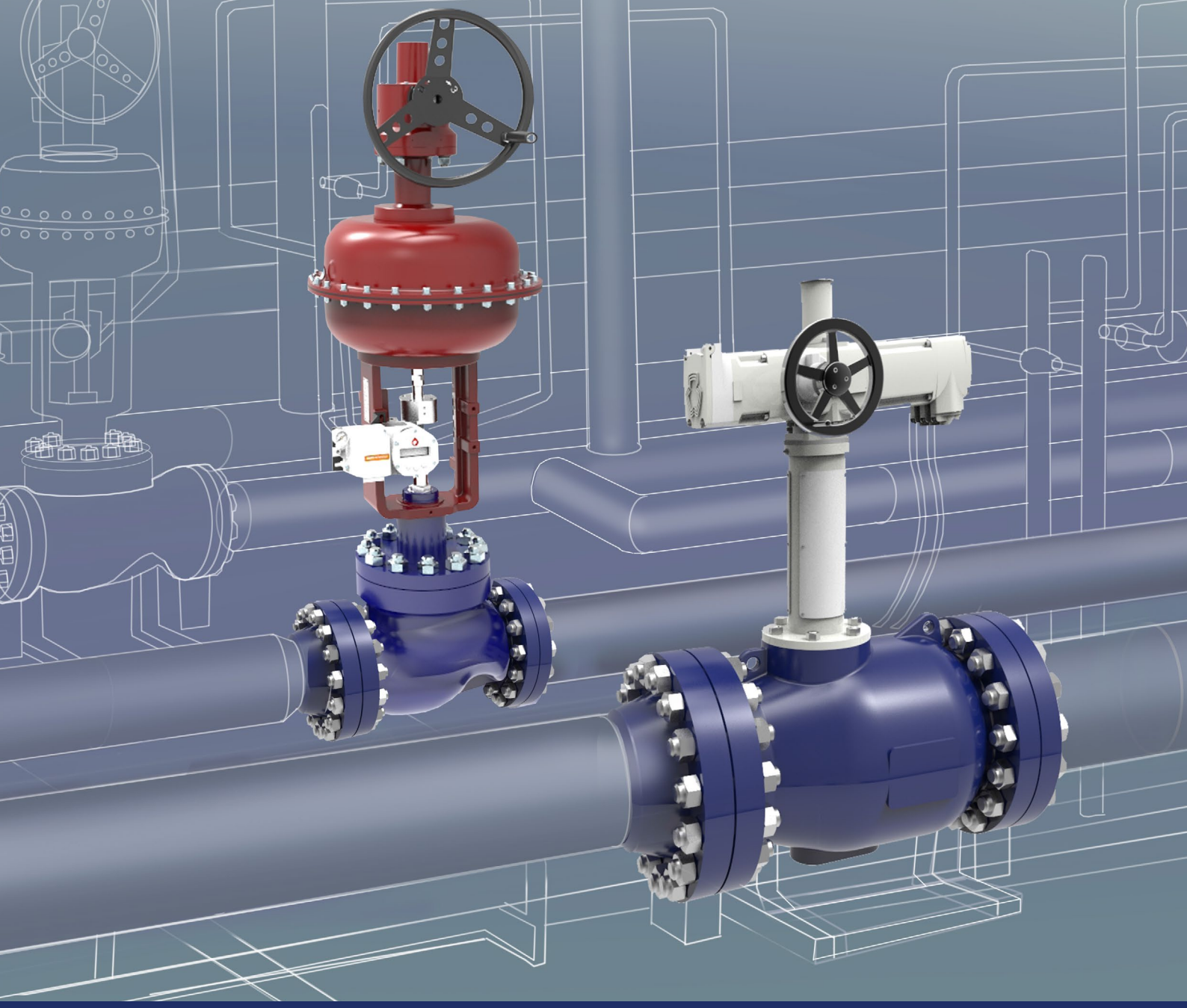
REGULATOR
SCIENTIFIC AND MANUFACTURING COMPANY

CONTROL VALVE



2018

About us

JSC «Regulator» is a modern dynamically developing company which has several activities: general purpose valves, valves manufactured by Standards of «Gazprom», valves manufactured by Standards of «Transneft», valves for cryogenic environments.

The company was founded in 2012 by a group of businessmen who are professionally engaged in valve-manufacturing industry since the mid 80-ies.

Range of products includes: high performance shut-off and control valves, control valves, cutoff valves, pressure regulators, axial control valves, anti-surge valves, safety valves, pilot actuated safety valves, divertor valves, blocks of divertor valves, high pressure shutoff valves, diaphragm actuators, cryogenic valves, smart positioners.

We have more than 180 employees, 90% of which are technical professionals with higher education. The company has the modern equipment, as well as advanced test equipment and NDT laboratory.
We are members of CEIR and NPAA (Scientific & Industrial Valve Manufacturers Association), founded in 1990, incorporates about 60 main design firms, pipeline valves and actuators manufacturers and suppliers from Russia, Ukraine and Kazakhstan (http://www.npa-arm.org).

«Regulator» is an official supplier of Gazprom, Transneft, Rosneft, Tatneft, Slavneft-Yanos, Alrosa, Bashneft, Lukoil, Surgutneftegaz and other companies.

Our technological equipment allows carrying out the full cycle machining parts, performing quality control on each operation, to assemble and test finished products. The use of modern CNC equipment provides highly accurate and economical production of the valve parts with the desired characteristics.

Manufacturing process is carried out on a full production cycle – from bars to final assembly, testing and quality control of the finished product.

All raw materials are passing thorough incoming inspection control using radiography, ultrasonic inspection, color inspection and acoustic emission control method. After assembly each product passes acceptance tests.

Depending on the purpose, the products are made from different materials: carbon steel, stainless steel, cold-resistant steel, molybdenum-containing steel and other high alloy steels. In production we use all kinds of row materials – casting, forgings, and roll stock products. We cooperate only with leading Russian casting and forging factories.

General Director Aleksandr Meltser

НПО Регулятор
Стенд 500
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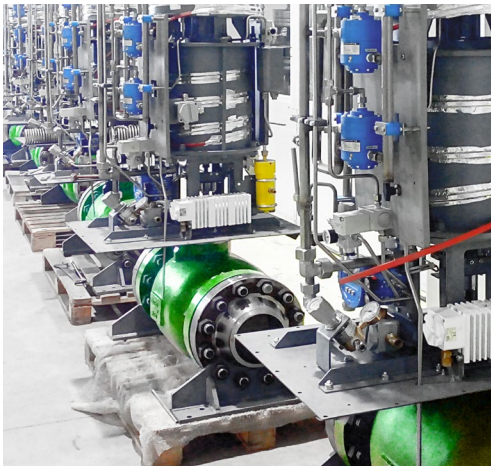

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Plug type control valves

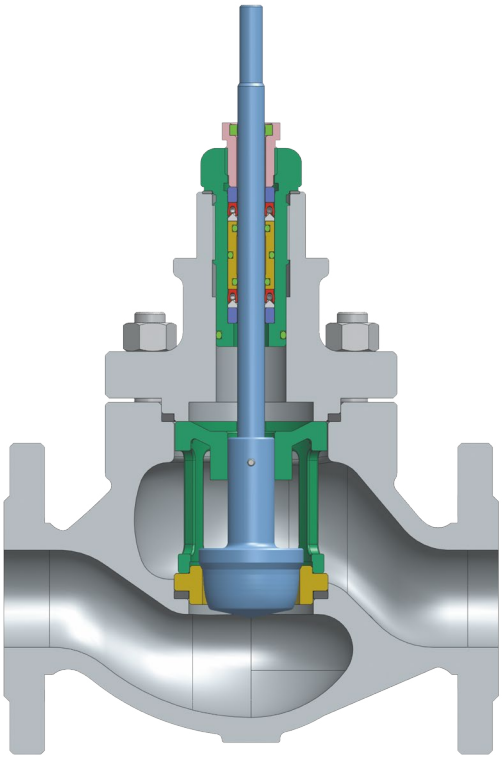
Designed for	regulation of flow, pressure and / or shutting off the flow of working fluid in the main and process pipelines
Type	control valve, on-off valve
Body type	globe straight-through body
DN	10 ... 400 mm
PN	1,6 ... 25 MPa
Working medium	vapor, liquid and gases, including those containing abrasive
Working medium's temperature	–60 ... +500°C
Ambient temperature	–60 ... +50°C
Bonnet type	standard bonnet, high-temperature bonnet, metal bellows seal bonnet, with leak indicator
Flow characteristic	equal percentage, linear, quick-open, special
Working medium direction	one-sided
Type of seat sealing	metal-metal, metal-PTFE
Leakage class	IV, V, VI, A, B, C
Type of connection	flange, welding, nipple connection, fitting connection, coupling
Actuator	pneumatic diaphragm, piston pneumatic, electric, manual
Seismic stability	C0 (up to 6 points), C (up to 9 points)

Materials of the main parts

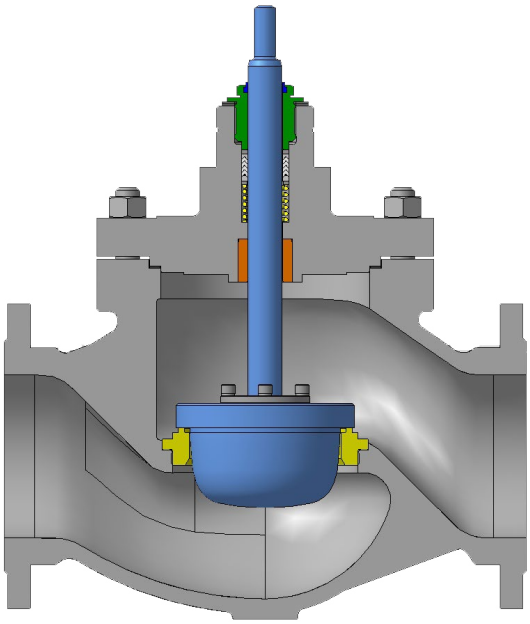
Body	LCB, WCB, A352GrLCC, GrA2Q, GrWCC, J02503, J02505, G21Mn5, J92630, J92701, ZG12Cr18Ni9Ti, ZG1Cr18Ni9, ZG1Cr18Ni9Ti, J92971, GX5CrNiMoNb19-11-2, SCS20

