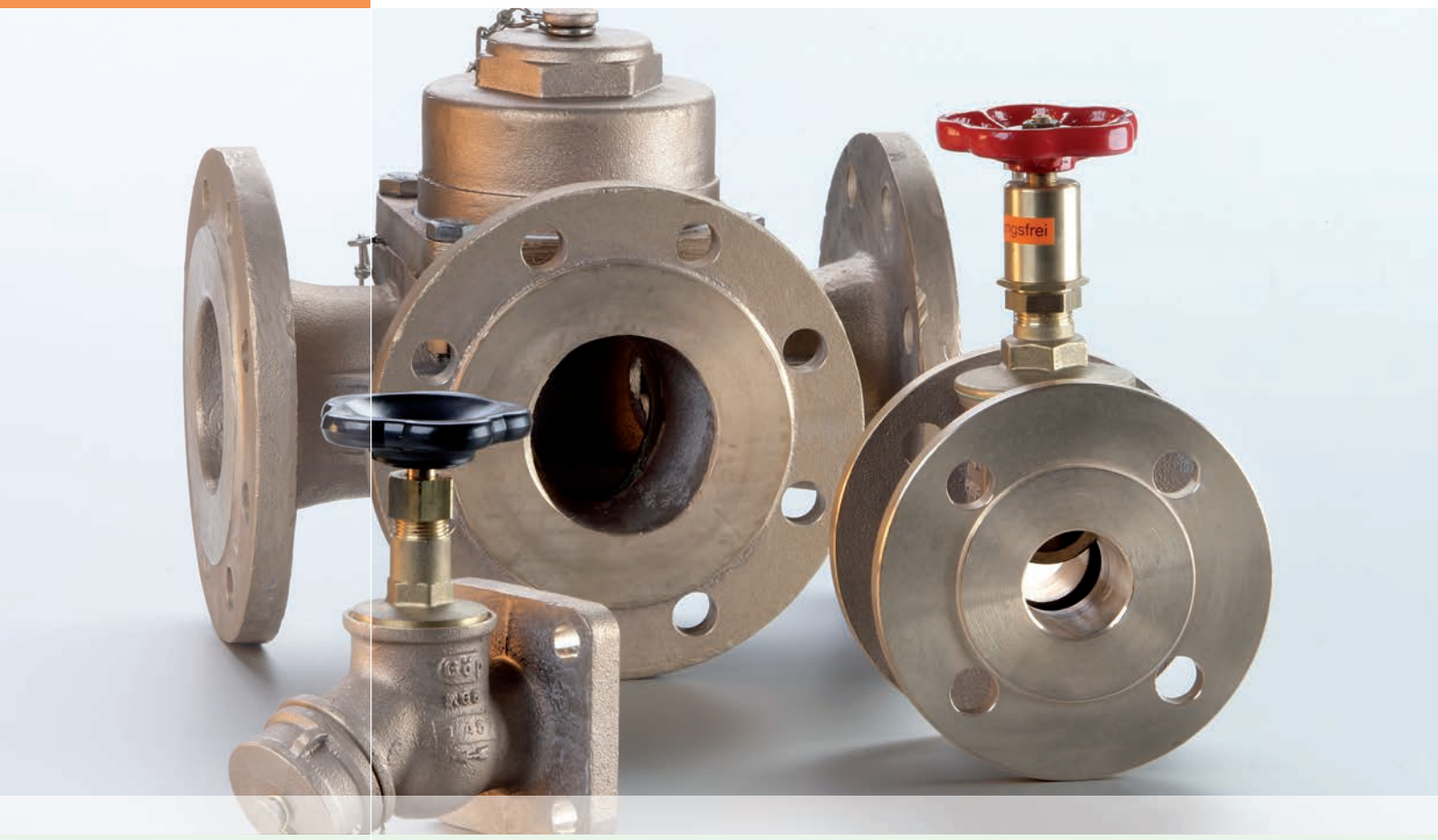
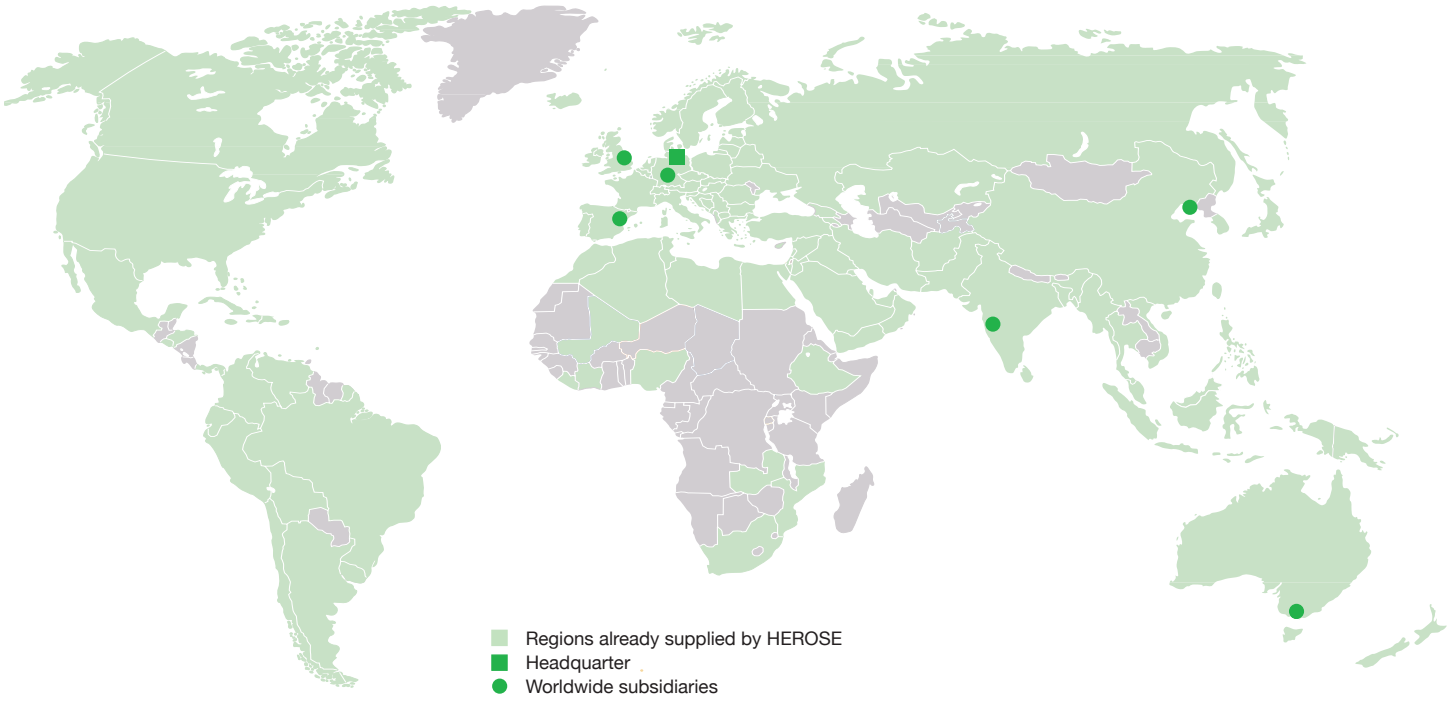
HEROSE

ENERGY
2020

Valves for oil-immersed transformers



HEROSE worldwide



For the adresses of our partners and authorised service centres please visit www.herose.com

Headquarter

HEROSE GMBH
ARMATUREN UND METALLE

Elly-Heuss-Knapp-Strasse 12
23843 Bad Oldesloe
Germany
Phone: +49 4531 509-0
Fax: +49 4531 509-120
info@herose.com

Worldwide subsidiaries

Great Britain
HEROSE Ltd.

Finningley/Doncaster
Phone: +44 1302 773 114
Fax: +44 1302 773 333
keith.stewart@herose.co.uk
www.herose.co.uk

P.R. China
HEROSE Trading Co., Ltd.

Dalian
Phone: +86 411 6616 4388
Fax: +86 411 6616 4399
info@herose.cn
www.herose.cn

Australia
MACK VALVES Pty Ltd.

Bayswater, Victoria
Phone: +61 3 9737 5200
scott.gilson@mackvalves.com
www.mackvalves.com

Spain
HEROSE Ibérica S.L.

Barcelona
Phone: +34 930 028 328
ofertas@herose.es
www.herose.es

Germany
LORCH Sicherheitsventile GmbH & Co. KG

Filderstadt-Bernhausen
Phone: +49 711 22720-400
Fax: +49 711 22720-488
lorch@lorch.de
www.lorch.de

India
MACK VALVES India Pvt Ltd.

Pune
Phone: +91 20 6718 1614
Mobile: +91 98 1839 0222
sankalp.tiwari@herose.com
www.herose.com

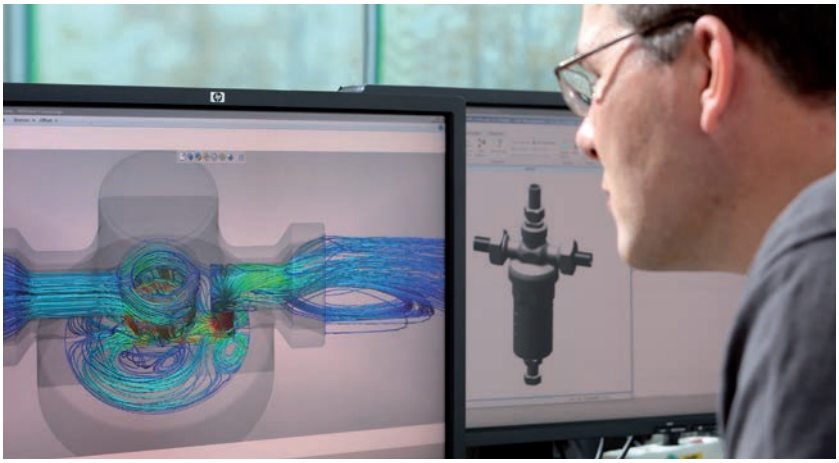
Edition 2020-02

Main Content

Our aim is simple: Perfection.
The result: products on the very highest level.

HEROSE is one of Europe's leading manufacturers of valves for industrial applications. For over 140 years we have developed, produced and sold valves for cryogenic technology and pressure vessel construction and set standards for the safe handling of technical gases, vapours and liquids.

With a production volume of more than 400,000 valves per year, we are one of the most experienced suppliers in our sector. Our products are in successful use throughout the world.



Continuous quality control is second nature for us. And very reassuring for you.

We offer our customers reliable products, a high level of safety and a sound business. These values run through the entire production process – from purchasing up to international support. Positive feedback from our customers shows that we have the right approach.

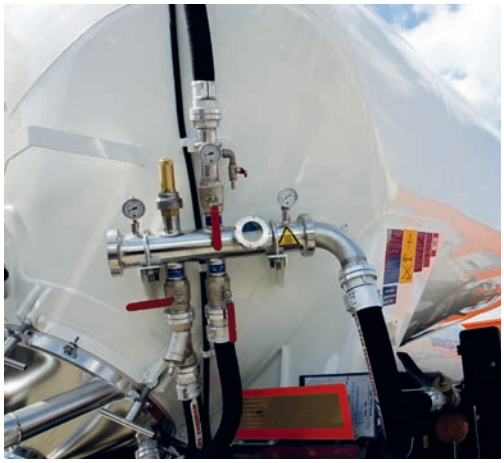
The name HEROSE is a promise of quality, which motivates us to persevere with our efforts and challenges to become even better.

Phone: +49 4531 509-0

Headquarter in Bad Oldesloe – on more than 10,000 m² production and office area nearly 400,000 valves are produced every year

Frequently HEROSE offers trainings with integrated test lab demonstrations

We enable safe handling of cryogenic technical gases and LNG applications



We ensure safe handling of gases, vapours, liquids, granular and powdered media

We contribute to a reliable global energy supply

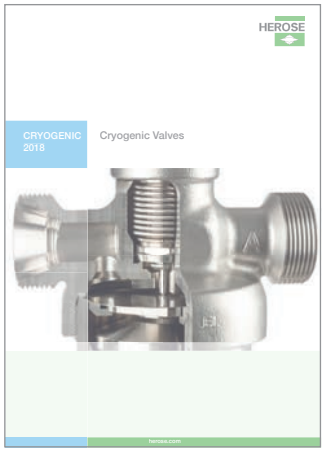
Material analysis and identification during the incoming goods check

Careful assembly of the valve components

Continuous quality checks within the scope of the operator self check

Product Catalogues at a glance

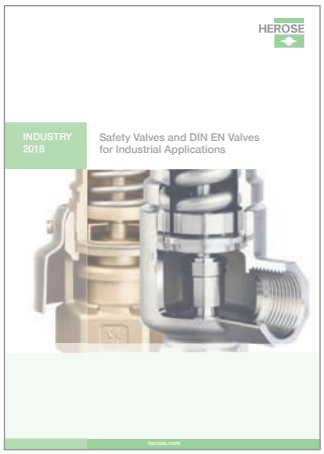
CRYOGENIC



Valves and Safety Valves for

- Storage and Transportation of Cryogenic Gases
- Firesafe and Offshore Applications

INDUSTRY



Valves for Industrial Applications

- Safety Valves and Overflow Valves
- DIN EN Valves

ENERGY

Valves for oil-immersed Transformers for

- Onshore Applications
- Offshore Applications
- Low Temperature Applications

Phone: +49 4531 509-0

Content

Bronze Gate Valves for oil immersed Transformers

Outlet Valves for oil immersed Transformers

Bronze Plug cocks and Three-way Plug cocks for oil immersed Transformers

Content

Bronze Plug Key

Pressure regulator systems

Ball Valves for oil immersed Transformers

Radiator valves

Content

Bronze Gate Valves for oil immersed Transformers

Bronze Outlet Valves for oil immersed Transformers

Ball Valves for oil immersed Transformers

Low Temperature Applications
Content

Bronze Gate Valves for oil immersed Transformers

Ball Valves for oil immersed Transformers

Valves for Onshore Applications

An oil-cooled power transformer supplies a chemical plant in central Germany.
Provided with HEROSE valves for onshore applications.

Gate Valves
Type 09320

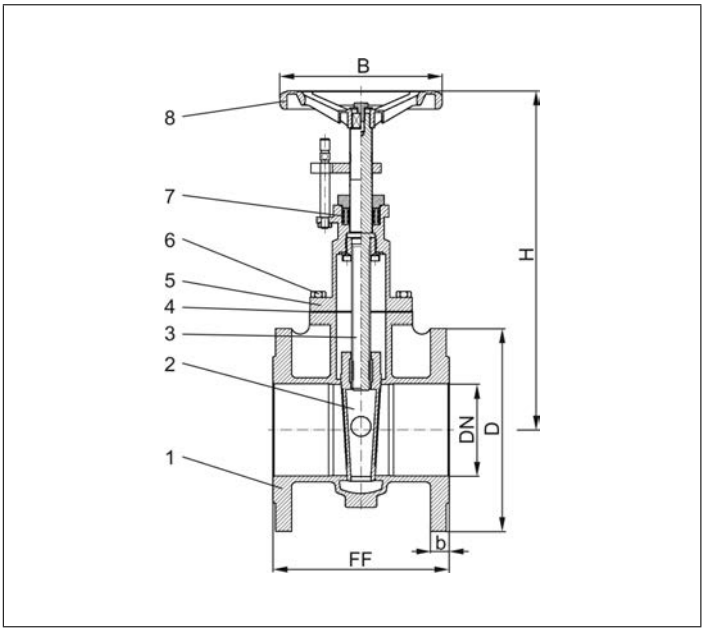
Flanged Gate Valves, PN10 - 16, DIN EN 12288
Bronze body and topwork
with maintenance-free gland packing (O-Ring) and non rising stem
flanged connection acc. to DIN EN 1092-3 PN10 or PN16

Part No. 09320.X.110000
· Valve with opening indicator and locking device without lock

Part No. 09320.X.120000
· Valve with opening indicator and locking device with lock

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C /+248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CC491K	B 62 UNS C38600
6	Bolts	1.4571/A4	similar A 194 B8T
7	O-Rings	FPM (Viton)	
8	Handwheel	Aluminium - diecasting	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 09320	Technical data					
Nominal size	**DN**	**100**	**125**	**150**	**200**	**250**
Dimension code	X	1000	1250	1500	2000	2500
Max. working pressure	PN	16	16	16	10	10
Face-to-face dimension	FF	190	208	210	230	250
Height	H	367	429	469	593	690
Flange diameter	D	220	250	285	340	395
Flange connect DIN EN 1092-3	PN	16	16	16	10	10
Width of flange	b	20	22	22	24	24
Handwheel-Ø	B	175	200	225	300	300
Weight	approx. kg	23.5	32.0	42.5	71.0	106.0

Dimensions in mm.

