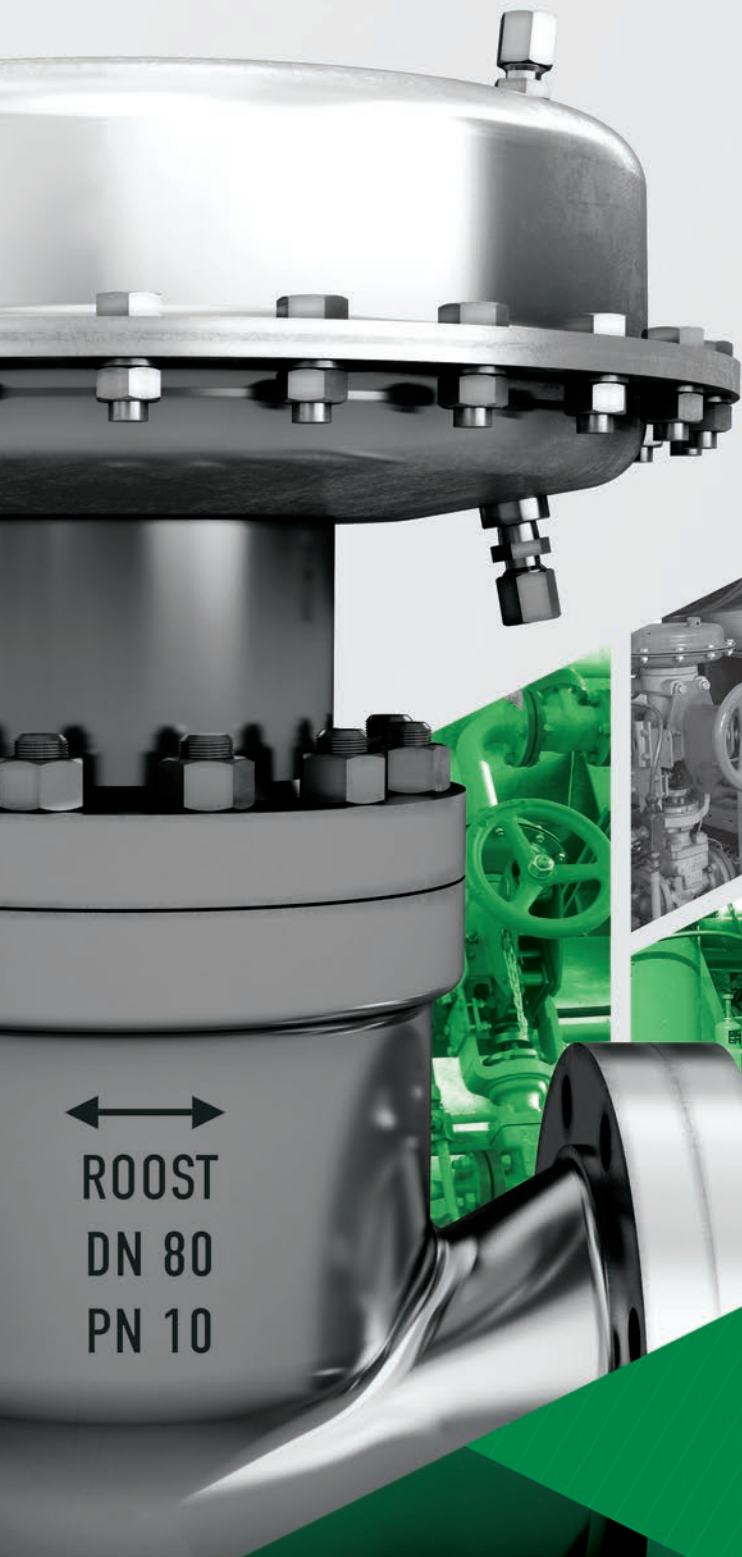


ROOST-95

PRODUCT CATALOG



ROOST
DN 80
PN 10



**RUSSIAN PIPELINE
FITTINGS MANUFACTURER**

ROOST-95 JSC

Is a manufacturing company that holds leading positions in the Russian pipe valve market. **ROOST-95 JSC** is the only domestic manufacturer performing complete production cycle from designing and manufacture to full-scale service. Today, **ROOST-95 JSC** has high domestic manufacturing capabilities at its disposal: plant area of 12.5 ha accommodating foundry, mechanical processing and assembly facilities, as well as necessary auxiliary facilities and logistics system, designing and engineering department, sales office and support service.

The annual production growth rate is 15–20%. Hundreds of enterprises in Russia and abroad are regular consumers of the Company's products. Annual sales are near to 3 billion Russian rubles, about 30% of the sales are accounted for by foreign customers.

The main consumers of the **ROOST-95 JSC** products are oil-producing, refining, petrochemical, chemical enterprises, as well as food industry enterprises not only in the Russian Federation, CIS countries and Baltic states, but also in far abroad countries (Bulgaria, Vietnam, Iran, Hungary, Syria).

For already several years ROOST-95 JSC has been an approved and recommended supplier of equipment for such leading companies in domestic and global industry as Gazprom, Rosneft, Oil Transporting Company Transneft, LUKOIL, Nizhnekamskneftekhim, NPO Saturn and many others.



ROOST-95 JSC supplies its equipment to such sites as: Nord Stream, South Stream, Blue Stream, Yamal – Europe gas pipelines, Druzhba, BPS, BPS-2, ESPO-1 and ESPO-2 oil pipelines and many others.

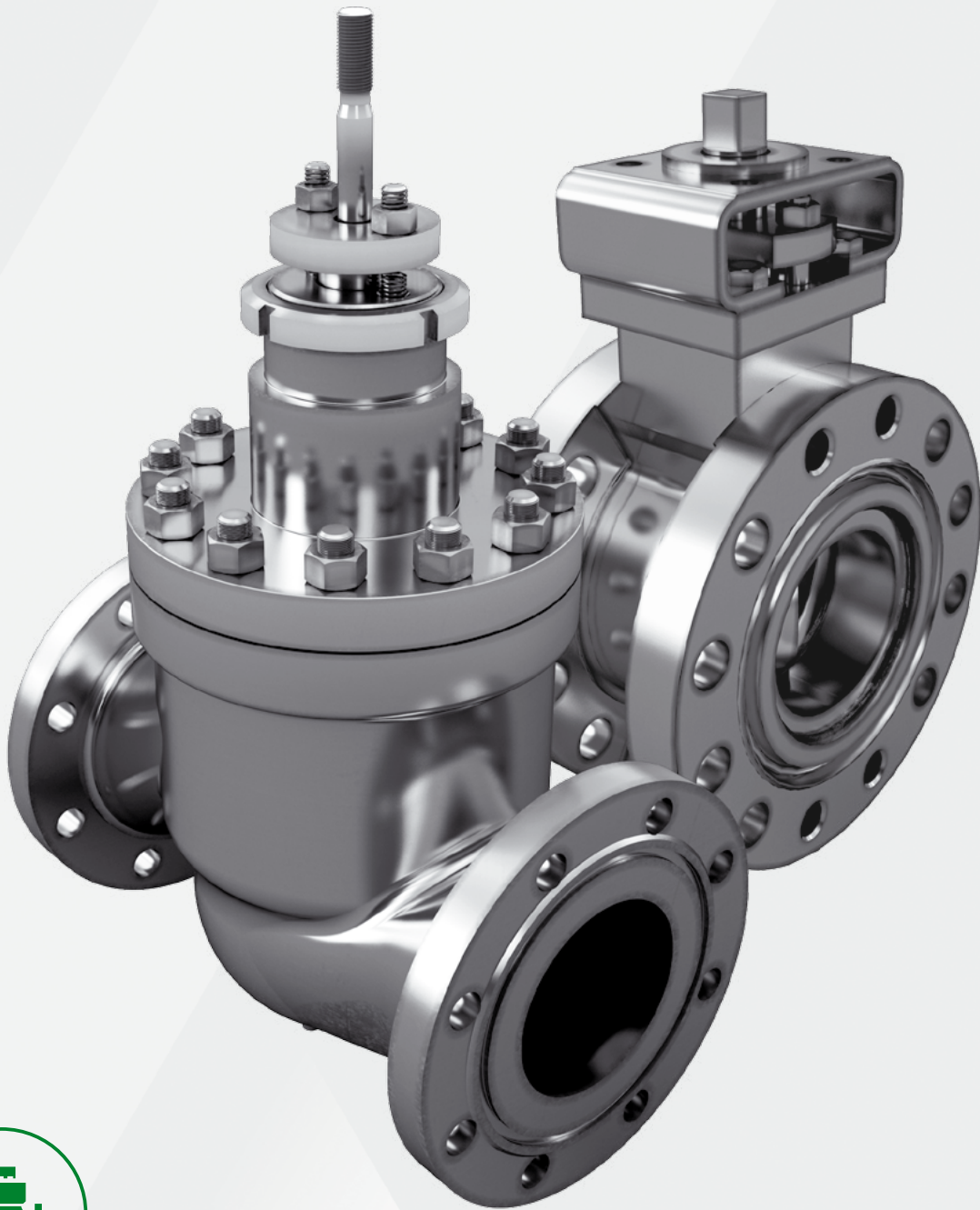
ROOST-95 JSC equipment is certified for compliance with the EAC technical regulations.

The Company's quality management system is certified for compliance with GOST R ISO 9001-2015 requirements.



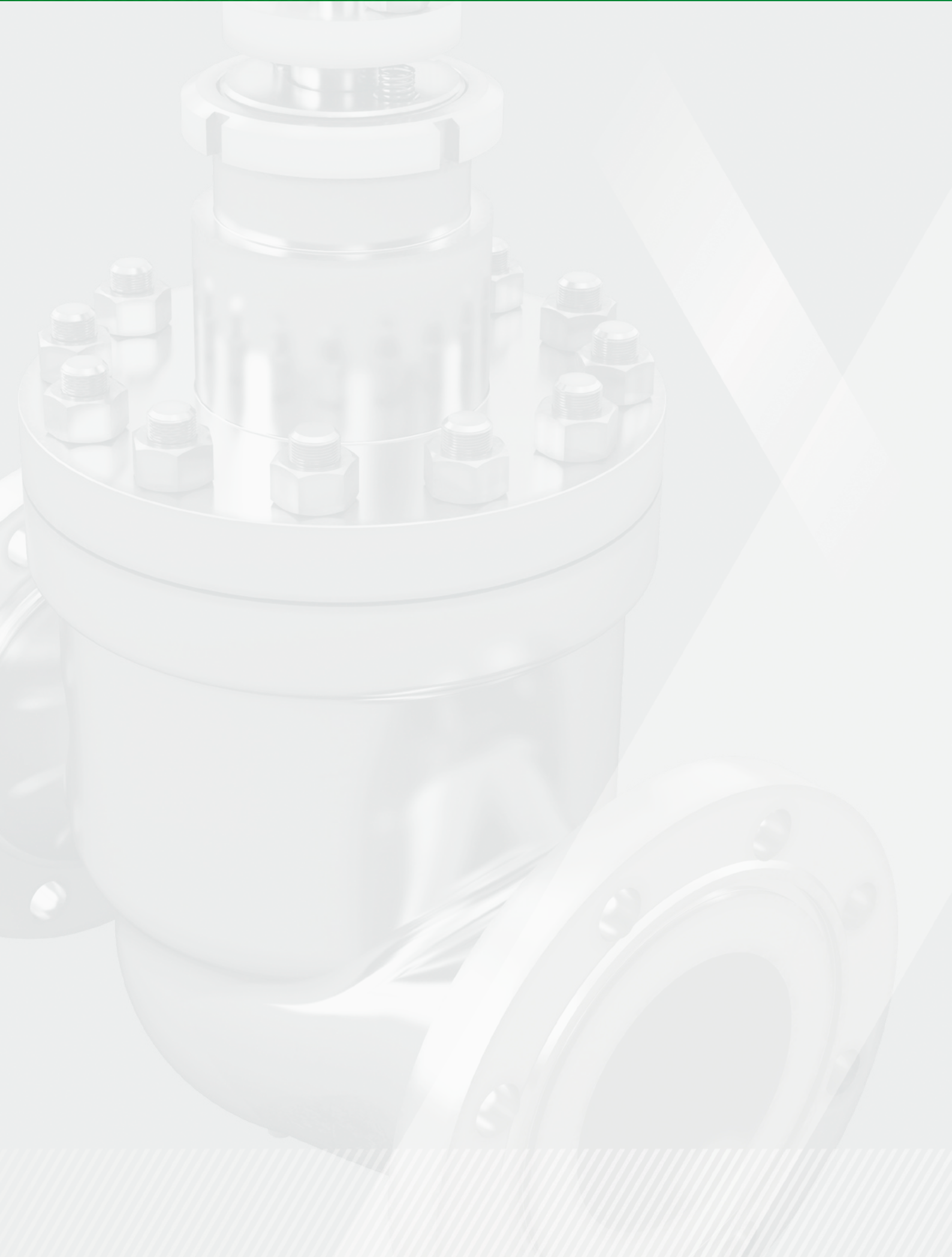
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SHUT-OFF AND CONTROL VALVES

SERIES: 300, 400, 500, 3K-M, 411, 600, 620, 710, 800, 900





300, 400, 500 SERIES ROOST® VALVES

The 300, 400, 500 series Roost® shut-off, multipurpose and control valves are designed for control and/or shut-off of liquid and gaseous media flows.



APPLICATION

Gas, oil, chemical, food, power, metallurgy and other industries; pipeline transport.



DN — nominal diameter, mm

15 to 400



PN — pressure rating, MPa

1.6 to 40

special design: up to 25, up to 40



T° — operating medium temperature, °C

-60 to +420

special design: -196 to +630



ADVANTAGES OF 300, 400, 500 SERIES ROOST® VALVES

✔ Displacing forces at the stem

Due to the plunger design balanced in terms of pressure, rather small forces are required to actuate the plunger even in case of a high differential pressure at the valve. It allows using low-power actuators for 300, 400 and 500 series valves.

✔ Possibility of a quick replacement of the internal parts without removing the valve from the pipeline.

The internal valve parts are integrated into a separate assembly — shut-off and control assembly' which is fixed in the body using a cover and gaskets. Due to this feature, to carry out the routine maintenance and repair works, it is sufficient to remove the cover from the valve and replace the shut-off and control assembly.

✔ Body wear protection

It is achieved by the fact that the throttling process is inside the shut-off and control assembly, and the body surface is not exposed to the high-speed flow.

✔ Maintainability

The internal valve parts' shapes are simple and the parts can be repaired using ordinary metal-working equipment.

✔ High capacity

The bodies are designed in such a way so that to ensure the full-way property of the shut-off valve and high capacity of the control valves.

SPECIFICATIONS OF 300, 400, 500 SERIES ROOST® VALVES

Table 1

Parameter name	Value
Nominal diameter, DN, mm	15; 20; 25; 32; 40; 50; 65; 80; 100; 125; 150; 200; 250; 300; 400
Pressure rating, PN, MPa	1.6; 2.5; 4.0; 6.3; 10; 16; 25*; 40*
Operating media	Gaseous and liquid products, including aggressive ones and those containing solid inclusions; viscous and crystallizing media.
Operating medium temperature, °C	Standard design: – 60 °C to + 420 °C Special designs: – 196 °C to + 630 °C
Climatic modification (ambient temperature, °C)	N (–40 to +70) NF(1) (–60 to +70)
Connection to pipeline	Flanged according to GOST R 54432-2011, ANSI B16.5* Welded* Coupling, for valves with no more than 25 mm* nominal diameter
Type of the installed actuators	Pneumatic, with side or top override or without override Manual, with fixation in intermediate positions Electrical (AUMA, Schiebel, Gusar, MEPK...) fixed, with NO/NC function
Body material	Steels: ASTM A352GrLCC (1.1120 EN), ASTM A352GrLC2, ASTM A352GrLCB, ASTM A217GrC5, ASTM A217GrWC6, ASTM A351GrCF8, ASTM A351GrCF8M Alloys: (Hastelloy C, B)*
Materials of the internal parts	Steels: AISI 420 (1.4021 EN), S45000, AISI 321 (1.4878 EN), AISI 316 Ti (1.4571 EN), 1.4503 EN, Nitronic-60, 1.4542 EN, AISI 202 (1.4373 EN) Alloys: (Hastelloy C, B), ST-6W
Valve type	Control valves Shut-off and control valves Shut-off (cut-off) valves
Special designs	Cavitation resistant; antinoise; erosion-resistant; hydrogen sulphide resistant; with bellows; with heating jacket; cryogenic; for extra low flow rate
Seal type	Metal-metal Soft seal
Shut-off classification	GOST R 54808-2011
Regulation characteristic	Linear Equal percentage
Flow direction	Unilateral Bilateral
Minimum response time with a pneumatic actuator, sec..	Shut-off valves Control valves, shut-off, and control valves
	12 sec. – for standard configuration 1 to 2 sec. – on request Depending on the mounting, information is provided on request

*special design, to be agreed at ordering

CAPACITY OF 300, 400, 500 SERIES ROOST® VALVES

Table 2

Rated diameter, DN, mm	Capacity Kvy (m ³ /h) for valves Control and shut-off and control
15	0.0008 – 4
20	0.0008 – 8
25	0.0008 – 12
32	4.0 – 20.0 ¹
40	6.3 – 32.0 ¹
50	10.0 – 50.0 ¹
65	10.0 – 80.0 ¹
80	25 – 125 ¹
100	40 – 200 ¹
125	63 – 250 ¹
150	80 – 400 ¹
200	125 – 630 ¹
250	200 – 1000 ¹
300	320 – 1600 ¹
400	500 – 2500 ¹

¹ A lower capacity design can be provided



WEIGHTS OF 300, 400, 500 SERIES ROOST® VALVES

Table 3

DN, mm	PN, MPa	Weights, kg (T°225 °C / 225 °C <T< 420 °C)				
		with series 310-1 pneumatic drive	with manual drive of series 310-3	with electric drive, series 310-2		
				AUMA ¹	MEPK ²	Gusar
15	1.6; 2.5; 4.0	15 / 18	19 / 22	58 / 61	26 / 29	37 / 40
	6.3; 10; 16	20 / 22	24 / 26	63 / 65	31 / 33	42 / 44
20	1.6; 2.5; 4.0	18 / 20	21 / 23	60 / 62	28 / 30	39 / 41
	6.3; 10; 16	22 / 25	26 / 29	65 / 68	33 / 36	44 / 47
25	1.6; 2.5; 4.0	19 / 21	22 / 24	61 / 63	29 / 31	40 / 42
	6.3	23 / 26	27 / 30	66 / 69	34 / 37	45 / 48
	10; 16	23 / 26	27 / 30	66 / 69	34 / 37	45 / 48
32	1.6; 2.5; 4.0	29 / 34	28 / 33	66 / 71	34 / 39	45 / 50
	6.3	34 / 39	33 / 38	70 / 75	38 / 43	49 / 54
	10; 16	38 / 43	37 / 42	75 / 80	43 / 48	54 / 59
40	1.6; 2.5; 4.0	32 / 38	31 / 37	68 / 74	37 / 43	48 / 54
	6.3	39 / 44	40 / 45	76 / 81	44 / 49	54 / 59
	10; 16	54 / 60	53 / 59	90 / 96	59 / 65	70 / 76
50	1.6; 2.5; 4.0	37 / 42	36 / 41	74 / 79	41 / 46	53 / 58
	6.3	46 / 51	45 / 50	83 / 88	51 / 56	61 / 66
	10; 16	65 / 71	64 / 70	101 / 107	70 / 76	81 / 87
65	1.6; 2.5; 4.0	58 / 65	50 / 57	85 / 92	54 / 61	64 / 71
	6.3; 10; 16	114 / 121	106 / 113	141 / 148	109 / 116	121 / 128
80	1.6; 2.5; 4.0	72 / 82	64 / 74	100 / 110	68 / 78	79 / 89
	6.3	80 / 90	72 / 82	107 / 117	75 / 85	86 / 96
	10; 16	103 / 113	105 / 115	140 / 150	108 / 118	119 / 129
100	1.6; 2.5; 4.0	108 / 116	84 / 92	118 / 126	88 / 96	98 / 106
	6.3	122 / 131	99 / 110	134 / 145	102 / 113	113 / 124
	10; 16	196 / 179	145 / 155	180 / 190	148 / 158	159 / 169
125	1.6; 2.5; 4.0	132 / 141	108 / 117	142 / 151	112 / 121	138 / 147
	6.3	148 / 157	124 / 133	158 / 167	128 / 137	177 / 187
150	1.6; 2.5; 4.0	177 / 187	154 / 164	189 / 199	156 / 166	167 / 177
	6.3	210 / 221	187 / 198	221 / 232	189 / 200	200 / 211
	10; 16	311 / 321	289 / 299	232 / 333	290 / 300	302 / 312
200	1.6; 2.5	249 / 260	226 / 237	261 / 272	229 / 240	240 / 251
	6.3	260 / 271	272 / 283	283 / 294	251 / 262	262 / 273
	10; 16	613 / 624	550 / 561	575 / 286	551 / 562	554 / 565
250	1.6; 2.5	506 / 521	443 / 458	458 / 473	436 / 451	447 / 462
	4.0	598 / 616	535 / 553	550 / 568	528 / 546	539 / 557
	6.3	650 / 670	587 / 607	602 / 622	580 / 600	591 / 611
	10	710 / 733	647 / 670	622 / 685	640 / 663	651 / 674
	16	860 / 883	797 / 820	812 / 835	810 / 833	801 / 824
300	1.6; 2.5	706 / 721	697 / 712	713 / 728	690 / 705	702 / 717
	4.0	803 / 820	794 / 811	810 / 827	787 / 804	799 / 816
	6.3	940 / 960	931 / 951	947 / 967	924 / 944	936 / 956
	10	1107 / 1127	1098 / 1118	1114 / 1134	1111 / 1131	1103 / 1123
400	1.6; 2.5	506 / 521	841 / 862	857 / 878	834 / 855	846 / 867
	4.0	906 / 932	897 / 923	913 / 939	890 / 916	902 / 928
	6.3	1078 / 1104	1069 / 1092	1082 / 1111	1082 / 1108	1074 / 1100

