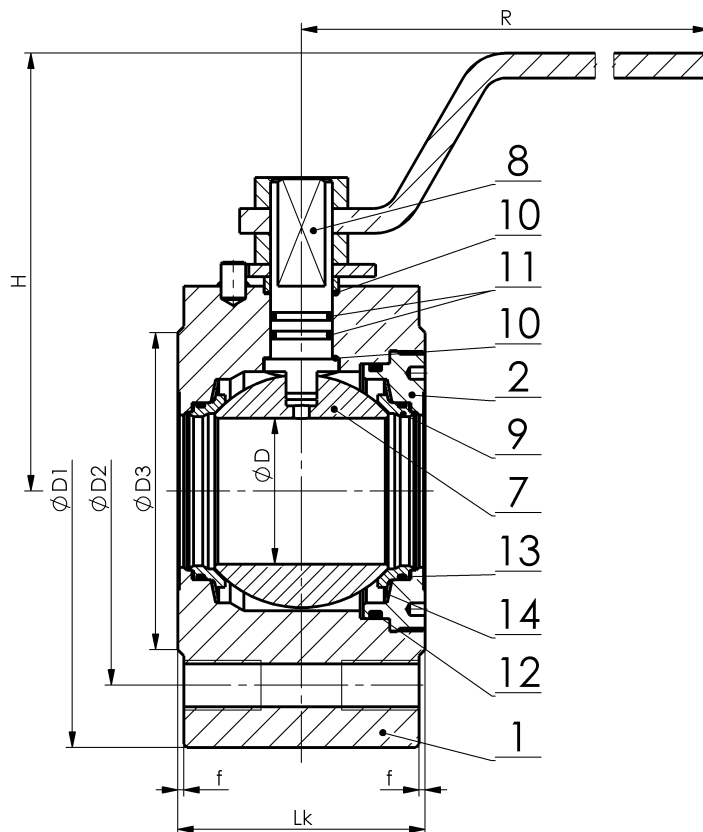


WAFER-TYPE BALL VALVE, METAL-TO-METAL

according to EN standards, with full bore
KM 9107.X-01-MD5 (MDS) – long pattern
DN 15–100 PN 16, 25, 40, 63, 100, (160)



