

## 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  $k_v$  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 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:**

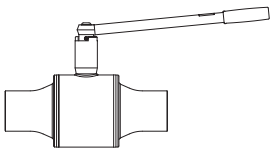
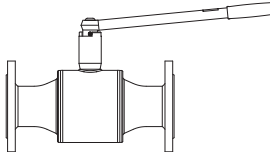
- DN 15-400
- $k_{vs}$  = 11-37,500 m<sup>3</sup>/h
- PN 16 / 25 / 40
- Leakage rate A  
(according to EN12266-1) - both directions
- Temperature: 0 ... 180 °C
- Medium:  
Circulation water / glycolic water up to 50 %
- Min. storage and transport temperature: -40 °C

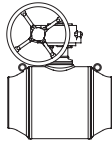
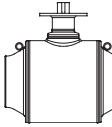
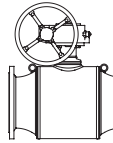
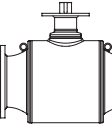
**Approvals and norms:**

- 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 2014/68/EU Modul H1
- Danfoss A/S is certified according to ISO 9001
- Furthermore certified according to ISO 14001 and OHSAS 18001.

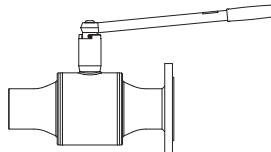
**Ordering**

JIP-WW welding  
JIP-FF flange

					
<b>JIP-WW welding</b>			<b>JIP-FF flange</b>		
<b>DN</b> (mm)	<b>Code No.</b>		<b>Code No.</b>		
	<b>PN25</b>	<b>PN40</b>	<b>PN16</b>	<b>PN25</b>	<b>PN40</b>
15		065N0100			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	

							
<b>JIP-WW welding</b>		<b>JIP-FF flange</b>		<b>JIP-FF flange</b>			
<b>DN</b> (mm)	<b>Code No. WW PN25</b>		<b>Code No. FF PN16</b>		<b>Code No. FF PN25</b>		
	<b>Valve with worm gear</b>	<b>Valve with gear flange</b>	<b>Valve with worm gear</b>	<b>Valve with gear flange</b>	<b>Valve with worm gear</b>	<b>Valve with gear flange</b>	
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	
350	065N1173	065N1174	065N1273	065N1274	065N1373	065N1374	
400	065N1176	065N1177	065N1276	065N1277	065N1376	065N1377	

JIP-FW flange / welding

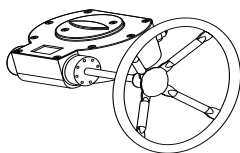
			
<b>JIP-FW flange / welding</b>			
<b>DN</b> (mm)	<b>Code No.</b>		
	<b>PN16</b>	<b>PN25</b>	<b>PN40</b>
15			065N0700
20			065N1705
25			065N1710
32			065N1715
40			065N1720
50			065N1725
65	065N1530	065N1630	
80	065N1535	065N1635	
100	065N1955	065N1970	
125	065N1961	065N1975	
150	065N1965	065N1981	

Ordering (continuous)  
Actuators

DN (mm)	Code No.	
	Auma NORM <sup>1)</sup>	Auma MATIC <sup>1)</sup>
50	065N8397	065N8398
65	065N8199	065N8399
80	065N8200	065N8400
100-150	065N8205	065N8405
200	065N8220	065N8420
250	065N8225	065N8425
300	065N8235	065N8435
350	065N8240	065N8440
400	065N8265	065N8266

<sup>1)</sup> More information on page 12. For additional information related to the electric actuator ordering, please contact local Danfoss representative.

Worm gear



Description	Code No.	
	Worm gear	Position indicator with end switch
Worm gear for DN50	065N0683	065N0694
Worm gear for DN65-80	065N0684	065N0695
Worm gear for DN 100/125/150 full bore	065N0685	065N0695
Worm gear for DN 200 full bore	065N0691	065N0696
Worm gear for DN 250 full bore	065N0687	065N0697
Worm gear for DN 300 full bore	065N0688	065N0698
Worm gear for DN 350 full bore	065N0689	065N0699
Worm gear for DN 400 full bore	065N0690	065N0699

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

Handles with extended shaft for pipes with thick insulation						
Type of handle	Code No.	Valve DN	H	h	S	Picture
Handle DN 15-25 FB L115-H	065N8350	15	142	196	115	
		20	142	199	115	
		25	141	204	115	
Handle DN 32-40 FB L157-H	065N8351	32	201	279	157	
		40	200	284	157	
Handle DN 50 FB L205-H	065N8352	50	208	310	205	
Handle DN 65-80 FB L405-H	065N8353	65	224	351	405	
		80	224	364	405	
Handle DN 100-150FB/ DN200RB L645-HexT-H	065N8356	100	241	449	645	
		125	251	472	645	
		150	245	492	645	

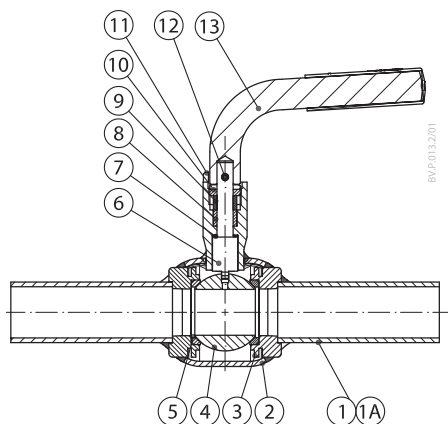
Marking knobs for handles DN 15-80 full bore (red/blue)	
Handles	Code No.
Red knobs (bag with 100 pieces)	065N8303
Blue knobs (bag with 100 pieces)	065N8304

