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**LDM shut-off valves
with hand wheel**





UV 226 (Ex) UV 236 (Ex)

Shut-off valves DN 15 to 400, PN 16, 25 and 40 with hand wheel

Description

Shut-off valves series UV 2x6 are hand-wheel valves that excel with unique features suitable for a long-time no maintenance service. If bellows is used, it ensures a hermetic tightness to environment and in addition it is added with a safety packing made of graphite. Valves with graphite packing are equipped with back seat. The most advantageous feature is low linear forces when opening or closing the valve which does not change during the life-time. Thanks to a yoke design, the valve can be easily insulated and its hand wheel can be operated even at high temperatures of process medium. The hand wheel is non-rising which enables the valves application in unaccessible places. The visible indicator ensures an easy identification of the valve position. The valves UV 2x6 acc. to ČSN EN 13709 (10/2003). The valves UV 2x6 Ex meet the requirements II 1/2G IIB acc. to ČSN-EN 13 463-1.

Application

The valves are especially designed for applications in warm-water and steam circuits in power plants, heating plants, heatexchange stations, heat transferring stations and common heating applications. Thanks to a great scale of available valve sizes, the valve is suitable for a tight closing (shutting down) of main branches, by-passes, extracting and sampling pipelines. The used materials enable the valves to be installed also in air-conditioning, refrigerating and other special applications.

Process media

The valves UV 2x6 are suitable for shutting off water, water vapour and other liquids and gases which are compatible with used materials of the valve body and internal materials. The valves UV 2x6 (Ex) can be also used for industrial and heating gases and flammable liquids.

To ensure a long-life of a valve seat, the producer recommends to pipe a strainer in front of the valve into pipeline or ensure in any other way that process medium does not contain abrasive particles or impurities.

Installation

The valves can be installed in any position, except execution V and B. The valves of execution V and B must be installed only in horizontal position to the vertical axis of the spindle. It is recommended to ensure enough space for hand wheel operating. The flow direction is indicated by the arrows on the valve body. The alternate flow direction through the valve is permissible, except execution V and B.

Detailed informations are given in the instruction for installation and service which is standard part of delivery.

Technical data

Series	UV 226 (Ex)	UV 236 (Ex)
Execution	Shut-off valve, straight-through	
Nominal size range	DN 15 to 400	
Nominal pressure	PN 16, 25 and 40	
Body material	Cast steel 1.0619 (GP240GH)	Stainless steel 1.4581 (GX5CrNiMoNb19-11-12)
Plug material (DIN W.Nr. / ČSN)	1.4021 / 17 022.6	1.4571 / 17 348.4
Operating temperature range	-10 to +400°C	
Connection	Type B1 (raised-faced flange) acc. to ČSN-EN 1092-1 (4/2002) Face to face dimensions comply with ČSN EN 558-1 (3/1997), section 1	
Type of plug	Disc; pressure-balanced plug with pilot system; control	
Flow characteristic	On-Off, linear	
Leakage rate	Acc. to ČSN EN 12266-1 (11/2003) - leakage rate class A	
Packing	Bellows with safety graphite packing or graphite packing	

- 1) The valves can be also used for temperatures from -60°C in the choice of suitable material with the agreement with the manufacturer.
- 2) The valves are tested with water commonly. In case of demand for air test it must be specified in the valve specification number.

Dimensions and weights for the type UV 2x6 (Ex)

DN	PN 16						PN 25						PN 40										
	D ₁ mm	D ₂ mm	D ₃ mm	d mm	n	a mm	D ₁ mm	D ₂ mm	D ₃ mm	d mm	n	a mm	D ₁ mm	D ₂ mm	D ₃ mm	d mm	n	a mm					
15	95	65	45	14	4	16	Same as PN 40						95	65	45	14	4	16					
20	105	75	58			18							18										
25	115	85	68			18							18										
32	140	100	78			18							18										
40	150	110	88	18	4 ¹⁾	20							165	125	102	18	8	20					
50	165	125	102			22							185	145	122			22					
65	185	145	122			24							200	160	138			24					
80	200	160	138			24							220	180	158			24					
100	220	180	158	22	8	26							235	190	162	22	8	26					
125	250	210	188			28							270	220	188			28					
150 ^{R, S, B)}	285	240	212			28							300	250	218			28					
150 ^{V)}	285	240	212			28							300	250	218			28					
200	340	295	268	26	12	24							360	310	278	26	12	30					
250	405	355	320			26							425	370	335			30	32	450	385	345	33
300	460	410	378			28							485	430	395			30	34	515	450	410	33
400	580	525	490			30							620	550	505			36	40	660	585	535	39
				30	16	32					16	40					16	50					