¹ electric actuator AUMA SAREx 07.1/AMEx01.1/LE 12.1

² electric actuator MEPK 6300 – II BT4 – 01 to DN250 PN63 over DN 250 PN100 electric actuator MEP – 25000 – II BT4

OVERALL AND CONNECTION DIMENSIONS OF 300, 400, 500 SERIES ROOST® VALVES WITH DIAPHRAGM AND MANUAL ACTUATORS

Table 4

DN, mm	PN, MPa	L1, mm	D1, mm	D2, mm	L2, mm	T = 225 °C				T = 420 °C			
						H1, mm	H2, mm	H3, mm	H4, mm	H1, mm	H2, mm	H3, mm	H4, mm
15	1.6 – 4	130	95	250	277	480	685	311	494	685	890	516	699
	6.3 – 16	180	105			520	725	351	534	725	960	556	739
20	1.6 – 4	150	105	250	277	480	685	311	494	685	890	516	699
	6.3 – 16	190	125			580	725	351	534	725	930	556	739
25	1.6 – 4	160	115	250	277	495	700	326	509	700	907	531	714
	6.3 – 16	230	135			497	702	328	511	702	909	533	716
32	1.6 – 4	180	135	310	277	625	834	386	530	833	1042	594	738
	6.3 – 16	260	150			613	822	374	518	821	1030	582	726
40	1.6 – 4	200	145	310	277	662	871	423	567	870	1079	631	775
	6.3	260	165			630	839	391	535	838	1047	599	743
	10 – 16		642			851	403	547	850	1059	611	755	
50	1.6 – 4	230	160	310	277	631	840	392	536	839	1048	600	744
	6.3	300	175			616	825	377	521	824	1033	585	729
	10 – 16		195			643	852	405	548	851	1060	613	756
65	1.6 – 4	290	180	310	357	792	1016	568	622	1052	1276	828	882
	6.3	340	200			853	1077	629	683	1113	1137	889	943
	10 – 16		220			848	1057	468	634	1158	1382	778	944
80	1.6 – 4	310	195	380	357	836	1045	456	622	1136	1360	756	922
	6.3	380	210			850	1059	470	636	1150	1374	770	936
	10 – 16		230			1070	1324	665	732	1390	1644	985	1052
100	1.6	350	215	470	357	1063	1317	658	725	1368	1622	963	1030
	2.5 – 4		230			1062	1316	657	724	1382	1636	977	1044
	6.3	430	250			1100	1354	695	762	1460	1714	1055	1122
	10 – 16		265			1092	1346	657	754	1452	1706	1047	1114
125	1.6	400	245	470	357	1110	1364	705	772	1470	1715	1065	1132
	2.5 – 4		270			1088	1342	683	750	1453	1698	1048	1115
	6.3	500	295			1103	1357	698	765	1468	1713	1063	1130
150	1.6	480	280	470	357	1167	1421	410	829	1554	1799	1149	1216
	2.5 – 4		300			1167	1421	410	829	1554	1799	1149	1216
	6.3	550	340			1167	1421	410	829	1554	1799	1149	1216
	10 – 16		350			1167	1421	410	829	1554	1799	1149	1216
200	1.6	600	335	470	357	1167	1421	410	829	1554	1799	1149	1216
	2.5		360			1167	1421	410	829	1554	1799	1149	1216
	4	650	375			1167	1421	410	829	1554	1799	1149	1216
	6.3		405			1083	1328	670	824	1549	1794	1057	1211

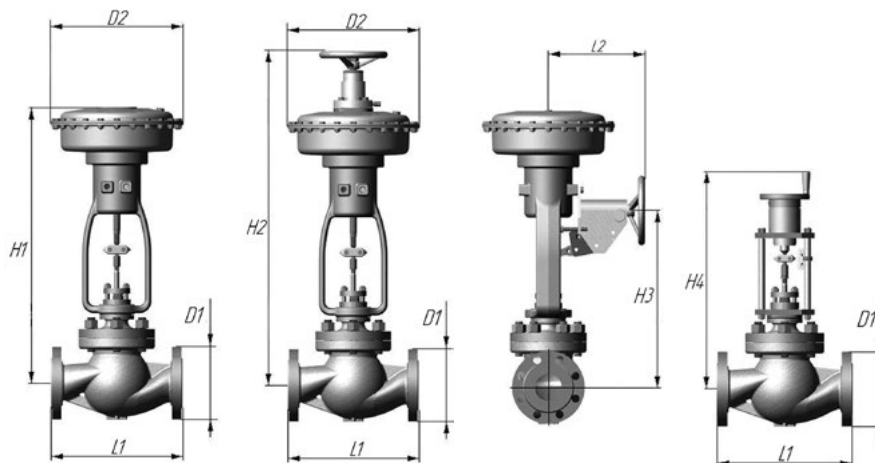


Fig. 1. Overall and connection dimensions of 300, 400, 500 series Roost® valves with diaphragm and manual actuators



OVERALL AND CONNECTION DIMENSIONS OF 300, 400, 500 SERIES ROOST® VALVES WITH PISTON PNEUMATIC AND ELECTRIC ACTUATORS

Table 5

DN, mm	PN, MPa	L1, mm	D1, mm	D2, mm	D3, mm	L2, mm	T= 225 °C			T= 420 °C			
							H1, mm	H2, mm	H3, mm	H1, mm	H2, mm	H3, mm	
ПП400	200	10-16	650	430	450	494	1240	255	675	1625	255	1062	
	250	1.6	730	405	450	516	1395	278	825	1845	278	1275	
		2.5		425		554		292			292		
		4		445		570	295	295					
		6.3	780	470		1400	311	830	1850	311	1280		
		10	930	500			610						
	16	950	500	610									
ПП500	300	1.6	850	460	550	624	1445	332	875	2045	332	1475	
		2.5		485		628		324			324		
		4	980	510		650	1563	389	888	2165	389	1490	
		6.3	1010	530		585		433	1713				
		10	1100	585		585	433	1713					
	400	1.6	1100	580	550	660	368	1738	433	1063	2388	433	1713
		2.5	1050	610									
		4	1210	655									
		6.3	1220	670									
		6.3	1220	670									

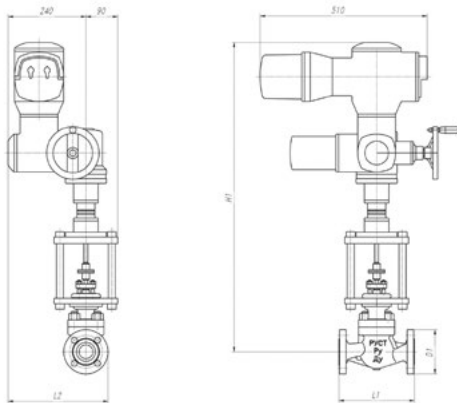


Fig. 2. Overall and connection dimensions of 300, 400, 500 series Roost® valves with AUMA electric actuator

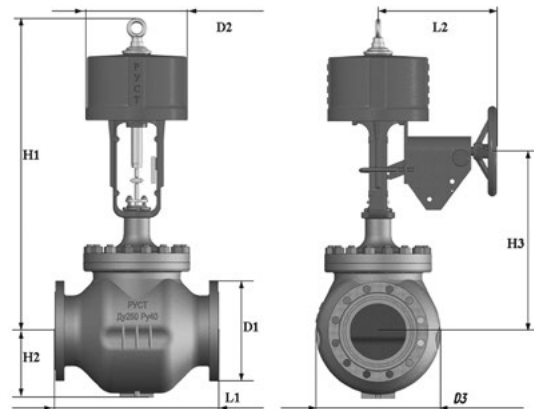


Fig. 3. Overall and connection dimensions of 300, 400, 500 series Roost® valves with a piston pneumatic actuator

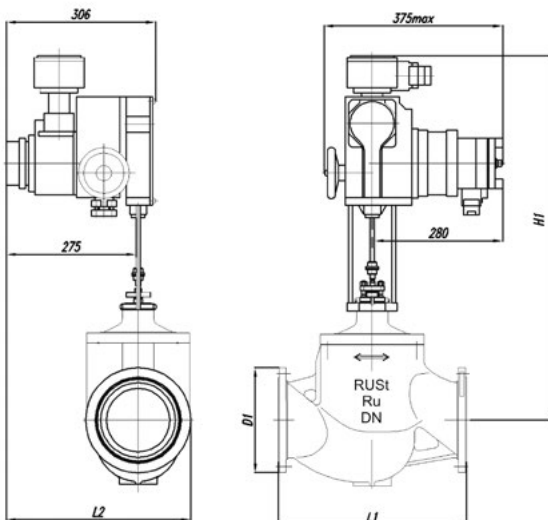


Fig. 4. Overall and connection dimensions of 300, 400, 500 series Roost® valves with MEPK electric actuator

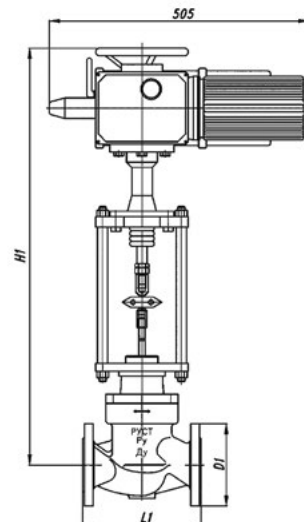


Fig. 5. Overall and connection dimensions of 300, 400, 500 series Roost® valves with SCHIEBEL electric actuator

Table 5 (continued)

DN, mm	PN, MPa	L1, mm	D1, mm	MEPK ¹			AUMA ²			GUSAR		SCHIEBEL ⁴		
				L2, mm	H1, mm		L2, mm	H1, mm		H1, mm	H1, mm			
					T=225 °C	T=420 °C		T=225 °C	T=420 °C		T=225 °C	T=420 °C		
15	1.6-4	130	95	323	602	794	288	959	1151	989	1181	715	907	
	6.3-16	180	105	335	631	825	300	988	1182	1018	1212	743	937	
20	1.6-4	150	105	328	602	794	293	959	1151	989	1181	716	968	
	6.3-16	190	125	338	631	825	303	988	1182	1018	1212	743	937	
25	1.6-4	160	115	333	603	809	298	960	1166	990	1196	716	922	
	6.3-16	230	135	343	613	807	308	970	1164	1000	1194	725	919	
32	1.6-4	180	135	343	633	841	308	1025	1233	1020	1228	788	996	
	6.3	260	150	350	621	829	315	1013	1221	1008	1216	777	985	
	10, 16											792	1000	
40	1.6-4	200	145	348	651	859	313	1043	1251	1038	1246	805	1013	
	6.3	260	165	358	639	849	323	1031	1241	1026	1236	794	1004	
	10, 16											650	860	1042
50	1.6-4	230	160	350	646	873	320	1038	1265	1036	1263	800	1027	
	6.3	300	175	363	639	854	328	1031	1246	1026	1241	794	1009	
	10, 16											195	375	652
65	1.6-4	290	180	365	631	891	330	1083	1343	1058	1318	827	1087	
	6.3	340	200	375	649	899	340	1101	1351	1076	1326	844	1094	
	10, 16													220
80	1.6-4	310	195	373	644	954	338	1096	1406	1071	1381	840	1150	
	6.3	380	210	385	635	935	350	1087	1387	1062	1362	830	1130	
	10, 16											230	398	647
100	1.6	350	215	390	749	1069	355	1221	1541	1116	1436	930	1250	
	2.5-4		230											
	6.3	430	250	400	743	1048	365	1215	1520	1110	1415	926	1231	
	10, 16		265											415
125	1.6	400	245	412	779	1139	377	1251	1611	1146	1506	960	1420	
	2.5-4		270											
	6.3	500	295	432	771	1131	397	1243	1603	1138	1498	952	1412	
150	1.6	480	280	425	788	1148	390	1260	1620	1155	1515	970	1330	
	2.5-4		300											
	6.3	550	340	445	767	1132	410	1239	1604	1134	1499	954	1319	
	10, 16		350											460
200	1.6	600	335	443	845	1232	408	1317	1704	1212	1599	1033	1420	
	2.5		360				455							420
	4		375				463							428
	6.3	650	405	478	840	1227	443	1312	1699	1207	1594	1026	1413	
	10, 16		430											490
250	1.6	730	405	-	1382 ³	1848 ³	498	1467	1927	1362	1822	1383	1843	
	2.5		425	-			498							
	4		445	-			517							
	6.3	780	470	-	1394 ³	1860 ³	570	1479	1939	1374	1834	1377	1837	
	10	930	500	-			610							
300	1.6	850	460	-	1492 ³	2094 ³	612	1517	2119	1412	2014	1450	2052	
	2.5		485	-			624							
	4	980	510	-			628							
	6.3	1040	530	-			640							
400	1.6	1100	580	-	1667 ³	2269 ³	660	1692	-	1587	-	1635	-	
	2.5	1050	610	-					-					
	4	1210	655	-	-									
	6.3	1220	670	-	1673 ³	2275 ³		1698	-	1593	-	1641	-	

¹ Electric actuator MEPK 6300-II BT4-01

² Electric actuator AUMA SAREx 07.1/AMEx01.1/LE 12.1

³ MEP 20000/200-100-II DN4-02

⁴ Electric actuator SCHIEBEL. The size is specified for DN 15 to 200; DN 250 to 400



STRUCTURE OF CONVENTIONAL DESIGNATION OF 300, 400, 500 SERIES ROOST® VALVES

Roost®	X	X	X		X	XXX
	1	2	3	-	4	5

1	Valve type	«3» – shut-off «4» – shut-off and control «5» – control
2	Steam seal type	«1» – with gland seal «2» – bellows seal
3	Special design designation	«0» – standard «2» – cryogenic «3» – with heating jacket «4» – angular
4	Actuator type	«1» – pneumatic actuator «2» – electric actuator «3» – manual actuator
5	Climatic modification	T – (-40 to +70) °C NF(1) – (-60 to +70) °C

Special design is possible, to be agreed at ordering.

The conventional designation shall be followed by a descriptive part with the following information:

- ✓ nominal diameter
- ✓ pressure rating
- ✓ maximum operating medium temperature
- ✓ required shut-off classification
- ✓ minimum operating medium temperature (if it is lower than the value according to the climatic modification)
- ✓ body material
- ✓ reference capacity and flow characteristics (for control and shut-off/control valves)
- ✓ initial position of the valve when it is equipped with a pneumatic actuator



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE VALVE IN THE ORDER

Valve Roost® 410-1 NF(1), DN80, PN1,6MPa, operating medium – steam, +150 °C, shut-off classification B, ASTMA352GrLC2, Kvy 50P, NC

3K-M SERIES SHUT-OFF VALVE WITH ELECTROMAGNETIC ACTUATOR

3K-M series Roost® valves with electromagnetic actuator are designed for quick automatic shut-off of liquid and gaseous media flows.



APPLICATION

Gas, oil, chemical and food industries; for emergency system protection, fuel filling systems, etc.



DN — nominal diameter, mm

10 to 80



PN — pressure rating, MPa

1.6 to 10



T° — operating medium temperature, °C

-60 to +50



ADVANTAGES OF 3K-M SERIES SHUT-OFF (CUT-OFF) VALVES WITH ELECTROMAGNETIC ACTUATOR

✓ Mass-dimensional characteristics

Due to their design, the shut-off valves with a built-in electromagnetic actuator have low weight and small dimensions which simplifies their installation, removal and maintenance.

✓ Absence of a ball seal valve

The design is implemented without a ball seal valve which decreases the amount of checks, and almost eliminates leakage of the operating medium into the environment.

✓ Rate of response

Due to high rate of the solenoid valve response the operating medium can be metered precisely, or the valve can response to the control signal immediately. This property enables installing the shut-off solenoid valves on the shut-off trunk lines or using them as emergency actuation systems.

✓ The valves are manufactured as normally opened and normally closed, which broadens the field of application in APCS.

✓ Maintainability without removal from the pipeline

✓ Presence of manual override

✓ Guaranteed opening without the operating medium differential

✓ Explosion-proof design

The solenoid valves have explosion-proof design (1ExdIICT6X), which allows installing them in hazardous zones, the environment in which contains explosive mixtures of gases and vapours with air.

✓ Minimum power consumption

The solenoid is automatically switched over to low power consumption in the solenoid core holding operation mode. Heating is decreased in the low power consumption mode in continuous service.



