

Frese SPERAMAX

Indoor-series, DN15-DN300

Application

Frese SPERAMAX Indoor-series ball valves are designed for indoor district heating systems and other closed loop water systems where the water is treated to avoid internal corrosion.

Having a fully welded body, the valves meet the requirements for valves used in district heating and district cooling systems and offer the highest degree of security.



Benefits

- Ideal for district heating installations
- The valve design ensures lower turbulence, which requires lower pump power, thus reducing CO2 emissions
- The pressure drop is low, which results in big savings in operating costs
- Flexible design allows for individual customer requirements
- Maintenance free

Features

The valve design makes them ideal for district heating installation due to:

- Dimensions DN15 - 300
- Single pipe valves high pressure-tested
- CE marked according to PED
- All welds are completed before high pressure testing
- Reduced material consumption

Approvals

- 100% final inspection. Leak and shell test as well as dimension and functionally test is performed on each valve according to applicable standard (EN12266 part 1 P10-P11-P12 & part 2 F20)
- Production quality according to ISO 9001

Frese SPERAMAX

Indoor-series, DN15-DN300

Technical data - threaded connections

Shell (Valve body):	Carbon steel P235GH
Welding ends:	Carbon steel P235GH
Valve Stem:	Stainless steel AISI 304
Ball:	Stainless steel AISI 304
Seat gasket rings:	Carbon reinforced PTFE
Stem gasket:	Carbon reinforced PTFE
Min. storage/transport temp.:	-40 °C

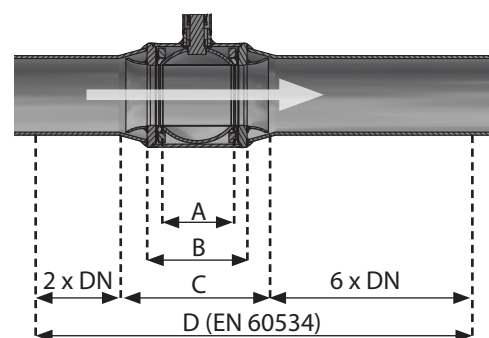
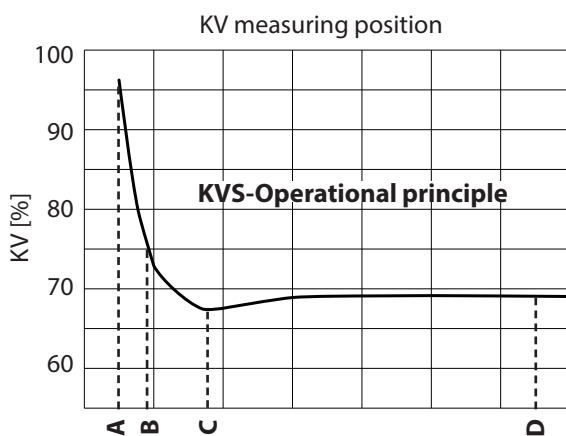


KVs and Axial Load - Reduced Bore

Dimension [DN]	15	20	25	32	40	50
KVs Value [m ³ /h] Ball Valve (B)	12	15	34	52	96	184
KVs Value [m ³ /h] * (EN60534) (D)	12	14	25	41	67	100
Max. allowed torque [Nm]	50	50	50	50	50	60
Pressure class [Bar]	PN40					
Temp. Range [°C]	0 °C - 180 °C					
Medium	Circulation water / Glycolic water up to 50 %					

* KVs-values are based on EN60534 test methodology using CFD

Valve Measuring Position and KV-dependency Reduced Bore



Frese SPERAMAX

Indoor-series, DN15-DN300

Technical data - Welded Connections

Shell (Valve body):	Carbon steel P235GH
Welding ends:	Carbon steel P235GH
Valve Stem:	Stainless steel AISI 304
Ball:	Stainless steel AISI 304
Seat gasket rings:	Carbon reinforced PTFE
Stem gasket:	Carbon reinforced PTFE
Min. storage/transport temp.:	-40 °C

