

Data sheet

Underground ball valves JIP™ for pre-insulation

Description



Danfoss JIP underground ball valves are designed for 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.

The valve design makes them ideal for underground installation due to:

- the valve body design makes them resistant to high axial forces and ensures a controlled operating torque;
- designed flow in the valve is optimized. This means increased capacity, reduced flow resistance and thus lower pump energy cost;
- optimal tightness and long lifetime due to design and material selection in ball seal and stem seal (Carbon reinforced PTFE);
- the valves are maintenance free, besides the shut off valves in the core distribution network Danfoss offers a range of supplementary valves, e.g. hot tap valves, branching valves, house insertions and twin valves.

Main data:


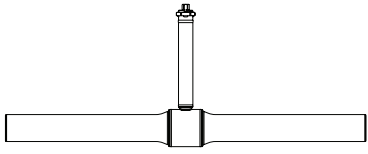
- DN 20-600
- $k_{vs} = 15-37500 \text{ m}^3/\text{h}$
- PN 25, 40
- Temperature: 0 ... 180 °C
- Medium: Circulation water / glycolic water up to 50 %
- Min. storage and transport temperature: -40 °C

Approvals and norms:


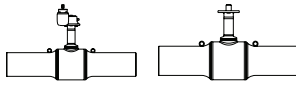
- 100 % final inspection. Leak and shell test as well as dimension and functionality test is performed on each and every valve according to applicable standard (EN 12266 part 1 P10-P11-P12 & part 2 F20).
- PED Directive 97/23/EEC Modul H1
- Danfoss A/S is certified according to ISO 9001
- Furthermore certified according to ISO 14001 and OHSAS 18001.
- Designed, produced and tested according to EN488:2011

Ordering

Reduced Bore JIP-US WW welding with hexagon stem

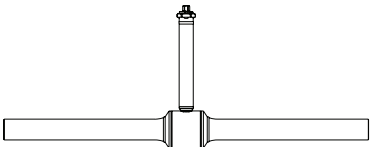
		 Short		 Long	
DN	PN	Length (mm)	Code No.	Length (mm)	Code No.
20	25	150	065N3106	1500	065N3105
25		230	065N3111	1500	065N3112
32		260	065N3118	1500	065N3117
40		260	065N3121	1500	065N3122
50		300	065N3128	1500	065N3127
65		300	065N3131	1500	065N3132
80		300	065N3236	1500	065N3139
100		290	065N3143	1500	065N3142
125		315	065N3146	1500	065N3147
150		340	065N3153	1500	065N3154
200		390	065N3256	1500	065N3159
250		530	065N3163	1500	065N3022
300		660	065N3169	1800	065N3165
350		760	065N3173	-	-

Reduced Bore JIP-US WW welding with gear flange / worm and bevel gear

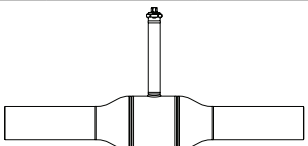
		 Short		 Long			
DN	PN	Length (mm)	Code No.		Length (mm)	Code No.	
			Valve with worm and bevel gear	Valve with gear flange		Valve with worm and bevel gear	Valve with gear flange
125	25	-	-	-	1500	065N4164	065N0148
150					1500	065N4141	065N0153
200					1500	065N4143	065N0158
250					1500	065N4145	065N0163
300					1800	065N4147	065N0168
350		760	065N3171	065N0169	2200	065N3071	065N0170
400		820	065N3176	065N3177	2200	065N3076	065N0184
450		1220	065N3178	065N3179	2200	065N3078	065N0188
500		1220	065N3181	065N3182	2200	065N3081	065N0191
600		1500	065N3188	065N0198	2200	065N3088	065N0196

Ordering (continued)

Full Bore JIP-US FB WW welding with hexagon stem

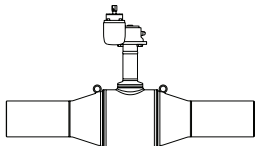


DN	PN	Length (mm)	Code No.
25	25	1500	065N3056
32		1500	065N3058
40		1500	065N3060
50		1520	065N3524
65		1510	065N3531
80		1550	065N3054

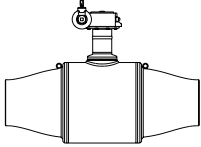


DN	PN	Length (mm)	Code No.
100	25	1500	065N3065
125		1500	065N3547
150		1500	065N3552
200		1500	065N3557
250		1800	065N3562

Full Bore JIP-US FB WW welding with worm bevel gear

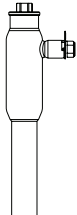


DN	PN	Length (mm)	Code No.
125	25	1500	065N3549
150		1500	065N3553
200		1500	065N3558
250		1800	065N3563
300		1800	065N3568



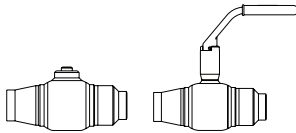
DN	PN	Length (mm)	Code No.
400	25	1700	065N3576

Service / air vent valves JIP-



DN	Code No.
20	065N0409
25	065N0414
32	065N0419
40	065N0424
50	065N0429
65	065N0434
80	065N0439
100	065N0444