SPECIFICATIONS OF 3K-M SERIES SHUT-OFF (CUT-OFF) VALVES WITH ELECTROMAGNETIC ACTUATOR

Table 1

Parameter name	Value
Nominal diameter, DN, mm	10; 15; 20; 25; 32; 50; 80
Pressure rating, PN, MPa	1.6; 2.5; 4; 6.3; 10
Operating media	Various liquid and gaseous products and fire-hazardous products containing organic compounds; except especially viscous, aggressive and crystallizing media.
Operating medium temperature, °C	-60 to +50
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged according to GOST R 54432-2011, ANSI B16.5 Welded
Type of the installed actuators	Electromagnetic (built-in) with manual override
Body material	Steels: ASTM1020 (1.0402 EN), ASTM A-516, AISI 321 (1.4578 EN), AISI 316 Ti (1.4571EN)
Materials of the internal parts	Steels: AISI 321 (1.4578 EN), AISI 431 (1.4057EN), AISI 316 Ti (1.4571EN), AISI 202 (1.4373 EN)
Valve type	Shut-off (full-bore), with an electromagnetic actuator
Seal type	Soft seal
Shut-off classification	A class GOST R 54808-2011
Flow direction	Unilateral
Response time, sec.	1 to 2

WEIGHTS, OVERALL AND CONNECTION DIMENSIONS OF 3K-M SERIES SHUT-OFF (CUT-OFF) VALVES WITH ELECTROMAGNETIC ACTUATOR

Table 2

DN, mm	PN, MPa	Valve type	L1, mm	L2, mm	D, mm	H1, mm	H2, mm	H3, mm	Weight, kg
10	1.6-6.3	H3	108	150	*	392	80.5	---	20
15	1.6-4.0	H3	130		95	412	108.5	---	23
20	1.6-4.0	H3	150		105	453	150	---	25
25	1.6	H3	160		115	480	172.5	---	29
	1.6-4.0	H0	160		115	410	112	598.5	31
	6.3	H3	230		135	492	195	---	35
	10	H3	230		135	484	183	---	40
32	1.6	H3	180		135	491	192	---	30
	6.3	H3	260		150	489,5	191	---	37
50	1.6-4.0	H3	230		160	513	211.5	---	32
	1.6-4.0	H0	125		160	463	163.5	654	34
	6.3	H3	300		175	521,5	220	---	38
	6.3	H0	300		175	463	163.5	654	40
	10	H3	300		195	523	223	---	43
80	1.6-4.0	H3	310		195	543	245	---	36
	1.6-4.0	H0	370		195	524	225.5	765	39
	6.3	H3	380		210	543,5	245	---	38
	6.3	H0	380		210	524	225.5	765	42
	10	H3	380		230	570.5	272	---	43
	10	H0	380		230	602.5	303.5	743	46

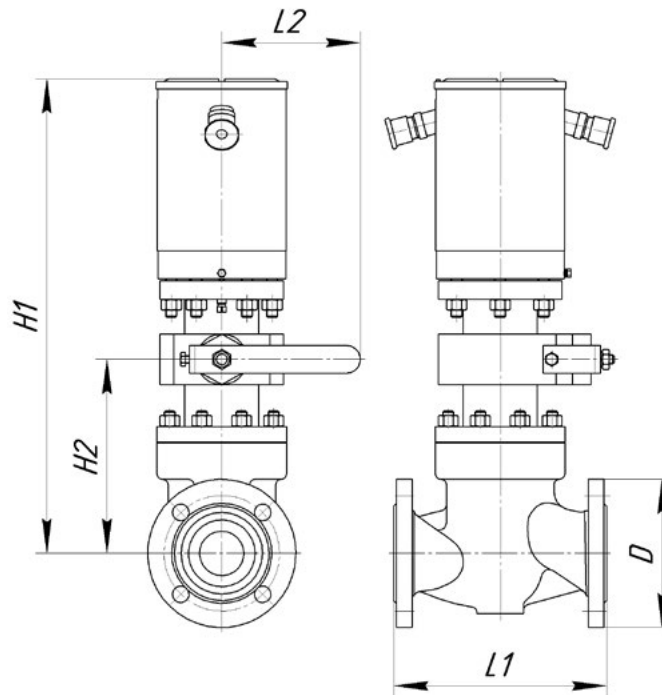


Fig. 1



STRUCTURE OF CONVENTIONAL DESIGNATION OF 3K-M SERIES SHUT-OFF (CUT-OFF) VALVES WITH ELECTROMAGNETIC ACTUATOR

3K-M	XXX	X	0	X	XX	XX	XX	XXX
	1	2	3	4	5	6	7	8

1	Valve type	3K-M – shut-off valve with an electromagnetic actuator
2	Medium pressure PN, kgf/cm ²	2 – 16; 3 – 25; 4 – 40; 5 – 63; 6 – 100
3	Body type	0 – straight pass-through valve
4	Controlled medium temperature, °C	1 – up to +50 ¹ ¹ low value is determined by the ambient temperature
5	Body material	SS – stainless steel CRLAS – cold-resistant low-alloyed steel MCSS – molybdenum-containing stainless steel
6	Nominal diameter, DN, mm	10; 25; 32; 50; 80
7	Initial valve position	NC – normally closed
8	Climatic modification, °C	N – (-40 to +70) NF(1) – (-60 to +70)

The conventional designation shall be followed by a descriptive part with the following information:

- ✓ operating medium temperature
- ✓ operating medium type and parameters; presence of mechanical inclusions in the operating medium
- ✓ special operating conditions (high-pressure blowing, steaming under higher temperature, etc.)
- ✓ initial valve position
- ✓ special design, if stipulated



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE VALVE IN THE ORDER

Shut-off valve with an electromagnetic actuator DN = 80 mm, PN = 1.6 MPa, stainless steel body, climatic modification – N. Designation: Roost® 3K-M 201 ss 80 N

On the customer's request the valves may be equipped with counter flanges with hardware.

411 SERIES ROOST® EXTRA LOW FLOW RATE VALVE

The 411 series Roost® shut-off and control valves are designed for precise regulation and shut-off of low-flow rate liquid and gaseous media flows (extra low flow rates).



APPLICATION

Gas, oil and chemical industries; high pressures and differentials, low media flow rates; for metering methanol, additives, inhibitors, etc.



DN — nominal diameter, mm
15 to 25



PN — pressure rating, MPa
1.6 to 32



T° — operating medium temperature, °C
-60 to +150

ADVANTAGES OF 411 SERIES EXTRA LOW FLOW RATE ROOST® VALVES

✓ ADVANTAGES OF 411 SERIES EXTRA LOW FLOW RATE Roost® VALVES

Due to the body made of the stamped blank and the threaded-type cap, 411 series valves are relatively lightweight and small, which simplifies their installation, removal and maintenance.

✓ Possibility to use ordinary actuators and automation

Due to their patented design, 411 series valves do not require the use of low flow rate flows. The regulated valve flow rate is identical for all designs and is equal to 10 mm, which allows using ordinary models of pneumatic, manual and electric actuators, and the control automation.

✓ High resistance of the regulating pair

Due to the use of ceramics and nitrided titanium, 411 series valves are highly resistant to erosion and cavitation which allows maintaining the regulating characteristic for a long time.

✓ Application in a combination with a filter

To ensure the uninterrupted functioning, the 411 series valves can be equipped with an original design filter of FS type. It was designed for extra low flow rates.



SPECIFICATIONS OF 411 SERIES EXTRA LOW FLOW RATE ROOST® VALVES

Table 1

Parameter name	Value
Nominal diameter, DN, mm	15; 20; 25
Pressure rating, PN, MPa	1.6; 2.5; 4; 6.3; 10; 16; 25; 32
Capacity, Kvy, m ³ /h	0.0008; 0.0016; 0.0032; 0.0063; 0.01; 0.02; 0.032
Operating media	Various liquid and gaseous products, including aggressive ones, mechanical impurities being removed; except especially viscous and crystallizing media.
Operating medium temperature, °C	-60 to +150
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged, according to GOST R 54432-2011 Coupling type (female tapered or straight thread)
Type of the installed actuators	Pneumatic Electric (Rotork) Manual
Body material	Steels: ASTMA-516
Materials of the internal parts	Steels: AISI 420 (1.4021 EN), S45000, AISI 321 (1.4878 EN), AISI 316 Ti (1.4571 EN), AISI 202 (1.4373 EN)
Material of valve/seat pair	Ceramics: silicon nitride, aluminium oxide Nitrided titanium BT-3-1
Valve type	Shut-off and control valves
Seal type	Metal-metal Ceramics
Shut-off classification	A, B according to GOST R 54808-2011
Regulation characteristic	Linear
Flow direction	Bilateral
Minimum response time (with a pneumatic actuator), sec.	1 to 2

WEIGHTS, OVERALL AND CONNECTION DIMENSIONS OF EXTRA LOW FLOW RATE 411 SERIES ROOST® VALVES WITH PNEUMATIC AND MANUAL ACTUATORS

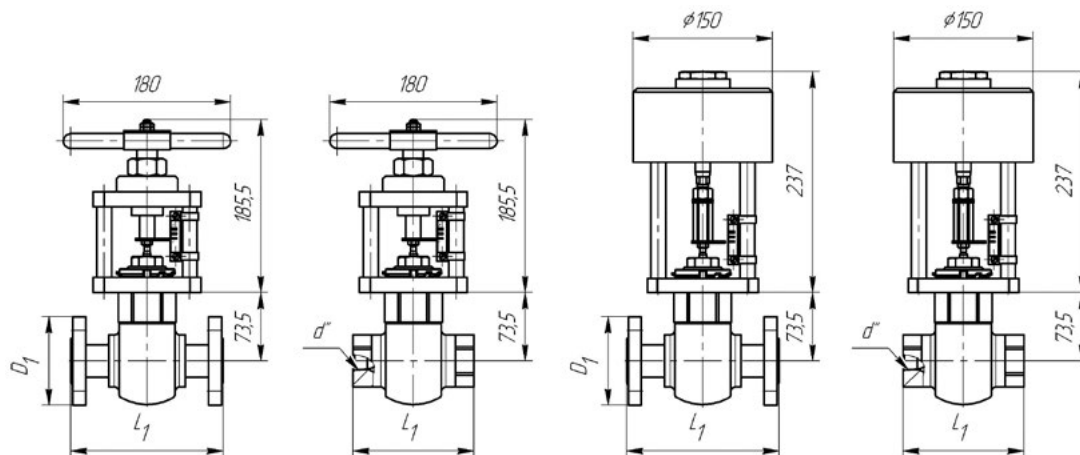


Fig. 1 Overall dimensions of extra low flow rate 411 series Roost valves

Table 2

PN, MPa	1.6 – 4.0			6.3			10, 16			25, 32		
DN, mm	15	20	25	15	20	25	15	20	25	15	20	25
D1, mm	95	105	115	105	125	135	105	125	135	-		
d	K1/2", G1/2"	K3/4", G3/4"	K1", G1"	K1/2", G1/2"	K3/4", G3/4"	K1", G1"	K1/2", G1/2"	K3/4", G3/4"	K1", G1"	K1/2", G1/2"	K3/4", G3/4"	K1", G1"
L1, mm	164			176			180	176	180	130		

STRUCTURE OF CONVENTIONAL DESIGNATION OF 411 SERIES EXTRA LOW FLOW RATE ROOST® VALVES

Roost®	411	-	X	XXX
	1		2	3

1	Valve series	411 – shut-off and control extra low flow rate valve with gland seal
2	Actuator type	1 – pneumatic 2 – electric 3 – manual
3	Climatic modification	N – (-40 to +70) °C NF(1) – (-60 to +70) °C

The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal diameter of the valve, DN, mm
- ✔ nominal pressure, PN, MPa
- ✔ maximum operating medium temperature (no more than 150 °C)
- ✔ body material
- ✔ type of connection to the pipeline
- ✔ reference capacity
- ✔ initial position of the valve when it is equipped with a pneumatic actuator



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE VALVE IN THE ORDER

Valve Roost® 411-1 NF(1), DN15, PN250, 1000C, steel ASTM-A516, coupling type, Kvy 0,032, NC.



600 SERIES ROOST® BALL VALVE

The 611 series Roost® ball valves are designed for leak-proof shut-off or regulation of liquid or gaseous media flows. The valves are made with a body with a connector in the plane perpendicular to the perpendicular pipeline axis. The connector is fixed with pins and can be used for the valve maintenance.



APPLICATION

Gas, oil, chemical, food, power, metallurgy and other industries; pipeline transport; various operating conditions.



DN — nominal diameter, mm

15 to 500



PN — pressure rating, MPa

1.6 to 40



T° — operating medium temperature, °C

-196 to +350

ADVANTAGES OF 600 SERIES ROOST® BALL VALVES

✓ Full-port property

The size of the port in the ball corresponds to the pipe bore size. By means of it the valve has the minimum flow friction. Also scrapers can be passed through the valve.

✓ The valve can be used for regulation

To apply the valve as a regulator, a design with unloading of seats by means of ejection is used. In this case, when the valve is opened, the seats are pulled away from the ball decreasing wear and shaft torque.

✓ Possibility to use metal-metal seal

The unique technologies used in the manufacture process enabled creating a high-quality and reliable metal-metal seal which is used for heavy duty conditions:

- ✓ operation of the valve in control mode
- ✓ high-temperature design
- ✓ design for heavily polluted media

✓ Maintainability

The connector in the body can be used for maintenance and repair works, for which the valve should be removed from the pipeline.

THE 600 SERIES ROOST® BALL VALVE OPERATING PRINCIPLE

The 600 series ball valves are designed based on ball in supports principle ensuring the minimum requirements to the shaft torque. The valve body has a connector fixed with pins and ensuring maintainability when the valve is removed from the pipeline. The valve shaft functions as a ball support also, it features wear protection. In extreme positions, the ball can be locked, and pressure can be released from the internal space between the body and the ball. Thus, condensate or contaminations can be removed, and the seat leak tightness can be checked or the shaft seal can be replaced.

The valve design also contains a device for removing static electricity, gland redundancy and fire resistance elements. The valve ball is made of hard corrosion-resistant steel with wear-resistant coating. The size of the ball bore corresponds to the pipe bore size.

The valve seats are made of corrosion-resistant steels with non-metal inserts, or wear-resistant coating for metal-metal seal design. The valve seats are pushed to the ball by means of springs and pressure differential, ensuring bilateral leak tightness over the whole operating pressure range. The body is also equipped with holes with fittings for pumping the sealing grease into seats, which can be used for restoring leak tightness of the valve in emergencies.

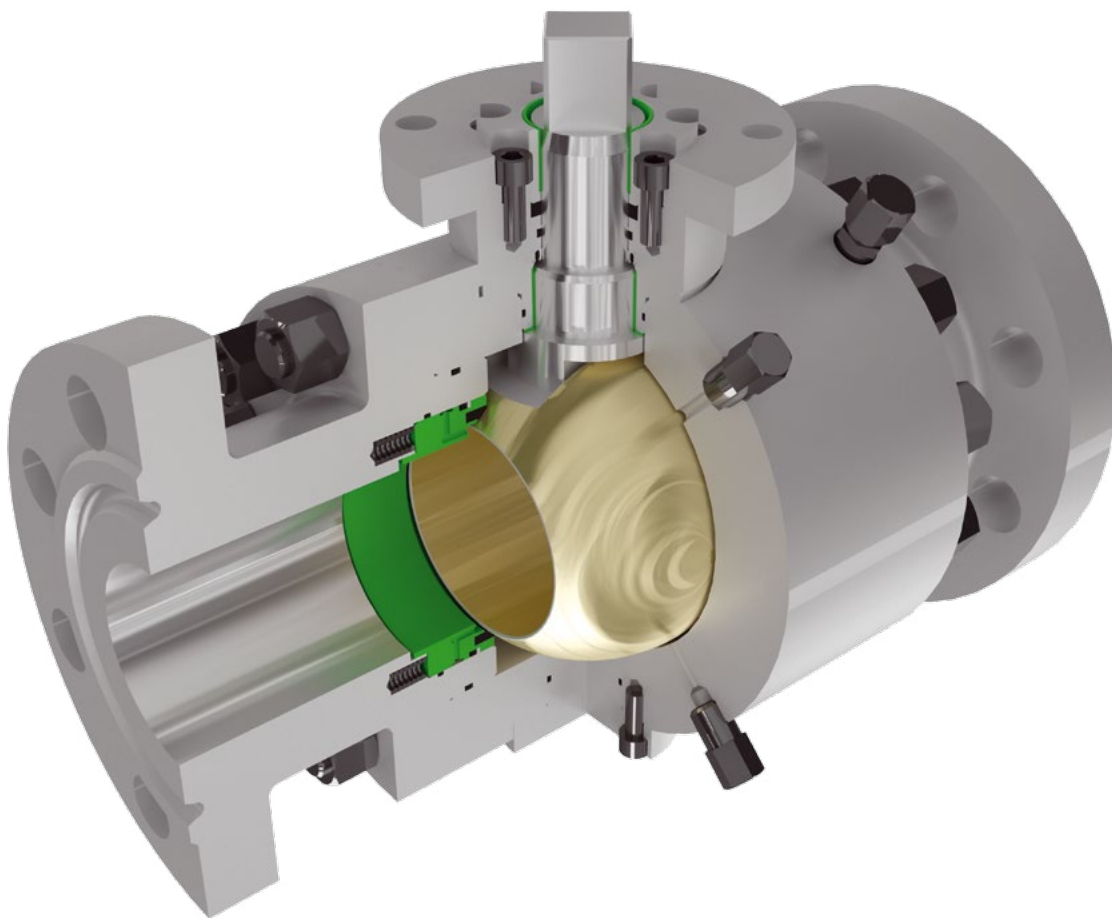


Fig. 1



SPECIFICATIONS OF 600 SERIES ROOST® BALL VALVES

Table 1

Parameter name	Value
Rated diameter, DN, mm	50; 80; 100; 150; 200; 250; 300; 400; 500
Nominal pressure, PN, MPa	1.6; 2.5; 4; 6.3; 10; 16; 25; 40
Operating media	Gaseous and liquid products, including aggressive ones and those containing solid inclusions.
Operating medium temperature, °C	Standard design: -60 to +350 Special designs: -196 to 450
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged, according to GOST R 54432-2011, ANSIB16.5 Welded Electric (Schiebel, AUMA, etc.)
Type of the installed actuators	Pneumatic, with or without override Manual
Body material	Steels: ASTMA352GrLCC (1.1120 EN), ASTMA216GrWCB(1.0446 EN), ASTMA352GrLCC (1.1120 EN), ASTMA352GrLC1, ASTMA352GrLC2, ASTMA351GrCF8, ASTMA351GrCF8M Alloys: 1.4503 EN, (Hastelloy C, B)
Materials of the internal parts	Steels: AISI1420 (1.4021 EN), AISI202 (1.4373 EN), AISI321H (1.4878 EN), AISI316T (1.4571 EN), 1.4503 EN, Nitronic-60, 17-4PH Alloys: (Hastelloy C, B), ST-6W
Valve type	Shut-off Control valves
Design features	FULL-PORT PROPERTY Locking and resetting function Gland redundancy Static discharge device Fire-safe design Seat lubrication (for DN>80)
Special designs	Underground High-temperature Cryogenic
Seal type	Metal-metal Soft seal
Shut-off classification	A, B according to GOST R 54808-2011
Regulation characteristic (for control valves)	Equal percentage
Shut off type	Bilateral
Minimum response time with a pneumatic actuator, sec.	
Shut-off valves	12, for standard configuration 1 – 2, on request
Control valves	Depending on the mounting, information is provided on request

WEIGHTS, OVERALL AND CONNECTION DIMENSIONS 600 SERIES ROOST® BALL VALVES (WITHOUT ACTUATOR¹)

Table 2

DN, mm	T°, C	PN, MPa	Flange according to ISO 5211, F	Square on the shaft, mm	L, mm	D, mm	H, mm	Weight, kg	
50	100	1.6/2.5-4.0	07	14	230	160	183	34	
		6.3	10	22	292	175	165	43	
		10	10	22	292	195	165	48	
		16	10	22	350	195	165	55	
	200	1.6/2.5-4.0	07	14	230	160	146	33	
		10	10	22	292	195	195	49	
4.0		10	14	292	160	206	39		
80	100	1.6	10	22	310	205	247	52	
		6.3	14	27	356	210	247	78	
		10	14	27	356	230	202	84	
		16	12	27	450	230	221	94	
		16	12	27	381	-	5000	300	
	200	1.6/2.5-4.0	12	27	310	205	247	52	
		6.3	14	27	356	230	275	75	
		10	14	27	356	230	242	65	
		10	14	27	356	260	467	93	
		4.0	12	27	350	275	261	75	
100	100	4.0	12	27	350	275	261	75	
		6.3	14	36	432	275	261	131	
		10	14	36	432	275	293	146	
		16	14	36	457	275	2200	217	
	200	1.6	12	27	350	250	264	82	
		4.0	12	27	350	275	261	75	
		16	14	36	457	275	280	129	
	350	10	16	36	432	275	479	150	
	150	100	1.6	10	22	480	280	310	140
			6.3	14	36	559	340	340	237
16			16	46	610	350	330	271	
200		1.6	10	22	480	324	330	148	
		4.0	14	36	480	380	330	219	
		10	14	36	559	380	340	237	
200	100	1.6	14	36	457	400	350	216	
		6.3	16	46	660	475	381	414	
		16	25	55	737	475	470	500	
	200	200	1.6	14	36	457	400	350	213
			4.0	14	36	600	430	386	298
			6.3	16	46	660	475	475	362
			10	16	46	660	475	475	386
		16	25	55	737	475	475	530	
		350	4.0	16	36	600	430	496	320
		100	6.3	25	55	787	550	440	662
250	100	10	25	55	787	550	440	705	
		1.6/2.5	14	36	730	545	500	640	
	200	4.0	16	46	730	545	520	690	
		6.3	25	55	787	550	527	693	
		10	25	55	787	550	440	705	
		16	30	75	900	560	567	944	
300	100	6.3-10	25	55	838	625	482	886	
		16	30	75	965	640	525	1200	
	200	1.6	16	46	610	590	507	577	
		2.5	16	46	648	590	507	605	
		4.0	16	46	648	590	507	624	
		6.3	16	46	838	625	552	936	
		10	25	55	838	625	552	1108	
		350	4.0	25	55	648	590	700	673
	10	30	75	838	625	795	1320		
	400	200	4.0	25	55	838	780	598	1679

