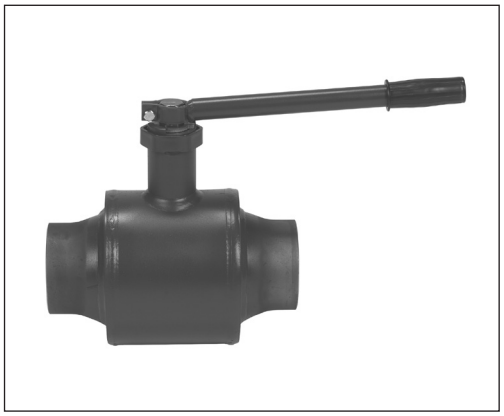
Data sheet

Full bore JIP™ ball valves (PN 16/25/40)

Description



Danfoss JIP™ full bore ball valves are shut off valves developed for District Heating and District Cooling networks,with circulating medium.

It is a range of steel ball valves with fully welded body.

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

- Energy saving: with optimum flow design valves have highest kv on the market and consequently lowest pump energy costs.
- Long lifetime and optimal tightness due to design and material selection in ball seal and stem seal (carbon reinforced PTFE).
- The valves are maintainance 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 15-400
- k_{VS}= 11-37.500 m^3/h
- PN 16 / 25 / 40
- Temperature: 0 … 180 °C
- Medium:
  Circulation water / glycolic water up to 50 %
- Min. storage and transport temperature: – 40 °C

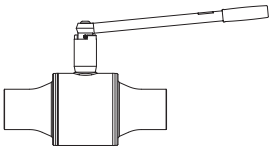
Approvals and norms:

- 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.

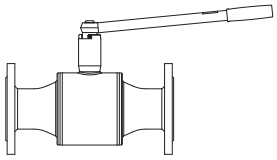
Ordering

JIP-WW welding
JIP-FF flange

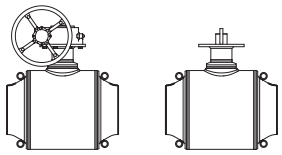
Type WW

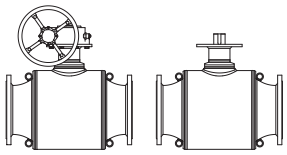


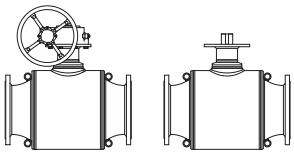
Type FF



DN [mm]	Code No. PN25	Code No. PN40	Code No. PN16	Code No. PN25	Code No. PN40
15	See table PN40 to the right	065N0100	See table PN40 to the right	See table PN40 to the right	065N0300
20		065N1105			065N1305
25		065N1110			065N1310
32		065N1115			065N1315
40		065N1120			065N1320
50		065N1125			065N1325
65	065N1130		065N1230	065N1330	
80	065N1135		065N1235	065N1335	
100	065N1740		065N1840	065N1940	
125	065N1745		065N1845	065N1945	
150	065N1751		065N1851	065N1951	



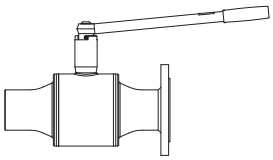




DN [mm]	Code No. WW PN25		Code No. FF PN16		Code No. FF PN25	
	Valve with worm gear	Valve with gear flange	Valve with worm gear	Valve with gear flange	Valve with worm gear	Valve with gear flange
50	065N1123	065N1128				
65	065N1131	065N1132				
80	065N1136	065N1137				
100	065N1141	065N1142				
125	065N1146	065N1147				
150	065N1151	065N1152	065N1251	065N1252	065N1351	065N1352
200	065N1156	065N1157	065N1256	065N1257	065N1356	065N1357
250	065N1161	065N1162	065N1261	065N1262	065N1361	065N1362
300	065N1166	065N1167	065N1266	065N1267	065N1366	065N1367
400	065N1176	065N1177	065N1276	065N1277	065N1376	065N1377

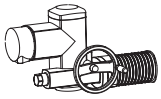
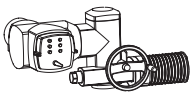
JIP-FW flange/welding

Type FW



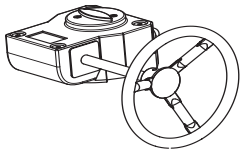
DN [mm]	Code No. PN16	Code No. PN25	Code No. PN40
15	See table PN40 to the right	See table PN40 to the right	065N0700
20			065N1705
25			065N1710
32			065N1715
40			065N1720
50			065N1725
65	065N1530	065N1630	
80	065N1535	065N1635	
100	065N1955	065N1970	
125	065N1961	065N1975	
150	065N1965	065N1981	