¹⁾ regarding the previous standards in force, we can optionally make an execution with No. of connection bolts corresponding to ČSN-EN 1092-1

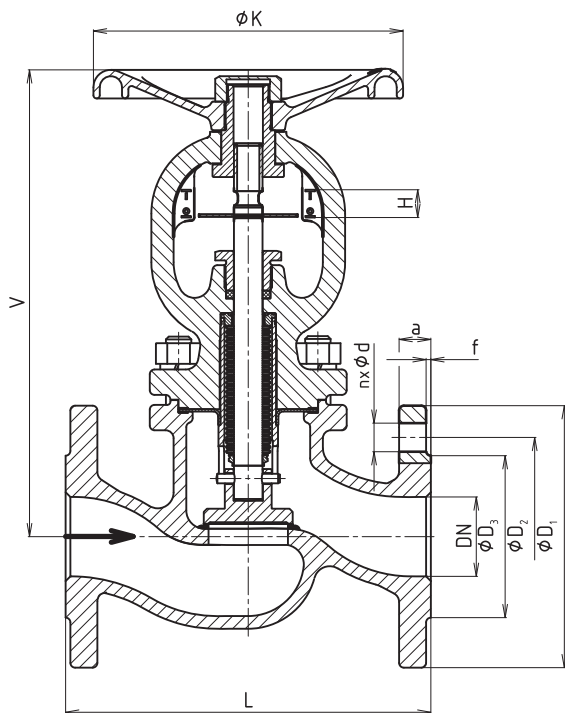
DN	PN 16, PN 25, PN 40					
	H mm	L mm	V mm	K mm	f mm	m kg
15	6	130	189	120	2	4.3
20	6	150	189	120		5.1
25	6	160	189	120		5.8
32	10	180	220	160		9.5
40	10	200	220	160	3	9.8
50	16.5	230	295	195		17.5
65	16.5	290	295	195		20.5
80	25	310	368	280		34
100	25	350	368	350	2	44
125	40	400	523	350		77
150 ^{R, S, B)}	40	480	523	350		110
150 ^{V)}	40	480	558	350		113
200	50	600	505	350	2	240
250	75	730	663	350		410
300	75	850	713	350		610
400	100	1100	855	350		1240

Values of Kvs, differential pressure and pressure loss coefficient ζ (zeta)

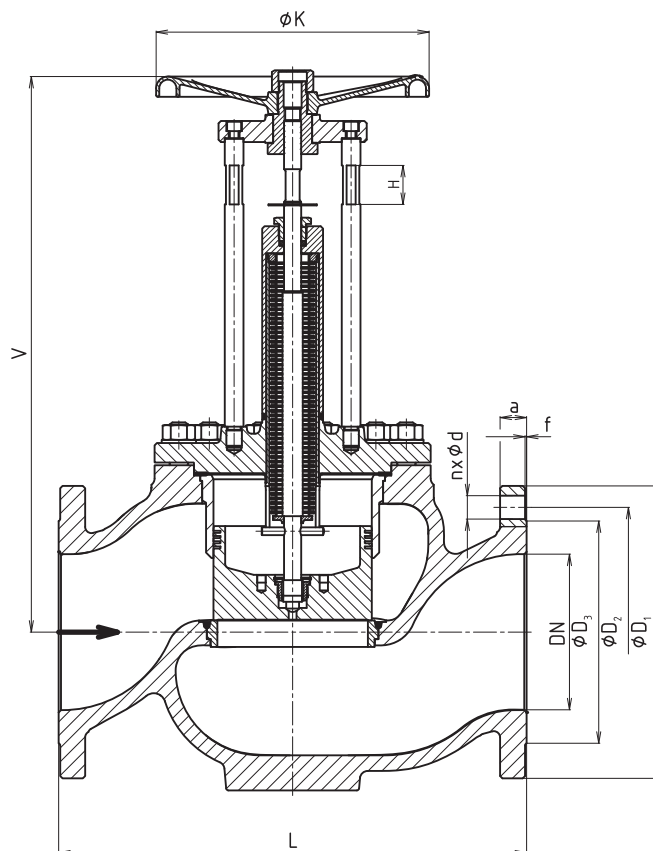
DN	Shut - off		Control		Δp _{max} [MPa]
	Kvs [m ³ /h]	ζ	Kvs [m ³ /h]	ζ	
15	4.3	4.4	4.0	5.1	4.00
20	7.0	5.2	6.6	5.9	4.00
25	11.0	5.2	10.0	6.2	4.00
32	17.5	5.5	16.0	6.5	4.00
40	27.0	5.6	24.0	7.1	4.00
50	47.0	4.5	39.0	6.6	4.00
65	68.0	6.2	56.0	9.1	4.00
80	116.0	4.9	80.0	10.2	4.00
100	162.0	6.1	140.0	8.2	4.00
125	250.0	6.2	184.0	11.5	4.00
150 UV 2x6 R,S	364.0	6.1	320.0	7.9	2.00
150 UV 2x6 B,V	364.0	6.1			4.00
200	570.0	7.9			4.00
250	800.0	9.8			4.00
300	1100.0	10.7			4.00
400	1700.0	14.2			4.00