¹ The valve dimensions and weights are provided on request

² The dimensions and weights of valves with PN>16 MPa are provided on request



WEIGHTS, OVERALL AND CONNECTION DIMENSIONS 600 SERIES ROOST® BALL VALVES (WITHOUT ACTUATOR)

Table 3

DN, mm	PN, MPa	Flange according to ISO 5211, F	Square on the shaft, mm	L, mm	D, mm	H, mm	Weight, kg
100	6.3	12	27	432	252	223	105
	16	14	36	457	275	293	116
	16	14	36	457	275	2200	194
150	6.3-10	16	46	559	380	330	262
						2200	316
	16	16	46	610	380	337	280
						2200	334
200	10	16	46	660	475	475	446
300	16	30	75	965	640	525	1200

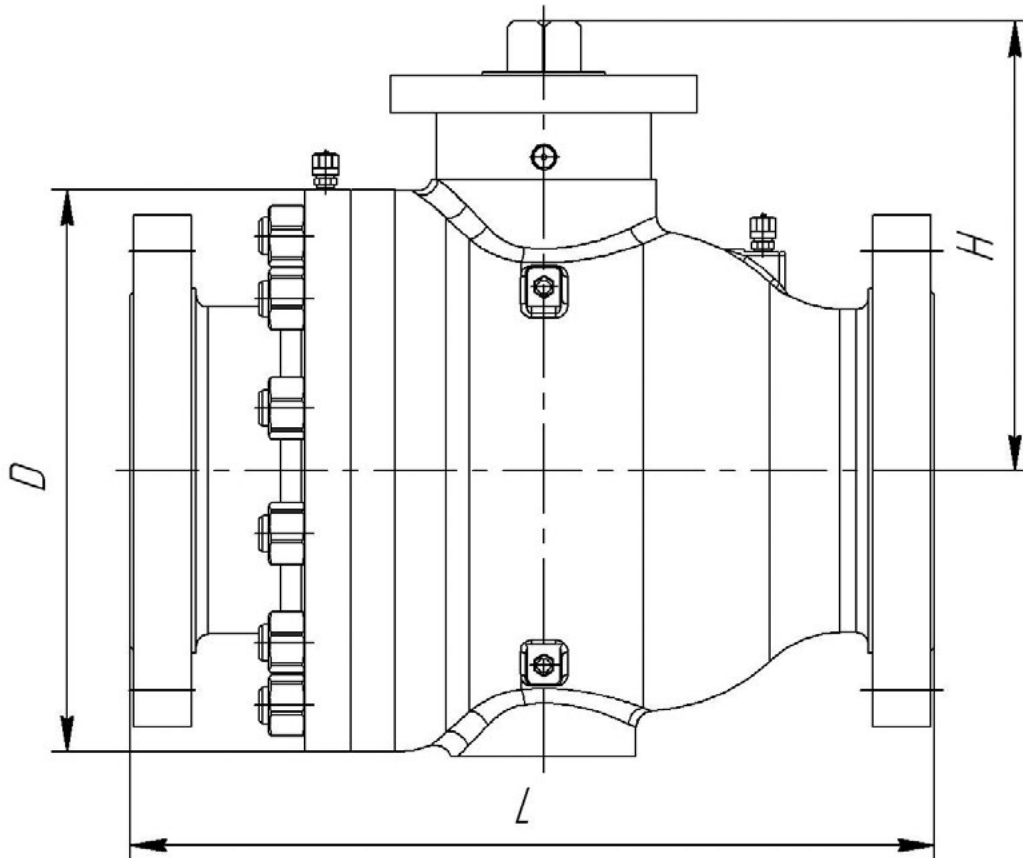


Fig. 2

¹ The valve dimensions and weights are provided on request

² The dimensions and weights of valves with PN>16 MPa are provided on request

STRUCTURE OF CONVENTIONAL DESIGNATION OF 600 SERIES ROOST® BALL VALVES

ROOST®	X	X	X	-	X	X
	1	2	3		4	5

1	Valve type	6 – ball
2	Pressure rating, MPa (ANSI)	1 – 1.6 (150) 2 – 2.5 (150) 3 – 4.0 (300) 4 – 6.3 (600) 5 – 10.0 (600) 7 – 25.0 (1500) 8 – 40.0 (2500)
3	Actuator type	1 – pneumatic; 2 – electric; 3 – manual; 4 – pneumohydraulic.
4	Operating medium temperature	1 – 45 below zero to 225 °C above zero; 2 – 60 below zero to 225 °C above zero; 3 – 45 below zero to 320 °C above zero; 4 – 60 below zero to 320 °C above zero; 5 – 196 below zero to 450 °C above zero.
5	Climatic modification	N1; F1; NF1.

The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal diameter
- ✔ pressure rating
- ✔ maximum operating medium temperature
- ✔ required shut-off classification
- ✔ minimum operating medium temperature (if it is lower than the value according to the climatic modification)
- ✔ body material
- ✔ special design, if available
- ✔ initial position of the valve when it is equipped with a pneumatic actuator
- ✔ connection to pipeliney



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE BALL VALVE IN THE ORDER

Ball valve Roost® 600-1 NF(1), DN80, PN1,6 MPa, operating medium – steam, +150 OC, shut-off classification A, ASTM A216GrWCB(1.0446 EN), NC, flange type.



620 SERIES ROOST® BALL VALVE

The 620 series Roost® ball valves are designed for leak-proof shut-off or regulation of liquid or gaseous media flows. The valve body is designed with a cap. If it is removed, the valve can be serviced.



APPLICATION

Gas, oil, chemical, food, power, metallurgy and other industries; various operating conditions.



DN — nominal diameter, mm

80 to 300



PN — pressure rating, MPa

1.6 to 40



T° — operating medium temperature, °C

-196 to +450

ADVANTAGES OF 620 SERIES ROOST® BALL VALVES

- ✓ **The valve can be used for regulation**
To apply the valve as a regulator, a design with unloading of seats by means of ejection is used. In this case, when the valve is opened, the seats are pulled away from the ball decreasing wear and shaft torque.
- ✓ **Maintainability**
The cap makes maintenance and repair works possible without removal of the valve from the pipeline. It is especially convenient for the valves with a welded connection to the pipeline.
- ✓ **Possibility to use metal-metal seal**
The unique technologies used in the manufacture process enabled creating a high-quality and reliable metal-metal seal which is used for heavy duty conditions:

 - ✓ operation of the valve in control mode
 - ✓ design for heavily polluted media
- ✓ **Decreased shaft torque**
Is provided due to the bore restriction, and respectively, ball diameter decrease. Decrease of the torque as compared with full-port valves is by 20 to 30%.

THE 620 SERIES ROOST® BALL VALVE OPERATING PRINCIPLE

The 620 series ball valves are designed based on ball in supports principle ensuring the minimum requirements to the shaft torque. The body connector is provided due to the presence of the cap, which is fixed in relation to the body using a retaining ring divided into segments. This connector ensures the valve maintainability without removing the valve body from the pipeline. The standard overall dimensions compliance requirements are the cause of some decrease of the ball bore to 80% of DN and the ball size respectively. It is beneficial in terms not only of the overall size, but also the required torque.

The valve consists of a body, a cap, a shaft, a ball, seats and spring cartridges. The valve shaft functions as a ball support also, it features wear protection. In extreme positions, the ball can be locked, and pressure can be released from the internal space between the body and the ball. Thus, condensate or contaminations can be removed, and the seat leak tightness can be checked or the shaft seal can be replaced. The valve design also contains a device for removing static electricity, gland redundancy and fire resistance elements. The valve ball is made of hard corrosion-resistant steel with wear-resistant coating. The valve seats are made of corrosion-resistant steels with non-metal inserts, or wear-resistant coating for metal-metal seal design. The valve seats are pushed to the ball by means of the spring cartridges located on the external surface of the valve. Such a layout ensures convenience during removal of the ball from the body when it is necessary to move the seats away from the ball. In this case, the spring cartridges are removed from the body allowing access to the seats and their movement apart without overcoming the spring force. Beside the spring force, the seats are also affected by pressure differential. Their combined effect ensures bilateral leak tightness over the whole operating pressure range. The body is equipped with holes with fittings for pumping the sealing grease into seats, which can be used for restoring leak tightness of the valve in emergencies.

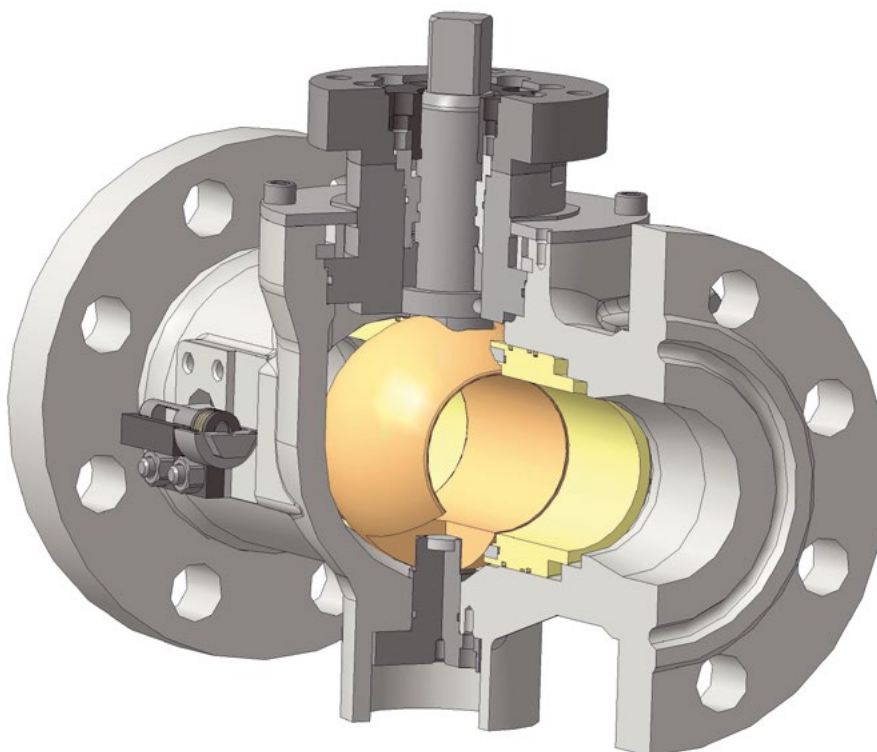


Fig. 1



SPECIFICATIONS OF 620 SERIES ROOST® BALL VALVES

Table 1

Parameter name	Value
Rated diameter, DN, mm	80; 100; 125; 150; 200; 250; 300
Nominal pressure, PN, MPa	1.6; 2.5; 4; 6.3; 10; 16
Operating media	Gaseous and liquid products, including aggressive ones and those containing solid inclusions.
TOperating medium temperature, °C	Standard design: -60 to +350 Special designs: -196 to +450
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged according to GOST R 54432-2011, ANSI B16.5 Welded
Type of the installed actuators	Pneumatic, with or without override Manual Electric (Schiebel, AUMA, etc.)
Body material	Steels: ASTM A352GrLCC (1.1120 EN), ASTM A216GrWCB (1.0446 EN), ASTM A352GrLCC (1.1120 EN), ASTM A352GrLC1, ASTM A352GrLC2, ASTM A351GrCF8, ASTM A351GrCF8M Alloys: 1.4503 EN, (Hastelloy C, B)
Materials of the internal parts	Steels: AISI 1420 (1.4021 EN), AISI 202 (1.4373 EN), AISI 321H (1.4878 EN), AISI 316T (1.4571 EN), 1.4503 EN, Nitronic-60, 17-4PH Alloys: (Hastelloy C, B), ST-6W
Valve type	Shut-off – 620 series Control valves – 621 series
Construct	Bore size is 80% of DN Locking and resetting function Gland redundancy Static discharge device Fire-safe design
Special designs	Underground Cryogenic
Seal type	Metal-metal Soft seal
Shut-off classification	A, B according to GOST R 54808-2011
Regulation characteristic (for control valves)	Equal percentage
Shut off type	Bilateral
Minimum response time with a pneumatic actuator, sec. Shut-off valves Control valves	12, for standard configuration 1–2, on request Depending on the mounting, information is provided on request

**WEIGHTS, OVERALL AND CONNECTION DIMENSIONS 620 SERIES ROOST®
BALL VALVES (WITHOUT ACTUATOR 1)**

Table 2

DN, mm	PN, mm	Dn, mm	L, mm	D, mm	D1, mm	n	d, mm	S, mm	h, mm	E, mm	C, mm	K, mm	z	D2, mm	H, mm	A, mm	B, mm	Torque, H, mm	Weight, no more than, kg
100	6.3	80	432	250	200	8	26	27	35	150	-	125	4	13	215	272	140	720	85
	10			265	210		30									280			
150	6.3	118	559	340	280	8	33	36	50	175	90	140	4	17	310	347	180	2000	222
	10			350	290											12			352
200	6.3	160	660	405	345	12	33	55	60	300	-	254	8	17	395	425	220	3680	350
	10			430	360		39									437			
300	6.3	240	838	530	460	16	39	75	74	350	230	298	8	17	485	530	298	12800	705
	10			585	500		45									585			

¹ Weights, overall and connection dimensions of series 620 Roost® ball valves with an actuator are provided on request

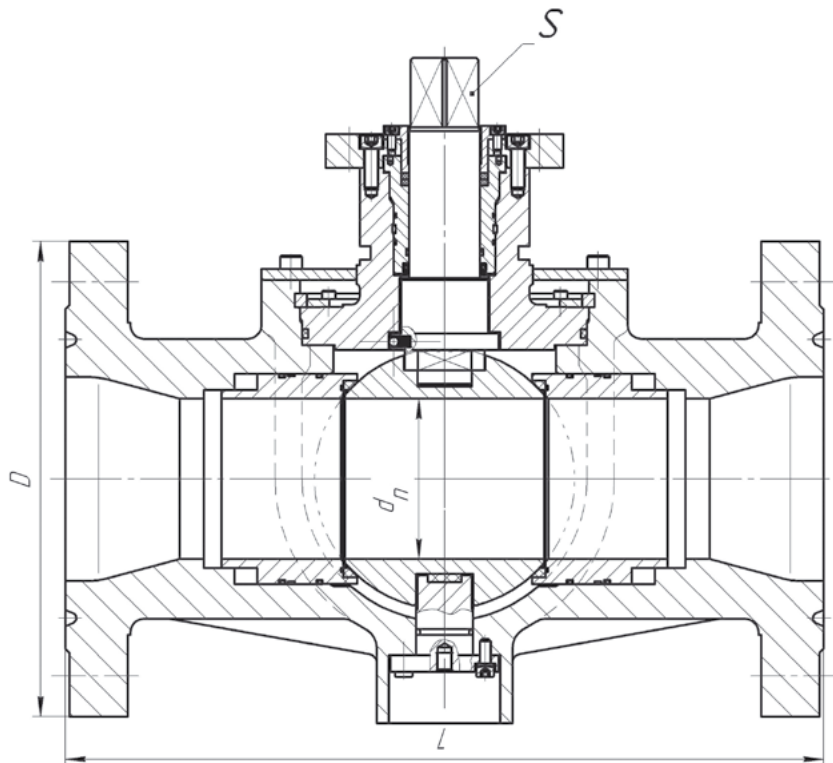


Fig. 2

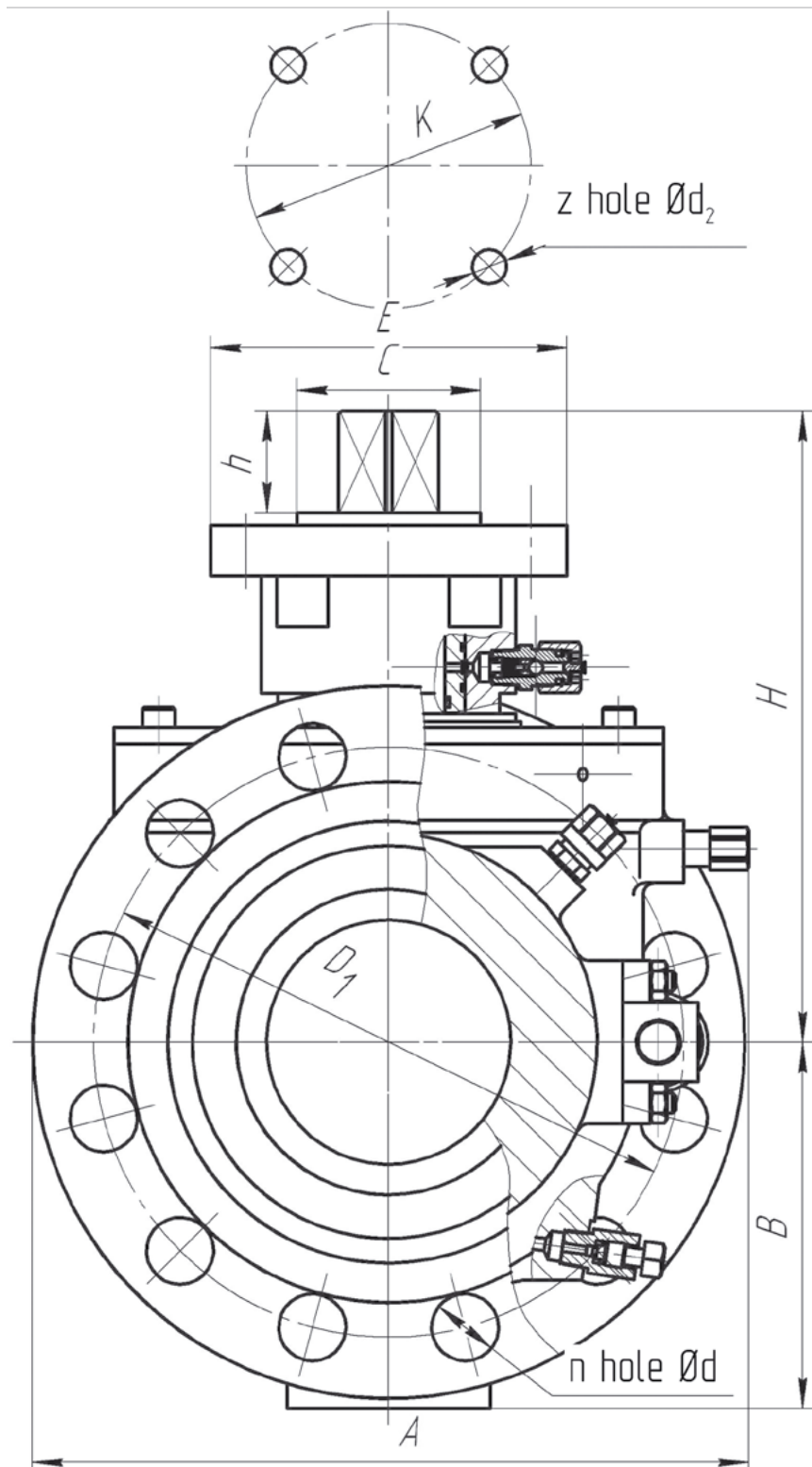


Fig. 3

STRUCTURE OF CONVENTIONAL DESIGNATION OF 620 SERIES ROOST® BALL VALVES

ROOST®	X	X	X	-	X	X
	1	2	3		4	5

1	Valve type	6 – ball
2	Pressure rating, MPa (ANSI)	1 – 1.6 (150) 2 – 2.5 (150) 3 – 4.0 (300) 4 – 6.3 (600) 5 – 10.0 (600) 7 – 25.0 (1500) 8 – 40.0 (2500)
3	Actuator type	1 – pneumatic; 2 – electric; 3 – manual; 4 – pneumohydraulic.
4	Operating medium temperature	1 – 45 below zero to 225 °C above zero; 2 – 60 below zero to 225 °C above zero; 3 – 45 below zero to 320 °C above zero; 4 – 60 below zero to 320 °C above zero; 5 – 196 below zero to 450 °C above zero.
5	Climatic modification	N1; F1; NF1.