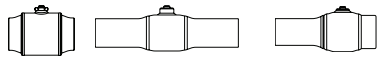
Hot tap valves JIP-WW welding



DN	PN	Code No.	
		Valve	Valve with handle
20	40	065N0106	065N4008
25		065N0111	065N4042
32		065N0116	065N4009
40		065N0121	065N4010
50		065N0126	065N4011
65	25	065N0131	065N4129
80		065N0136	065N4132
100		065N0141	065N0143

Note: we recommend seal welding for plugs of hot tap and branching valves after final assembly of buried pipe systems in order to achieve fully welded system within the insulation

Branching valves JIP-WW welding JIP-IW internal thread/welding



DN	PN	Code No.	
		JIP-WW	JIP-IW
15	40	065N2102	-
20		065N2107	065N2108
25		065N2112	065N2113
32		065N2117	065N2118
40		065N2122	065N2123
50		065N2127	065N2128
65	25	065N2132	-
80		065N2137	
100		065N2142	
125		065N2148	
150		065N2153	
200		065N2158	

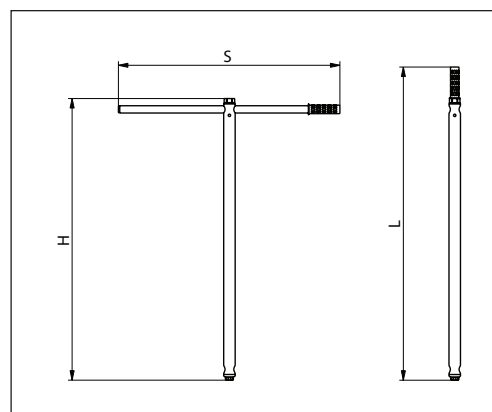
Note: we recommend seal welding for plugs of hot tap and branching valves after final assembly of buried pipe systems in order to achieve fully welded system within the insulation.

Ordering (continued)
Accessories T-key

Length	H	S	Code No.
mm			
1140	1040	820	065N8002
1640	1540		065N8066

For operation of Danfoss ball valves for underground installation with hexagon stem.

The T-key has a 19mm hexagon connection on one side and 27mm hexagon connection on the other side. It is used for operation of underground ball valves with hexagon stem up to DN200 reduced bore or DN150 full bore. It is also used to operate worm bevel gears.


Accessories Torque reduction wrench

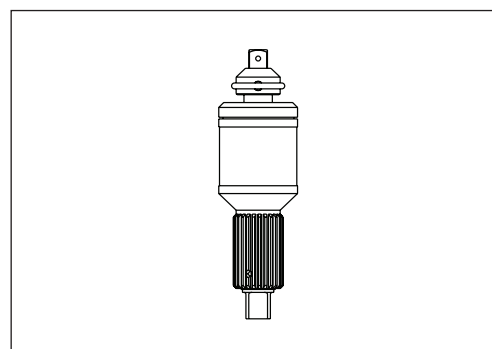
Reduction ratio	Weight (kg)	Code No.
1:15	16	065N8197

For operation of Danfoss ball valves for underground installation with hexagon stem.

Torque reduction wrench has reduction ratio 1:15 and can be used to operate underground ball valves with hexagon stem:

* DN100-350 reduced bore

* DN80-250 full bore


Accessories Hot tap tool box

Description	Code No.
Hot tap tool box DN 15-50 with feeding tool	065N8310
Hot tap tool box DN 15-50 without feeding tool	065N8311
Hot tap tool box DN 65-100	065N8312
Steam / hot water hose 5 m	065N8244

Accessories for hot tap tool box

Description	Code No.
O-ring set 15-50	065N8101
O-ring set 65-100	065N8112
Center drill 6,35 mm with barb	065N8016
Feeding tool	065N8103
Handle for feed tool	065N8109
Hot tapping tool	065N8130
Reduction gear 1:7 (65-100)	065N8102

Drills and hole saws for hot tap tool box

Valve size		Hole saw, drill rod, retainer complete	Hole saw	Adapter for hot tap valves
DN 20	(Ø15)	Drill incl. drill rod: 065N8006		065N8080
DN 25/32	(Ø24)	065N8008	065N8012	065N8087
DN 40/50	(Ø40)	065N8010	065N8013	065N8005
DN 65	(Ø48)	065N8172	065N8093	065N8091
DN 80	(Ø65)	065N8192	065N8014	065N8094
DN 100	(Ø79)	065N8193	065N8097	065N8095

Technical data
Reduced bore

DN		20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
K _{v5} value	m ³ /h	15	34	52	96	184	200	470	640	1080	1900	2300	5100	9100	7000	10400	26300	23700	14300
Max. Axial Load	kN	41	60	86	99	139	177	228	332	408	547	804	1116	1484	1632	2098	2364	2631	3564
Nominal pressure	PN	25																	
Temp. range	°C	0 ... 180																	
Medium		Circulation water / glycolic water up to 50 %																	

