



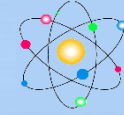
DN range: 50 ~ 300



PN range: 10 ~ 250

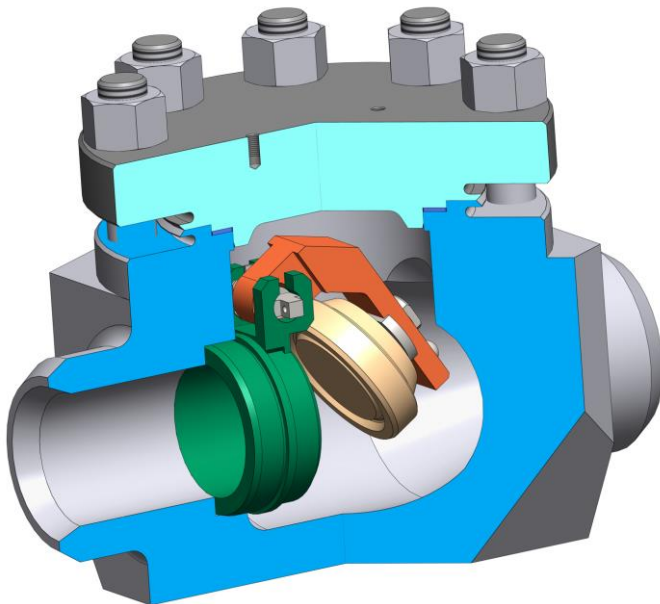


HIGHLIGHTS
PROVISION



NUCLEAR
POWER

Connection to the pipeline: **Butt-Welded**



APPLICATION

- Check valves automatically prevent backflow of the fluid in the pipeline; can be operated at full pressure drop on the cap
- **Fluids**
According to NP-068-05.
- **Industry**
Nuclear power plants (especially with VVER and RBMK reactors) – can be installed in the NPP safety systems with location inside and outside the hermetic zone; chemical industry.
- **Environments**
Mild, harsh, seismic resistance class 1a.

TECHNICAL DESCRIPTION

- Check valves are made of carbon steel or corrosion resistant steel.
- Forged body.
- Seat is inserted into the body with the overlap, welded with the seal weld.
- Disc is freely mounted on the arm pivoting on a pin placed in the hinge above the upper part of the seat.
- Sealing the body flange and cover with a sealing ring (expanded graphite, spiral-wound or serrated gaskets), with the possibility of emergency sealing with a perimeter weld.
- Disc and seat sealing surfaces are hardfaced with the hard cobalt-free alloy.
- The direction of the operating fluid flow is under the disc.

INSTALLATION

- Valves should be installed in horizontal pipeline with the bonnet on top, the direction of flow is under the disc. Other positions after consultation with the manufacturer.