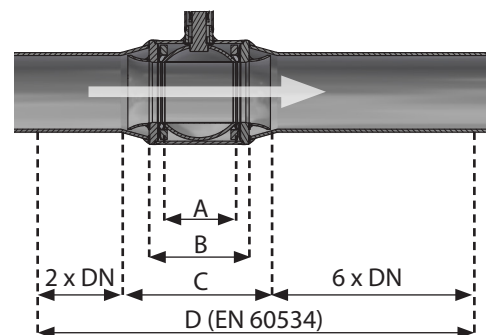
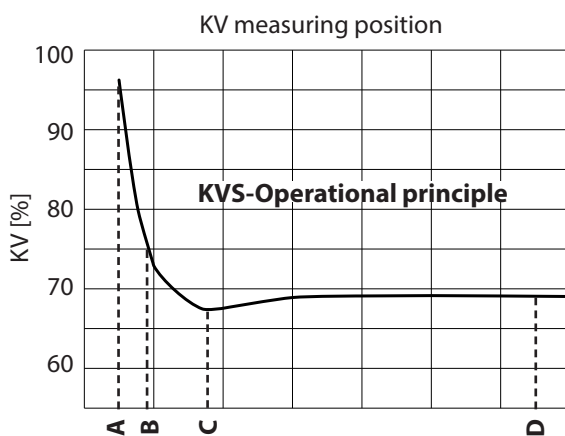


KVs and Axial Load - Reduced Bore

Dimension [DN]	32	40	50	65	80	100	125	150	200	250	300
KVs Value [m ³ /h] Ball Valve (B)	52	96	184	200	470	640	1080	1900	2300	5100	9100
KVs Value [m ³ /h] * (EN60534) (D)	44	78	110	170	300	530	870	1400	2160	3590	5390
Max. allowed torque [Nm]	50	50	60	100	140	250	400	540	800	2000	4000
Pressure class [Bar]	PN40			PN25							
Temp. Range [°C]	0 °C - 180 °C										
Medium	Circulation water / Glycolic water up to 50 %										

* KVs-values are based on EN60534 test methodology using CFD

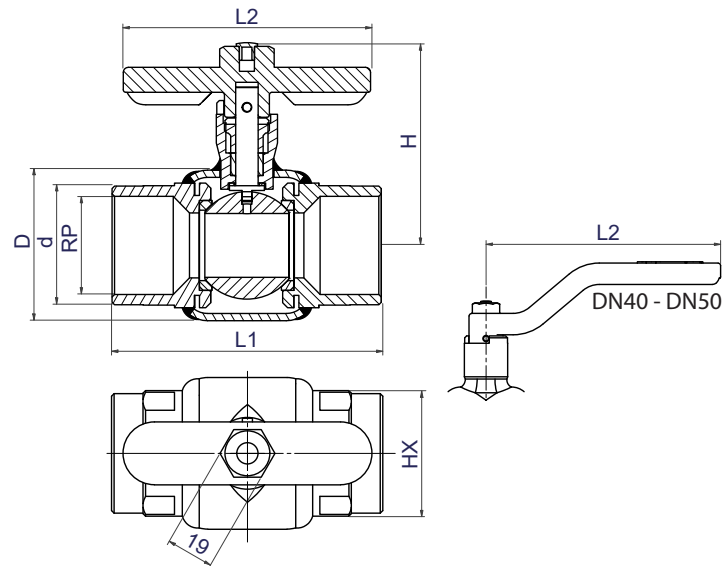
Valve Measuring Position and KV-dependency - Reduced Bore



Frese SPERAMAX

Indoor-series, DN15-DN300

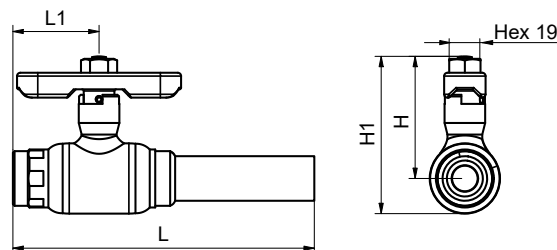
Ball Valve, female/female - DN15-DN50



Dimensions

DN	Frese no.	Dimensions [mm]							Weight [kg]
		D	d	RP	L 1	L2	H	HX1	
15	90015410	ø42	ø33	G 1/2"	104	99	72	34	0.8
20	90020410	ø42	ø33	G 3/4"	104	99	72	34	0.7
25	90025410	ø48	ø38	RP 1"	104	99	78	38	0.8
32	90032410	ø60	ø48	RP 1-1/4"	108	99	81	48	1.1
40	90040410	ø76	ø56	RP 1-1/2"	131	187	137	57	2.2
50	90050410	ø75	ø89	RP 2"	151	187	142	70	3.3