Technical data

DN	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	
k <sub>vs</sub>	m <sup>3</sup> /h	11	50	90	160	235	395	820	1,100	2,300	3,700	6,100	11,000	17,500	24,000	30,000	37,500	
PN		40							16/25									
Temp range		0 ... 180 °C																
Medium		Circulation water / glycolic water up to 50 %																

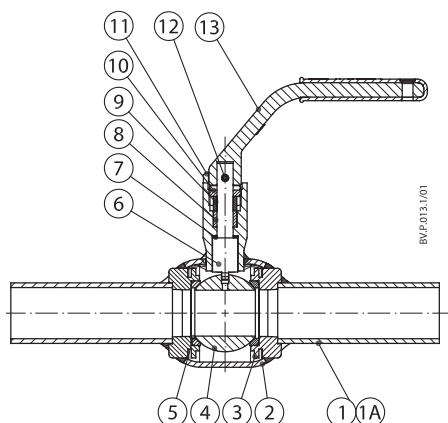
Design & material

1	Welding end	*Weldable mild steel 20#
1A	Flange	*Weldable mild steel 20#
2	Shell	*Weldable mild steel 20#
3	Ball seal retainer	*Weldable mild steel 20#
4	Ball	Stainless steel
5	Ball seal	Carbon reinforced PTFE
6	Stem	Stainless steel
7	Washer	Carbon reinforced PTFE
8	Stem sealing	Carbon reinforced PTFE
9	Compression ring	Steel
10	Compression nut	Steel
11	Packing box	*Weldable mild steel 20#
12	Pin	Spring steel
13	Handle	Steel



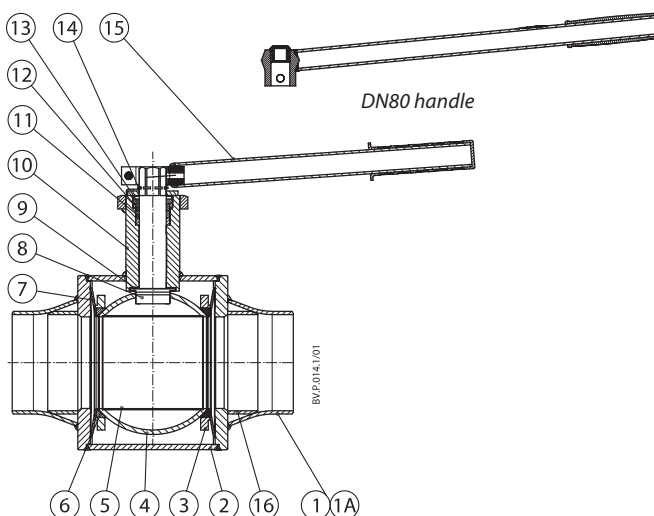
DN 15-40 with handle

1	Welding end	*Weldable mild steel 20#
1A	Flange	*Weldable mild steel 20#
2	Shell	*Weldable mild steel 20#
3	Ball seal retainer	*Weldable mild steel 20#
4	Ball	Stainless steel
5	Ball seal	Carbon reinforced PTFE
6	Stem	Stainless steel
7	Washer	Carbon reinforced PTFE
8	Stem sealing	Carbon reinforced PTFE
9	Compression ring	Steel
10	Compression nut	Steel
11	Packing box	*Weldable mild steel 20#
12	Pin	Spring steel
13	Handle	Steel



DN 50-65 with handle

1	Welding end	*Weldable mild steel 20#
1A	Flange	*Weldable mild steel 20#
2	Shell	*Weldable mild steel 20#
3	Ball seal retainer	*Weldable mild steel 20#
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 mild steel 20#
11	Stem sealing	Carbon reinforced PTFE
12	Compression ring	Steel
13	Compression nut	Steel
14	Retaining ring	Stainless steel
15	Handle	Steel
16	Guiding pipe	*Weldable mild steel 20#

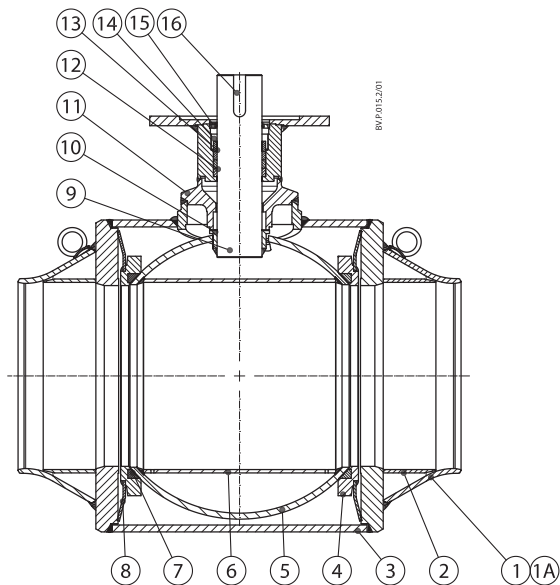


DN 80-150 with handle

Design & material (continuous)