Reliability targets

Design life	30 years
Run-to-failure	not less than 10 000 cycles

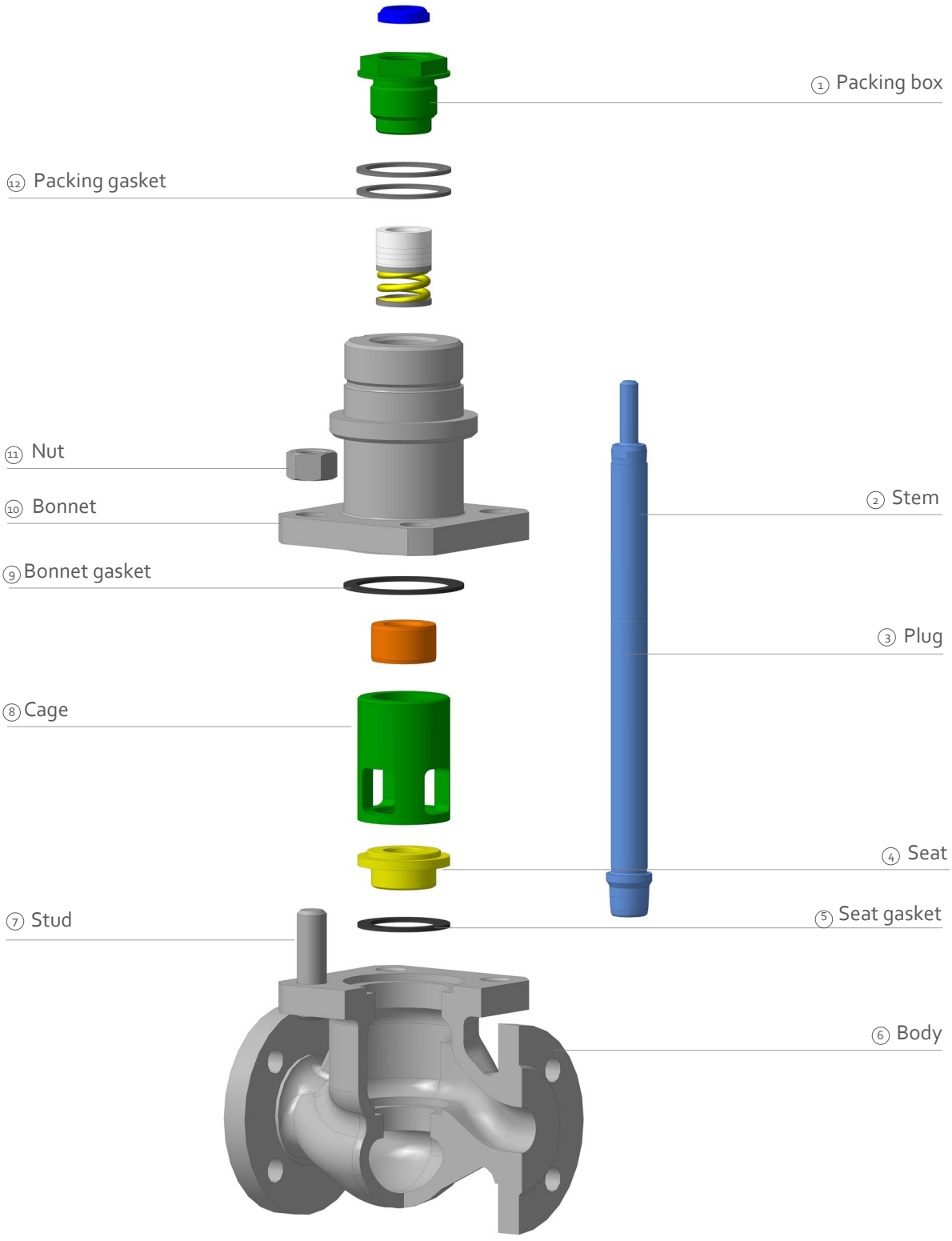


Valve gate with a freely mounted seat

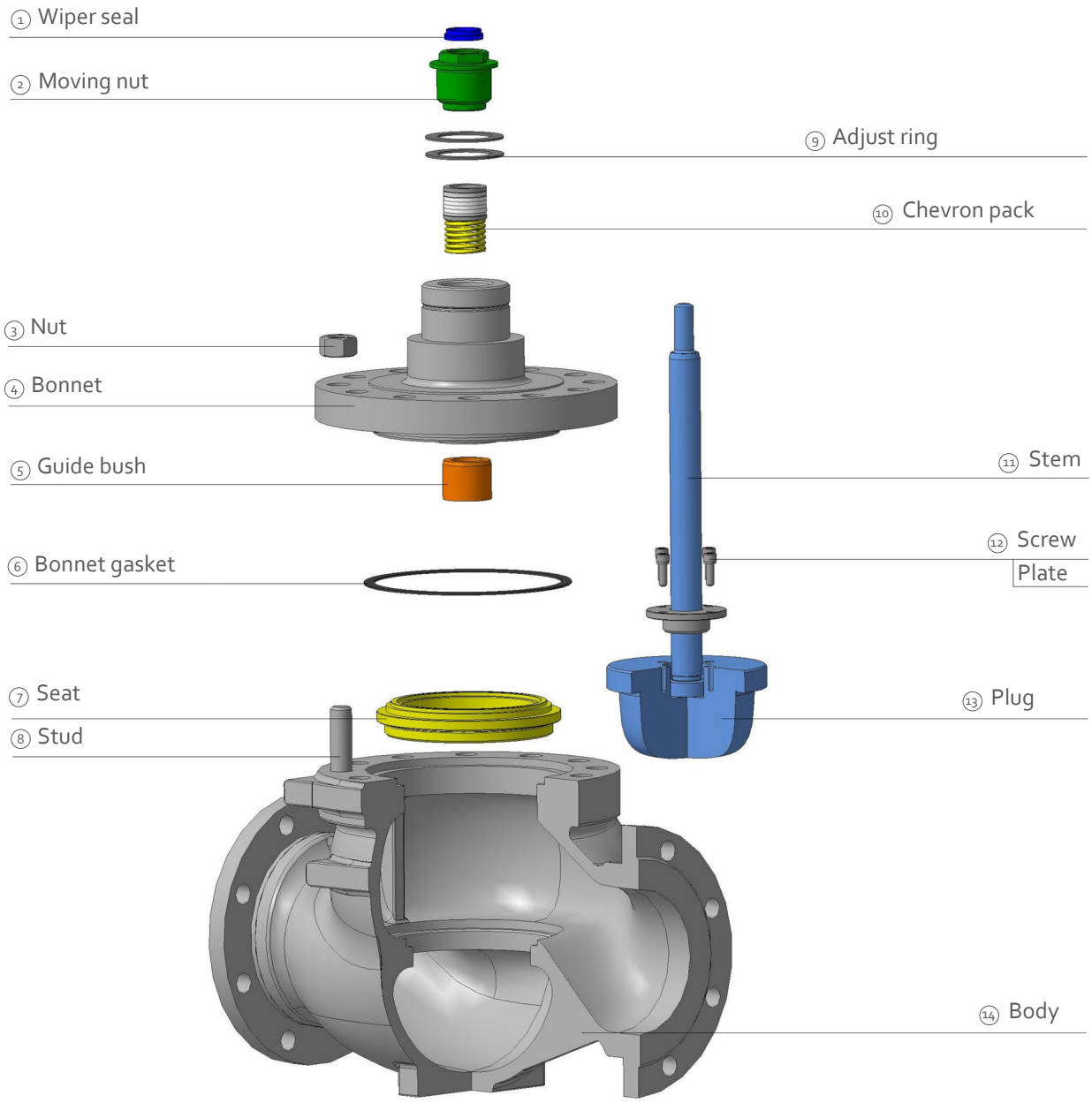


Valve gate with threaded seat

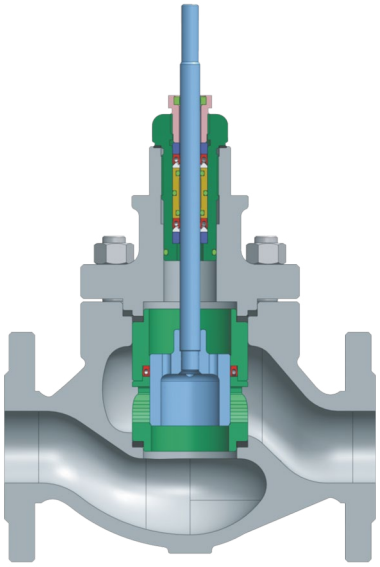
Design of plug type control valve with a freely mounted seat



Design of plug type control valve with threaded seat



Cage type control valves



Designed for	regulation of flow, pressure and / or shutting off the flow of working fluid in the main and process pipelines
Type	control valve, on-off valve
Body type	globe straight-through body
DN	10 ... 400 mm
PN	1,6 ... 25 MPa
Working medium	vapor, liquid and gases, non-containing abrasive
Working medium's temperature	–60 ... +220°C
Ambient temperature	–60 ... +50°C
Bonnet type	standard bonnet, high-temperature bonnet, metal bellows seal bonnet, with leak indicator
Flow characteristic	equal percentage, linear, quick-open, special
Working medium direction	one-sided, dual
Type of seat sealing	metal-metal, metal-PTFE
Leakage class	IV, V, VI, A, B, C
Type of connection	flange, welding, fitting connection, coupling
Actuator	pneumatic diaphragm, piston pneumatic, electric, manual
Seismic stability	C0 (up to 6 points), C (up to 9 points)