Δp_{max} value is the valve max. differential pressure when open - close function is always guaranteed. In regard of service life of seat and plug, it is recommended so that permanent differential pressure at open valve would not exceed 1.6 MPa.

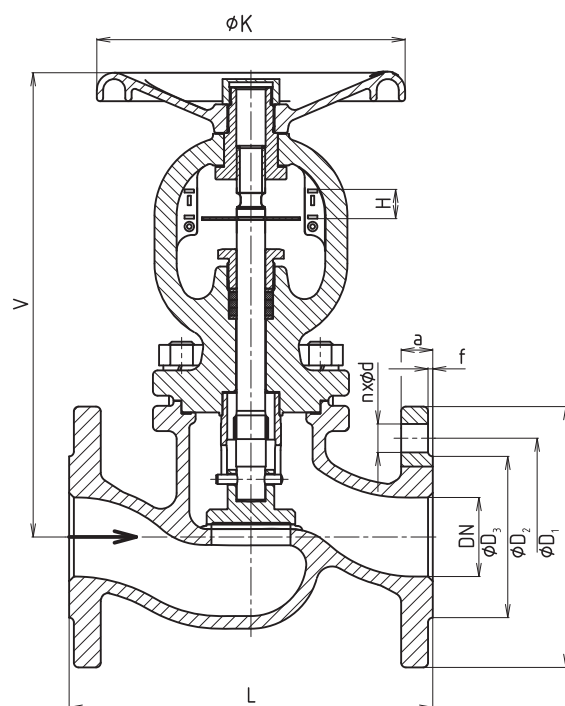
UV 2x6 R



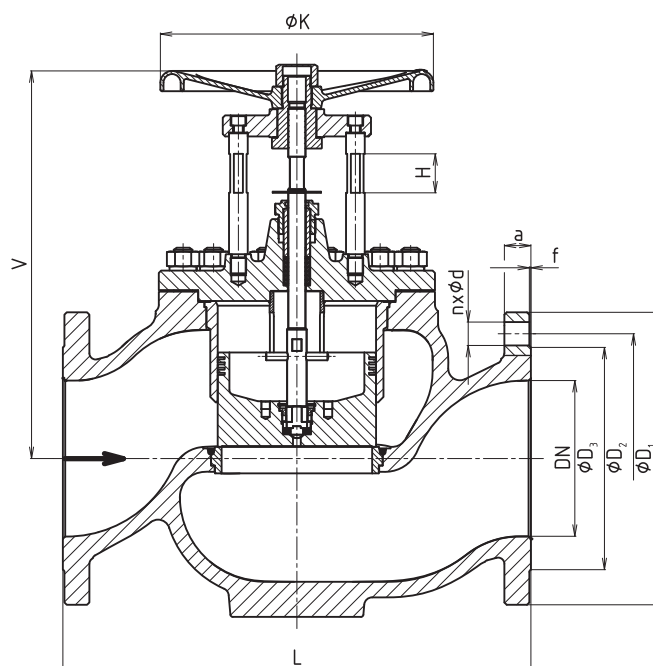
UV 2x6 V



UV 2x6 S



UV 2x6 B



Valve complete specification No. for ordering UV 2x6 (Ex)

