

ENERGY
2022

Valves for oil-immersed transformers





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Casting Expertise

The casting is the beginning of a valve and our foundry is where all this takes place.

Valvomec has its own internal bronze foundry since 1929 and developed during the years a deep expertise in both shell moulding and green sand casting systems.

Spectrometric analysis guarantee maximum quality both on castings and on machining.

For specific projects is also possible to realize 3D simulation of casting flow, on request.



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Our mission: supply High Quality Products and Services

Valvomec has a long tradition in supplying the international market with valves of high quality: 90 years of experience in development and production of valves.

The Quality System of Valvomec is the heart of a Quality Production, which is monitored all along the manufacturing process, and it is the key of the success throughout the years.

This value runs in all the processes of the factory, from purchasing to selling, from the casting to the final testing.



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The company is fully equipped with a metrology room for accurate dimensional measurements of machined parts.



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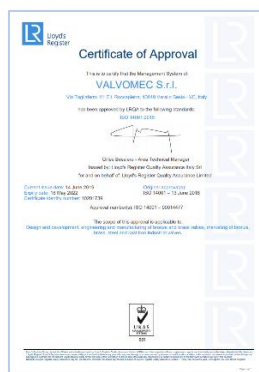
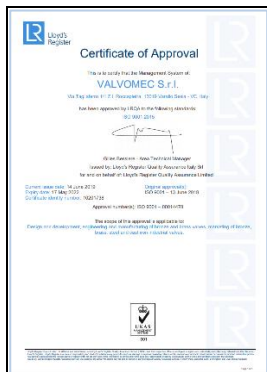
Certifications

Valnomec is certified according to **UNI EN ISO 9001:2015** for the Quality Management System. The entire productive process is monitored by our qualified staff of the Quality Department supported by the most innovative equipment. Our valves, are 100% pneumatically or hydraulically tested and are built to endure over time. Product quality has always been our aim.



Valnomec is certified according to **UNI EN ISO 14001:2015** for the Environmental Management System. Our EMS (Environmental Management System) is comprised of the policies, processes, plans, practices and records that define the rules governing how our company interacts with the environment. It is a crucial theme for Valnomec to do all the best to reduce its environmental footprint.

At Valnomec, working with the aim of Total Quality outcomes means working in a safe environment. Because of that, in 2021 we are got certified **UNI EN ISO 45001** for *Occupational Health and Safety Management System*.



Energy Line

For more than 30 years Valvomec has been producing bronze valves for oil-cooled transformers, for heavy-duty use for electricity generation and distribution for the international markets.

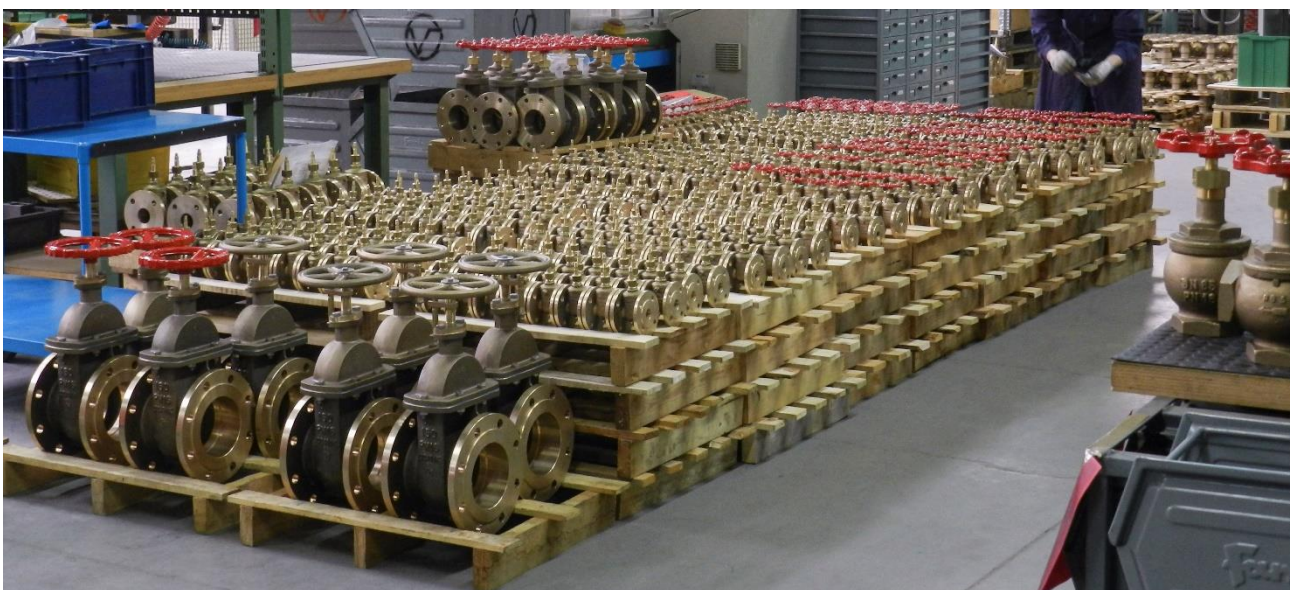
The  mark casted on our valves is synonymous with experience in constructing valves for power transformers with high performance. In addition, Valvomec relies on trustful partners for offering our customers a range of products with high performances.



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Onshore Applications

Bronze Gate Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
09320	DN100 - DN250	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-25°C to + 120°C 248K to 393K	11
09420	DN25 - DN100	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-25°C to + 120°C 248K to 393K	12
09420	DN25 - DN100	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-25°C to + 120°C 248K to 393K	13
09420	DN25 - DN80	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-25°C to + 120°C 248K to 393K	14
09420	DN25 - DN80	Flanged - Guillelmin	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-25°C to + 120°C 248K to 393K	15
Type*(1) (art.11002)	DN15 - DN80	Flanged	Bronze CC491K	Max. PN16 For oil max. 16.0 bar	-40°C to +180°C 233K to 453K	16
Type*(2) (art.11001)	DN15 - DN50	Flanged - Threaded	Bronze CC491K	Max. PN16 For oil max. 16.0 bar	-40°C to +180°C 233K to 453K	17

Cast Iron Gate Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
Type (*11)	DN40 - DN300	Flanged	Grey cast iron EN-GJL-250 (brass trim)	Max. PN10, For oil max. 8.0 bar	-10°C to + 120°C 263K to 393K	18
Type (*10)	DN40 - DN300	Flanged	Grey cast iron EN-GJL-250 (SS trim)	Max. PN10, For oil max. 8.0 bar	-10°C to + 120°C 263K to 393K	19

Bronze Globe Valve for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
03021	DN15 - DN25 - DN50 - DN80	Flanged	Bronze CC491K	Max. PN16 For oil max. 16.0 bar	-40°C to +180°C 233K to 453K	20

Outlet Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
03196	DN15 - DN32	Flanged - Threaded	Brass CW614N	Max. PN6, For oil max. 6.0 bar	-20°C to + 120°C 253K to 393K	21
03197	DN15 - DN32	Flanged - Threaded	Stainless Steel	Max. PN6, For oil max. 6.0 bar	-40°C to + 180°C 233K to 453K	22
03198	DN15 - DN32	Flanged - Threaded	Stainless Steel	Max. PN6, For oil max. 6.0 bar	-40°C to + 180°C 233K to 453K	23
03199	DN15 - DN32	Flanged - Threaded	Bronze CC491K	Max. PN6, For oil max. 6.0 bar	-25°C to + 115°C 248K to 388K	24
30199	DN15 - DN32	-	Bronze CC491K	-	-	25

Onshore Applications

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

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
12170	DN25 – DN80	Flanged	Bronze CC491K	Max. PN16, For oil mac. 5.0 bar	-25°C to + 115°C 248K to 388K	26
14060	DN50 – DN65	Flanged	Bronze CC491K	Max. PN16, For oil mac. 10.0 bar	-25°C to + 115°C 248K to 388K	27
14170	DN25 – DN80	Flanged	Bronze CC491K	Max. PN16, For oil mac. 5.0 bar	-40°C to + 115°C 233K to 388K	28
14175	DN80	Flanged	Bronze CC491K	Max. PN16, For oil mac. 5.0 bar	-25°C to + 115°C 248K to 388K	29
30060, 30170	DN25 – DN80	-		-	-	30

Bronze Plug Key

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
55322	DN25 - DN80	-		-	-	31

Ball Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
15213	¼" - 2"	Threaded	Stainless Steel 1.4408	Max. PN40	-20°C to + 180°C 253K to 453K	32
15225	DN50 – DN65	Flanged – Wafer type	Stainless Steel 1.4408	Max. PN16	-20°C to + 180°C 253K to 453K	33
15325 Type (9)	DN15 – DN150	Flanged – Wafer type	Stainless Steel A351 CF8M	Max. PN16	-25°C to + 150°C 248K to 423K	34
15245	DN15 – DN200	Flanged	Stainless Steel 1.4408	Max. PN16	-50°C to + 130°C 223K to 403K	35
15255	DN15 – DN200	Flanged	Stainless Steel 1.4408	Max. PN40	-25°C to + 120°C 248K to 393K	36
15255 ANSI	1/2" - 4"	Flanged - ANSI	Stainless Steel 1.4408	class 150	-25°C to + 120°C 248K to 393K	37
15345 (Type 7)	DN15 – DN200	Flanged	Stainless Steel A351 CF8M	Max. PN16	-25°C to + 150°C 248K to 423K	38
15330 Type (*3)	DN15 – DN250	Flanged	Bronze CC491K	Max. PN16	-10°C to +150°C 263K to 423K	39
Ball Valve Type (6)	DN15 – DN250	Flanged	Bronze- Aluminum C95800	Max. PN10-PN16	-10°C to + 150°C 263K to 423K	40

Offshore Applications

Bronze Gate Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
09320	DN100 - DN250	Flanged	Bronze CC480K	Max. PN16, For oil max. 6.0 bar	-25°C to + 120°C 248K to 393K	43
09420	DN25 - DN100	Flanged	Bronze CC480K	Max. PN16, For oil max. 6.0 bar	-60°C to + 120°C 213K to 393K	44
09420	DN25 - DN100	Flanged	Bronze CC480K	Max. PN16, For oil max. 6.0 bar	-60°C to + 120°C 213K to 393K	45

Outlet Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
03199	DN15 – DN32	Flanged	Bronze CC480K	Max. PN6, For oil max. 6.0 bar	-60°C to + 115°C 213K to 388K	46

Ball Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
15245	DN15 – DN200	Flanged	Stainless Steel 1.4408	Max. PN16	-50°C to + 130°C 223K to 403K	47

Low Temperature Applications

Bronze Gate Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
09320	DN100 - DN250	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-60°C to + 120°C 213K to 393K	49
09420	DN25 - DN100	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-60°C to + 120°C 213K to 393K	50
09420	DN25 - DN100	Flanged	Bronze CC491K	Max. PN16, For oil max. 6.0 bar	-60°C to + 120°C 213K to 393K	51
Type*(4) (11002 LT)	Dn15 – DN250	Flanged	Bronze CC491K	Max. PN16 16.0 bar	-60°C to +180°C 213K to 453K	52

Bronze Globe Valve for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
03021	Dn15 – DN25 - DN50 – DN80	Flanged	Bronze CC491K	Max. PN16 For oil mac. 16.0 bar	-60°C to +180°C 213K to 453K	53

Outlet Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
03199	DN15 – DN32	Flanged	Bronze CC491K	Max. PN6, For oil max. 6.0 bar	-60°C to + 115°C 213K to 388K	54

Ball Valves for oil-immersed Transformers

Type	Nominal Size	Connections	Material	Working pressure	Temperature	Page
15245	DN15 – DN200	Flanged - ANSI	Stainless Steel 1.4408	Class 150	-50°C to + 130°C 223K to 403K	55

Onshore Application



Gate Valve DIN EN 12288

Type **09320 Onshore**

Flanged Gate Valves, PN10 - 16, DIN EN 12288

Bronze body and bolted topwork

With maintenance-free gland packing (O-Ring) and non-rising stem

Flanged connection acc. To EN 1092-3 PN16, Raised Face Ra 12,5

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

Available options:

Pos	Code	Description
.X.	-	Please see chart below
	-	Flange personalized on request



Application

Suitable for transformer oil.
Onshore Applications

Working temperatures and pressure

Up to max. 6.0 bar:
From -25°C / -13°F (248K) up to +120°C / +248°F (393K)

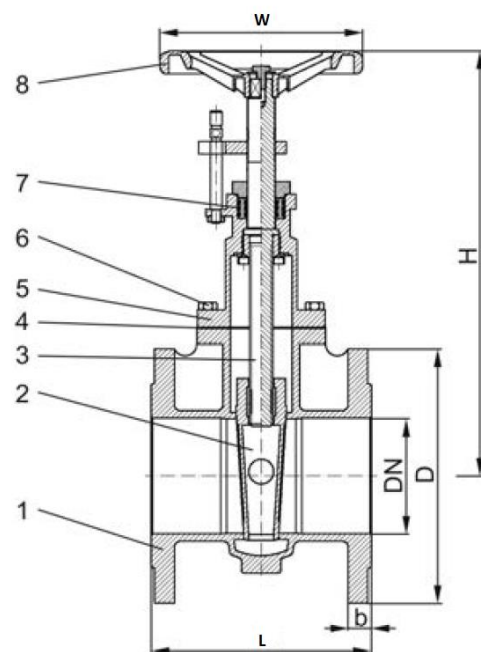
Standards

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

Pressure test acc.to EN 12266-1 - Rate "A"

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



	Material	DIN EN	ASTM
1	Body	Bronze CC491K	B 62 UNS C83600
2	Wedge	Bronze CC491K	B 62 UNS C83600
3	Stem	Brass CW614N	B 283 UNS C38500
4	Bonnet Gasket	Klingsil C-4400	
5	Headpiece	Bronze CC491K	B 62 UNS C83600
6	Bolts	1.4571/A4 similar A 194 B8T	Similar A 194 B8T
7	O.Rings	FPM (Viton)	
8	Handwheel	Steel	

Description		Dimension [mm]				
Nominal size	DN	100	125	150	200	250
Size code	.X.	1000	1250	1500	2000	2500
Face-to-face dimension	L	190	208	210	230	250
Height	H	367	429	469	593	690
Flange Diameter	D	220	250	285	340	395
Width of flange	b	20	22	22	24	24
Handwheel-Ø	W	175	200	225	300	300
Max. Working Pressure	PN	16	16	16	10	10
Flange connect DIN EN1092-3	PN	16	16	16	16	16
Weight (approx.)	Kg	23.5	32.0	42.5	71.0	106.0