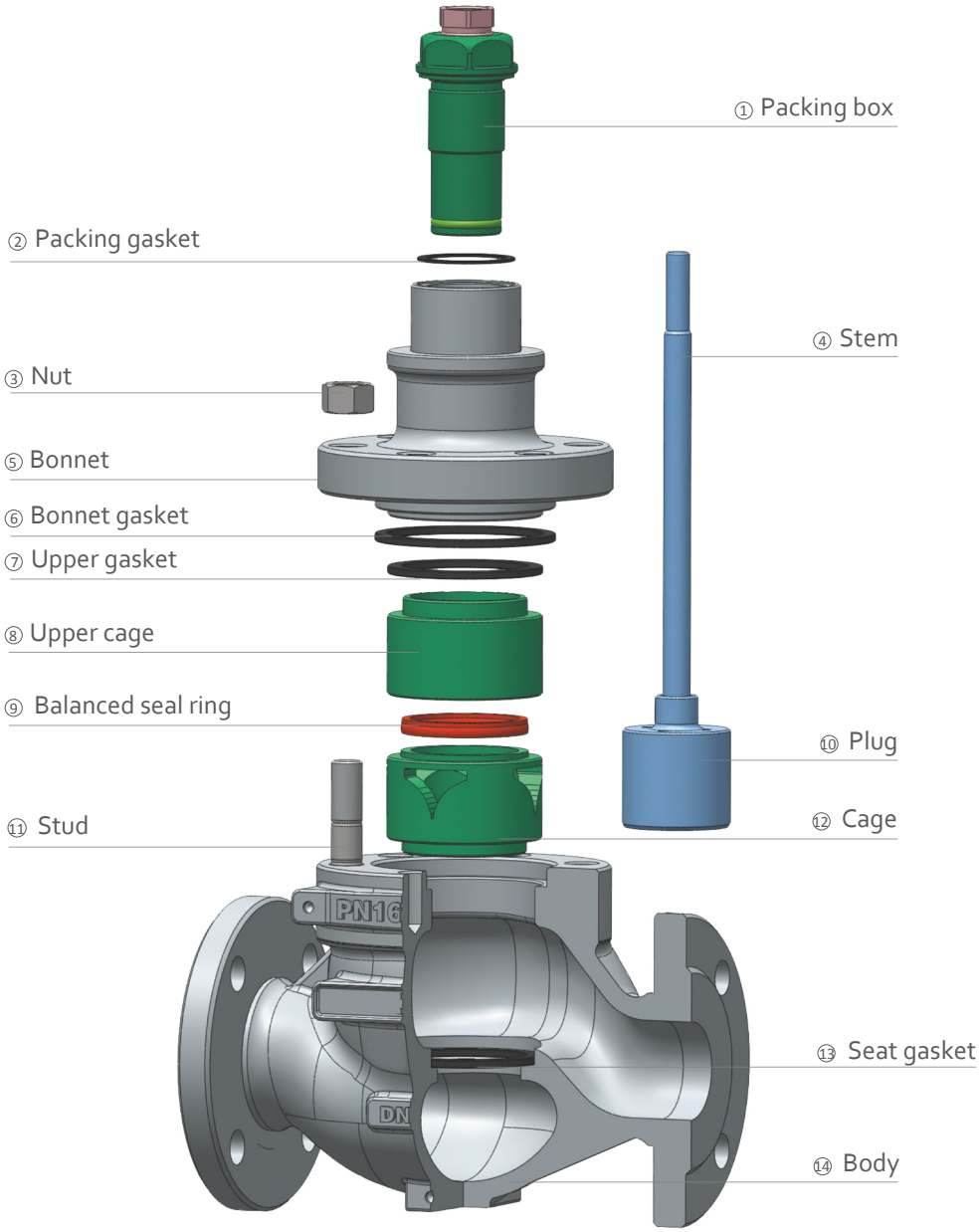
Materials of the main parts

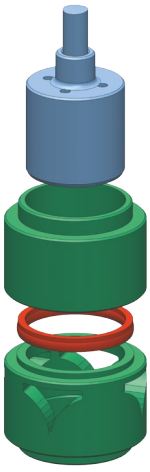
Body	LCB, WCB, A352GrLCC, GrA2Q, GrWCC, J02503, J02505, G21Mn5, J92630, J92701, ZG12Cr18Ni9Ti, ZG1Cr18Ni9, ZG1Cr18Ni9Ti, J92971, GX5CrNiMoNb19-11-2, SCS20

Reliability targets

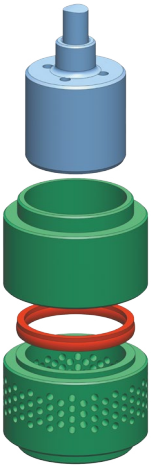
Design life	30 years
Run-to-failure	not less than 10 000 cycles

Cage type control valve design

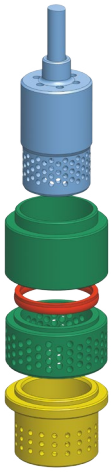




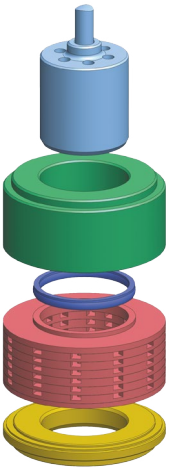
Cage type control valve



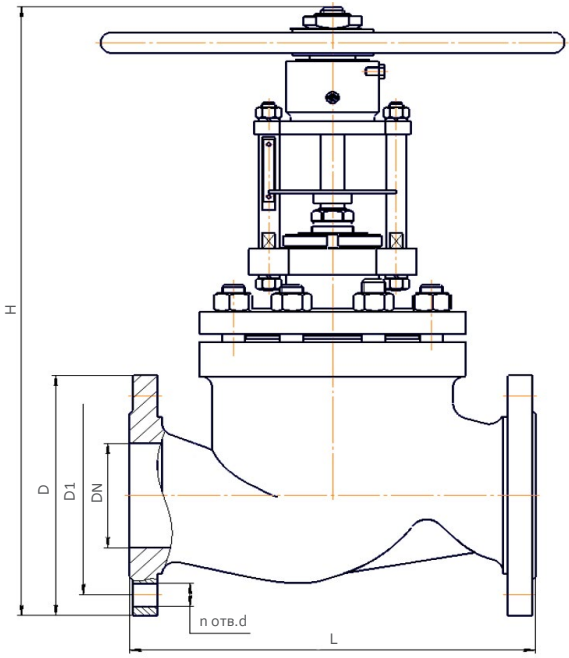
Multi-hole low noise control valve



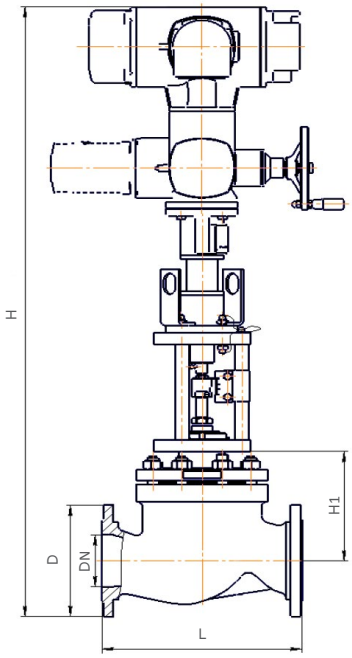
Multi-stage pressure drop control valve



Balanced labyrinth control valve



Valve with manual actuator



Valve with electric actuator

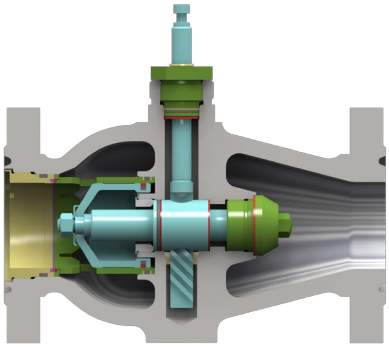
General dimensions and mass

DN, mm	PN, bar	L, mm	L with mating flanges, mm	H1, mm	H with manual actuator, mm	Mass without actuator, kg	Mass of manual actuator, kg
10	16	120	194	50	115	9	0,55
	25	120	194	50	115	9	0,55
	40	120	194	50	115	10	0,55
	63	210	306		115		0,55
	100	210	300		115		0,55
15	16	130	204	45	115	10	0,55
	25	130	204	45	115	10	0,55
	40	130	204	45	115	11	0,55
	63	210	306		115		0,55
	100	210	306	156	115	21	0,55
20	16	150	230	108	245	12	4,2
	25	150	230	108	245	12	4,2
	40	150	230	108	245	16	4,2
	63	230	342		245		4,2
	100	230	336	120	245	21	4,2
25	16	160	244	139	245	13	4,2
	25	160	244	139	245	13	4,2
	40	160	244	139	245	17	4,2
	63	230	346	149	245	17	4,2
	100	230	346		245		4,2
32	16	180	268	100	245	13	4,2
	25	180	268	100	245	13	4,2
	40	180	268	100	245	17	4,2
	63	260	384		245		4,2
	100	260	384	146	245	27	4,2
40	16	200	294	135	245	16	4,2
	25	200	294	135	245	16	4,2
	40	200	294	135	245	20	4,2
	63	260	396	177	245	30	4,2
	100	260	400		245		4,2

DN, mm	PN, bar	L, mm	L with mating flanges, mm	H1, mm	H with manual actuator, mm	m without actuator, kg	Mass of manual actuator, kg
50	**16**	230	330	159	272	29	8
	25	230	330	159	272	29	8
	40	230	330	159	272	37	8
	63	300	440	216	272	45	8
	100	300	442		272		8
65	16	290	394	166	272	29	8
	25	290	394	166	272	30	8
	40	290	394	166	272	37	8
	63	340	490		272		8
	100	340	506		272		8
80	16	310	420	186	272	39	10
	25	310	420	186	272	39	10
	40	310	420	186	272	49	10
	63	380	530	270	272	68	10
	100	380	560	251	272	95	10
100	16	350	460	180	272	46	10
	25	350	460	180	272	46	10
	40	350	460	180	272	58	10
	63	430	590	280	272	105	10
	100	430	630		272		10
125	16	400	524	197	313	72	17,5
	25	400	524	197	313	83	17,5
	40	400	524	197	313	101	17,5
	63	500	696		313		17,5
	100	500	730		313		17,5
150	16	480	604	227	313	123	17,5
	25	480	604	227	313	144	17,5
	40	480	604	227	313	163	17,5
	63	550	766	315	313	195	17,5
	100	550	806		313		17,5
200	16	600	726	338	313	215	17,5
	25	600	726	338	313	285	17,5
	40	600	726	338	313	316	17,5
	63	650	876	437	313	370	17,5
	100	650	936		313		17,5
250	16	730	870	399	313	395	17,5
	25	730	870	399	313	394	17,5
	40	730	870	399	313	434	17,5
	63	-	-	-	313	-	17,5
	100	-	-	-	313	-	17,5
300	16	850	994	418	313	485	17,5
	25	850	994	418	313	645	17,5
	40	850	994	418	313	709	17,5
	63	-	-	-	-	-	-
	100	-	-	-	-	-	-
350	16	980	1132	475	313	791	17,5
	25	980	1132	475	313	950	17,5
	40	980	1132	475	313	1014	17,5
	63	-	-	-	-	-	-
	100	-	-	-	-	-	-
400	16	1100	1262	600	313	1061	17,5
	25	1100	1262	600	313	1090	17,5
	40	1100	1262	600	313	1191	17,5
	63	-	-	-	-	-	-
	100	-	-	-	-	-	-

Axial control valves

Designed for	regulation of flow, pressure and / or shutting off the flow of working fluid in the main and process pipelines
Type	control valve
Body type	axial straight-through body
DN	100 ... 700 mm
PN	4 ... 20 MPa
Working medium	liquid and gases
Working medium's temperature	–10 ... +110°C
Ambient temperature	–60 ... +50°C
Flow characteristic	equal percentage, linear, quick-open, special
Working medium direction	dual
Type of seat sealing	metal-metal, metal-PTFE
Leakage class	IV, V, VI, A, B
Type of connection	flange
Actuator	pneumatic diaphragm, piston pneumatic, electric, manual
Seismic stability	C0 (up to 6 points), C (up to 9 points)



Materials of the main parts

Body	LCB, WCB, A352GrLCC, GrA2Q, GrWCC, J02503, J02505, G21Mn5, J92630, J92701, ZG12Cr18Ni9Ti, ZG1Cr18Ni9, ZG1Cr18Ni9Ti