		XX	XXX	XXX	XX	/	XXX	-	XXX	XX
1. Valve	Shut-off valve	UV								
2. Series	Globe valve made of cast steel 1.0619		226							
	Globe valve made of stainless steel 1.4581		236							
3. Type of actuating/packing <small>¹⁾ For DN 15 to 150 only ²⁾ For DN 150 to 200 only ³⁾ For DN 150 to 400 only</small>	Bellows with safety graphite packing ¹⁾			R						
	Graphite packing ¹⁾			S						
	Pressure balanced plug / bellows with safety graphite packing ²⁾			V						
	Pressure balanced plug / graphite packing ³⁾			B						
4. Connection	Flanges with raised faces, type B1			1						
	Female flange, type F			2						
	Flange with groove, type D			3						
	Male flange, type E			7						
	Tongue flange, type C			8						
5. Body / bonnet material <small>⁴⁾ For R and V execution only</small>	Cast steel 1.0619 / Cast steel 1.0619			1						
	Stainless steel 1.4581 / Cast steel 1.0619 ⁴⁾			3						
	Stainless steel 1.4581 / Stainless steel 1.4581			8						
	Other material on request (e.g.: WN 1.7357, nickel alloys, etc.)			9						
6. Nominal pressure	PN 16				16					
	PN 25				25					
	PN 40				40					
7. Max. operating temp. °C	400°C							400		
8. Nominal size	DN 15 to 400								XXX	
9. Execution <small>⁵⁾ Only execution R and S; DN15-150</small>	Normal									
	Non - explosive									Ex
	Oxygen execution									Ox
	Air test									G
	With control plug ⁵⁾									R

Ordering example: UV 226 R11 40/400-50REx

Note: Other connection (female face, plain face, etc.) possible on special request.

Maximal permissible pressure values [MPa]

Material	PN	Temperature [°C]									
		RT ¹⁾	100	120	150	200	250	300	350	375	400
Cast steel 1.0619 (GP240GH)	16	1,56	1,36	1,32	1,27	1,14	1,04	0,94	0,88	0,86	0,84
	25	2,44	2,13	2,07	1,98	1,78	1,62	1,47	1,37	1,35	1,32
	40	3,90	3,41	3,31	3,17	2,84	2,60	2,35	2,19	2,16	2,11
Stainless steel 1.4581 (G17CrMo5-5)	16	1,59	1,44	1,39	1,33	1,25	1,17	1,10	1,06	1,05	1,02
	25	2,49	2,25	2,18	2,08	1,95	1,84	1,72	1,66	1,63	1,60
	40	3,98	3,6	3,49	3,33	3,13	2,94	2,75	2,65	2,61	2,56

¹⁾ -10°C to 50°C

UV 227 (Ex) UV 237 (Ex)



Shut-off valves DN 15 to 400, PN 16, 25 and 40 with hand wheel, návár sedla

Description

Shut-off valves series UV 2x7 are hand-wheel valves that excel with unique features suitable for a long-time no maintenance service. The valve seat surface is made with hard metal overlay due to increased service life. If bellows is used, it ensures a hermetic tightness to environment and in addition it is added with a safety packing made of graphite. Valves with graphite packing are equipped with back seat. Between the valve body and cover the spiral-wound gasket is used. The most advantageous feature is low linear forces when opening or closing the valve which does not change during the life-time. Thanks to a yoke design, the valve can be easily insulated and its hand wheel can be operated even at high temperatures of process medium. The hand wheel is non-rising which enables the valves application in unaccessible places. The visible indicator ensures an easy identification of the valve position. The valves UV 2x7 acc. to ČSN EN 13709 (10/2003). The valves UV 2x7 Ex meet the requirements II 1/2G IIB acc. to ČSN-EN 13 463-1.

Application

The valves are especially designed for applications in chemical and petrochemical processing industries, warm-water and steam circuits in power plants, heating plants, heatexchange stations, heat transferring stations and common heating applications. Thanks to a great scale of available valve sizes, the valve is suitable for a tight closing (shutting down) of main branches, by-passes, extracting and sampling pipelines. The used materials enable the valves to be installed also in air-conditioning, refrigerating and other special applications.

Process media

The valves UV 2x7 are suitable for shutting off water, water vapour and other liquids and gases which are compatible with used materials of the valve body and internal materials. The valves UV 2x7 (Ex) can be also used for industrial and heating gases and flammable liquids.