The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal diameter
- ✔ pressure rating
- ✔ maximum operating medium temperature
- ✔ required shut-off classification
- ✔ minimum operating medium temperature (if it is lower than the value according to the climatic modification)
- ✔ body material
- ✔ special design, if available
- ✔ initial position of the valve when it is equipped with a pneumatic actuator
- ✔ connection to pipeline



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE BALL VALVE IN THE ORDER

Ball valve Roost® 620-1 NF(1), DN80, PN1,6 MPa, operating medium – steam, +150 °C, shut-off classification A, ASTM A216 Gr WCB (1.0446 EN), NC, flange type.



SERIES 710 ROOST® STEAM-HEATED SLIDE VALVE

The 710 series Roost® slide valves allowing steam heating of the body and cap are used for shutting off viscous liquid and/or crystallizing media flows.



APPLICATION

Gas, oil and chemical industries; for operation in liquid sulphur and high-paraffin oil transport and processing systems.



DN — nominal bore diameter, mm

80 to 250



PN — pressure rating, MPa

1.6



T° — operating medium temperature, °C

up to +250



ADVANTAGES OF SERIES 710 ROOST® STEAM-HEATED SLIDE VALVES

- ✔ **Possibility to heat all body and cap surfaces with steam**
 Due to the special shape of the steam-heat jacket, almost all surface of the body and the cap is heated, including the surface of the flange unions of the body and the cap gland. It precludes formation of any crystallization zones over all internal surfaces of the slide valve.
- ✔ **High resistance of the shut-off pair**
 Due to the welding of stellite onto sealing surfaces of seats and wedge the locking group is highly resistant to erosion in contaminated and chemically aggressive media, which allows maintaining high degree of the slide valve leak tightness for a long period.
- ✔ **Use of thermally expanded graphite in the gland assembly**
 The use of thermally expanded graphite O-rings in the gland assembly results in decrease of friction forces in it. It reduces the required torque at the flywheel and minimizes wear of the spindle sealing surface which, in its turn, guarantees long-term leak tightness of the gland assembly.

SPECIFICATIONS OF SERIES 710 ROOST® STEAM-HEATED SLIDE VALVES

The basic specifications of the slide valves are provided in Table 1.

The maximum admissible slide valve gate leakage values depending on the shut-off classification and nominal bore comply with GOST 9544-93. The connection of the slide valves to the pipeline is flanged type. The connection dimensions and sealing surface dimensions are special. The connection of the slide valves to the steam heating line is flanged type. The connection dimensions and sealing surface dimensions comply with GOST R 54432-2011, design 1, row 2.

The GOST 481-80 PMB 2 paronite gaskets provide sealing between the slide valve body and cap.

The slide valve stem gland seal is made of graflex (thermally expanded graphite).

Installation position of the slide valve: vertical – with flywheel facing upwards. In this case, the steam condensate is removed from the heating spaces via the bottom drain holes.

Table 1

Parameter name	Value				
Nominal bore, DN/D, mm	80/100	100/150	150/200	200/250	250/300
Pressure rating, PN, MPa	1.6				
Nominal bore of the water steam inlet fitting, mm	20				
Steam heating space pressure rating, MPa (kgf/cm ²)	0.6 1.0				
Face-to-face length L, mm	230	266.5	302	330	362
Height H, mm	418	487	620.5	771	921
Flywheel diameter	250	250	300	350	400
Rotary speed of the spindle for complete opening of the slide valve (reference value)	15	20	20	28	36
Weight, kg	68.5	94	145	230	302
Operating media	Medium is liquid sulphur, liquid oil products, polymers and other viscous and crystallizing media.				
Operating medium temperature range, °C	up to +150				
Ambient temperature range, °C for climatic modification according to GOST 15150-69					
N (1)	-40 to +70				
NF (1)	-60 to +70				



STRUCTURE OF CONVENTIONAL DESIGNATION OF 710 SERIES ROOST® STEAM-HEATED SLIDE VALVES

Roost®	710		X	X X X
	1	-	2	3

1	Valve type	710 – a slide valve with a steam heating jacket
2	Actuator type	2 – electric actuator 3 – manual actuator
3	Climatic modification	N – (-40 to +70) °C NF(1) – (-60 to +70) °C

The conventional designation shall be followed by a descriptive part with the following information:

- ✓ nominal bore of the pipeline slide valve/steam heating line, DN/D, mm
- ✓ nominal pressure PN, kgf/cm²
- ✓ maximum operating medium temperature
- ✓ body material body material



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE SLIDE VALVE IN THE ORDER

Slide valve Roost® 710-3 NF(1), DN100/150, PN16, 150 °C.

800 SERIES ROOST® BUTTERFLY GATE VALVES

The 800 series Roost® butterfly gate valves are designed for regulation and/or shut-off of liquid or gaseous media flows. The gate valve design is based on the triple offset principle, which allows providing high leak tightness even for metal-metal sealing. It makes 800 series gate valves an ideal solution for use as shut-off or shut-off and control devices in cases when no elastomers or plastics may be used.



APPLICATION

Gas, oil, chemical, food, power, metallurgy and other industries; various operating conditions.



DN — nominal bore diameter, mm
80 to 600



PN — pressure rating, MPa
2.5 to 10



T° — operating medium temperature, °C
-196 to +450

ADVANTAGES OF 800 SERIES ROOST® BUTTERFLY GATE VALVES

✔ Shut-off for metal-metal sealing classes

Due to the triple offset device principle and metal-graphite multi-layer seal, the gate valves ensure A class leak tightness in a wide temperature range and are used both for cryogenic and high-temperature media. In addition, metal-metal seal allows using the gate valves as control valves.

✔ Low weight and small dimensions

Are a characteristic feature of all butterfly gate valves, including triple offset ones. The weight and overall dimensions are reduced even further if tightening connection to the pipeline is used.

✔ High capacity values

Due to their design features, the gate valves have high capacity value which allows using them as shut-off devices in cases where it is necessary to minimize hydraulic losses.

✔ Maintainability

When the gate valve is removed from the pipeline, it can be serviced and repaired. The repair is carried out by replacing the metal-graphite seat and, if required, the plate.



800 SERIES ROOST® BUTTERFLY GATE VALVE OPERATING PRINCIPLE

The butterfly gate valves are based on triple offset principle, which ensures moving the sealing surfaces apart during opening without any negative interaction (deformations, frictions, etc.). During closing, the surfaces also contact each other only at the very last moment. Such a movement kinematics ensures long actuation life. Also, to ensure high leak tightness, the multi-layer metal-graphite seal is used in the triple offset valves. Such a seal compensates the geometry imperfections by means of flexibility and ensures dense and leak-proof surface contact.

The gate valves consist of the seat body and plate, which is rotated by 90 deg. angle during opening and opens the bore in the seat. The butterfly gate valve body can be flanged and flangeless, for tightening and for welding. The plate is installed on the shaft, which is supported by bearings made of special anti-friction materials. The plate is made of corrosion-resistant steel with sealing surface welded on with stellite. The gate valve seat is installed into the body on the gasket and can be easily removed for replacement. The seat is manufactured in two modifications: all-metal with weld-on and metal-graphite. The standard gland design is made of thermally expanded graphite, but other materials can be used as well on agreement with the customer.

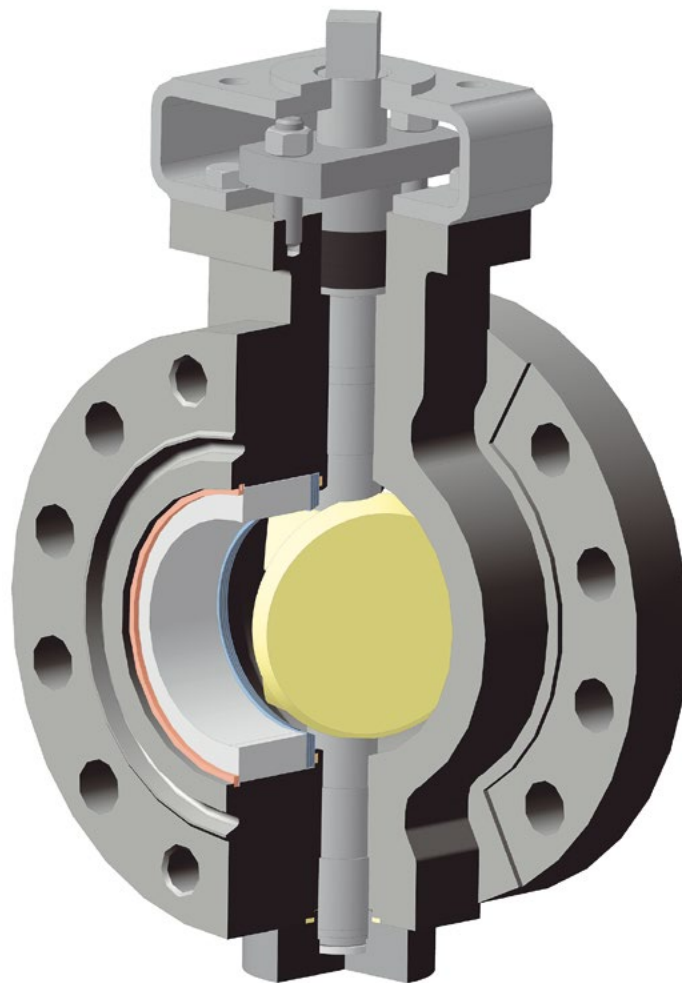


Fig. 1

SPECIFICATIONS OF 800 SERIES ROOST® BUTTERFLY GATE VALVES

Table 1

Parameter name	Values
Rated diameter, DN, mm	80; 125; 150; 200; 250; 300; 400; 500; 600
Nominal pressure, PN, MPa	2.5; 4; 6.3; 10
Operating media	Gaseous and liquid products, including aggressive ones and those containing solid inclusions, as well as viscous media.
TOperating medium temperature, °C	Standard design: -60 to +350
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged, according to GOST P54432-2011, ANSI B16.5
Type of the installed actuators	Pneumatic, with or without override Manual Electric (Schiebel, AUMA, etc.)
Body material	Steels: ASTM A216WCB (1.0446EN), ASTM A352GrLCC (1.1120 EN), ASTM A352GrLC2, ASTM A352GrLCB, ASTM A351GrCF8, ASTM A351GrCF8M, 1.4503 EN Alloys: (Hastelloy C, B)
Materials of the internal parts	Steels: AISI 1420 (1.4021 EN), AISI 202 (1.4373 EN), AISI 321H (1.4878 EN), AISI 316T (1.4571 EN), 1.4503 EN, Nitronic-60, 17-4PH
Seal type	Metal-metal Metal-metalgraphite
Shut-off classification	GOST R 54808-2011
Regulation characteristic	Equal percentage, modified
Shut off type	Bilateral
Minimum response time with a pneumatic actuator, sec.	12, for standard configuration 1–2, on request

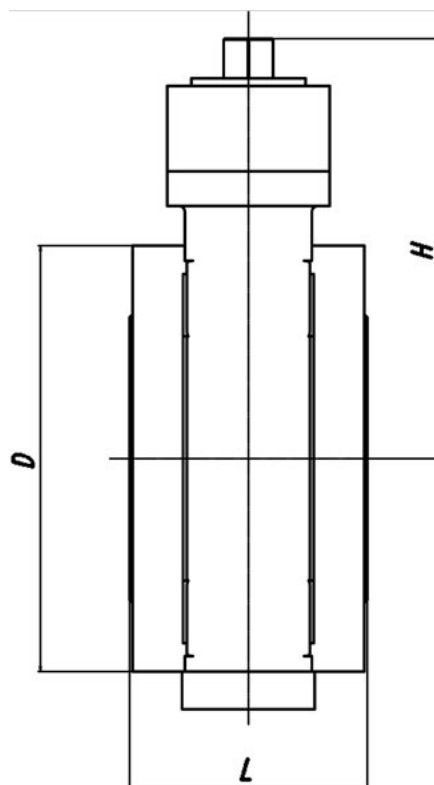


Fig. 2

CAPACITY OF 800 SERIES ROOST® BUTTERFLY GATE VALVES, K_{VY}

Table 2

DN, mm	Opening angle							
	10°	20°	30°	40°	50°	60°	70°	80°
80	10	20	35	55	80	125	155	180
100	15	35	55	80	120	185	250	290
125	30	55	90	135	200	315	450	570
150	40	80	130	200	300	450	600	700
200	70	150	230	350	520	800	1070	1250
250	110	240	370	560	830	1270	1700	2000
300	160	340	530	810	1205	1850	2470	2870
400	285	615	955	1460	2160	3310	4450	5200
500	450	1000	1500	2300	3400	5200	7000	8000
600	650	1400	2200	3350	4970	7600	10200	11800

WEIGHTS, OVERALL AND CONNECTION DIMENSIONS OF 800 SERIES ROOST® BUTTERFLY GATE VALVES (WITHOUT ACTUATOR 1)

Table 3

DN, mm	PN, MPa	L, mm		D, mm	H, mm	Weight, kg	
		Flanged	Tightening			Flanged	Tightening
80	4.0	-	60	130	318	-	34
125	1.6	200	70	240	267	45	25
150	1.6	210	76	270	293	53	32
200	1.6	230	89	330	358	86	52
	2.5		70	360	460	132	-
	4.0	240	80	375	424	138	-
	6.3		100	405		156	-
	10		125	430	424	162	-
250	1.6	250	114	395	392	120	83
	6.3	300	-	500	474	242	-
300	1.6	270	114	450	418	155	108
	2.5		-	485	522	242	-
400	1.0	310	140	555	460	240	165
500	1.6	350	152	710	656	350	-
600	1.6	390	178	840	1000	600	-

¹ The gate valve dimensions and weights are provided on request

STRUCTURE OF CONVENTIONAL DESIGNATION OF 800 SERIES ROOST® BUTTERFLY GATE VALVES

Roost®		X		X		X		X		XXX
		1		2		3	-	4		5

1	Product	«8» – butterfly gate valve
2	Series number	«0» – triple offset
3	Type	«0» – shut-off «1» – control valve
4	Actuator type	«1» – pneumatic actuator «2» – electric actuator «3» – manual actuator
5	Climatic modification	N – (-40 to +70) °C NF(1) – (-60 to 70) °C

The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal bore diameter
- ✔ pressure rating
- ✔ maximum operating medium temperature
- ✔ required shut-off classification
- ✔ minimum operating medium temperature (if it is lower than the value according to the climatic modification)
- ✔ body material
- ✔ special design, if available
- ✔ initial position of the gate valve when it is equipped with a pneumatic actuator
- ✔ connection to pipeline



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE GATE VALVE IN THE ORDER

Butterfly gate valve Roost® 800-1 NF(1), DN80, PN 1,6 MPa, operating medium – steam, +150 °C, shut-off classification A, ASTM A352Gr LCB, NC, flanged type.



900 SERIES ROOST® AXIAL VALVE

The 900 series Roost® control, shut-off, shut-off/control valves are based on the axial flow principle and designed for precise control and/or shut-off of liquid and gaseous media flows.



APPLICATION

Gas, oil and chemical industries; for high pressure and differential values, high capacities.



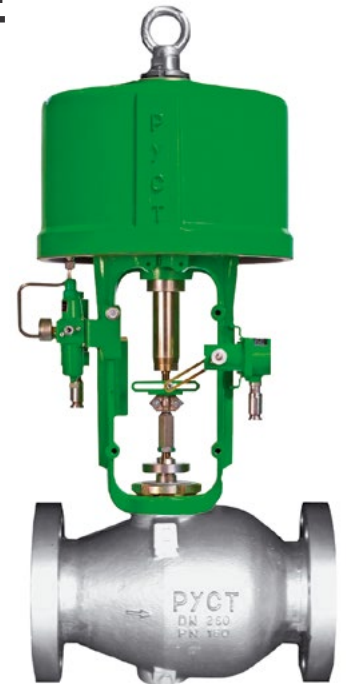
DN — nominal bore diameter, mm
80 to 500



PN — pressure rating, MPa
6.3 to 40



T° — operating medium temperature, °C
-60 to +225



ADVANTAGES OF 900 SERIES ROOST® AXIAL VALVES

- ✓ **Mass-dimensional characteristics**
Due to their axial design, the 900 series valves are lightweight and small, which simplifies their installation, removal and maintenance.
- ✓ **The valve has no cap**
During assembly the internal valve parts are installed via one of the valve fittings, so no valve cap is necessary and, consequently, no revision and maintenance of the cap hardware and seal are required.
- ✓ **Displacing forces at the stem**
Due to the stem and plunger design balanced in terms of pressure, small forces are required to actuate the plunger even in case of a high differential pressure at the valve. It allows using low-power actuators for 900 series valves.
- ✓ **Bilateral shut-off**
The valve plunger seals allow the leak-proof shut-off of the valve at bilateral action of the pressure differential.
- ✓ **Anti-noise and anti-erosion properties**
Axial shape of the valve flow space does not exert any disturbing influence on the flow, which makes the axial valves less noisy. Moving back through the valve the undisturbed flow does not exert any destructive action on the body walls and the pipeline outlet.
- ✓ **Capacity**
The axial type valve body has low resistance to the flow movement, and the design of the shut-off/control assembly allows designing the valve as a full-port device. This combination of features facilitates increasing the 900 series valve capacity.

900 SERIES ROOST® AXIAL VALVE OPERATING PRINCIPLE

The 900 series valve design is based on the axial flow principle. In accordance with this principle, the operating medium flow moves along the valve axis, flowing around the middle member into which the flow cross-section regulator assembly is installed. The plunger also moves along the valve axis closing the cross-section in the bushing perforated with holes of definite shape. The shape and size of the holes determine the capacity and flow characteristics of the valve.

The plunger displacement is effected by means of a rack-and-pinion gear rotating the stem by 90°. The rack-and-pinion assembly is located in the space filled with grease inside the middle body member and is protected against any operating medium action by means of seals, i.e. it is under atmospheric pressure. The racks are made of special high-strength steels, which, in combination with lubrication, ensure their long service life.

The stem seal function as a redundant device for a situation when the rack-and-pinion seals fail, and it starts operating after closing of the rubber plug built into the body. The plunger and perforated bushing are made of special materials precluding their seizure..