Full bore

DN		25	32	40	50	65	80	100	125	150	200	250	300	400
K _{v5} value	m ³ /h	90	160	235	395	820	1100	2300	3700	6100	11000	17500	24000	37500
Max. Axial Load	kN	60	86	99	139	177	228	332	408	547	804	1116	1484	2098
Nominal pressure	PN	25												
Temp. range	°C	0 ... 180												
Medium		Circulation water / glycolic water up to 50 %												

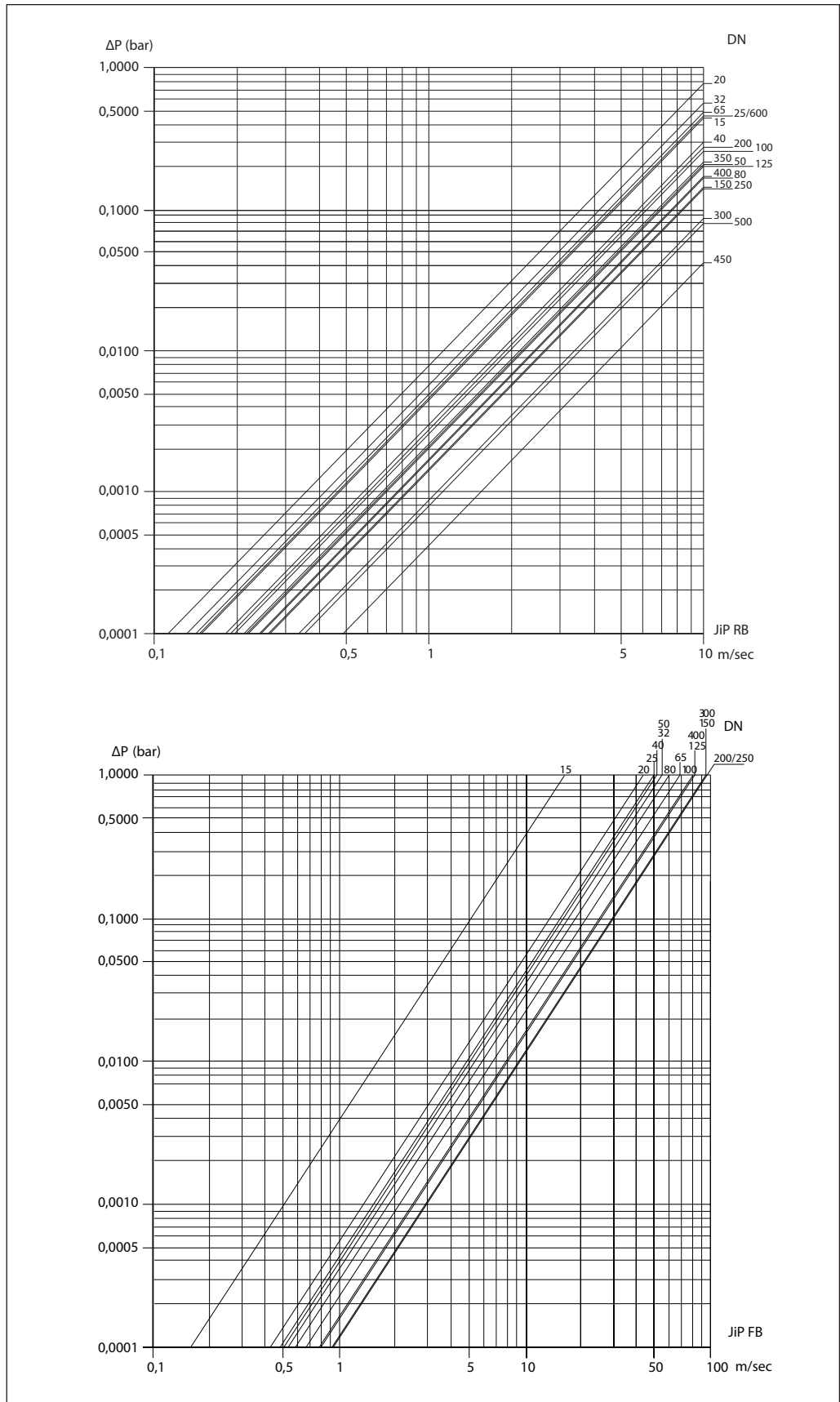
Material

Shell (Valve body)	Weldable mild steel* e.g. P235GH / Mat. no. 1.0345 (~ St. 37.0)
Welding ends	Weldable mild steel* e.g. P235GH / Mat. no. 1.0345 (~ St. 37.0)
Valve Stem	Acid proof steel* e.g. X2CrNiMo17122 (EN 10272) / W.nr. 1.4404 (~ AISI 316L)
Stem extension pipe	Acid proof steel* e.g. X2CrNiMo17132 (EN 10217-7) / W.nr. 1.4404 (~ AISI 316L)
Ball	Stainless steel e.g. X5CrNi18-10 (EN 10088) / W.nr. 1.4301 (~ AISI 304)
Seat rings	Carbon reinforced PTFE
Stem sealings	Carbon reinforced PTFE
Gear box	Cast iron with stainless steel trim

*) Meeting the requirements of the PED (Pressure Equipment Directive).