To ensure a long-life of a valve seat, the producer recommends to pipe a strainer in front of the valve into pipeline or ensure in any other way that process medium does not contain abrasive particles or impurities.

Installation

The valves can be installed in any position, except execution V and B. The valves of execution V and B must be installed only in horizontal position to the vertical axis of the spindle. It is recommended to ensure enough space for hand wheel operating. The flow direction is indicated by the arrows on the valve body. The alternate flow direction through the valve is permissible, except execution V and B.

Detailed informations are given in the instruction for installation and service which is standard part of delivery.

Technical Data

Series	UV 227 (Ex)	UV 237 (Ex)
Execution	Shut-off valve, straight-through, with hard metal overlay seat and spiral-wound cover gasket	
Nominal size range	DN 15 to 400	
Nominal pressure	PN 16, 25 and 40	
Body material	Cast steel 1.0619 (GP240GH)	Stainless steel 1.4581 (GX5CrNiMoNb19-11-2)
Plug material (DIN W.Nr. / ČSN)	1.4021 / 17 022.6	1.4571 / 17 348.4
Operating temperature range	-10 to +400°C	-10 to +550°C
Connection	Type B1 (raised-faced flange) acc. to ČSN-EN 1092-1 (4/2002) Face to face dimensions comply with ČSN EN 558-1 (3/1997), section 1	
Type of plug	Disc; pressure-balanced plug with pilot system; control	
Flow characteristic	On-Off, linear	
Leakage rate	Dle ČSN-EN 12266-1 (11/2003) - leakage rate class A	
Packing	Bellows with safety graphite packing or graphite packing	

- 1) The valves can be also used for temperatures from -60°C in the choice of suitable material with the agreement with the manufacturer.
- 2) The valves are tested with water commonly. In case of demand for air test it must be specified in the valve specification number.

Dimensions and weights for the type UV 2x7 (Ex)

DN	PN 16						PN 25						PN 40													
	D ₁	D ₂	D ₃	d	n	a	D ₁	D ₂	D ₃	d	n	a	D ₁	D ₂	D ₃	d	n	a								
	mm	mm	mm	mm		mm	mm	mm	mm	mm		mm	mm	mm	mm	mm		mm	mm							
15	95	65	45	14	4	16	Same as PN 40						95	65	45	14	4	16								
20	105	75	58			18							18	18	18			18	20	185	145	122	18	22		
25	115	85	68			18							18	18	18			20	185	145	122	18	22			
32	140	100	78			18							18	18	18			20	185	145	122	18	22			
40	150	110	88	18	4 ¹⁾	22							24	24	24	24	24	24	24	24	24	24	24	24	24	
50	165	125	102			20							20	20	20	20	20	20	20	20	20	20	20	20	20	20
65	185	145	122			22							22	22	22	22	22	22	22	22	22	22	22	22	22	22
80	200	160	138			24							24	24	24	24	24	24	24	24	24	24	24	24	24	24
100	220	180	158	22	8	24							26	26	26	26	26	26	26	26	26	26	26	26	26	
125	250	210	188			26							26	26	26	26	26	26	26	26	26	26	26	26	26	26
150 ^{R, S, B)}	285	240	212			28							28	28	28	28	28	28	28	28	28	28	28	28	28	28
150 ^{V)}	285	240	212			28							28	28	28	28	28	28	28	28	28	28	28	28	28	28
200	340	295	268	26	12	24							360	310	278	26	12	30	375	320	285	30	12	34		
250	405	355	320			26							425	370	335	30		32	450	385	345	33		38		
300	460	410	378			28							485	430	395	30	34	515	450	410	33	42				
400	580	525	490			30							620	550	505	36	40	660	585	535	39	50				

DN	PN 16, PN 25, PN 40					
	H	L	V	K	f	m
	mm	mm	mm	mm	mm	kg
15	6	130	195	125	2	4.3
20	6	150	195	125		5.1
25	6	160	195	125		5.8
32	10	180	225	150		9.5
40	10	200	225	150	3	9.8
50	16.5	230	305	200		17.5
65	16.5	290	305	200		20.5
80	25	310	385	300		34
100	25	350	385	300		44
125	40	400	530	400		77
150 ^{R, S, B)}	40	480	530	400		110
150 ^{V)}	40	480	565	400		113
200	50	600	510	400	2	240
250	75	730	670	400		410
300	75	850	720	400		610
400	100	1100	860	400		1240