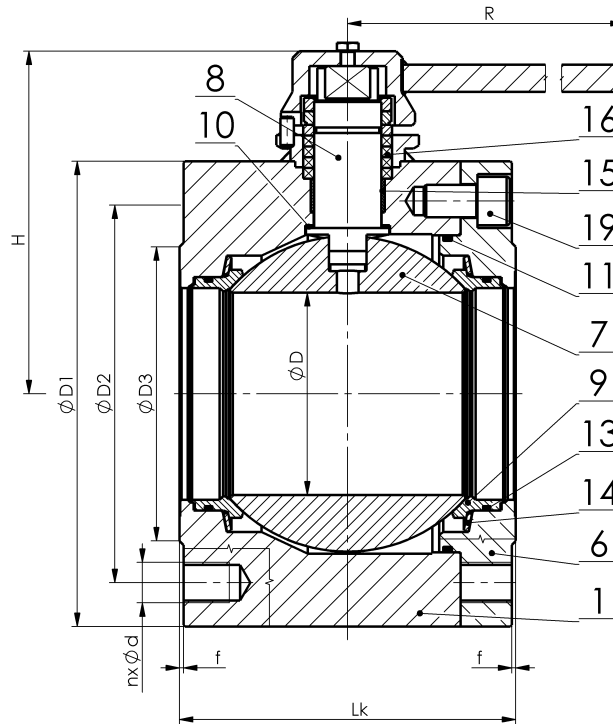
Materials

Type KM 9107.X-01- MD5(MDS)		Material			
		Carbon steel		Stainless steel	
Position	Component	X=1 For common temperatures from -20°C to +200°C	X=5 For low temperatures from -30°C to +200°C	X=3 For temperatures from -50°C to +200°C	X=4 For temperatures from -50°C to +200°C
1	Body	1.0577, S355J2	1.0565, A350 LF2	1.4541, A182 F321	1.4571, A182 F316
2	Cover				
7	Ball	ČSN 17 029 (hardened), 1.4034 (hardened), 1.4541+Stellite		1.4541+Cr, 1.4541+Stellite	1.4571+Cr, 1.4571+Stellite
8	Stem	1.4021, ČSN 17 027	1.4021, ČSN 17 027	1.4541, A182 F321	1.4571, A182 F316
9	Seat	ČSN 17 029 (hardened), 1.4034 (hardened), 1.4541+Stellite		X9CrNiMnSi 17-8-8-4, 1.4541+Stellite	X9CrNiMnSi 17-8-8-4, 1.4571+Stellite
10	Gasket	PTFE+C, PEEK			
11	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			
12	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			
13	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			
14	Spring	ČSN 17 029 (hardened), 1.4310, 1.4401		1.4310, 1.4401	1.4401

Operating temperature range can be reduced based on selected sealing materials.

WAFER-TYPE BALL VALVE, METAL-TO-METAL

according to EN standards, with full bore
KM 9107.X-03.2-01-MD5 (MDS) – long pattern
KM 9107.X-03.2-02-MD5 (MDS) – short pattern
DN 125–150 PN 16, 25, 40, 63, 100, (160)



Materials

Type		Material			
KM 9107.X-03.2-02-MD5(MDS)		Carbon steel		Stainless steel	
Position	Component	X=1 For common temperatures from -20°C to +200°C	X=5 For low temperatures from -30°C to +200°C	X=3 For temperatures from -50°C to +200°C	X=4 For temperatures from -50°C to +200°C
1	Body	1.0577, S355J2	1.0565, A350 LF2	1.4541, A182 F321	1.4571, A182 F316
6	Cover				
7	Ball	ČSN 17 029 (hardened), 1.4034 (hardened), 1.4541+Stellite		1.4541+Stellite	1.4571+Stellite
8	Stem	1.4021, ČSN 17 027	1.4021, ČSN 17 027	1.4541, A182 F321	1.4571, A182 F316
9	Seat	ČSN 17 029 (hardened), 1.4034 (hardened), 1.4541+Stellite		1.4541+Stellite	1.4571+Stellite
10	Gasket	PTFE+C, PEEK			
11	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			
13	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			
14	Spring	ČSN 17 029 (hardened), 1.4310, 1.4401		1.4310, 1.4401	1.4401
15	Bearing	KU			
16	Gasket	PTFE, PTFE+C, Graphite			
19	Bolt	8.8, A2-70, A193 B7	A2-70, A320 L7	A270, A193 B8	A2-70, A193 B8

Operating temperature range can be reduced based on selected sealing materials.

Dimensions and weights

	DN	øD	øD1	øD2	øD3	f	n	ød	Lk-01	Lk-02	H	R	Hm / W
PN 16, 25, 40	10	9,5	90	60	40	2	4	M12					
	15	15	88	65	45	2	4	M12					
	20	19	105	75	58	2	4	M12					
	25	25	115	85	68	2	4	M12	64		107	200	4,4
	32	30	140	100	78	2	4	M16					
	40	38	150	110	88	2	4	M16					
	50	47	165	125	102	2	4	M16	80		141	250	11,3
	65	62	185	145	122	2	8	M16					
	80	76	200	160	138	2	8	M16	130	118	156,5	500	27,3
PN 16	DN	øD	øD1	øD2	øD3	f	n	ød	Lk-01	Lk-02	H	R	Hm / W
	100	95	220	180	158	2	8	M16					
	125*	125	250	210	188	2	8	M16					
	150**	150	285	240	212	2	8	M20					
PN 25 PN 40	DN	øD	øD1	øD2	øD3	f	n	ød	Lk-01	Lk-02	H	R	Hm / W
	100*	98	235	190	158	2	8	M20					
	125**	125	270	220	188	2	8	M24					
	150**	150	300	250	218	2	8	M24					
PN 63, 100	DN	øD	øD1	øD2	øD3	f	n	ød	Lk-01	Lk-02	H	R	Hm / W
	15	15	105	75	45	2	4	M12					
	20	19	130	90	58	5	4	M16					
	25	25	140	100	68	2	4	M16					
	32	30	155	110	78	2	4	M20					
	40	38	170	125	88	2	4	M20					
PN 63	DN	øD	øD1	øD2	øD3	f	n	ød	Lk-01	Lk-02	H	R	Hm / W
	50	47	180	135	102	2	4	M20					
	65	62	205	160	122	2	8	M20					
	80*	76	215	170	138	2	8	M20					
	100**	98	250	200	162	2	8	M24					
	125**	125	280	240	188	2	8	M27					
	150**	150	325	280	218	2	8	M30					
PN 100	DN	øD	øD1	øD2	øD3	f	n	ød	Lk-01	Lk-02	H	R	Hm / W
	50	47	195	145	102	2	4	M24					
	65	62	220	170	122	2	8	M24					
	80*	76	230	180	138	2	8	M24					
	100**	98	265	210	162	2	8	M27					
	125**	152	315	250	188	2	8	M30					
	150**	150	355	290	218	2	12	M30					