Gate Valve

Type **09420 Onshore**

Flanged Gate valve, 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 EN 1092-3 PN16, Raised Face Ra 12,5

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 →



Available options:

Pos	Code	Description
.X.	-	Please see chart below
	-	Flange personalized on request

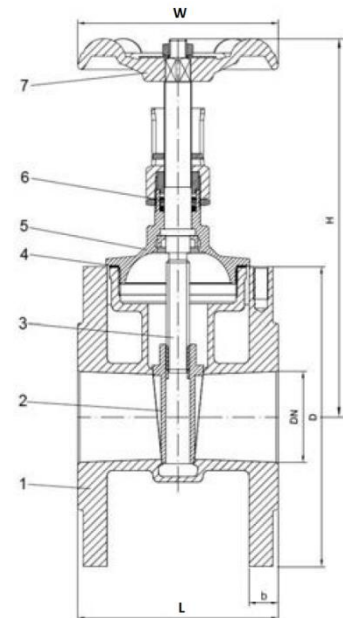
Application Suitable for transformer oil.
Onshore Applications

Working temperatures and pressure Up to max. 6.0 bar:
From -25°C / -13°F (248K) up to +120°C / +248°F (393K)

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

Pressure test acc.to EN 12266-1 - Rate "A"

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



	Materials	DIN EN	ASTM
1	Body	Bronze CC491K	B 62 UNS C83600
2	Wedge	Bronze CC491K	B 62 UNS C83600
3	Stem	Brass CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	Brass CW614N	B283 UNS C28500
6	O-Ring	FPM (Viton)	
7	Hand wheel	Aluminium - diecasting	

Description		Dimension [mm]								
Nominal size	DN	15	20	25	32	40	50	65	80	100
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Handwheel-Ø	W	70	70	70	80	80	110	130	150	150
Face-to-face dimension	L	75	75	80	90	100	110	130	150	165
Width to flange*	b	12	12	12	14	14	16	16	18	20
Height	H	105	105	120	135	155	180	225	250	295
Flange diameter*	D	95	105	115	140	150	165	185	200	220
Wrench size across flats	S ₂	6	7	8	9	9	11	12	14	14
Step Diameter*	d1	45	58	68	78	88	102	122	138	158
Step Dimension*	S	2	2	2	2	3	3	3	3	3
Weight (approx..)	Kg	-	-	2.5	3.9	4.9	7.0	9.5	12.1	19.0
Option: F -to-F Reduced Design	L	71	71	76	86	94	104	124	144	159

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

Gate Valve

Type **09420 Onshore**

Flanged Gate Valve, 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 EN 1092-3 PN16, Raised Face Ra 12,5

Part No. 09420.X.100000

Standard Valve

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

Available options:

Pos	Code	Description
.X.	-	Please see chart below
-	-	Flange personalized on request

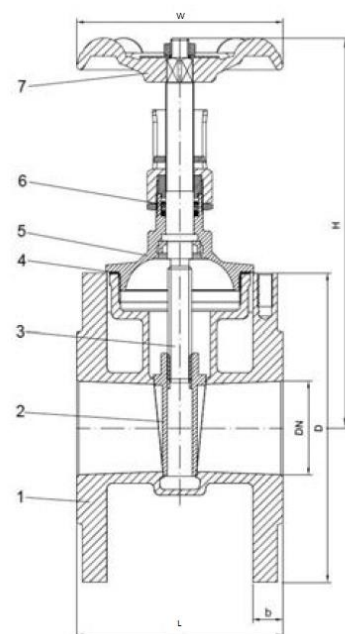
Application Suitable for transformer oil.
Onshore Applications

Working temperatures and pressure Up to max. 6.0 bar:
-25°C / -13°F (248K) up to +120°C / +248°F (393K)

Standards Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Pressure test acc.to EN 12266:2004 – Rate “A”.

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

option:
Locking device →



	Materials	DIN EN	ASTM
1	Body	Bronze CC491K	B 62 UNS C83600
2	Wedge	Bronze CC491K	B 62 UNS C83600
3	Stem	Brass CW614N	B 283 UNS C38500
4	Bonnet gasket	Klingersil C-4400	
5	Headpiece	Brass CW614N	B283 UNS C28500
6	O-Ring	FPM (Viton)	
7	Hand wheel	Aluminium - diecasting	

Description	Dimensions [mm]									
Nominal size	DN	15	20	25	32	40	50	65	80	100
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Handwheel-Ø	W	70	70	70	80	80	110	130	150	150
Face-to-face dimension	L	75	75	80	90	100	110	130	150	165
Width to flange*	b	12	12	12	14	14	16	16	18	20
Height	H	-	-	140	150	170	210	255	280	320
Flange diameter*	D	95	105	115	140	150	165	185	200	220
Wrench size across flats	S ₂	6	7	8	9	9	11	12	14	14
Step Diameter*	d1	45	58	68	78	88	102	122	138	158
Step Dimension*	S	2	2	2	2	3	3	3	3	3
Weight (approx.)	Kg	-	-	2.6	4.0	4.9	6.8	8.0	12.2	19.0
Option: F –to-F Reduced Design	L	71	71	76	86	94	104	124	144	159

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

Gate Valve

Type **09420 Onshore**

Flanged Gate valve, 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 EN 1092-3 PN16, FF with groove Ra 12,5

Part No. 09420.X.10F000

Valve with opening indicator, flat flange with groove on both flanges

Part No. 09420.X.11F000

Valve with opening indicator, flat flange with groove on both flanges and locking device without lock

Part No. 09420.X.12F000

Valve with opening indicator, flat flange with groove on both flanges and locking device with lock

Available options:

Pos	Code	Description
X	-	Please see chart below
	-	Flange personalized on request

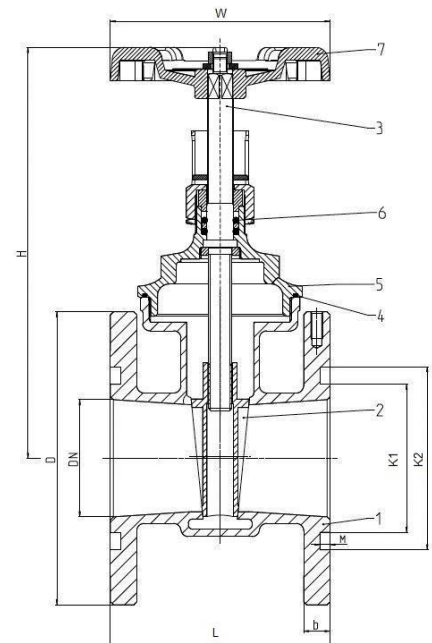
Application Suitable for transformer oil.
Onshore Applications.

Working temperatures and pressure Up to max. 6.0 bar:
-25°C / -13°F (248K) up to +120°C / +248°F (393K)

Standards Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Pressure test acc.to EN 12266:2004 – Rate “A”.

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

	Materials	DIN EN	ASTM
1	Body	Bronze CC491K	B 62 UNS C83600
2	Wedge	Bronze CC491K	B 62 UNS C83600
3	Stem	Brass CW614N	B 455 UNS C38500
4	Bonnet gasket	Klingsil C-4400	
5	Headpiece	Brass CW614N	B 455 UNS C28500
6	O-Ring	FPM (Viton)	
7	Hand wheel	Aluminium - diecasting	



Description		Dimensions [mm]			
Nominal size	DN	25	40	50	80
Size code	.X.	0250	0400	0500	0800
Handwheel-Ø	W	70	80	110	150
Face-to-face dimension	L	80	100	110	150
Width to flange*	b	12	14	16	18
Height	H	138	169	208	281
Flange diameter*	D	115	150	165	200
Inner diameter of the groove	K ₁	44	61	69	101
Outer diameter of the groove	K ₂	65	82	90	125
Groove Depth	M	6	6	6	7
Wrench size across flats	S ₂	8	9	11	14
Weight (approx.)	Kg	2.8	5.3	7.3	13.4

Gate Valve

Type **09420 Onshore**

**Flanged Gate valve, 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 EN 1092-3 PN16, Flat Face with groove Ra 12,5

Sampling point with plug and cable in inox

Part No. 09420.X.10C629

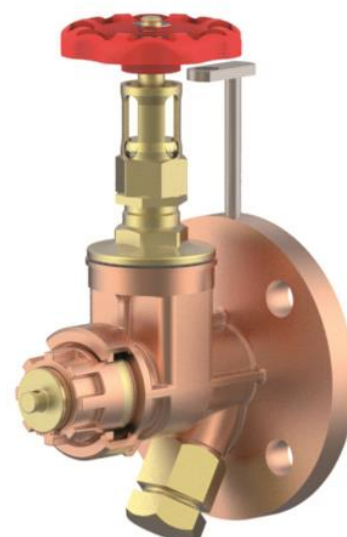
Valve with opening indicator

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

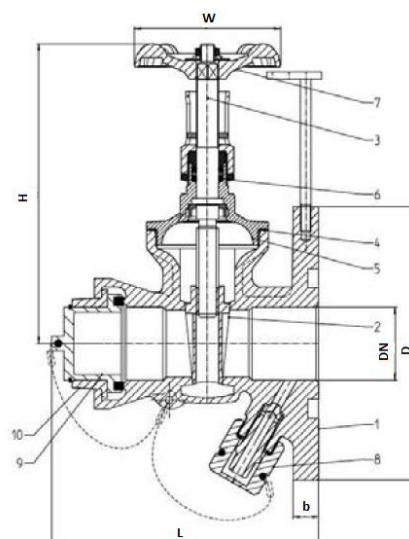


Application Suitable for transformer oil.
Onshore Applications.

Working temperatures and pressure Up to max. 6.0 bar:
-25°C / -13°F (248K) up to +120°C / +248°F (393K)

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

Note When requesting an offer or order, please indicate
flow medium, working pressure and working temperature.



Materials		DIN EN		ASTM
1	Body	Bronze	CC491K	B 62 UNS C83600
2	Wedge	Bronze	CC491K	B 62 UNS C83600
3	Stem	Brass	CW614N	B 455 UNS C38500
4	Bonnet gasket	Klingersil C-4400		
5	Headpiece	Brass	CW614N	B 455 UNS C38500
6	O-Ring	FPM (Viton)		
7	Hand wheel	Aluminium - diecasting		
8	Plug	Brass	CW614N	B 455 UNS C38500
9	Plug part A	Brass	CW614N	B 455 UNS C38500
10	Plug part B	Bronze	CC491K	B 62 UNS C83600

Description		Dimensions [mm]				
Nominal size	DN	20	25	40	50	80
Size code	.X.	0200	0250	0400	0500	0800
Handwheel-Ø	W	70	70	80	110	150
Face-to-face dimension	L	110	114	146	168	190
Width to flange*	b	12	12	14	16	18
Height	H	125	137	164	174	280
Flange diameter*	D	105	115	150	165	200
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 related to Flange PN16 according to UNI EN 1092-3:2005

Gate Valve

Type ***(1) Onshore (Art. 11002)**

Bronze Flanged Gate valve, PN16

Bronze body, screwed top work in brass and non-rising stem.

Flange connection PN16 according to EN 1092-3:2005, Flat Face Ra 12,5

Available options:

Pos	Code	Description
YY	-	Please see chart below
Z	-	Flange customization at request



Application

Suitable for transformer oil.
Onshore application.

Working temperatures and pressure

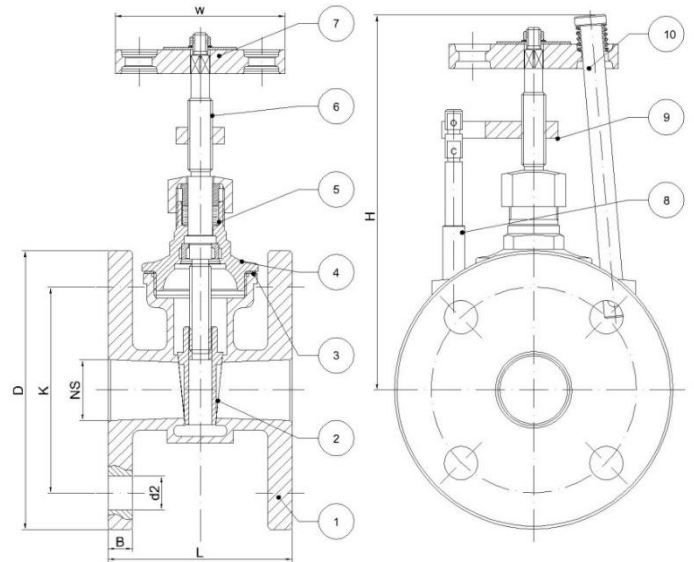
Up to max. 16.0 bar: -40°C to +180°C (PTFE Packing)
Up to max. 16.0 bar: -25°C to +180°C (Viton O-Ring)

Standards

Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Pressure test acc.to EN 12266:2004 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials		
1 Body	Bronze	CC491K	
2 Wedge	Bronze	CC491K	
3 Gasket	SILC 4400		
4 Bonnet	Brass	CW614N (Bronze CC491K for DN65-DN80)	
5 Packing	PTFE	(Viton for DN65)	
6 Stem	Brass	CW614N	
7 Hand wheel	Aluminium		
8 Indicator	Brass	CW614N	
9 Slider	Bronze	CC491K	
10 Locking dev.	Brass	CW614N	

Description	Dimensions [mm]							
Nominal size	DN	15	25	32	40	50	65	80
Size code	.X.	0150	0250	0320	0400	0500	0650	0800
Handwheel-Ø	W	50	70	80	80	90	130	130
Face-to-face dimension	L	77	77	86	120	135	160	185
Width to flange*	B	8	10	12	11	13	16	15
Height	H	130	150	185	200	220	275	290
Flange diameter*	D	95	115	140	150	165	185	200
Distance between holes*	K	65	85	100	110	125	145	160
N° and holes diameter*	n x d ₂	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18
Weight (approx.)	Kg	1.5	2.8	4.2	4.9	7.5	-	13.1

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

One Flanged Gate valve

Type ***(2) Onshore (Art. 11101)**

Bronze Gate valve, PN16,

with one flange and one threaded end with plug.

Bronze body, screwed top work in brass and non-rising stem.