Ball Valve, female/welded - DN20-DN50



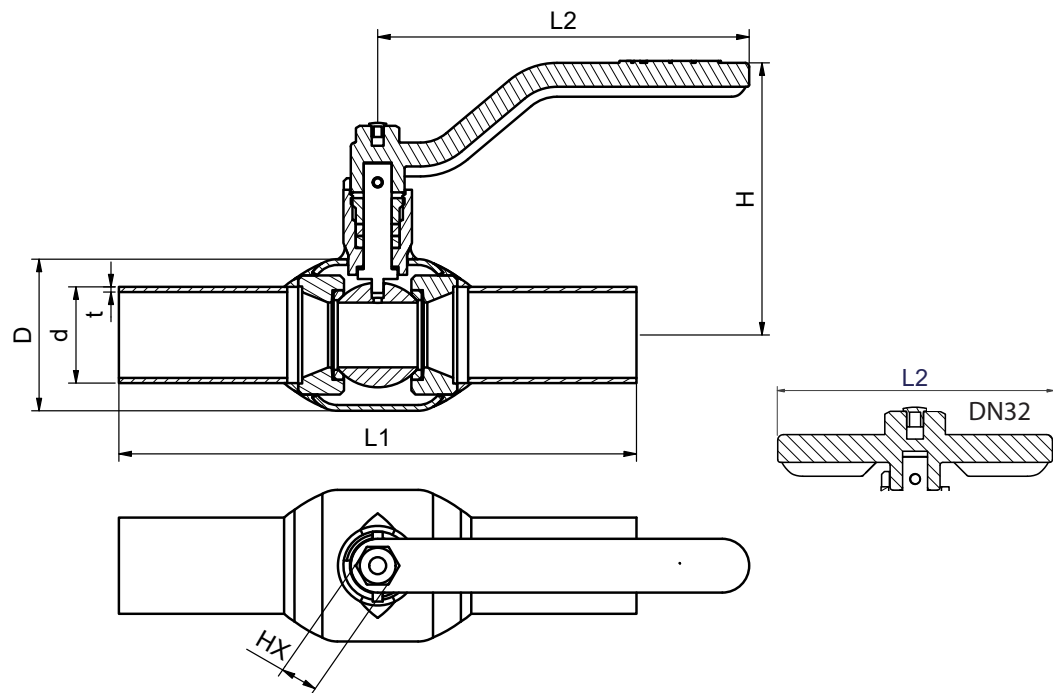
Dimensions

DN	Frese no.	Dimensions [mm]				Weight [kg]
		L	L1	H	H1	
20	90020415	170	52	74	95	0.80
25	90025415	170	52	78	102	0.90
32	90032415	184	54	80	111	1.2
40	90040415	187	65	105	175	2.2
50	90050415	206	76	111	187	3.2