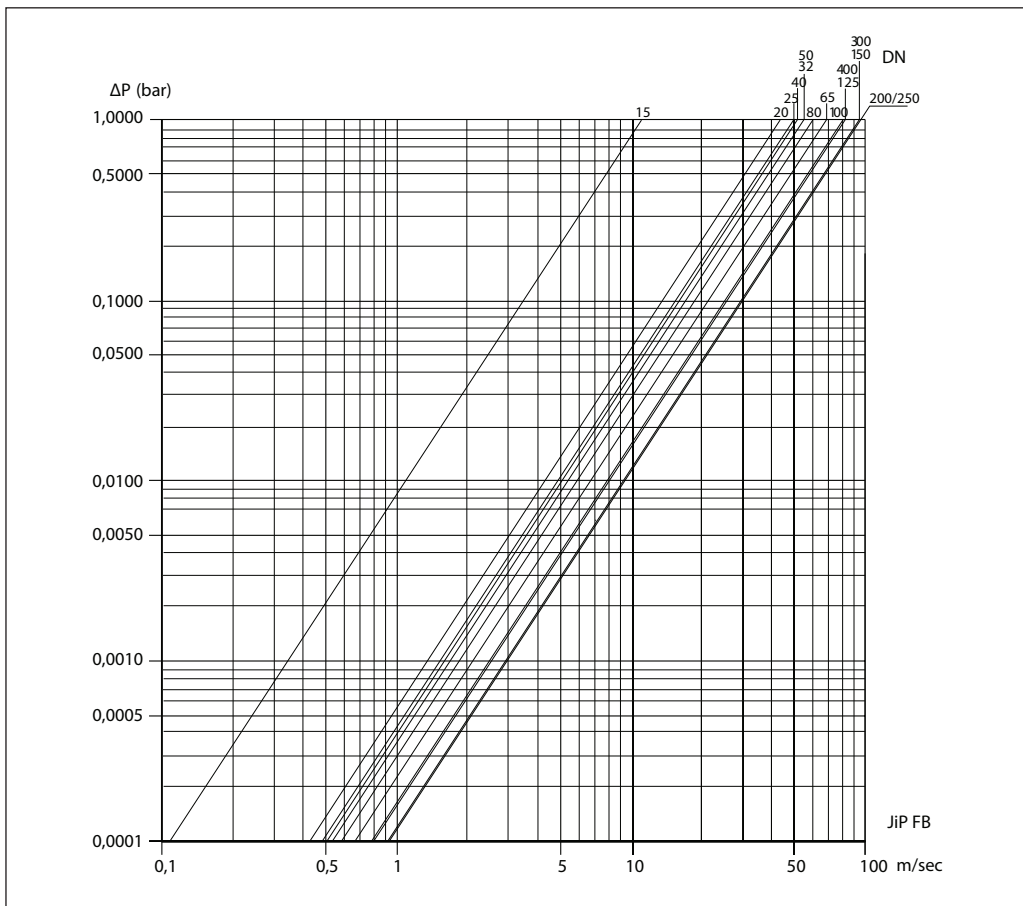
1	Welding end	*Weldable mild steel 20#
1A	Flange	*Weldable mild steel 20#
2	Guiding pipe	*Weldable mild steel 20#
3	Shell	*Weldable mild steel 20#
4	Ball seal retainer	*Weldable mild steel 20#
5	Ball	Stainless steel
6	Pipe insert	Stainless steel
7	Ball seal	Carbon reinforced PTFE
8	Disc spring	Domex 650 MC
9	Stem	Stainless steel
10	Washer	Carbon reinforced PTFE
11	Packing box	*Weldable mild steel 20#
12	Stem sealing	Carbon reinforced PTFE
13	Compression ring	Steel
14	Compression nut	Steel
15	Retaining ring	Stainless steel
16	Key	Steel