Ordering *(continuous)*
Actuators

DN [mm]	Code No.	
	Auma NORM	Auma MATIC
50	065N8397	065N8398
65	065N8199	065N8399
80	065N8200	065N8400
100-150	065N8205	065N8405
200	065N8220	065N8420
250	065N8225	065N8425
300	065N8235	065N8435
400	065N8240	065N8440

Worm gear



Description	Code No.	
	Worm gear	Position indicator with end switch
Worm gear for DN50	065N8078	-
Worm gear for DN65-80	065N8100	065N8073
Worm gear for DN 100/125/150 full bore	065N8115	065N8074
Worm gear for DN 200 full bore	065N8120	065N8077
Worm gear for DN 250 full bore	065N8125	065N8082
Worm gear for DN 300 full bore	065N8135	065N8113
Worm gear for DN 400 full bore	065N8140	065N8136

Accessories

Replacement handles		
Type of handle	**Fixation**	**Code No.**
L Steel DN 15-25 full bore with plastic grip	spring pin	065N8256
L Steel DN 32-40 full bore with plastic grip	spring pin	065N8257
L Steel DN 50 full bore with plastic grip	spring pin	065N8258
L Steel DN 65-80 full bore with plastic grip	spring pin	065N8259
L Steel DN 100 full bore with plastic grip	screw	065N8000
L Steel angled DN 125-150 full bore with plastic grip	screw	065N8001

Marking knobs for handles DN 15-80 full bore (red/blue)	
Handles	**Code No.**
Red knobs (bag with 100 pieces)	065N8303
Blue knobs (bag with 100 pieces)	065N8304

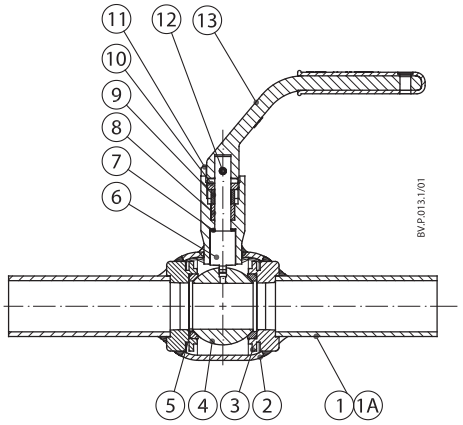
Technical data

DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	400
k_{VS}	m^3/h	11	50	90	160	235	395	820	1.100	2.300	3.700	6.100	11.000	17.500	24.000	37.500
PN		40						16/25								
Temp range		0 … 180 °C														
Medium		Circulation water / glycolic water up to 50 %														

Design&material

1	Welding end	Weldable steel* e.g. P235GH
1A	Flange	Weldable steel* e.g. P235GH
2	Shell	Weldable steel* e.g. P235GH
3	Ball seal retainer	Steel P235
4	Ball	Stainless steel
5	Ball seal	Carbon reinforced PTFE
6	Stem	Stainless steel
7	Washer	Carbon reinforced PTFE
8	Steam sealings	Carbon reinforced PTFE
9	Compression ring	Steel
10	Compression nut	Steel
11	Packing box	Weldable steel* e.g. P235GH
12	Pin	Spring steel
13	Handle	Steel

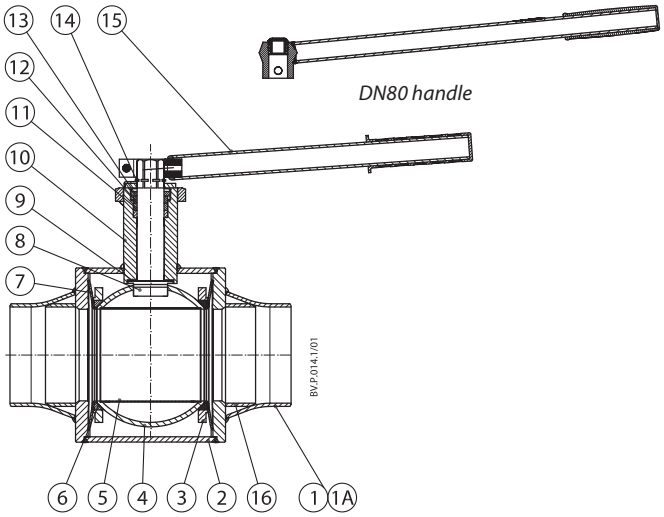
** Meeting the requirements of the PED 97/23/EC*