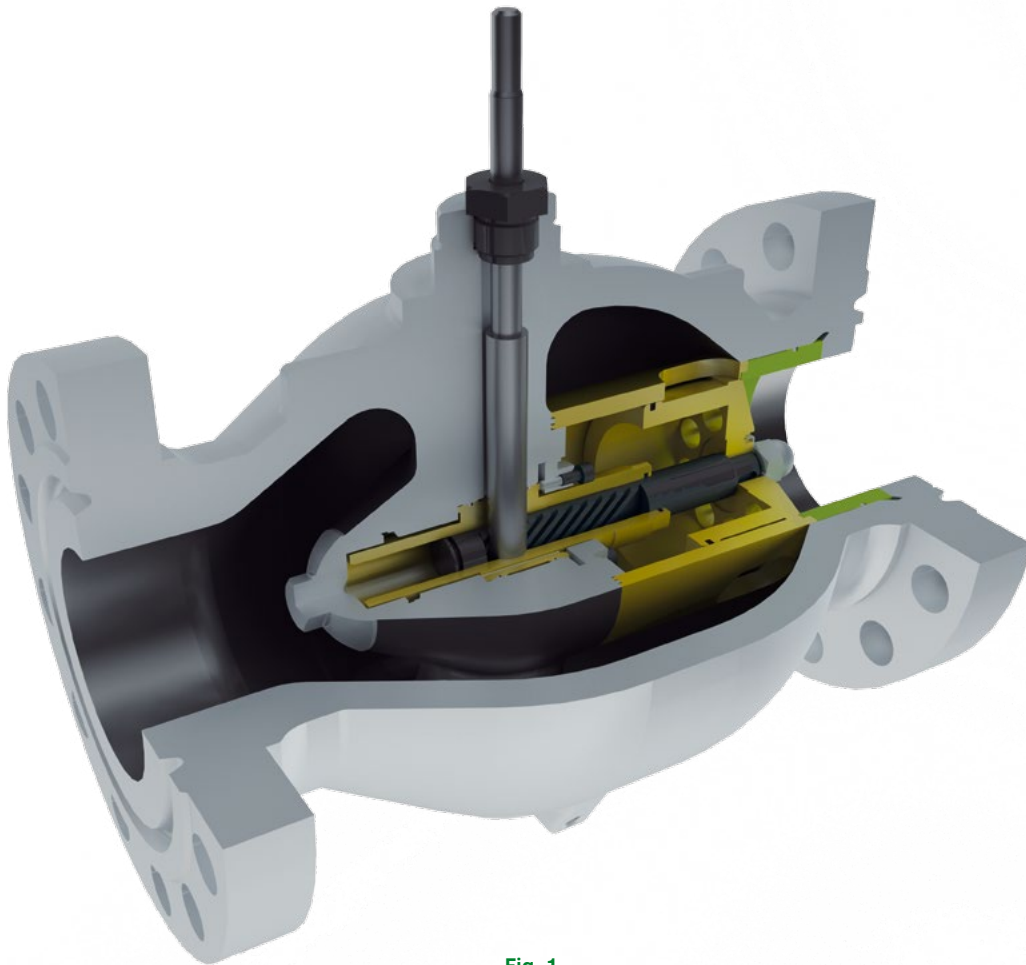


Fig. 1



SPECIFICATIONS OF 900 SERIES ROOST® AXIAL VALVES

Table 1

Parameter name	Value
Nominal diameter, DN, mm	80; 100; 150; 200; 250; 300; 400; 500
Pressure rating, PN, MPa	6.3; 10; 16 ; 25 ; 40
Operating media	Gaseous and liquid products, including aggressive ones and those containing solid inclusions. Except especially viscous and crystallizing media.
Operating medium temperature, °C	-60 to +225
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged according to GOST R 54432-2011, ANSI B16.5
Type of the installed actuators	Pneumatic Electric (AUMA, Schiebel, etc.) Manual
Body material	Steels: ASTM A216 Gr WCB (1.0446 EN), ASTM A352 Gr LCC (1.1120 EN), ASTM A352 Gr LC2, ASTM A352 Gr LCB, ASTM A351 Gr CF8, ASTM A351 Gr CF8M Alloys: Hastelloy C
Materials of the internal parts	Steels: AISI 420 (1.4021 EN), AISI 321 (1.4878 EN), AISI 316 Ti (1.4571 EN), 1.4503 EN, Nitronic-60, 1.4542 EN, AISI 202 (1.4373 EN) Alloys: Hastelloy C, B, St-6W
Valve type	Control valves Shut-off and control valves Shut-off
Special designs	Cavitation-resistant Anti-noise Abrasion-resistant Erosion resistant Hydrogen sulphide-resistant
Seal type	Metal-metal Soft seal
Shut-off classification	GOST R 54808-2011
Regulation characteristic	Linear Equal percentage
Flow direction	Bilateral
Minimum response time (with a pneumatic actuator), sec.	1 – 2

CAPACITY OF 900 SERIES ROOST® AXIAL VALVES

Table 2

Rated diameter, DN, mm	Capacity Kvy (m ³ /h) for valves	
	Control and shut-off and control	Shut-off
80	25, 32, 40, 50, 63, 80, 100, 125	160
100	40, 50, 63, 80, 100, 125, 160, 200	250
150	80, 100, 125, 160, 200, 250, 320, 400	500
200	125, 160, 200, 250, 320, 400, 500, 630	800
250	200, 250, 320, 400, 500, 630, 800, 1000	1250
300	320, 400, 500, 630, 800, 1000, 1250, 1600	2000
400	500, 630, 800, 1000, 1250, 1600, 2000, 2500	3200
500	500, 630, 800, 1000, 1250, 1600, 2000, 2500	3200

WEIGHTS, OVERALL AND CONNECTION DIMENSIONS OF 900 SERIES ROOST® AXIAL VALVES WITH PNEUMATIC AND MANUAL ROOST® ACTUATORS

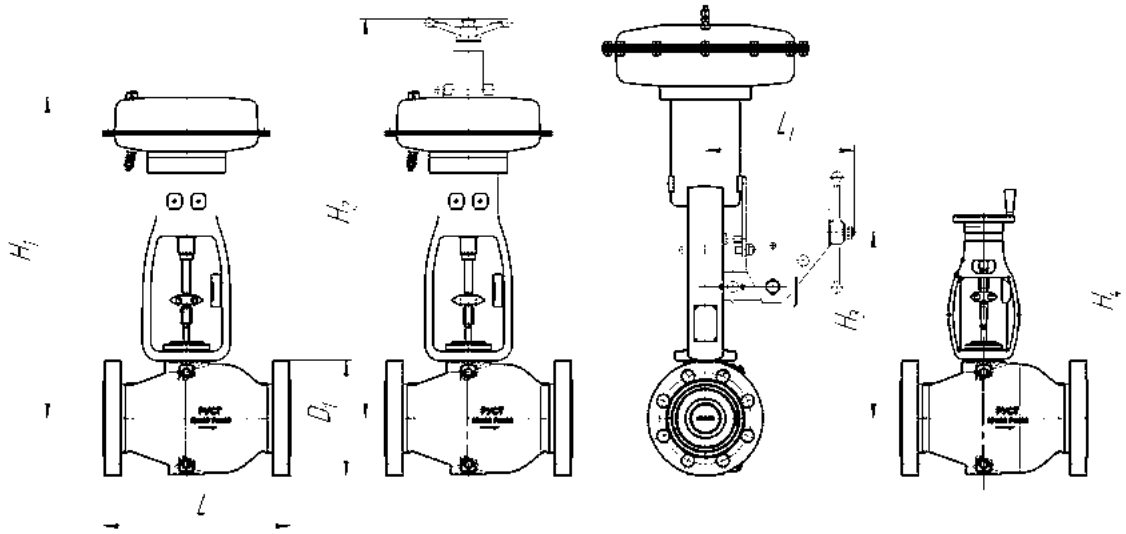


Fig. 2

Table 3

DN, mm	PN, MPa	L, mm	L1, mm	D1, mm	H1, mm	H2, mm	H3, mm	H4, mm	Weight, kg
80	16	380	357	230	750	974	370	544	80
100	10-16	430	357	265	940	1055	535	607	129
150	10-16	550	357	350	985	1110	580	652	271

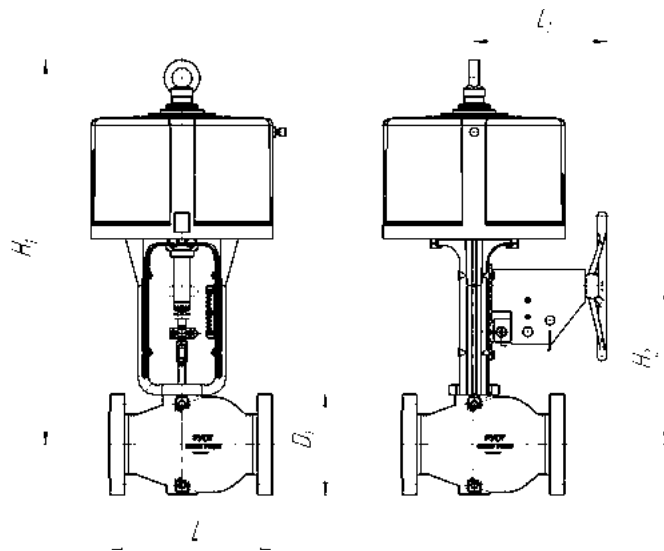


Fig. 3

Table 4

DN, mm	PN, MPa	L, mm	D1, mm	L1, mm	H1, mm	H2, mm	Weight, kg
200	10-16	650	430	370	1108	502	440
250	6.3-16	700	500	370	1133	527	575
300	6.3-16	780	585	386	1311	612	925
400	6.3-15	1000	715	386	1391	692	1410
500	6.3	1200	800	-	2175	-	2600
	10-15	1334	855	-		-	2850



WEIGHTS, OVERALL AND CONNECTION DIMENSIONS OF 900 SERIES ROOST® AXIAL VALVES WITH AUMA, SHIEBEL ELECTRIC ACTUATORS

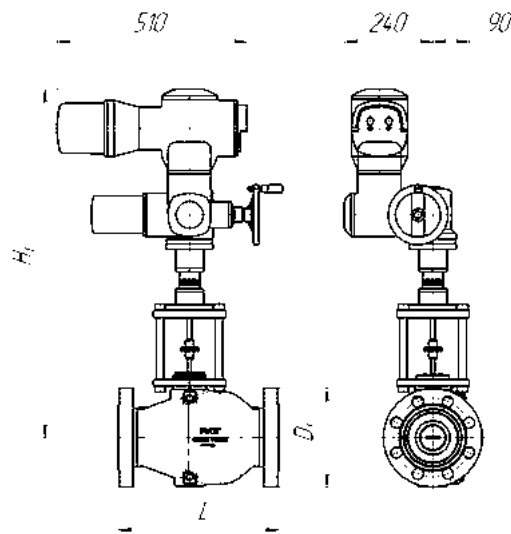


Fig. 4

Table 5

DN, mm	PN, MPa	L, mm	D1, mm	H1, mm	Weight, kg
80	16	380	230	1000	80
100	10-16	430	265	1090	120
150	10-16	550	350	1135	263
200	10-16	650	430	1200	515
250	6.3-16	700	500	1220	602
300	6.3-16	780	585	1265	887
400	6.3-15	1000	715	1300	1050

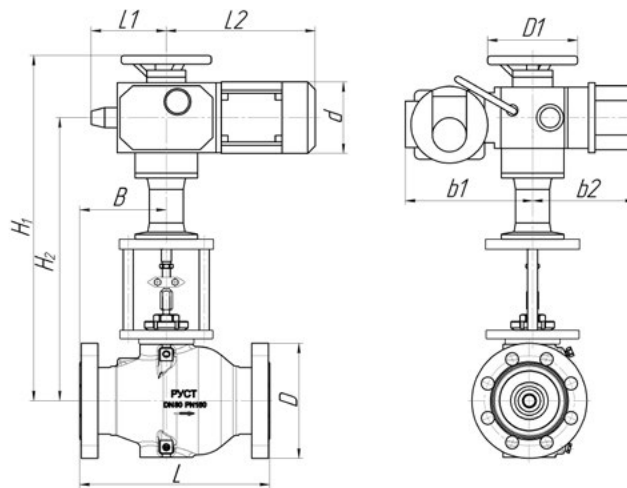


Fig. 5

Table 6

DN, mm	L, mm	D, mm	D1, mm	d, mm	H1, mm	H2, mm	L1, mm	L2, mm	B, mm	b1, mm	b2, mm	Weight, kg
80	380	230	180	143	690	564	150	298	173	259	201	95
100	430	265			766	640			191			127
150	550	350			811	685			258			221
200	650	430	235	158	939	812	153	367	335.5	258	203	383
250	700	500			1042	915			315.5			524
300	780	585			1138	1011			462.5			726
400	1000	715			1209	1082			450			1329

STRUCTURE OF CONVENTIONAL DESIGNATION OF 900 SERIES ROOST® AXIAL VALVES

Roost®	X X X		X	X X X
	1	-	2	3

1	Valve type	930 – shut-off 940 – shut-off/control 950 – control
2	Actuator type	1 – pneumatic 2 – electric 3 – manual
3	Climatic modification	N – (-40 to +70) °C NF(1) – (-60 to +70) °C

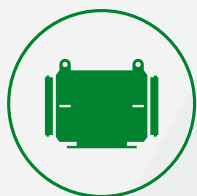
The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal diameter of the valve, DN, mm
- ✔ nominal pressure, PN, MPa
- ✔ maximum operating medium temperature
- ✔ required shut-off classification
- ✔ body material
- ✔ reference capacity and flow characteristics
- ✔ initial position of the valve when it is equipped with a pneumatic actuator
- ✔ special design, if stipulated



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE VALVE IN THE ORDER

Shut-off and control valve Roost® 940-1 NF(1), DN100, PN160, 150 °C, shut-off classification A, SS, NC.



PROTECTIVE FITTINGS

SERIES: 960





960 SERIES ROOST® CHECK VALVE

The 960 series Roost® check valves are based on the axial flow principle and designed for automatic prevention of any back flow of liquid and gaseous media in pipelines.



APPLICATION

Gas, oil, chemical industries; protection of rotary equipment (pumps, compressors) against reverse rotation; protection of tanks against return flow, etc.; medium and large size pipelines; medium and high pressures.



DN — nominal bore diameter, mm

80 to 700



PN — pressure rating, MPa

4 to 16



T° — operating medium temperature, °C

-60 to +100

ADVANTAGES OF 960 SERIES ROOST® CHECK VALVES

- ✓ **Impactless closing**
Due to axial design of the flow space, no large locking element (plate) displacement is required for opening/closing the valve, which, combined with light weight of the valve, precludes conditions for high acceleration of the plate and its closing with an impact.
- ✓ **Mass-dimensional characteristics**
Due to its axial design and absence of necessity in hydraulic dampers, the dimensions and weight of the check valve are relatively small, which simplifies installation, removal and handling.
- ✓ **The minimum differential required for the gate valve to start to open**
Due to the fact that a low-force spring is sufficient for return movement of the plate.
- ✓ **The minimum flow rate required for maintaining the valve in the opened position**
Due to the flow space profiled using Venturi effect.
- ✓ **Leak tightness typical for shut-off valves**
Is achieved by means of installing the second soft seal in the valve seat.

SPECIFICATIONS OF 960 SERIES ROOST® CHECK VALVES

Table 1

Parameter name	Value
Nominal diameter DN, mm	200, 250, 300, 400, 700
Pressure rating PN, MPa	4, 8, 10, 16
Operating media	Gaseous and liquid products, including aggressive ones and those containing solid inclusions. Except especially viscous and crystallizing media.
Operating medium temperature range, °C	-60 to +100
Climatic modification (ambient temperature, °C)	N (-40 to + 70) NF(1) (-60 to +70)
Body material	Steels: ASTM A352GrLCB, AISI 321H (1.4878 EN), A350LF2
Materials of the internal parts	Steels: AISI 321H (1.4878 EN), AISI 1420 (1.4021 EN), AISI 202 (1.4373 EN)
Seal type	Metal-metal Soft seal
Shut-off classification of the valve trim	in accordance with item 7.5.3 of Gazprom proprietary standard 2-4.1-212-2008
Valve stroke, mm (reference)	0.2*DN
Valve flow friction characteristic	4-5

The flanged design dimensions depend on the standard used for manufacture of the flanges (GOST, ANSI) and are provided on request

WEIGHT, OVERALL AND CONNECTION DIMENSIONS OF 960 SERIES ROOST® CHECK VALVES

Table 2

DN, mm	PN, MPa	D, mm	D1, mm	D2, mm	D3, mm	d, mm	H, mm	H1, mm	L, mm	L1, mm	L2, mm	L3, mm	Weight, kg
250	10-16	170	356	236	278	20	211	408,5	520	260	226	270	185
300	10-16	190	478	285	330	22	275	525	750	375	-	-	310
400	4	280	476	398	430	22	265	583	560	280	294	340	356.5
	10	280	715	-	-	22	265	583	962	481	294	340	795
700	8	470	840	688	730	22	505	1035	1000	500	500	550	1985

Other dimensions are provided on request

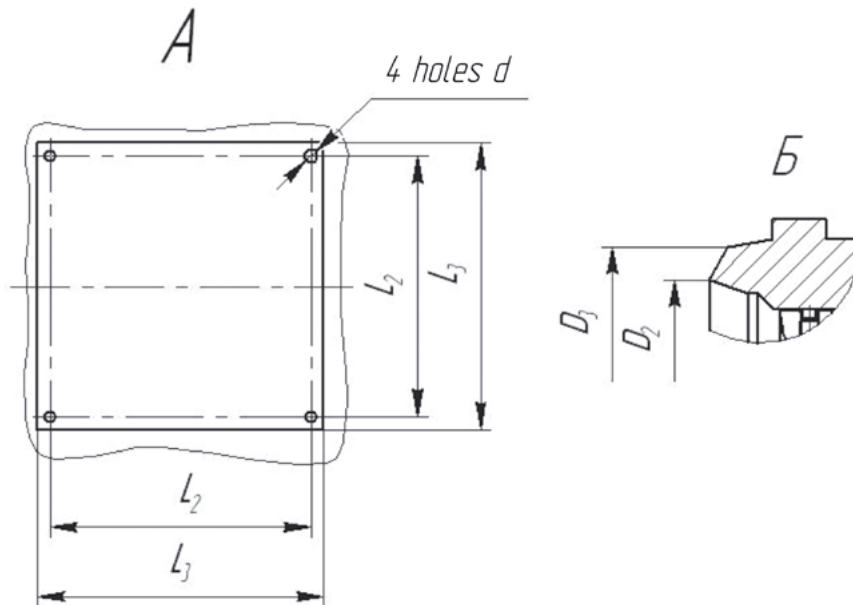
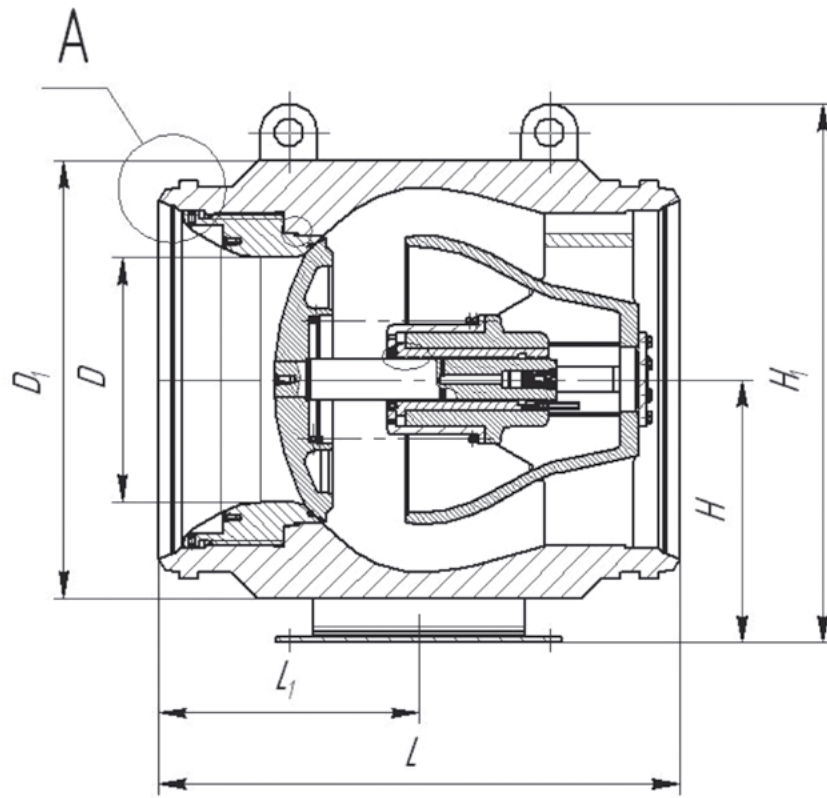


Fig. 1

STRUCTURE OF CONVENTIONAL DESIGNATION OF 960 SERIES ROOST® CHECK VALVES

Roost	XXX	-	XXX
	1		2

1	Valve type	960 - axial check valve
2	Climatic modification	N – (-40 to +70) °C NF(1) – (-60 to 70) °C

The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal diameter
- ✔ pressure rating
- ✔ maximum operating medium temperature
- ✔ required shut-off classification
- ✔ body material
- ✔ valve installation type: aboveground; underground
- ✔ connection to pipeline: flanged; for welding



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE VALVE IN THE ORDER

Check valve Roost® 960-NF(1), DN700, PN80, +80 °C, Gazprom proprietary standard 2-4.1-212-2008, A350LF2, aboveground installation, for welding.



PRESSURE CONTROL VALVE

SERIES: 100





RD 110 AND 120 SERIES PRESSURE CONTROL VALVE

The 110 and 120 series pressure control valves are direct-acting control devices. The control valves are designed for automatic maintenance of the set value of the operating medium pressure upstream and downstream of the control valve.



APPLICATION

Gas, oil and chemical industries; for application on process lines with liquid and gaseous media, for testing the valves, in pneumatic systems and many other applications.