Gate Valves
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 1092-3 PN16

Part No. 09420.X.000000
· Standard valve

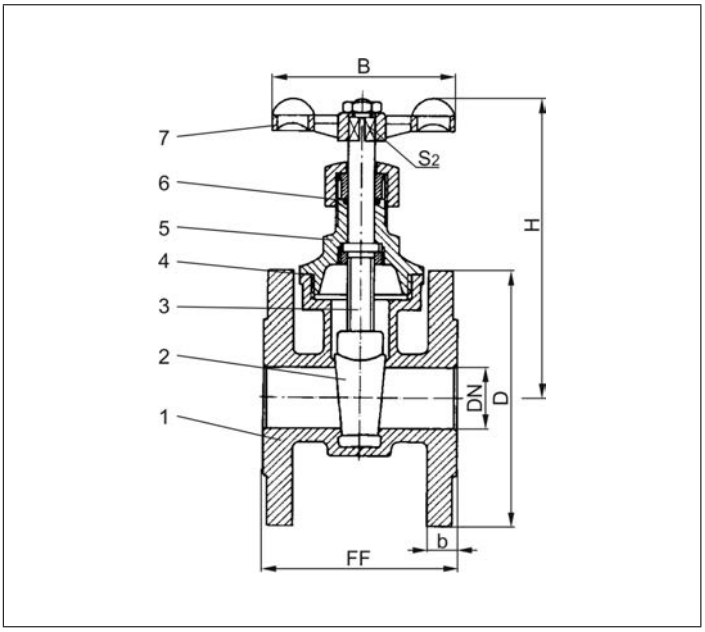
Part No. 09420.X.010000
· Valve with locking device without lock

Part No. 09420.X.020000
· Valve with locking device with lock

option:
Locking device →

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C / +248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CW614N	B 283 UNS C38500
6	O-Rings	FPM (Viton)	
7	Handwheel	Aluminium - diecasting	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 09420	Technical data							
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	80	90	100	110	130	150	165
Height	H	120	135	155	180	225	250	295
Flange diameter	D	115	140	150	165	185	200	220
Width of flange	b	12	14	14	16	16	18	20
Handwheel-Ø	B	70	80	80	110	130	150	150
Wrench size across flats	S_2	8	9	9	11	12	14	14
Weight	approx. kg	2.5	3.9	4.9	7.0	9.5	12.1	19.0

Dimensions in mm.

Edition 2020-02

Gate Valves
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 1092-3 PN16

Part No. 09420.X.100000
· Valve with opening indicator

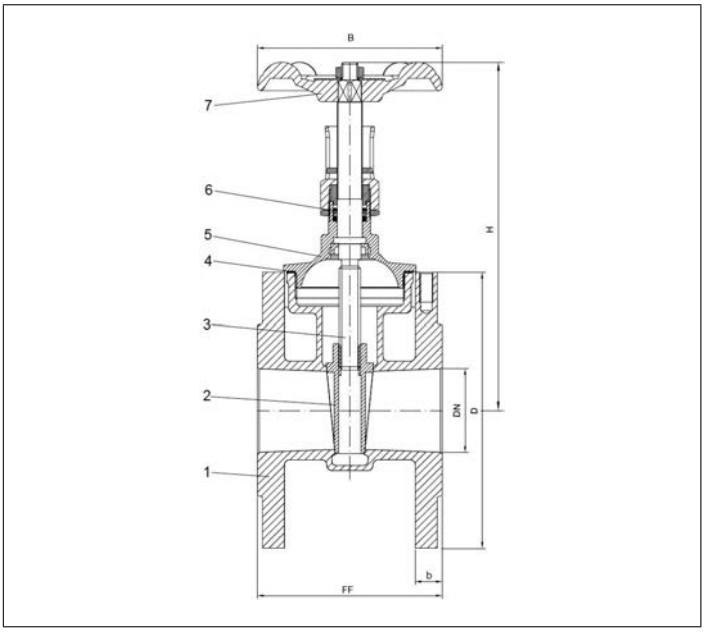
Part No. 09420.X.110000
· Valve with opening indicator and locking device without lock

Part No. 09420.X.120000
· Valve with opening indicator and locking device with lock

option:
Locking device →

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C / +248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CW614N	B 283 UNS C38500
6	O-Rings	FPM (Viton)	
7	Handwheel	Aluminium - diecasting	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

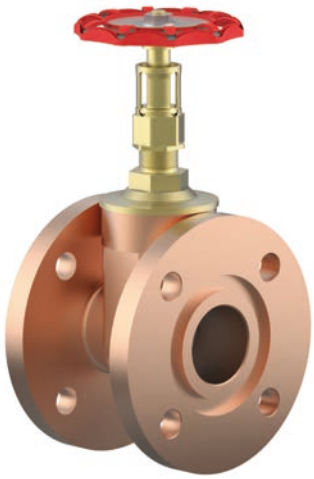
CE

Type 09420	Technical data							
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	80	90	100	110	130	150	165
Height	H	140	150	170	210	255	280	320
Flange diameter	D	115	140	150	165	185	200	220
Width of flange	b	12	14	14	16	16	18	20
Handwheel-Ø	B	70	80	80	110	130	150	150
Wrench size across flats	S_2	8	9	9	11	12	14	14
Weight	approx. kg	2.6	4.0	4.9	6.8	8.0	12.2	19.0

Dimensions in mm.

Gate Valves
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 1092-3, PN16



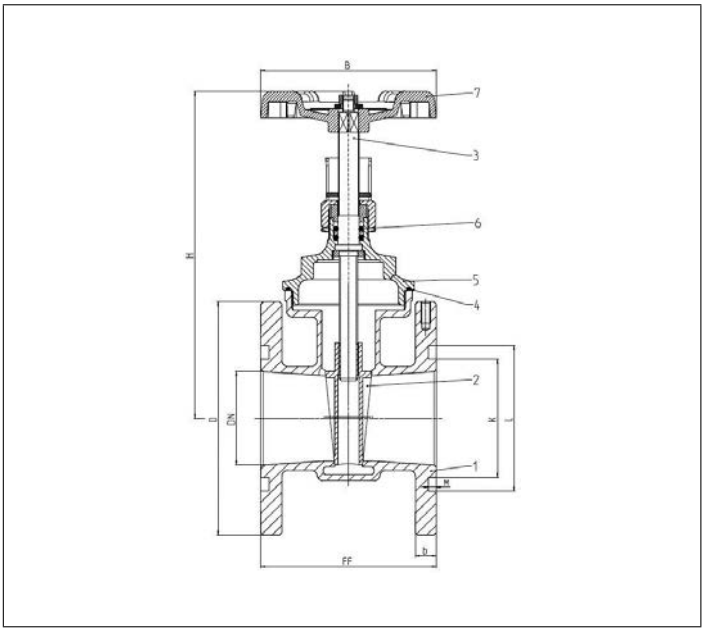
Part No. 09420.X.10D023
· Valve with opening indicator, flat flange with groove on both flanges

Part No. 09420.X.11D023
· Valve with opening indicator, flat flange with groove on both flanges and locking device without lock

Part No. 09420.X.12D023
· Valve with opening indicator, flat flange with groove on both flanges and locking device with lock

Applications:
Suitable for transformer oil
Working temperatures: -25°C / -13°F (248K) up to +120°C / +248°F (393K) and maximum 6.0 bar.

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 455 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CW614N	B 455 UNS C38500
6	O-Rings	FPM (Viton)	
7	Handwheel	Aluminium - diecasting	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 09420	Technical data				
Nominal size	**DN**	**25**	**40**	**50**	**80**
Dimension code	.X.	0250	0400	0500	0800
Face-to-face dimension	FF	80	100	110	150
Height	H	138	169	208	281
Flange diameter	D	115	150	165	200
Inner diameter of the groove	K	44	61	69	101
Outer diameter of the groove	L	65	82	90	125
Groove depth	M	6	6	6	7
Width of flange	b	12	14	16	18
Handwheel-Ø	B	70	80	110	150
Wrench size across flats	S_2	8	9	11	14
Weight	approx. kg	2.8	5.3	7.3	13.4

Dimensions in mm.

Edition 2020-02

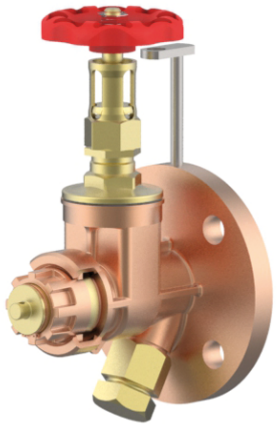
Gate Valves
Type 09420

Flanged Gate Valves, PN16, DIN EN 12288 with "Guillemin"-outlet
Bronze body, screwed topwork in brass
with maintenance-free gland packing (O-Ring) and non rising stem
flanged connection acc. to DIN EN 1092-3 Pn16,
sampling point with plug and chain

Part No. 09420.X.10C629
· Valve with opening indicator

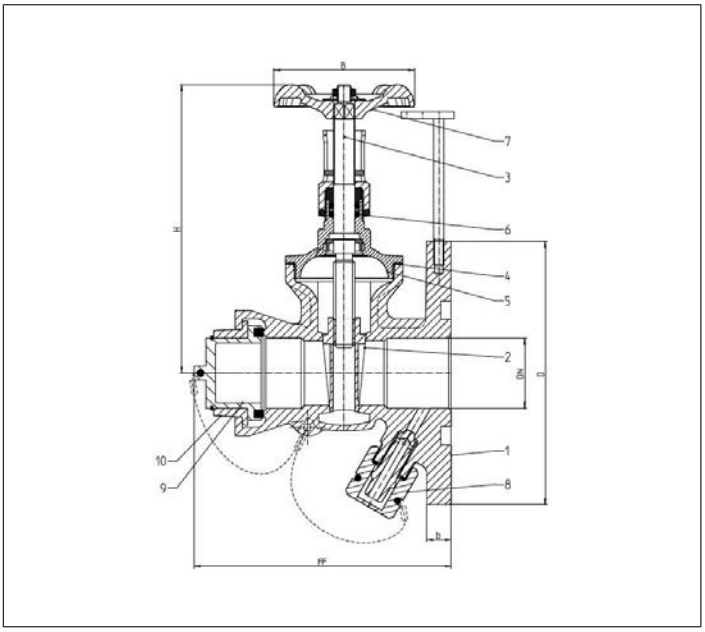
Part No. 09420.X.11C629
· Valve with opening indicator and locking device without lock

Part No. 09420.X.12C629
· Valve with opening indicator and locking device with lock



Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C / 248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 455 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CW614N	B 455 UNS C38500
6	O-Ring	FPM (Viton)	
7	Handwheel	Aluminium - diecasting	
8	Plug	CW614N	B 455 UNS C38500
9	Plug part A	CW614N	B 455 UNS C38500
10	Plug part B	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 2014/68/EU (PED).

CE

Type 09420	Technical data					
Nominal size	**DN**	**20**	**25**	**40**	**50**	**80**
Dimension code	.X.	0200	0250	0400	0500	0800
Face-to-face dimension	FF	110	114	146	168	190
Height	H	125	137	164	174	280
Flange diameter	D	105	115	150	165	200
Width of flange	b	12	12	14	16	18
Handwheel-Ø	B	70	70	80	110	150
Wrench size across flats	S_2	7	8	9	11	14
Weight	approx. kg	1.8	2.1	4.4	5.4	11.7

Dimensions in mm.

Outlet Valves
Type 03196

Outlet Valves, DIN 42568
Body and screwed topwork in brass, outlet with cap and chain, round/square flange, drilled acc. to DIN 2501 PN6

Part No. 03196.X.000510
· Standard design

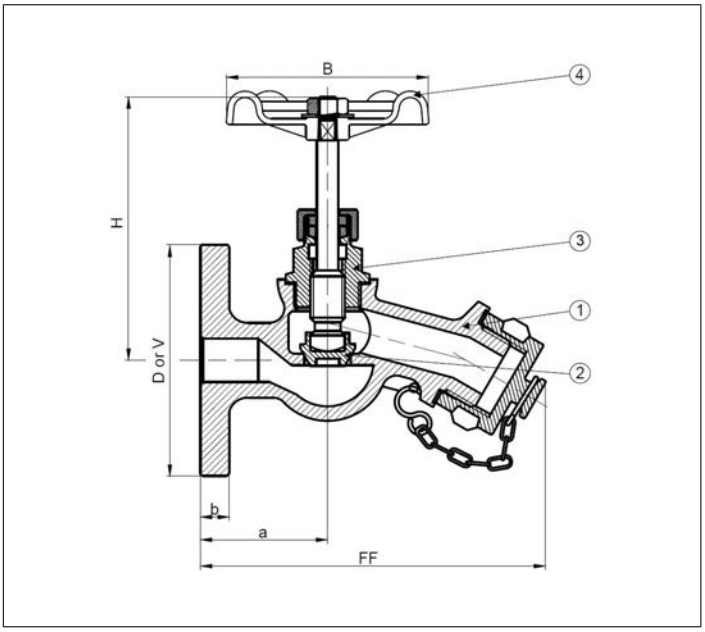
Part No. 03196.X.010010
· Design with handwheel in aluminium (red) and locking device without lock

Part No. 03196.X.020010
· Design with handwheel in aluminium (red) and locking device with lock

Option:
Design with opening indicator

Applications:
Suitable for transformer oil.
Working temperatures: -20°C / -4°F (253K) up to +120°C / +248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CW614N	B 283 UNS C38500
2	Disc	CW614N	B 283 UNS C38500
3	Headpiece	CW614N	B 283 UNS C38500
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 2014/68/EU (PED).

CE

Type 03196	Technical data		
Nominal size	**DN**	**15**	**32**
Dimension code	.X.	0150	0320
Face-to-face dimension	FF	120	128
Height	H	92	133
Round-Flange-Ø	D	80	-
Square-Flange	V	-	90
Length	a	44	55
Width of flange	b	10	13
Handwheel- Ø	B	70	80
Weight	approx. kg	1.0	2.3

Dimensions in mm.

Edition 2020-02

Outlet Valves
Type 03197

Outlet Valves, DIN 42568
Body and screwed topwork in stainless steel (1.4308),
outlet with cap and chain, round/square flange,
drilled acc. to DIN 2501 PN6

Part No. 03197.X.000010
· Standard design

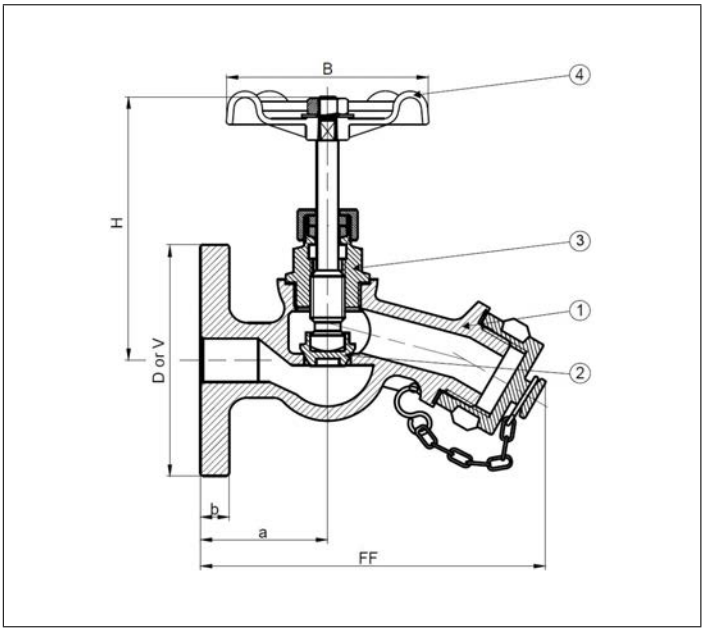
Part No. 03197.X.010010
· Design with handwheel in aluminium (black) and locking device without lock

Part No. 03197.X.020010
· Design with handwheel in aluminium (black) and locking device with lock

Option:
Design with opening indicator

Applications:
Suitable for transformer oil.
Working temperatures: -40°C / -40°F (233K) up to +180°C / +356°F (453K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	1.4308	A 351-CF8
2	Disc	1.4301	A 182-F304
3	Headpiece	1.4308	A 351-CF8
4	Handwheel	Aluminium	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 03197	Technical data		
Nominal size	**DN**	**15**	**32**
Dimension code	.X.	0150	0320
Face-to-face dimension	FF	110	140
Height	H	95	133
Round-Flange-Ø	D	80	-
Square-Flange	V	-	90
Length	a	44	55
Width of flange	b	10	13
Handwheel- Ø	B	70	80
Weight	approx. kg	1.0	2.3

Dimensions in mm.