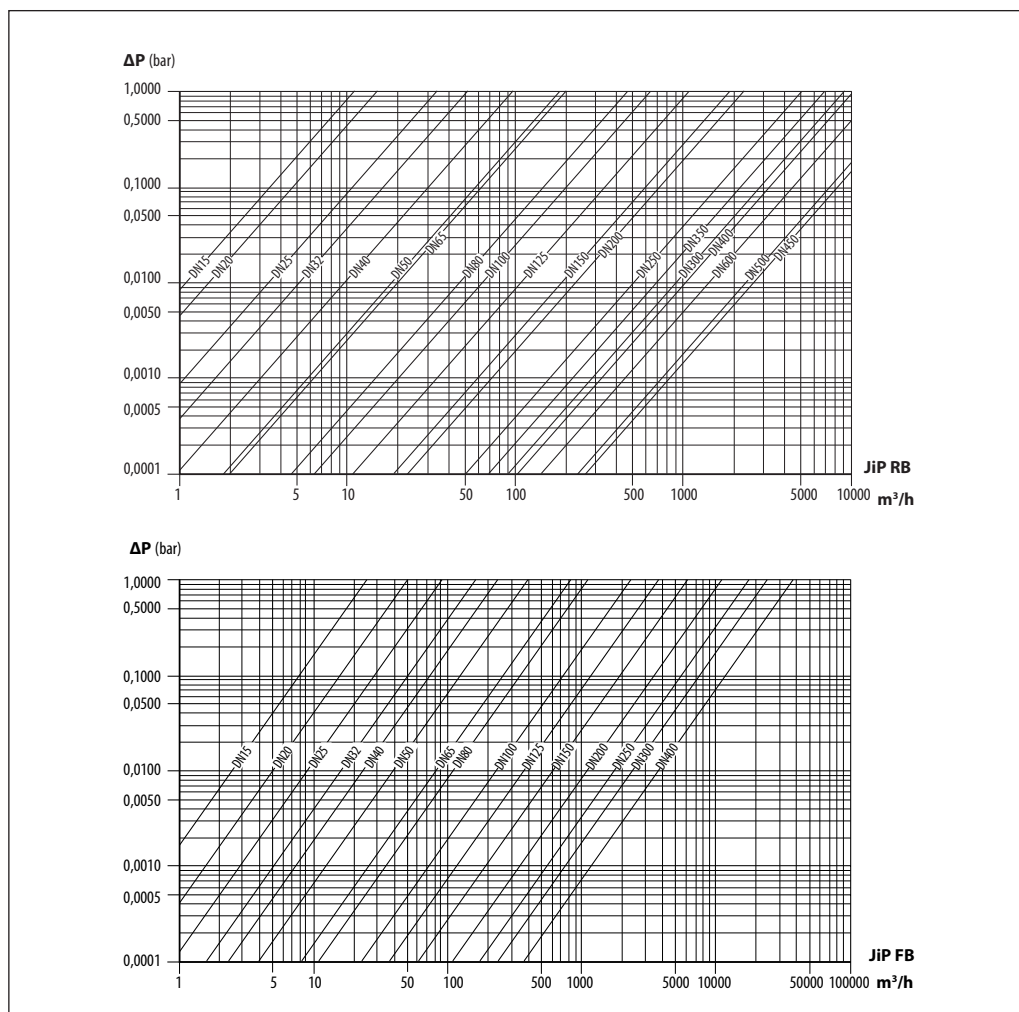
Designed, produced and tested according to EN488:2011