DN 15-65 with handle

1	Welding end	Weldable steel* e.g. P235GH
1A	Flange	Weldable steel* e.g. P235GH
2	Shell	Weldable steel* e.g. P235GH
3	Ball seal retainer	Steel P235
4	Ball	Stainless steel
5	Pipe insert	Stainless steel
6	Ball seal	Carbon reinforced PTFE
7	Disc spring	Domex 650 MC
8	Stem	Stainless steel
9	Washer	Carbon reinforced PTFE
10	Packing box	Weldable steel* e.g. P235GH
11	Steam sealings	Carbon reinforced PTFE
12	Compression ring	Steel
13	Compression nut	Steel
14	Retaining ring	Stainless steel
15	Handle	Steel
16	Guiding pipe	Weldable steel* e.g. P235GH

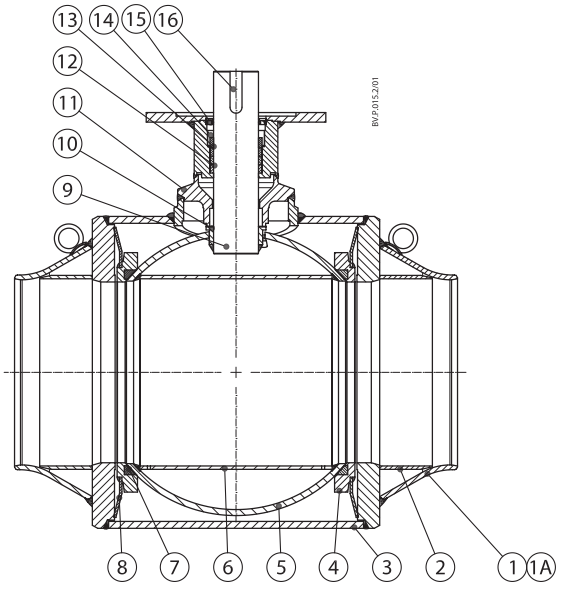
** Meeting the requirements of the PED 97/23/EC*



DN 80-200 with handle

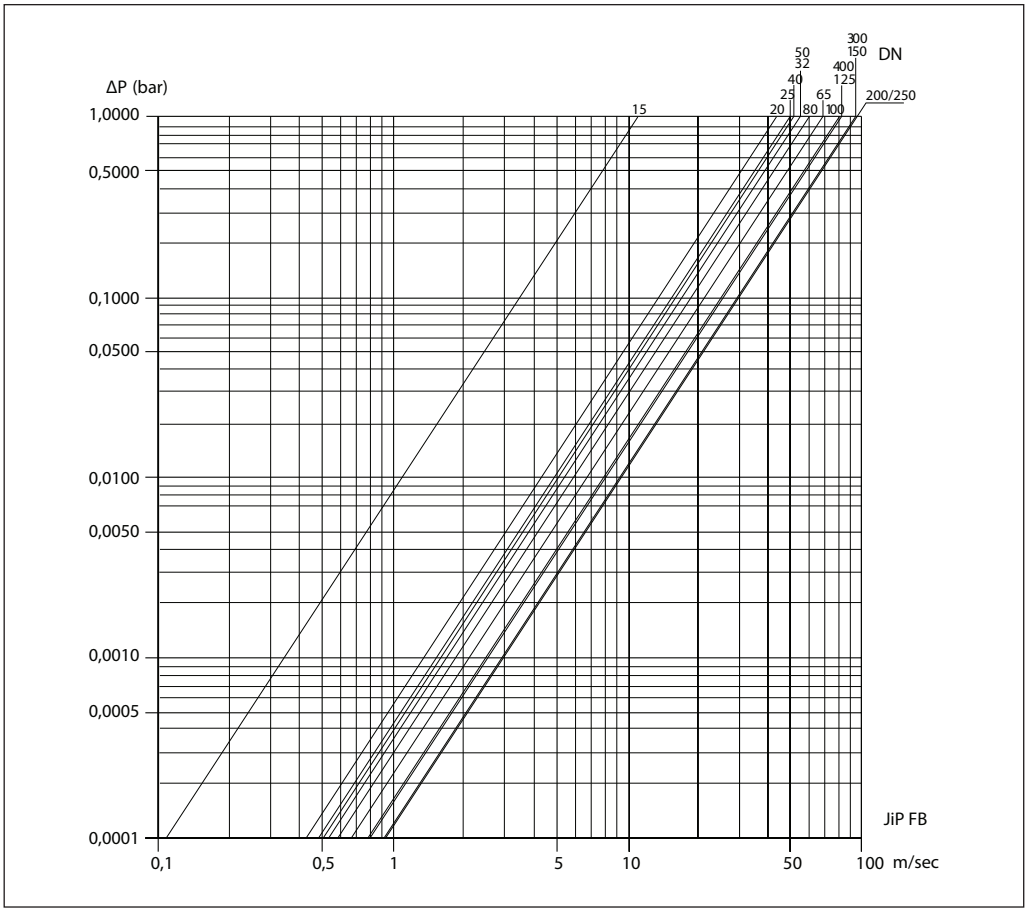
1	Welding end	Weldable steel* e.g. P235GH
1A	Flange	Weldable steel* e.g. P235GH
2	Guiding pipe	Weldable steel* e.g. P235GH
3	Shell	Weldable steel* e.g. P235GH
4	Ball seal retainer	Steel P235
5	Ball	Stainless steel
6	Pipe insert	Stainless steel
7	Ball seal	Carbon reinforced PTFE
8	Disc spring	Domex 650 MC
9	Stem	Stainless steel
10	Washer	Carbon reinforced PTFE
11	Packing box	Weldable steel* e.g. P235GH
12	Steam sealings	Carbon reinforced PTFE
13	Compression ring	Steel
14	Compression nut	Steel
15	Retaining ring	Stainless steel
16	Key	Steel