Frese SPERAMAX

Indoor-series, DN15-DN300

Ball Valve, welded/welded - DN32-DN100



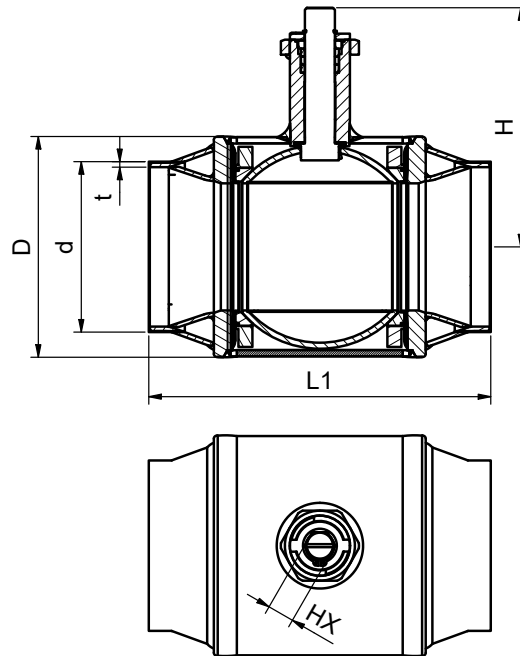
Dimensions

DN	Frese no.	Dimensions [mm]							Weight [kg]
		D	d	t	L 1	L 2	H	HX	
32	90032420	ø60	ø42.4	2.6	260	99	111	19	1.4
40	90040420	ø76	ø48.3	2.6	244	187	137	19	2.3
50	90050420	ø89	ø60.3	2.9	260	187	142	19	3.4
65	90065420	ø114	ø76.1	2.9	260	200	164	21	5.2
80	90080420	ø133	ø88.9	3.2	270	305	213	24	7.4
100	90100420	ø159	ø114.3	3.6	289	305	224	24	11.6

Frese SPERAMAX

Indoor-series, DN15-DN300

Ball Valve, welded/welded, with Hexagon Stem - DN125-DN200



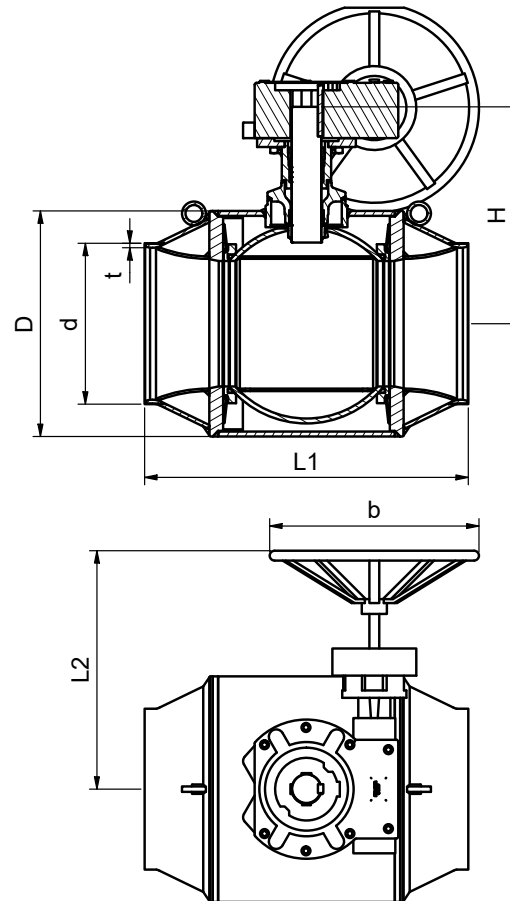
Dimensions

DN	Frese no.	Dimensions [mm]							Weight [kg]
		D	d	t	L 1	L 2	H	HX	
125	90125420	ø194	ø139.7	4.0	315	-	220	27	19.4
150	90150420	ø219	ø168.3	4.5	340	-	239	27	28.5
200	90200420	ø273	ø219.1	6.3	400	-	258	27	48.0

Frese SPERAMAX

Indoor-series, DN15-DN300

Ball Valve, welded/welded, with Gear - DN150-DN300



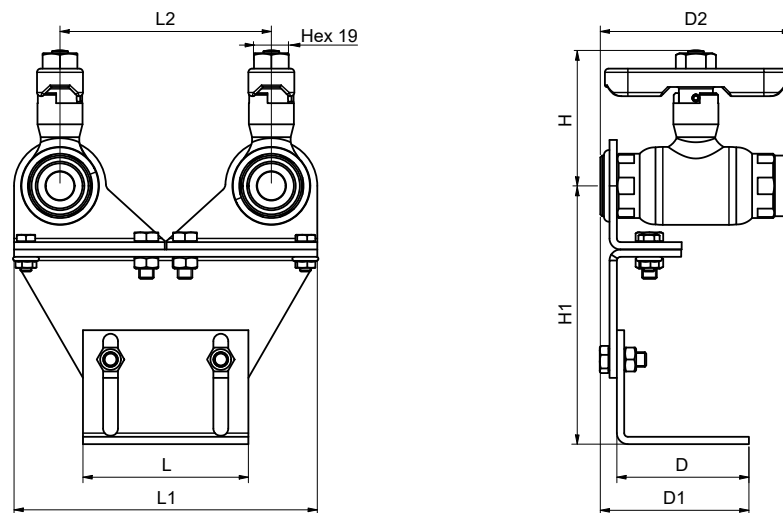
Dimensions

DN	Frese no.	Dimensions [mm]							Weight [kg]
		D	d	t	L 1	L 2	H	b	
150	90150430	ø219	ø168.3	4.5	340	306	265	250	38
200	90200430	ø273	ø219.1	6.3	402	306	284	265	57.3
250	90250430	ø356	ø273.0	6.3	526	291	388	415	123
300	90300430	ø457	ø323.9	8.0	654	483	439	424	217