Flange connection according to EN 1092-3:2005, Flat Flace Ra 12,5



Available options:

Pos	Code	Description
YY	-	Please see chart below
Z	-	Flange customization at request

Application

Suitable for transformer oil.
Onshore application.

Working temperatures and pressure

Up to max. 16.0 bar:
-40°C / -40°F (233K) to +180°C / +356°F (453K)

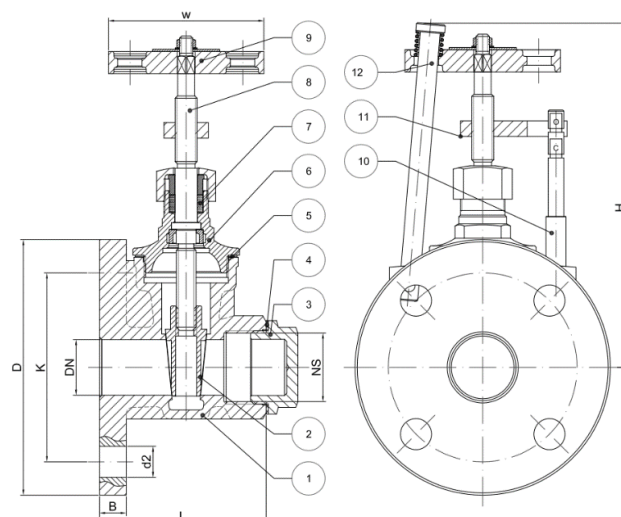
Standards:

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

Pressure test acc.to EN 12266:2004 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Materials		DIN EN		ASTM
1	Body	Bronze	CC491K	B 62 UNS C83600
2	Wedge	Bronze	CC491K	B 62 UNS C83600
3	Plug	Brass	CW614N	B 455 UNS C38500
4	Gasket	Silc 4400		
5	Gasket	Silc 4400		
6	Bonnet	Brass	CW614N	B 455 UNS C38500
7	Packing	PTFE		
8	Stem	Brass	CW614N	B 455 UNS C38500
9	Hand wheel	Aluminium		
10	Indicator	Brass	CW614N	B 455 UNS C38500
11	Slider	Bronze	CC491K	B 62 UNS C83600
12	Locking dev.	Brass	CW614N	B 455 UNS C38500

Description	Dimensions [mm]				
Nominal size	DN	15	25	40	50
Size code	.X.	0150	0250	0400	0500
Thread end	NS	1/2"	1"	1 1/2"	2"
Handwheel-Ø	W	50	70	80	90
Face-to-face dimension	L	65.5	75	120	139
Width to flange*	B	8	12	11	13
Height	H	130	150	200	220
Flange diameter*	D	95	115	150	165
Distance between holes*	K	65	85	110	125
N° and holes diameter*	n x d ₂	4 x 14	4 x 14	4 x 18	4 x 18

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

Gate Valve in Cast Iron with brass trim

Type ***(11) Onshore**

Gate Valve in Cast Iron , flat body, PN10

Inside screw thread stem in brass, clockwise closing

Adjustable stuffing box

Flange connection in acc.to UNI EN 1092-2 PN10 , Raised Face Ra 2,6

Face-to-Face dimension in acc.to EN558/1-14

Integrally coated with bicomponent wet epoxy resin high corrosion resistance painting Grey Ral 7011

Part No. Type(11).X.00RA1E

Standard Design

Part No. Type(11).X.11RA1E

Standard Design with positioning indicator and locking device without padlock

option:
Locking
Device



Application

Suitable for transformers oil: cooling circuits.

Working temperatures and pressure

Up to max. 10.0 bar: -10°C to +120°C .

Up to max. 8.0 bar: -10°C to +150°C.

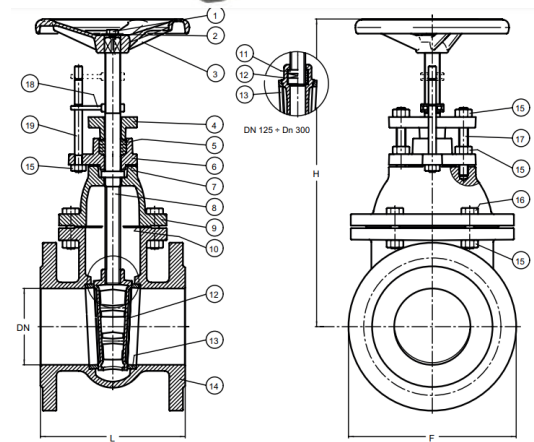
Standard

Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED) Group 1.

Pressure test acc.to EN 12266:2004 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Parti	Materiali	
1 Screw	Zinc-plated 8.8 carbon steel	EN ISO 4017
2 Washer	Zinc-plated carbon steel	EN7092
3 Handwheel	EN-GJL-250 grey cast iron	EN1561
4 Packing Gland	EN-GJL-250 grey cast iron	EN1561
5 Packing	PTFE	ASTM 4894
6 Stuffing Box	EN-GJL-250 grey cast iron	EN1561
7 Gasket	Fasit 205	-
8 Stem	CW614N Drawn Brass	EN12164
9 Bonnet	EN-GJL-250 grey cast iron	EN1561
10 Gasket	Fasit 205	-
11 Motherscrew	CB 754-S GM Cast Brass	EN1982
12 Wedge DN40-100	CB 754-S GM Cast Brass	EN1982
Wedge DN125 -300	EN-GJL-250 grey cast iron	EN1561
13 Seats	CB 754-S GM Cast Brass	EN1982
14 Body	EN-GJL-250 grey cast iron	EN1561
15 Nut	Zinc-plated 8.8 carbon steel	ISO 4032
16 Screw	Zinc-plated 8.8 carbon steel	EN ISO 4017
17 Tie rod	Zinc-plated 8.8 carbon steel	-
18 Fork	CB 754-S GM Cast Brass	EN1982
19 Indicator	CW614N Drawn Brass	EN12164

Description		Dimensions [mm]									
Nominal Diameter	DN	40	50	65	80	100	125	150	200	250	300
Size Code	.X.	0400	0500	0650	0800	1000	1250	1500	2000	2500	3000
Face-to-face dimension	L	140	150	170	180	190	200	210	230	250	270
Flange diameter*	F	150	165	185	200	220	250	285	340	395	445
Height	H	243	267	306	343	383	443	505	596	706	794
Handwheel-Ø	Ø	125	150	175	175	200	200	225	225	250	300
Turns open/close	Nr.	10	12.5	16	20	25	25	30	40	50	60
Max. working pressure	PN	10	10	10	10	10	10	10	10	10	10
Flange in acc.to	PN	10	10	10	10	10	10	10	10	10	10
Weight (approx.)	Kg	9	11	15	18	23	31	41	68	91	124

* Dimensioni relative alle flange PN10 in accordo a UNI EN 1092/2

Gate Valve in Cast Iron with SS trim

Type ***(10) Onshore**

Gate Valve in Cast Iron , flat body, PN10

Inside screw thread stem in brass, clockwise closing, Adjustable stuffing box

Flange connection in acc.to UNI EN 1092-2 PN10 , Raised Face Ra 2,6

Face-to-Face dimension in acc.to EN558/1-14

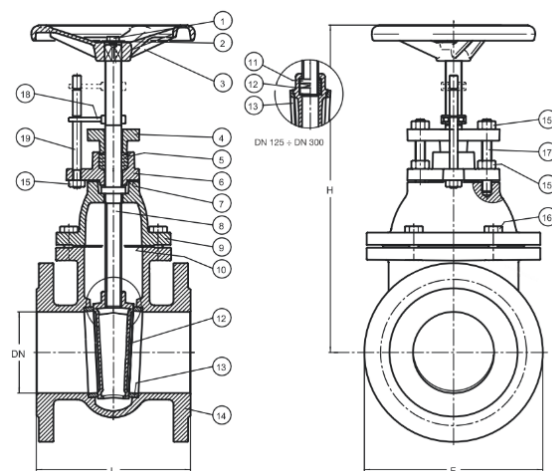
Integrally coated with bicomponent wet epoxy resin high corrosion resistance painting Grey Ral 7011

Part No. Type(10).X.00RA1E

Standard Design

Part No. Type(10).X.11RA1E

Standard Design with positioning indicator and locking device without padlock



Application

Suitable for transformers oil: cooling circuits

Working temperatures and pressure

Up to max. 10.0 bar: -10°C to +120°C .

Up to max. 8.0 bar: -10°C to +150°C.

Standard

Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED) Group 1.

Pressure test acc.to EN 12266:2004 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

Parti	Materiali	
1 Screw	Zinc-plated 8.8 carbon steel	EN ISO 4017
2 Washer	Zinc-plated carbon steel	EN7092
3 Handwheel	EN-GJL-250 grey cast iron	EN1561
4 Packing Gland	EN-GJL-250 grey cast iron	EN1561
5 Packing	PTFE	ASTM 4894
6 Stuffing Box	EN-GJL-250 grey cast iron	EN1561
7 Gasket	Fasit 205	-
8 Stem	X12Cr13 Stainless Steel	AISI 410
9 Bonnet	EN-GJL-250 grey cast iron	EN1561
10 Gasket	Fasit 205	-
11 Motherscrew	Carbon steel	A105
12 Wedge DN40-100	Carbon steel + AISI304L + Stainless Steel	A105+AISI304L
13 Wedge DN125 -300	EN-GJL-250 grey cast iron	EN1561
14 Seats	AISI 304L Stainless Steel	AISI304L
15 Body	EN-GJL-250 grey cast iron	EN1561
16 Nut	Zinc-plated 8.8 carbon steel	ISO 4032
17 Screw	Zinc-plated 8.8 carbon steel	EN ISO 4017
18 Tie rod	Zinc-plated 8.8 carbon steel	-
19 Fork	CB 754-S GM Cast Brass	EN1982
Indicator	CW614N Drawn Brass	EN12164

Description	Dimensions [mm]										
Nominal Diameter	DN	40	50	65	80	100	125	150	200	250	300
Size Code	.X.	0400	0500	0650	0800	1000	1250	1500	2000	2500	3000
Face-to-face dimension	L	140	150	170	180	190	200	210	230	250	270
Flange diameter*	F	150	165	185	200	220	250	285	340	395	445
Height	H	243	267	306	343	383	443	505	596	706	794
Handwheel-Ø	Ø	125	125	150	150	175	200	225	225	250	250
Turns open/close	Nr.	10	12.5	16	20	25	25	30	40	50	60
Max. working pressure	PN	10	10	10	10	10	10	10	10	10	10
Flange in acc.to	PN	10	10	10	10	10	10	10	10	10	10
Weight (approx.)	Kg	9	11	15	18	23	31	41	68	91	135

* Dimensions related to Flange PN10 in acc.to UNI EN 1092/2

Globe Valves

Type **03021 Onshore**

Bronze Flanged Globe valve, PN16, PTFE seat

Flange connection according to EN 1092-3 : 2005; Flat Flange Ra12.5

Part No.03021.X.ABCDEF to be defined

Standard Design

Available options:

Pos	Code	Description
C	-	Flange customization at request

Optional accessories:

Valve with red or black Hand wheel
Valve without Indicator
Valve with Indicator
Valve with Indicator and locking device

Notes:

Images of products are purely indicative and may therefore not be fully representative of the characteristics of the product, for differing colors, sizes or accessories.

Application

Suitable for transformer oil.
Onshore application.

Working temperatures and pressure

Up to max. 16.0 bar: -25°C to +180°C (Viton O-Rings)
Up to max. 16.0 bar: -40°C to +180°C (PTFE Packing)

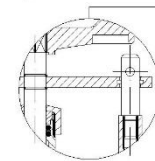
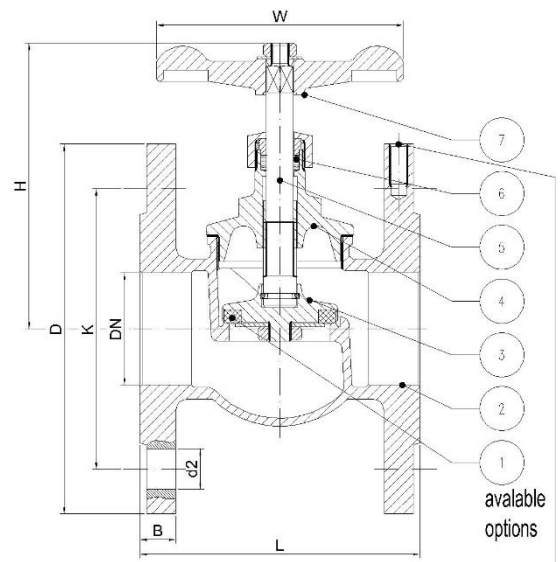
Standards

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

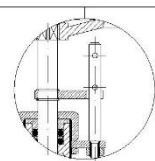
Pressure test acc.to EN 12266:2004 – Rate “A”.