Outlet Valves
Type 03198

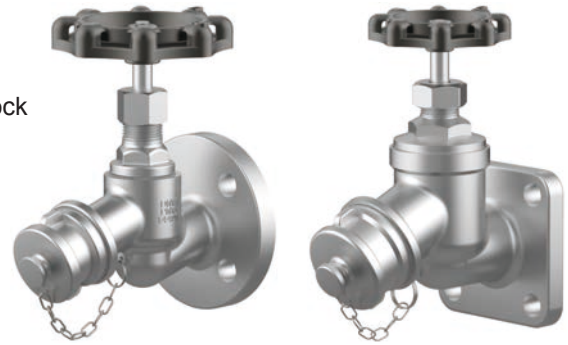
Outlet Valves, DIN 42568
Body and screwed topwork in stainless steel (1.4408),
outlet with cap and chain, round/square flange,
drilled acc. to DIN 2501 PN6

Part No. 03198.X.000010
· Standard design

Part No. 03198.X.010010
· Design with handwheel in aluminium (black) and locking device without lock

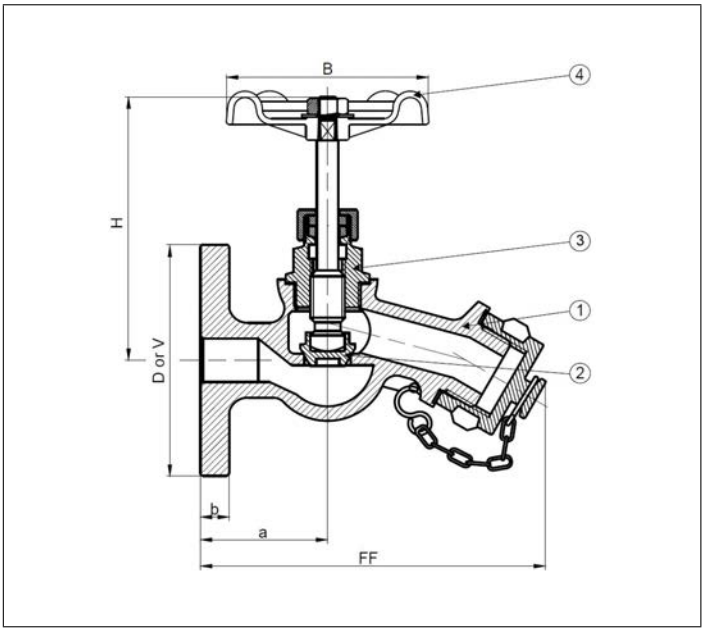
Part No. 03198.X.020010
· Design with handwheel in aluminium (black) and locking device with lock

Option:
Design with opening indicator



Applications:
Suitable for transformer oil.
Working temperatures: -40°C / -40°F (233K) up to +180°C / +356°F (453K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Disc	1.4301	A 182-F304
3	Headpiece	1.4408	A 351-CF8M
4	Handwheel	Aluminium	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 03198	Technical data		
Nominal size	**DN**	**15**	**32**
Dimension code	.X.	0150	0320
Face-to-face dimension	FF	110	140
Height	H	95	133
Round-Flange-Ø	D	80	-
Square-Flange	V	-	90
Length	a	44	55
Width of flange	b	10	13
Handwheel- Ø	B	70	80
Weight	approx. kg	1.0	2.3

Dimensions in mm.

Edition 2020-02

Outlet Valves
Type 03199

Outlet Valves, DIN 42568
Bronze body and screwed topwork in brass
Outlet with cap and chain, round/square flange,
drilled acc. to DIN PN6

Part No. 03199.X.000500
· Standard design

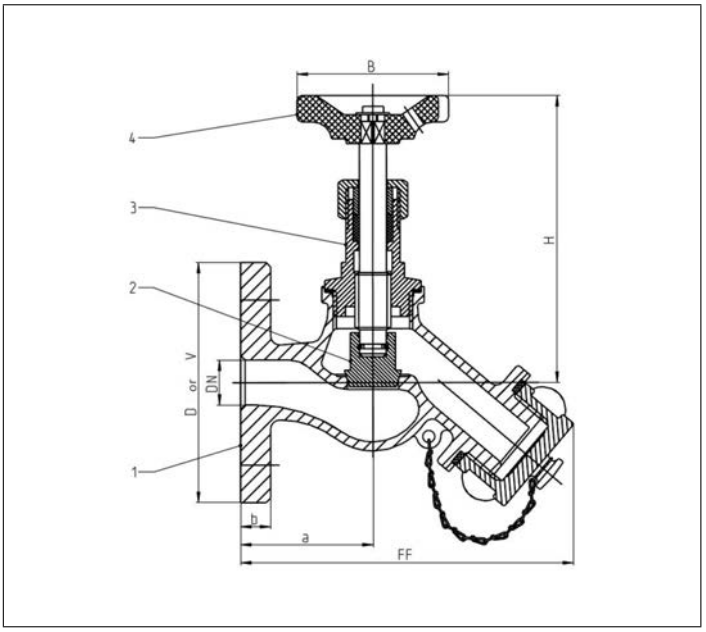
Part No. 03199.X.010400
· Design with handwheel in cast iron (red) and locking device without lock

Part No. 03199.X.020400
· Design with handwheel in cast iron (red) and locking device with lock

Option:
Design with opening indicator

Applications:
Suitable for transformer oil.
Working temperatures: -40°C / -40°F (233K) up to +115°C / +239°F (388K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Disc	CW614N	B 455 UNS C38500
3	Headpiece	CW614N	B 455 UNS C38500
4	Handwheel	PA6 (Polyamid)	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 03199	Technical data		
Nominal size	**DN**	**15**	**32**
Dimension code	.X.	0150	0320
Face-to-face dimension	FF	110	130
Height	H	97	120
Round-Flange-Ø	D	80	-
Square-Flange	V	-	90
Length	a	44	55
Width of flange	b	10	13
Handwheel- Ø	B	63	80
Weight	approx. kg	1.0	2.3

Dimensions in mm.

Outlet Valves
Type 30199

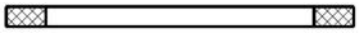
Sealing kit for outlet valves type 03199

Sealing kit consisting of:
· Copper ring (headpiece/body)
· Polyamide ring (body/cap)

Part No. 30199.0150.0000
suitable for:

Type	Nominal size
03199	DN15

Sealing ring (Copper)



Sealing ring (Polyamide)

Part No. 30199.0320.0000
suitable for:

Type	Nominal size
03199	DN32

Sealing ring (Copper)

Sealing ring (Polyamide)

Type 30199	Technical Data		
Nominal size	**DN**	**15**	**32**
Dimension code	.X.	0150	0320
Dimensions copper ring	mm	35/27x2	42x51
Dimensions polyamide ring	mm	32/27x2	49/42x2
Weight	approx. kg	0.02	0.03

Dimensions in mm.

Edition 2020-02

Plug Cocks and Three-way Plug Cocks
Type 12170

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

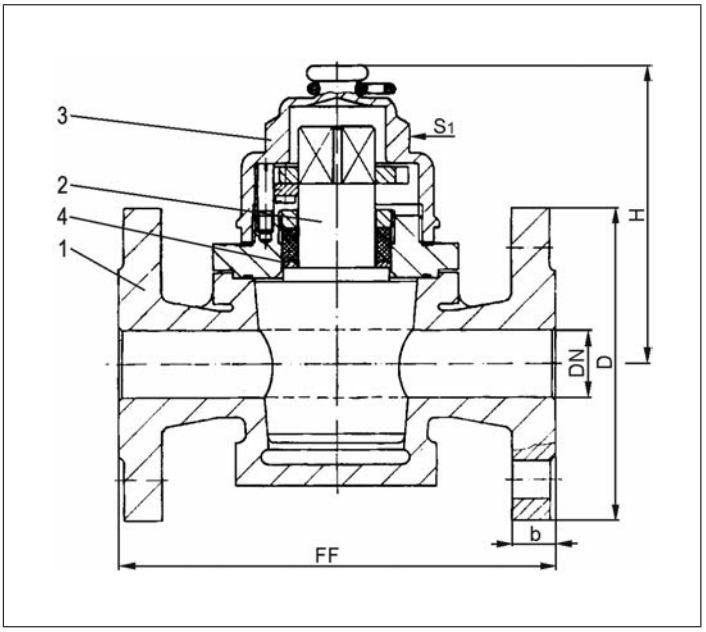
Part No. 12170.X.0160
· Standard version with round flanges drilled acc. to DIN PN 16

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 maximum 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
4	Seal	PTFE	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 12170	Technical data		
Nominal size	**DN**	**25**	**80**
Dimension code	.X.	0250	0800
Face-to-face dimension	FF	160	290
Height	H	115	155
Round-Flange-Ø	D	115	200
Width of flange	b	16	20
Width across flats	S_1	46	71
Weight	approx. kg	6.4	10.0

Dimensions in mm.

Plug Cocks and Three-way Plug Cocks
Type 14060

Three-way plug cock in bronze, DIN 42544
with gland packing and square tap,
with T-port and round flanges drilled acc. to DIN PN 16

Part No. 14060.X.9000
· Standard version

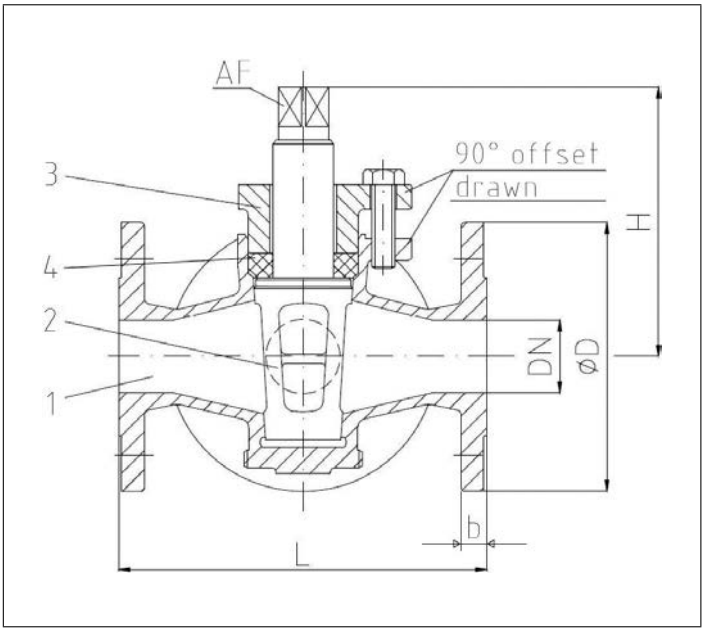
Part No. 14060.X.9000OSD
· Version with coating system according to DIN EN ISO 12944-5, C5-M high

Part No. 29070.0270.0000
· Plug key in annealed cast iron for three-way plug cock DN 40 / DN 50

Part No. 29070.0320.0000
· Plug key in annealed cast iron for three-way plug cock DN 65

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximum 10.0 bar.

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Plug	CC491K	B 62 UNS C83600
3	Gland	CC491K	B 62 UNS C83600
4	Seal	PTFE	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 14060	Technical data			
Nominal size	**DN**	**40**	**50**	**65**
Dimension code	.X.	0400	0500	0650
Face-to-face dimension	FF	200	230	290
Height	H	148	176	215
Rund-Flansch-Ø	D	150	165	185
Width of flange	b	16	16	16
Width across flats	AF	27	27	32
Weight	approx. kg	10.5	16.0	24.0

Dimensions in mm.

Edition 2020-02

Plug Cocks and Three-way Plug Cocks
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 16

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

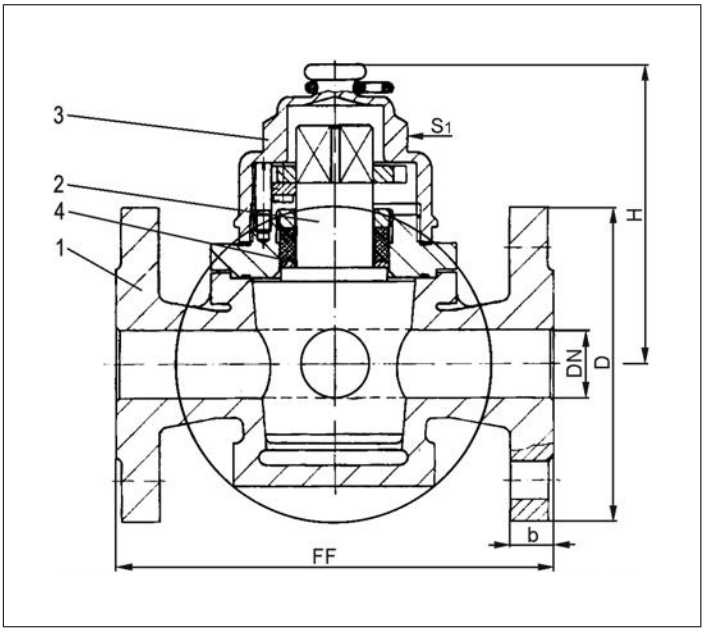
Part No. 14170.X.RECH
· Plug position stop right

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: -40°C / -40°F (233K) up to +115°C / +239°F (388K) and maximum 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
4	Seal	PTFE	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 14170	Technical data		
Nominal size	**DN**	**25**	**80**
Dimension code	.X.	0250	0800
Face-to-face dimension	FF	160	290
Height	H	115	155
Rund-Flansch-Ø	D	115	200
Width of flange	b	16	20
Width across flats	S_1	46	71
Weight	approx. kg	7.9	22.0

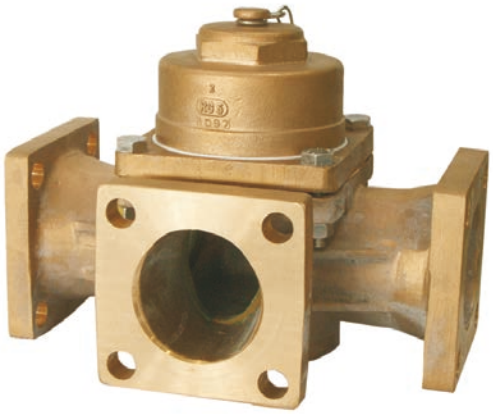
Dimensions in mm.

Plug Cocks and Three-way Plug Cocks
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

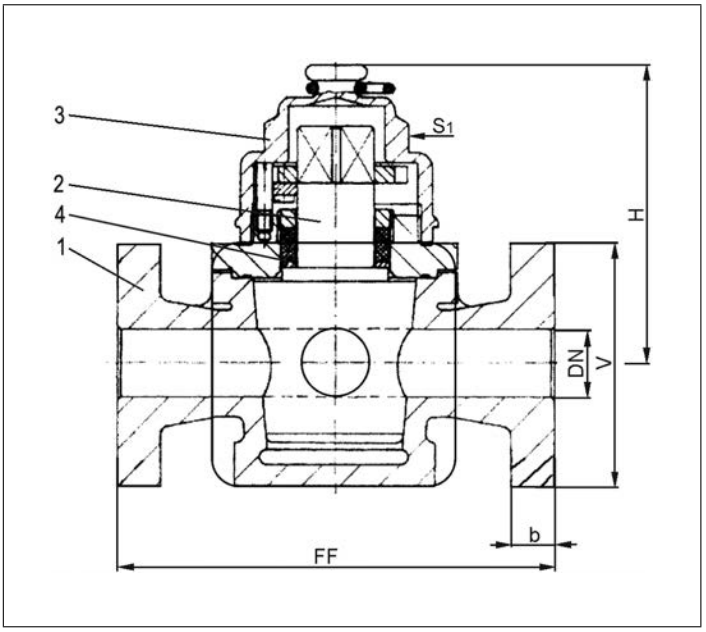
Part No. 14175.X.0160
· Standard version, plug position stop left

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 maximum 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
4	Seal	PTFE	



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 14175	Technical data	
Nominal size	**DN**	**80**
Dimension code	.X.	0800
Face-to-face dimension	FF	290
Height	H	155
Square-Flange	V	125
Width of flange	b	18
Width across flats	S_1	71
Weight	approx. kg	22.0

Dimensions in mm.