** Meeting the requirements of the PED 97/23/EC*

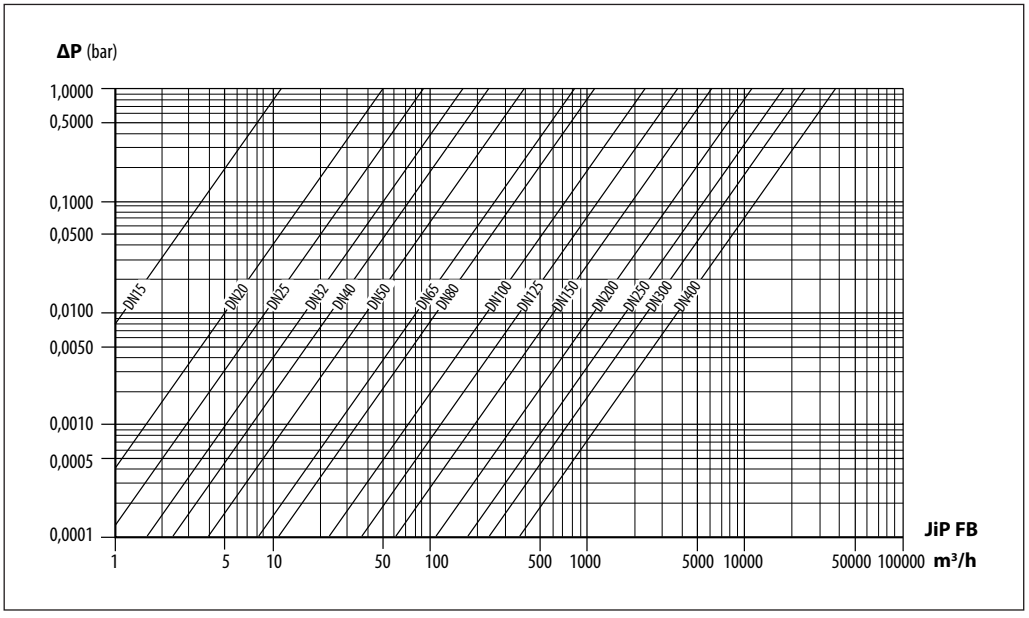


DN 50-400 with gear flange

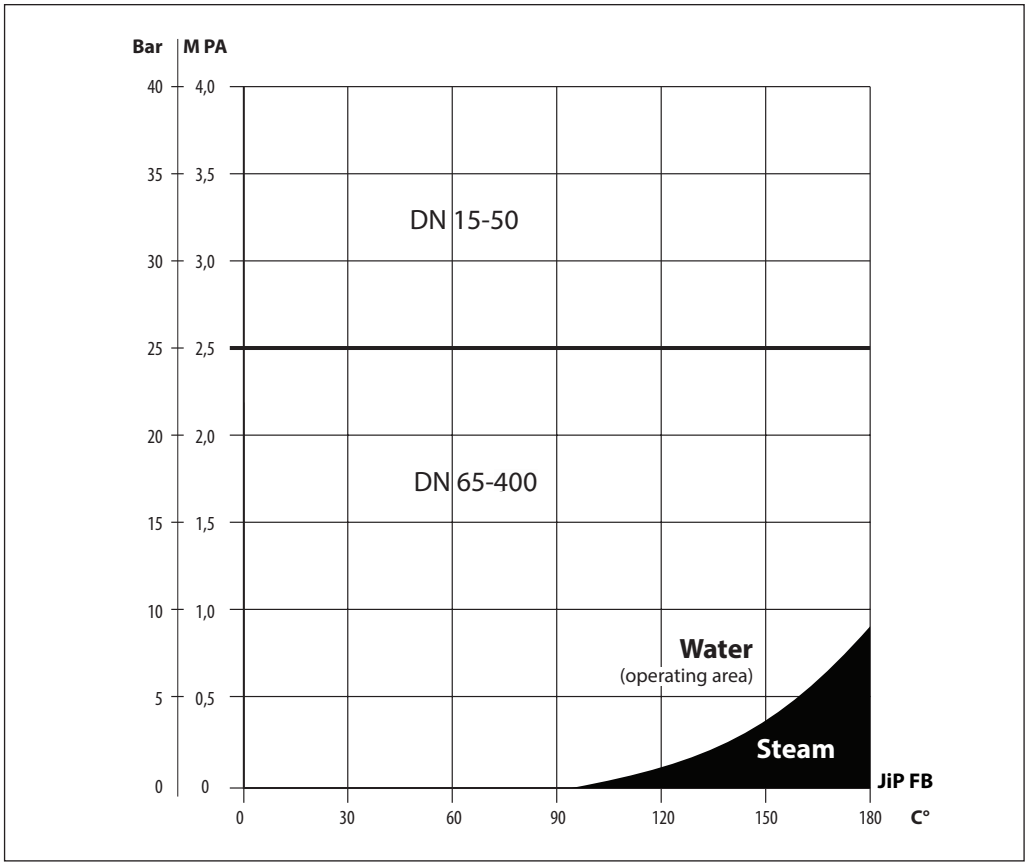
Pressure drop/velocity diagram



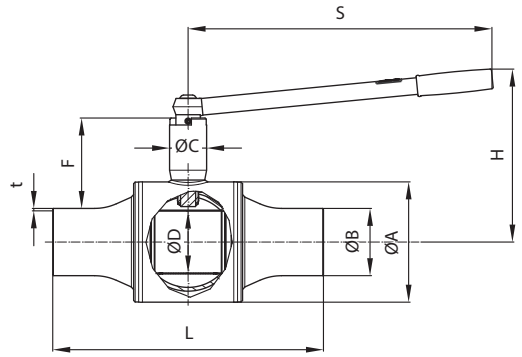
Pressure drop/flow diagram



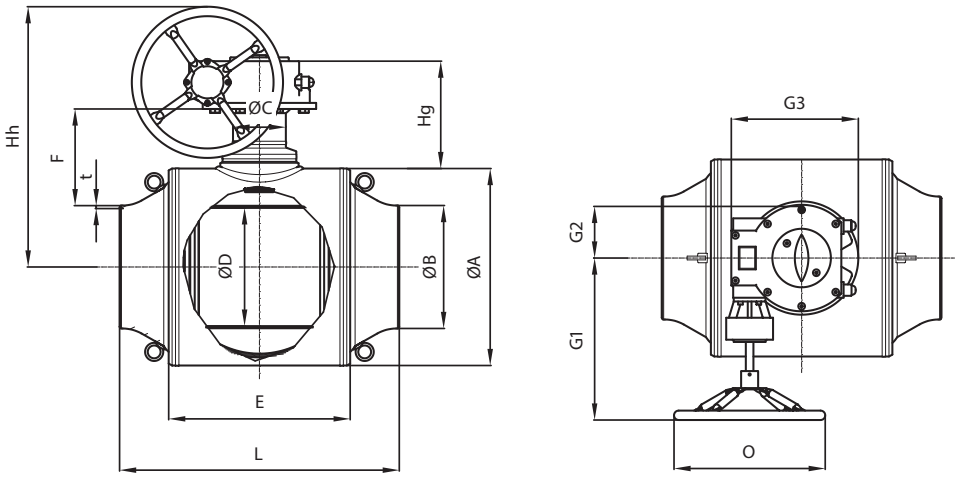
Pressure/temperature diagram



Dimension
JIP WW welding



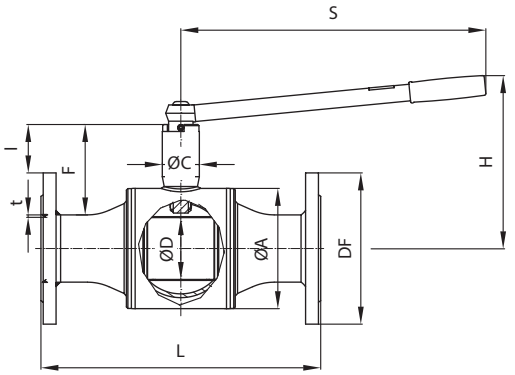
DN [mm]	ØA	t	ØB	ØD	L	H	F	ØC	S	kg
	PN 40									
15	42,4	2,6	21,3	15	230	125	58	24,5	115	1
20	48,3	2,6	26,9	20	220	125	60	24,5	115	1,2
25	60,3	2,6	33,7	25	240	130	61	24,5	115	1,4