Note:

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Indicator device
up to DN50



Indicator device
for DN80

Materials		DIN EN		ASTM	
1	Seal	For all sizes	PTFE		
2	Body	For all sizes	Bronze	CC491K	B 62 UNS C83600
3	Disc	For all sizes	Brass	CW614N	B 455 UNS C38500
4	Bonnet	DN15 to DN65	Brass	CW614N	B 455 UNS C38500
		For DN80	Bronze	CC491K	B 62 UNS C83600
5	Stem	For all sizes	Brass	CW614N	B 455 UNS C38500
6	Packing	For all sizes	O-Ring	Viton	
7	Indicator	For all sizes	Brass	CW614N	B 455 UNS C38500
8	Slider	For all sizes	Brass	CW614N	B 455 UNS C38500
9	Hand wheel	For all sizes	Aluminium diecasting		

Description	Dimensions [mm]							
Nominal size	DN	15	20	25	32	40	50	80
Size code	.X.	0150	0200	0250	0320	0400	0500	0800
Handwheel-Ø	W	50	60	70	80	90	80	150
Height	without indicator	H	80	87	95	-	117	130
	with indicator	H	-	-	105	-	138	270
Width of flange*	B	10	12	12	14	14	16	16
Face-to-Face dimension	L	65	80	90	95	110	125	180
Flange diameter*	D	95	105	115	140	150	165	200
Distance between holes*	K	65	75	85	100	110	125	160
N° and holes diameter*	n x d ₂	4 x 14	4 x 14	4 x 14	4x18	4x18	4 x 18	8 x 18

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

Outlet Valve for Transformers

Type **03196 Onshore**

Outlet Valves, DIN 4568

Body and screwed topwork in brass, outlet with cap and chain
Round /square flange, drilled acc.to DIN 2501 PN6, Flat Face

Part No. 03196.X.000510

Standard Design

Part No. 03196.X.010010

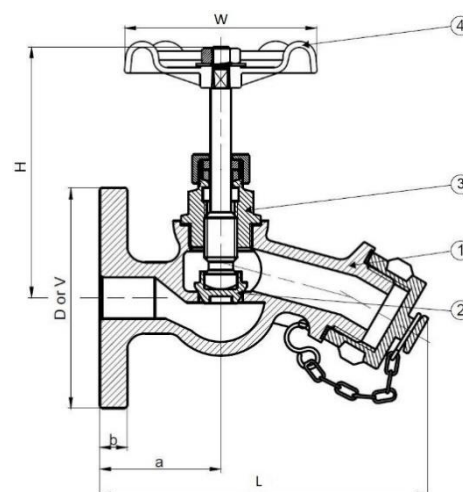
Design with handwheel in aluminum (red) and locking device without lock

Part No. 03196.X.020010

Design with handwheel in aluminum (red) and locking device with lock



Application	Suitable for transformer oil. Onshore Application.
Working temperatures and pressure	Up to max. 6.0 bar: -20°C / -4°F (253K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	Brass CW614N
2 Disc	Brass CW614N
3 Headpiece	Brass CW614N
4 Handwheel	Plastic

Description	Dimensions [mm]
Nominal size	DN 15 32
Size code	.X. .0150. .0320.
Face-to-face dimension	L 120 130
Height	H 94 133
Round Flange	D 80 -
Square Flange	V - 90
Width of flange	b 10 13
	a 44 55
Handwheel	W 70 80
Weight (approx..)	Kg 1.0 2.3

Outlet Valve

Type **03197 Onshore**

Outlet Valves, DIN 4568

Body and screwed topwork in stainless steel (1.4308)

outlet with cap and chain

Round /square flange, drilled acc.to DIN 2501 PN6, Flat Face

Part No. 03197.X.000010

Standard Design

Part No. 03197.X.010010

Design with handwheel in aluminum (black) and locking device without lock

Part No. 03197.X.020010

Design with handwheel in aluminum (black) and locking device with lock



Application

Suitable for transformer oil.
Onshore application.

Working temperatures and pressure

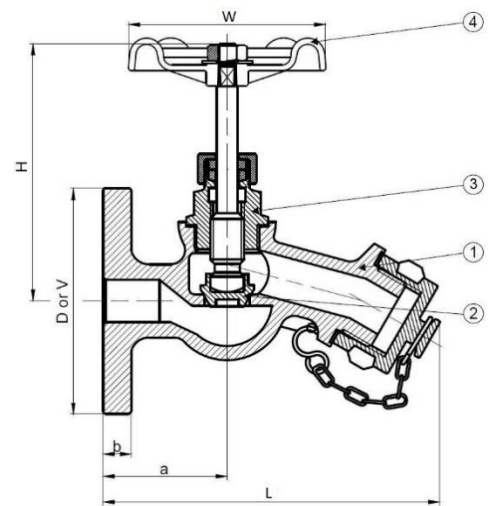
Up to max. 6.0 bar:
-40°C / -40°F (233K) up to +180°C / +356°F (453K)

Standards

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

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	1.4308
2 Disc	1.4301
3 Headpiece	1.4308
4 Handwheel	Aluminium

Description	Dimensions [mm]		
Nominal size	DN	15	32
Size code	.X.	0150	0320
Face-to-face dimension	L	110	140
Height	H	95	133
Round Flange	D	80	-
Square Flange	V	-	90
Length	a	44	55
Width of flange	b	10	13
Square Flange	V	-	90
Width of flange	b	10	13
Handwheel	W	70	80
Weight (approx.)	Kg	1.0	2.3

Outlet Valve

Type **03198 Onshore**

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, Flat Face

Part No. 03198.X.000010

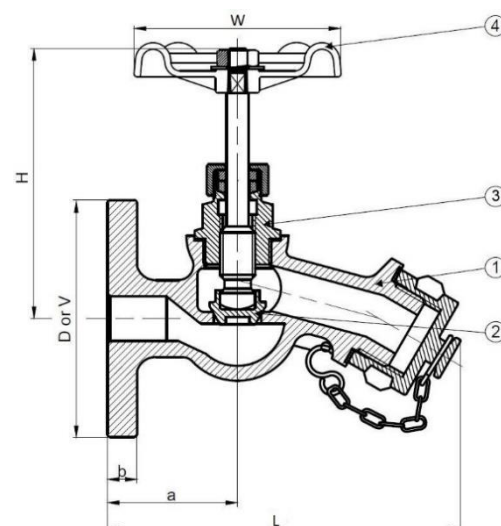
Standard Design

Part No. 03198.X.010010

Design with handwheel in aluminum (black) and locking device without lock

Part No. 03198.X.020010

Design with handwheel in aluminum (black) and locking device with lock



Application

Suitable for transformer oil.
Onshore Application.

Working temperatures and pressure

Up to max. 6.0 bar:
-40°C / -40°F (233K) up to +180°C / +356°F (453K)

Standards

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

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

Description	Materials
1 Body	1.4408
2 Disc	1.4301
3 Headpiece	1.4408
4 Handwheel	Aluminium

Description	Dimensions [mm]
Nominal size	DN 15 32
Size code	.X. 0150 0320
Face-to-face dimension	L 110 140
Height	H 95 133
Round Flange	D 80 -
Square Flange	V - 90
Length	a 44 55
Width of flange	b 10 13
Handwheel	W 70 80
Weight (approx.)	Kg 1.0 2.3

Outlet Valve

Type **03199 Onshore**

Outlet Valves, DIN 42568

Bronze Body and screwed topwork in brass

Outlet with cap and chain

Round /square flange, drilled acc.to EN 1092-3 PN6, Flat Face Ra3.2

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

Available Options:

Pos	Code	Description
A	1	Positioning indicator open/closed
B	1 (2)	Locking Device (with padlock)
C	1	Flange holes with countersink 3x45°

Application

Suitable for transformer oil.
Onshore Application.

Working temperatures and pressure

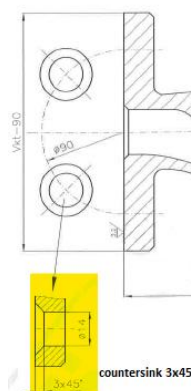
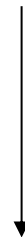
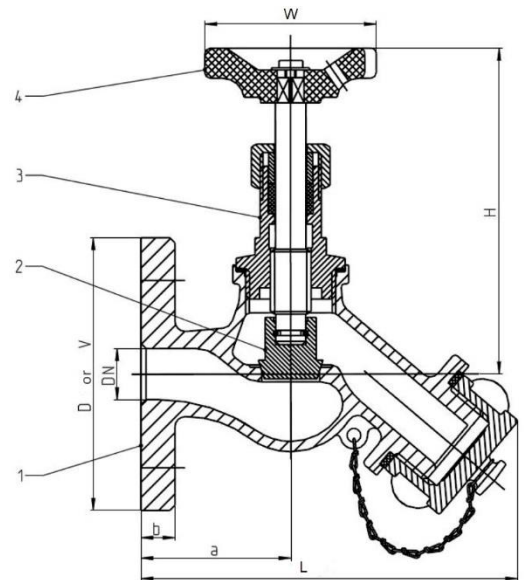
Up to max. 6.0 bar:
-25°C / -13°F (248K) up to +115°C / +239°F (388K)

Standards

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

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	Bronze CC491K
2 Disc	Brass CW614N
3 Headpiece	Brass CW614N
4 Handwheel	PA6 (Polyamid)

Description	Dimensions [mm]
Nominal size	DN 15 32
Size code	.X. 0150 0320
Face-to-face dimension	L 110 130
Height	H 97 120
Round Flange	D 80 -
Square Flange	V - 90
Length	a 44 55
Width of flange	b 10 13
Handwheel	W 63 80
Weight (approx.)	Kg 1.0 2.3

Sealing Kit for Outlet Valve

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)



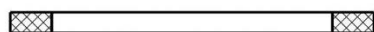
Sealing ring
(Polyamide)



Type	Nominal size
03199	DN32



Sealing ring
(Copper)



Sealing ring
(Polyamide)



Description	Dimensions [mm]		
Nominal size	DN	15	32
Size code	.X.	0150	0320
Dimension copper ring	L	35/27x2	42x51
Dimension polyamide ring	H	32/27x2	49/42x2
Weight (approx..)	Kg	0.02	0.03

Plug Cock

Type **12170 Onshore**

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 PN16

Part No. 55322.0003.0105

Plug key in bronze for plug cock DN25

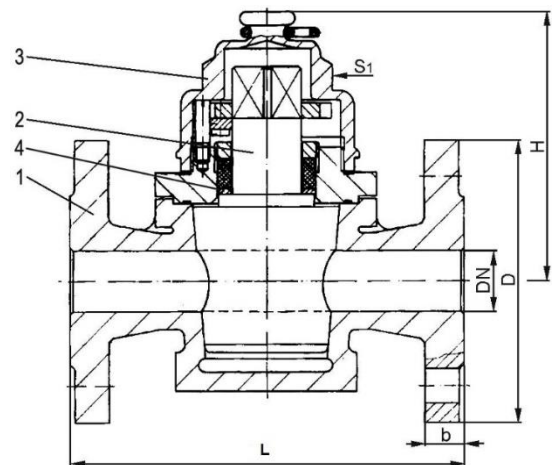
Part No. 55322.0004.0105

Plug key in bronze for plug cock DN80



Application	Suitable for transformer oil. Onshore Application.
Working temperatures and pressure	Up to max. 5.0 bar: -25°C / -13°F (248K) up to +115°C / +239°F (388K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	Bronze CC491K
2 Plug	Bronze CC491K
3 Cap	Bronze CC491K
4 Seal	PTFE

Description	Dimensions [mm]		
Nominal size	DN	25	80
Size code	.X.	0250	0320
Face-to-face dimension	L	160	290
Height	H	115	150
Round Flange	D	115	200
Width of flange	b	16	20
Width across flats	S ₁	46	71
Weight (approx.)	Kg	6.4	10.0

Three-way plug Cock in Bronze

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 PN16

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

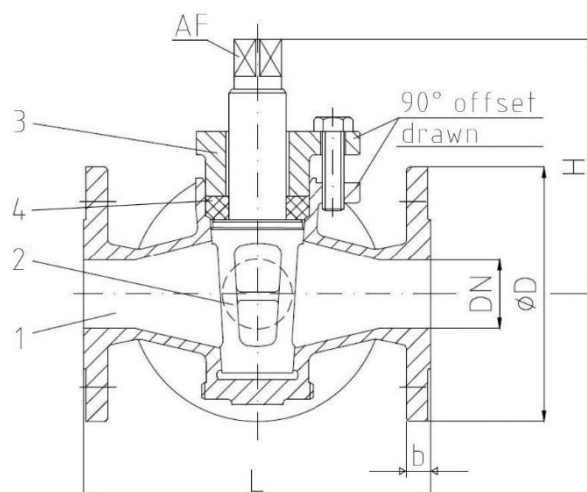
Part No. 29070.0320.0000

Plug key in annealed cast iron for three-way plug cock DN 65



Application	Suitable for transformer oil. Onshore application.
Working temperatures and pressure	Up to max. 10.0 bar: -25°C / -13°F (248K) up to +115°C / +239°F (388K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	Bronze CC491K
2 Plug	Bronze CC491K
3 Gland	Bronze CC491K
4 Seal	PTFE

Description	Dimensions [mm]	
Nominal size	DN	50
Size code	.X.	0500
Face-to-face dimension	L	230
Height	H	176
Round Flange	D	165
Width of flange	b	16
Width across flats	AF	27
Weight (approx.)	Kg	16.0

Three-way plug Cock in Bronze

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 EN 1092-3 PN16

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

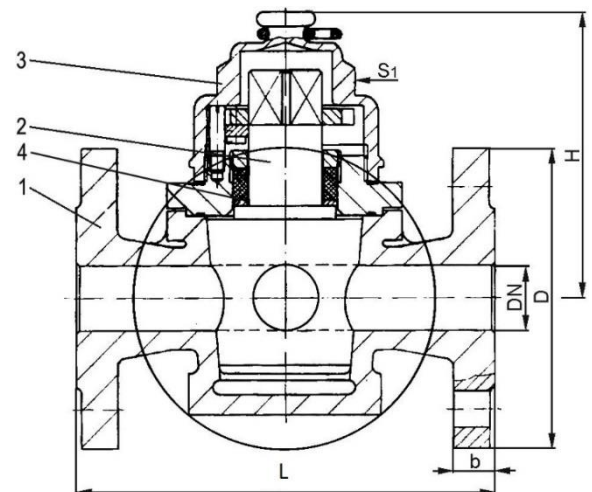
Plug key in bronze for three-way plug cock DN 80



Application	Suitable for transformer oil. Onshore application.
Working temperatures and pressure	Up to max. 5.0 bar: Working temperature: -25°C / -13°F (248K) up to +115°C / +239°F (388K) Ambient air temperature: -40°C / -40°F (233K) up to +115°C / +239°F (388K)

Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
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Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.
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Description	Materials
1 Body	Bronze CC491K
2 Plug	Bronze CC491K
3 Cap	Bronze CC491K
4 Seal	PTFE

Description	Dimensions [mm]
Nominal size	DN 25 80
Size code	.X. 0250 0800
Face-to-face dimension	L 160 290
Height	H 115 155
Round Flange	D 115 200
Width of flange	b 16 20
Width across flats	S ₁ 46 71
Weight (approx.)	Kg 7.9 22.0

Three-way plug Cock in Bronze

Type **14175**

Three-way plug cock in bronze, DIN 42544-C

with gland packing and square tap

with cap and safety catch

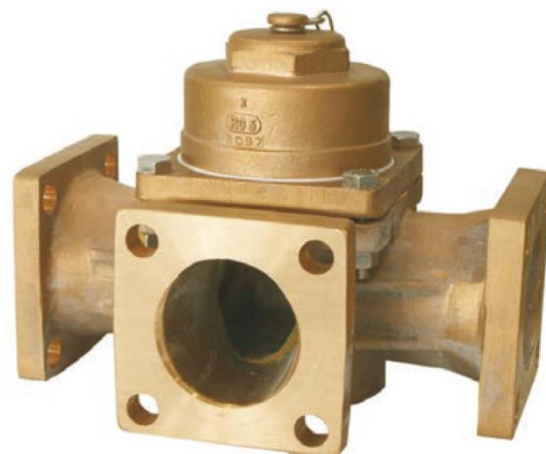
with T-port and round flanges drilled acc.to $\varnothing 132 \times 4 \times \varnothing 18$

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



Application

Suitable for transformer oil.
Onshore application.

