

**BALL VALVES DN 200, 300, 700, 1000, 1200, 1400 mm,
PN 8.0, 10.0, 12.5, 16.0 MPa**



Ball valves are used as shut-off valves in pipelines for transmission of non-aggressive natural gas at temperature minus 60°C up to plus 80°C. These valves are intended for installation on gas-main pipelines, collection and gas treatment facilities in compressor gas-distribution stations.

Air-tightness of ball valves corresponds to class "A" (ГОСТ 9544-93)

Climatic version is according to ГОСТ 15150-69:

У1 – temperate (-45°C up to +50°C)

ХЛ1 – cold (-60°C up to +45°C)

УХЛ1 – temperate and cold (-60°C up to +50°C)

Connection to the pipeline is carried out by welding

Manufacture and delivery are fulfilled as per TY26-07-1466-92, TY51-0303-22-2000 (DN 200mm)

Average service life of the ball valves is 30 years

Materials used for fabrication:

Valve body – steel 09Г2С

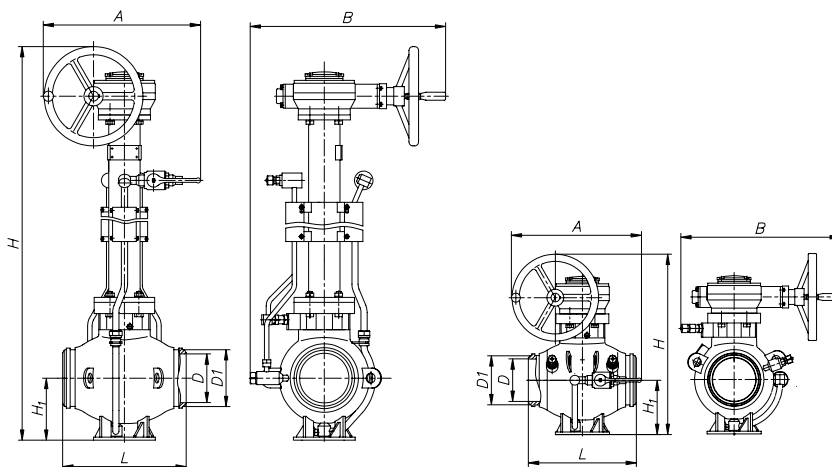
Ball – steels 09Г2С, 20ГМЛ with Cr coating 30µm

Spindle – steel 20ХН3А with Cr coating 30µm

Sealing – rubber and polyurethane

Design characteristics:

- all-welded body of the valve eliminates gas leakage to the environment
- gate seal is fabricated from high wear- and erosion -proof polyurethane
- "ball in supports" design of the gate with bearings made from metalfuoraplastic material not requiring any greasing during operational process
- high tightness of the gate is assured by permanent pressing of both seats of double action to the ball by means of springs and operating pressure of gas