Technical data
Pressure drop/velocity

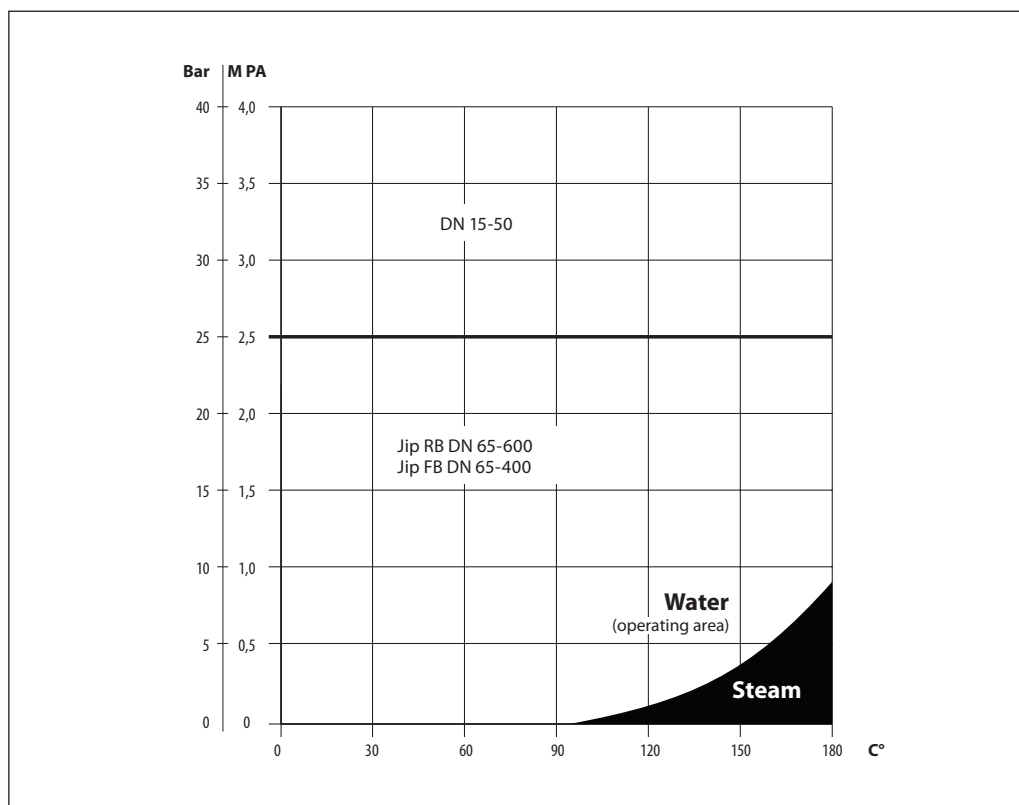


Jip RB = reduced bore
Jip FB = full bore

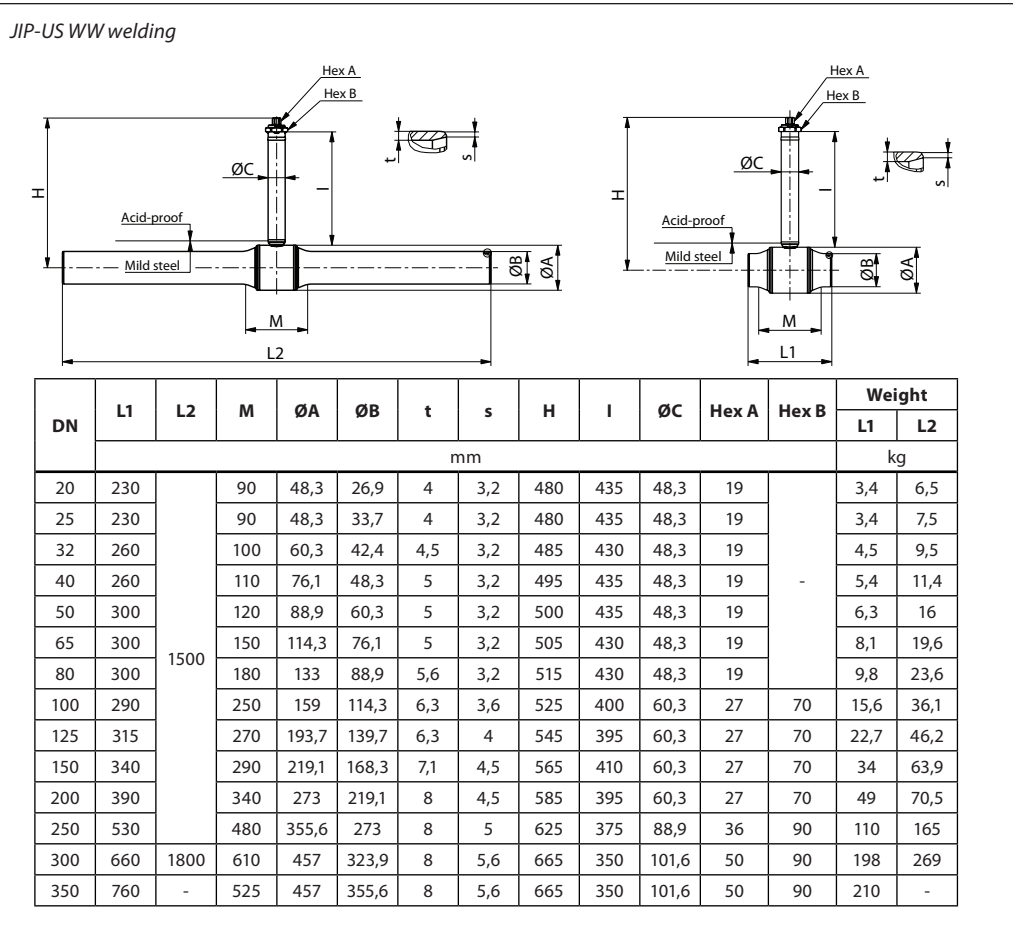
Technical data (continued)
Pressure drop/flow



Pressure/temperature

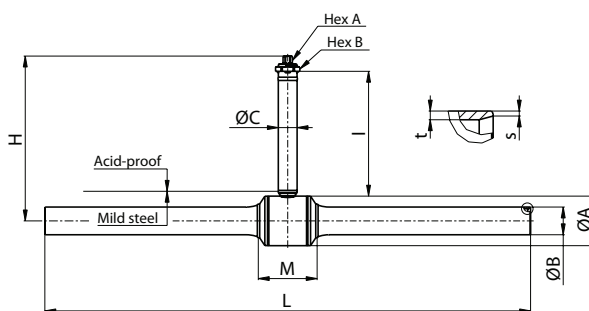


Dimensions

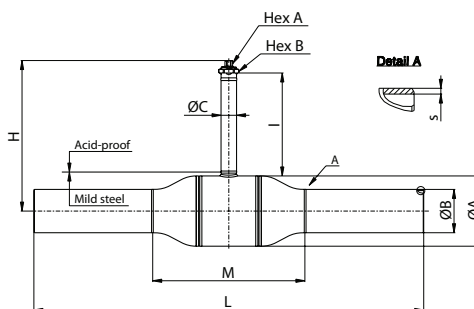


Dimensions (continued)

