CONTROL BELLOWS VALVE

Rev.0

TYPE **A15**

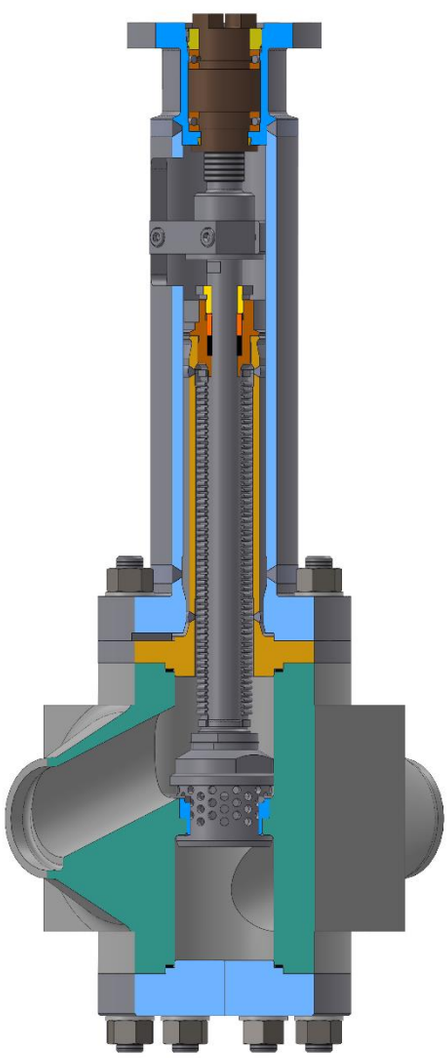
DN range: 100 ~ 150

PN range: 250

HIGHLIGHTS PROVISION

NUCLEAR POWER

Connection to the pipeline: Butt-Welded



APPLICATION

- Shut-off control valve A15 with cup cone for more precise control.
- The valves can be operated at full pressure drop across the cap with a two-way direction of service fluid flow.
- It is used for full opening or closing of the flow and full closing control.
- **Fluids**
  According to NP-068-05.
- **Industry**
  Nuclear power plants with VVER reactors.
- **Environments**
  Mild, harsh, seismic resistance class 1a.

TECHNICAL DESCRIPTION

- Valves are made of carbon steel or corrosion resistant steel.
- Forged body.
- The saddle is inserted into the body and welded or directly welded.
- The seat in the body and the plug sealing surfaces are hardfaced using hard cobalt-free alloy.
- The body and stem are sealed with bellows and sealing ring (expanded graphite, spiral-wound or serrated gaskets).
- Emergency stem seal.
- Rising stem non-rotating.
- Stem nut seated in two antifriction bearings.
- Control by electric servo motor.
- Connection ISO 5210.

CONNECTION

- Butt-welded.

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.

CENTRAL CAVITY EQUALIZATION

- Carried out where necessary or on customer×s request

INSTALLATION

- The valves can be installed in any position.

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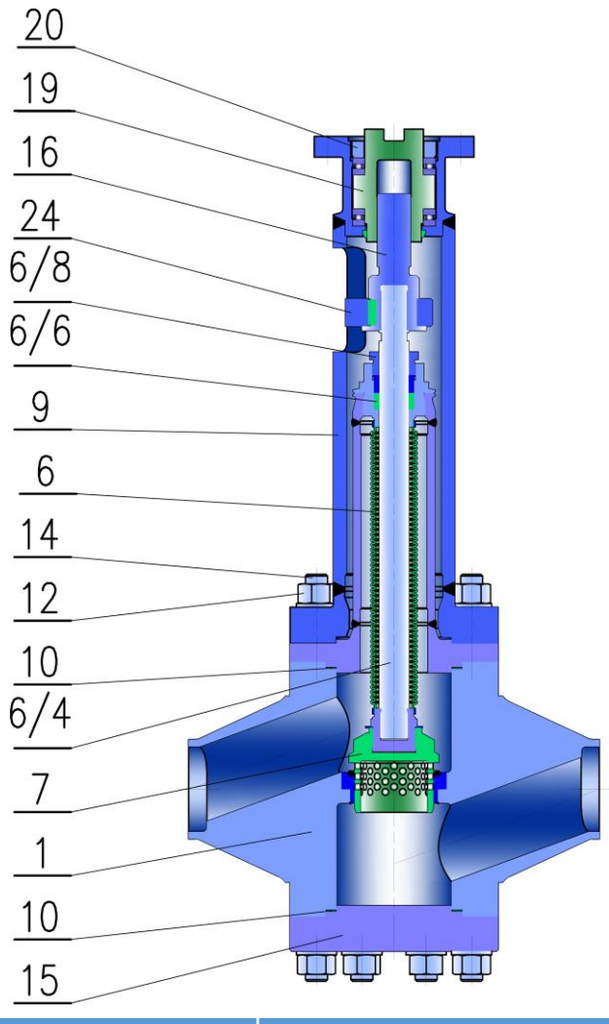
CONTROL BELLOWS VALVE