Edition 2020-02

Plug Cocks and Three-way Plug Cocks
Type 30060, Type 30170

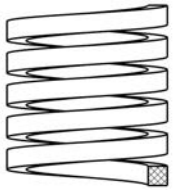
Spare parts for Plug Cocks and Three-way Plug Cocks Types 14060, 12170, 14170 and 14175

Gland packing Type 14060 consisting of:
· Gland packing

Sealing kit Types 12170, 14170 and 14175 consisting of:
· Gland seal
· Flat gasket
· O-ring

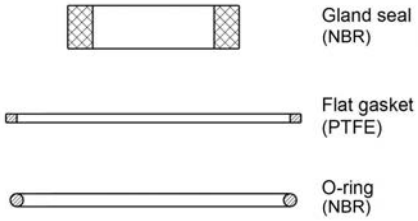
Part No. 30060.0500.0000
suitable for:

Type	Nominal size
14060	DN50



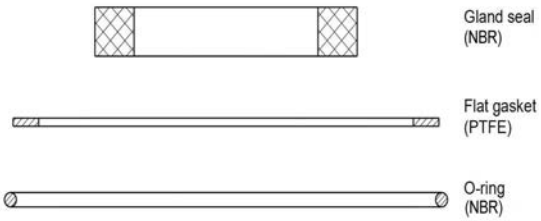
Part No. 30170.0250.0000
suitable for:

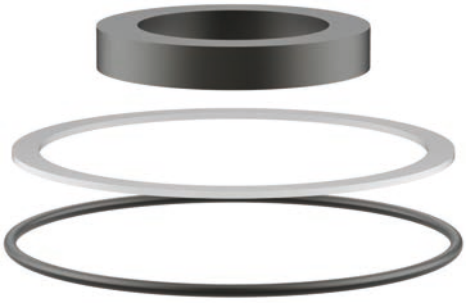
Types	Nominal size
12170, 14170, 14175	DN25



Part No. 30170.0800.0000
suitable for:

Types	Nominal size
12170, 14170, 14175	DN80





Type 30060	Technical data	
Nominal size	**DN**	**50**
Dimension code	.X.	0500
Cross section ramie	mm	6x6
Weight	approx. kg	0.02

Dimensions in mm.

Type 30170	Technical data		
Nominal size	**DN**	**25**	**80**
Dimension code	.X.	0250	0800
Dimensions gland seal	mm	39.5/28x10	77.0/54x12
Dimensions flat gasket	mm	68/63x2	125/110x2
Dimensions O-ring	mm	63x3	126.59x3.53
Weight	approx. kg	0.02	0.05

Dimensions in mm.

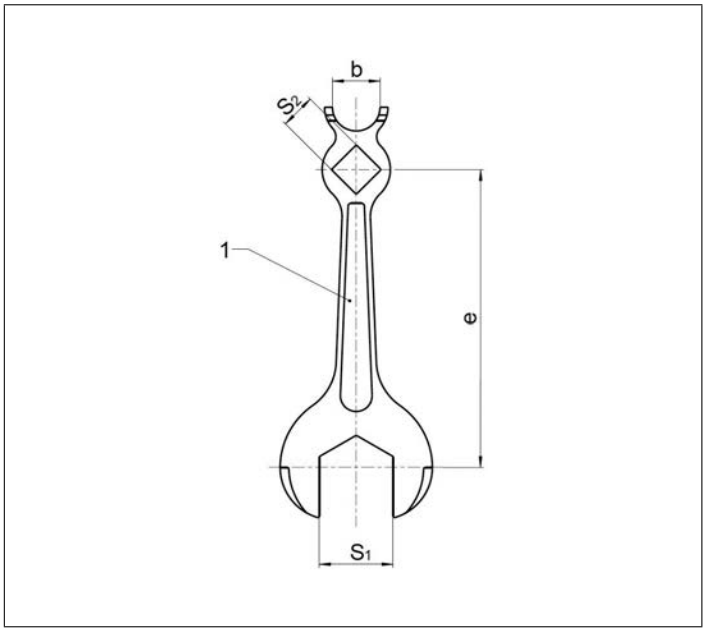
Plug Cocks and Three-way Plug Cocks
Type 55322

Plug key in Bronze, DIN 42544

Part No. 55322.X.0105
· Plug key in bronze for three-way plug cock DN 25

Part No. 55322.X.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	.X.	0003	0004
Length	b	30	56
Length	e	188.5	481.5
Wrench size across flats	S_1	46	71
Wrench size across flats	S_2	22	41
Weight	approx. kg	0.9	3.8

Dimensions in mm.

Edition 2020-02

Pressure Regulator Systems
Type 04605

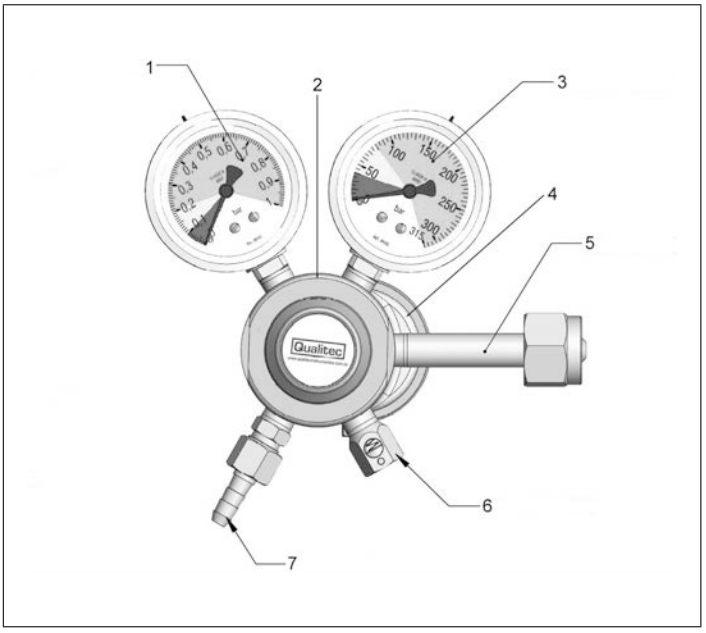
Pressure regulator system, brass
brass double-stage pressure regulator system with integrated check valve for nitrogen and synthetic air

Part No. 04605.H001.000001
Nitrogen (N_2), connection W 24.32 x 1-1/4" (DIN 477 No. 10)

Part No. 04605.H001.000002
Synthetic air (O_2 in N_2), connection G 3/4" right (DIN 477 No. 9), brass

Applications:
Suitable for low pressure inertisation of power transformers.
Working temperatures: -40°C / -40°F (233K) up to +60°C /+140°F (333K). Working pressure range: 0 bar up to 1 bar.

Materials		DIN EN	ASTM
1	Pressure gauge	-	-
2	Cover	Aluminium	
3	Pressure gauge	-	-
4	Body	CW612N	B 283 UNS C37770
5	Inlet connection	CW612N	B 283 UNS C37770
6	Relief valve	-	-
7	Outlet connection	CW612N	B 283 UNS C37770



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 04605	Technical data			
Dimension code			**000001**	**000002**
Max. inlet pressure [bar]	PN		220	220
Setted outlet pressure [bar]	P_1		0.2	0.2
Relief valve setting [bar]	P_2		0.5	0.5
Inlet connection	SW		W 24.32 x 1-1/4"	G 3/4"
Fluid			Nitrogen	Dry air
Weight	approx. kg		2.4	2.4

Dimensions in mm.

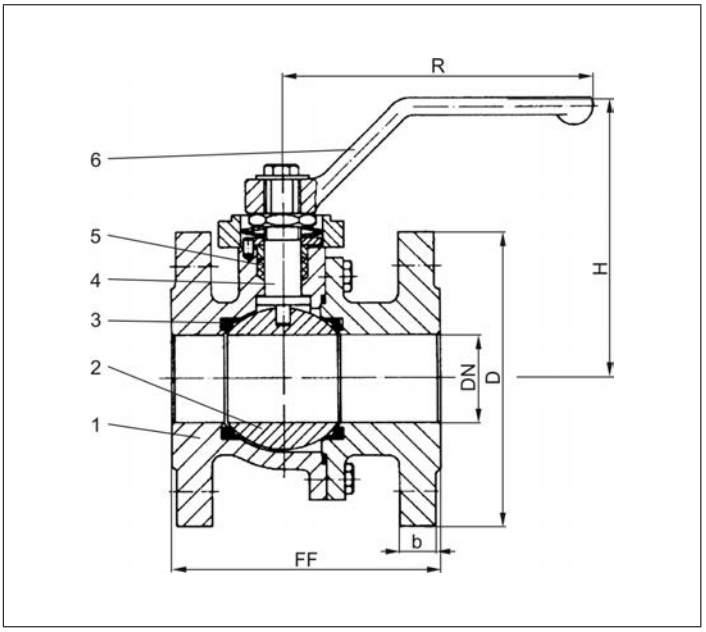
Ball Valves
Type 15210

Two-piece Flanged Ball Valves, cast steel, PN16 - 40, DIN EN
full bore, seat rings glass filled PTFE,
gland packing with PTFE-rings
with lever and locking device without lock
face-to face dimension acc. to DIN EN 558-1 row 27 (F4/5) - short pattern

Part No. 15210.X.0600

Applications:
Suitable for non-toxic gases and fluids, oil.
Working temperatures: -50°C / -58°F (223K) up to +230°C / +446°F (503K).

Materials		DIN EN	ASTM
1	Body	1.0619	A 216 Grade WCB
2	Ball	1.4308	A 351 CF8
3	Seat rings	PTFE-Fiberglass	
4	Stem	1.4401	A 216 Grade 316
5	Packing	PTFE	
6	Lever	1.4308	A 351 CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15210	Technical data										
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**150**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Max. working pressure	PN	40	40	40	40	40	40	16	40	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	350
Height	H	121	121	121	126	144	153	176	185	202	273
Flange diameter	D	95	105	115	140	150	165	185	200	220	285
Width of flange	b	16	18	18	18	18	20	18	24	20	22
Length	R	155	155	155	155	230	230	230	300	300	800
Weight	approx. kg	3.2	3.7	3.9	5.5	7.3	10.4	16.3	21.4	25.9	95

Dimensions in mm.

Edition 2020-02

Ball Valves
Type 15213

Threaded Ball Valves, stainless steel, PN25/40
two-piece body, "screwed design", pressure compensation hole for sizes DN25 (1") up to DN50 (2"), blow out proof stem design, free of silicone, seat rings PTFE, gland packing with PTFE-rings, with lever, female thread acc. to ISO 228-1

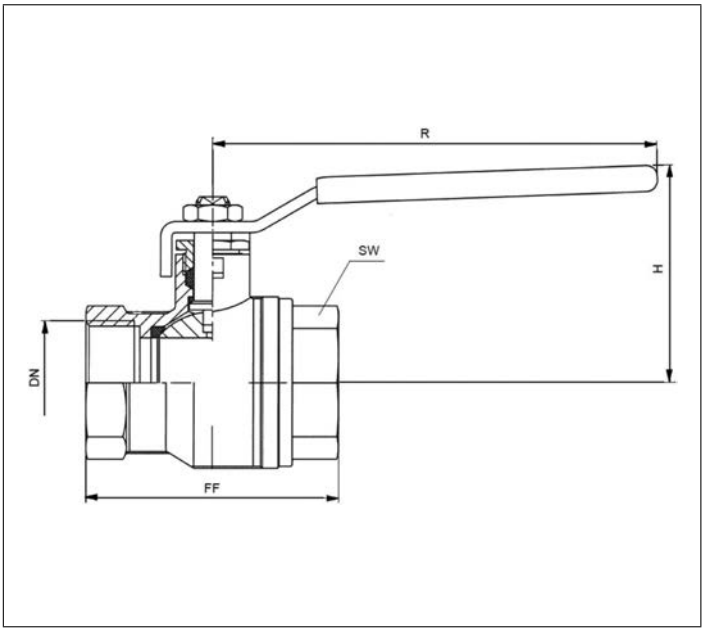
Part No. 15213.X.100000
Standard design

Part No. 15213.X.110000
Design with locking device without lock

Part No. 15213.X.120000
Design with locking device with lock

Applications:
Suitable for transformer oil.
Working temperatures: -20°C / -4°F (253K) up to +180°C / +356°F (453K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE	
4	Stem	1.4401	A 216-Grade 316
5	Packing	PTFE	
6	Lever	1.4308	A 351-CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15213	Technical data								
Nominal size	**DN**	**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
Max. working pressure	PN	40	40	40	40	40	25	25	25
Face-to-face dimension	FF	40	40	50	60	68	80	94	106
Height	H	37	37	43	47	56	61	76	84
Wrench size across flats	SW	20	20	25	31	38	48	54	66
Length	R	81	81	101	101	121	121	158	158
Weight	approx. kg	0.13	0.13	0.18	0.31	0.46	0.74	1.24	1.97

Dimensions in mm. Further nominal sizes on request.

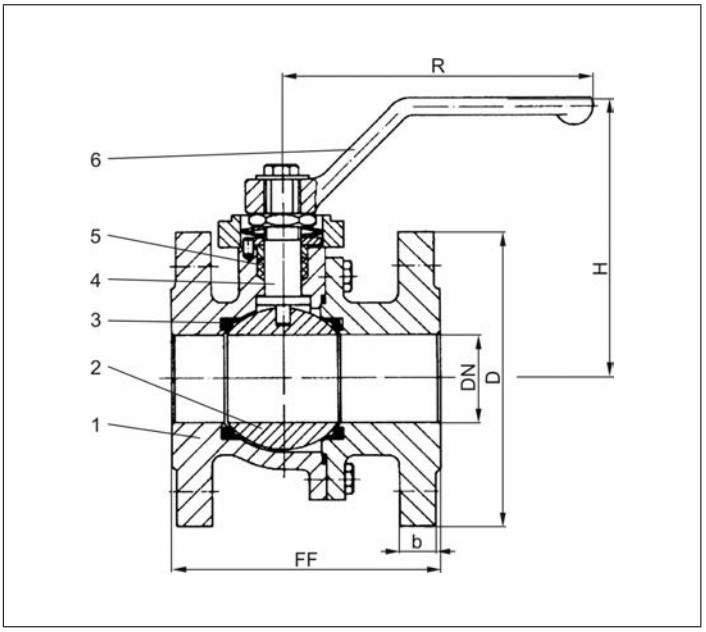
Ball Valves
Type 15215

Two-piece Flanged Ball Valves, stainless steel, PN16 - 40, DIN EN
full bore, seat rings glass filled PTFE,
gland packing with PTFE-rings
with lever and locking device without lock
face-to face dimension acc. to DIN EN 558-1 row 27 (F4/5) - short pattern

Part No. 15215.X.0600

Applications:
Suitable for non-toxic gases and fluids, oil, acid, solution and solvent.
Working temperatures: -50°C / -58°F (223K) up to +230°C / +446°F (503K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351 CF8M
2	Ball	1.4408	A 351 CF8M
3	Seat rings	PTFE-Fiberglass	
4	Stem	1.4401	A 216 Grade 316
5	Packing	PTFE	
6	Lever	1.4308	A 351 CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15215	Technical data										
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**150**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Max. working pressure	PN	40	40	40	40	40	40	16	40	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	350
Height	H	121	121	121	126	144	153	176	185	202	273
Flange diameter	D	95	105	115	140	150	165	185	200	220	285
Width of flange	b	16	18	18	18	18	20	18	24	20	22
Length	R	155	155	155	155	230	230	230	300	300	800
Weight	approx. kg	3.2	3.7	3.9	5.5	7.3	10.4	16.3	21.4	25.9	95

Dimensions in mm.