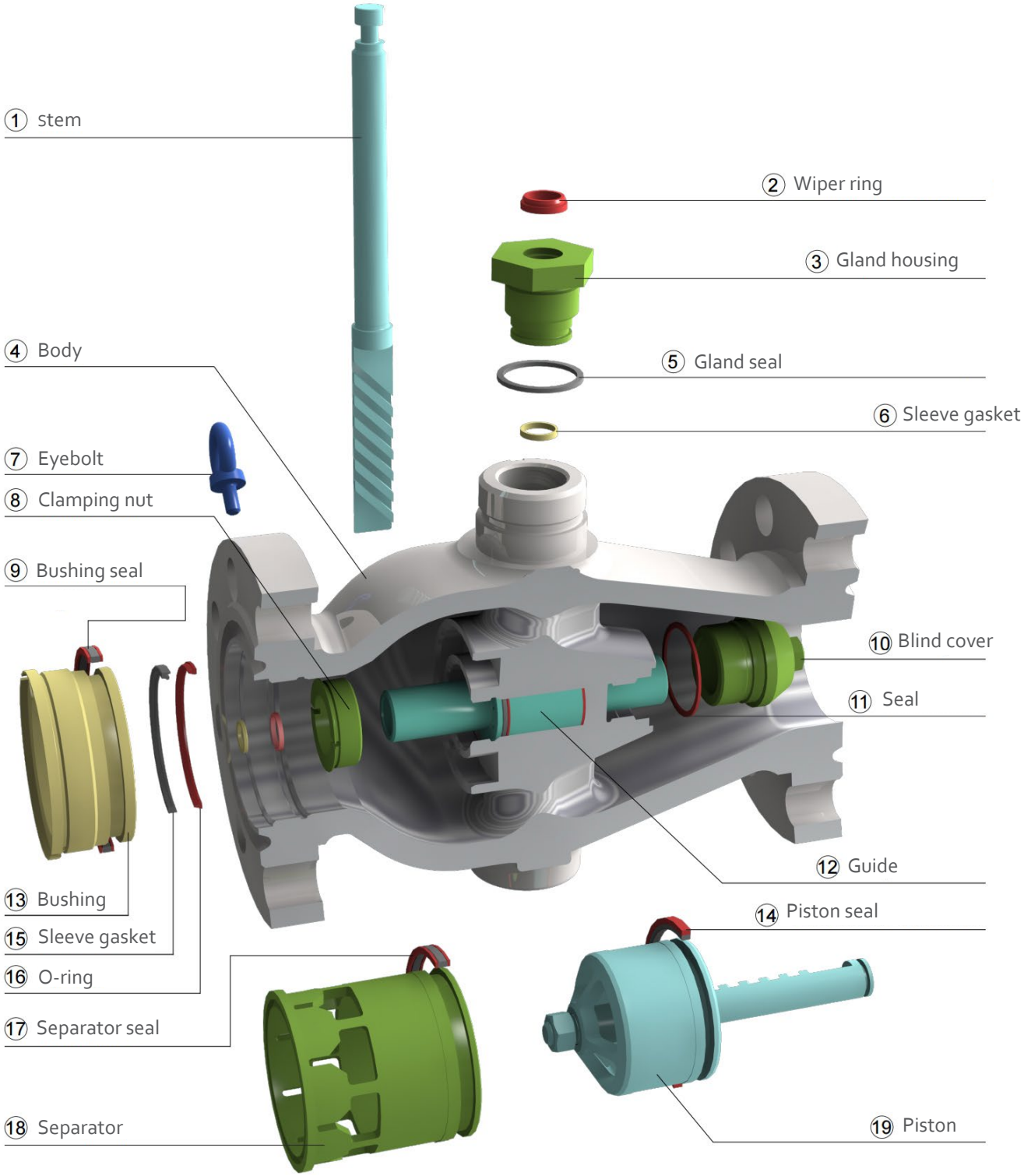
Reliability targets

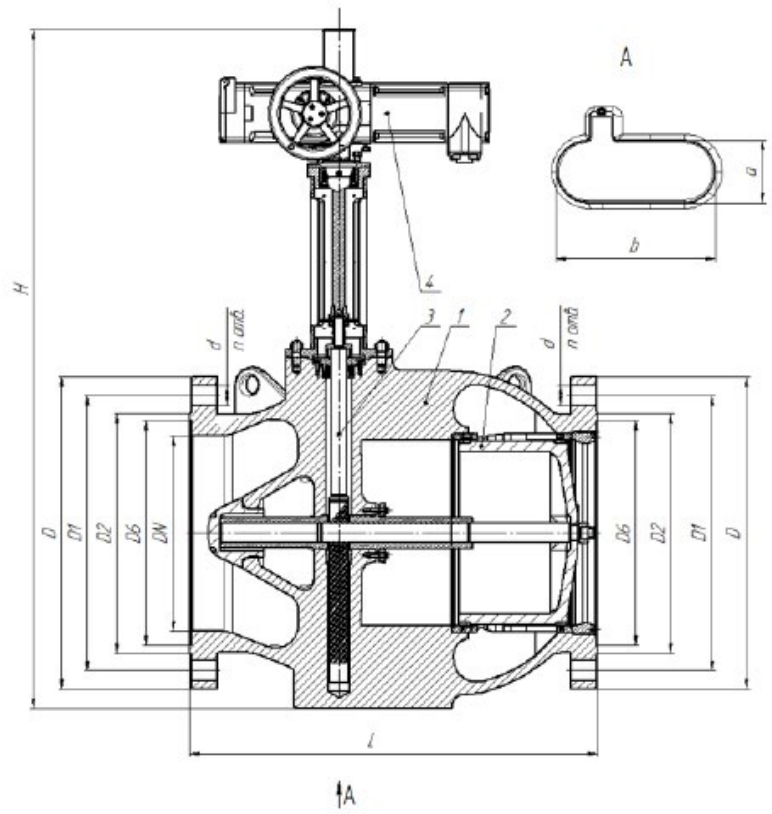
Design life	not less than 40 years
Run-to-failure	not less than 320 000 hours/ 3 000 cycles

Description

The design of the axial-type valves provides a rectilinear, symmetrical flow of medium, symmetrical about the axis of the pipeline. The design of the valve eliminates eddy currents and sudden changes in the flow direction.

This in turn reduces head loss, noise level, turbulence, and also prevents erosion caused by working medium containing abrasive. The peculiarity of the kinematic scheme of the axial valves allows completely to unload the slide valve and the associated actuator stem from the static and dynamic pressure forces of the medium. Such valves are more compact and have a smaller mass.





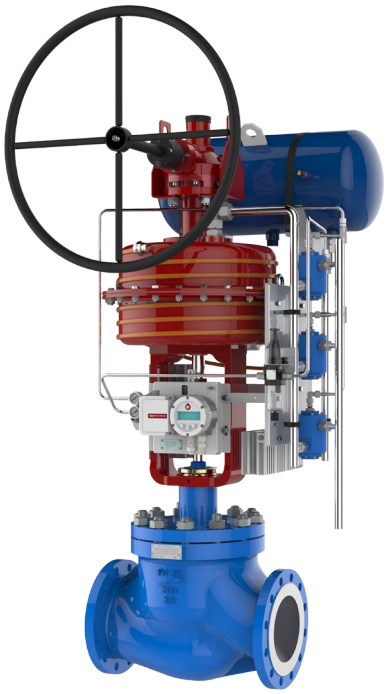
1 – body;
2 – control element;
3 – stem;
4 – actuator;

General dimensions, mass and Kv

DN, mm	PN, bar	Straight-type module	Time of total travel	Kv, m³/h	D, mm	D1, mm	D2, mm	D6, mm	n	d, mm	a, mm	b, mm	L, mm	H, mm, not more	Mass with an electric actuator, kg
50	16	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	160	125	102	88	4	18	-	-	292	770	120
	25	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	160	125	102	88	4	18	-	-	292	770	120
	40	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	160	125	102	88	4	18	-	-	292	770	120
	63	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	175	135	108	88	4	22	-	-	292	795	120
	80	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	195	145	102	88	4	26	-	-	292	810	145
	100	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	195	145	102	88	4	26	-	-	292	810	145
	125	МП-40-40-ХХ	1,6-75	10, 12, 16, 20, 25, 32, 40, (50)	195	145	102	88	4	26	-	-	368	810	145
80	16	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	195	160	133	121	4	18	-	-	356	810	145
	25	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	195	160	133	121	8	18	-	-	356	810	145
	40	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	195	160	133	121	8	18	-	-	356	810	145
	63	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	210	170	133	121	8	22	-	-	356	850	150
	80	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	230	180	133	121	8	26	-	-	356	850	160
	100	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	230	180	133	121	8	26	-	-	356	850	160
	125	МП-40-40-ХХ	1,6-120	25, 32, 40, 50, 63, 80, 100, (125)	230	180	133	121	8	26	-	-	381	850	200
100	16	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	215	180	158	150	8	18	-	-	432	850	165
	25	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	230	190	158	150	8	22	-	-	432	875	165
	40	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	230	190	158	150	8	22	-	-	432	875	165
	63	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	250	200	158	150	8	26	-	-	432	900	170
	80	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	265	210	158	150	8	30	-	-	432	920	210
	100	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	265	210	158	150	8	30	-	-	432	920	210
	125	МП-40-63-ХХ	2-150	40, 50, 63, 80, 100, 125, 160, (200)	265	210	158	150	8	30	-	-	457	920	240
150	16	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	280	240	212	204	8	22	-	-	403	1020	200
	25	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	300	250	212	204	8	26	-	-	403	1020	200
	40	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	300	250	212	204	8	26	-	-	403	1020	200
	63	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	340	280	212	204	8	33	-	-	495	1065	250
	80	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	350	290	212	204	12	33	-	-	559	1080	340
	100	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	350	290	212	204	12	33	-	-	559	1080	340
	125	МП-40-125-ХХ	4-225	100, 125, 160, 200, 250, 320, (400)	350	290	212	204	12	33	-	-	610	1080	410