Frese SPERAMAX

Indoor-series, DN15-DN300

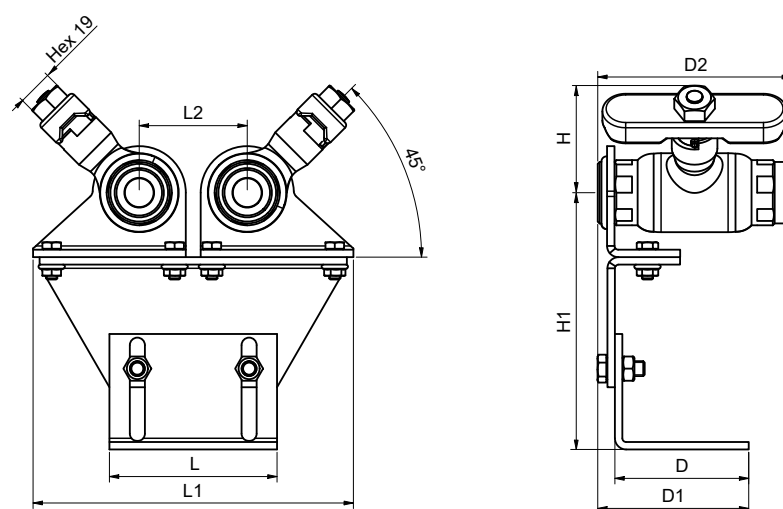
Flex Bracket Single Pipe, female/female - DN20-DN25



Dimensions

DN	Frese no.	Dimensions [mm]								Weight [kg]
		L	L1	L2	H	H1	D	D1	D2	
20	90020221	90	165-255	120-210	73	105-150	72	81	104	2.5
25	90025221	90	165-255	120-210	86	105-150	72	93	104	2.7

Flex Bracket Twin Pipe, female/female - DN20-DN25



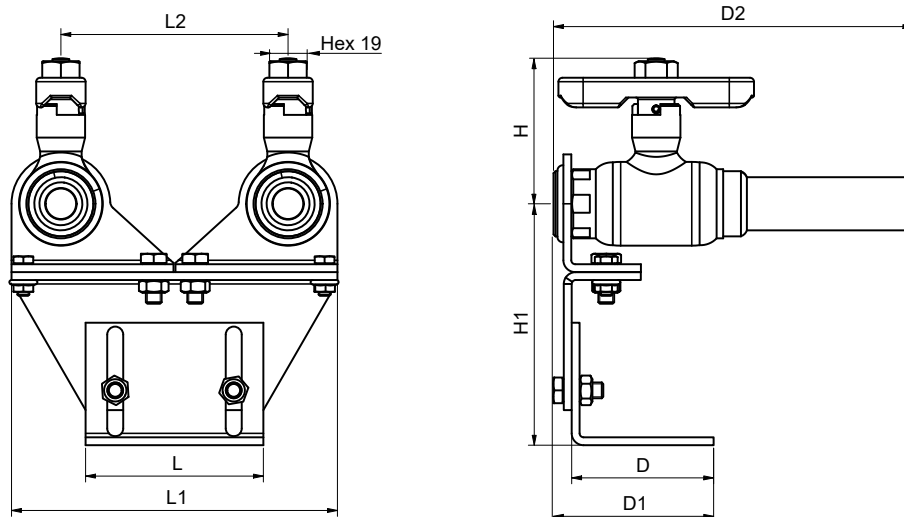
Dimensions

DN	Frese no.	Dimensions [mm]								Weight [kg]
		L	L1	L2	H	H1	D	D1	D2	
20	90020222	90	172	58	57	105-150	72	81	104	2.5
25	90025222	90	179	58	60	105-150	72	94	104	2.7