JIP-US FB WW welding



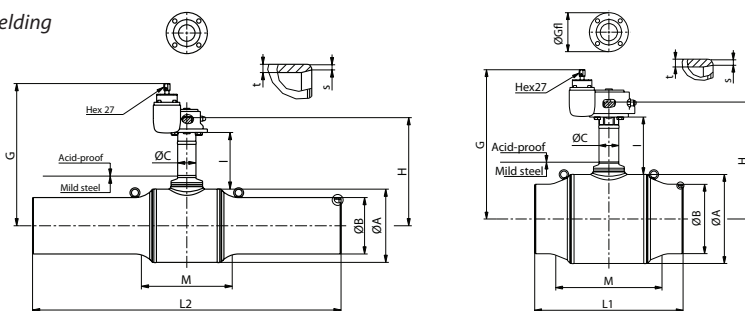
DN	L	M	ØA	ØB	t	s	H	I	ØC	Hex A	Hex B	Weight (kg)
25	1500	125	60,3	33,7	4	2,6	485	430	48,3	19	-	8
32	1500	135	76,1	42,4	4,5	2,6	495	430	48,3	19	-	9
40	1500	140	88,9	48,3	5	2,6	500	430	48,3	19	-	11
50	1520	150	114,3	60,3	5	2,9	505	430	48,3	19	-	16
65	1525	180	133	76,1	5	2,9	515	425	48,3	19	-	20
80	1560	200	159	88,9	5,6	3,2	525	400	60,3	27	70	32



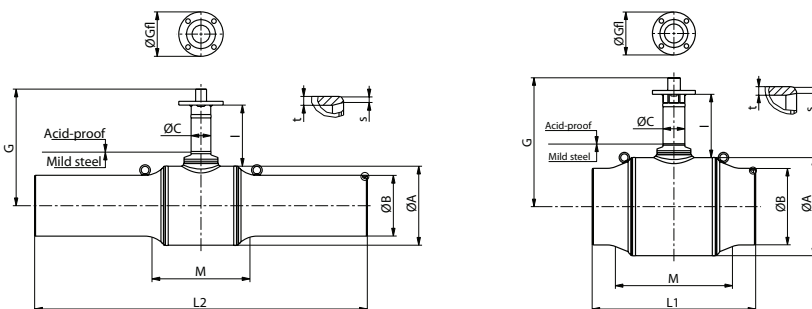
DN	L	M	ØA	ØB	s	H	I	ØC	Hex A	Hex B	Weight (kg)
100	1500	445	193,7	114,3	3,6	545	395	60,3	27	70	36
125	1500	505	219,1	139,7	4	565	405	60,3	27	70	52
150	1500	595	273	168,3	4,5	585	400	60,3	27	70	75
200	1500	745	355,6	219,1	4,5	625	375	88,9	36	90	151
250	1800	1100	457	273	5	665	345	101,6	50	90	260

Dimensions (continued)

JIP-US WW welding



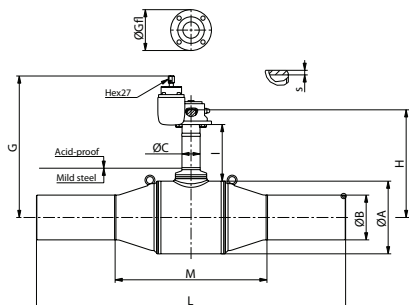
DN	L1	L2	M	ØA	ØB	t	s	H	G	I	ØC	ØGfl	Weight		
													L1	L2	
(mm)														kg	
125		1500	270	193,7	139,7	6,3	3,6	375	545	220	60,3	150		72	
150		1500	290	219,1	168,3	7,1	4	395	565	225	60,3	150		90	
200	-	1500	340	273	219,1	8	4,5	455	625	260	60,3	150	-	97	
250		1500	480	355,6	273	8	5	525	690	275	88,9	200		191	
300		1800	610	457	323,9	8	5,6	600	765	295	101,6	200		315	
350	760	2200	525	457	355,6	8	5,6	600	765	295	101,6	200	245	300	
400	820	2200	715	521	406,4	8,8	6,3	645	800	300	139,7	300	355	420	
450	1225	2200	1130	711	457	10	6,3	780	905	305	168,3	300	800	900	
500	1220	2200	1130	711	508	11	6,3	780	905	305	168,3	300	815	895	
600	1500	2200	1130	711	610	12,5	7,1	780	905	305	168,3	300	910	985	