Working temperatures and pressure

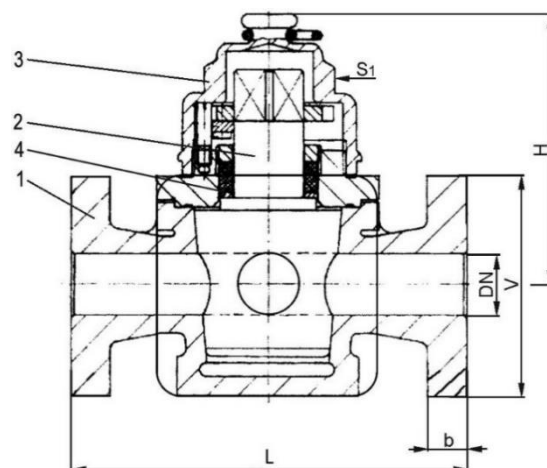
Up to max. 5.0 bar:
-25°C / -13°F (248K) up to +115°C / +239°F (388K)

Standards

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

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	Bronze CC491K
2 Plug	Bronze CC491K
3 Cap	Bronze CC491K
4 Seal	PTFE

Description	Dimensions
Nominal size	DN 80
Size code	.X. 0800
Face-to-face dimension	L 290
Height	H 155
Square Flange	V 125
Width of flange	b 18
Width across flats	S ₁ 71
Weight (approx.)	Kg 22.0

Spare parts for Plug Cocks in Bronze

Type **30060**, Type **30170**

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

Gland packing Type 14060 consisting of:

- Gland packing

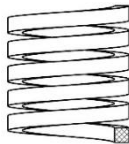
Sealing kit Types 12170, 14170 and 14175 consisting of:

- Gland seal
- Flat gasket
- O-ring

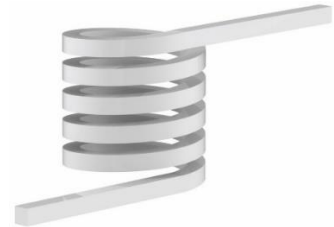
Part No. 30060.0500.0000

Suitable for:

Type	Nominal size
14060	DN50



Gland packing
(Ramie)



Part No. 30170.0250.0000

Suitable for:

Type	Nominal size
12170,14170,14175	DN25



Gland seal
(NBR)



Flat gasket
(PTFE)



O-ring
(NBR)



Part No. 30170.0800.0000

Suitable for:

Type	Nominal size
12170,14170,14175	DN80



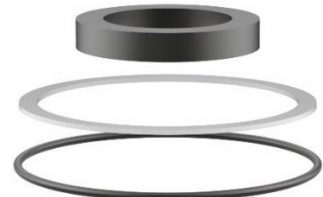
Gland seal
(NBR)



Flat gasket
(PTFE)



O-ring
(NBR)



Type 30060	Dimensions [mm]	
Nominal size	DN	50
Size code	.X.	0500
Cross Section Ramie	mm	6x6
Weight (approx.)	Kg	0.02

Type 30170	Dimensions [mm]		
Nominal size	DN	25	80
Size code	.X.	0250	0800
Dimensions gland seal	mm	39.5/28x10	77.0/54x12
Dimensions flat gasket	mm	68/63x2	125/110/2
Dimensions O-ring	mm	63x3	126.59x3.53
Weight (approx.)	Kg	0.02	0.05

Plug Key in Bronze

Type **55322**

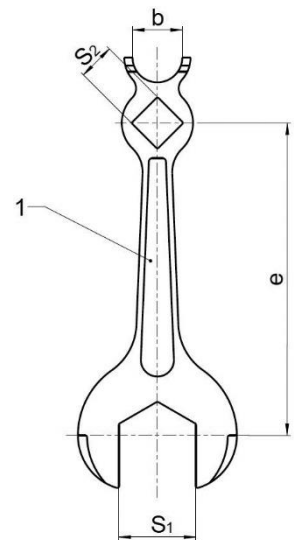
Plug Key in bronze, DIN 42544-C

Part No. 55322.0003.0105

Plug key in bronze for three plug cock DN25

Part No. 55322.0004.0105

Plug key in bronze for three plug cock DN 80



	Description	Materials
1	Plug Key	Bronze CC491K

Description	Dimensions [mm]		
Nominal size	DN	25	80
Size 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

Threaded Ball Valve, stainless steel

PN 25-40

Type **15213 Onshore**

Threaded Ball Valve, stainless steel PN 25-40

Two-piece body, "screwed design", pressure compensation hole for size 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

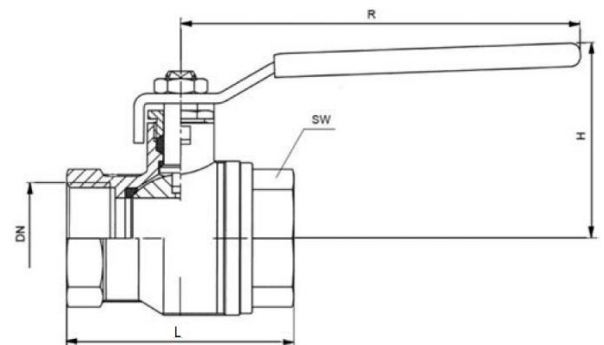


Application Suitable for transformer oil.
Onshore application.

Working temperatures -20°C / -4°F (253K) up to +180°C / +356°F (453K)

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

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	1.4408
2 Ball	1.4408
3 Seat ring	PTFE
4 Stem	1.4401
5 Packing	PTFE
6 Lever	1.4308

Description	Dimensions [mm]								
Nominal size	DN	1/4	3/8	1/2	3/4	1	1.1/4	1.1/2	2
Size code	.X.	0200	0300	0400	0600	1000	1200	1400	2000
Face-to-face dimension	L	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
Max. Working Pressure	PN	40	40	40	40	40	25	25	25
Weight (approx.)	Kg	0.13	0.13	0.18	0.31	0.46	0.74	1.24	1.97

Two-piece Flanged Ball Valve, stainless steel, wafer design, PN16

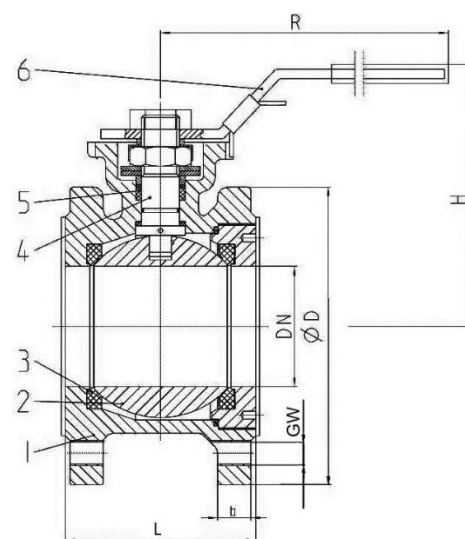
Type **15225 Onshore**

Two-piece Flanged Ball Valve, 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



Application	Suitable for transformer oil. Onshore application.
Working temperatures	-20°C / -22°F (243K) up to +180°C /+356°F (453K) Depending on working pressure.
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



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

Description	Dimensions [mm]											
Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Face-to-face dimension	L	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
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16	16
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

Two-piece Flanged Ball Valve, stainless steel, wafer design, PN16

Type **15325**

Two-piece Flanged Ball Valve, stainless steel, wafer design, PN16 , EN12516

screwed design, full bore, floating ball, antistatic-device
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, Ra 12,5

Face to Face : not standardized

Part No. **15325.X.110001**

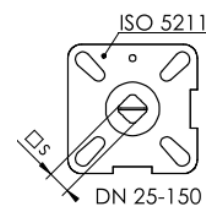
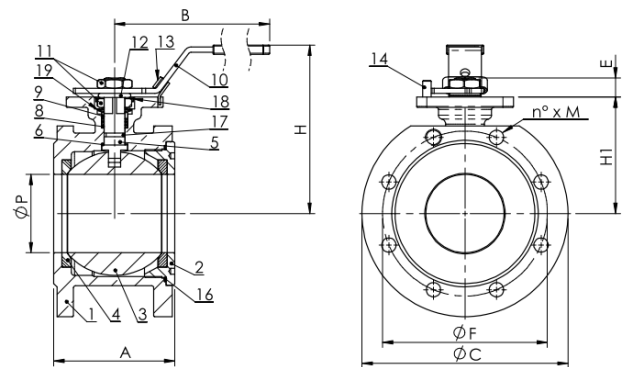


Application Suitable for transformer oil.
Onshore application.

Working temperatures -25°C up to +150°C
Depending on working pressure.

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

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	ASTM A351 CF8M
2 Ring nut	ASTM A351 CF8M
3 Ball	AISI316
4 Ball Seat	Reinforced PTFE
5 Stem	AISI316
6 Sliding Washer	PTFE
8 Stem Packing	PTFE
9 Pressing Bush	AISI304
1 Lever	AISI304 with plastic sleeve
1 Hex nut	AISI304
1 Ring	AISI304
1 Stop Plate	AISI304
1 Stop pin	AISI304
1 Body seal	PTFE
1 O-ring	Viton
1 Spacer	AISI304
1 Belleville Spring	AISI304

Description	Dimensions [mm]									
Nominal size	DN	15	20	25	32	40	50	65	80	100
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Face-to-face	A	36	38	53	53	65	78	98	118	140
Height	H	89	94	90	100	105	125	140	145	175
Flange diameter	C	95	105	115	140	150	165	185	200	220
Length of lever	B	120	120	160	160	200	200	255	255	300
Max. working	PN	16	16	16	16	16	16	16	16	16
Flange acc.to	PN	40	40	40	40	40	40	16/40	16	16
Weight (approx.)	Kg	1.11	1.48	1.93	3.1	4.2	5.37	8.2	11.9	16.9

Flanged Ball Valve, stainless steel, PN16 DIN EN

Type **15245 Onshore**

Flanged Ball Valve, stainless steel, PN16 , DIN EN

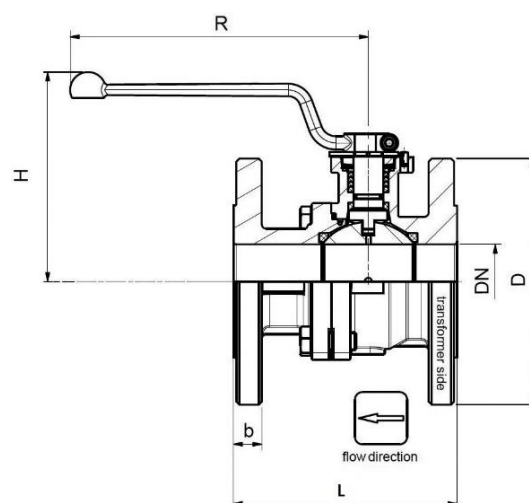
full bore, pressure compensation hole at flow entrance side,
seat rings PTFE/TFM , gland packing with PTFE-rings,
with lever and locking device without lock
with ISO 5211 mounting pad,
face-to-face dimension acc.to DIN EN 558-1 row 27 (F4) – short pattern
flanged connection acc.to DIN EN 1092-1 PN16

Part No. 15245.X.110001

Standard Design



Application	Suitable for transformer oil. Onshore application.
Working temperatures	-50°C / -58°F (223K) up to +130°C / +266°F (403K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	1.4408
2 Ball	1.4408
3 Seat ring	PTFE / TFM
4 Stem	1.4404
5 Packing	PTFE + FKM
6 Lever	1.4301

Description	Dimensions [mm]
Nominal size	DN 15 20 25 32 40 50 65 80 100 125 150 200
Size code	.X. 52 53 54 55 56 57 58 59 60 61 62 64
Face-to-face dimension	L 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
Max. working pressure	PN 16 16 16 16 16 16 16 16 16 16 16 16
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

Flanged Ball Valve, stainless steel, PN16/40 DIN EN

Type **15255 Onshore**

Flanged Ball Valve, stainless steel, PN16/40 , DIN EN

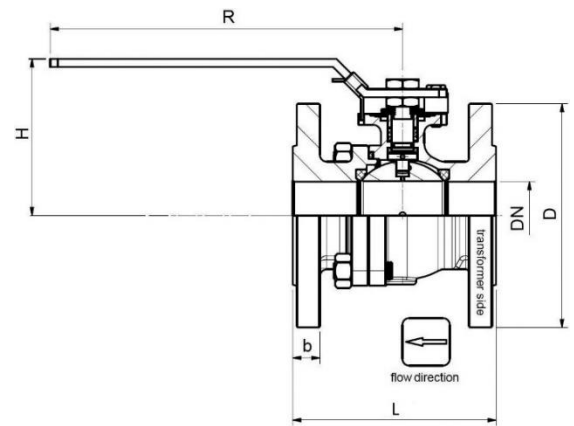
full bore, floating ball , pressure compensation hole at flow entrance side,
seat rings PTFE/TFM , gland packing with PTFE-rings,
with lever and locking device without lock
with ISO 5211 mounting pad,
face-to-face dimension acc.to DIN EN 558-1 row 27 (F4) – short pattern
flanged connection acc.to DIN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

Part No. 15255.X.110000

Standard design



Application	Suitable for transformer oil. Onshore application.
Working temperatures	-25°C / -13°F (248K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



	Description	Materials
1	Body	1.4408
2	Ball	1.4408
3	Seat ring	PTFE / TFM
4	Stem	1.4401
5	Packings	PTFE
6	Lever	1.4308
7	Bonnet	1.4408
8	Bolts	A2
9	Thrust Washer	PTFE
10	Locking Device	1.4301

Description		Dimensions [mm]											
Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150	200
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	2000
Face-to-face dimension	L	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
Max. working pressure	PN	40	40	40	40	40	16	16	16	16	16	16	16
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	100.5

Flanged Ball Valve, stainless steel, ANSI Flanges for Transformers

Type **15255 Onshore**

Flanged Ball Valve, stainless steel, class 150

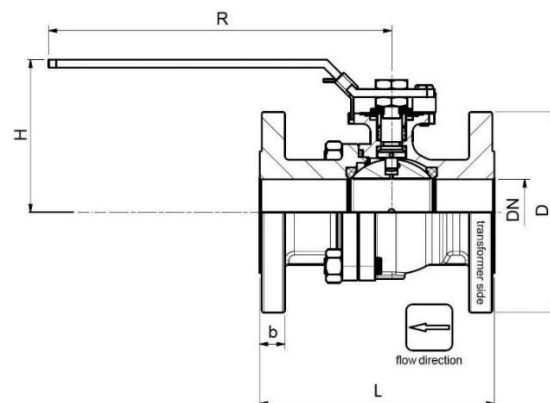
full bore, pressure compensation hole at flow entrance side,
seat rings PTFE/TFM , gland packing with PTFE-rings,
with lever and locking device without lock
with ISO 5211 mounting pad,
face-to-face dimension acc.to ANSI B16.10
flanged connection acc.to ANSI B16.10

Part No. 15255.X.112000

Standard design



Application	Suitable for transformer oil. Onshore application.
Working temperatures	-25°C / -13°F (248K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	1.4408
2 Ball	1.4408
3 Seat ring	PTFE / TFM
4 Stem	1.4401
5 Packing	PTFE
6 Lever	1.4301

Description	Dimensions [mm]							
Nominal size	DN	1/2"	3/4	1	1.1/2	2	3	4
Size code	.X.	0400	0600	1000	1400	2000	3000	4000
Face-to-face dimension	L	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

Ball Valve

Type **15345** (Type *7) **Onshore**

Ball Valve in Stainless, split-body type, PN16

Flange connection according to UNI EN 1092, Raised Face Ra 12,5

With ISO 5211 flange integrated

Face-to-face dimension in acc.to EN558/1

with floating ball

Antistatic device, Fire safe design, full bore, Lockable.