\* According to the GB/T8163. Or equivalent mild steel in accordance with CE-PED

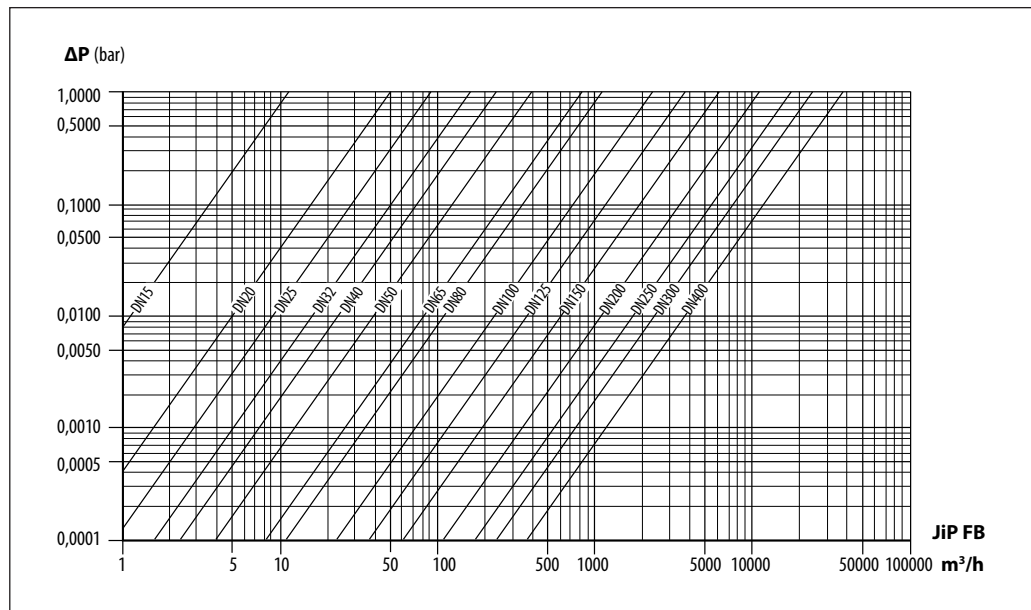


DN 50-400 with gear flange

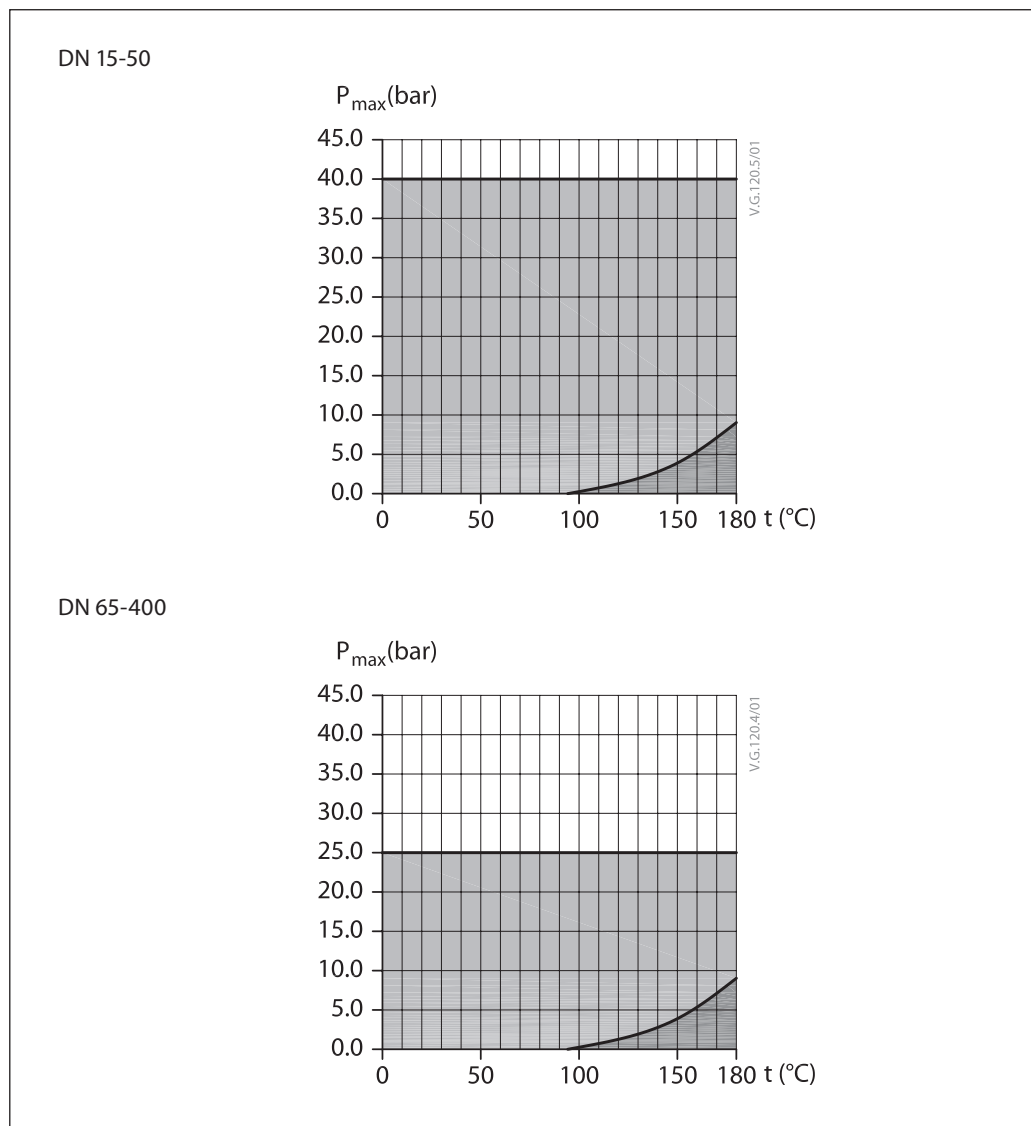
Pressure drop / velocity diagram



Pressure drop / flow diagram



Pressure / temperature diagram  
JIP-WW

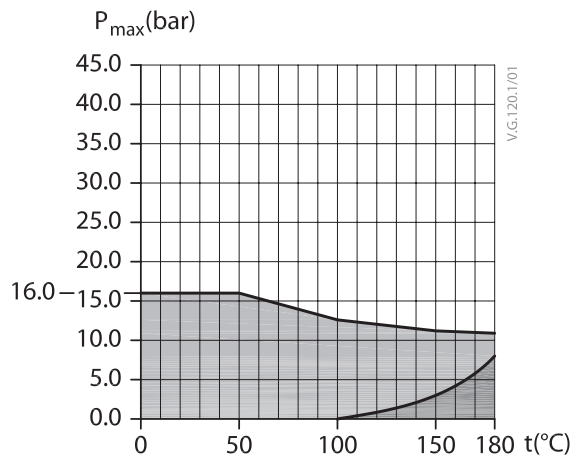


Legend:

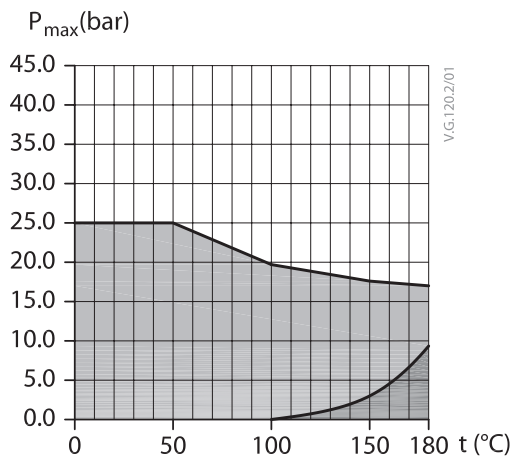
- Normal operating area (water)
- Steam area