OPERATION

- Automatic

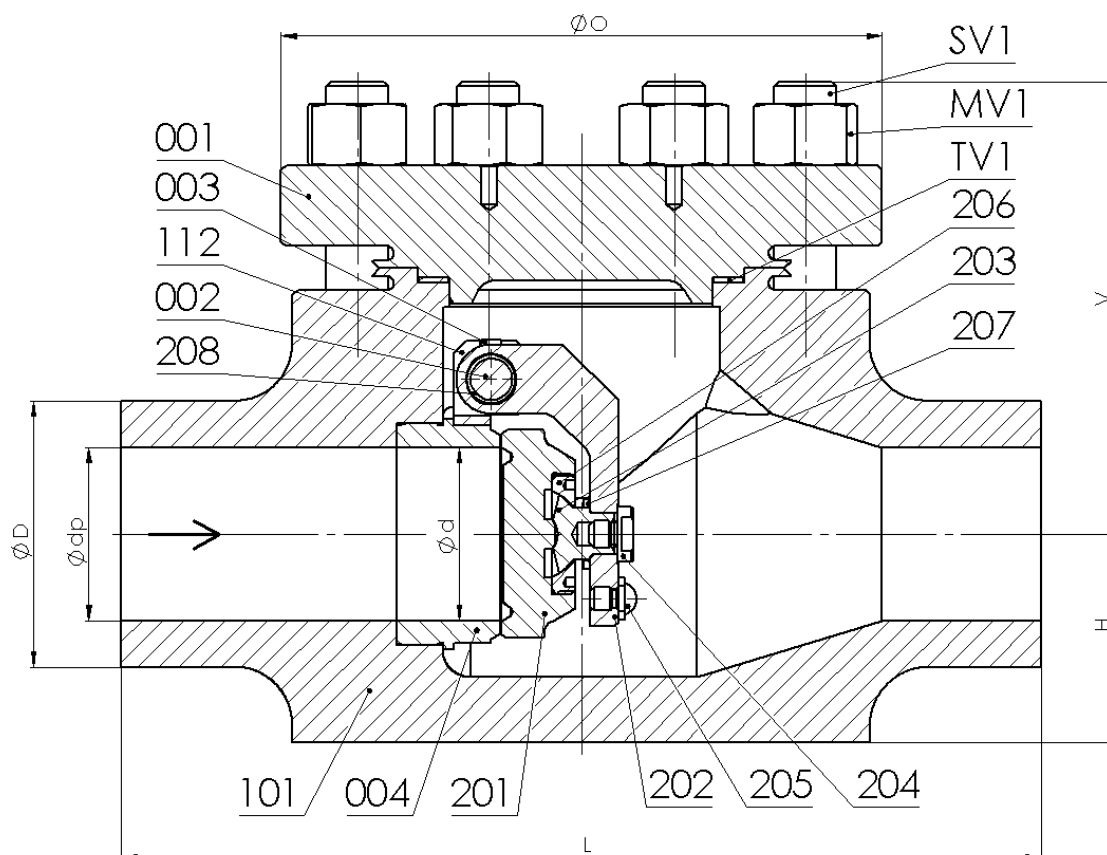
CONNECTION

- Butt-welded
- Other connection at customer's request

OPERATING CONDITIONS

- **NP-068-05** – General Technical Requirements for purpose-made valves for NPP
- **NTD ASI Section I** - Welding of NPP equipment and piping.
- **NTD ASI Section II** - Materials for NPP equipment and piping.
- **NTD ASI Section III** - Strength evaluation of NPP equipment and piping.
- **NTD ASI Section IV** - Aging and durability evaluation of NPP equipment.
- **NTD ASI Section V** - Materials Testing.
- **NTD ASI Section VII** - NTD NPP Inspections.
- **NTD ASI Section IX** - Design, Construction, Fabrication and Installation of NPPs.
- **Decree No. 329/2017** - Requirements for the design of a nuclear installation.