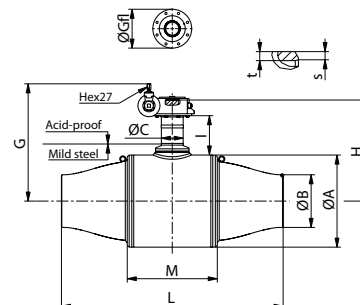
DN	L1	L2	M	ØA	ØB	t	s	H	I	ØC	ØGfl	Weight	
												L1	L2
mm												kg	
125		1500	270	193,7	139,7	6,3	3,6	375	220	60,3	150		45
150		1500	290	219,1	168,3	7,1	4	395	225	60,3	150		62
200	-	1500	340	273	219,1	8	4,5	455	260	60,3	150	-	70
250		1500	480	355,6	273	8	5	525	275	88,9	200		165
300		1800	610	457	323,9	8	5,6	600	295	101,6	200		270
350	760	2200	525	457	355,6	8	5,6	600	295	101,6	200	220	255
400	820	2200	715	521	406,4	8,8	6,3	645	300	139,7	300	340	375
450	1225	2200	1130	711	457	10	6,3	780	305	168,3	300	770	830
500	1220	2200	1130	711	508	11	6,3	780	305	168,3	300	770	825
600	1500	2200	1130	711	610	12,5	7,1	780	305	168,3	300	840	915

Dimensions (continued)

JIP-US FB WW welding



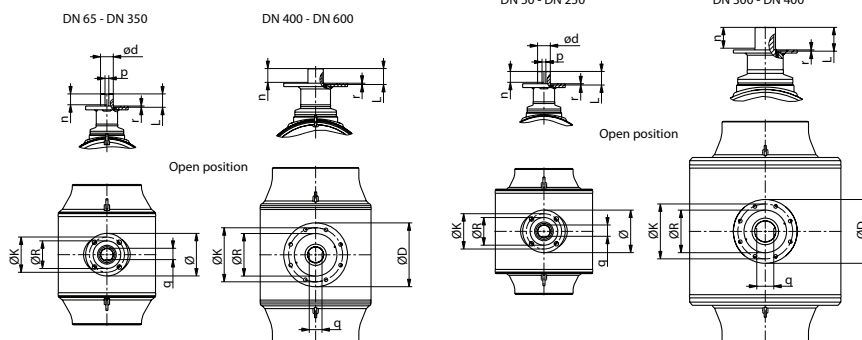
DN 125-300



DN 400

DN	L	M	ØA	ØB	t	s	H	I	ØC	G	ØGfl	Weight (kg)
	mm											
125	1500	510	219,1	139,7	-	4,0	400	230	60,3	565	150	81
150	1500	595	273	168,3	-	4,5	460	265	60,3	625	150	105
200	1500	745	355,6	219,1	-	4,5	525	285	88,9	690	200	177
250	1800	1110	457	273	-	5,0	600	295	101,6	765	200	304
300	1800	1235	521	323,9	-	5,6	645	295	139,7	800	300	426
400	1705	695	711	406,4	8,8	6,3	780	305	168,3	905	300	895

Valve top and gear flange



Reduced bore

Full bore

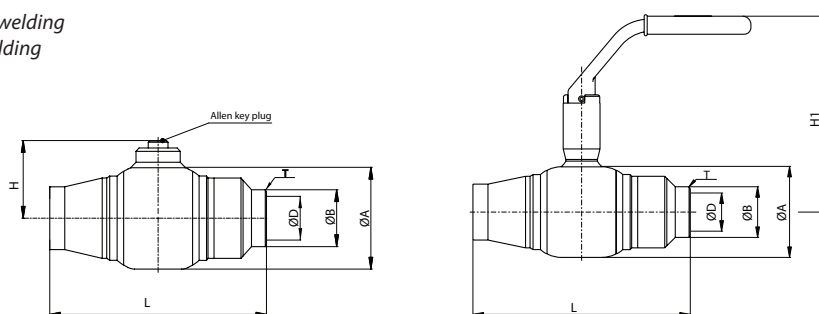
DN	Gear flange	L	d	n	p	q	r
		mm					
125	F10/F12	50	30	46	8	26	4
150		50	30				
200		50	30				
250	F16	60	50	48	14	44,5	5
300		65	60	51	18	53,2	6
350	65	60					
400	F25	75	75	60	20	60	6
450		115	100				
500		115	100				
600		115	100				

DN	Gear flange	L	d	n	p	q	r
		mm					
125	F10/F12	50	30	46	8	26	4
150		50	30				
200	F16	50	30	48	14	44,5	5
250		60	50	51	18	53,2	
300	F25	65	60	60	20	60	6
350		65	60	91	28	80	
400	75	75					
450	-	115	100	-	-	-	-
500		115	100				
600		115	100				

Gear flange	No. of bolt holes	Diameter of bolt holes	D	K	R
			mm		
F10	4	11	125	102	70
F12		13	150	125	85
F16		21	210	165	130
F25	8	17	300	254	200
F30		21	350	298	230

Dimensions (continued)