Edition 2020-02

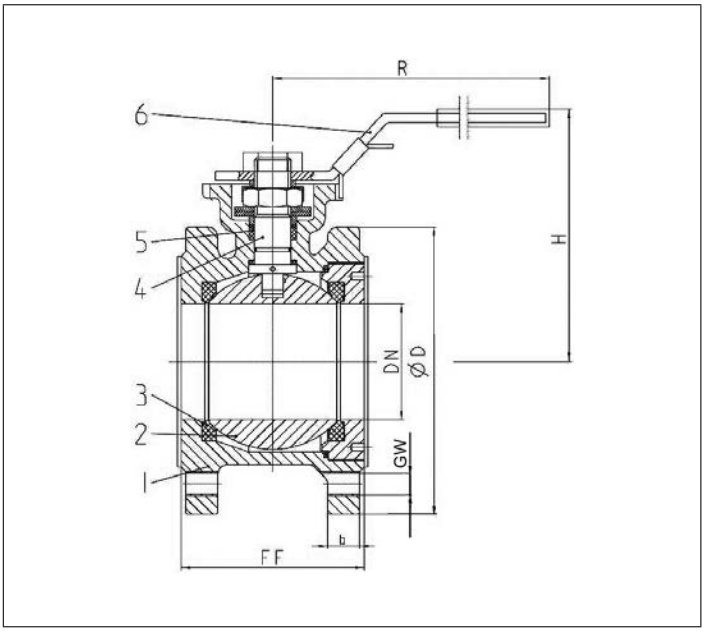
Ball Valves
Type 15220

Two-piece Flanged Ball Valves, cast steel, wafer design, PN16, DIN EN
screwed design, full bore, antistatic-device,
blow out proof stem design, free of silicone, seat rings PTFE / TFM,
gland packing with PTFE-rings, with lever and locking device without lock
with ISO 5211 mounting pad, flanged connection acc. to DIN EN 1092-1 PN16

Part No. 15220.X.110000

Applications:
Suitable for transformer oil.
Working temperatures: -20°C / -4°F (253K) up to +180°C / +356°F (453K).

Materials		DIN EN	ASTM
1	Body	1.0619	A 216-WCB
2	Ball	1.4408	A 351 CF8M
3	Seat rings	PTFE / TFM	
4	Stem	1.4401	A 216 Grade 316
5	Packing	PTFE	
6	Lever	1.4308	A 351 CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15220	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
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16	16
Face-to-face dimension	FF	42	44	50	60	65	80	110	120	150	180	225
Height	H	77	82	94	104	114	120	158	165	182	224	268
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285
Thread length	b	9	9	9	12	13	20	18	20	20	22	22
Union thread	GW	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
Length of lever	R	145	145	175	175	196	196	265	265	400	800	800
Weight	approx. kg	1.4	1.8	2.4	3.8	4.8	6.8	10.1	14.4	22.7	33.5	50.6

Dimensions in mm. Further nominal sizes on request.

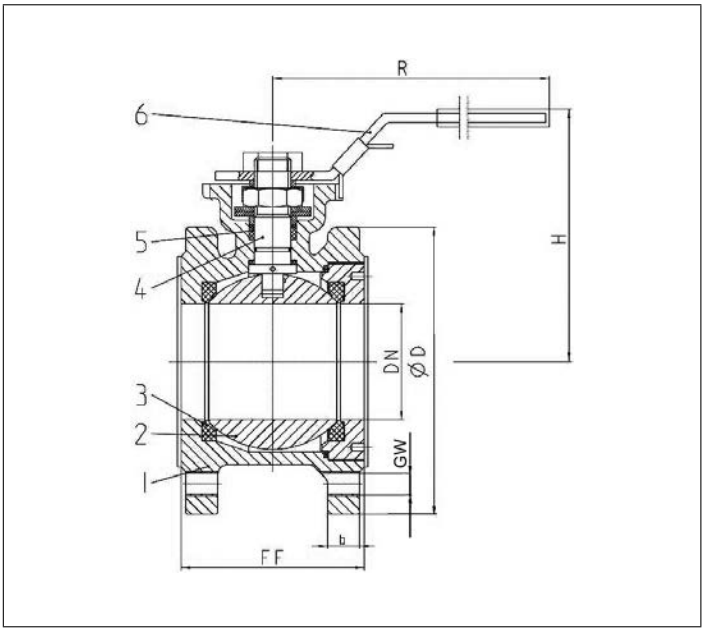
Ball Valves
Type 15225

Two-piece Flanged Ball Valves, stainless steel, wafer design, PN16, DIN EN
screwed design, full bore, antistatic-device,
blow out proof stem design, free of silicone, seat rings PTFE / TFM,
gland packing with PTFE-rings, with lever and locking device without lock
with ISO 5211 mounting pad, flanged connection acc. to DIN EN 1092-1 PN16

Part No. 15225.X.110000

Applications:
Suitable for transformer oil.
Working temperatures: -30°C / -22°F (243K) up to +180°C / +356°F (453K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351 CF8M
2	Ball	1.4408	A 351 CF8M
3	Seat rings	PTFE / TFM	
4	Stem	1.4401	A 216 Grade 316
5	Packing	PTFE	
6	Lever	1.4308	A 351 CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15225	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
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16	16
Face-to-face dimension	FF	42	44	50	60	65	80	110	120	150	180	225
Height	H	77	82	94	104	114	120	158	165	182	224	268
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285
Thread length	b	9	9	9	12	13	20	18	20	20	22	22
Union thread	GW	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
Length of lever	R	145	145	175	175	196	196	265	265	400	800	800
Weight	approx. kg	1.4	1.8	2.4	3.8	4.8	6.8	10.1	14.4	22.7	33.5	50.6

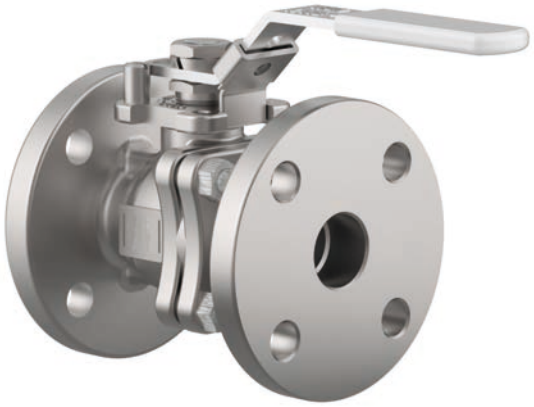
Dimensions in mm. Further nominal sizes on request.

Edition 2020-02

Ball Valves
Type 15230

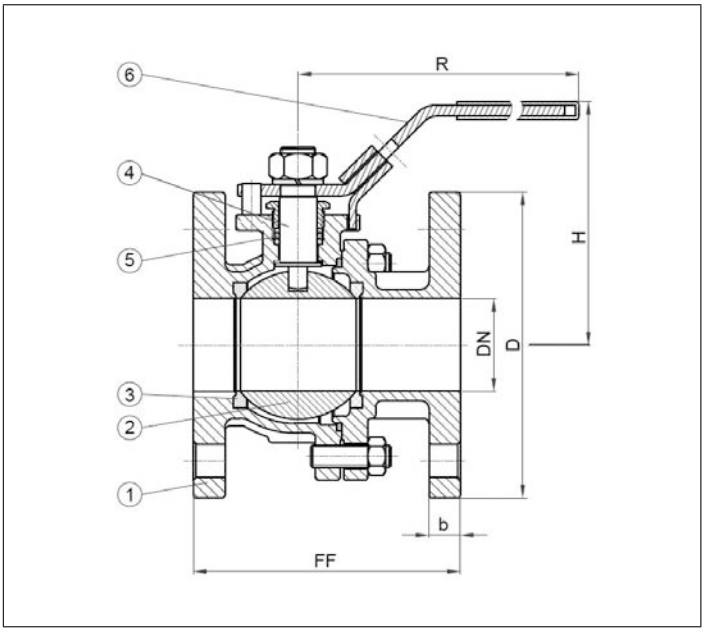
Two-piece Flanged Ball Valves, cast steel, PN16, DIN EN
full bore, seat rings PTFE, gland packing with PTFE-rings,
with lever and locking device without lock, with ISO 5211 mounting pad,
face-to face dimension acc. to DIN EN 558-1 row 27 (F4) - short pattern,
flanged connection acc. to DIN EN 1092-1 PN16

Part No. 15230.X.11E000



Applications:
Suitable for transformer oil.
Working temperatures: -40°C / -40°F (233K) up to +220°C / +428°F (493K).

Materials		DIN EN	ASTM
1	Body	1.0619	A 216-WCB
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE	
4	Stem	1.4401	A 182-F316
5	Packing	PTFE	
6	Lever	1.4308	A 351-CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15230	Technical data										
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**150**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	350
Height	H	76	78	92	95	126	132	166	176	190	247
Flange diameter	D	95	105	115	140	150	165	185	200	220	285
Width of flange	b	12	12	13.5	14	14	18	18	20	20	22
Length of lever	R	153	153	160	160	185	185	230	230	330	750
Weight	approx. kg	3.2	3.7	3.9	5.5	7.3	10.4	16.3	21.4	25.9	95.0

Dimensions in mm. Further nominal sizes on request.

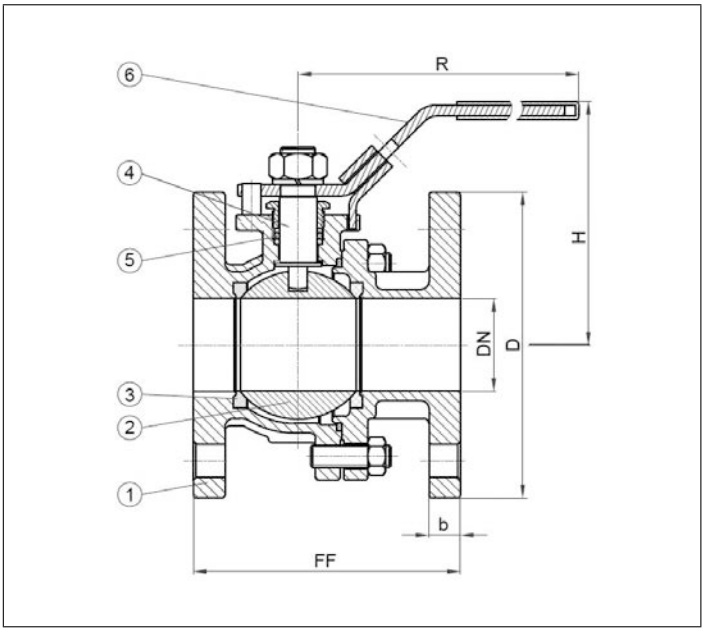
Ball Valves
Type 15235

Two-piece Flanged Ball Valves, stainless steel, PN16, DIN EN
full bore, seat rings PTFE, gland packing with PTFE-rings,
with lever and locking device without lock, with ISO 5211 mounting pad,
face-to face dimension acc. to DIN EN 558-1 row 27 (F4) - short pattern,
flanged connection acc. to DIN EN 1092-1 PN16

Part No. 15235.X.11E000

Applications:
Suitable for transformer oil.
Working temperatures: -40°C / -40°F (233K) up to +220°C / +428°F (493K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE	
4	Stem	1.4401	A 182-F316
5	Packing	PTFE	
6	Lever	1.4308	A 351-CF8



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15235	Technical data										
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**150**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1500
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	350
Height	H	76	78	92	95	126	132	166	176	190	247
Flange diameter	D	95	105	115	140	150	165	185	200	220	285
Width of flange	b	12	12	13.5	14	14	18	18	20	20	22
Length of lever	R	153	153	160	160	185	185	230	230	330	750
Weight	approx. kg	3.2	3.7	3.9	5.5	7.3	10.4	16.3	21.4	25.9	95.0

Dimensions in mm. Further nominal sizes on request.

Edition 2020-02

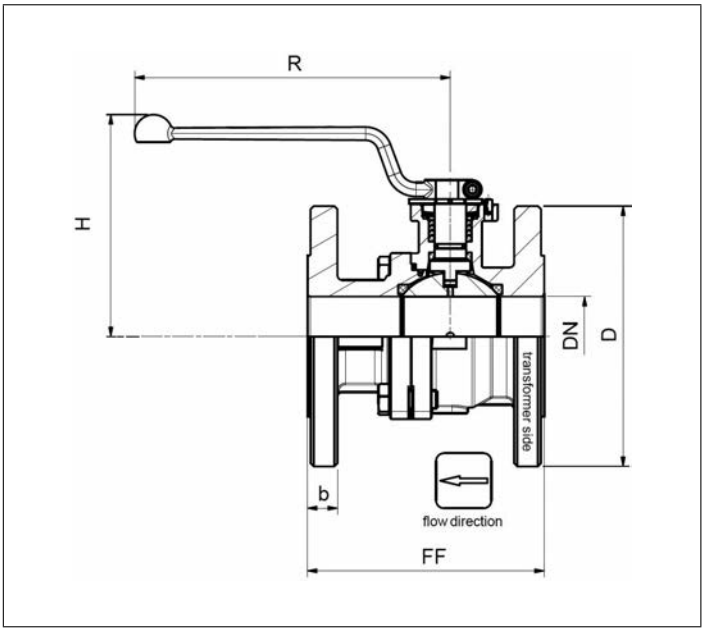
Ball Valves
Type 15245

Flanged Ball Valves, stainless steel, PN16, DIN EN
full bore, pressure compensation hole at flow entrance side, seat rings PTFE/TFM, gland packing with PTFE-rings, with lever and locking device without lock, with ISO 5211 mounting pad, face-to face dimension acc. to DIN EN 558-1 row 27 (F4) - short pattern, flanged connection acc. to DIN EN 1092-1 PN16

Part No. 15245.X.110001
Standard design

Applications:
Suitable for transformer oil.
Working temperatures: -50°C / -58°F (223K) up to +130°C / +266°F (403K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE/TFM	
4	Stem	1.4404	A 276-316L
5	Packing	PTFE+FKM	
6	Lever	1.4301	A 276-F304



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

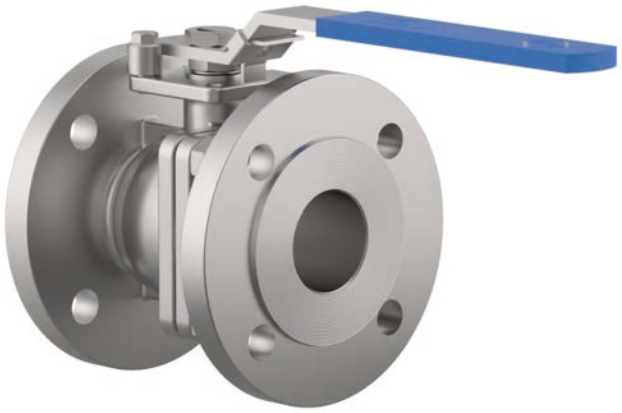
Type 15245	Technical data												
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	2000
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	325	350	400
Height	H	99.0	104.5	109.0	120.5	132.5	140.5	163.0	196.0	212.5	238.5	260.5	303.0
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285	340
Width of flange	b	15.0	17.5	17.5	17.5	17.0	19.0	17.5	23.0	19.0	21.0	21.0	23.0
Length of lever	R	138	138	165	165	200	200	230	365	365	565	565	745
Weight	approx. kg	2.35	2.95	4.10	5.60	6.65	9.10	13.30	19.20	25.50	46.20	71.00	125.00

Dimensions in mm. Further nominal sizes on request.

Ball Valves
Type 15255, DIN EN Flanges

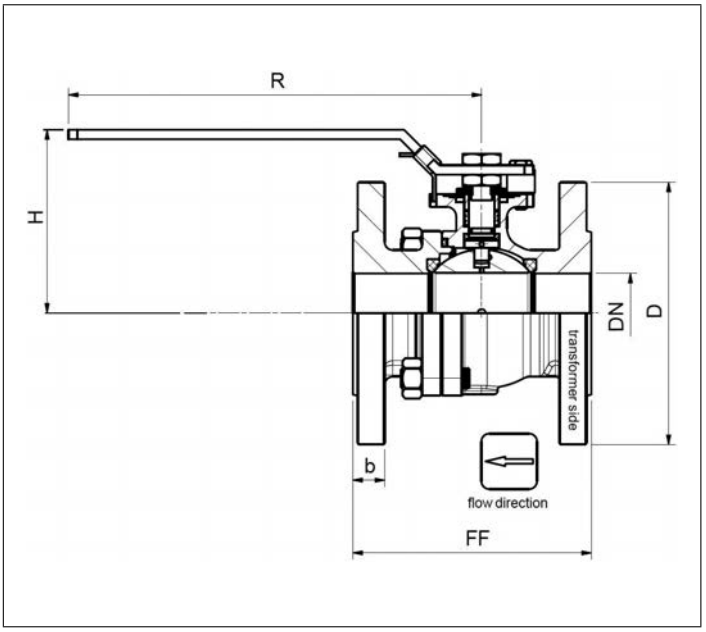
Flanged Ball Valves, stainless steel, PN16/40, DIN EN
full bore, pressure compensation hole at flow entrance side, seat rings PTFE/TFM, gland packing with PTFE-rings, with lever and locking device without lock, with ISO 5211 mounting pad, face-to face dimension acc. to DIN EN 558-1 row 27 (F4) - short pattern, flanged connection acc. to DIN EN 1092-1 PN16

Part No. 15255.X.110000
Standard design



Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C / +248°F (393K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE/TFM	
4	Stem	1.4401	A 182-F316
5	Packing	PTFE	
6	Lever	1.4301	A 276-F304



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15255	Technical data												
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	2000
Max. working pressure	PN	40	40	40	40	40	40	16	16	16	16	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	325	350	400
Height	H	66	74	87	92	105	115	152	162	179	212	231	278
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285	340
Width of flange	b	16	18	18	18	18	20	18	20	20	22	22	24
Length of lever	R	165	165	200	200	250	270	390	390	390	630	630	950
Weight	approx. kg	2.40	3.10	4.12	5.60	7.00	9.68	13.92	17.58	23.58	61.70	72.50	100.50

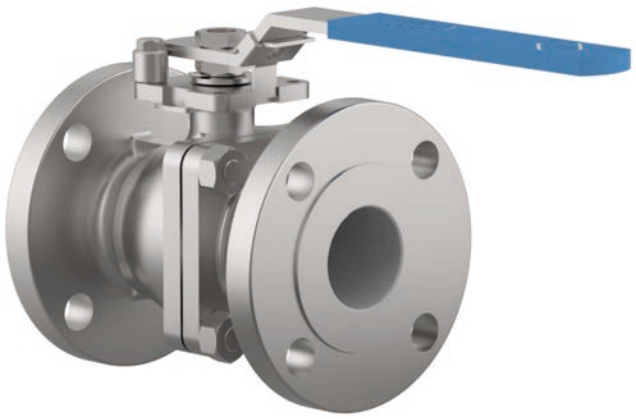
Dimensions in mm. Further nominal sizes on request.