Notes:

Images of products are purely indicative and may therefore not be fully representative of the characteristics of the product, for differing colors, sizes or accessories.

Application

Suitable for oils and hydrocarbons, chemical and industrial plants, for heating and conditioning (HVAC), district heating, agricultural application, oils and hydrocarbons.

The laws, regulations and standards are to observe for the range of application.

Working temperatures and pressure

Up to max 16 bar :

From -25°C up to 150°C (O-ring Viton).

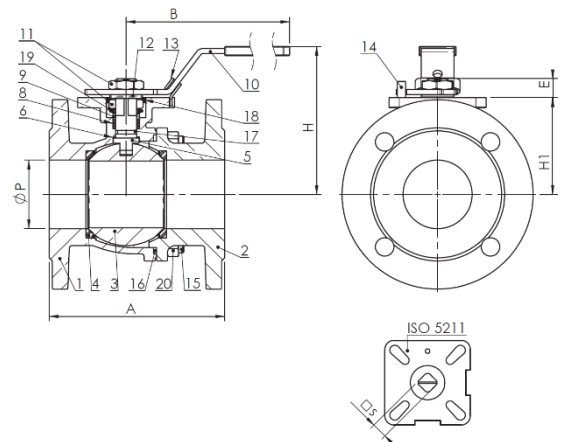
Standards

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

Pressure Test acc.to EN12266 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Material:		DIN EN	ASTM
1	Body	Stainless Steel AISI 316	ASTM A351 CF8M
2	Flange	Stainless Steel AISI 316	ASTM A351 CF8M
3	Ball	Stainless Steel AISI 316	
4	Ball seat	Reinforced PTFE	
5	Stem	Stainless Steel AISI 316	
6	Sliding washer	PTFE	
8	Stem Packing	PTFE	
9	Pressing Bush	Stainless Steel AISI 304	
10	Lever	Stainless Steel AISI 316 + plastic sleeve	
11-20	Hex nut	Stainless Steel AISI 304	
12	Ring	Stainless Steel AISI 304	
13	Stop pin pad	Stainless Steel AISI 304	
14	Stop pin	Stainless Steel AISI 304	
15	Stud bolt	Stainless Steel AISI 304	
16	Body seal	PTFE	
17	O-ring	FKM (Viton)	
18	Spacer	Stainless Steel AISI 301	
19	Belleville spring	Stainless Steel AISI 304	

Description		Dimensions [mm]										
Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500
Bore	P	15	20	25	32	40	50	65	76	100	120	150
Face-to-face	A	115	120	125	130	140	150	170	180	190	200	210
Center-to-lever	H	82	87	90	100	116	125	154	164	180	228	246
Lever	B	117	117	164	164	203	203	255	255	302	600	600
Flange*	C	95	105	115	140	150	165	185	200	220	250	285
Distance between holes*	F	65	75	85	100	110	125	145	160	180	210	240
Holes diameter*	n°xØd	4x14	4x14	4x14	4x18	4x18	4x18	4x18	8x18	8x18	8x18	8x22
Weight (approx.)	Kg	2.2	3.0	4.2	6.0	7.4	10.2	13.5	18.0	26.5	50.5	76.8

* Dimensions related to Flange PN16 according to UNI EN 1092/1 PN16

Ball Valve

Type **15330** (valve type *3) **Onshore**

Bronze Ball Valve, PN10-16

Flange connection according to UNI EN 1092, Raised Face Flange Ra12.5

Face-to-face length in acc.to EN558/1-14

Design EN1983, EN12516, ISO 5211

Blow-out proof stem; Antistatic device; full bore

Part No. 15330.X.100000

Standard design, with ball and stem in brass, Raised face flange Ra12.5



Available options:

15330.X.100010 -- Ball and Stem in : Stainless steel
Flat Flange or Flat Flange with OR groove (to be evaluated on request)
Kit lockable operating lever
Kit ISO 5211 flange

Notes:

Images of products are purely indicative and may therefore not be fully representative of the characteristics of the product, for differing colors, sizes or accessories.

Application

Suitable for hazardous liquids L1, non-hazardous gases G2, non-hazardous liquids G2 and water. The laws, regulations and standards are to observe for the range of application.

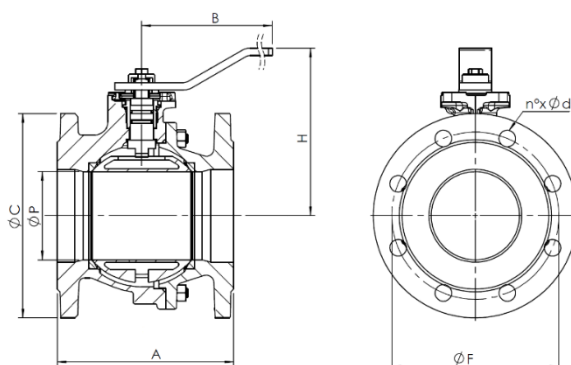
Working temperatures and pressure

Fluids*	Mounting	
	between Flanges	end of line
Hazardous gases G1	NO	NO
Hazardous Liquids L1	16 bar 10 bar	DN15-200 DN250
Non-Hazardous Gases G2	16 bar 10 bar	DN15-200 DN250
Non-Hazardous Liquids L2	16 bar	10 bar
Water**	16 bar	16 bar

*hazardous gas, liquids acc. 2014/68/EU and 1272/2008(CLP)

** for supply, distribution and discharge of water (PED 2014/68/EU 1.1.2b)

From -10°C up to 150°C (O-ring Viton).



Standards

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

Pressure Test acc.to EN12266 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

Description	Materials	Ball and Stem
Ball	Brass	CW617N or Stainless Steel AISI 316
Stem	Brass	CW617N or Stainless Steel AISI 316
Body and flange	Bronze CC491K	
Ball seat	Carbon reinforced PTFE	
Sliding ring	PTFE	
Packing	O-ring FKM (Viton)	
Handle	Carbon steel epoxy coated	
Stop Plate	Carbon steel galvanized	

Description	Dimensions [mm]													
Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	2000	2500
Bore	P	15	20	25	32	40	50	63	76	95	120	145	190	240
Face-to-face	A	115	120	125	130	140	150	170	180	190	200	210	400	450
Center-to-lever	H	84	84	96	101	125	135	143	165	180	225	243	320	-
Lever	B	160	160	170	170	230	230	230	280	360	520	520	1000	101
Flange Diameter*	C	95	105	115	140	150	165	185	200	220	250	285	340	405
Distance between holes*	F	65	75	85	100	110	125	145	160	180	210	240	295	355
Holes diameter*	nxØ	4x14	4x14	4x14	4x18	4x18	4x18	4x18	8x18	8x18	8x18	8x22	12x2	12x26
Flange ORING**	-	-	OR6187	OR6187	OR6250	OR6250	OR6287	OR6287	OR6400	OR8525	-	-	-	-
Weight (approx.)	Kg	2.8	3.4	4.8	5.6	7.9	10.5	15.1	19.1	24.0	36.7	44.6	104.	120

Dimensions related to Flange PN16 according to UNI EN 1092

** only for Type with Flat Flange with OR groove

Ball Valve

Type ***(6) Onshore**

Ball Valve in Bronze Aluminium, PN10-16

Flange connection according to UNI EN 1092; Raised Face Flange Ra12.5

Face-to-face length in acc.to EN558/1-14,

Design EN1983, EN12516, ISO 5211

Blow-out proof stem; Antistatic device; full bore



Available options:

Ball and Stem in : Stainless Steel or Aluminium Bronze

Ball in Aluminium Bronze

Flat Flange (to be evaluated on request)

Locking Device

Kit lockable operating lever

Kit ISO 5211 flange

Notes:

Images of products are purely indicative and may therefore not be fully representative of the characteristics of the product, for differing colors, sizes or accessories.

Application

Suitable for hazardous liquids L1, non-hazardous gases G2, non-hazardous liquids G2 and water. Suitable for Offshore, oils and hydrocarbons. The laws, regulations and standards are to observe for the range of application.

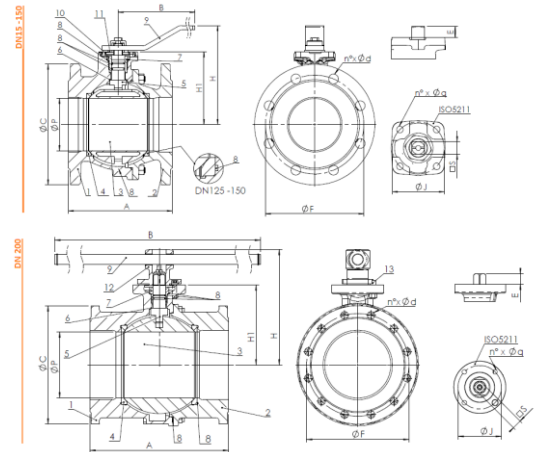
Working temperatures and pressure

Fluids*	Mounting	
	between Flanges	end of line
Hazardous gases G1	NO	NO
Hazardous Liquids L1	16 bar 10 bar	DN15-200 DN250
Non-Hazardous Gases G2	16 bar 10 bar	DN15-200 DN250
Non-Hazardous Liquids L2	16 bar	10 bar
Water**	16 bar	16 bar

*hazardous gas, liquids acc. 2014/68/EU and 1272/2008(CLP)

** for supply, distribution and discharge of water (PED 2014/68/EU 1.1.2b)

From -10°C up to 150°C (O-ring Viton).



Standards

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

Pressure Test acc.to EN12266 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

Description	Materials	Ball and Stem
Ball		Stainless Steel AISI 316 or Aluminium
Stem		Stainless Steel AISI 316 or Aluminium
Body and flange	Bronze Aluminium	C95800
Ball seat	Carbon reinforced PTFE	
Sliding ring	PTFE	
Packing	O-ring	FKM (Viton)
Handle	Stainless Steel AISI 316 + plastic sleeve	
Stop Plate	Stainless Steel AISI 316	

Description	Dimensions [mm]													
Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	2000	2500
Bore	P	15	20	25	32	40	50	63	76	95	120	145	190	240
Face-to-face	A	115	120	125	130	140	150	170	180	190	200	210	400	450
Center-to-lever	H	84	84	96	101	125	135	143	165	180	225	243	320	-
Lever	B	160	160	170	170	230	230	230	280	360	520	520	1000	101
Flange*	C	95	105	115	140	150	165	185	200	220	250	285	340	405
Distance	F	65	75	85	100	110	125	145	160	180	210	240	295	355
Holes diameter*	n*xØd	4x14	4x14	4x14	4x18	4x18	4x18	4x18	8x18	8x18	8x18	8x22	12x22	12x22

* Dimensions related to Flange PN16 according to UNI EN 1092



Offshore Application



Gate Valve DIN EN 12288

Type **09320 Offshore**

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

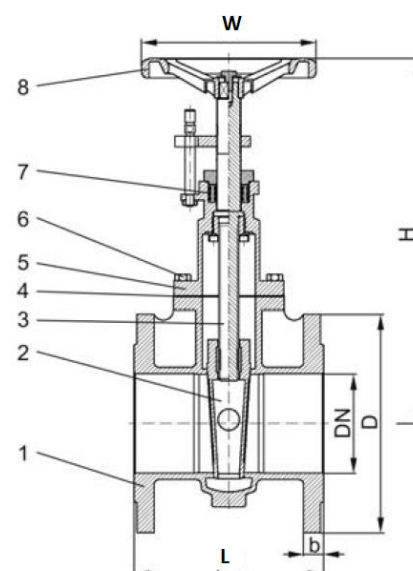
Flanged connection acc. To EN 1092-3 PN10 or PN16, Raised Face Ra 12,5

Part No. 09320.X.110202

Offshore - Valve with opening indicator and locking device without lock

Part No. 09320.X.120000

Offshore - Valve with opening indicator and locking device with lock



Application	Suitable for transformer oil. Offshore Applications.
Working temperatures and pressure	Up to max 6.0 bar: From -25°C / -13°F (248K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED). Pressure test acc.to EN 12266-1
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.