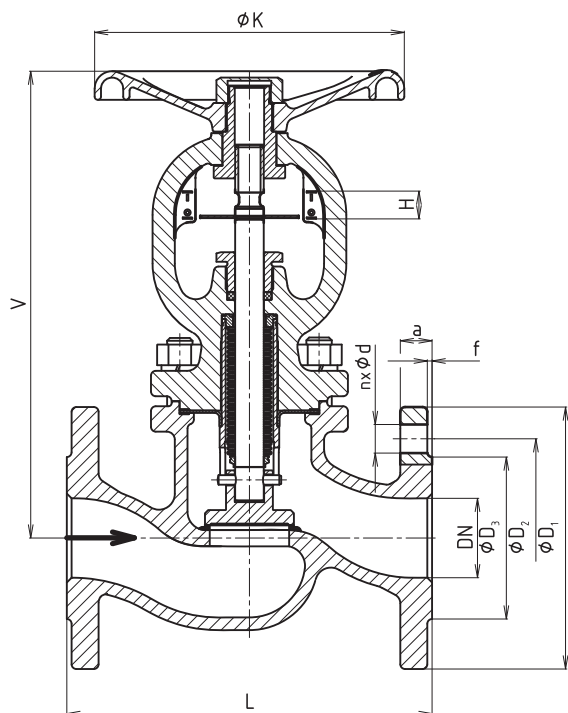
¹⁾ regarding the previous standards in force, we can optionally make an execution with No. of connection bolts corresponding to ČSN-EN 1092-1

Values of Kvs, differential pressure and pressure loss coefficient ζ (zeta)

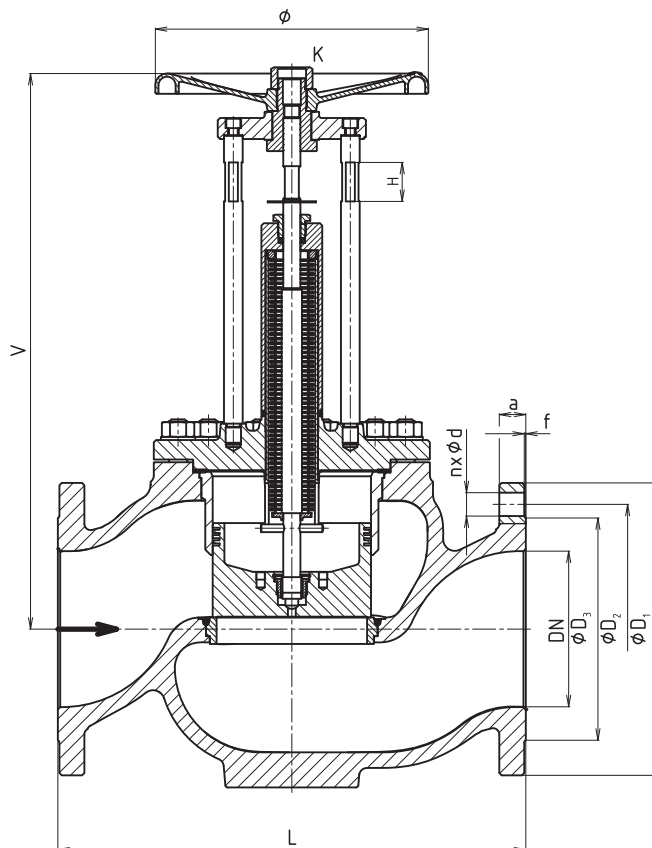
DN	Shut - off		Control		Δp_{max} [MPa]
	Kvs [m ³ /h]	ζ	Kvs [m ³ /h]	ζ	
15	4.3	4.4	4.0	5.1	4.00
20	7.0	5.2	6.6	5.9	4.00
25	11.0	5.2	10.0	6.2	4.00
32	17.5	5.5	16.0	6.5	4.00
40	27.0	5.6	24.0	7.1	4.00
50	47.0	4.5	39.0	6.6	4.00
65	68.0	6.2	56.0	9.1	4.00
80	116.0	4.9	80.0	10.2	4.00
100	162.0	6.1	140.0	8.2	4.00
125	250.0	6.2	184.0	11.5	4.00
150 UV 2x6 R,S	364.0	6.1	320.0	7.9	2.00
150 UV 2x6 B,V	364.0	6.1			4.00
200	570.0	7.9			4.00
250	800.0	9.8			4.00
300	1100.0	10.7			4.00
400	1700.0	14.2			4.00

Δp_{max} value is the valve max. differential pressure when open - close function is always guaranteed. In regard of service life of seat and plug, it is recommended so that permanent differential pressure at open valve would not exceed 1.6 MPa.