Underground version

Above-ground version

Basic performance data for ball valves DN 200 - 1400 mm

Article reference designation	Design document designation	DN, mm	PN, MPa	Climatic version to GOST 15150-69	Type of installation	Drive type	Overall dimensions and dimensions of connecting ends for welding, mm						Weight, kg, not more
							L	A	H	H1	B	D	
11лс(6)761n	MB39183-200	200	10	УХЛ1	underground	ПГП	500	830	250	205	225	520	
11лс(6)761n1	MB39183-200-01				340								
	MB39183-200-04*				520								
	MB39183-200-05*				340								
	MB39183-200-08				520								
	MB39183-200-09				340								
	MB39183-200-12*				520								
	MB39183-200-13*				340								
	MB39183-200-16				435								
	MB39183-200-17				263								
	MB39183-200-18		435										
	MB39183-200-19		263										
	MB39183-200-20*		435										
	MB39183-200-21*		263										
	MB39183-200-22*		435										
	MB39183-200-23*		263										
11лс(6)768n3	MB39183-300		300	8	УХЛ1	underground	ПГП	755	1280	395	298	328	1350
11лс(6)768n1	MB39183-300-01					1040							
11лс68n7	MB39183-300-02					1130							
11лс669n1	MB39183-300-03					1040							
11лс669n3	MB39183-300-04	1280											
11лс(6)768n2	MB39183-300-05	1350											
11лс(6)768n	MB39183-300-06	1040											
11лс68n6	MB39183-300-07	1130											
11лс669n	MB39183-300-08	1040											
11лс669n2	MB39183-300-09	1280											
11лс669n	MB39316-300-03	1030											
11лс669n3	MB39316-300-06	1280											
11лс669n2	MB39316-300-07	1120											
11лс68n7	MB39316-300-08	1120											
11лс68n6	MB39316-300-09	1120											
	MB39183-A700	4300											
11лс(6)762p7	MB39183-700	700		8	УХЛ1	above-ground	ПГП	1450	2300	740	688	734	4490
11лс(6)762p5	MB39183-700-01					5300							
11лс669n	MB39183-700-06					4250							
11лс669n1	MB39183-700-07					5060							
11лс669n2	MB39183-700-08		4250										
11лс669n3	MB39183-700-09		5060										
11лс(6)763n2	MB39183-1000-02		1000	8	УХЛ1	underground	ПГП	2100	2770	1080	989,6	1035	11750
11лс(6)763n3	MB39183-1000-03					10500							
11лс(6)763n6	MB39183-1000-04					10260							
11лс(6)763n7	MB39183-1000-05					11510							
11лс669n4	MB39183-1000-10	11510											
11лс669n6	MB39183-1000-11	11510											
11лс669n5	MB39183-1000-12	11510											
11лс669n7	MB39183-1000-13	11510											
	MB39183-1.1200	21080											
	MB39183-1.1200-01	21080											
11лс(6)764n2	MB39183-1200	1200	12,5	УХЛ1	underground	ПГП	2300	4044	1230	2080	1246	20500	
11лс(6)764n3	MB39183-1200-01											20500	
	MB39183-1200-04											20500	
	MB39183-1200-05											20500	
	MB39183-1200-06											20500	
	MB39183-1200-07		20500										
	MB39183-1200-08		20500										
	MB39183-1200-09		20500										
	MB39183-1.1400		28810										
	MB39183-1.1400-01		28810										
11лс(6)765n2	MB39183-1400	1400	10	УХЛ1	underground	ПГП	1400	4044	1355	2396	1466	27600	
11лс(6)765n3	MB39183-1400-01											27600	
	MB39183-1400-04											27600	
	MB39183-1400-05		27600										
	MB39183-1400-06		27600										
	MB39183-1400-07		27600										
	MB39183-1400-07		27600										

Working fluid temperature up to +80°C (short-term up to +100°C)

*- valve with rubber sealing made from fluorine rubber resin with working fluid temperature -60°C up to +130°C

ПГП–pneumohydrodrive, ПСД–air actuator, РП–hand drive.

Ball valves of underground version are protected from external action by coating consisting of elastic anticorrosive mastic Fruks-1000A or carboflex material which provide reliable anodic shield.

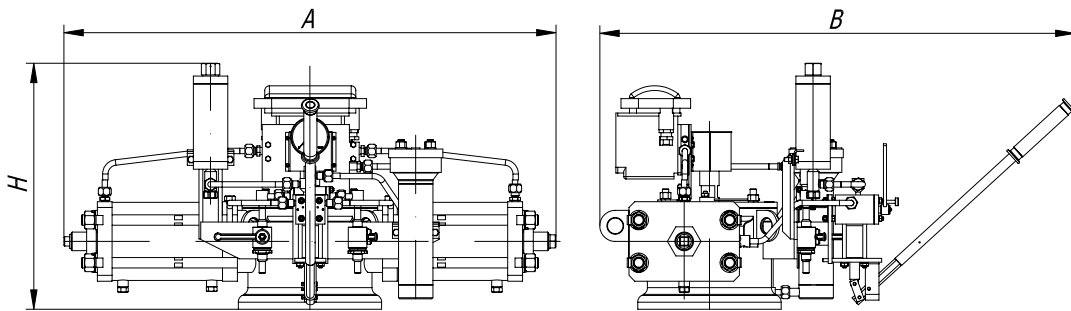
Solid chromium is applied to the functional surfaces of the balls to protect from corrosive and erosive wear and to increase service life of the ball valves.

