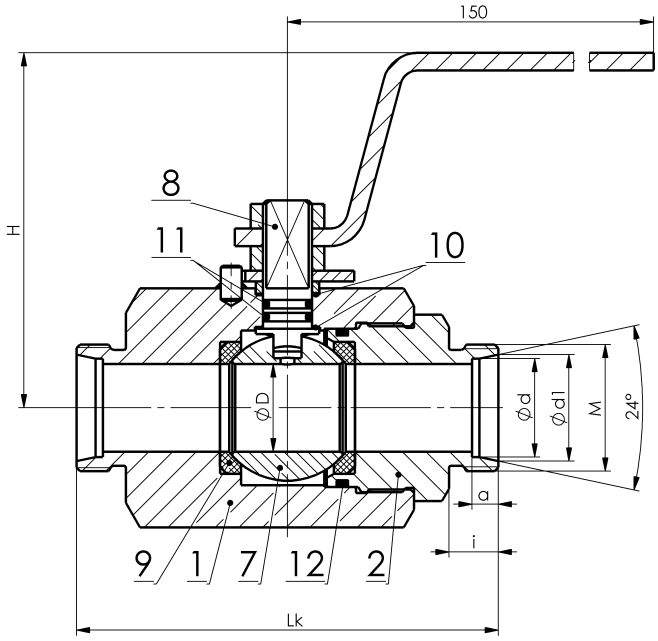
BALL VALVE WITH EXTERNAL THREADS

KM 9102.X
DN 10–40 PN 16, 25, 40, 63, 100, (160, 250)



Materials

Type KM 9102.X		Material			
		Carbon steel		Stainless steel	
Position	Component	X=1 For common temperatures from −20°C to +200°C	X=5 For low temperatures from −46°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	Screw joint				
7	Ball	1.4571, A182 F316, A351 CF8M, ČSN 17 027			
8	Steam	1.4021, ČSN 17 027	1.4541, A182 F321	1.4541, A182 F321	1.4571, A182 F316
9	Seat	PTFE, PTFE+C, PEEK			
10	Gasket	PTFE+C, PEEK			
11	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			
12	Sealing	NBR, HNBR, EPDM, FPM, FPM+FEP			

Other materials upon request (P265GH, 1.4306, 1.4462 etc.).
Operating temperature range can be reduced based on selected sealing materials.

Dimensions and Weights

	DN	Řada	⌀D	M	i	⌀d	⌀d1	a	Lk	S1	S2	H	R	Hm / W
PN 16, 25, 40, 63, 100	10	L	9,5	M18×1,5	11	12	14,3	7	80		27		115	
	15	L	14	M26×1,5	12	18	20,3	7,5	105		30		115	
	20	L	19	M30×2	14	22	24,3	7,5	110		41		120	
	25	L	25	M36×2	14	28	30,3	7,5	120	65	46	103,5	150	2,6
	32	L	30	M45×2	16	35	38	10,5	145		55		150	
	40	L	40	M52×2	16	42	45	11	150		65		250	

Dimensions in [mm], weights in [kg]. S1 / S2 – Widths across flats for wrench on body / socket.

Application

Ball valves with external threads type KM 9102.X 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 without mechanical impurities. Service temperature range can be from −50°C to +200°C depending on combination of body material and sealing rings. Allowable service pressures are in compliance with the pressure-temperature ratings (graphs B1, S1).

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).

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 91**3**2.X).

Functional safety

Ball valves meet requirements for functional safety SIL 2 according to EN 61508-1, 2.

Connection to Piping

Overall dimensions are shown in the tables of dimensions.

- dimensions of external threads according to EN ISO 8434-1, optionally with threads G or NPT
- dimension of ball bore according to EN 1983
- end-to-end dimension of DN 10–50 according to DIN 3357 part 2

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×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

- alternative external threads
- fire-safe design – fire resistance in accordance with EN ISO 10497
- heating jacket – for keeping the fluid liquid
- lockable handle with a padlock – for locking opened / closed position of the valve
- regulating orifice – for flow regulation depending on turning of lever
- 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, 250
- execution according to standard NACE MR 0175 or ISO 15156