MAIN PARTS MATERIALS

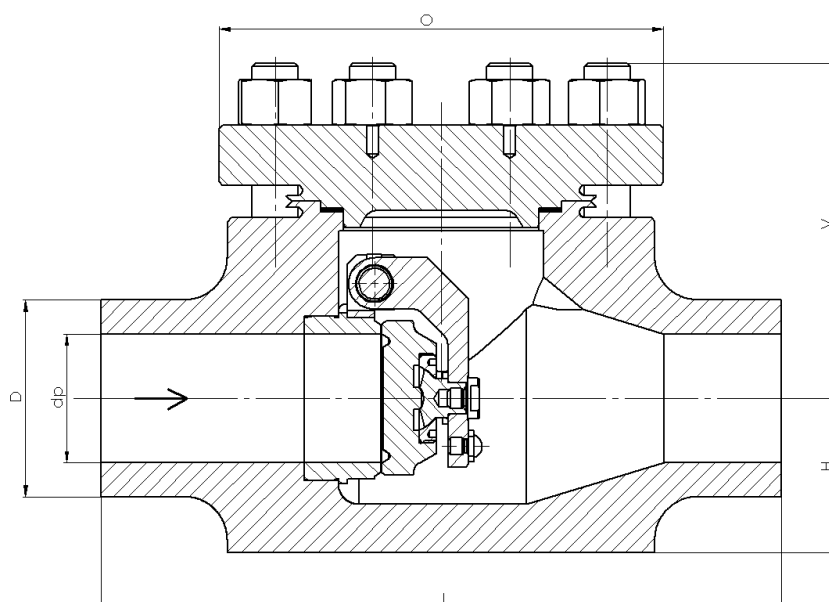


No.	Name	Material	
101	Body	P265 GH (11 416)	1.4571 (08CH17N10T)
103	Seat		
201	Disc		
001	Bonnet		
202	Disc arm		
206	Threaded connection	P265 GH (11 416, S235J2G3)	1.4571 (17 134, 1.4541, 1.403, 08CH17N10T)
112	Holder	15 320 (S235J2G3)	17 134 (1.4541, 1.4571, 1.403, 14CH17N2)
207	Safety washer	P265 GH (11 416, S235J2G3)	1.4571 (17 134, 1.4541, 1.403, 08CH17N10T)
002	Pin	15 320 (S235J2G3)	17 134 (1.4541, 1.4571, 1.403, 14CH17N2)
003	Lock	P265 GH (11 416, S235J2G3)	1.4571 (17 134, 1.4541, 1.403, 08CH17N10T)
203	Pin disc	15 320 (S235J2G3)	17 134 (1.4541, 1.4571, 1.403, 14CH17N2)
204	Bolt	P265 GH (11 416, S235J2G3, 15 320)	1.4571 (17 134, 1.4541, 1.403, 08CH17N10T)
205	Stop	P265 GH (11 416, S235J2G3, 15 320)	1.4571 (17 134, 1.4541, 1.403, 08CH17N10T)
SV1	Bolt	15 320	A4-80 (1.4923, 1.4057, 1.4922, 1.4980, CHN35VT)
MV1	Nut	15236 (1.7709)	A4-80 (1.4923, 1.4057, 1.4922, 1.4980, CHN35VT)
208	Bushing	1.4541 (1.4571)	
TV1	Sealing ring	Expanded graphite, Spiral-wound gaskets, Serrated gaskets	

NOTES:

The sealing surfaces of the seat and the disc are hardfaced with cobalt-free alloy.
Recommended spare parts to order: sealing ring (TV1), disc (201).

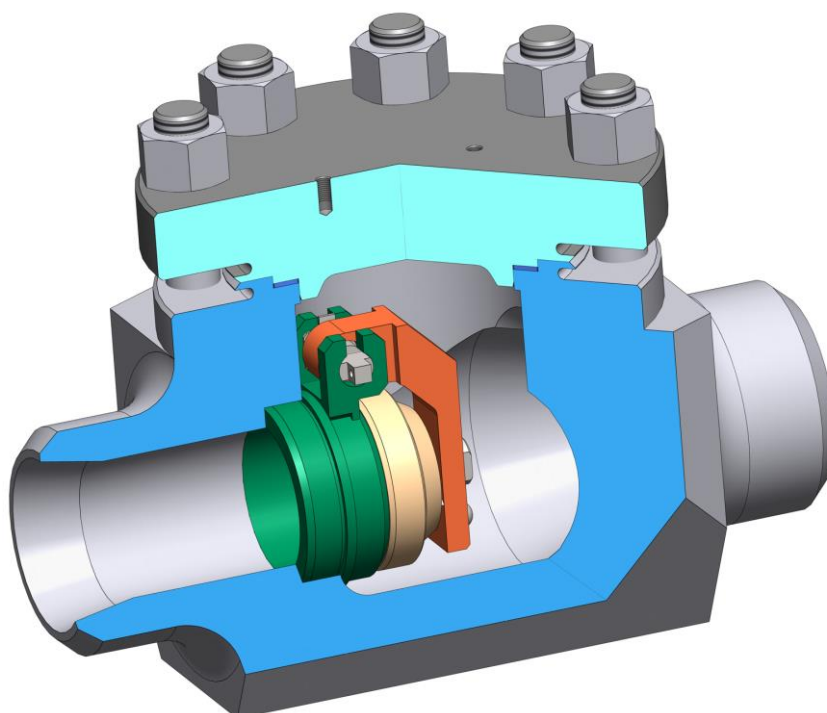
CHECK VALVE DIMENSIONS



DN	Pp MPa	ØD	Ødp	Ød	H	LNP	LK	ØO	V	m kg
50/55	up to 4	Connection dimensions according to TP		55	70	360	330	164	141	29
65/55				75	70	360	330	164	141	30
80/75				75	90	450	360	208	186	57
100/75				110	90	450	400	208	186	58
125/110				110	130	450	400	284	242	121
150/110				110	130	550	450	284	242	141
200/150				150	155	650	600	330	277	263
250/225				225	210	700	700	425	348	425
300/225				225	210	750	750	425	348	535
50/55	above 4 up to 14	Connection dimensions according to TP		55	70	360	330	210	161	43
65/55				75	70	360	330	210	161	44
80/75				75	90	450	360	265	224	89
100/75				110	90	450	400	265	224	93
125/110				110	130	450	400	320	298	197
150/110				110	130	550	450	320	298	204
200/150				150	155	650	600	390	325	374
250/225				225	210	700	700	560	498	999
300/225				225	210	750	750	560	498	1074
50/55	above 14 up to 20	Connection dimensions according to TP		55	70	360	330	210	161	43
65/55				75	70	360	330	210	161	44
80/75				75	90	450	360	265	224	89
100/75				110	90	450	400	265	224	93
125/110				110	130	450	400	320	298	197
150/110				110	130	550	450	320	298	204
200/150				150	155	650	600	390	325	374
250/225				225	210	700	700	560	498	999
300/225				225	210	750	750	560	498	1074