Description	Material
1 Body	Bronze CC480K
2 Wedge	Bronze CC480K
3 Stem	Bronze CC480K
4 Bonnet gasket	Klingersil C-4400
5 Headpiece	Bronze CC480K
6 Bolts	1.4571/A4 similar A 194 B8T
7 O.Rings	FPM (Viton)
8 Handwheel	Bronze CC491K

Description	Dimension [mm]
Nominal size	DN 100 125 150 200 250
Size code	.X. 1000 1250 1500 2000 2500
Face-to-face dimension	L 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	W 175 225 225 300 300
Max. working pressure	PN 16 16 16 10 10
Weight (approx.)	Kg 24.0 33.0 43.0 71.0 106.0

Gate Valve

Type **09420 Offshore**

Flanged Gate valve, 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 EN 1092-3 PN16, Raised Face Ra 12,5

Part No. 09420.X.000226

Standard Valve -60°C

Part No. 09420.X.010226

Valve -60°C with locking device without lock

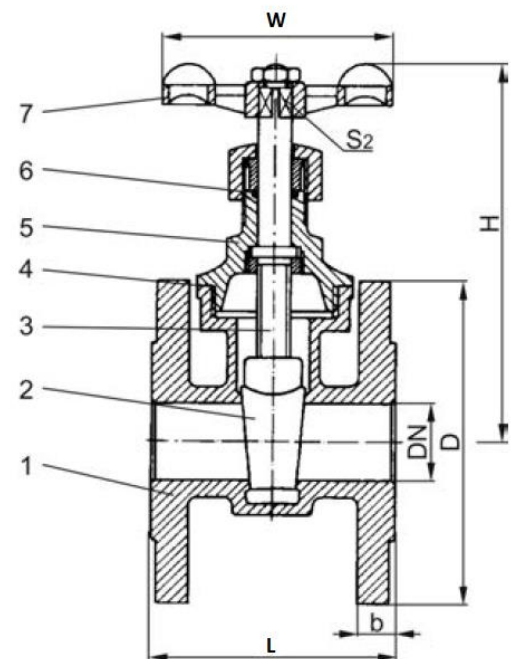
Part No. 09420.X.020226

Valve -60°C with locking device with lock

option:
Locking device →



Application	Suitable for transformer oil. Offshore Applications.
Working temperatures and pressure	Up to max. 6.0 bar: From -60°C / -76°F (213K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED). Pressure test acc.to EN 12266-1
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Material
1 Body	Bronze CC480K
2 Wedge	Bronze CC480K
3 Stem	Bronze CC483K
4 Bonnet Gasket	Klingersil C-4400
5 Headpiece	Bronze CC480K
6 O-Ring	Fluorosilicone
7 Hand wheel	Bronze CC491K

Description	Dimension [mm]
Nominal size	DN 15 20 25 32 40 50 65 80 100
Size code	.X. 0150 0200 0250 0320 0400 0500 0650 0800 1000
Face-to-face dimension	L 75 75 80 90 100 110 130 150 165
Height	H - - 120 135 160 190 230 250 295
Flange diameter*	D 95 105 115 140 150 165 185 200 220
Width to flange*	b 12 12 12 14 14 16 16 18 20
Handwheel-Ø	W - - 80 100 100 125 125 150 150
Wrench size across flats	S ₂ 6 7 8 9 9 11 11 14 14
Step Diameter*	d1 45 58 68 78 88 102 122 138 158
Step Dimension*	S 2 2 2 2 3 3 3 3 3
Weight (approx.)	Kg - - 2.5 3.9 4.9 7.0 9.5 12.1 19.0

Gate Valve

Type **09420 Offshore**

Flanged Gate valve, 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 EN 1092-3 PN16, Raised Face Ra 12,5

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 →



Application

Suitable for transformer oil.
Offshore applications.

Working temperatures and pressure

Maximum operating pressure: 6.0 [bar]
From -60°C / -76°F (213K) up to +120°C / +248°F (393K)

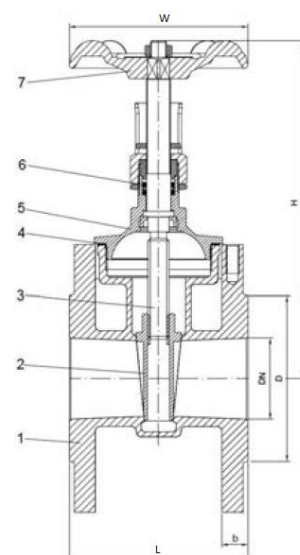
Standards

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

Pressure test acc.to EN 12266-1

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Material
1 Body	Bronze CC480K
2 Wedge	Bronze CC480K
3 Stem	Bronze CC483K
4 Bonnet Gasket	Klingersil C-4400
5 Headpiece	Bronze CC480K
6 O-Ring	Fluorosilicone
7 Hand wheel	Bronze CC491K

Description	Dimension [mm]
Nominal size	DN 15 20 25 32 40 50 65 80 100
Size code	.X. 0150 200 0250 0320 0400 0500 0650 0800 1000
Face-to-face dimension	L 75 75 80 90 100 110 130 150 165
Height	H - - 145 160 175 220 260 280 320
Flange diameter*	D 95 105 115 140 150 165 185 200 220
Width to flange*	b 12 12 12 14 14 16 16 18 20
Handwheel-Ø	W - - 80 100 100 125 125 150 150
Wrench size across flats	S ₂ 6 7 8 9 9 11 11 14 14
Step Diameter*	d1 45 58 68 78 88 102 122 138 158
Step Dimension*	S 2 2 2 3 3 3 3 3 3
Weight (approx.)	Kg - 2.6 4.0 4.9 6.8 8.0 12.2 19.0

Outlet Valve

Type **03199 Offshore**

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 EN 42568 PN6 Ra3.2

Part No. 03199.X.000202

Offshore Design standard

Part No. 03199.X.010202

Offshore Design with locking device without lock

Part No. 03199.X.020202

Offshore Design with locking device with lock

Part No. 03199.X.110202

Offshore Design with opening indicator and locking device without lock

Part No. 03199.X.120202

Offshore Design with opening indicator and locking device with lock

Available options:

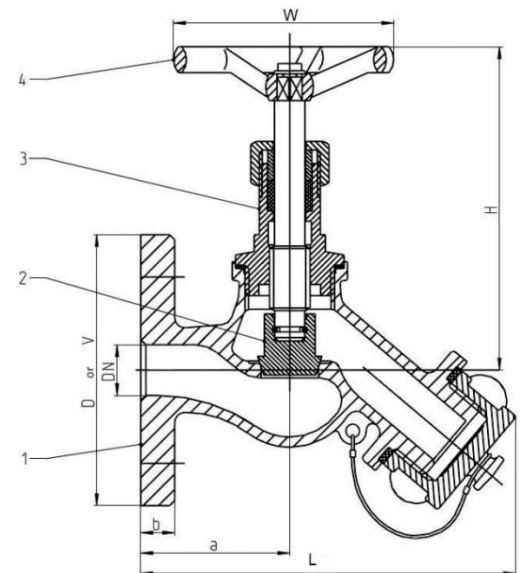
Pos	Code	Description
C	1	Flange holes with countersink 3x45°

Application Suitable for transformer oil.
Offshore Application.

Working temperatures and pressure Up to max. 6.0 bar:
-60°C / -76°F (213K) up to +115°C / +239°F (388K)

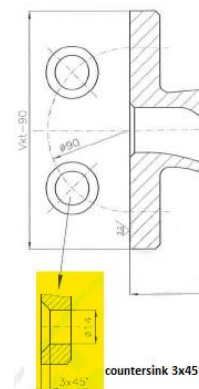
Standards Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	DIN EN	ASTM
1 Body	Bronze CC480K	B30 UNS C90700
2 Disc	Brass CW452N	B103 UNS C51900
3 Headpiece	Bronze CC483K	B30 UNS C90800
4 Handwheel	Bronze CC491K	B62 UNS C83600

Description	Dimensions [mm]		
Nominal size	DN	15	32
Size code	.X.	0150	0320
Face-to-face dimension	L	110	130
Height	H	97	120
Round Flange	D	80	-
Square Flange	V	-	90
Length	a	44	55
Width of flange	b	10	13
Handwheel-Ø	W	63	80
Weight (approx.)	Kg	1.0	2.3



Flanged Ball Valve, stainless steel, PN16 DIN EN for Transformers

Type **15245 Offshore**

Flanged Ball Valve, 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

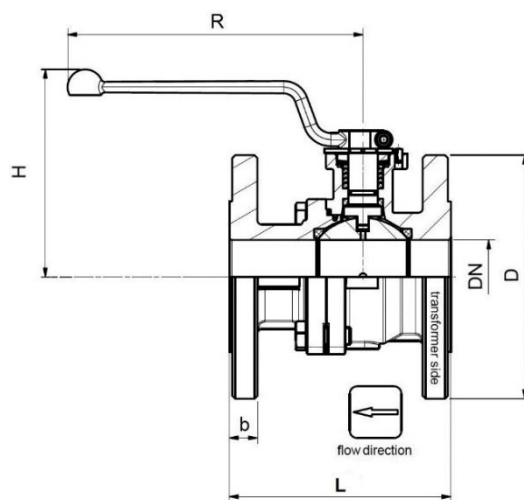


Application Suitable for transformer oil.
Offshore application.

Working temperatures and pressure -50°C / -58°F (223K) up to +130°C / +266°F (403K)

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

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	1.4408
2 Ball	1.4408
3 Seat ring	PTFE / TFM
4 Stem	1.4462
5 Packing	PTFE + FKM
6 Lever	1.4462

Description	Dimensions [mm]												
Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150	200
Size code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250	1500	200
Face-to-face dimension	L	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
Max. working pressure	PN	16	16	16	16	16	16	16	16	16	16	16	16
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

Low Temperature Application



Gate Valve DIN EN 12288

Type **09320 Low Temperature**

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 EN 1092-3 PN10 or PN16, Raised Face Ra 12,5

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



Application

Suitable for transformer oil.
Low Temperature applications.

Working temperatures and pressure

Up to max 6.0 bar:
From -60°C / -76°F (213K) up to +120°C / +248°F (393K)

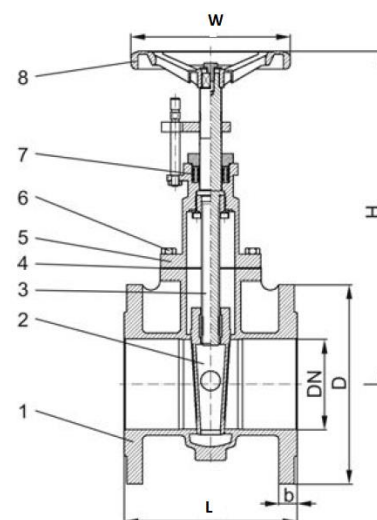
Standards

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

Pressure test acc.to EN 12266-1

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Material
1 Body	Bronze CC491K
2 Wedge	Bronze CC491K
3 Stem	Brass CW614N
4 Bonnet gasket	Klingersil C-4400
5 Headpiece	Bronze CC491K
6 Bolts	1.4571/A4 similar A 194 B8T
7 O.Rings	Fluor-silicon
8 Handwheel	Bronze CC491K

Description	Dimension [mm]
Nominal size	DN 100 125 150 200 250
Size code	.X. 1000 1250 1500 2000 2500
Face-to-face dimension	L 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	W 175 225 225 300 300
Max. working pressure	PN 16 16 16 10 10
Weight (approx.)	Kg 23.5 32.0 43.0 71.0 106.0

Gate Valve

Type **09420 Low Temperature**

Flanged Gate valve, PN16, DIN EN 12288

Body and screwed topwork in brass

With maintenance-free gland packing (O-ring) and non-rising stem

Flanged connection acc.to EN 1092-3 PN16, Raised Face Ra 12,5

Part No. 09420.X.000200

Standard Valve -60°C

Part No. 09420.X.010200

Valve -60°C with locking device without lock

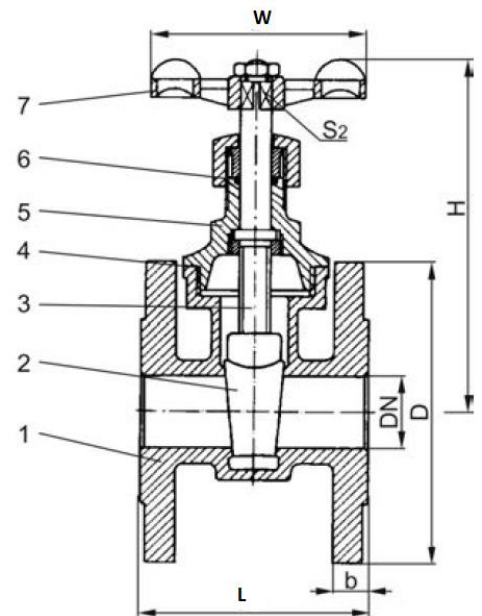
Part No. 09420.X.020200

Valve -60°C with locking device with lock

option:
Locking device →



Application	Suitable for transformer oil. Low Temperature Applications.
Working temperatures and pressure	Up to max 6.0 bar: From -60°C / -76°F (213K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED). Pressure test acc.to EN 12266-1
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Material
1 Body	Bronze CC491K
2 Wedge	Bronze CC491K
3 Stem	Brass CW614N
4 Bonnet Gasket	Klingersil C-4400
5 Headpiece	Brass CW614N
6 O-Ring	Fluorosilicone
7 Hand wheel	Bronze CC491K

Description	Dimension [mm]									
Nominal size	DN	15	20	25	32	40	50	65	80	100
Size code	.X.	0150	200	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	L	75	75	80	90	100	110	130	150	165
Height	H	-	-	120	135	160	190	230	250	295
Flange diameter*	D	95	105	115	140	150	165	185	200	220
Width to flange*	b	12	12	12	14	14	16	16	18	20
Handwheel-Ø	W	-	-	80	100	100	125	125	150	150
Wrench size across flats	S ₂	6	7	8	9	9	11	11	14	14
Step Diameter*	d1	45	58	68	78	88	102	122	138	158
Step Dimension*	S	2	2	2	2	3	3	3	3	3
Weight (approx.)	Kg	-	-	2.5	3.9	4.9	7.0	9.5	12.1	19.0

Gate Valve

Type **09420 Low Temperature**

Flanged Gate valve, PN16, DIN EN 12288

Bronze Body and screwed topwork in brass

With maintenance-free gland packing (O-ring) and non-rising stem

Flanged connection acc.to EN 1092-3 PN16, Raised Face Ra 12,5

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 →



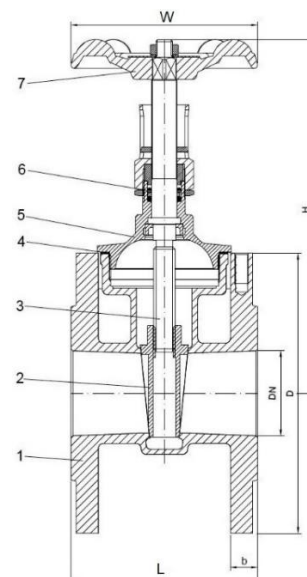
Application Suitable for transformer oil.
Low Temperature applications.

