUZN40AL	2.0552	-
CW718R	CuZn39Mn1AlPbSi	CUZN40AL	2.0561	-
CW720R	CuZn40Mn1Pb1	CUZN40MN	2.0580	-
CW723R	CuZn40Mn2Fe1	CUZN40MN	2.0572	-

Ferrous materials

DIN EN new		DIN old	ASTM
1.1200	Federstahl	C-Stahl	A 576 Grade 1045
1.4021	X20Cr13	1.4021	A 276 Grade 420
1.4034	X45Cr13	1.4034	A 276 Grade 420
1.4057	X17CrNi16-2	1.4057	A 276 Grade 431
1.4104	X14CrMoS17	1.4104	A 276 Grade 430F
1.4112	X90CrMoV18	1.4112	A 276 Grade 440B
1.4122	X39CrMo17-1	1.4122	-
1.4300	X12CrNi18-8	1.4300	A 276 Grade 302
1.4301	X5CrNi18-10	1.4301	A 276 Grade 304
1.4305	X8CrNiS18-9	1.4305	A 276 Grade 303
1.4306	X2CrNi19-11	1.4306	A 312 TP 304L
1.4308	G-X6CrNi18-9	1.4308	A 351 CF 8
1.4310	X10CrNi18-8	1.4310	A 313 Grade 302
1.4401	X5CrNiMo17-12-2	1.4401	A 276 Grade 316
1.4404	X2CrNiMo17-12-2	1.4404	A 276 Grade 316L
1.4541	X6CrNiTi18-10	1.4541	A 276 Grade 321
1.4568	X7CrNiAl17-7	1.4568	A 313 Grade 631
1.4571	X6CrNiMoTi17-12-2	1.4571	A 276 Grade 316Ti
1.4552	G-X7CrNiNb18-9	1.4552	A 351 CF 8C
1.4923	X22CrMoV12-1	1.4923	A 193 Grade B6
1.4980	X5CrNiTi26-15	1.4980	A 286 Grade 660
1.5415	16Mo3	16MO3	A 182 Grade F1
1.7225	42CrMo4	1.7225	A 194 Grade 7
1.7258	24CrMo5	1.7258	A 194 Grade B7
1.7335	13CrMo4-5	1.7335	A 182 Grade F12
1.7380	10CrMo9-10	1.7380	A 182 Grade F22
1.7709	21CrMoV5-7	1.7709	-

CERTIFICATE

The TÜV CERT Certification Body of
TÜV NORD CERT GmbH & Co. KG
certifies in accordance with TÜV CERT procedures that

Herose GmbH
Armaturen und Metalle
Elly-Heuss-Knapp-Str. 12
D - 23843 Bad Oldesloe

has established and applies a quality management system for

Development, Manufacture and Sales of
Industrial Valves and Pressure Safety Valves.

An audit was performed, Report No. **8000 327 610**

Proof has been furnished that the requirements according to

DIN EN ISO 9001 : 2000

are fulfilled.

The certificate is valid until **2008-08-14**

Certificate Registration No. **78 100 3710**

Deutscher Akkreditierungs Rat
DAR
TGA-ZM-22-96-00

Hanover, 2005-08-29

TÜV NORD

TÜV CERT Certification Body of
TÜV NORD CERT GmbH & Co. KG

TÜV CERT A4 10.04 10.000 Lö

General Terms and Conditions for Sale 4/2009 for HEROSE GMBH

All sales contracts, contracts for work and materials and our offers made to our business partners (referred to hereinafter as "Purchaser")are subject to the following provisions. Deviations from these terms and conditions are only binding for us if confirmed by us in writing. General conditions of purchase of the purchaser shall not apply.

1. Offer and Conclusion of Contracts
Our offers are not binding with regard to price, quantity, delivery date and possibility to deliver up to the receipt of our written order confirmation. Ancillary agreements are only valid if confirmed by us in writing.

2. Scope of Delivery
Our written confirmation is relevant for the contents of the contract. The delivery of a volume of 10 % more or less is allowed for goods not listed and described in our catalogues.