Pressure / temperature  
JIP-FF

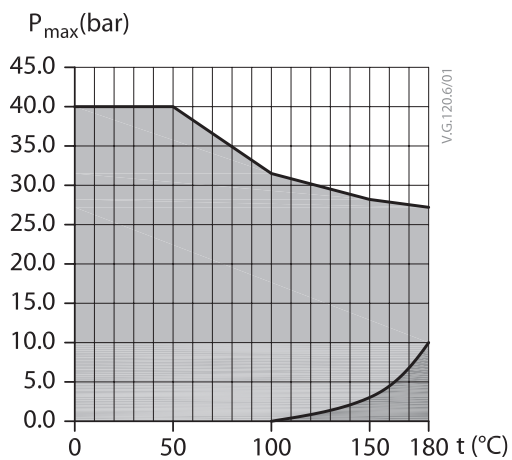
PN 16, DN 65-400



PN 25, DN 65-400



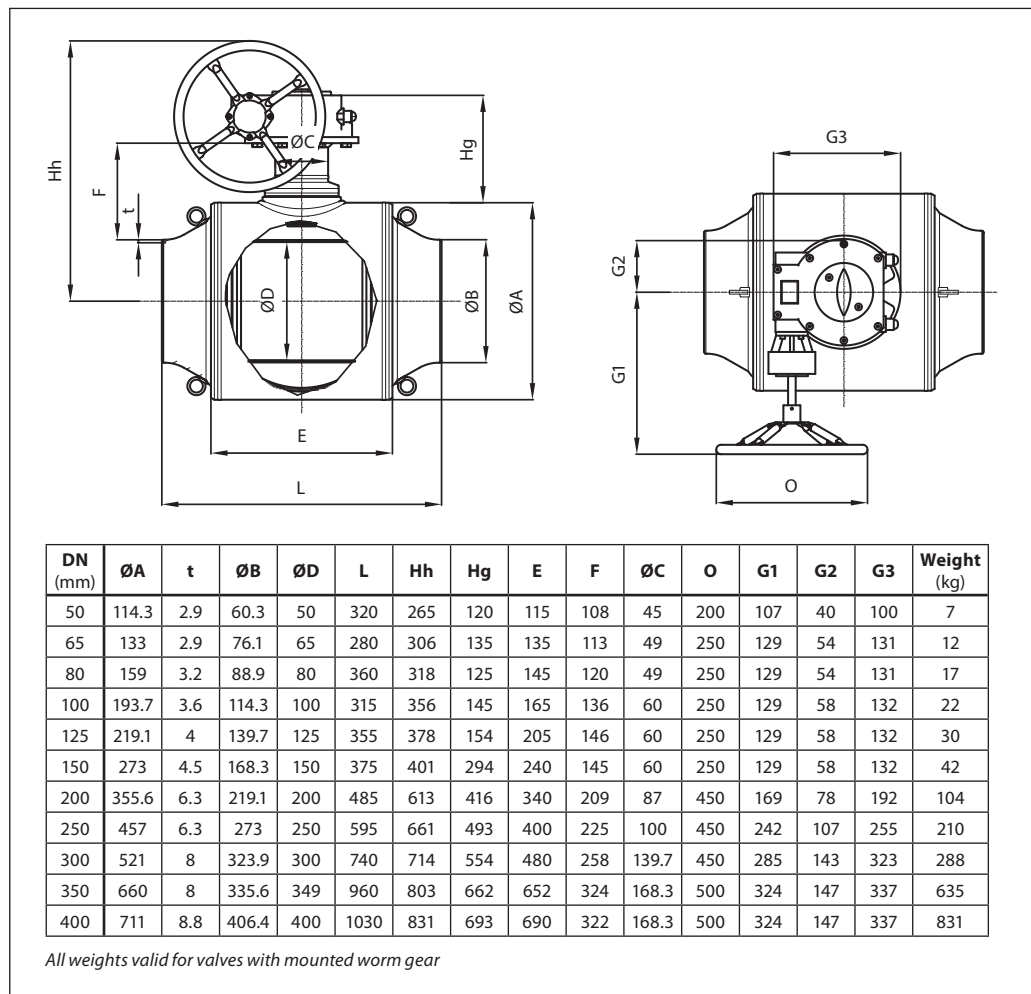
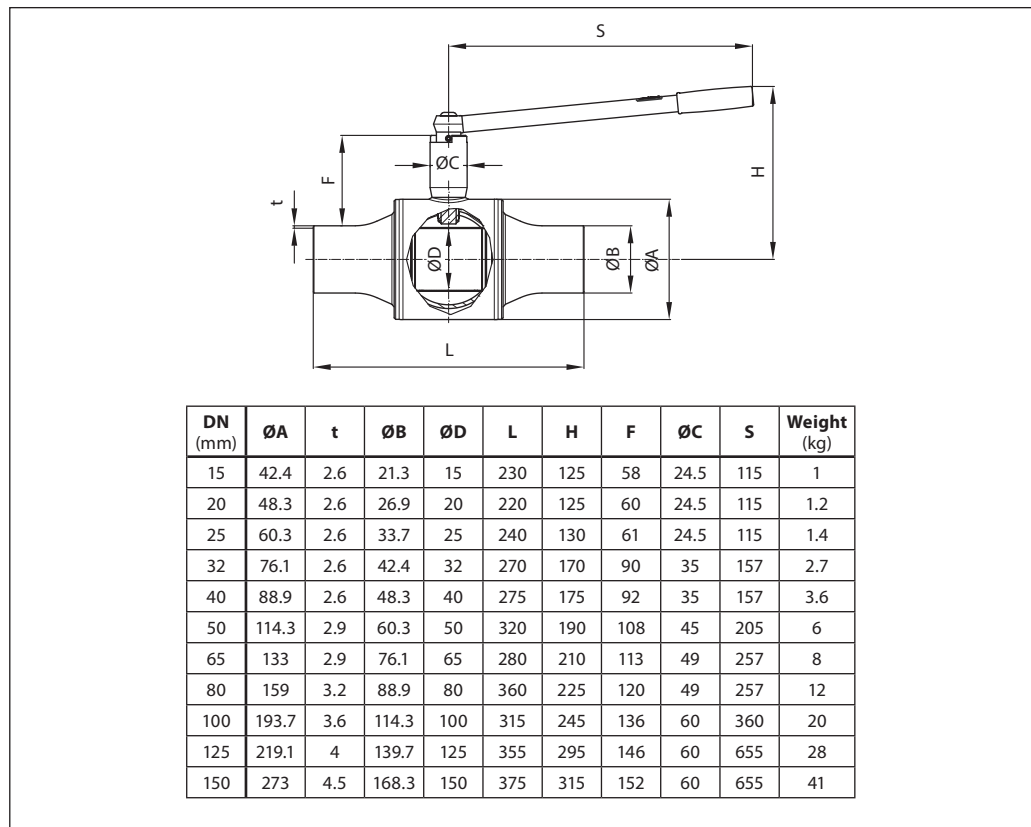
PN 40, DN 15-50