Frese SPERAMAX

Indoor-series, DN15-DN300

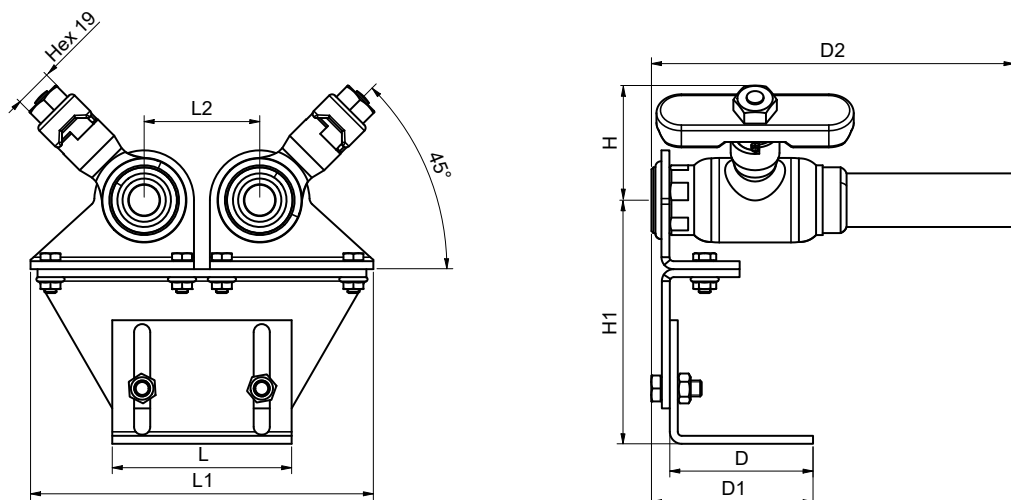
Flex Bracket Single Pipe, female/welded - DN20-DN25



Dimensions

DN	Frese no.	Dimensions [mm]								Weight [kg]
		L	L1	L2	H	H1	D	D1	D2	
20	90020223	90	165-255	120-210	73	105-150	72	81	170	2.75
25	90025223	90	165-255	120-210	86	105-150	72	93	170	2.95

Flex Bracket Twin Pipe, female/welded - DN20-DN25



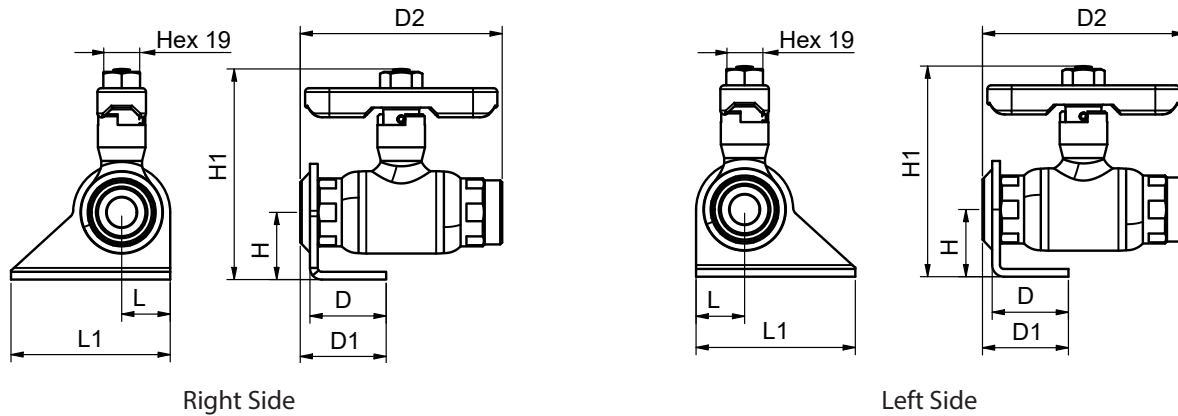
Dimensions

DN	Frese no.	Dimensions [mm]								Weight [kg]
		L	L1	L2	H	H1	D	D1	D2	
20	90020224	90	172	58	57	105-150	72	81	170	2.75
25	90025224	90	179	58	60	105-150	72	94	170	2.95