3. Delivery and Delivery time
The delivery time starts when all details of the order are clarified but not earlier than the purchaser has fulfilled all its contractual obligations to be performed up to then. The delivery time has been met if the delivery item has been dispatched by expiration thereof or, if delivery should be delayed for reasons to do with the Purchaser, upon notification of readiness for dispatch within the agreed delivery term.
The right to obtain the goods duly and promptly shall be reserved.
Timely instalment deliveries of the agreed quantities shall be permissible and may be invoiced separately.
If discharge of the obligation to deliver is prevented by force majeure, strike or lock-out or the consequences thereof or any other events beyond our control -irrespective of, whether occurred at us or at our subsuppliers - the delivery terms shall be extended for the duration of the obstruction.
If we or the purchaser cannot reasonably be expected to honour the contract due to the delay in delivery, both parties shall be entitled to withdraw therefrom. In the event of delay or impossibility for which we are responsible, the purchaser shall be entitled to cancel the contract subject to the relevant legal provisions. Proven damage due to culpable delay in delivery will be compensated by 0.5 % for each complete week of delay but to an absolute maximum of 5 % of the value of that part of the whole delivery which cannot be used or taken into operation in time or according to the contract due to the delay.
If the purchaser wishes to delay the dispatch we are entitled to impose to him the costs for the storing of the goods but at least 1 % of the invoice amount for each month, beginning with the month after the receipt of the notification of the readiness for dispatch.

4. Prices
Our prices are to be understood ex warehouse Bad Oldesloe excluding value added tax. The prices at the day of delivery shall apply. Packing, loading charges customs duty etc. are for purchaser's account.

5. Forwarding
Forwarding and transportation of the goods occur on purchaser's account and risk.

6. Passing of risk
The risk shall pass to the purchaser when the goods leave our warehouse. If the delivery time has been overrun, caused by the purchaser then the risk passes to the purchaser when it is notified that the goods are ready for dispatch.

7. Terms of payment
Unless agreed otherwise, payment is to be effected within 10 days from invoice date with 2 % discount from the net price of the goods or net cash within 30 days from invoice date. Agreed discounts may not be deducted if prior bills payable have not net yet been settled in full by the purchaser.
For times of delay in payment or for times of respite of due claims, the legal interest rate has to be paid, irrespective of the compensation of possible further damages. If it should transpire after the conclusion of the contract that our claims are endangered because of lack in the financial ability of the purchaser all its debts shall fall due immediately. We shall then be entitled to effect outstanding deliveries only against the provision of security or cash in advance. Claims for any further default damages shall not be affected hereby.
Only counterclaims recognized by non-appealable declaratory judgment or undisputed may be set off. Furthermore, the Purchaser may only exercise a right of retention if its counterclaim arises under the same contract.

8. Reservation of title
Goods delivered shall remain our property until all claims and debts arising from the business relationship including interests and ancillary costs have been settled and any cheques and bills of exchange have been cashed. Under current account, the reserved property shall be deemed security for our balance claim.
If our goods are compounded or confused with all goods that do not belong to us, we shall be entitled to ownership of the new property or confused stock in the proportion of the invoiced value of the reserved goods to the value of the other compounded or confused goods. If the purchaser acquires sole ownership of the new property, he herewith undertakes to transfer to us co-ownership of the new property in the proportion of our invoiced value of our reserved goods to the value of the other compounded or confused items at the time of compounding or confusion and shall hold the same in safe custody for us according to the principles of sound stewardship.
Resale of goods supplied, regardless of whether compounded of confused, shall be permitted only to retailers in the ordinary course of business and only if the account receivable from resale passes to us before we are paid for the goods concerned. The purchaser shall be forbidden to pledge or mortgage the reserved goods or agree to any prohibition of assignment. If the purchaser intends to assign accounts receivable from resale by way of factoring, he must notify us in advance. Assignment by way of factoring shall be permitted only with our express consent in writing. If third parties seize goods being subject to this reservation of title the purchaser shall be obliged to inform us immediately.
The purchaser herewith assigns to us in advance and with all accessory rights all his present and future accounts receivable from resale, or claims founded on any other legal basis, in respect of the goods supplied by us. In the event of resale of our goods after compounding or confusion, or resale of the new property created by confusion, the account receivable from the purchaser's customer shall be assigned to us in the amount of the value of the reserved goods. The value of the reserved goods shall be our amount invoiced plus a 10 % safeguarding fee, which, however, shall not be charged if in conflict with third-party rights. If we are joint owners of the goods sold, the assignment of accounts receivable shall only cover the amount corresponding to our share of co-ownership.
Should the value of the securities given to us exceed our claims by more then 10 %, we undertake, at the request of the purchaser, to relinquish securities of our choice. Upon settlement of all our outstanding debts and claims arising from the business relationship, ownership of the retained goods as well as title to the assigned claims shall passed to the purchaser.
The purchaser shall be entitled to collect the accounts receivable. The right to resale, process the goods and to collect payment shall cease upon our withdrawal of this right, above all in the event the purchaser does not orderly fulfill its payment commitments to us.