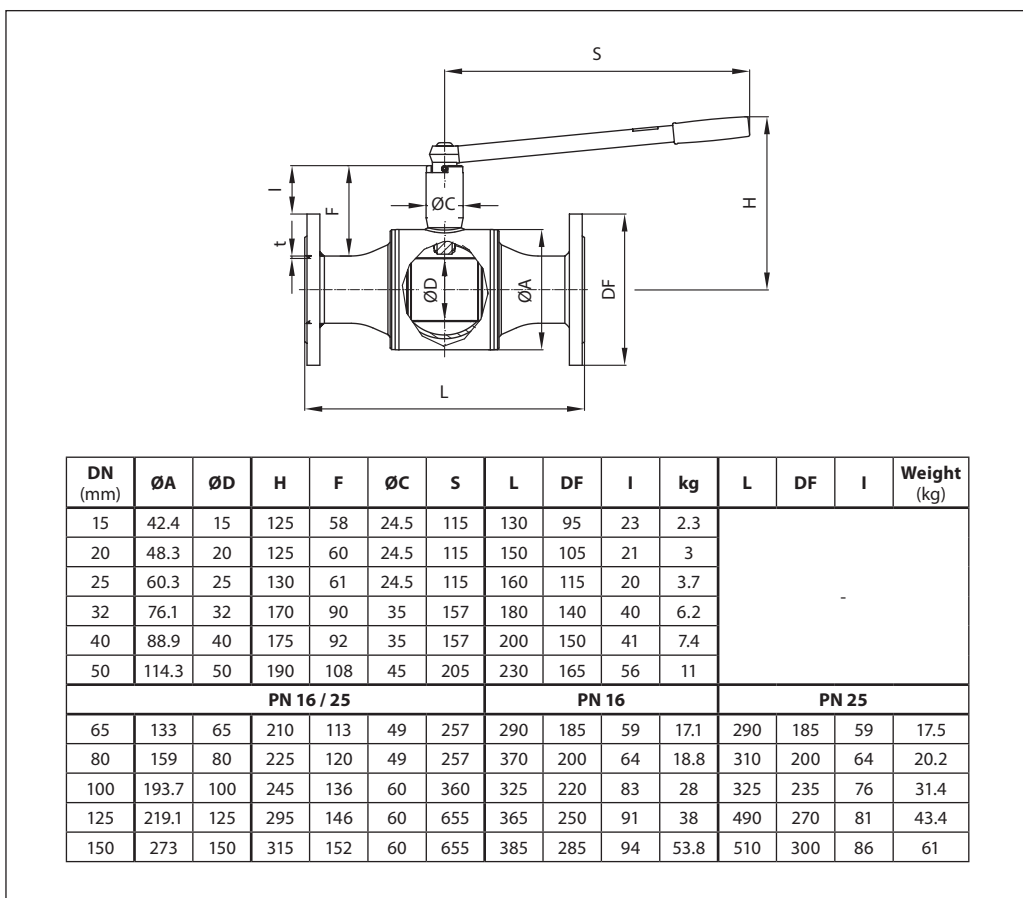
Legend:

- Normal operating area (water)
- Steam area

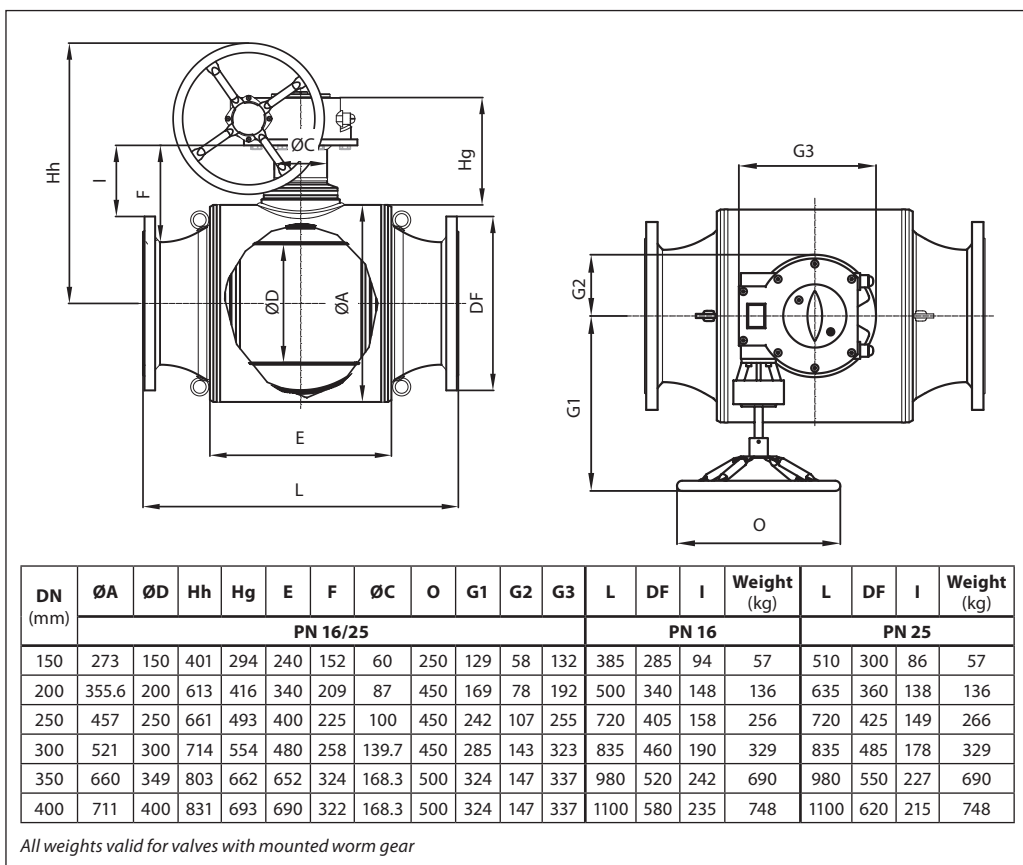
**Dimensions**  
JIP WW welding



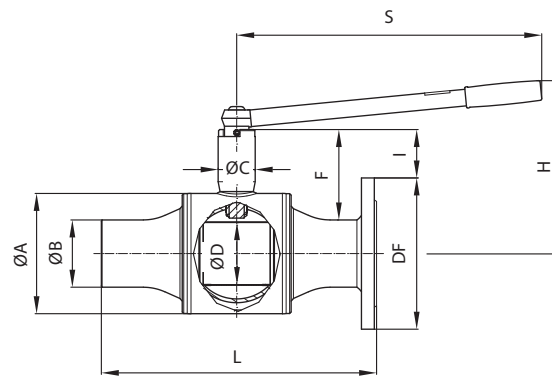
Dimensions (continuous)  
JIP FF flanged