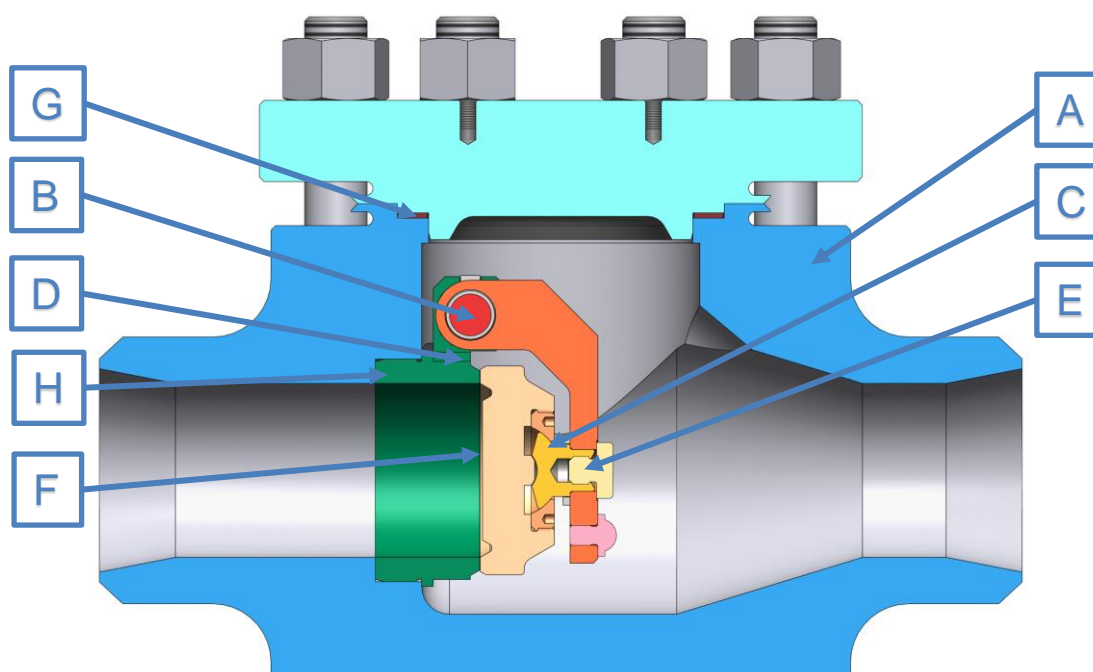
NOTES:

Other types of connection available on customer's request.
The weights shown correspond to the design LNP.

 TABLE OF DESIGNED AND MAXIMUM OPERATING PARAMETERS


Check valve		Connection ends	
Max. pressure MPa	Max. temperature °C	Max. pressure MPa	Max. temperature °C
Check valve DN 50-300, Pp to 4 MPa, carbon and stainless steel			
4	250	2,5	250
		4	250
Check valves DN 50-300, Pp over 4 to 12 MPa, carbon steel			
12	300	6	275
		8,6	300
		9,2	300
		11	300
		12	250
Check valves DN 50-300, Pp over 4 to 14 MPa, stainless steel			
14	335	9,2	300
		11	300
		14	335
Check valves DN 50-300, Pp over 14 to 20 MPa, stainless steel			
18	350	18	350
20	300	20	300

ADVANTAGES OF CONSTRUCTION



A	Reduced forged body without weld joint: It reduces weight, eliminates weld crack detection.
B	Pin of the disc arm inside the body: Does not pass through the body, does not affect the outer tightness.
C	Arm - disc spherical joint: Allows tilting of the disc. Tight contact of the sealing surfaces of the closure.
D	Arm hinge: Welded to the seat, does not affect the outer tightness of the valve.
E	Disc arm - pin joint: Simple, reliable, easy assembly and disassembly.
F	Sealing surfaces are welded with the cobalt-free alloy: Long-term durability, wear resistance.
G	Sealing ring is made of expanded graphite, spiral-wound gaskets or serrated gaskets Reliable tightness, ecology.
H	Placement of the seat in the body: Inserted into the body with the overlap, welded with the seal weld.
I	Remote position indicator (DUP): Allows remote signaling of the end positions of the closure.