DN, mm	PN, bar	Straight-type module	Time of total travel	Kv, m³/h	D, mm	D1, mm	D2, mm	D6, mm	n	d, mm	a, mm	b, mm	L, mm	H, mm, not more	Mass with an electric actuator, kg
200	16	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	335	295	268	260	12	22	-	-	502	1090	280
	25	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	360	310	278	260	12	26	-	-	502	1090	280
	40	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	375	320	285	260	12	30	-	-	502	1105	280
	63	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	405	345	285	260	12	33	-	-	597	1140	340
	80	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	430	360	285	260	12	39	-	-	660	1170	520
	100	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	430	360	285	260	12	39	-	-	660	1170	520
	125	МП-40-125-XX	4-300	200, 250, 320, 400, 500, (630)	430	360	285	260	12	39	-	-	737	1170	650
250	16	МП-40-125-XX	4-375	400, 500, 630, 800, 1000, (1250)	405	355	320	313	12	26	-	-	568	1165	370
	25	МП-40-125-XX	4-375	400, 500, 630, 800, 1000, (1250)	425	370	335	313	12	30	-	-	568	1165	370
	40	МП-40-125-XX	4-375	400, 500, 630, 800, 1000, (1250)	445	385	345	313	12	33	-	-	568	1190	370
	63	МП-40-150-XX	6-450	400, 500, 630, 800, 1000, (1250)	470	400	345	313	12	39	-	-	673	1250	500
	80	МП-40-150-XX	6-450	400, 500, 630, 800, 1000, (1250)	500	430	345	313	12	39	-	-	787	1280	750
	100	МП-40-150-XX	6-450	400, 500, 630, 800, 1000, (1250)	500	430	345	313	12	39	-	-	787	1280	750
	125	МП-40-150-XX	6-450	400, 500, 630, 800, 1000, (1250)	500	430	345	313	12	39	-	-	838	1280	1030
300	16	МП-40-150-XX	6-450	630, 800, 1000, 1250, (1600)	460	410	370	364	12	26	120	250	648	1260	490
	25	МП-40-150-XX	6-450	630, 800, 1000, 1250, (1600)	485	430	390	364	16	30	120	250	648	1260	490
	40	МП-40-150-XX	6-450	630, 800, 1000, 1250, (1600)	510	450	410	364	16	33	120	250	648	1290	490
	63	МП-40-200-XX	8-540	630, 800, 1000, 1250, (1600)	530	460	410	364	16	39	120	250	762	1370	640
	80	МП-40-200-XX	8-540	630, 800, 1000, 1250, (1600)	585	500	410	364	16	45	120	250	838	1430	775
	100	МП-40-200-XX	8-540	630, 800, 1000, 1250, (1600)	585	500	410	364	16	45	120	250	838	1430	775
	125	МП-40-200-XX	8-540	630, 800, 1000, 1250, (1600)	585	500	410	364	16	45	120	250	965	1430	1350
350	16	МП-40-200-XX	8-600	800, 1000, 1250, 1600, (2000)	520	470	430	422	16	26	120	250	762	1390	630
	25	МП-40-200-XX	8-600	800, 1000, 1250, 1600, (2000)	550	490	450	422	16	33	120	250	762	1390	630
	40	МП-40-200-XX	8-600	800, 1000, 1250, 1600, (2000)	570	510	465	422	16	33	120	250	762	1410	630
	63	МП-40-250-XX	10-750	800, 1000, 1250, 1600, (2000)	595	525	465	422	16	39	120	250	826	1490	790
	80	МП-40-250-XX	10-750	800, 1000, 1250, 1600, (2000)	655	560	465	422	16	52	120	250	889	1560	1310
	100	МП-40-250-XX	10-750	800, 1000, 1250, 1600, (2000)	655	560	465	422	16	52	120	250	889	1560	1310
400	16	МП-40-200-XX	8-600	1250, 1600, 2000, 2500, (3200)	580	525	482	474	16	30	160	410	838	1460	810
	25	МП-40-200-XX	8-600	1250, 1600, 2000, 2500, (3200)	610	550	505	474	16	33	160	410	838	1460	810
	40	МП-40-200-XX	8-600	1250, 1600, 2000, 2500, (3200)	655	585	535	474	16	39	160	410	838	1510	810
	63	МП-40-250-XX	10-750	1250, 1600, 2000, 2500, (3200)	670	585	535	474	16	45	160	410	902	1580	1070
	80	МП-40-250-XX	10-750	1250, 1600, 2000, 2500, (3200)	715	620	535	474	16	52	160	410	991	1630	1700
	100	МП-40-250-XX	10-750	1250, 1600, 2000, 2500, (3200)	715	620	535	474	16	52	160	410	991	1630	1700
500	16	МП-40-250-XX	10-750	2000, 2500, 3200, 4000, (5000)	710	650	585	576	20	33	160	410	991	1650	1290
	25	МП-40-250-XX	10-750	2000, 2500, 3200, 4000, (5000)	730	660	615	576	20	39	160	410	991	1650	1290
	40	МП-40-250-XX	10-750	2000, 2500, 3200, 4000, (5000)	755	670	615	576	20	45	160	410	991	1680	1290
	63	МП-40-300-XX	11-900	2000, 2500, 3200, 4000, (5000)	800	705	615	576	20	52	160	410	1054	1780	1620
600	16	МП-40-300-XX	11-900	3200, 4000, 5000, (6300)	840	770	685	678	20	39	200	600	1143	1830	1890
	25	МП-40-300-XX	11-900	3200, 4000, 5000, (6300)	840	770	720	678	20	39	200	600	1143	1830	1890
	40	МП-40-300-XX	11-900	3200, 4000, 5000, (6300)	890	795	735	678	20	52	200	600	1143	1890	1890
	63	МП-40-360-XX	15-1380	3200, 4000, 5000, (6300)	925	820	735	678	20	56	200	600	1397	1990	2620
700	16	МП-40-360-XX	15-1350	5000, 6300, (8000)	910	840	800	778	24	39	200	600	1346	2020	3100
	25	МП-40-360-XX	15-1350	5000, 6300, (8000)	960	875	820	778	24	45	200	600	1346	2020	3100
	40	МП-40-360-XX	15-1350	5000, 6300, (8000)	995	900	840	778	24	52	200	600	1346	2060	3100

Anti-surge valves

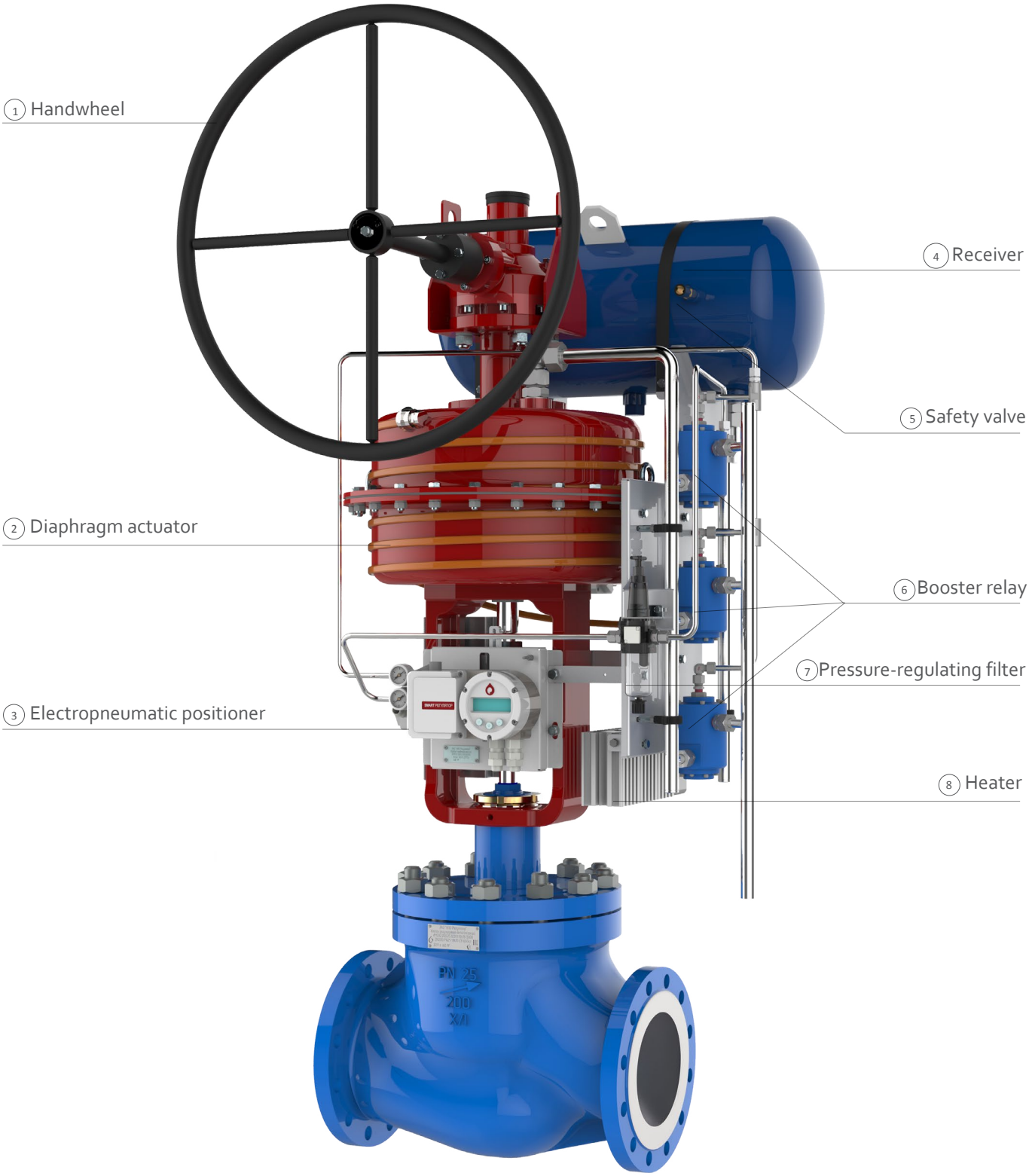


Designed for	anti-surge control and / or anti-damage protection
Type	control valve
Body type	globe straight-through molded body
DN	50 ... 250 mm
PN	1,6 ... 25 MPa
Working medium	air, nitrogen, natural gas and other working medium are non-aggressive to the materials of valve parts
Working medium's temperature	–60 ... +500°C
Flow characteristic	linear, quick-open
Type of seat sealing	metal-metal, metal-PTFE
Leakage class	IV, A
Type of connection	flange, welding
Actuator	pneumatic diaphragm
Actuator working medium	instrumental air, nitrogen, natural gas with pressure from 0,6 to 16 MPa
Handwheel	mechanical, mechanical with gearbox
Heating	soft heat-insulating casing, electric heater with thermostat, heating cable
Control	local, remote (4...20mA signal, HART protocol, feedback signals 4...20 mA, endpoint sensors)
Explosion proof	general industrial execution, explosion-proof design
Full opening time	< 2 sec.
Closing time	< 3 sec.

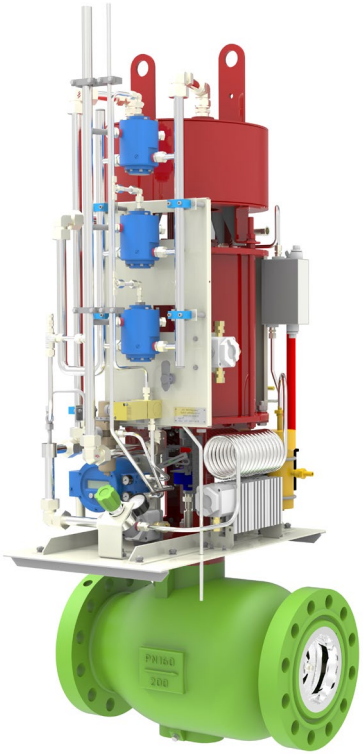
Materials of the main parts

Body	LCB, WCB, A352GrLCC, GrA2Q, GrWCC, J02503, J02505, G21Mn5, J92630, J92701, ZG12Cr18Ni9Ti, ZG1Cr18Ni9, ZG1Cr18Ni9Ti, J92971, GX5CrNiMoNb19-11-2, SCS20

Anti-surge valve design



Anti-surge valves by «Gazprom» standard



Designed for	anti-surge control and overlapping of the medium flow in the systems of gas pumping units and compressor stations
Type	control valve
Body type	axial straight-through molded body
DN	100 ... 700 mm
PN	1,6 ... 20 MPa
Working medium	non-aggressive natural gas
Working medium's temperature	–10 ... +80°C
Ambient temperature	–60 ... +50°C
Flow characteristic	linear
Type of seat sealing	metal-PTFE
Leakage class	IV, B
Type of connection	flange
Actuator	pneumatic diaphragm, piston pneumatic
Actuator working medium	instrumental air, nitrogen, natural gas with pressure from 0,6 to 16 MPa
Handwheel	mechanical with gearbox, hydraulic
Seismic stability	C0 (up to 6 points), C (up to 9 points)
Heating	without heating, with heating (soft heat-insulating casing, electric heater with thermostat, heating cable)
Control	local, remote (4...20mA signal, HART protocol, feedback signals 4...20 mA, endpoint sensors)
Explosion proof	general industrial execution, explosion-proof design
Full opening time	< 2 sec.
Closing time	< 3 sec.