Pneumohydrodrives for ball valves DN200 – 1400 mm

Pneumohydrodrives for handling of ball valves DN 200 - 1400 mm manufactured at Volgogradneftemash JSC can be operated at ambient temperature -60°C up to +50°C. Flange connection is used for attachment of the drive to the valve.

Pneumohydrodrives are supplied with different control units in compliance with the requirements of customers:

ЭПУУ (electropneumatic control assembly) – voltage of the actuating signal is 110V or 24VDC;
 БУК (valve control unit) – voltage of the actuating signal is 110V or 24V DC;
 AA3K (robot for emergency shutdown of the valve with a built-in control unit) – voltage of the actuating signal is 110V or 24V DC or 220V AC.



Valve DN, mm	Maximum pressure, MPa	Torque, KN·m		Overall dimensions, mm			Weight, kg
		opening-out	closing-in	A	B	H	
200	10	8,1	8,1	830	1080	590	148
300	8	20	20	1270	1230	634	382
700	8	86,4	86,4	2300	1580	736	762
1000	8	224	224	2750	1900	830	1680
1200	12.5	662	662	4044	2140	1183	3520
1400	12.5	662	662	4044	2140	1183	3520

Ball valves DN 50, 80/50, 80 mm PN 8, 10, 16 MPa

Ball valves are used as shut-off valves in pipelines for transmission of natural gas

Air-tightness of ball valves corresponds to class “A” (GOST 9544-93)

Manufacture and delivery are fulfilled as per TY51-0303-22-2000

Connection to the pipeline is carried out by welding

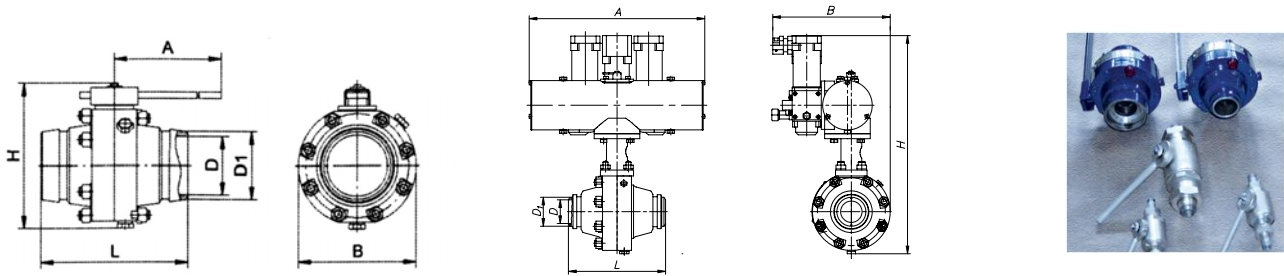
Working medium – non-aggressive natural gas containing liquid hydrocarbons, ethylene glycol, methanol, turbine oil, water and mechanical impurities

Average service life of the ball valves is 30 years

Materials used for fabrication:

Valve body – steel 09Г2С

Ball – steel 09Г2С with Cr coating 30µm



Hand drive version

Air actuator version

Basic performance data for ball valves DN 50 - 80 mm

Article reference designation	Design document designation	DN, mm	PN, MPa	Climatic version to GOST 15150-69	Type of installation	Type of split body	Drive type	Overall dimensions and dimensions of connecting ends for welding, mm						Weight, kg, not more									
								L	A	H	B	D	D1										
11лс60п1	КШ 050.00.00.00	50	8,0	ХЛ1	Above-ground	Axial	Hand	200	493	206	160	51	60	15									
11лс60п	КШ 050.00.00.00-01			У1								49											
11лс60п6	КШ 050.00.00.00-09			ХЛ1								47											
11лс60п7	КШ 050.00.00.00-10		У1	47																			
11лс60п3	КШ 050.01.00.00		ХЛ1	51																			
11лс60п2	КШ 050.01.00.00-01		У1	49																			
	КШ 050.20.00.00		ХЛ1	83,6																			
	КШ 050.20.00.00-01		У1	91																			
	КШ 050.20.00.00-02		ХЛ1	83,6																			
	КШ 050.20.00.00-03		У1	91																			
11лс60п1	КШ 080.00.00.00	80/50	8,0	ХЛ1	Above-ground	Axial	Hand	280	1040	282	245	77	92	37,5									
	КШ 080.00.00.00-01			У1								80											
11лс60п6	КШ 080.20.00.00	80	10,0	УХЛ1								Above-ground			Axial	Hand	280	1040	282	245	80	92	37,5
	КШ 1.80.16.00.00			У1																	81		
	КШ 1.80.16.00.00-01			ХЛ1																	81		
	КШ 1.80.16.00.00-02			У1																	81		
	КШ 1.80.16.00.00-03			ХЛ1																	81		
	КШ 1.80.16.00.00-04	У1	81																				
	КШ 1.80.16.00.00-05	ХЛ1	81																				

Working fluid temperature is up to +80 °C.

Ball valves DN 10, DN 15 and DN 25 mm PN 16 MPa

These types of ball valves are intended for use as airtight welded locking devices on pipelines of process, control and safety equipment in gas and gas-condensate fields, as well as in other facilities of gas, refinery, petrochemical and other fields of industry.

Air-tightness of ball valves corresponds to class "A" (ГОСТ 9544-93)

Climatic version УХЛ1 is as per ГОСТ 15150-69

Manufacture and delivery are fulfilled as per ТУ51-0303-24-2001

Working medium is non-aggressive natural gas containing liquid hydrocarbons, ethylene glycol, methanol, turbine oil, water and mechanical impurities

Average service life of the ball valves is 10 years

Materials used for fabrication:

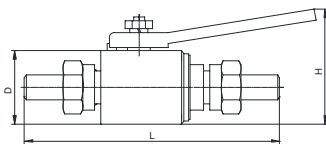
Valve body – steel 09Г2С

Ball – steel 09Г2С with Cr coating 30µm

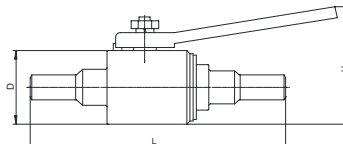
Basic performance data for ball valves DN 10 - 25 mm

Design document designation	DN, mm	PN, MPa	Version as per type of connection to pipeline	Overall dimensions, mm, not more			Weight, kg, not more
				L	D	H	
КШ 16.10	10	16	Nipple joint	168	48	79	1,2
КШ-1.16.10			Welded				1,0
КШ 16.15	15		Nipple joint	170	53	86	1,7
КШ-1.16.15			Welded				1,4
КШ 16.25	25		Nipple joint	218	75	145	4,6
КШ-1.16.25			Welded				3,4

Working fluid temperature is up to +100°C.



Nipple joint version



Welded version

SHUT-OFF VALVES

Shut-off valves with a locking device in the form of tilting disk are used to prevent backflow of transferred fluid. They are applied to piping of compressor stations with the purpose to protect the equipment from effect of the gas backflow during emergency shutdown of gas-compressor units, as well as to prevent gas leakage in case of the pipeline depressurization.

Shut-off valves are intended for installation on horizontal pipelines above or under the ground. Connection pipes with following welding may be furnished if it is required by assembly conditions. Edge preparation (configuration and dimensions) of connection ends of the pipes enables welding to a pipeline without adapters. Shut-off valves are atmospherically tight.