Edition 2020-02

Ball Valves
Type 15255, ANSI Flanges

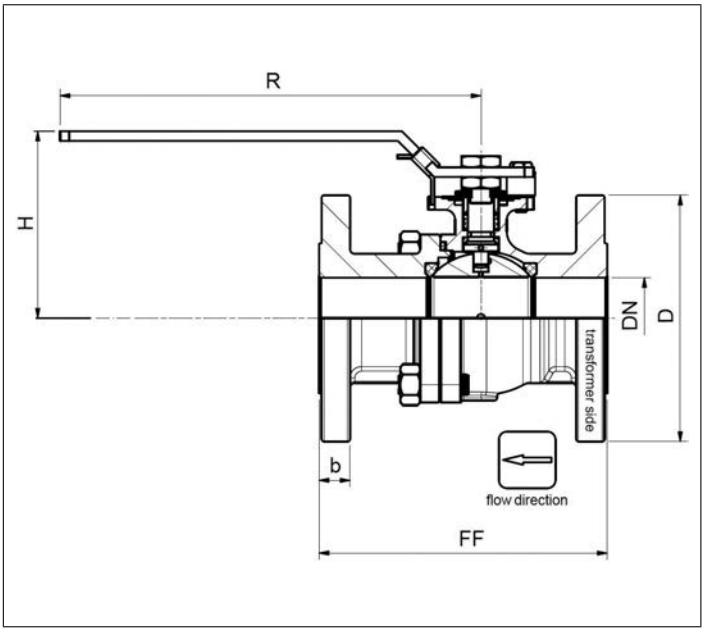
Flanged Ball Valves, stainless steel, class 150
full bore, pressure compensation hole at flow entrance side, seat rings PTFE/TFM, gland packing with PTFE-rings, with lever and locking device without lock, with ISO 5211 mounting pad, face-to face dimension acc. to ANSI B16.10, flanged connection acc. to ANSI B16.5

Part No. 15255.X.112000
Standard design



Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C / +248°F (393K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE/TFM	
4	Stem	1.4401	A 182-F316
5	Packing	PTFE	
6	Lever	1.4301	A 276-F304



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15255	Technical data							
Nominal size	**DN**	**1/2**	**3/4**	**1**	**1-1/2**	**2**	**3**	**4**
Dimension code - Flange ANSI B16.5 class 150	X	0400	0600	1000	1400	2000	3000	4000
Face-to-face dimension	FF	108	117	127	165	178	203	229
Height	H	66	74	87	105	115	166	183
Flange diameter	D-class	89	98	108	127	152	190	229
Width of flange	b	11.2	12.7	14.3	17.5	19.1	23.9	23.9
Length of lever	R	165	165	200	250	265	390	390
Weight	approx. kg	1.78	2.18	3.34	6.30	9.40	20.24	29.18

Dimensions in mm. Further nominal sizes on request.

Ball Valves
Type 66394

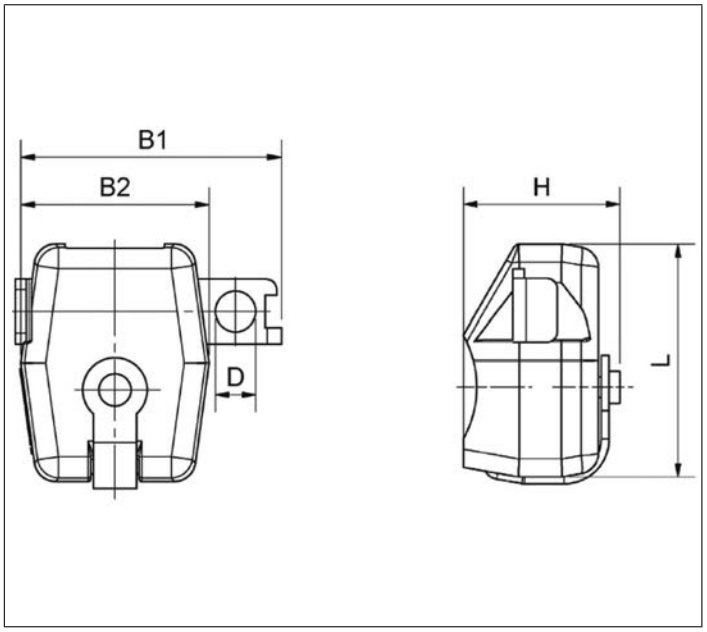
Locking device for threaded Ball Valves, Type 15213
lockable in unclosed- and closed position,
bore for padlock 7,5 mm, body PA6 GF30, black,
pusher stainless steel, strap NBR.

Part No. 66394.0013.0000C-O
for nominal diameter DN8, DN10, DN15 and DN20

Part No. 66394.0012.0000C-O
for nominal diameter DN25 and DN32

Part No. 66394.0011.0000C-O
for nominal diameter DN40 and DN50

Important: Please specify the nominal diameter of the ball valve when ordering.



Type 66394	Technical data								
Nominal size	**DN**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1-1/4**	**1-1/2**	**2**
Dimension code	.X.	0013	0013	0013	0013	0012	0012	0011	0011
Width incl. pusher	B_1	49	49	49	49	59	59	60	60
Width	B_2	35	35	35	35	40	40	49	49
Height	H	29.5	29.5	29.5	29.5	37	37	45	45
Length	L	44	44	44	44	48	48	58	58
Bore diameter	D	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5

Dimensions in mm. Further nominal sizes on request.

Edition 2020-02

Radiator Valves
Type 09520

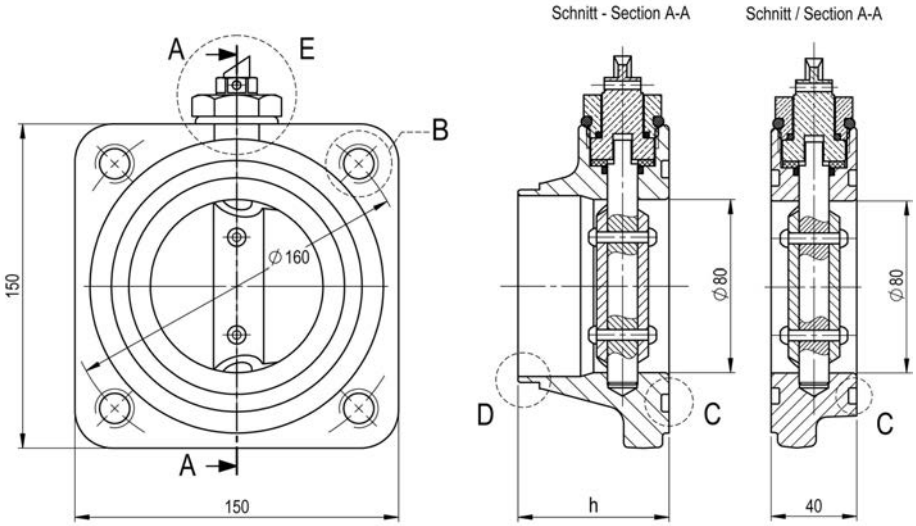
Radiator Valves, DN80
Radiator valve, made of forged steel S355J2G3 (1.0570), metal-sealed clap, acc. to DIN 42560 and EN 50216-8

Part No. 09520.0800.0000
· Wafer type flange

Part No. 09520.8088.0000
· Welding neck flange

Option:
· Handle, locking cap and locking handle
· Design with soft-sealed clap
· Coating system for offshore installation
· Low-temperature design
· Body made of stainless steel 316 (1.4404)

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +115°C / +239°F (388K) and maximum 2.0 bar



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

Type 09520	Technical data		
Nominal size	**DN**	**80**	**80**
Dimension code	.X.	0800	8088
Height	H	40	70/85
Hole	B	18	M16
Groove size	C	on request	on request
Welding end	D	on request	on request
Setting device	E	on request	on request
Weight	approx. kg	4.1	4.1

Dimensions in mm.

Valves for Offshore Applications

The heart of an offshore wind farm is the transformer platform.
It has the task to transform the electricity in order to transfer it to the mainland.
The transformer are equipped with HEROSE valves for offshore applications.

Gate Valves
Type 09320

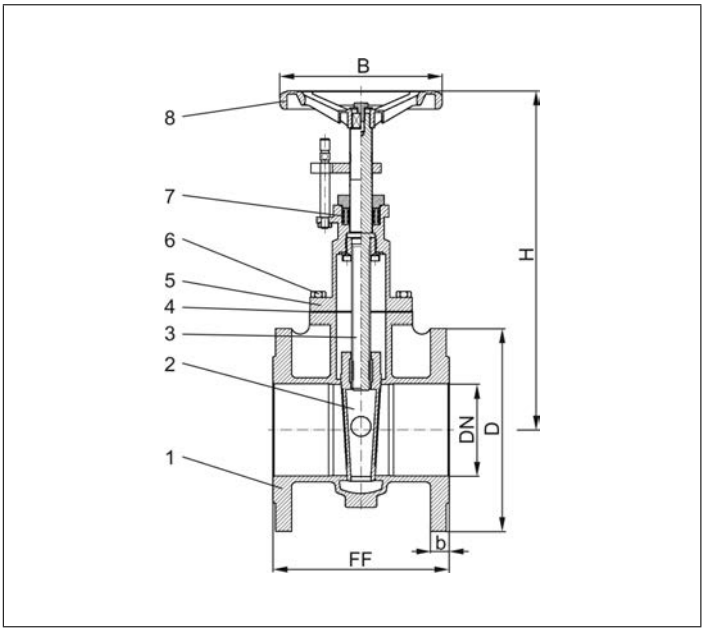
Flanged Gate Valves, PN10 - 16, DIN EN 12288
Bronze body and topwork in seawater resistant bronze
with maintenance-free gland packing (O-Ring) and non rising stem
flanged connection acc. to DIN EN 1092-3 PN10 or PN16

Part No. 09320.X.110202
· Offshore - Valve with opening indicator and locking device without lock

Part No. 09320.X.120202
· Offshore - Valve with opening indicator and locking device with lock

Applications:
Suitable for transformer oil.
Working temperatures: -25°C / -13°F (248K) up to +120°C /+248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC480K	B 30 UNS C90700
2	Wedge	CC480K	B 30 UNS C90700
3	Stem	CC480K	B 30 UNS C90700
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CC480K	B 30 UNS C90700
6	Bolts	1.4571/A4	similar A 194 B8T
7	O-Rings	FPM (Viton)	
8	Handwheel	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 2014/68/EU (PED).

CE

Type 09320	Technical data					
Nominal size	**DN**	**100**	**125**	**150**	**200**	**250**
Dimension code	X	1000	1250	1500	2000	2500
Max. working pressure	PN	16	16	16	10	10
Face-to-face dimension	FF	190	208	210	230	250
Height	H	352	410	449	585	680
Flange diameter	D	220	250	285	340	395
Flange connect. DIN EN 1092-3	PN	16	16	16	10	10
Width of flange	b	20	22	22	24	24
Handwheel-Ø	B	175	225	225	300	300
Weight	approx. kg	24.0	33.0	43.0	71.0	106.0

Dimensions in mm.

Gate Valves
Type 09420

Flanged Gate Valves, PN16, DIN EN 12288
Body and screwed topwork in seawater resistant bronze
with maintenance-free gland packing (O-Ring)
and non rising stem
flanged connection acc. to DIN EN 1092-3 PN16

Part No. 09420.X.000226
· Standard valve -60°C

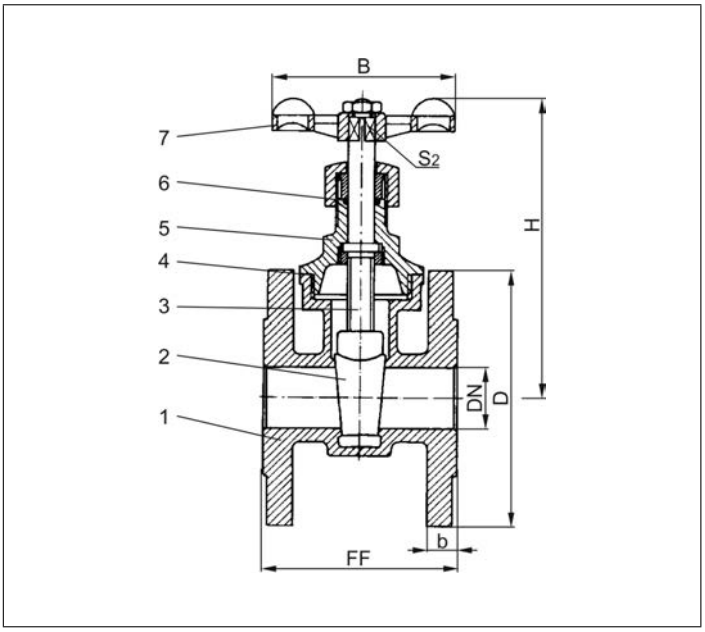
Part No. 09420.X.010226
· Valve -60°C with locking device without lock

Part No. 09420.X.020226
· Valve -60°C with locking device with lock

option:
Locking device →

Applications:
Suitable for transformer oil.
Working temperatures: -60°C / -76°F (213K) up to +120°C / +248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC480K	B 30 UNS C90700
2	Wedge	CC480K	B 30 UNS C90700
3	Stem	CC483K	B 30 UNS C90800
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CC480K	B 30 UNS C90700
6	O-Rings	Fluorosilicone	
7	Handwheel	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 2014/68/EU (PED).

CE

Type 09420	Technical data							
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	80	90	100	110	130	150	165
Height	H	120	135	160	190	230	250	295
Flange diameter	D	115	140	150	165	185	200	220
Width of flange	b	12	14	14	16	16	18	20
Handwheel-Ø	B	80	100	100	125	140	150	150
Wrench size across flats	S_2	8	9	9	11	12	14	14
Weight	approx. kg	2.5	3.9	4.9	7.0	9.5	12.1	19.0

Dimensions in mm.