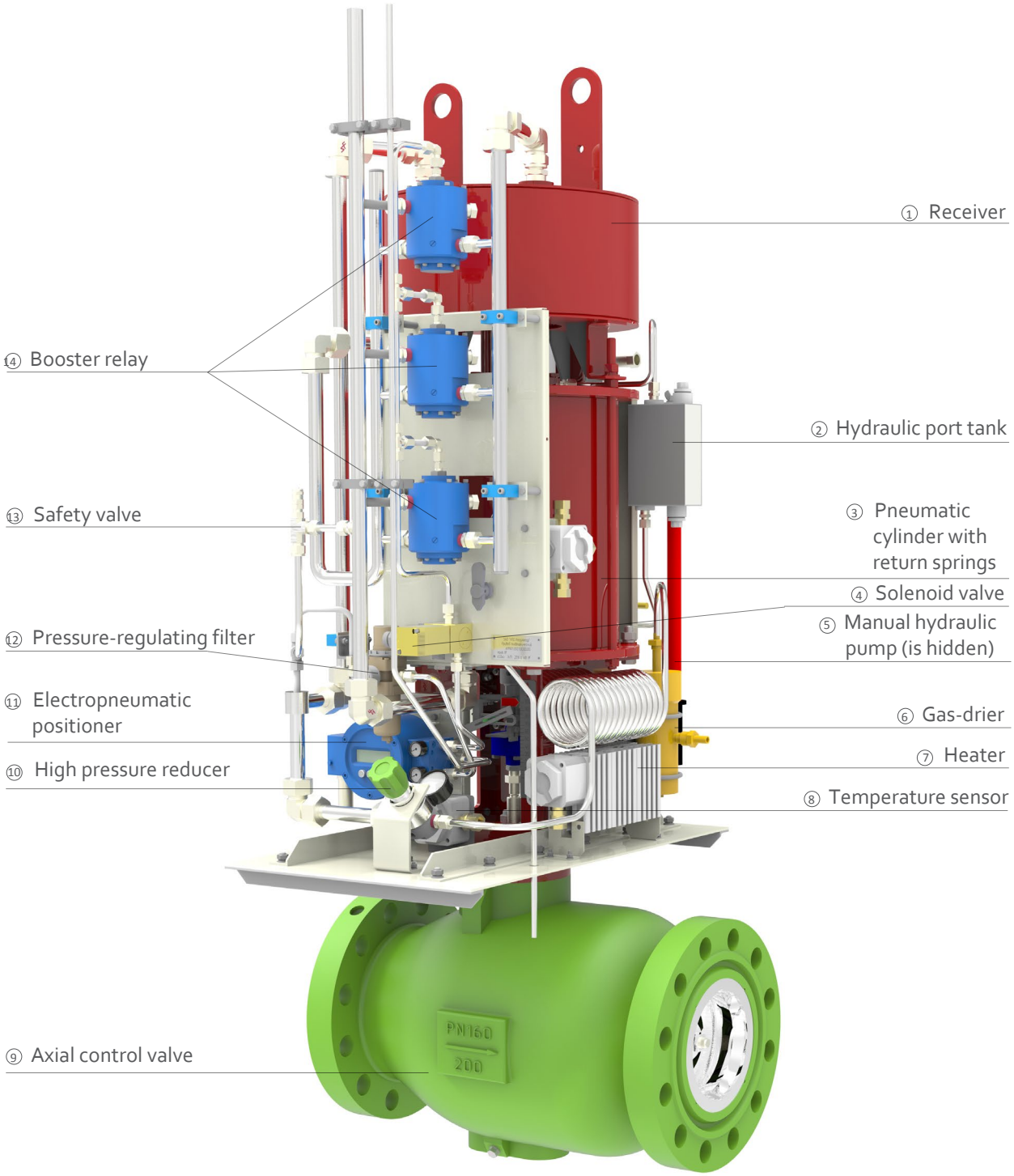
Materials of the main parts

Body	LCB, WCB, A352GrLCC, GrA2Q, GrWCC, J02503, J02505, G21Mn5, J92630, J92701, ZG12Cr18Ni9Ti, ZG1Cr18Ni9, ZG1Cr18Ni9Ti

Reliability targets

Design life	not less than 40 not less than
Run-to-failure	not less than 320 000 hours / 3 000 cycles

Anti-surge valve design

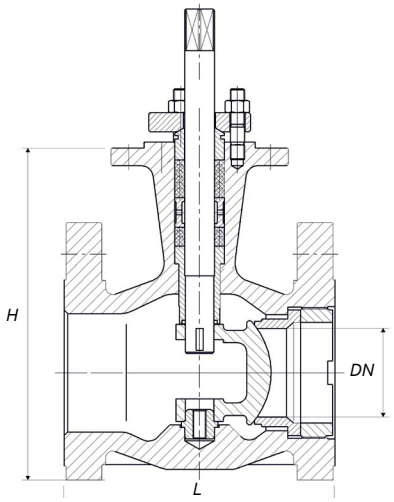


Segment control valves

Designed for	regulation of flow, pressure and / or shutting off the flow of working fluid in the process pipelines
Type	control valve
DN	25 ... 300 mm
PN	1,6 ... 5 MPa
Working medium	liquid and gases, aggressive, containing abrasive
Working medium's temperature	–60 ... +300°C
Ambient temperature	–60 ... +50°C
Flow characteristic	linear
Working medium direction	dual
Type of seat sealing	metal-metal, metal-PTFE
Leakage class	IV, VI
Type of connection	flange, interflanged
Segment position	normally opened, normally closed
Actuator	piston pneumatic, electric, manual

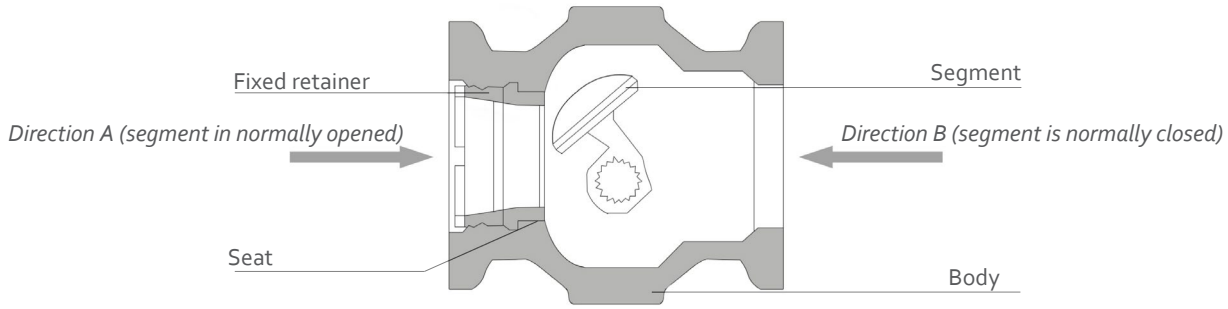
Materials of the main parts

Body	LCB, WCB, A352GrLCC, GrA2Q, GrWCC, J02503, J02505, G21Mn5, J92630, J92701, ZG12Cr18Ni9Ti, ZG1Cr18Ni9, ZG1Cr18Ni9Ti, J92971, GX5CrNiMoNb19-11-2, SCS20
Bodyworks	420, 1.4021, X20Cr13 , 2Cr13, 321, 321H, S32100 , S32109, SUS321, 0Cr18Ni10Ti 0Cr18Ni11Ti, 0Cr18Ni9Ti, 1Cr18Ni11Ti, H0Cr20Ni10Ti, 316Ti, S31635, SUS316Ti, stellite coating



General dimensions and mass

DN, mm	L, mm	H, mm	Mass with interflanged connection, kg	Mass with flanged connection, kg
25	102	138	11,8	19,1
40	114	161	14,1	21,8
50	124	191	15,9	22,7
80	165	229	35,4	49,9
100	194	289	47,6	63,5
150	229	377	86,2	131,5
200	243	478	127,5	179,9
250	297	561	156,5	219,1
300	338	622	183,7	253,5

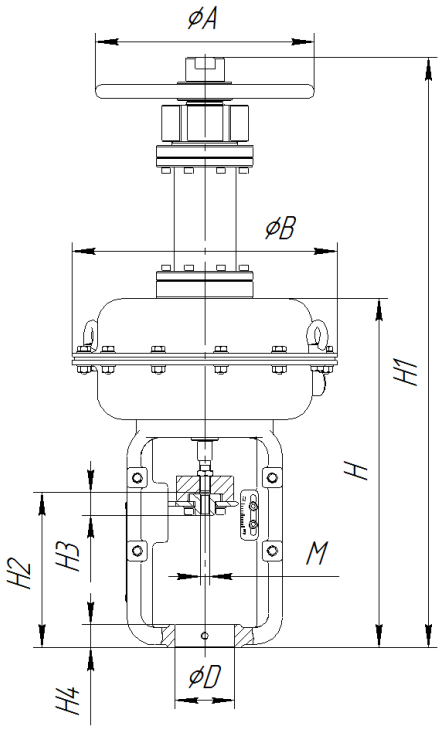


Flow coefficients

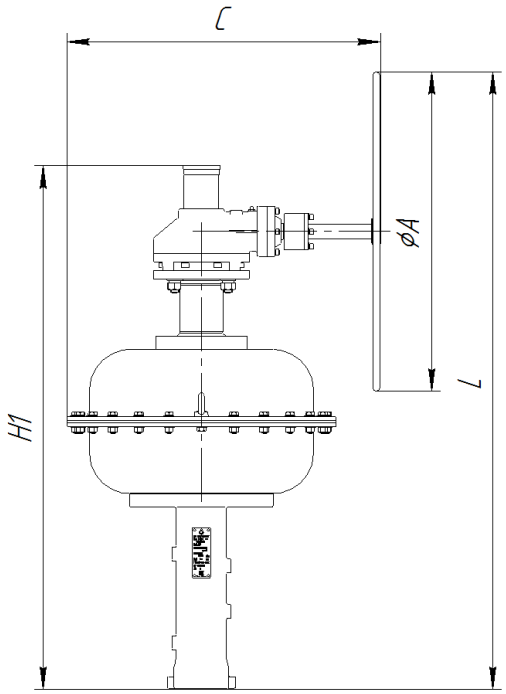
DN, mm	Valve cross section min/max, mm	Value of Cv at 100% opening, min/max	
		Working medium flow direction A	Working medium flow direction B
25	8,2/18,2	2,8/14	3/15
40	19,1/28,6	13,2/33	15,6/39
50	25,4/36,5	20/50	21,2/53
80	38,1/59,0	54/135	58/145
100	50,8/76,2	92/230	92/230
150	76,2/114	200/500	200/500
200	96,4/152	340/850	340/850
250	121/191	520/1300	520/1300
300	147/235	700/1750	700/1750