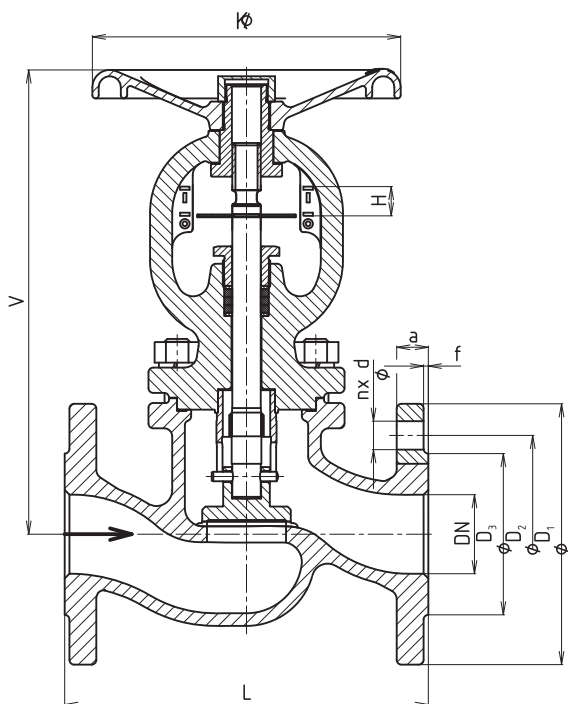
UV 2x7 R



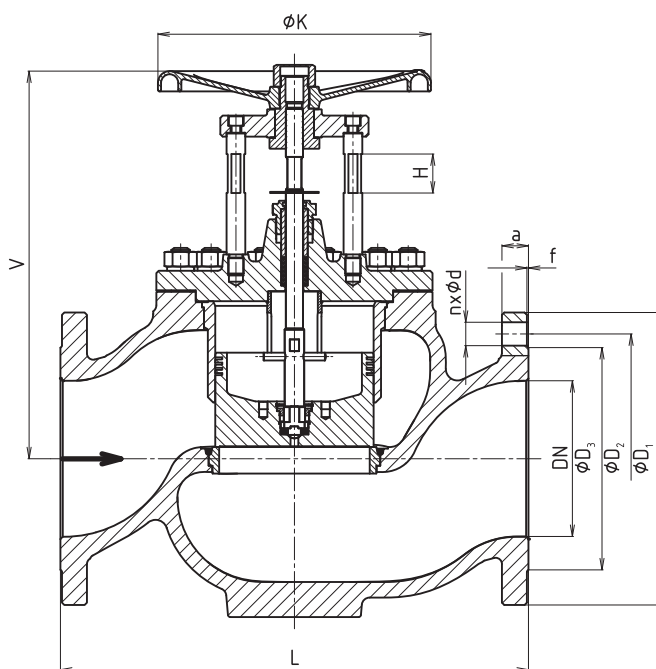
UV 2x7 V



UV 2x7 S



UV 2x7 B



Valve complete specification No. for ordering UV 2x7 (Ex)

		XX	XXX	XXXX	XX /	XXX -	XXX	XX
1. Valve	Shut-off valve	UV						
2. Series	Globe valve made of cast steel 1.0619		227					
	Globe valve made of stainless steel 1.4581		237					
3. Type of actuating/packing ¹⁾ For DN 15 to 150 only ²⁾ For DN 150 to 200 only ³⁾ For DN 150 to 400 only	Bellows with safety graphite packing ¹⁾			R				
	Graphite packing ¹⁾			S				
	Pressure balanced plug / bellows with safety graphite packing ²⁾			V				
	Pressure balanced plug / graphite packing ³⁾			B				
4. Connection	Flanges with raised faces, type B1			1				
	Female flange, type F			2				
	Flange with groove, type D			3				
	Male flange, type E			7				
	Tongue flange, type C			8				
5. Body / bonnet material ⁴⁾ For R and V execution only	Cast steel 1.0619 / Cast steel 1.0619			1				
	Stainless steel 1.4581 / Cast steel 1.0619 ⁴⁾			3				
	Stainless steel 1.4581 / Stainless steel 1.4581			8				
	Other material on request (e.g.: WN 1.7357, nickel alloys, etc.)			9				
6. Seat material Plug / Body	CrNiMoTi / Stellite 6 -execution UV 237			2				
	Stellite 6 / Stellite 6 -execution UV 2x7			5				
	13Cr / Stellite 6 -execution UV 227			8				
7. Nominal pressure	PN 16				16			
	PN 25				25			
	PN 40				40			
8. Max. operating temp. °C	Bellows; 1.0619; 400°C					400		
	1.4581; 550°C					550		
9. Nominal size	DN 15 to 400						XXX	
10. Execution ⁵⁾ Only execution R and S; DN15-150	Normal							
	Non - explosive							Ex
	Oxygen execution							Ox
	Air test							G
	With control plug ⁵⁾							R