DN — nominal bore diameter, mm
15 to 50



PN — pressure rating, MPa
1.6 to 4



T° — operating medium temperature, °C
-60 to +150



The 100 series control valve types
RD 110 – downstream
RD 120 – upstream



ADVANTAGES OF RD 110 AND 120 SERIES PRESSURE CONTROL VALVES

- ✓ High response due to the fact that the same structural member – diaphragm – is sensitive and actuating element.
- ✓ Compactness and simple design ensure reliability and ease of use.
- ✓ The design is protected against excess of the monitored pressure by means of strong steel control valve body parts withstanding excess of the monitored pressure up to the inlet pipeline pressure rating.

SPECIFICATIONS OF RD 110 AND 120 PRESSURE CONTROL VALVES

The basic specifications of RD 110 and 120 pressure control valves

Table 1

Parameter name	Value				
	15	20	25	40	50
Nominal diameter (DN), mm	15	20	25	40	50
Reference capacity (Kvr), m ³ /h	1.6	4		12	
Pressure rating (PN), MPa	1.6; 2.5; 4				
Operating medium	gases and liquids, including aggressive ones				
Operating medium temperature (t), °C	- 60 °C to +150				
Controlled pressure adjustment range: Outlet for 110 series RD, MPa; Inlet for 120 series RD, MPa.	0.01 to 1.03 0.03 to 1.20				
Emergency rise of controlled pressure safe for the control valve body	up to PN				
Climatic modification according to GOST 15150-69	N - (-40 to +70) NF(1) - (-60 to + 70)				
Body and cap material	Steels: ASTMA216GrWCB(1.0446 EN), ASTMA352GrLCC (1.1120 EN) , ASTMA351GrCF8, ASTMA351GrCF8M, ASTMA352GrLCB				
Leak tightness of the pressure control valve trim	corresponds to shut-off class A or class B according to GOST R 54808-2011				
Connection to the process pipeline	- coupling type. Female tapered inch thread according to GOST 6111-52 - flanged, according to GOST R 54432-2011				

Outlet pipeline pressure (P_{out}) adjustment ranges for RD 110 series control valves

Table 2

DN, mm	PN, MPa	P_{out} , MPa	Ranges P_{out} , MPa
15; 20; 25	1.6; 2.5; 4	0.01 – 0.21	0.01 – 0.035
			0.03 – 0.10
			0.09 – 0.21
15; 20; 25	1.6; 2.5; 4	0.10 – 1.03	0.10 – 0.21
			0.17 – 0.52
			0.48 – 1.03
40; 50	1.6; 2.5; 4	0.03 – 1.03	0.03 – 0.10
			0.09 – 0.21
			0.17 – 0.52
			0.48 – 1.03

Inlet pipeline pressure (P_{in}) adjustment ranges for RD 120 series control valves

Table 3

DN, mm	PN, MPa	P_{in} , MPa	Ranges P_{in} , MPa
15	1.6; 2.5; 4	0.05 – 1.2	0.05 – 0.25
			0.2 – 0.7
			0.65 – 1.20
20; 25	1.6; 2.5; 4	0.05 – 1.2	0.05 – 0.25
			0.2 – 0.7
			0.65 – 1.20
40; 50	1.6; 2.5; 4	0.03 – 1.2	0.03 – 0.20
			0.15 – 0.35
			0.3 – 0.7
			0.65 – 1.20

The adjustment range is specified in the control valve order and is marked on the plate attached to the valve body.



WEIGHT, OVERALL AND CONNECTION DIMENSIONS OF RD 110 AND 120 SERIES PRESSURE CONTROL VALVES

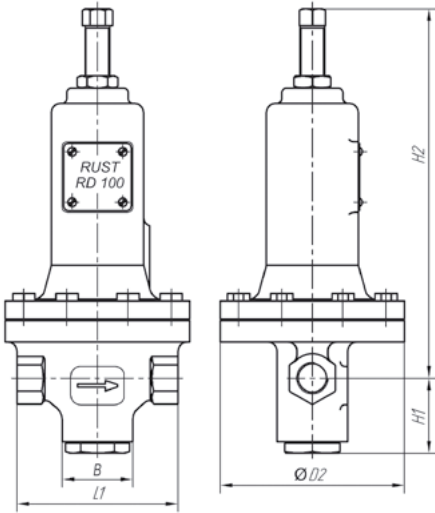


Fig. 3 Overall dimensions of RD 100 series coupling design pressure control valve

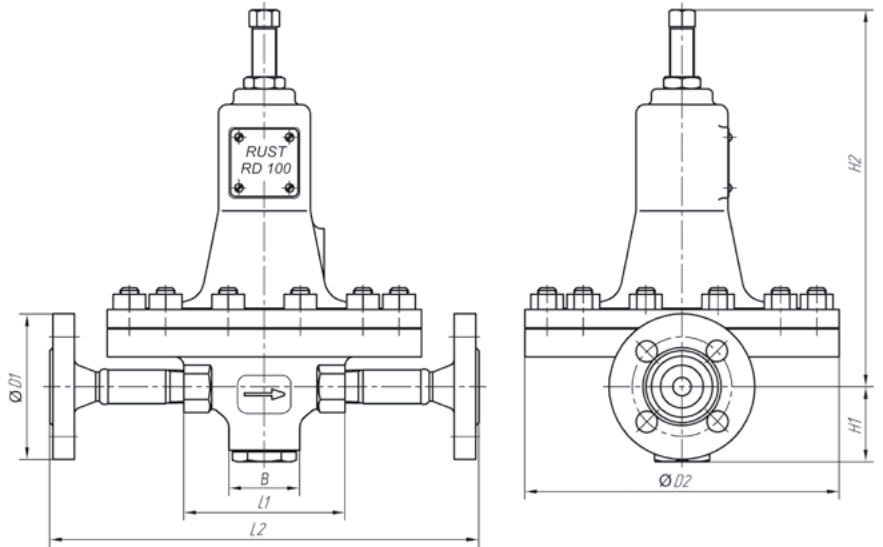


Fig. 4 Overall dimensions of RD 100 series flanged design pressure control valve

OVERALL DIMENSIONS OF RD 110 AND 120 SERIES PRESSURE CONTROL VALVES

Table 4

DN, mm	PN, MPa	P _{out} (P _{in}), MPa	L1, mm	L2, mm	D1, mm	D2, mm	H1, mm	H2 _{max} , mm	B, mm
15	1.6; 2.5; 4	0.01 – 0.21	105	280	95	205	50	280	46
		0.10 (0.03) – 1.03 (1.2)	105	280	95	120	50	275	46
20	1.6; 2.5; 4	0.01 – 0.21	120	360	105	285	63	352	60
		0.10 (0.03) – 1.03 (1.2)	120	360	105	160	63	352	60
25	1.6; 2.5; 4	0.01 – 0.21	120	360	115	285	63	352	60
		0.10 (0.03) – 1.03 (1.2)	120	360	115	160	63	352	60
40	1.6; 2.5; 4	0.03 (0.03) – 1.03 (1.2)	185	360	145	235	82	453	86
50	1.6; 2.5; 4	0.03 (0.03)...1.03 (1.2)	185	360	160	235	82	453	86

WEIGHT OF RD 110 AND 120 SERIES PRESSURE CONTROL VALVES

Table 5

DN, mm	PN, MPa	P _{out} (P _{in}), MPa	Weight, kg	
			Coupling	Flanged
15	1.6; 2.5; 4	0.01 – 0.21	11.3	13
		0.10 (0.03) – 1.03 (1.2)	5.8	7.5
20	1.6; 2.5; 4	0.01 – 0.21	28.4	30.7
		0.10 (0.03) – 1.03 (1.2)	18.4	20.7
25	1.6; 2.5; 4	0.01 – 0.21	28.4	31.4
		0.10 (0.03) – 1.03 (1.2)	18.4	21.4
40	1.6; 2.5; 4	0.03 (0.03) – 1.03 (1.2)	45.2	50.1
50	1.6; 2.5; 4	0.03 (0.03) – 1.03 (1.2)	45.2	51.8

STRUCTURE OF CONVENTIONAL DESIGNATION OF RD 110 AND 120 SERIES PRESSURE CONTROL VALVES

RD		XXX	-	XXX
		1		2

1	Control valve type	110 – downstream 120 – upstream
2	Climatic modification according to GOST 15150-69	N – (-40 to +70) °C NF(1) – (-60 to +70) °C

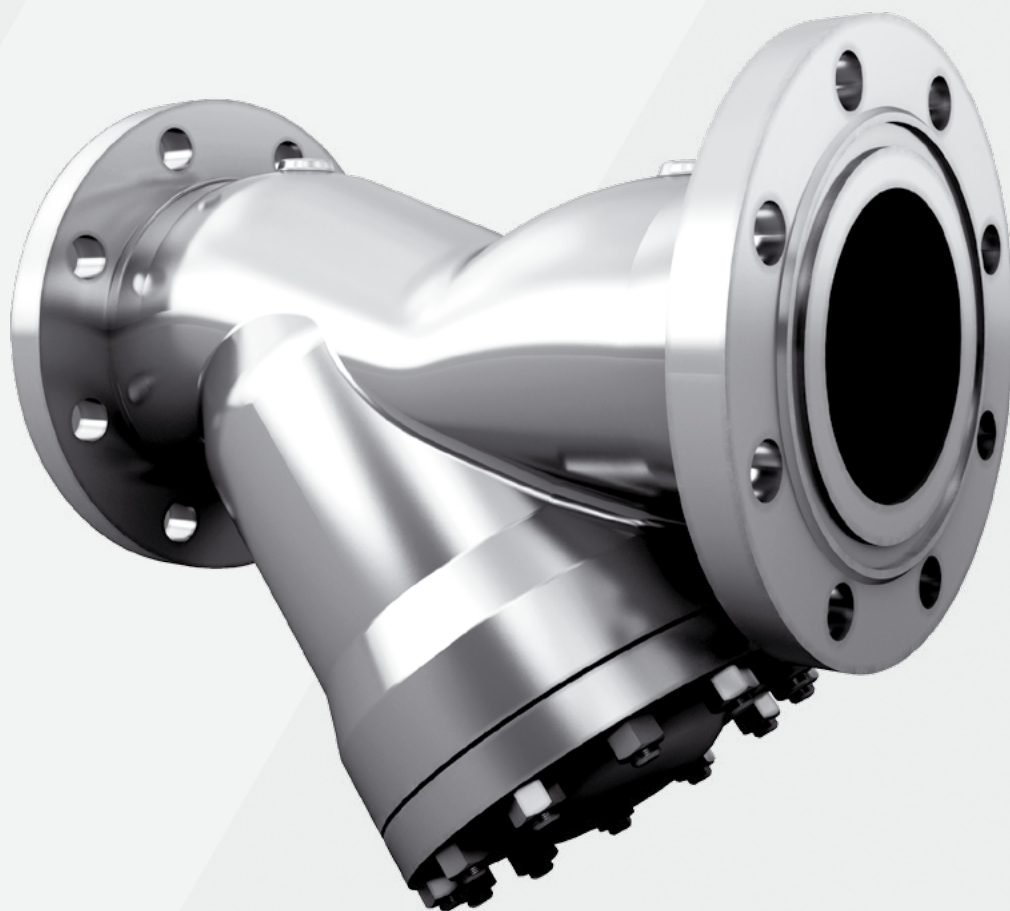
The conventional designation shall be followed by a descriptive part with the following information:

- ✔ nominal bore diameter DN
- ✔ pressure rating PN
- ✔ control valve body material
- ✔ controlled pressure adjustment range.



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE CONTROL VALVE IN THE ORDER

RD Roost® 110-N DN25, PN4, with body made of steel ASTMA216GrWCB(1.0446 EN), with adjustment range (0.17 to 0.52) MPa.



STRAINERS

SERIES: Y-shaped type FS





FS SERIES Y-SHAPED TYPE STRAINER

FS series Y-shaped type strainers are designed for removal of mechanical particles from liquid and gaseous media flows.



APPLICATION

Gas, oil and chemical industries; for continuous protection against ingress of pollutants into pumps, valves, flow meters and other critical elements of pipeline systems; for long-term purification of flows after repair works on pipelines and installations.



DN — nominal bore diameter, mm

25 to 300



PN — pressure rating, MPa

1.6 to 16



T° — operating medium temperature, °C

-196 to +500

ADVANTAGES OF FS SERIES Y-SHAPED TYPE STRAINERS

- ✔ **Possibility of direct connection of the filter and the element to be protected**
When the filter is purchased, one can order asymmetrical design of the filter body flanges, which will allow installing the filter immediately upstream of the product to be protected against pollutants, without any additional adapter elements.
- ✔ **Increased permissible pressure differential at the filter**
The filter element design contains strong perforated shell ring inside which the filter strainer is installed. Such a shell ring takes up all loads related to action of the flow on the filter element, especially high in case of a severe strainer contamination.
- ✔ **Wide range of filtration size**
The customer is offered a wide range of filter strainer mesh size during product order procedure. If it is impossible to select a strainer, non-woven materials can be used as filtering material, for example, fluorine plastic, polypropylene, etc.
- ✔ **Possibility to install magnetic elements**
The Y-shaped filter design provides possibility to install magnets collecting metal particles and thus increasing filtering capacity of the filter.
- ✔ **Possibility to connect pressure gauges**
The Y-shaped filter design provides possibility to make holes for connection of pressure gauges so that to determine the pressure differential at the filter for assessment of its contamination degree.
- ✔ **Possibility of quick filter cleaning**
The Y-shaped filter design provides possibility of making a drain hole in the cap through which any accumulated pollutants are discharged without removing the cap from the filter body.

SPECIFICATIONS OF FS SERIES Y-SHAPED TYPE STRAINERS

Table 1

Parameter name	Value
Nominal diameter, DN, mm	25; 50; 80; 100; 150; 200; 250; 300
Pressure rating, PN, MPa	1.6; 2.5; 4; 6.3; 10; 16
Operating media	Gaseous and liquid products, including aggressive ones. Except especially viscous and crystallizing media.
Operating medium temperature, °C (depending on the body material)	-196 to +500
Climatic modification (ambient temperature, °C)	N (-40 to +70) NF(1) (-60 to +70)
Connection to pipeline	Flanged according to GOST R 54432-2011, including asymmetrical designs Welded
Body material	Steels: ASTM A216 Gr WCB (1.0446 EN), ASTM A352 Gr LCC (1.1120 EN), ASTM A352 Gr LC2, ASTM A352 Gr LCB, ASTM A351 Gr CF8, ASTM A351 Gr CF8M, 1.4373 EN Alloys: Hastelloy C, B
Filter element materials	Shell ring: AISI 420 (1.4021 EN), AISI 321 (1.4878 EN), AISI 316 Ti (1.4571 EN), 1.4503 EN Filtering layer: strainer made of AISI 321 (1.4878 EN), porous polypropylene, porous fluorine plastic
Special designs	With holes for connection of instruments With a drain hole With magnetic elements With reinforced filter element With a combination of the above stated designs

SPECIFICATIONS OF FS SERIES Y-SHAPED TYPE STRAINERS (VARIABLE FROM DN)

Table 2

Nominal diameter of the bore DN, mm		25	50	80	100	150	200	250	300
Reference capacity K _{vr} , m ³ /h, for the mesh size, mm	1	16	63	160	250	630	1000	1600	2500
	0.4	12	50	125	200	500	800	1250	2000
Filter flow friction characteristic, for strainer mesh size, mm	1	2.5							
	0.4	4							
Ratio of the strainer bore area to the pipe bore area		2.5							
The maximum permissible pressure differential at the filter, kgf/cm ²		12	10	8	6		4	2.5	

Table 3

Bore diameter, DN, mm	Size of threaded hole in the cap
25, 50	K1/4"
80, 100	K1/2"
150, 200	K1"
250, 300	K1 1/2"



WEIGHTS, OVERALL AND CONNECTION DIMENSIONS OF FS SERIES Y-SHAPED STRAINERS

Table 4

DN, mm	PN, MPa	L, mm	D, mm	H, mm	H1, mm	B, mm	Weight, kg
25	1.6; 2.5; 4	160	115	98	150	5	4
	6.3	230	135		170	-	7
	10; 16			133	197	5	8,5
50	1.6; 2.5; 4	230	160	150	221	22	30
	6.3	300	175	170	251	-	16
	10; 16		195	184	281	23	25
80	1.6; 2.5; 4	310	195	210	300	65	18
	6.3	380	210	223	310	44	23
	10; 16		230	264	345	65	36
100	1.6	350	215	267	365	55	30
	2.5; 4		230				
	6.3	430	250	258	355	-	42
	10; 16		265	292	310	-	65
150	1.6	480	280	314	415	15	60
	2.5; 4		300				
	6.3	550	340	323	450	18	86
	10; 16		350	310	420	-	130
200	1.6	600	335	410	530	-	130
	2.5		360				
	4		375				
	6.3	650	405	431	555	24	160
250	1.6	730	405	310	435	-	312
	2.5		425	462.5	580	5	
	4		445	452.5	575	-	
300	1.6	850	460	615	740	52	335.5
	2.5		485				356
	4	980	510	-	403		

Note: The dash in the column B, mm means that in case of the cap+filter+element assembly removal this assembly does not exceed dimension L

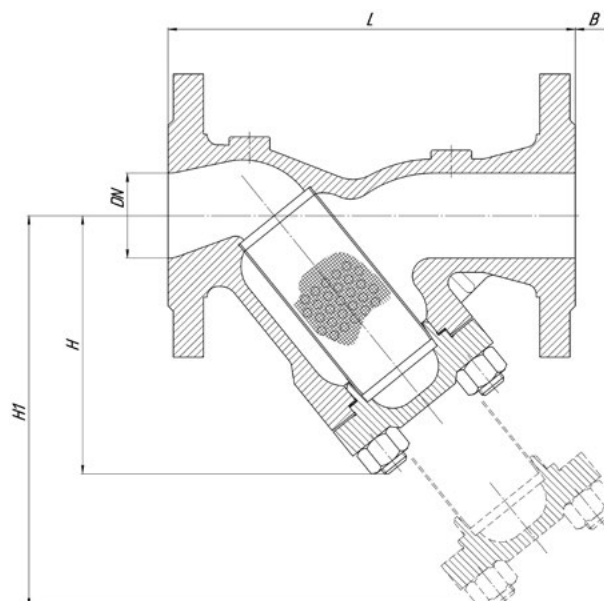


Fig. 1

STRUCTURE OF CONVENTIONAL DESIGNATION OF FS SERIES Y-TYPE FILTERS

Roost®		FS		X		X		X	-	X		X
		1		2		3		4		5		6

1	Product type	FS – strainer
2	Nominal diameter, mm	25; 50; 80; 100; 150; 200; 250; 300; 400; 500
3	Body material	Steels: ASTMA216GrWCB(1.0446 EN), ASTMA352GrLCC (1.1120 EN), ASTMA352GrLC2, ASTMA352GrLCB , ASTMA351GrCF8, ASTMA351GrCF8M, 1.4373EN Alloys: Hastelloy C, B
4	Pressure rating, PN, MPa	16; 25; 40; 63; 100; 160
5	Size of cells in the net, mm	0.2; 0.4; 0.5; 0.63; 0.8; 1.0; 1.2; 1.6
6	Climatic modification according to GOST 15150-69	N (-40 to +70) NF(1) (-60 to +70) T (-10 to +85)

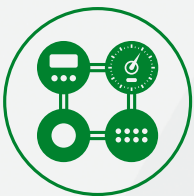
Then a descriptive part should follow. It should include DN, PN, filter body material and special design if it is required.



