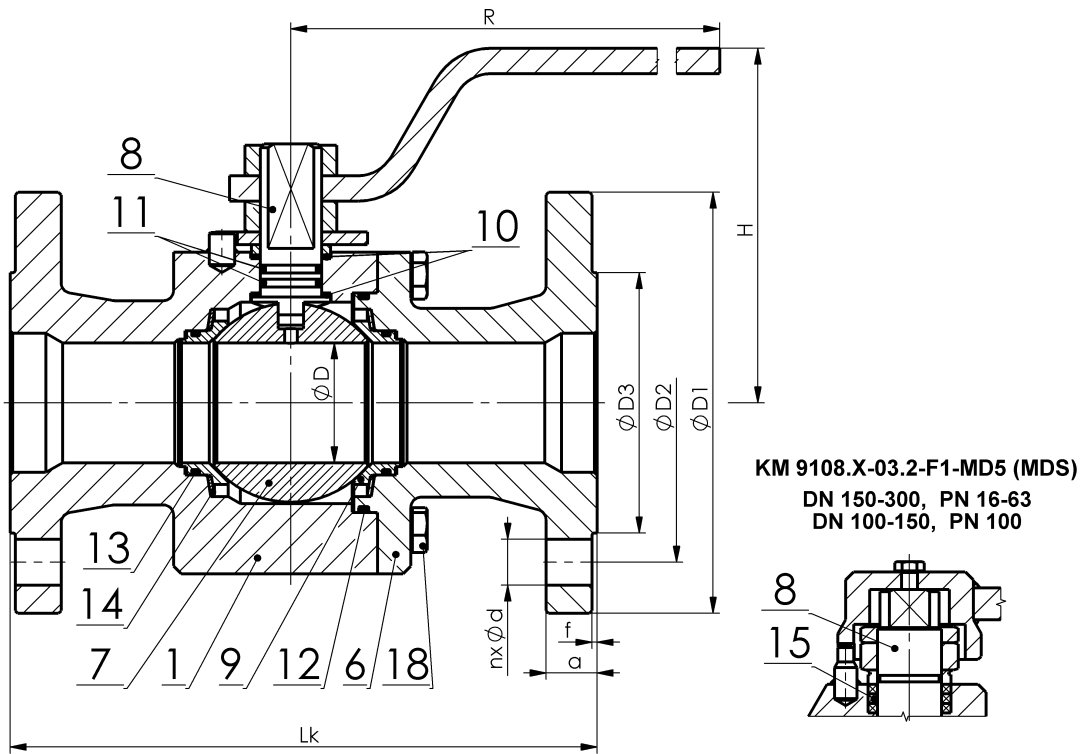


## FLANGED BALL VALVE, METAL-TO-METAL

according to EN standards, with full bore  
KM 9108.X-F1 (F4, F5, F7)-MD5 (MDS)  
KM 9108.X-03.2-F1 (F4, F5, F7)-MD5 (MDS)  
DN 10–150 PN 16, 25, 40, 63, 100, (160)



### Materials

Type KM 9108.X-F1-MD5		Material			
Type KM 9108.X-03.2-F1-MD5		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			
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
15	Packing	Graphite			
18	Bolt	8.8, A2-70, A193 B7	A2-70, A320 L7	A2-70, A193 B8	A2-70, A193 B8

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

### Dimensions and weights

	PN 16, 25, 40															
	DN	øD	øD1	øD2	øD3	f	a	n	d	Lk-F1	Lk-F4	Lk-F5	Lk-F7	H	R	Hm / W
PN 16, 25, 40	10	9,5	90	60	40	2	16	4	14	130						
	15	14	95	65	45	2	16	4	14	130						
	20	20	105	75	58	2	18	4	14	150						
	25	25	115	85	68	2	18	4	14	160				104,5	200	5,6
	32	30	140	100	78	2	18	4	18	180				110	250	7,6
	40	38	150	110	88	2	18	4	18	200						
	50	47	165	125	102	2	20	4	18	230				139	300	17,6
	65	62	185	145	122	2	22	8	18	290						
80	76	200	160	138	2	24	8	18	310				154,5	500	37,5	
	PN 16															
	DN	øD	øD1	øD2	øD3	f	a	n	d	Lk-F1	Lk-F4	Lk-F5	Lk-F7	H	R	Hm / W
PN 16	100	98	220	180	158	2	20	8	18							
	125 *	119	250	210	188	2	22	8	18							
	150 **	150	285	240	212	2	22	8	22					-	-	
	PN 25, 40															
	DN	øD	øD1	øD2	øD3	f	a	n	d	Lk-F1	Lk-F4	Lk-F5	Lk-F7	H	R	Hm / W
PN 25, 40	100 *	98	235	190	162	2	24	8	22							
	125 **	119	270	220	188	2	26	8	26					-	-	
	150 **	150	300	250	218	2	28	8	26			350		-	-	138
	PN 63, 100															
	DN	øD	øD1	øD2	øD3	f	a	n	d	Lk-F1	Lk-F4	Lk-F5	Lk-F7	H	R	Hm / W
PN 63, 100	10	9,5	100	70	40	2	20	4	14	130						
	15	14	105	75	45	2	20	4	14	130						
	20	19	130	90	58	2	22	4	18	150						
	25	25	140	100	68	2	24	4	18	160				113,5	250	8,9
	32	30	155	110	78	2	24	4	22	180						
	40	38	170	125	88	2	26	4	22	200						
	PN 63															
	DN	øD	øD1	øD2	øD3	f	a	n	d	Lk-F1	Lk-F4	Lk-F5	Lk-F7	H	R	Hm / W
PN 63	50	47	180	135	102	2	26	4	22	230				143	300	20,3
	65	62	205	160	122	2	26	8	22	290						
	80 *	76	215	170	138	2	28	8	22	310						
	100 **	98	250	200	162	2	30	8	26					-	-	
	125 **	119	295	240	188	2	34	8	30					-	-	
	150 **	142	345	280	218	2	36	8	33					-	-	
	PN 100															
	DN	øD	øD1	øD2	øD3	f	a	n	d	Lk-F1	Lk-F4	Lk-F5	Lk-F7	H	R	Hm / W
PN 100	50	47	195	145	102	2	28	4	26	230						
	65 *	62	220	170	122	2	30	8	26	290						
	80 **	76	230	180	138	2	32	8	26	310				-	-	
	100 **	98	265	210	162	2	36	8	30					-	-	
	125 **	119	315	250	184	2	40	8	33	400				-	-	165
	150 **	142	355	290	212	2	44	12	33					-	-	

\* = gearbox recommended, \*\* = with gearbox only.

Dimensions in [mm], weights in [kg]. Overall length F1 is preferred (if specified).

### Application

Flanged ball valves type KM 9108.X-F1-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), 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 9138.X-F1-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
- face-to-face dimensions of F1 – according to EN 558, series 1 (corresponding to DIN 3202-1 – F1)
- face-to-face dimensions of F4 – according to EN 558, series 14 (corresponding to DIN 3202-1 – F4), up to DN 100
- face-to-face dimensions of F5 – according to EN 558, series 15 (corresponding to DIN 3202-1 – F5), for bigger than DN 100
- face-to-face dimensions of F7 – according to EN 558, series 28 (corresponding to DIN 3202-1 – F7), for bigger than DN 125

### 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

- different face-to-face dimensions or end combinations
- adaptation of sealing face (Groove, Tongue, Spigot, Recess, O-ring groove, RTJ)
- fire-safe design – fire resistance in accordance with EN ISO 10497 (API 607)
- 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