Climatic version YXЛ1 is according to ГОСТ 15150-69

Manufacture and delivery are fulfilled as per TY 51-0303-10-96

Working fluid is non-aggressive natural gas

Working fluid temperature is -10°C up to $+80^{\circ}\text{C}$

Rate of working fluid is not more than 20 m/s

Ambient temperature is -60°C up to $+50^{\circ}\text{C}$

Time for complete closing during rate reduction down to zero is 5 sec

Specified service life of valves is 30 years

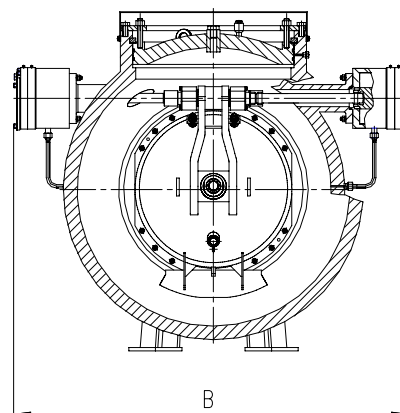
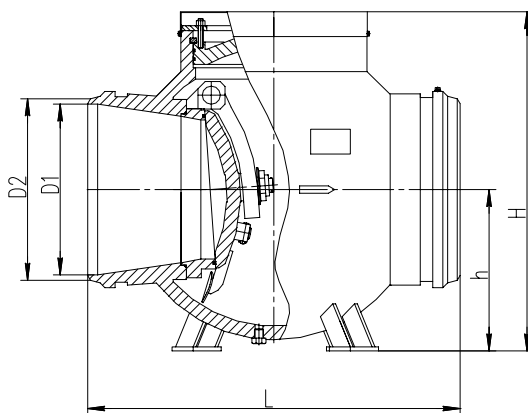
Materials used for manufacture:

Basic components – steels 09Г2С, 10Г2

Connection pipes for welding – steel 09Г2С

Basic performance data

Article reference designation	Design document designation	DN, mm	PN, MPa	Resistance head at gas rate 10 m/s, MPa, not more	Transmittance of working fluid in shut-off valve at pressure drop $\Delta P=PN$.	Overall dimensions and dimensions of connecting ends for welding, mm						Weight, kg, not more
						L	B	H	h	D1	D2	
19Лс62НЖ	30.2.00.00.00	700	8,0	0,010	19,3	1500	1830	1366	650	688	731	3700
19Лс62НЖ	30.1.00.00.00	1000		0,015	27,6	1900	2130	1830	900	986,6	1030	7690



AXISYMMETRIC SHUT-OFF VALVES

Shut-off valves with axial movement of locking device are intended for automatic prevention of the working fluid backflow. They are applied to piping of compressor stations with the purpose to protect the equipment from effect of the gas backflow during emergency shutdown of gas-compressor units, as well as to prevent gas leakage in case of the pipeline depressurization. These valves operate only due to the effect of the working fluid.

Shut-off valves are intended for installation on horizontal pipelines above or under the ground. Flanged joints or welding are used for connection to the pipeline. The valves are atmospherically tight.

Climatic version УХЛ1 is according to ГОСТ 15150-69
 Manufacture and delivery are fulfilled as per TY3742-096-34390194-2005
 Working fluid is non-aggressive natural gas
 Working fluid temperature is -10°C up to +80°C
 Rate of working fluid is not more than 15 m/s
 Ambient temperature is -60°C up to +50°C
 Time for complete closing during rate reduction down to zero is 5 sec
 Pressure drop at gas rate 10 m/s is not more than 0,01MPa
 Average service life of valves is 30 years



Materials used for manufacture:

Basic components – steels 09Г2С, 20ГМЛ
 Connection pipes for welding, connecting flanges – steel 09Г2С

Design characteristics:

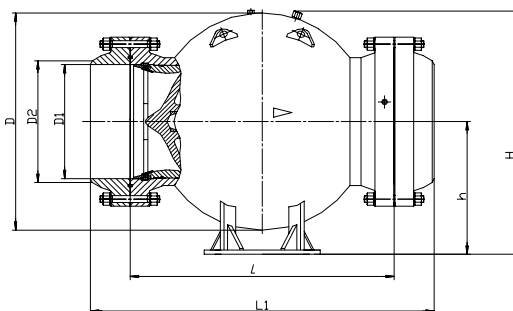
These shut-off valves are designed with axial location and translational displacement of the locking device. Their design includes damping device enabling smooth running and shock-free opening-out and closing-in of the locking device. The streamline contour of the inside running surface of the body contributes to reduction of the hydraulic friction to the working fluid flow and noise during valve operation. The design makes it possible to adjust the time of the valve closing-in.