9. Delay/Default:
We shall be entitled to resell the purchased goods and take action for damages due to non-performance, after having fixed a reasonable deadline, if the purchaser delays in taking delivery of purchased goods and/or payment

10. Guarantee
The purchaser must inspect the goods immediately upon receipt and notify in writing any patent or apparent defects or wrong shipments without undue delay, but within 10 days after receipt at the latest.
Additional or minor weights of the goods -under production conditions inevitable -do not entitle the purchaser to objections.
If defects become apparent later which were not recognizable upon the first check then they are to be notified in writing without undue delay. In case defects proven by it, the purchaser has the following rights:
All products suffering from defects at the time of delivery shall be remedied by us or replaced at our choice without charge. Replaced parts become our property. The purchaser has to grant us reasonable time and opportunity to remedy or to replace defective goods. If through our fault we fail to meet a reasonable extended deadline set for replacement or rework, if we finally refuse replacement or rework, if replacement or rework should prove finally abortive or if replacement or rework is impossible or unacceptable for the purchaser, the purchaser shall be entitled to rescind the contract or reduce the purchase price. If the defect is only insignificant and the Purchaser can utilize/dispose of the goods without suffering any disadvantages, the Purchaser shall only have the right to claim a reduction in price. The limitation period for claims out of guarantee according to § 437 German Code Civil (BGB) is 12 months after delivery. No warranty is given for second-hand products. The limitation period in the case of delivery recourse under Section 478 and 479 of the German Civil code (BGB) shall not be affected by the two foregoing sentences. Nor shall the foregoing provisions limit claims for damages due to death, physical injury or damage to health caused by defects or liability under the Product Liability Act nor any other claim for damages under warranty in the case of gross negligence, intent or a breach of fundamental contractual obligations (these being defined in clause 14)

11. Return of goods
The return of goods is only permitted upon our prior express consent unless we are obliged by law to accept the return. The goods have to be returned freight paid. We reserve the right to invoice 20 % of the net price of the goods returned for compensation of the costs caused by the return of the goods.

12. Catalogue
All drawings in our catalogues and prospectus are not binding for the performance of the order. We reserve the right to amend the construction of the goods as far as this is opportune under technical points of view and as far as it does not reduce the suitability of the product. Deviations from given measurements and weights are permitted if the contract purpose and the quality are not endangered.

13. Copyright
All catalogues, drawings, samples and other documents remain our property and are under our copyright. Those items shall not be disclosed to third parties and shall immediately be returned at our request. If drawings or samples sent to us for the performance of the order violate patent rights or other industrial property rights of third parties the purchaser is responsible and liable for all damages including loss of profit occurring thereof and shall keep us harmless from against all claims of third parties.

14. General liability
Notwithstanding the provisions under section 3, second last paragraph above, any claims for damage and loss against us, particularly for damages not inflicted on the delivery item itself, e.g. due to non performance because of default or impossibility or other breach of contractual obligations, miscounselling, culpa en contrahendo, tort, or for other reasons whatsoever, including loss of profit or standstill of the production shall be excluded. The liability only applies in case of gross negligence of our general management or our vicarious agents were such agents are managerial staff, in case of wilful misconduct, by violation of health or other personal injury, in case of defects which we have maliciously concealed, or in case of defects of the goods, as far as the product liability law for damage to property privately used and for personal injury applies, or in case of warranted quality.
In case of culpable violation of material contractual obligations, we are liable also for gross negligence with regard to vicarious agents who are not managerial staff and in case of normal negligence of our general management and our vicarious agents were such agents are managerial staff; in the latter case the liability shall be limited to compensation for the typical speculative damage.
Fundamental contractual obligations are obligations which must be fulfilled if the contract is to make any sense at all and where the other contracting Party relies on and has a right to rely on such obligations being performed.

15. Place of performance, jurisdiction, applicable law
The place of performance for all claims under this contract shall be our principal place of business..
Place of jurisdiction for disputes with business men or persons, which do not have a place of general jurisdiction in Germany, even for actions on a bill of exchange or cheque, shall be our principal place of business. We may also sue the purchaser at the court having jurisdiction over his residence, if we so choose. German law shall apply. The provisions of the UN Sales Convention (CISG) shall be excluded. The Incoterms 2000 shall apply as most recently amended.

HEROSE

CRYONiCA
криогенные технологии

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