Ordering example: UV 227 R11 40/400-50REx

Note: Other connection (female face, plain face, etc.) possible on special request.

Maximal permissible pressure values [MPa]

Material	PN	Temperature [°C]									
		RT ¹⁾	100	120	150	200	250	300	350	375	400
Cast steel 1.0619 (GP240GH)	16	1,56	1,36	1,32	1,27	1,14	1,04	0,94	0,88	0,86	0,84
	25	2,44	2,13	2,07	1,98	1,78	1,62	1,47	1,37	1,35	1,32
	40	3,90	3,41	3,31	3,17	2,84	2,60	2,35	2,19	2,16	2,11
Stainless steel 1.4581 (G17CrMo5-5)	16	1,59	1,44	1,39	1,33	1,25	1,17	1,10	1,06	1,05	1,02
	25	2,49	2,25	2,18	2,08	1,95	1,84	1,72	1,66	1,63	1,60
	40	3,98	3,6	3,49	3,33	3,13	2,94	2,75	2,65	2,61	2,56

¹⁾ -10°C to 50°C



LDM, spol. s r.o.
Litomyšlská 1378
560 02 Česká Třebová
Czech Republic

tel.: +420 465 502 511
fax: +420 465 533 101
E-mail: sale@ldm.cz
<http://www.ldm.cz>

LDM, spol. s r.o.
Office in Prague
Podolská 50
147 01 Praha 4

tel.: 241087360
fax: 241087192
E-mail: tomas.suchanek@ldm.cz

LDM, spol. s r.o.
Office in Ústí nad Labem
Ladova 2548/38
400 11 Ústí nad Labem
- Severní Terasa

tel.: 602708257
E-mail: tomas.kriz@ldm.cz

LDM servis, spol. s r.o.
Litomyšlská 1378
560 02 Česká Třebová
Czech Republic

tel.: +420 465 502 411-3
fax: +420 465 531 010
E-mail: servis@ldm.cz

LDM, Polska Sp. z o.o.
Modelarska 12
40 142 Katowice
Poland

tel.: +48 32 730 56 33
fax: +48 32 730 52 33
mobile: +48 601 354 999
E-mail: ldmpolska@ldm.cz

LDM Bratislava s.r.o.
Mierová 151
821 05 Bratislava
Slovakia

tel.: +421 2 43415027-8
fax: +421 2 43415029
E-mail: ldm@ldm.sk
<http://www.ldm.sk>

LDM - Bulgaria - OOD
z. k. Mladost 1
bl. 42, floor 12, app. 57
1784 Sofia
Bulgaria

tel.: +359 2 9746311
fax: +359 2 9746311
mobile: +359 888 925 766
E-mail: ldm.bg@ldmvalves.com

OOO "LDM Promarmatura"
Jubilejnyi prospekt,
dom.6a, of. 601
141400 Khimki Moscow Region
Russian Federation

tel.: +7 4957772238
fax: +7 4956662212
mobile: +7 9032254333
E-mail: inforus@ldmvalves.com

TOO "LDM"
Lobody 46/2
Office No. 4
100008 Karaganda
Kazakhstan

tel.: +7 7212 566 936
fax: +7 7212 566 936
mobile: +7 701 738 36 79
E-mail: sale@ldm.kz
<http://www.ldm.kz>

LDM Armaturen GmbH
Wupperweg 21
D-51789 Lindlar
Germany

tel.: +49 2266 440333
fax: +49 2266 440372
mobile: +49 177 2960469
E-mail: ldmmaturen@ldmvalves.com
<http://www.ldmvalves.com>

Your partner