Dimensions (continuous)  
JIP FF flanged

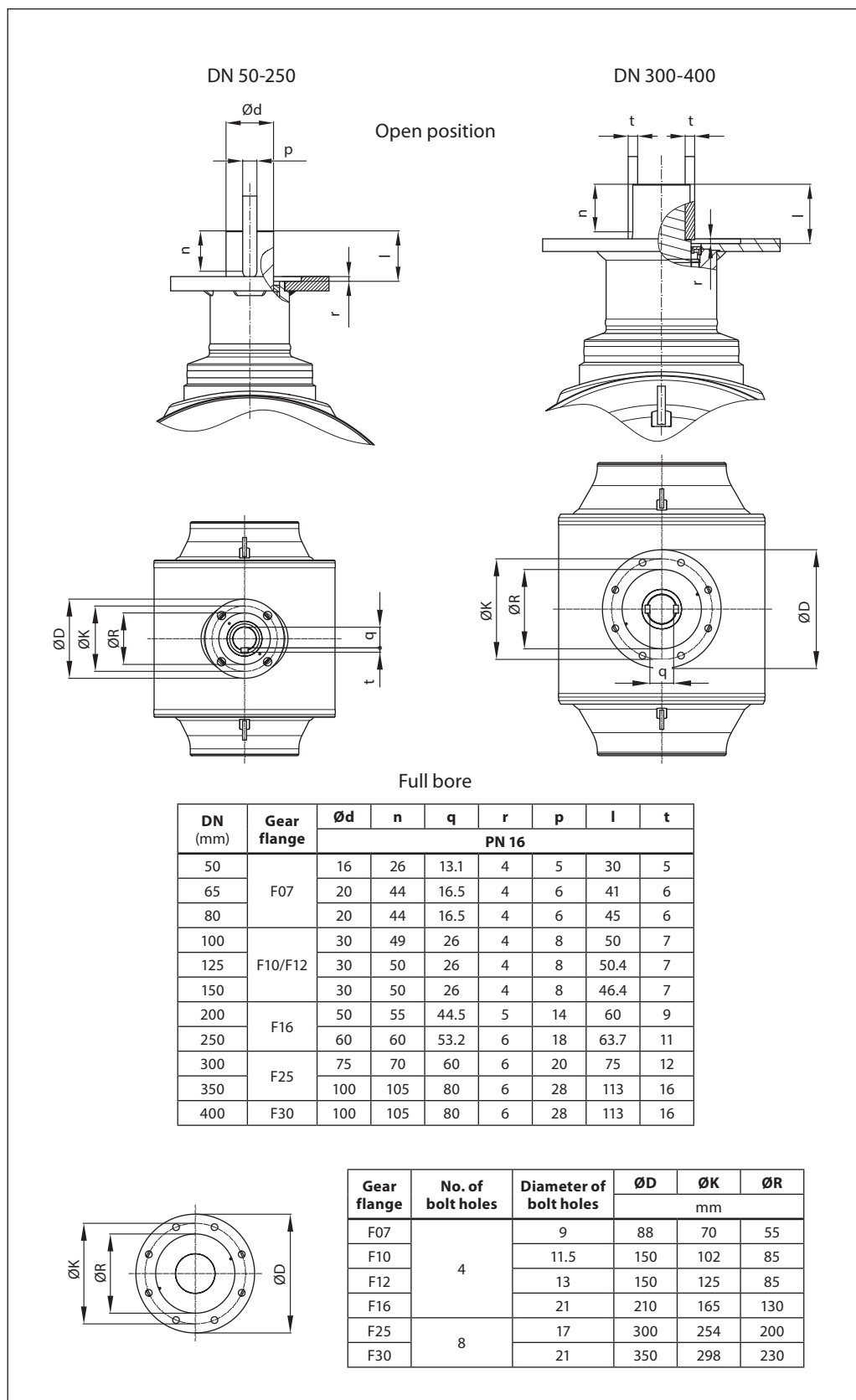


Dimensions (continuous)  
JIP FW flanged/welding



DN (mm)	ØA	ØB	H	F	ØC	S	L	DF	I	kg	L	DF	I	Weight (kg)
15	42.4	15	125	58	24.5	115	180	95	23	1.6				
20	48.3	20	125	60	24.5	115	185	105	21	2.1				
25	60.3	25	130	61	24.5	115	200	115	20	2.6				
32	76.1	32	170	90	35	157	230	140	40	4.5				
40	88.9	40	175	92	35	157	235	150	41	5.6				
50	114.3	50	190	108	45	205	275	165	56	8.5				
<b>PN 16 / 25</b>							<b>PN 16</b>				<b>PN 25</b>			
65	133	65	210	113	49	257	285	185	59	10.7	285	185	59	10.7
80	159	80	225	120	49	257	365	200	64	15.8	335	200	64	15.9
100	193.7	100	245	136	60	360	320	220	83	22.5	320	235	76	24
125	219.1	125	295	146	60	655	360	250	91	32.5	360	270	81	35.2
150	273	150	315	152	60	655	380	285	94	47.1	380	300	86	50.9

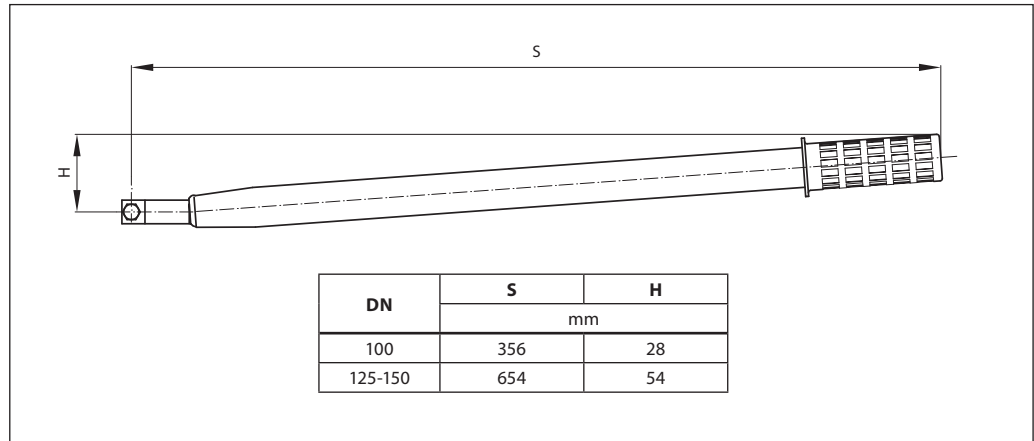
**Dimensions** (continuous)  
Valve top and gear flange



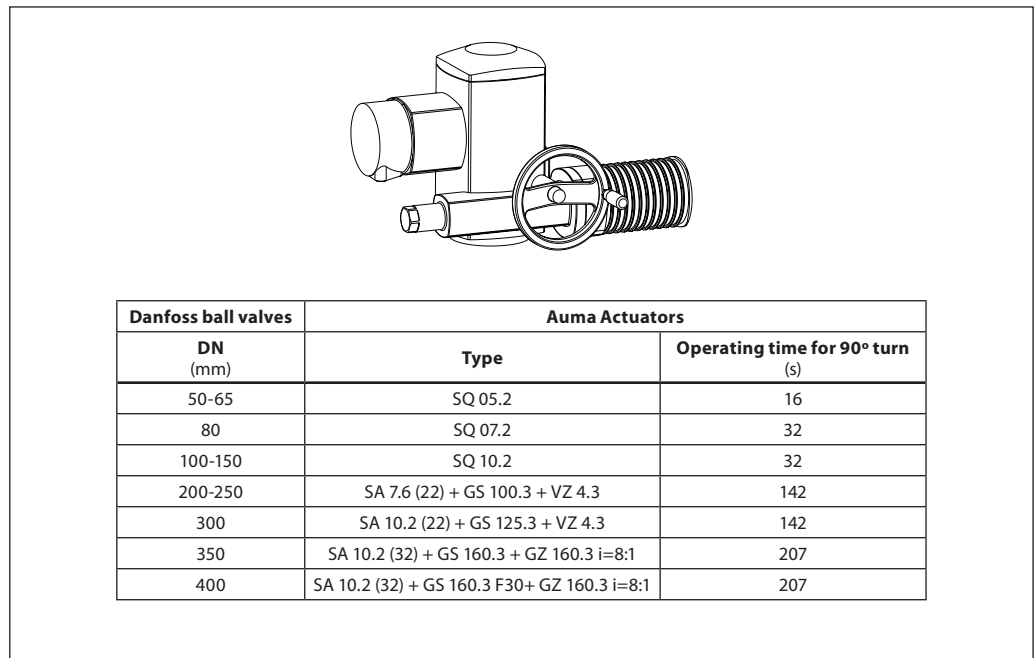
Data sheet

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

Dimensions (continuous)  
Handles



AUMA NORM electrical  
actuators for Danfoss  
ball valves



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.

Danfoss A/S

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