Frese SPERAMAX

Indoor-series, DN15-DN300

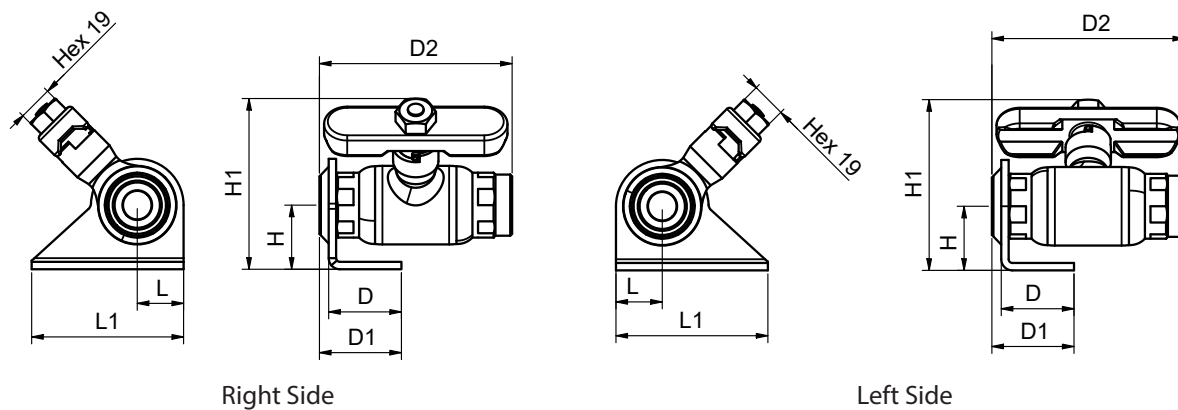
Cabinet Valve Single Pipe, female/female - DN20-DN25



Dimensions

DN	Frese no.	Side	Dimensions [mm]							Weight [kg]
			L	L1	H	H1	D	D1	D2	
20	90020411	Right	25	82	35	108	39	44	104	0.88
20	90020412	Left	25	82	35	108	39	44	104	0.88
25	90025411	Right	25	82	35	112	39	58	104	0.95
25	90025412	Left	25	82	35	112	39	58	104	0.95

Cabinet Valve Twin Pipe, female/female - DN20-DN25



Dimensions

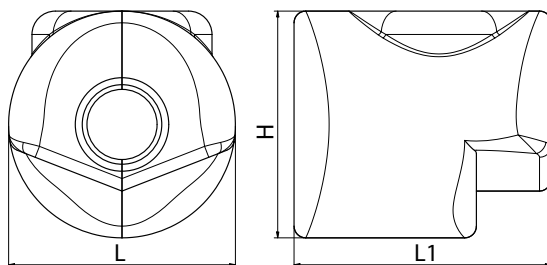
DN	Frese no.	Side	Dimensions [mm]							Weight [kg]
			L	L1	H	H1	D	D1	D2	
20	90020413	Left	25	82	35	92	39	44	104	0.85
20	90020414	Right	25	82	35	92	39	44	104	0.85
25	90025413	Left	25	82	35	95	39	58	104	0.95
25	90025414	Right	25	82	35	95	39	58	104	0.95

Frese SPERAMAX

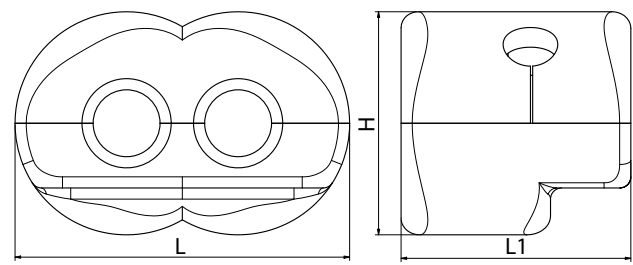
Indoor-series, DN15-DN300

Technical data · Insulation Covers

Material:	EPE (Crosslinked Expanded Polyethylene)
Water absorption:	< 1 vol% at 20°C
Temperature range:	up to 90°C
Insulating property:	Lambda = 0.041 W/mk
Density:	30 g/l
Fire resistant:	According to DIN 4102: B2