Edition 2020-02

Gate Valves
Type 09420

Flanged Gate Valves, PN16, DIN EN 12288
Body and screwed topwork in seawater resistant bronze
with maintenance-free gland packing (O-Ring)
and non rising stem
flanged connection acc. to DIN EN 1092-3 PN16

Part No. 09420.X.100226
· Valve -60°C with opening indicator

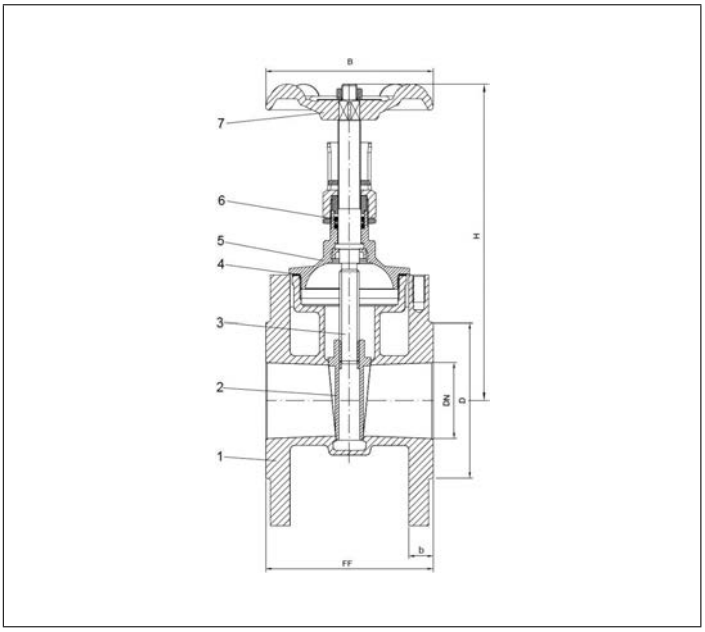
Part No. 09420.X.110226
· Valve -60°C with opening indicator and locking device without lock

Part No. 09420.X.120226
· Valve -60°C with opening indicator and locking device with lock

option:
Locking device →

Applications:
Suitable for transformer oil.
Working temperatures: -60°C / -76°F (213K) up to +120°C /+248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC480K	B 30 UNS C90700
2	Wedge	CC480K	B 30 UNS C90700
3	Stem	CC483K	B 30 UNS C90800
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CC480K	B 30 UNS C90700
6	O-Rings	Fluorosilicone	
7	Handwheel	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 2014/68/EU (PED).

CE

Type 09420	Technical data							
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	80	90	100	110	130	150	165
Height	H	145	160	175	220	260	280	320
Flange diameter	D	115	140	150	165	185	200	220
Width of flange	b	12	14	14	16	16	18	20
Handwheel-Ø	B	80	100	100	125	140	150	150
Wrench size across flats	S_2	8	9	9	11	12	14	14
Weight	approx. kg	2.6	4.0	4.9	6.8	8.0	12.2	19.0

Dimensions in mm.

Outlet Valves
Type 03199

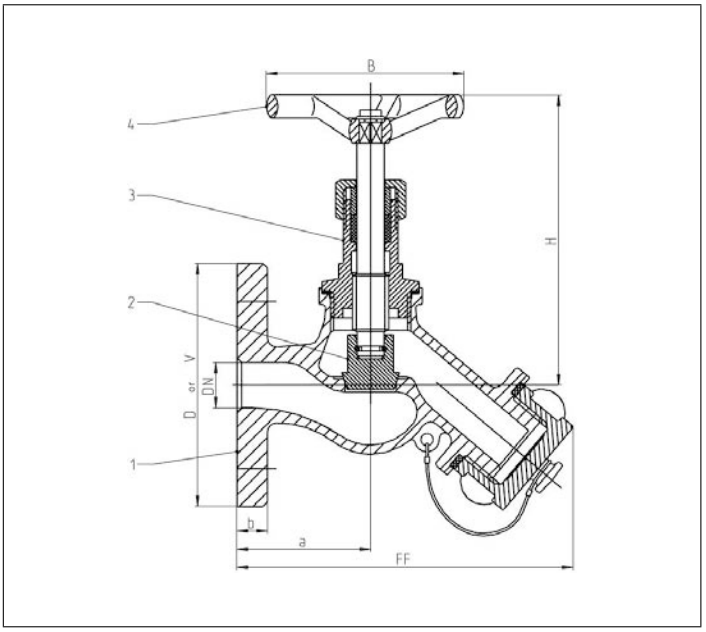
Outlet Valves, DIN 42568
Bronze body and screwed topwork in seawater resistant bronze,
Outlet with cap and steel cable, round/square flange,
drilled acc. to DIN PN6

Part No. 03199.X.110212
· Offshore-design with opening indicator and locking device without lock

Part No. 03199.X.120212
· Offshore-design with opening indicator and locking device with lock

Applications:
Suitable for transformer oil.
Working temperatures: -60°C / -76°F (213K) up to +115°C / +239°F (388K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC480K	B 30 UNS C90700
2	Disc	CW452K	B 103 UNS C51900
3	Headpiece	CC483K	B 30 UNS C90800
4	Handwheel	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 2014/68/EU (PED).

CE

Type 03199	Technical data		
Nominal size	**DN**	**15**	**32**
Dimension code	.X.	0150	0320
Face-to-face dimension	FF	110	130
Height	H	97	120
Round-Flange-Ø	D	80	-
Square-Flange-Ø	V	-	90
Length	a	44	55
Width of flange	b	10	13
Handwheel-Ø	B	63	80
Weight	approx. kg	1.0	2.3

Dimensions in mm.

Edition 2020-02

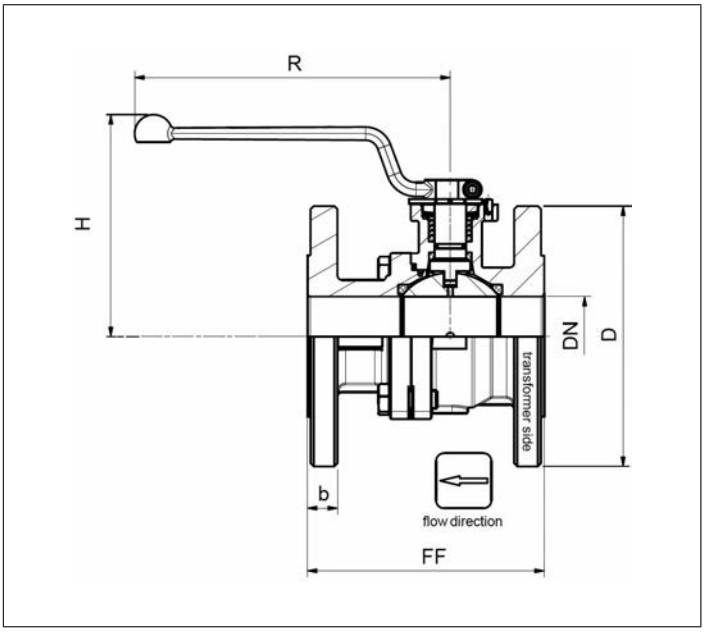
Ball Valves
Type 15245

Flanged Ball Valves, stainless steel, PN16, DIN EN
full bore, pressure compensation hole at flow entrance side, seat rings PTFE/TFM, gland packing with PTFE-rings, with lever and locking device without lock, with ISO 5211 mounting pad, face-to face dimension acc. to DIN EN 558-1 row 27 (F4) - short pattern, flanged connection acc. to DIN EN 1092-1 PN16, with coating acc. to DIN EN ISO 12944-2 corrosion-protection class C5-M high, RAL 7033

Part No. 15245.X.110002
Offshore design

Applications:
Suitable for transformer oil.
Working temperatures: -50°C / -58°F (223K) up to +130°C / +266°F (403K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE/TFM	
4	Stem	1.4462	A 182-F51
5	Packing	PTFE+FKM	
6	Lever	1.4462	A 182-F51



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15245	Technical data												
Nominal size	**DN**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**
Dimension code	X	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	2000
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16	16	16
Face-to-face dimension	FF	115	120	125	130	140	150	170	180	190	325	350	400
Height	H	99.0	104.5	109.0	120.5	132.5	140.5	163.0	196.0	212.5	238.5	260.5	303.0
Flange diameter	D	95	105	115	140	150	165	185	200	220	250	285	340
Width of flange	b	15.0	17.5	17.5	17.5	17.0	19.0	17.5	23.0	19.0	21.0	21.0	23.0
Length of lever	R	138	138	165	165	200	200	230	365	365	565	565	745
Weight	approx. kg	2.35	2.95	4.10	5.60	6.65	9.10	13.30	19.20	25.50	46.20	71.00	125.00

Dimensions in mm. Further nominal sizes on request.

Valves for Low Temperature Applications

An oil-immersed transformer on its frozen way to the final place of installation.
Equipped with HEROSE valves for low temperature applications.

Gate Valves
Type 09320

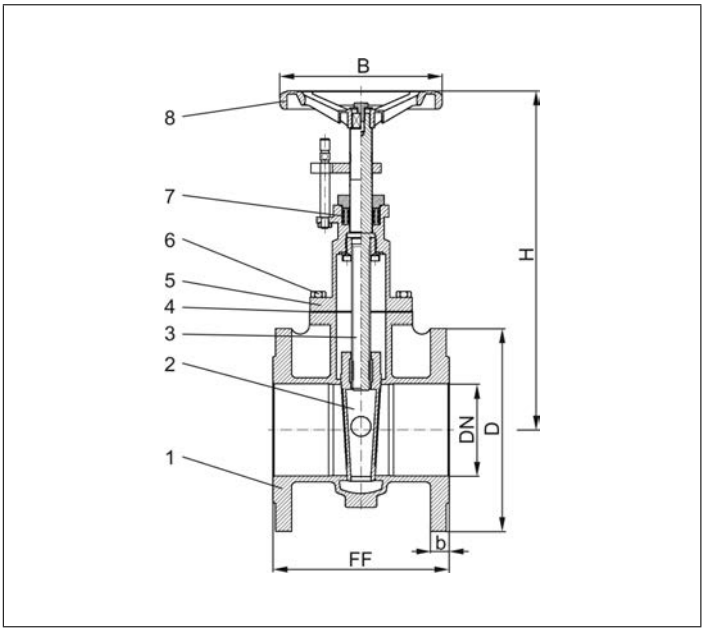
Flanged Gate Valves, PN10 - 16, DIN EN 12288
Bronze body and topwork
with maintenance-free gland packing (O-Ring) and non rising stem
flanged connection acc. to DIN EN 1092-3 PN10 or PN16

Part No. 09320.X.110200
· Valve -60°C with opening indicator and locking device without lock

Part No. 09320.X.120200
· Valve -60°C with opening indicator and locking device with lock

Applications:
Suitable for transformer oil.
Working temperatures: -60°C / -76°F (213K) up to +120°C /+248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CC491K	B 62 UNS C83600
6	Bolts	1.4571/A4	similar A 194 B8T
7	O-Rings	Fluor - Silicon	
8	Handwheel	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 2014/68/EU (PED).

CE

Type 09320	Technical data					
Nominal size	**DN**	**100**	**125**	**150**	**200**	**250**
Dimension code	X	1000	1250	1500	2000	2500
Max. working pressure	PN	16	16	16	10	10
Face-to-face dimension	FF	190	208	210	230	250
Height	H	352	410	449	585	680
Flange diameter	D	220	250	285	340	395
Flange connect. DIN EN 1092-3	PN	16	16	16	10	10
Width of flange	b	20	22	22	24	24
Handwheel-Ø	B	175	225	225	300	300
Weight	approx. kg	23.5	32.0	43.0	71.0	106.0

Dimensions in mm.

Gate Valves
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 1092-3 PN16

Part No. 09420.X.000200
· Standard valve -60°C

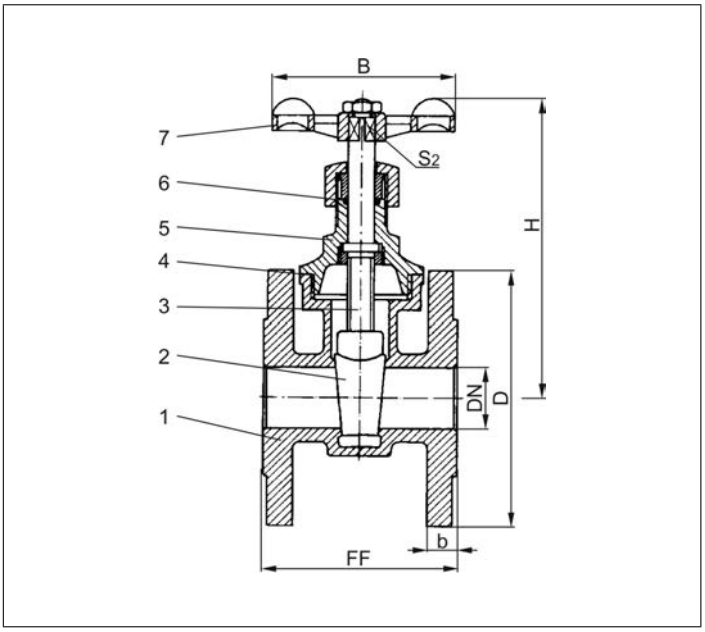
Part No. 09420.X.010200
· Valve -60°C with locking device without lock

Part No. 09420.X.020200
· Valve -60°C with locking device with lock

option:
Locking device →

Applications:
Suitable for transformer oil.
Working temperatures: -60°C / -76°F (213K) up to +120°C / +248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CW614N	B 283 UNS C38500
6	O-Rings	Fluor - Silicon	
7	Handwheel	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 2014/68/EU (PED).

CE

Type 09420	Technical data							
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	80	90	100	110	130	150	165
Height	H	120	135	160	190	230	250	295
Flange diameter	D	115	140	150	165	185	200	220
Width of flange	b	12	14	14	16	16	18	20
Handwheel-Ø	B	80	100	100	125	140	150	150
Wrench size across flats	S_2	8	9	9	11	12	14	14
Weight	approx. kg	2.5	3.9	4.9	7.0	9.5	12.1	19.0

Dimensions in mm.

Edition 2020-02

Gate Valves
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 1092-3 PN16

Part No. 09420.X.100200
· Valve -60°C with opening indicator

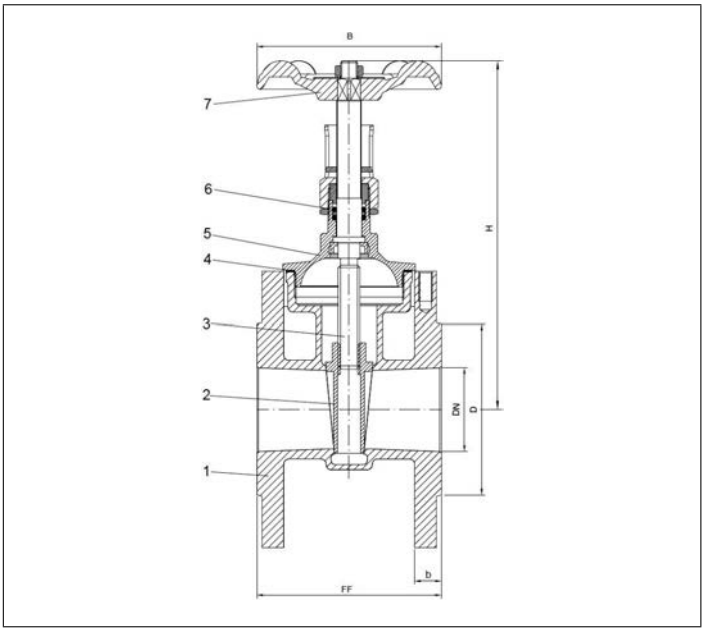
Part No. 09420.X.110200
· Valve -60°C with opening indicator and locking device without lock

Part No. 09420.X.120200
· Valve -60°C with opening indicator and locking device with lock

option:
Locking device →

Applications:
Suitable for transformer oil.
Working temperatures: -60°C / -76°F (213K) up to +120°C /+248°F (393K) and maximum 6.0 bar

Materials		DIN EN	ASTM
1	Body	CC491K	B 62 UNS C83600
2	Wedge	CC491K	B 62 UNS C83600
3	Stem	CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	CW614N	B 283 UNS C38500
6	O-Rings	Fluor - Silicon	
7	Handwheel	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 2014/68/EU (PED).

CE

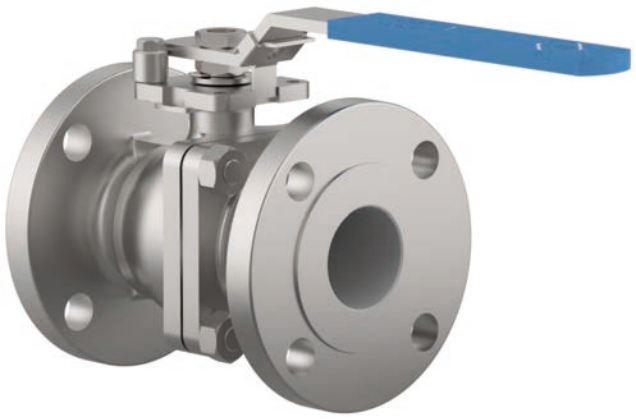
Type 09420	Technical data							
Nominal size	**DN**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	FF	80	90	100	110	130	150	165
Height	H	145	160	175	220	260	280	320
Flange diameter	D	115	140	150	165	185	200	220
Width of flange	b	12	14	14	16	16	18	20
Handwheel-Ø	B	80	100	100	125	140	150	150
Wrench size across flats	S_2	8	9	9	11	12	14	14
Weight	approx. kg	2.6	4.0	4.9	6.8	8.0	12.2	19.0

Dimensions in mm.