Axisymmetric shut-off valves are highly reliable due to their shock-free operation.

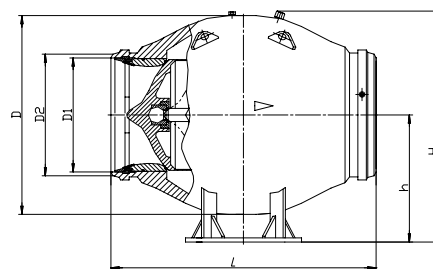
Basic performance data

Article reference designation	DN, mm	PN, MPa	Transmittance of working fluid in shut-off valve at pressure drop $\Delta P=PN$, dm^3/min , not more	Version as per type of connection to pipeline	Overall dimensions and dimensions of connecting ends for welding, mm						Weight, kg, not more	
					L	L1	D	H	h	D1		D2
ЦКБ К 41508-700	700	8,0	19,3	welded	1600	-	1200	1400	740	688	736	3170
ЦКБ К 41508-700-01				flanged joint		2100						
ЦКБ К 41503-700	700	10,0		welded	1600	-	1200	1400	740	688	736	3170
ЦКБ К 41503-700-01				flanged joint		2100						
ЦКБ К 41503-1000-04*	1000	12,5	27,6	welded	2100	-	1670	1960	1090	968	1046	7970

*Full-scale production is scheduled in 2008.



Flanged shut-off valve



Welded shut-off valve

CONTROL VALVES

Control valves are used for remote and local control of gas flow parameters in pipelines of gas well processing trains, gas fields and subsurface gas storages on gas treatment installations.

The valves can operate in automatic mode as a part of automatic control system. Remote control from the operator's stand as well as local control by means of built-in control station and manual stand-by facility is possible.

DN 100 mm

Climatic version Y1 is according to ГОСТ 15150-69

Manufacture and delivery are fulfilled as per TY 3665-003-11733071-96

Working pressure is not more than 16MPa

Working temperature is - 45°C up to + 40°C

Working medium is natural gas

Process medium is air, water, oil

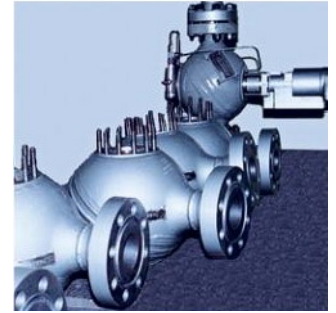
Pipeline connection dimensions (D x S) are 114 mm x 10 mm

Control limit of the passage sectional area is 0...100%

In-service life is not less than 5000 operations of actuator from any fixed condition towards opening-out or closing-in

Weight is not more than 310 kg

Service life is not less than 30 years



Materials used for fabrication:

Basic components – steels 09Г2С, 12Х18Н10Т, 20Х13, 30Х13

Flanges welded to the pipeline– steel 10Г2

Parts working in gas flow zone are coated with a special compound consisting of tungsten carbide–cobalt–chromium

Basic performance data of control valves

Article reference designation	Actuator type	Version as per type of connection to pipeline	Overall dimensions and dimensions of connecting ends for welding, mm				
			L	H	B	D	D1
K.PY.05.91.10.00-0-01	Electrical DC, voltage 27±3V with manual stand-by	Welded	940	935	400	110	90
K.PY.05.91.10.00-0-02	Electrical AC, voltage 380V или 220V with manual stand-by			1160	632		
K.PY.05.91.10.00-0-03	Manual			755	560		