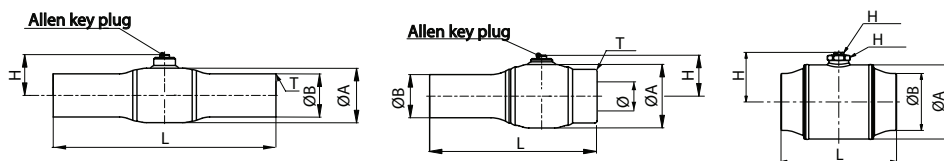
JIP hot tap welding
JIP-WW welding



DN	PN	ØA	ØB	ØD*	T	L	H	H1	Weight (kg)
		mm							
20	40	42,4	24,0	15	2,6	128	34	125	0,6
25		60,3	33,7	25	2,9	145	46	130	1,3
32		60,3	42,4	25	2,9	145	46	130	1,2
40		88,9	48,3	40	2,9	200	57	175	3,5
50		88,9	60,3	40	3,2	200	57	175	3,4
65	25	114,3	76,1	50	3,2	260	70	190	5,1
80		133,0	88,9	65	3,2	265	80	210	6,7
100		159,0	114,3	80	3,6	275	90	220	11,3

ØD* - internal nominal diameter

Branching valves



JIP-WW welding

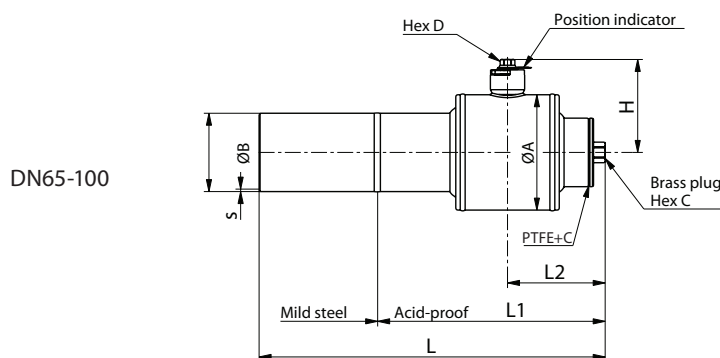
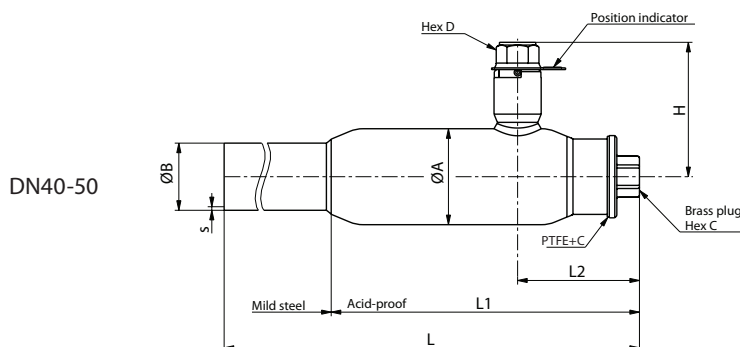
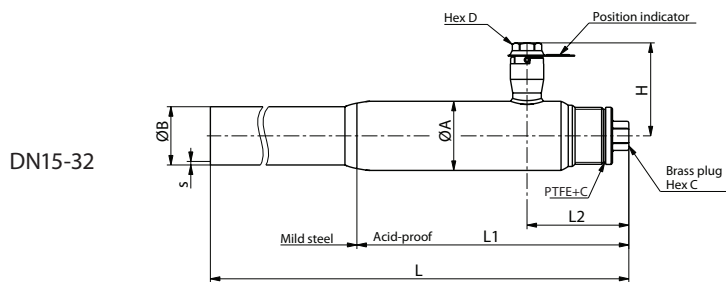
JIP-IW internal thread / welding

DN	PN	ØA	ØB	ØD*	T	L WW	L IW	H	Weight (kg)
		mm							
15	40	42,4	21,3	15	2,6	230	-	34	0,6
20		42,4	26,9	15	2,6	230	-	34	0,6
25		48,3	33,7	20	2,6	235	168	36	0,8
32		60,3	42,4	25	2,6	260	185	46	1,2
40		76,1	48,3	32	2,6	260	196	51	1,8
50		76,1/88,9	60,3	40	2,9	300	227	57	2,8
65	25	114,3	76,1	50	2,9	260	-	70	4,4
80		133,0	88,9	65	3,2	270	-	80	5,7
100		159,0	114,3	80	3,6	290	-	92	10,6
125		193,7	139,7	100	4,0	315	-	130	17,9
150		219,1	168,3	125	4,5	340	-	150	27,5
200		273,0	219,1	150	4,5	390	-	170	42,3

ØD* - internal nominal diameter

Dimensions (continued)

Service / Air vent valves



DN	L	L1	L2	ØA	ØB	s	H	Hex C	Hex D	Weight (kg)
20	410	195	65	42,4	26,9	2,6	55	19	19	1,8
25	410	190	70	48,3	33,7	2,6	60	19	19	1,9
32	410	195	70	51	42,4	2,6	65	19	19	2,1
40	410	225	90	70	48,3	2,6	100	27	27	3,1
50	500	230	100	76,1	60,3	2,9	105	27	27	4,1
65	500	280	105	114,3	76,1	2,9	115	19	19	6,5
80	500	310	130	133	88,9	3,2	125	19	19	8,6
100	500	330	140	168,3	114,3	3,6	140	19	19	14,5