Pneumatic diaphragm actuators
AM900 series

Designed for	handling with control and on-off valves
Seal diaphragm diameter	250, 320, 400, 500 mm
Type of action	direct, reverse
Working medium	air, nitrogen, natural gas
Rated pressure	0,4 MPa
Adjustment range	80-240 kPa
Ambient temperature	–60 ... +50°C
Handwheel	top arrangement screw-nut, top arrangement screw-nut with gearbox
Stem travel	25, 40, 60, 100 mm



Actuator 250, 320 (diaphragm actuator with top handwheel)



Actuator 400, 500 (diaphragm actuator with top handwheel with gearbox)

General dimensions and mass

marking by GOST 13373-67	Drawing designation	Stem travel, mm	H, mm	H1, mm		H2, mm		H3, mm	H4, mm	D, mm	A, mm	B, mm	C, mm	L, mm	M	S membrane's effective area, cm²	Port thread	Mass, kg
				НО	НЗ	НО	НЗ											
МИМ250-122-353-032	АМ931.1.0.00	25	383	586	-	170	-	25	25	65	240	290	-	-	M10-6H	360	Rc 3/8''	28
МИМ250-222-353-032	АМ931.2.0.00			-	641	-	145											32
МИМ250-122-353-012	АМ931.3.0.00			-	-	170	-											22
МИМ250-222-353-012	АМ931.4.0.00			-	-	-	145											22
МИМ320-122-363-032	АМ932.1.0.00	40	477	690	-	205	-	35	28	65	360	365	-	-	M12-6H	560	Rc 3/8''	48
МИМ320-222-363-032	АМ932.2.0.00			-	758	-	165											49
МИМ320-122-363-012	АМ932.3.0.00			-	-	205	-											35
МИМ320-222-363-012	АМ932.4.0.00			-	-	-	165											35
МИМ400-122-374-032	АМ933.1.0.00	60	593	880	-	250	-	35	28	85	700	475	-	-	M14-6H	940	Rc 3/8''	98
МИМ400-222-374-032	АМ933.2.0.00			-	980	-	190											100
МИМ400-122-374-012	АМ933.3.0.00			-	-	250	-											77
МИМ400-222-374-012	АМ933.4.0.00			-	-	-	190											77
МИМ500-122-385-032	АМ934.1.0.00	100	745	1150	-	310	-	50	32	95	700	590	688	1354	M16-6H	1500	G1	191
МИМ500-222-385-032	АМ934.2.0.00			-	1128	-	210							1334				188
МИМ500-122-385-012	АМ934.3.0.00			-	-	310	-							-				138
МИМ500-222-385-012	АМ934.4.0.00			-	-	-	210							-				138

Adjustable efforts

Model	Diaphragms at the beginning of the stroke (Q1), H	Diaphragms at the end of the stroke (Q2), H	springs at the beginning of the input (Q3), H	springs at the end of the input (Q4), H
МИМ 250	11362	5681	2841	8522
МИМ 320	18010	9005	4502	13507
МИМ 400	22626	7542	7542	22626
МИМ 500	43118	17567	12776	38327

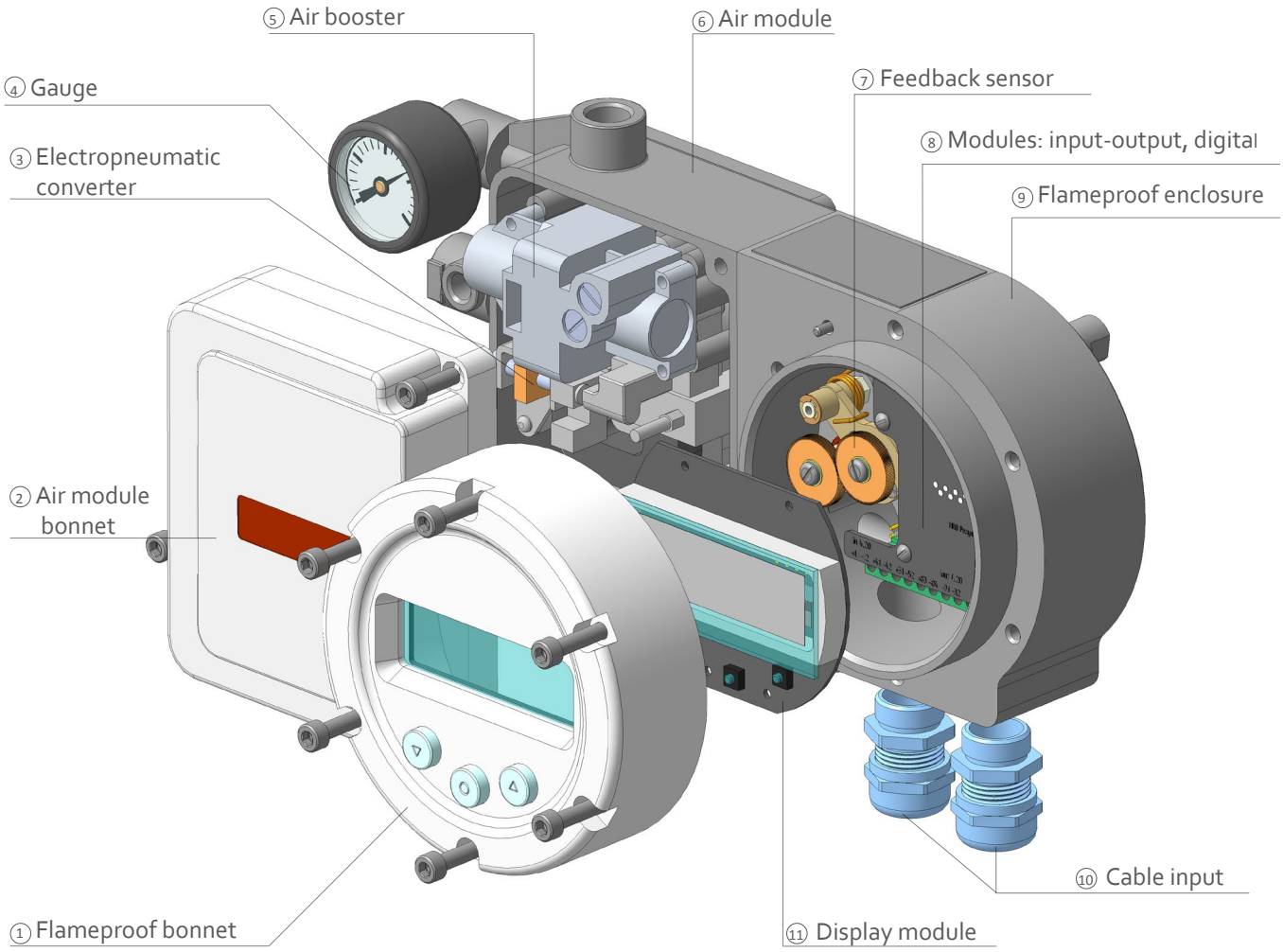
Electropneumatic positioner
AM800 series

Designed for	remote and local control of linear and rotary on-off-and-control valve pneumatic actuator
Type	electropneumatic smart positioner
Explosion proof	flameproof enclosure
Explosion-proof marking	1ExdIICT6
Enclosure class	IP65, IP68
Installation	for linear pneumatic actuators, for rotary pneumatic actuators
Operating temperature	–40 ... +75°C
Power gas	instrumental air with pressure 0,14 ... 0,6 MPa
Input signal	4...20 mA
External interface	HART protocol
Outputs	1 analog 4...20 mA and 3 discrete NAMUR with break line monitoring
Other features	non-volatile event log, recording of the valve operating time and number of operation cycles

Description

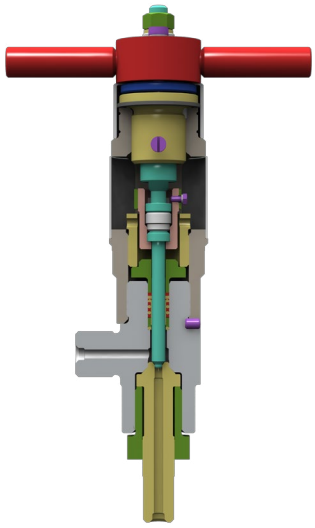
The positioner is a pneumatic position controller for the actuator with electronic microprocessor control, which regulates the position of the actuator in accordance with the current input signal of the reference. The positioner has a position feedback sensor, an electro-pneumatic electromagnetic converter such as a "nozzle-damper", a microprocessor control unit and an air booster.

Also has a HART-modem. Supports commands 0, 1, 2, 3, 6, 11, 12, 13, 40, 42, 48. Supports control by HART.



Utra-high pressure on-off valves of angle type

Designed for	overlapping of the flow of working medium in the pipelines of production lines for the production and processing of plastics and polyethylene
DN	3, 6, 10, 15, 20, 25, 32 mm
PN	1600, 2500, 3200 MPa
Working medium	ethylene, a mixture of ethylene with polyethylene, other non-aggressive substances
Working medium's temperature	–50 ... +150°C
Ambient temperature	–50 ... +40°C
Working medium direction	under the disc
Type of seat sealing	metal-metal, metal-PTFE
Leakage class	A
Type of connection	flange, coupling
Adjusting position	any position
Stem sealing	gland
Actuator	electric, manual
Gate normal position	full-opened, full-closed
Coefficient of hydraulic resistance	3,3