32	76,1	2,6	42,4	32	270	170	90	35	157	2,7
40	88,9	2,6	48,3	40	275	175	92	35	157	3,6
50	114,3	2,9	60,3	50	320	190	108	45	205	6
	PN 25									
65	133	2,9	76,1	65	280	210	113	49	257	8
80	159	3,2	88,9	80	360	225	120	49	257	12
100	193,7	3,6	114,3	100	315	245	136	60	360	20
125	219,1	4	139,7	125	355	295	146	60	655	28
150	273	4,5	168,3	150	375	315	152	60	655	41



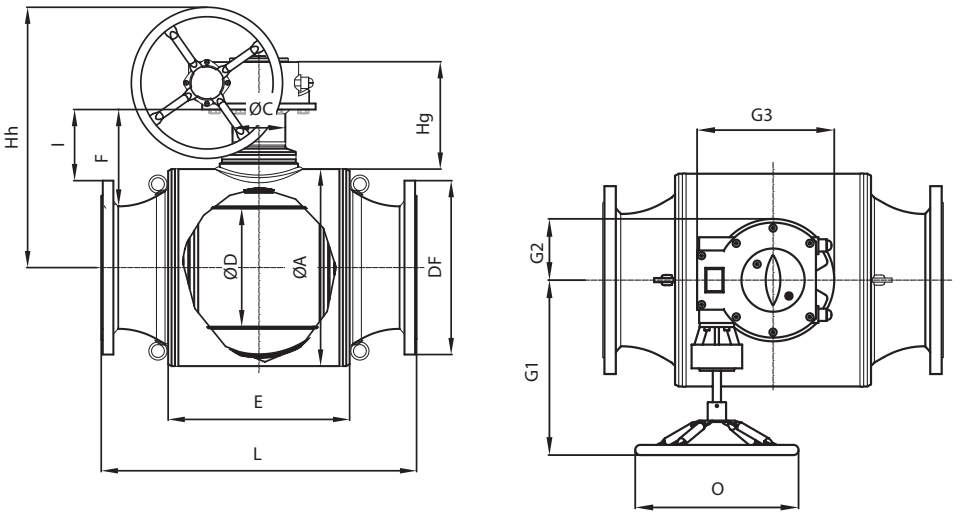
DN [mm]	ØA	t	ØB	ØD	L	Hh	Hg	E	F	ØC	O	G1	G2	G3	kg
	PN 40														
50	114,3	2,9	60,3	50	320	253	140	115	108	45	160	161	42	112	9
	PN 25														
65	133	2,9	76,1	65	280	288	156	135	113	49	200	212	56	139	22
80	159	3,2	88,9	80	360	300	146	145	120	49	200	212	56	139	24
100	193,7	3,6	114,3	100	315	345	176	165	136	60	200	257	75	190	44
125	219,1	4	139,7	125	355	365	185	205	146	60	200	257	75	190	52
150	273	4,5	168,3	150	375	385	325	240	145	60	200	257	75	190	65
200	355,6	6,3	219,1	200	485	585	430	340	209	87	400	330	100	244	141
250	457	6,3	273	250	595	635	500	400	225	100	400	397	141	329	208
300	521	8	323,9	300	740	690	556	480	258	139,7	400	429	150	336	324
400	711	8,8	406,4	400	1030	855	668	690	322	168,3	500	460	188	410	728