Working temperatures and pressure Up to max: 6.0 bar
From -60°C / -76°F (213K) up to +120°C / +248°F (393K)

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

Pressure test acc.to EN 12266-1

Note When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Material
1 Body	Bronze CC491K
2 Wedge	Bronze CC491K
3 Stem	Brass CW614N
4 Bonnet Gasket	Klingsil C-4400
5 Headpiece	Brass CW614N from DN25 to DN50 Bronze CC491K from DN65 to DN100
6 O-Ring	Fluorosilicone
7 Hand wheel	Bronze CC491K

Description	Dimension [mm]									
Nominal size	DN	15	20	25	32	40	50	65	80	100
Size code	.X.	0150	200	0250	0320	0400	0500	0650	0800	1000
Face-to-face dimension	L	75	75	80	90	100	110	130	150	165
Height	H	-	-	145	160	175	220	260	280	320
Flange diameter*	D	95	105	115	140	150	165	185	200	220
Width of flange*	b	12	12	12	14	14	16	16	18	20
Handwheel-Ø	W	-	-	80	100	100	125	125	150	150
Wrench size across flats	S ₂	6	7	8	9	9	11	11	14	14
Step Diameter*	d1	45	58	68	78	88	102	122	138	158
Step Dimension*	S	2	2	2	2	3	3	3	3	3
Weight (approx.)	Kg	-	-	2.6	4.0	4.9	6.8	8.0	12.2	19.0

Gate Valve

Type ***(4)** (Art.11002 Low Temperature)

Bronze Flanged Gate valve, PN16

Bronze body, screwed top work in brass and non rising stem.

Flange connection PN16 according to EN 1092-3:2005, Flat Face

Available options:

Pos	Code	Description
YY	-	Please see chart below
Z	-	Flange customization at request



Notes:

Images of products are purely indicative and may therefore not be fully representative of the characteristics of the product, for differing colors, sizes or accessories.
In this case, for low temperature application the handwheel would be in bronze.

Application

Suitable for transformer oil.
Low Temperature Application

Working temperatures and pressure

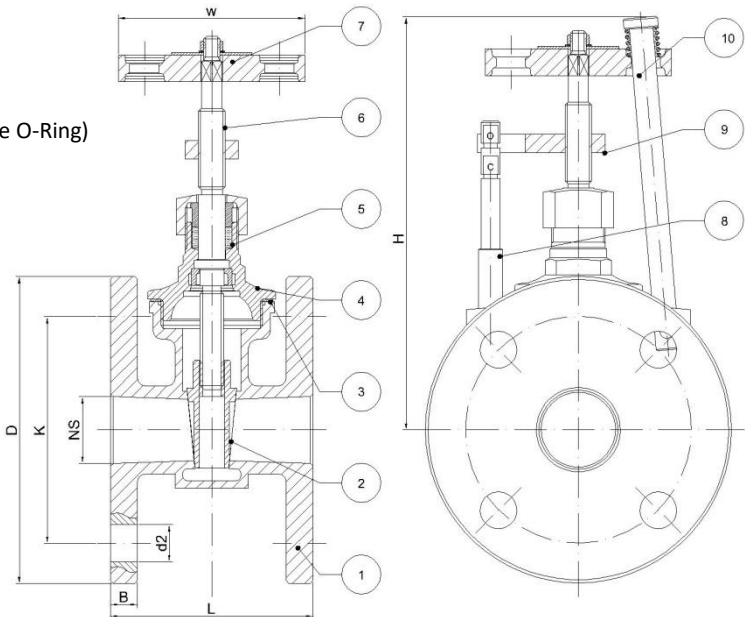
Up to max. 16.0 bar: -50°C to +180°C (FluoroSilicone O-Ring)

Standards

Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Pressure test acc.to EN 12266:2004 – Rate “A”.

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials	
1 Body	Bronze	CC491K
2 Wedge	Bronze	CC491K
3 Gasket	SILC 4400	
4 Bonnet	Brass	CW614N (Bronze CC491K for DN65-DN80)
5 O-Ring	Fluorosilicone	
6 Stem	Brass	CW614N
7 Hand wheel	Bronze	
8 Indicator	Brass	CW614N
9 Slider	Bronze	CC491K
10 Locking dev.	Brass	CW614N

Description	Dimensions [mm]							
Nominal size	DN	15	25	32	40	50	65	80
Size code	.X.	0150	0250	0320	0400	0500	0650	0800
Handwheel-Ø	W	50	70	80	80	90	130	130
Face-to-face dimension	L	77	77	86	120	135	160	185
Width to flange*	B	8	10	12	11	13	16	15
Height	H	130	150	185	200	220	275	290
Flange diameter*	D	95	115	140	150	165	185	200
Distance between holes*	K	65	85	100	110	125	145	160
N° and holes diameter*	n x d ₂	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

Globe Valves

Type 03021 Low Temperature

Bronze Flanged Globe valve, PN16, PTFE seat

Flange connection according to EN 1092-3 : 2005, Raised Face

Available options:

Pos	Code	Description
YY	-	Please see chart below
Z	-	Flange customization at request

Optional accessories:

Valve with red or black Hand wheel
Valve without Indicator
Valve with indicator
Valve with indicator and locking device

Notes:

Images of products are purely indicative and may therefore not be fully representative of the characteristics of the product, for differing colors, sizes or accessories.

In this case, for low temperature application the handwheel would be in bronze.



Application

Suitable for transformer oil.
Low Temperature application.

Working temperatures and pressure

Up to max. 16.0 bar: -50°C to +180°C (FluoroSilicone O-Rings)

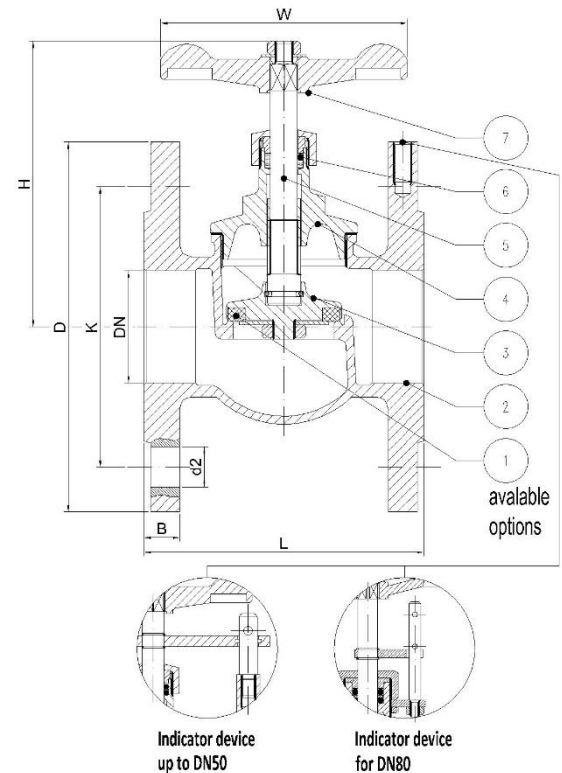
Standards

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

Pressure test acc.to EN 12266:2004 – Rate “A”.

Note:

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Materials		DIN EN		ASTM	
1	Seal	For all sizes	PTFE		
2	Body	For all sizes	Bronze	CC491K	B 62 UNS C83600
3	Disc	For all sizes	Brass	CW614N	B 455 UNS C38500
4	Bonnet	DN15 to DN65	Brass	CW614N	B 455 UNS C38500
		For DN80	Bronze	CC491K	B 62 UNS C83600
5	Stem	For all sizes	Brass	CW614N	B 455 UNS C38500
6	Packing	For all sizes	O-Ring	Fluorosil.	
7	Indicator	For all sizes	Brass	CW614N	B 455 UNS C38500
8	Slider	For all sizes	Brass	CW614N	B 455 UNS C38500
9	Hand wheel	For all sizes	Bronze		

Description		Dimensions [mm]						
Nominal size	DN	15	20	25	32	40	50	80
Size code	.X.	0150	0200	0250	0320	0400	0500	0800
Handwheel-Ø	W	50	60	70	80	90	80	150
Height	without indicator	H	80	87	95	-	117	234
	with indicator	H	-	-	105	-	138	270
Width of flange (RF)*	B	10	12	12	14	14	16	16
Face-to-Face dimension (RF)	L	65	80	90	95	110	125	180
Flange diameter*	D	95	105	115	140	150	165	200
Distance between holes*	K	65	75	85	100	110	125	160
N° and holes diameter*	n x d ₂	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	8 x 18

* Dimensions related to Flange PN16 according to UNI EN 1092-3:2005

Outlet Valve

Type **03199 Low Temperature**

Outlet Valves, DIN 42568

Bronze Body and screwed topwork in brass with PTFE packing

Outlet with cap and chain with PTFE seal

Round /square flange, drilled acc.to EN 1092-3 PN6 Ra3.2

Part No. 03199.X.000200

Standard Design

Part No. 03199.X.010200

Design with locking device without lock

Part No. 03199.X.020200

Design with locking device with lock

Part No. 03199.X.100200

Standard Design with opening indicator

Part No. 03199.X.110200

Design with opening indicator and locking device without lock

Part No. 03199.X.120200

Design with opening indicator and locking device with lock



Available options:

Pos	Code	Description
C	1	Flange holes with countersink 3x45°

Application

Suitable for transformer oil.
Low Temperature Application.

Working temperatures and pressure

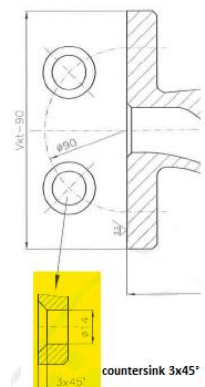
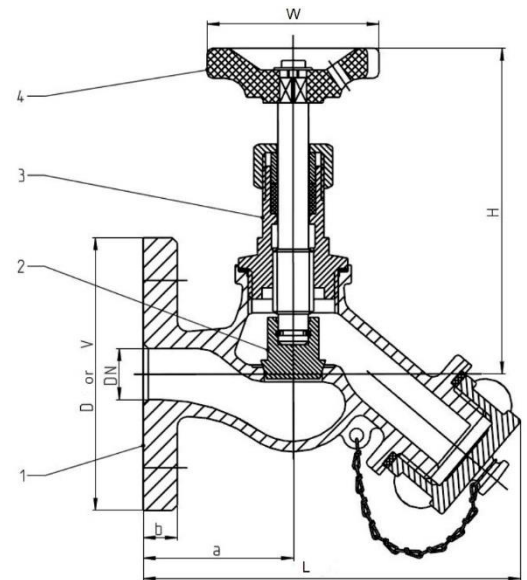
Up to max. 6.0 bar:
-60°C / -76°F (213K) up to +115°C / +239°F (388K)

Standards

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

Note

When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	Bronze CC491K
2 Disc	Brass CW614N
3 Headpiece	Brass CW614N
4 Handwheel	Bronze CC491K

Description	Dimensions [mm]
Nominal size	DN 15 32
Size code	.X. 0150 0320
Face-to-face dimension	L 110 130
Height	H 97 120
Round Flange	D 80 -
Square Flange	V - 90
Length	a 44 55
Width of flange	b 10 13
Handwheel-Ø	W 63 80
Weight (approx.)	Kg 1.0 2.3

Flanged Ball Valve, stainless steel, ANSI Flanges for Transformers

Type **15255 Low Temperature**

Flanged Ball Valve, stainless steel, class 150

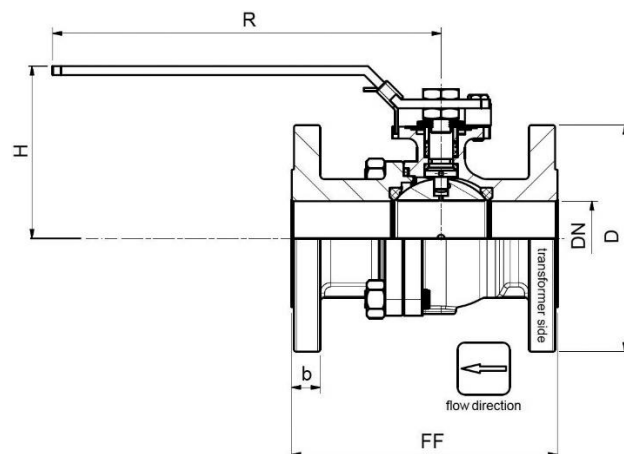
full bore, pressure compensation hole at flow entrance side,
seat rings PTFE/TFM , gland packing with PTFE-rings,
with lever and locking device without lock
with ISO 5211 mounting pad,
face-to face dimension acc.to ANSI B16.10
flanged connection acc.to ANSI B16.10, Raised Face

Part No. 15255.X.112001

Design -50°C



Application	Suitable for transformer oil.
Working temperatures and pressure	-50°C / -58°F (223K) up to +120°C / +248°F (393K)
Standards	Standard marking acc.to Pressure Equipment Directive 2014/68/EU (PED).
Note	When requesting an offer or order, please indicate flow medium, working pressure and working temperature.



Description	Materials
1 Body	1.4408
2 Ball	1.4408
3 Seat ring	PTFE / TFM
4 Stem	1.4401
5 Packing	PTFE
6 Lever	1.4408

Description	Dimensions [mm]							
Nominal size	DN	½" DN15	¾" DN20	1" DN25	1.1/2" DN40	2" DN50	3" DN50	4" DN100
Size code – Flange ANSI B16.5 Class 150	.X.	0400	0500	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

Material Comparison DIN EN, DIN and ASTM Standard

Non ferrous 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
CW453K	CuSn6	CUSN6	2.1020	B 159 UNS C51900
CW507L	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	1.5415	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	A182 Grade F12
1.7380	10CrMo9-10	1.7380	A182 Grade F22
1.7709	21CrMoV5-7	1.7709	-

Dimensions of DIN flanges

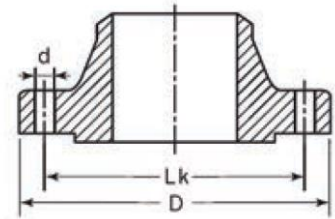
DN = Nominal Diameter

D = Diameter of Flange

Lk = Diameter of bolt circle

n = Number of holes

d = Diameter of holes



DN		PN6				PN10				PN16				PN25				PN40			
		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	4	18	185	145	4	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

DN		PN63				PN100				PN160				PN250				PN320			
		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

Your Notes

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