TYPE A15

TABLE OF DESIGNED AND MAXIMUM OPERATING PARAMETERS

Valve		Connection ends	
Max. pressure MPa	Max. temperature °C	Max. pressure MPa	**Max. temperature °C**
Valves DN100-150, Pp do 4 MPa, stainless steel			
4	250	2,5	250
		4	250

MAIN PARTS MATERIALS



No.	Name	Material
1	**Body**	08CH18N10T (1.4571)
15	**Cover**	08CH18N10T (1.4571)
6/4	**Spindle**	17 134 (1.4922,1.4923)
7	**Plug**	17 134 (1.4922,1.4923)
9	**Stem**	17 247 (1.4541)
19	**Stem nut**	CuAl10Fe3Mn1,5 (ČSN 42 3046)
20	**Bearing nut**	08CH18N10T (1.4571, 1.4541, 1.4301)
16	**Movement spindle**	17 134 (1.4922,1.4923)
6/8	**Seal cover**	08CH18N10T (1.4571, 1.4541, 1.4301)
24	**Track**	08CH18N10T (1.4571, 1.4541, 1.4301)
14	**Bolt**	A4-80 (1.4923, 1.4057, 1.4922, 1.4980, CHN35VT)
12	**Nut**	A4-80 (1.4923, 1.4057, 1.4922, 1.4401, CHN35VT)
6	**Bellows**	1.4541
10	**Sealing ring**	SPIRALTHERM
6/6	**Sealing ring**	EXPANDED GRAPHITE

NOTES:
The seal of the disc and, if applicable, the plug seat is hardened with a hard alloy without cobalt.

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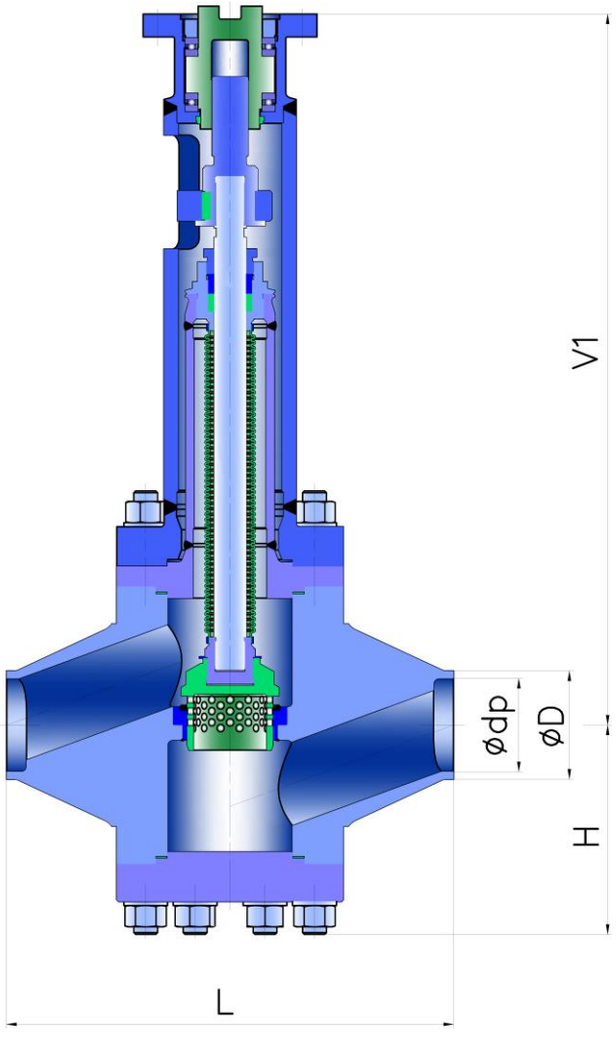
CONTROL BELLOWS VALVE

TYPE A15

DIMENSIONS OF CONTROL BELLOWS VALVES



DN	Pp MPa	ØD	Ødp	H	L	V1	m1 kg	m8 kg
100	do 4	Connection dimensions according to TP		246	430	599	150	190
150				322	550	857	200	240

- m1 - without actuator
- m8 - actuator

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