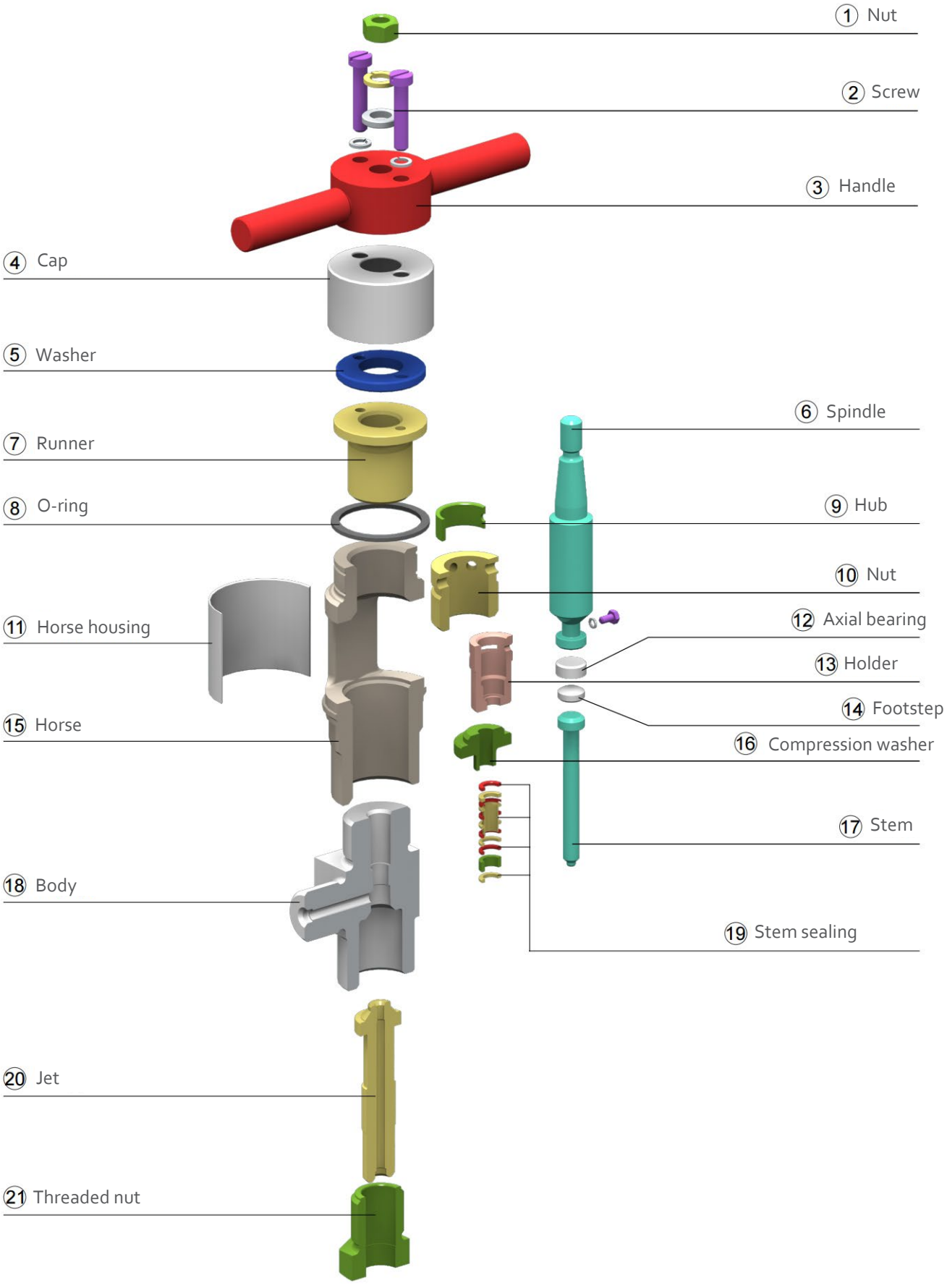


Materials of the main parts

Body	30HMA, 38HN3MFA
Seat sealing	20H3MVF
Stem sealing	40H13

Reliability targets

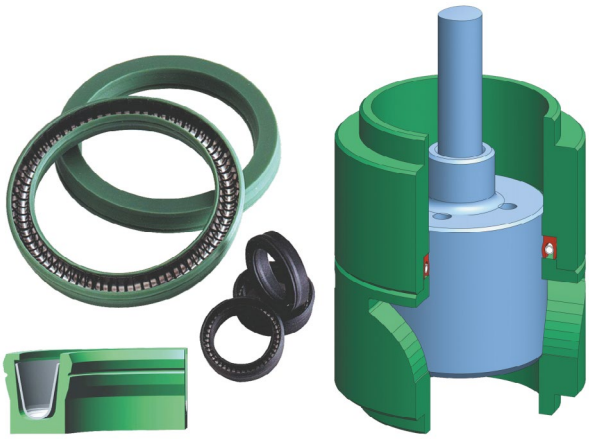
Design life	10 years
Run-to-failure	2 500 cycles


1 Nut
2 Screw
3 Handle
4 Cap
5 Washer
6 Spindle
7 Runner
8 O-ring
9 Hub
10 Nut
11 Horse housing
12 Axial bearing
13 Holder
14 Footstep
15 Horse
16 Compression washer
17 Stem
18 Body
19 Stem sealing
20 Jet
21 Threaded nut

Seal ring in the balanced trim

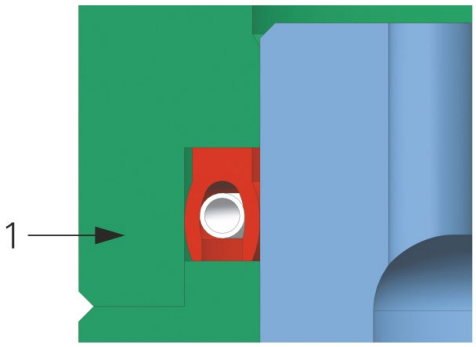
The balanced seal ring is mainly used in the balanced trim to play the sealing function. It is a core technological part in the sleeve type control valve.

The balanced trim type control valve produced by our company provides three kinds of seal rings for users.



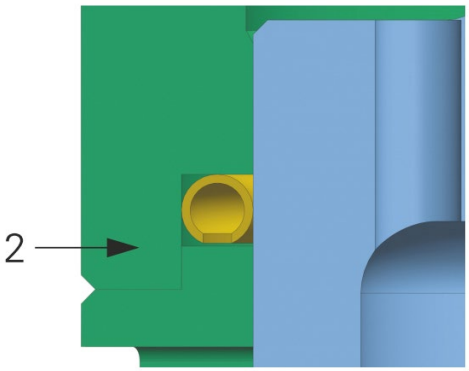
1.Balanced seal ring

- U-shaped cuff from ultra-low profile PTFE composition, with elastic element made of stainless steel
- Leakage class - IV, V, VI, A
- Working medium's temperature –60°C ... +180°C



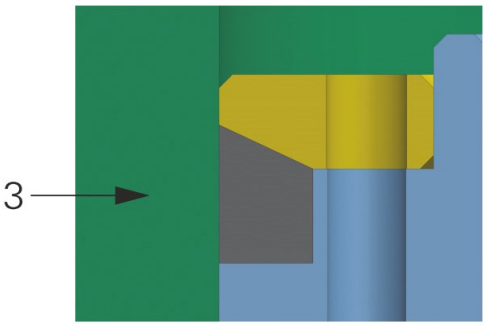
2.Metal o-ring

- Used in the absence of abrasive in the working medium
- Requires increased precision of parts processing
- Leakage class – IV, V
- Working medium's temperature –196°C ... +500°C

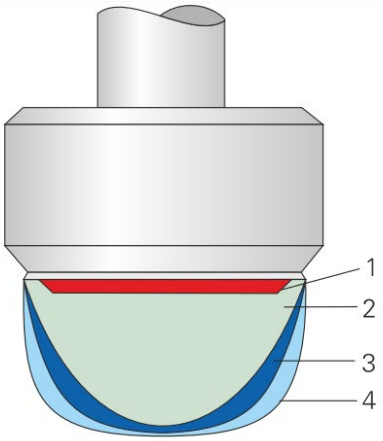


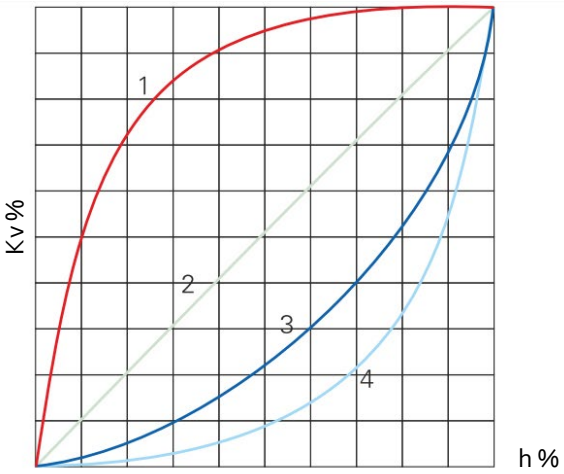
3.Compound graphite seal ring

- A ring of unreinforced thermoexpanded graphite, pressed by a flat nut
- Leakage class – IV, V, VI, A
- Working medium temperature –196°C ... +500°C



Flow characteristic of control valves





Plug profiles

The flow characteristic is the dependence of the valve capacity (Kv) on the position of the regulating organ (h).

Valves used to control technological processes usually have a linear (2) or equal percentage (3, 4) characteristic.

As a rule, on-off valves have the characteristic of rapid opening (1).

In addition, at the request of the customer or the results of calculating the non-standard valve, a special flow characteristic can be proposed, which ensures the most efficient use of the valve under the special control conditions.

All types of flow characteristics can be provided by both the plunger and the cage type of the trim.

Equal percentage characteristic

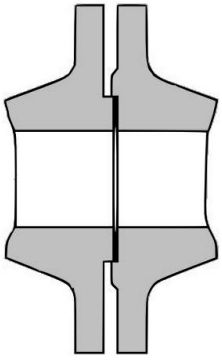
Linear characteristic

Quick-open characteristic

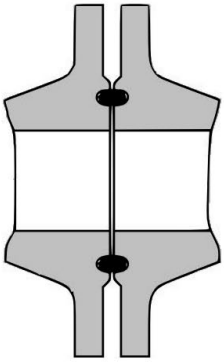
Cage profiles

Types of connection to pipeline

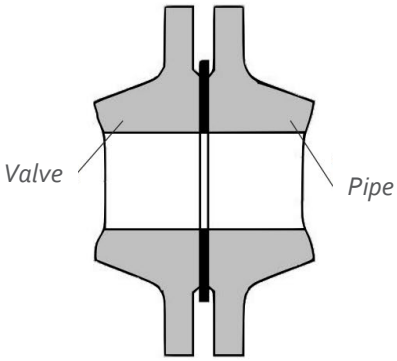
We can provide flange connection by GOST R 54432-2011 or ANSI B16.5.



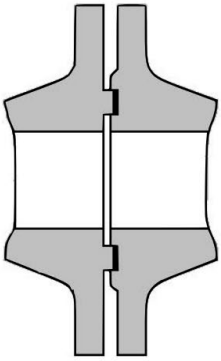
E/F - type



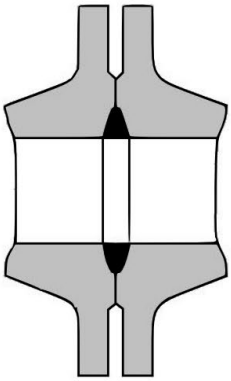
J/J - type



B/B - type



C,L/D,M - type



K/K - type

Notes

Our clients

GAZPROM

TRANSNEFT

LUKOIL

ROSNEFT

СНГ
SURGUTNEFTEGAS

SLAVNEFT

TOTAL

NORTGAZ

ZARUBEZHNEFT

EUROCHEM

УВЗ
Uralvagonzavod

NORNICKEL

Grossmann
Group

BELORUSNEFT

UZBEKNEFTEGAZ

GLOBAL
GAS REGAZIFICATION

General dealer
Energomashcomplect LLC
Shelkovichnaya Str. 37,
410017, Saratov, Russia
+7 (8452) 45-44-33
emk@emk.ru
emk.ru

Regulator JSC
Gagarina Str. 68A,
150023 Yaroslavl, Russia
+7 (4852) 67-46-35
info@nporeg.ru
nporeg.ru