** All weights valid for valves with mounted worm gear*

Dimension *(continuous)*
JIP FF flanged



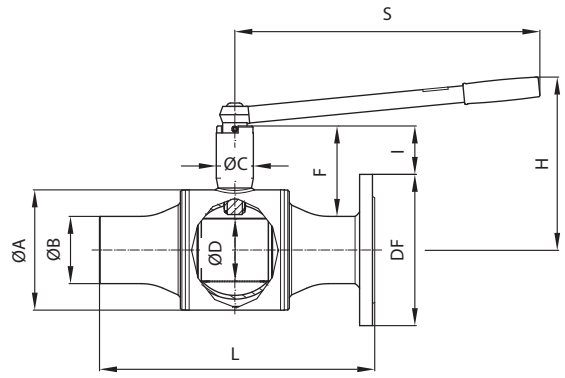
DN [mm]	ØA	ØD	H	F	ØC	S	L	DF	I	kg	L	DF	I	kg
	PN 40						PN 16				PN 40			
15	42,4	15	125	58	24,5	115					130	95	23	2,3
20	48,3	20	125	60	24,5	115					150	105	21	3
25	60,3	25	130	61	24,5	115					160	115	20	3,7
32	76,1	32	170	90	35	157					180	140	40	6,2
40	88,9	40	175	92	35	157					200	150	41	7,4
50	114,3	50	190	108	45	205					230	165	56	11
	PN 16 / 25						PN 16				PN 25			
65	133	65	210	113	49	257	290	185	59	17,1	290	185	59	17,5
80	159	80	225	120	49	257	370	200	64	18,8	310	200	64	20,2
100	193,7	100	245	136	60	360	325	220	83	28	325	235	76	31,4
125	219,1	125	295	146	60	655	365	250	91	38	490	270	81	43,4
150	273	150	315	152	60	655	385	285	94	53,8	510	300	86	61



DN [mm]	ØA	ØD	Hh	Hg	E	F	ØC	O	G1	G2	G3	L	DF	I	kg	L	DF	I	kg
	PN 40											PN 16				PN 40			
150	273	150	385	325	240	152	60	200	257	75	190	385	285	94	79	510	300	86	91
200	355,6	200	585	430	340	209	87	400	330	100	244	495	340	148	142	635	360	138	156
250	457	250	635	500	400	225	100	400	397	141	329	720	405	158	237	720	425	149	247
300	521	300	690	556	480	258	139,7	400	429	150	336	835	460	190	365	835	485	178	381
400	711	400	885	668	690	322	168,3	500	460	188	410	1100	580	235	805	1100	620	215	849

** All weights valid for valves with mounted worm gear*

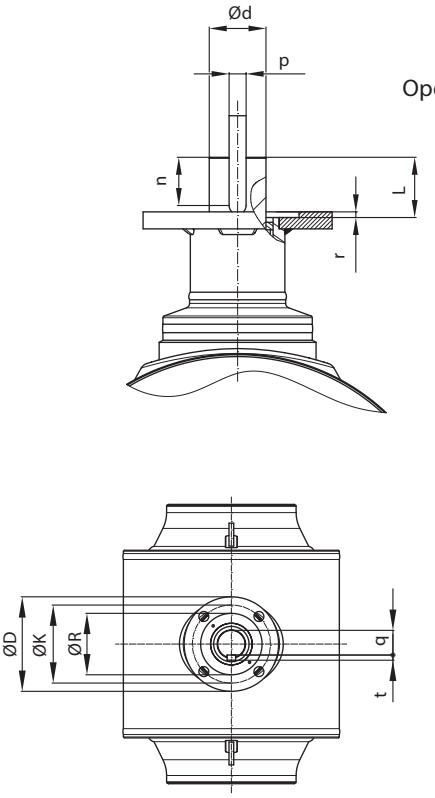
Dimension *(continuous)*
JIP FW flanged/welding



DN [mm]	ØA	ØD	H	F	ØC	S	L	DF	I	kg	L	DF	I	kg
	PN 40						PN 16				PN 40			
15	42,4	15	125	58	24,5	115					180	95	23	1,64
20	48,3	20	125	60	24,5	115					185	105	21	2,05
25	60,3	25	130	61	24,5	115					200	115	20	2,56
32	76,1	32	170	90	35	157					230	140	40	4,46
40	88,9	40	175	92	35	157					235	150	41	5,58
50	114,3	50	190	108	45	205					275	165	56	8,54
	PN 16 / 25						PN 16				PN 25			
65	133	65	210	113	49	257	285	185	59	10,65	285	185	59	10,72
80	159	80	225	120	49	257	365	200	64	15,81	335	200	64	15,86
100	193,7	100	245	136	60	360	320	220	83	22,47	320	235	76	24,04
125	219,1	125	295	146	60	655	360	250	91	32,52	360	270	81	35,22
150	273	150	315	152	60	655	380	285	94	47,09	380	300	86	50,93