* = gearbox recommended, ** = with gearbox only. Dimensions in [mm], weights in [kg].
Weight shown is valid for lengths marked in bold.

Application

Wafer-type ball valves type KM 9107.X-01-MD5 (MDS) are isolating valves designed to fully open or close the service fluid flow. They are not designed to be used for throttling or regulating purposes. The scope of application of the ball valves depends directly on their materials and on the properties and temperature of the service fluid. The standard materials are specified in the table of materials. By agreement and based on service conditions, also other materials than those specified in the table may be used.

The ball valves are designated for heating gases (e.g. natural gas, lighting gas, propane-butane mixture, biogas, coke-oven gas), water, steam (not exceeding +150°C), oxygen, and generally for both corrosive and non-corrosive liquids and gases.

The fluids for which the ball valves are designed may contain mechanical impurities – solid particles with sizes not exceeding 0,5 mm. The permissible hardness of mechanical impurities depends on the material of the ball valve seat. For hardened stainless material 1.4034 (MD5), ČSN 17 029 (MD5) or for Stellite (MDS) overlay, the solid particles can be very hard (up to hardness Mohs 7, e.g. sand, etc.).

Technical description

Ball valve design meets the requirements of EN 1983. The ball valve is with floating ball. The stem design ensures that the stem can not be ejected from the valve body by pressure of the fluid (anti-blow-out stem), internal components are connected to provide conductivity and resistance to formation of electrostatic discharges (anti-static design). Sealing between the ball and valve seats is ensured by metal-to-metal contact.

Operation

By lever, gear box with a hand wheel, pneumatic actuator, electric actuator. Dimensions of flanges for actuator installation are in accordance with ISO 5211. The actuator size depends on the maximum service pressure drop through the ball.

The method of operation is indicated by the third digit of the type designation, which is "0" for lever and "3" for actuator (e.g. KM 9137.X-01-MD5).

Connection to piping

Overall dimensions are shown in the tables of dimensions.

- connection according to EN 1092-1
- dimension of ball bore according to EN 1983
- end-to-end dimensions not standardized, in case of long pattern valves type KM 9107.X-01 it is guaranteed that the ball in 'closed' position does not extend beyond the face-to-face/end-to-end dimension of the ball valve.

Testing

According to EN 12 266-1 as a standard, i.e. shell strength test P10, P11, seat tightness test P12 (water pressure $1,1 \times PN$ and air pressure 0,6 MPa), leakage rate A – zero leakage. If required by the Customer, additional tests may be performed as well.

Installation, service and maintenance

The ball valves may be installed into the piping in any arbitrary position. They require no special adjustments or maintenance. They are operable at the full pressure drop which equals to PN.

Optional accessories, adjustments and services

- fire-safe design – fire resistance in accordance with EN ISO 10497 (API 607)
- adaptation of sealing face (Groove, Tongue, Spigot, Recess, O-ring groove, RTJ)
- heating jacket – for keeping the fluid liquid
- lockable handle with a padlock – for locking opened / closed position of the valve
- underground set – for underground service
- extended stem – e.g. for the reason of insulation of the valve and pipeline
- up-stream vent hole – for balancing pressure into up-stream pipeline
- limit switches
- documentation according to EN 10204 3.1 or 3.2
- special adjustments according to customer requests
- valves for nominal pressure classes PN 160
- execution according to standard NACE MR 0175 or ISO 15156