Ball Valves
Type 15255, ANSI Flanges

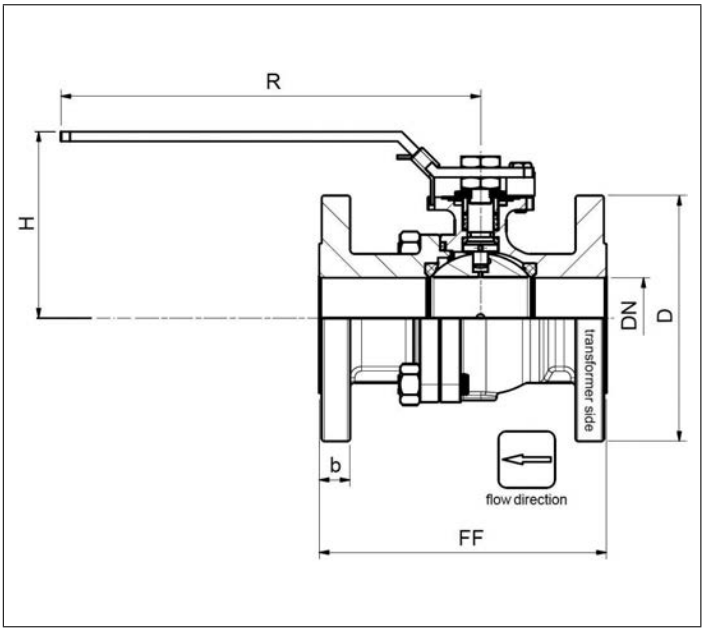
Flanged Ball Valves, stainless steel, class 150
full bore, pressure compensation hole at flow entrance side, seat rings PTFE/TFM, gland packing with PTFE-rings, with lever and locking device without lock, with ISO 5211 mounting pad, face-to face dimension acc. to ANSI B16.10, flanged connection acc. to ANSI B16.5

Part No. 15255.X.112001
Design -50°C



Applications:
Suitable for transformer oil.
Working temperatures: -50°C / -58°F (223K) up to +120°C / +248°F (393K).

Materials		DIN EN	ASTM
1	Body	1.4408	A 351-CF8M
2	Ball	1.4408	A 351-CF8M
3	Seat rings	PTFE/TFM	
4	Stem	1.4401	A 182-F316
5	Packing	PTFE	
6	Lever	1.4408	A 351-CF8M



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

Standard marking acc. to Pressure Equipment Directive 2014/68/EU (PED).

CE

Type 15255	Technical data							
Nominal size	**DN**	**1/2**	**3/4**	**1**	**1-1/2**	**2**	**3**	**4**
Dimension code - Flange ANSI B16.5 class 150	X	0400	0600	1000	1400	2000	3000	4000
Face-to-face dimension	FF	108	117	127	165	178	203	229
Height	H	66	74	87	105	115	166	183
Flange diameter	D-class	89	98	108	127	152	190	229
Width of flange	b	11.2	12.7	14.3	17.5	19.1	23.9	23.9
Length of lever	R	165	165	200	250	265	390	390
Weight	approx. kg	1.78	2.18	3.34	6.30	9.40	20.24	29.18

Dimensions in mm. Further nominal sizes on request.

Edition 2020-02

Material comparison DIN EN, DIN and ASTM Standard

HEROSE

Nonferrous materials

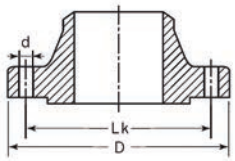
DIN EN new		DIN old		ASTM
CC490K	CuSn3Zn8Pb5-C	RG2	2.1098	-
CC491K	CuSn5Zn5Pb5-C	RG5	2.1096.01	B 62 UNS C83600
CC493K	CuSn7Zn4Pb7-C	RG7	2.1090	B 505 UNS C93200
CW450K	CuSn4	CUSN4	2.1016	B 103 UNS C51100
CW452K	CuSn6	CUSN6	2.1020	B 159 UNS C51900
CW453K	CuSn8	CUSN8	2.1030	B 103 UNS C52100
CW507L	CuZn36	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 C36500
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	Spring steel	Carbon steel	A 227
1.4021	C20Cr13	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 CF8
1.4310	X10CrNi18-8	1.4310	A 313 Grade 301
1.4401	X5CrNiMo17-12-2	1.4401	A 276 Grade 316
1.4404	X2CrNiMo17-12-2	1.4404	A 276 Grade 316L
1.4408	GX5CrNiMo19-11-2	1.4408	A 351 CF 8M
1.4409	G-X2NiCrMo28-20-2	1.4409	A 351 CF 3M
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 313 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	-	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	-

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

Approvals

Nowadays, product approvals are essential for many customer applications.
Below is an excerpt of our most important certifications. A detailed list can be found at herose.com.

Type approvals

Approval company	Approval	Mark
TÜV	CE LNG (DIN EN 12567) Fire Safe (DIN EN ISO 10497)	
National Board	ASME / UV	
AQSIQ	Manufacture License of Special Equipment	
VNIINMASH	EAC	
TSSA	CRN	
AAR		
TECKO	GOST-Ukraine	

For your notes

The following terms apply to all purchase agreements and contracts for work and materials concluded between us and our contractual counterparts that are businesses (hereinafter referred to as “Purchaser”), as well as to our offers, even if we do not expressly refer to them in an individual case. Derogations from this general rule are only binding upon us where we expressly confirm them in writing. The Purchaser‘s terms of purchase shall not be binding upon us, even where we do not expressly object to them.

1. Offer and contract formation
Our offer is subject to change with respect to the price, amount, delivery period and our ability to make delivery until the order is confirmed in writing. Side agreements are only effective if they have been confirmed by us in writing.

2. Scope of delivery
The scope of delivery is specified in the order confirmation with binding effect. With respect to goods that are customised we are allowed to make excess or short deliveries differing from the quantity ordered by up to 10 %.

3. Deliveries and delivery periods
The delivery period shall start on the date when all details of the order have been clarified, but not until the contractual duties to be fulfilled by the Purchaser by that time have been fulfilled. The delivery deadline shall be deemed complied with if the goods have left the warehouse when the deadline is reached or, where shipping is delayed due to reasons for which the Purchaser is responsible, if the notification that the goods are ready to ship is made within the delivery period agreed. Compliance with the delivery period is subject to the condition precedent that we receive correct and timely deliveries from our suppliers.
Timely and appropriately sized partial deliveries are permissible and may be billed separately. If force majeure events, industrial actions or other events that are beyond our control, regardless of whether they are experienced by us or our subsuppliers, keep us from complying with our duty to deliver the goods, the delivery shall be extended by the duration of the disruption. If it becomes impossible to deliver the goods because of such an event or if the subsequent delivery creates an undue burden for either of the parties, both parties are entitled to rescind the agreement. If performance is delayed or if it is no longer possible to deliver the goods ordered due to reasons for which we are responsible, the Purchaser is entitled to rescind the agreement in accordance with the statutory provisions. Claims for damages are subject to the provisions in Section 12 of these Terms of Sale. If the Purchaser is in default of acceptance, we are entitled to charge the Purchaser a fee for storing the goods for each week of default at a flat rate of 1% of the invoice value per week, with a total of 5 %.

4. Prices
Our prices are quoted ex warehouse, exclusive of the statutory value-added tax.. Packaging costs, loading costs, customs fees, etc. shall be borne by the Purchaser.

5. Shipping/ passing of the risk
Goods are dispatched and shipped at the expense and risk of the Purchaser. The risk shall pass to the Purchaser when the goods leave our premises. Where the dispatch is delayed due to the Purchaser‘s conduct, the risk shall pass, and the purchase price shall become due, when the Purchaser is notified that the goods are ready to ship.

6. Payment terms
Invoice amounts must be paid within 30 days of the date of invoice without any deduction. If we grant any discounts, they may not be deducted from any new invoices as long as older invoices for which payment is due have not been paid yet. For periods during which the Purchaser is in default of payment or during which payments due are deferred we will charge the default interest at the statutory rate without prejudice to any further claims for damages. Where it becomes apparent after the conclusion of the agreement that our claim for payment is at risk due to the customer‘s inability to perform and where we have fulfilled the obligations owed by us in return, all of our outstanding claims become due immediately. In this event we are entitled to only make outstanding deliveries against payment of cash or the provision of a security. This does not affect any further statutory claims. The Purchaser has the right to withhold payments, or to offset counterclaims against them, only in so far as the Purchaser’s counterclaims are not in dispute or have become final and absolute. This does not apply to counterclaims of the Purchaser which directly seek rectification or to reverse a transaction – owing to a defect we have not corrected, or are unable to correct, by means of remedial performance – and which are based on the same contractual relationship as our claim to payment.

7. Retention of title
We will retain the title to the goods delivered until all outstanding payments due to us under the business relationship, including incidental costs and interest, are settled in full. This also applies until the checks for such payments have cleared. For current accounts, the goods subject to retention of title shall secure our claim to the outstanding balance. Goods subject to retention of title shall be processed and treated on our behalf without creating any obligations for us. If our goods are processed, combined or mixed with other goods that do not belong to us, we are entitled to a co-ownership interest in the new items based on the ratio of the invoice value of the goods subject to retention of title compared to the value of the other goods processed at the time when they are processed, combined or mixed. Where the Purchaser becomes the sole owner of the new item, it already now assigns the co-ownership interest in the new item to us based on the ratio of the invoice value of our goods subject to retention of title compared to the value of the other goods processed at the time when they are processed, combined or mixed and it shall hold the new item in custody for us with the due diligence of a prudent businessman.
The goods delivered, irrespective of whether they are unprocessed or have been processed or combined or mixed, may only be resold by resellers in the ordinary course of business subject to retention of title, and only if the receivables resulting from the resale pass to us. The Purchaser must not pledge or assign goods subject to retention of title as collateral or agree to a prohibition of assignment or an assignment without our consent in the context of factoring. Where execution is levied in respect of the goods subject to retention of title or where our rights are prejudiced by third parties in any other way, the Purchaser must notify us without undue delay. The Purchaser hereby assigns to us in advance all receivables to which it is entitled now or will be entitled later from the resale or on any other legal ground with respect to the goods delivered by us as of the time when they accrue. We accept the assignment. The value of the goods shall be deemed our invoice amount plus a surety surcharge of 10% which is not applied, though, where the rights of third parties conflict with it. If our goods are resold after they have been processed, combined or mixed or if the new item resulting from the processing, combination or mixing is resold, the claim against the Purchaser‘s customer in the amount of the invoice value of our processed, combined or mixed goods shall be assigned. This also applies if our goods are sold after they have become an essential component of another item by combining or processing them with other items not belonging to us. If the value of the

collateral provided to us exceeds our claims by more than 10 % in total, we have a duty to release collateral (to be selected at our discretion) at the Purchaser‘s request. Once all outstanding payments due to us under the business relationship have been settled, title to the goods subject to retention of title and the receivables assigned shall pass to the Purchaser. The Purchaser is authorised to collect the purchase price on our behalf until we revoke this authorisation. The Purchaser has a duty to notify its customers of the assignment at our request and to provide the information and documents that are required for exercising our rights vis-à-vis the respective purchaser.

8. Liability for defects

The Purchaser’s warranty rights are predicated on the assumption that the Purchaser, where the Purchaser is a businessman (“Kaufmann”), has duly satisfied its obligations to inspect the goods and to give notice of defects pursuant to Section 377 of the German Commercial Code (HGB).
The Purchaser is not entitled to base complaints on excess or short weight due to foundry technology reasons. If there is a defect, we can remedy the defect or provide a replacement, at our option. If the Purchaser asserts claims for defects, it must give us the opportunity and the time required to review the complaint. If the item is defective and if the Purchaser has incorporated said item into another item or attached it to another item in accordance with its nature and type of use, then we – should a claim for subsequent performance be asserted against us – are entitled to choose within a reasonable period of time whether to compensate the Purchaser for the work required to remove the defective product and to install or attach the rectified product or the defect-free replacement product (work), or to carry out this work ourselves or have this work carried out at our expense (self-performance). If we fail to exercise this right within a reasonable period of time, it shall be deemed forfeited. If we opt for self-performance, the Purchaser shall be entitled to specify a reasonable period of time for such performance. Where said time period expires without results, the Purchaser is entitled to carry out the work itself or have it carried out. In this case, our right to self-performance shall be deemed forfeited and the Purchaser may carry out this work at our expense. Our right to object to the kind of subsequent performance due to its disproportionate expense pursuant to Section 439 (4) of the German Civil Code (BGB) remains unaffected. Where this does not apply, we must reimburse the Purchaser for the required costs incurred for the work. Claims for defects pursuant to Section 437 BGB shall become time barred twelve (12) months after the date of delivery. This limitation does not apply to claims for damages, including claims for damages based on the fact that we are in default of performance with respect to the rectification of a defect requested by the Purchaser and owed by us, or with respect to an item that was used for a building in accordance with its customary use. We do not provide any warranty for used products. The provisions in the two foregoing sentences shall not affect the limitation period for recovering from the supplier pursuant to Sections 445b, 478 BGB. Claims for damages based on an injury to the life, body or health of a person caused by defects or claims for damages under the German Product Liability Act (Produkthaftungsgesetz) shall not be limited either by the foregoing provisions. Further claims that are not limited by this provision are other claims for damages under warranty law in the event of gross negligence, intent, or the breach of material contractual duties. Section 12 of these Terms of Sale shall apply in this respect.

9. Returns

Returns that are not based on a statutory claim may only be made free of carriage charges with our express consent. We reserve the right to deduct an amount of at least 30 % of the net value of the goods when we credit the purchase price to compensate for the costs incurred with every return. The Purchaser is free to prove to us that the loss incurred by us due to the return is smaller.

10. Catalogues

The images in our catalogues and brochures are not binding for the actual execution. We reserve the right to change the construction style where this is advisable for technical reasons and does not impair the contractual purpose. Derogations from the measures and weights specified are permissible where they do not jeopardise the contractual purpose or the quality.

11. Copyright

We reserve the proprietary rights and copyrights with respect to catalogues, images, drawings, samples, and other documents. They must not be made available to third parties without our consent and must be returned without undue delay upon request. If an order placed with us infringes upon third party patent, design or trademark rights due to drawings or models submitted to us, all responsibility shall lie with the Purchaser which shall be liable for any resulting damage and loss of profits incurred by us, as the supplier, and shall indemnify us against any claims brought against us by third parties unless it is not responsible for the infringement.

12. General liability

We are only liable for damage that is caused intentionally or through gross negligence. With respect to breaches of material contractual duties we are also liable if they are caused by ordinary negligence. “Material contractual duties” are duties whose fulfilment is essential to the proper performance of the contract and upon whose fulfilment the Purchaser regularly relies and may regularly rely. Our liability is limited to the reasonably foreseeable damage typically incurred with this type of contract unless it is due to an intentional act. The foregoing limitations of liability do not apply to injuries to the life, body or health of a person or in cases of liability pursuant to the German Product Liability Act. The Purchaser‘s claims for the reimbursement of expenses pursuant to Section 284 BGB are waived to the extent that a claim for damages in lieu of performance is excluded pursuant to the foregoing provisions. The foregoing limitations on liability shall also apply to our employees, management bodies and other vicarious agents.

13. Place of performance, venue, applicable law, miscellaneous

The place of performance for all claims arising under this agreement is our registered office. The legal venue for all disputes with businessmen, legal entities under public law, special funds under public law or persons who do not have a place of general jurisdiction in Germany is the city in which our registered office is located. We are entitled to also, at our option, bring a suit against the Purchaser in the court having jurisdiction over the area in which its registered office is located. If the registered office of the Buyer is located outside of the European Economic Area (EEA) and the European Free Trade Area (EFTA), the two foregoing sentences do not apply. In this event, all disputes arising in connection with the agreement or its validity shall be finally settled in accordance with the rules of arbitration of Deutsche Institution für Schiedsgerichtsbarkeit e.V. (DIS) without recourse to the ordinary courts. The place of arbitration is Hamburg; the language of the proceedings is German. German law applies to the exclusion of the UN Convention on Contracts for the International Sale of Goods (CISG). We store the data generated in the context of the business relationship in accordance with the legal regulations.

HEROSE GMBH
ARMATUREN UND METALLE

Elly-Heuss-Knapp-Strasse 12
23843 Bad Oldesloe
Germany

Phone: +49 4531/509-0
Fax: +49 4531/509-120
info@herose.com