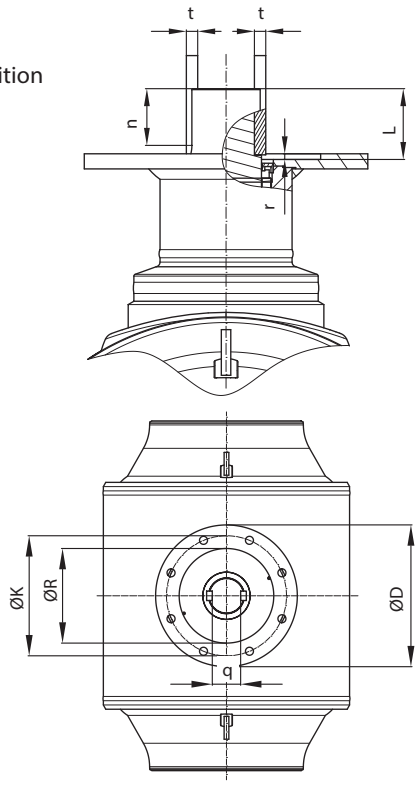
Dimension *(continuous)*
Valve top and gear flange

DN 50-250



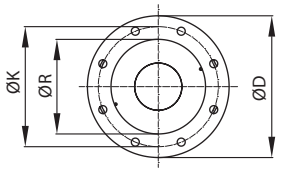
Open position

DN 300-400



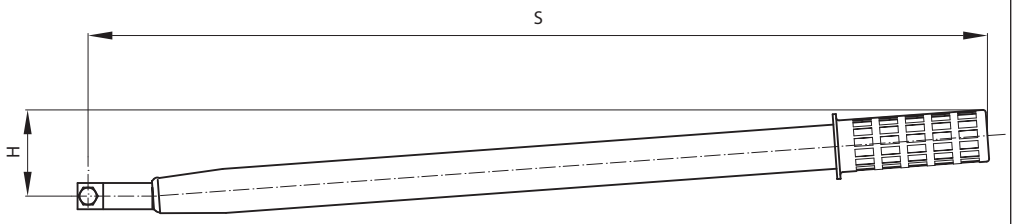
Full bore

DN	Gear flange	Ød	n	q	r	p	L	t
		mm						
50	F07	16	26	13,1	4	5	30	5
65		20	44	16,5	4	6	41	6
80		20	44	16,5	4	6	45	6
100	F10/F12	30	49	26	4	6	50	6
125		30	50	26	4	8	50,4	7
150		30	50	26	4	8	46,4	7
200	F16	50	55	44,5	5	14	60	9
250		60	60	53,2	6	18	63,7	11
300	F25	75	70	60	6	20	75	12
400	F30	100	105	80	6	28	113	16



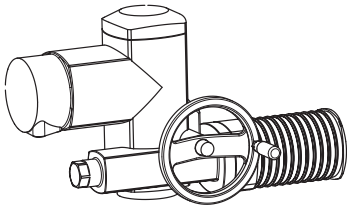
Gear flange	No. of bolt holes	Diameter of bolt holes	ØD	ØK	ØR
			mm		
F07	4	9	88	70	55
F10		11,5	150	102	85
F12		13	150	125	85
F16		21	210	165	130
F25	8	17	300	254	200
F30		21	350	298	230

Dimension *(continuous)*
Handles



DN	S	H
	mm	
100	356	28
125-150	654	54

AUMA NORM electrical actuators for Danfoss ball valves



Danfoss ball valves	Auma Actuators	
DN [mm]	**Type**	**Operating time for 90° turn [s]**
50-65	SQ 05.2	16
80	SQ 07.2	32
100-125-150	SQ 10.2	32
200-250	SA 7.6 (22) + GS 100.3 + VZ 4.3	142
300	SA 10.2 (22) + GS 125.3 + VZ 4.3	142
400	SA 10.2 (32) + GS 160.3 + GZ 160.3 i=8:1	207

Features:
- 2 limit switches – opening / closing
- 2 torque switches - opening/ closing
- Heater
- Blinker switch for operating phase
- Manual operation with hand wheel
- Thermo switch

Main Data:
- Nominal voltage:
  - 3×400 VAC, 50 Hz
- Grade of enclosure: IP 68
- Wiring diagram: TPA 00R1AA-000

The actuators can be equipped with various accessories.
Control and regulating unit AUMA Matic in the basis design can be supplied.
For other mains voltages than 3×400 V/50 Hz or additional questions please contact us.

When commissioning and under certain problematic system conditions, it can be necessary to choose slower actuators to avoid water hammering and oscillations.

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