1 pipe



2 pipes

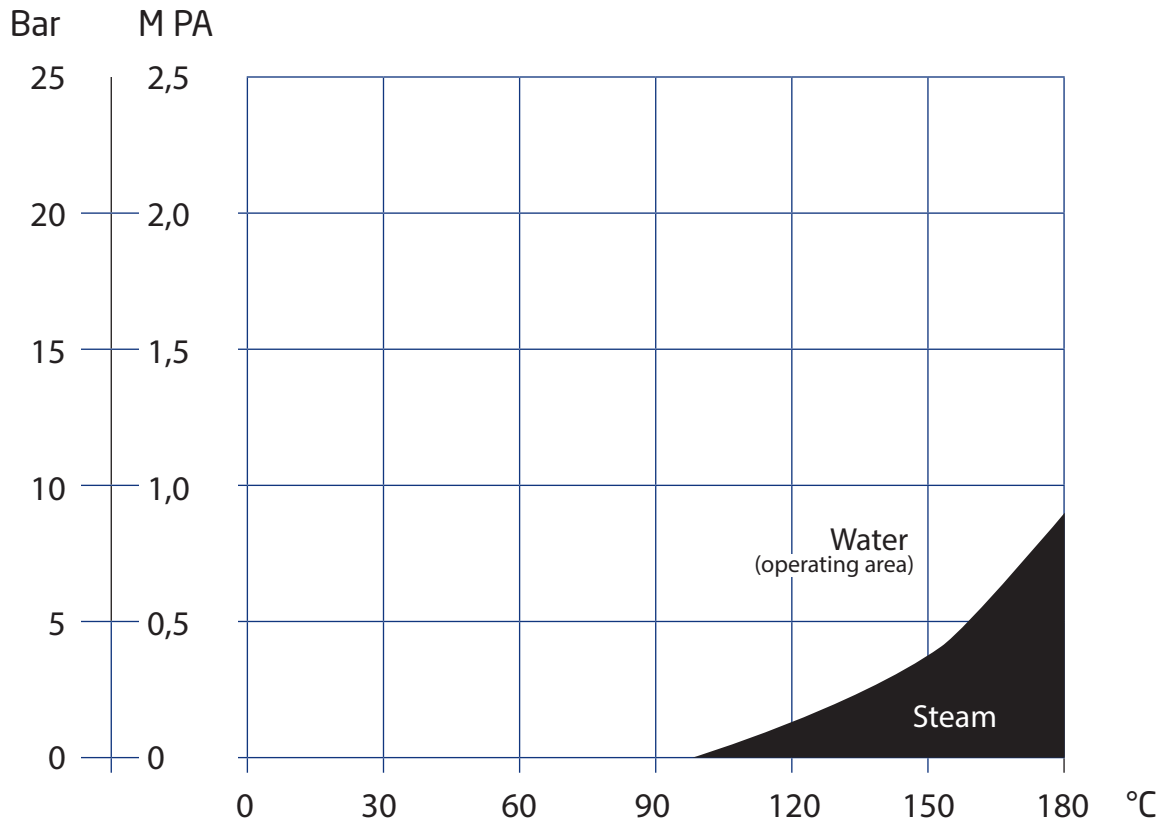
Product programme and dimensions

	Insulation type	Valve Dim.	Frese no.	L [mm]	L1 [mm]	H [mm]
	1 pipe	DN20	38-0881	97	110	97
	2 pipes	DN20	38-0882	150	103	100

Frese SPERAMAX

Indoor-series, DN15-DN300

Pressure / Temperature Diagramme



Frese SPERAMAX

Indoor-series, DN15-DN300

Specification Texts

- The valve housing shall be made from Carbon steel P235GH and of a fully welded design
- The valve stem shall be made of stainless steel AISI 304
- The ball shall be made of stainless steel AISI 304
- The valve shall be PN25 or PN40 rated
- The valve shall be able to operate up to a temperature of 180°C
- The valve shall be subjected to a 100% final inspection
- Leak and shell test as well as dimension and functionally test shall be performed on each valve according to applicable standard (EN12266 part 1 P10-P11-P12 & part 2 F20)
- The valve design shall condition the flow to increase the pressure recovery factor and Kv values
- The valve shall be with guide pipes in the ball to give better kv value. (No hollow ball)
- The valve shall be with conical inlet and outlet to minimize the turbulence

Frese A/S assumes no responsibility for errors, if any, in catalogues, brochures, and other printed matter. Frese A/S reserves the right to modify its products without prior notice, including already ordered products, if this does not alter existing specifications. All registered trademarks in this material are the property of Frese A/S. All rights reserved.

Frese A/S
Tel: +45 58 56 00 23
info@frese.dk