EXAMPLE OF CONVENTIONAL DESIGNATION OF THE FILTER IN THE ORDER

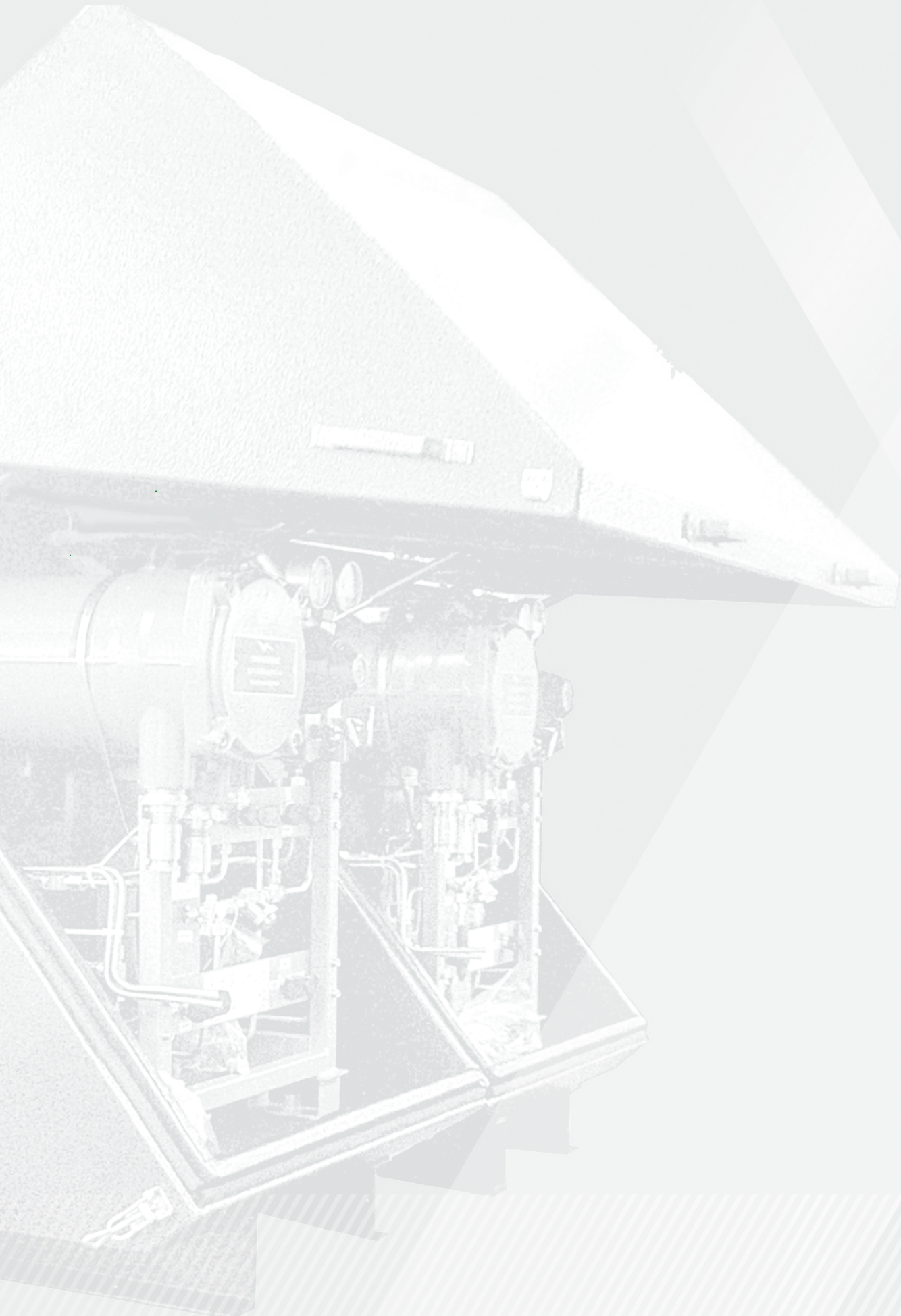
Description: Y-shaped strainer DN100, PN40, with a body made of steel ASTMA216GrWCB (1.0446 EN), with mesh size 0.8 mm, climatic modification N, with a drain hole.

Designation in the order: Filter Roost® FS-Y0.8N DN100, PN40, with a body made of steel ASTMA216GrWCB (1.0446 EN), with a drain hole. Specs 3742-002-41554973-98



STANDARD UNIT SYSTEMS

SERIES: Roost® 250, 300





250, 300 SERIES ROOST® SRPI REGULATED INHIBITOR INJECTION SYSTEM

The 250, 300 series Roost SRPI system is designed for distribution and metering of the hydrate development inhibitor over inlet points – gas wells, flow lines, gas pipelines, shut-off and control devices susceptible to hydrate formation, irrespective of fluctuations of pressure in inlet and outlet pipelines.



APPLICATION

Gas production, transportation and underground storage systems requiring protection of shut-off and control equipment and pipelines against hydrate formation.



Operating pressure, MPa

up to 32

Quantity of lines

1 to 4

Consumption of inhibitor per line, kg/h

0 to 1000



Permissible pressure differential at the valve during regulation, MPa

up to 10



T° – operating medium temperature, °C

- 60 to +70 (depending on the applied equipment)



Flow rate control

automatic/manual/local

ADVANTAGES OF 250, 300 SERIES ROOST® SRPI

- ✓ The use of specially developed 411 series valve with patented throttling loop for operating at extra low flow rates at large pressure differentials.
- ✓ A wide range of design types (vertical, horizontal and modular) and process flow charts.
- ✓ Maintainability. A process flow chart ensuring maintainability and repair of assemblies without any system removal.
- ✓ Reliability. Possibility of long-term flow rate maintenance in case of electric or pneumatic actuator malfunction.
- ✓ Versatility. A wide range of electric actuators and instrumentation of various manufacturers and types.
- ✓ Filtration system. The use of a specially developed filter with built-in bypass Filtration system. The use of a specially developed filter with built-in bypass.

SPECIFICATIONS OF 250, 300 SERIES ROOST® SRPI
Table 1

Parameter name	Magnitude
Operating medium	Methanol
Maximum operating medium pressure ¹ , MPa	32
Ambient temperature ² , °C	-60 to +70
Operating medium temperature, °C	-50 to +70
Quantity of independent inlet points, pcs	1 to 4
Inhibitor flow rate per port, m ³ /h	0.03 to 1
Relative flow rate maintenance error, %	± 1
Power supply of actuators: pneumatic, MPa (kgf/cm ²) electric, V	0.14 to 0.6 (1.4 to 6) 24/220/380
Rated control systems supply voltage, V	24
Control signal 3 I _c , mA	4 to 20
Feedback signal ³ Q _{os} current flow rate, mA X _r current position of the regulator, mA dP pressure differential at the filter, mA	4 to 20 4 to 20 4 to 20
Current type	direct
Deviation of supply voltage from the rated value ≤ %	± 10
Electric equipment design	explosion-proof
Overall dimensions, mm (L x W x H) Horizontal / Vertical / Modular	2300 x 600 x 1265 / 1030 x 480 x 2363 / 700 x 700 x 850
Weight, no more than, kg	460

¹ The maximum operating medium pressure is determined by the use of pipelines, control, shut-off and gauge devices of the required pressure ratings up to 32 MPa

² The operating temperature range is determined by hardware components of the required climatic modification

³ Field buses, communication protocols can be used, and the monitored parameters can be measured on agreement with the customer

STRUCTURE OF CONVENTIONAL DESIGNATION OF 250, 300 SERIES ROOST® SRPI

Roost®	SRPI	X	XX	X	X	X	X	X	XXX
	1	2	3	4	5	6	7	8	9

1	SRPI	Regulated inhibitor injection system
2	Maximum operating medium pressure, MPa	25 32
3	Quantity of inhibitor injection ports	1 – 4
4	Total flow rate, kg/h or l/h (according to item 5)	0 – 4000
5	Flow rate type	Volumetric (V) Mass (M)
6	Actuator type	electric (E) pneumatic (P) manual (M)
7	Design	modular (M) vertical (V) horizontal (H) special (S)
8	Protection against external action	arrangement in a cabinet (C)
9	Climatic modification	N – (-40 to +70) °C NF(1) – (-60 to +70) °C


EXAMPLE OF CONVENTIONAL DESIGNATION OF SRPI IN THE ORDER

SRPI 25-3-200M-E M C N. The maximum operating medium pressure is 25(250) MPa, 3 ports, 200 kg/h flow rate, mass, electric actuator, modular design, in a cabinet, climatic modification N.



DATA SHEETS

APPENDIX

DATA SHEET

for control and shut-off valves

ROOST-95 JSC, MOSCOW

Tel./fax: +7(495) 787-74-35

E-mail: contact@roost.ru

Appendix 1

Customer:										
1*	Valve type:	control			shut-off (cut-off)			shut-off and control		
2	Item description									
3*	Quantity									
4*	Nominal diameter, DN									
5*	Pressure rating, PN									
6*	Operating medium/Composition									
7*	Aggregate state			liquid		gas		steam		
8*	Presence of abrasive particles (quantity and size) in the medium									
9*	Flow rate	nm ³ /h		kg/h		minimum		standard		maximum
		m ³ /h (in operating conditions)								
10*	Inlet pressure, P1, MPa									
11*	Outlet pressure, P2, MPa									
13*	Inlet temperature, T1									
14*	Inlet density, r1									
15	Viscosity in operating conditions									
16	Vapour pressure, Pv									
17	Critical pressure, Pc									
18	Kv on calculation									
19	Selected Kvr value									
20	Calculations	Flow characteristics			linear		equal percentage			
21		Noise pressure level dB(A)								
22	Body material									
23	Valve body	Connection to the pipeline			flanged		other			
24		Flange design								
25	Max. pressure differential in closed position									
26	Trim	Leak tightness in the trim								
28		Medium feed direction			unilateral			bilateral		
29	Actuator	Actuator type			pneumatic		manual		electric	
30		Actuator power supply			kg/cm ²		V		Hz	
32		Position in de-energized state			opened		closed		fixed	
33	Configu- ration	Manual override			yes			no		
34		Counter flanges			yes			no		
35		Pressure reducer with filter			yes			no		
36		Electric equipment								
37	Positioner			pneumatic		electropneumatic		1exi	1exd	
	Limit switches			yes		no		1exi	1exd	
38	Electropneumatic valve			yes		no		1exi	1exd	
	Power supply			V		current				
39	Installation	Pipeline position			horizontal			vertical		
40*		Pipeline material								
41*		Pipeline size, DN								
42		Ambient temperature			minimum		maximum			
Replaced / required valve										
Additional information										

* Mandatory fields

DATA SHEET

for check valves

Appendix 3

ROOST-95 JSC, MOSCOW

Tel./fax: +7(495) 787-74-35

E-mail: contact@roost.ru

Customer:				
1	Item description			
2*	Quantity			
3*	Nominal diameter, DN			
4*	Pressure rating, PN			
5*	Operating medium	Operating medium/Composition		
6*		Presence of abrasive particles (q-ty and size) in the medium		
7		Temperature	minimum	standard
8*				
9	Valve body	Body material		
10		Connection to pipeline	flanged	welded
11		Flange design		
12	Trim	Leak tightness in the trim		
13	Configuration	Counter flanges	yes	no
14	Installation	Pipeline position	horizontal	vertical
			aboveground	underground
15*		Pipeline material		
16*		Pipeline size, DN or external diameter and pipe wall thickness, mm		
17	Ambient temperature	minimum	maximum	
Replaced / required valve				
Additional information				

* Mandatory fields



DATA SHEET

for ball valves

Appendix 4

ROOST-95 JSC, MOSCOW

Tel./fax: +7(495) 787-74-35

E-mail: contact@roost.ru

Customer:							
1*	Action type:	control	shut-off (cut-off)		shut-off and control		
2	Item description						
3*	Quantity						
4*	Nominal diameter, DN						
5*	Pressure rating, PN						
6*	Operating medium (you are requested to indicate the units of measurement of magnitudes)	Operating medium/Composition					
7*		Aggregate state	liquid	gas	steam		
8*		Presence of abrasive particles (q-ty and size) in the medium					
9*		Flow rate	nm ³ /h	kg/h	minimum	standard	maximum
10*		m ³ /h (in operating conditions)					
11*		Inlet pressure, P1, MPa					
12*		Outlet pressure, P2, MPa					
13*		Min. differential for calculation of capacity, MPa					
14*		Inlet temperature, T1					
15		Inlet density, r1					
16		Viscosity in operating conditions					
17		Vapour pressure, Pv					
18		Critical pressure, Pc					
19		Calculations	Kv on calculation				
20	Selected Kvr value						
21	Flow characteristics		linear	equal percentage			
22	Noise pressure level dB(A)						
23	Valve body	Body material					
24		Connection to the pipeline	flanged	welded			
25	Trim	Flange design					
26		Max. pressure differential in closed position					
27		Leak tightness in the trim					
28		Seal type	non-metal	metal			
29	Actuator	Medium feed direction	unilateral	bilateral			
30		Actuator type	pneumatic	manual	electric		
31		Actuator power supply					
32		Control signal					
33	Configuration	Position in de-energized state	opened	closed	fixed		
34		Positioner	pneumatic	electropneumatic			
35		Limit switches	yes	no	exi	exd	
36		Electropneumatic valve	yes	no	Power supply		
37		Pressure reducer with filter	yes	no			
38		Manual override	yes	no			
39		Counter flanges	yes	no			
40	Installation	Cable entries	yes	no			
41*		Pipeline position	horizontal		vertical		
42*		Pipeline material					
43		Pipeline size, DN					
44	Valve installation	aboveground		underground			
44	Ambient temperature						
Replaced /		required ball valve					
Additional information							

* Mandatory fields

DATA SHEET

for direct-acting upstream pressure control valves

ROOST-95 JSC, MOSCOW

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Appendix 5

The data of the person who filled in the data sheet and of the organization he/she represents		Full name, signature		Organization		
Customer, final customer, installation and facility data		Facility name		Organization		
Designation of the position in the diagram				Quantity		
1*	Regulator	Nominal bore, DN		select		
2*		Pressure rating, PN		select		
3*	Operating medium (you are requested to indicate the units of measurement of magnitudes)	Operating medium / Composition				
4*		Aggregate state		Liquid	Gas	Steam
5*		Presence of mechanical impurities (quantity and size)				
6*		* from now on	Unit of measurement*	Minimum	Rated	Maximum
7*		Density				
8*		Inlet temperature				
9		Flow rate through the control valve				
10*		Outlet pressure				
11*	Process parameters	Inlet pressure, adjustment range and permissible deviation from the setting value		Minimum	Maximum	Deviation
12*		Protection of the system against the inlet pressure increase or decrease (SV, SSV, ACS)		Setting on the maximum pressure		Setting on the maximum pressure
13*		Minimum time of increase/decrease of the flow rate through the system from min/max to max/min value, s		Increase time		Decrease time
14		Body material			select	
15	Control valve body	Connection to pipeline		coupling	flanged	for
16		Flange design		weld-on		
17	Trim	Leak tightness in the trim				
18	Configuration	Counter flanges, gaskets, hardware		Yes	No	
19	Installation	Pipeline position		Horizontal		Vertical
20*		Pipeline material				
21*		Pipeline size, DN		DN		D _{out} x thickness
22		Ambient temperature		Minimum	Maximum	
Additional information						

SPECIFICATIONS OF THE SELECTED CONTROL VALVE (TO BE FILLED IN BY THE MANUFACTURER)

Calculation data	Nominal bore, DN				
	Capacity, Kv (design)				
	Maximum outlet speed				
	Full name, signature of calculator				
Regulator	Size and pressure		DN		PN
	Capacity and leak tightness		Kvr		GOST 9544
	Operating medium		name		temperature
	Body		material		connection
	Series (type)		of the regulator		of the pilot
	Adjustment range, MPa				
Special design	Material of construction				
	Design				
Full name, signature of the responsible person					

* Mandatory fields



DATA SHEET

for direct-acting downstream pressure control valves

ROOST-95 JSC, MOSCOW

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Appendix 6

The data of the person who filled in the data sheet and of the organization he/she represents		Full name, signature		Organization		
Customer, final customer, installation and facility data		Facility name		Organization		
Designation of the position in the diagram				Quantity		
1*	Regulator	Nominal bore, DN		select		
2*		Pressure rating, PN		select		
3*	Operating medium (you are requested to indicate the units of measurement of magnitudes)	Operating medium / Composition				
4*		Aggregate state		Liquid	Gas	Steam
5*		Presence of mechanical impurities (quantity and size)				
6*		* from now on	Unit of measurement*	Minimum	Rated	Maximum
7*		Density				
8*		Inlet temperature				
9		Flow rate through the control valve				
10*		Inlet pressure				
11*	Process parameters	Outlet pressure, adjustment range and permissible deviation from the setting value		Minimum	Maximum	Deviation
12*		Protection of the system against the inlet pressure increase or decrease (SV, SSV, ACS)		Setting on the maximum pressure		Setting on the maximum pressure
13*		Minimum time of increase/decrease of the flow rate through the system from min/max to max/min value, s		Increase time		Decrease time
14		Body material		select		
15	Control valve body	Connection to pipeline		coupling	flanged	for
16		Flange design		weld-on		
17	Trim	Leak tightness in the trim				
18	Configuration	Counter flanges, gaskets, hardware		Yes	No	
19	Installation	Pipeline position		Horizontal		Vertical
20*		Pipeline material				
21*		Pipeline size, DN		DN	D _{out} x thickness	
22		Ambient temperature		Minimum		Maximum
Additional information						

SPECIFICATIONS OF THE SELECTED CONTROL VALVE (TO BE FILLED IN BY THE MANUFACTURER)

Calculation data	Nominal bore, DN				
	Capacity, Kv (design)				
	Maximum outlet speed				
	Full name, signature of calculator				
Regulator	Size and pressure		DN		PN
	Capacity and leak tightness		Kvr		GOST 9544
	Operating medium		name		temperature
	Body		material		connection
	Series (type)		of the regulator		of the pilot
	Adjustment range, MPa				
Special design	Material of construction				
	Design				
Full name, signature of the responsible person					

* Mandatory fields

DATA SHEET

for SRPI regulated inhibitor injection system

ROOST-95 JSC, MOSCOW

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Appendix 7

Customer:					
Construct					
1*	Overall dimensions		height, mm	width, mm	length, mm
2*		Quantity of independent inlet points, pcs			
3	Pipelines	Connection of inlet pipelines	flanged	coupling	welded
4		Material of inlet pipelines			
5		Diameter of inlet pipelines, mm			
6*		Material of outlet pipelines			
7*		Diameter of outlet pipelines, mm			
8	Actuator	Actuator power supply	pneumatic 0.6 MPa	electric	
9	Protection	Electric equipment protection	1exi		1exd
10	ACS	Complete with ACS	production field	automatic flow rate maintenance	integration into the customer's ACS
Operating medium					
11	Parameters	Aggregate state/Composition	liquid		
12			minimum	standard	maximum
13		Inlet temperature, T1			
14		Inlet density			
Environment					
15	Parameters	Installation	indoors		outdoors
16			minimum	standard	maximum
17		Ambient temperature			
18		Protection against external action	arrangement in a cabinet		
Inlet point No. 1					
19	Parameters		minimum	standard	maximum
20		Flow rate			
21		Inlet pressure, P1			
22		Outlet pressure, P2			
23	Flow meter	mass type	volumetric		availability of the local indicator
24		output signal: 4...20 mA HART	other (describe)		
25	Manual control valve	yes	no		Roost 411-3 (for long-term operation)
26					needle valve (for the main repair)
Inlet point No. 2					
19	Parameters		minimum	standard	maximum
20		Flow rate			
21		Inlet pressure, P1			
22		Outlet pressure, P2			
23	Flow meter	mass type	volumetric		availability of the local indicator
24		output signal: 4...20 mA HART	other (describe)		
25	Manual control valve	yes	no		Roost 411-3 (for long-term operation)
26					needle valve (for the main repair)
Inlet point No. 3					
19	Parameters		minimum	standard	maximum
20		Flow rate			
21		Inlet pressure, P1			
22		Outlet pressure, P2			
23	Flow meter	mass type	volumetric		availability of the local indicator
24		output signal: 4...20 mA HART	other (describe)		
25	Manual control valve	yes	no		Roost 411-3 (for long-term operation)
26					needle valve (for the main repair)
Inlet point No. 4					
19	Parameters		minimum	standard	maximum
20		Flow rate			
21		Inlet pressure, P1			
22		Outlet pressure, P2			
23	Flow meter	mass type	volumetric		availability of the local indicator
24		output signal: 4...20 mA HART	other (describe)		
25	Manual control valve	yes	no		Roost 411-3 (for long-term operation)
26					needle valve (for the main repair)
Additional information					

* Mandatory fields

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