

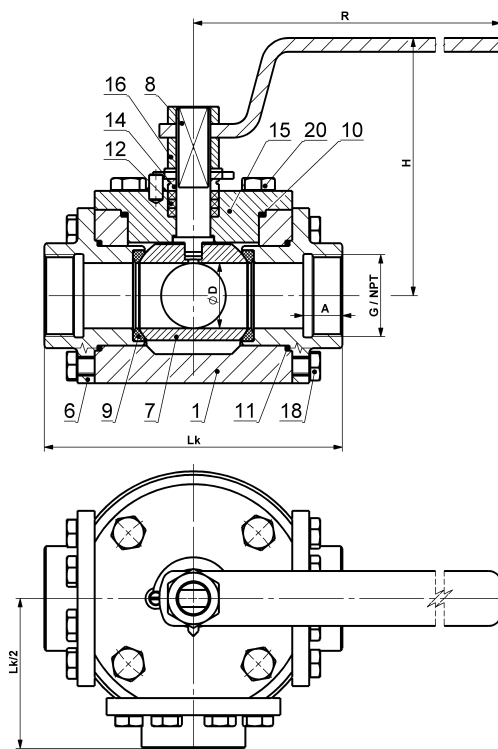
THREE-WAY THREADED END BALL VALVE

with four seats, with stuffing box, with full bore "L" or "T"
for temperatures up to +230°C

KM 9301.X-02-03.2 – connecting thread G

KM 9301.X-02-03.2-02 – connecting thread NPT

DN 10–100 PN 16, 25, 40, 63, 100, (160, 250)



Materials

Type KM 9301.X-02-03.2 Type KM 9301.X-02-03.2-02		Material			
Position	Component	Carbon steel		Stainless steel	
		X=1 For common temperatures from -20°C to +230°C	X=5 For low temperatures from -46°C to +230°C	X=3 For temperatures from -60°C to +230°C	X=4 For temperatures from -60°C to +230°C
1	Body	1.0577, S355J2	1.0565, A350 LF2	1.4541, A182 F321	1.4571, A182 F316
6	Socket				
7	Ball	1.4021, ČSN 17 027	1.4541, A182 F321 ČSN 17 027	1.4541, A182 F321	1.4571, A182 F316
8	Stem				
9	Seat	PTFE, PTFE+C, PEEK			
10	Gasket	Graphite			
11	Gasket	Graphite			
12	Packing	Graphite			
14	Gland cover	1.4021, ČSN 17 027			
15	Cover	1.0577, S355J2	1.0565, A350 LF2	1.4541, A182 F321	1.4571, A182 F316
16	Nut	Cl.8, A2-70, A194 Gr. 2H	A2-70, A194 Gr. 7	A2-70, A194 Gr. 8	A2-70, A194 Gr. 8
18	Bolt	8.8, A2-70, A193 B7	A2-70, A320 L7	A2-70, A193 B8	A2-70, A193 B8
20	Bolt	8.8, A2-70, A193 B7	A2-70, A320 L7	A2-70, A193 B8	A2-70, A193 B8

Other materials upon request (P265GH, 1.4306, 1.4462 etc.).

Dimensions and weights

PN 16, 25, 40, 63	DN	ØD	G	NPT	A	Lk	H	R	Hm / W
	10	9,5	3/8"	3/8-18	13				
	15	14	1/2"	1/2-14	15	100	119	150	3,1
	20	19	3/4"	3/4-14	16,5				
	25	25	1"	1-11,5	19,5				
	32	30	1 1/4"	1 1/4-11,5	21,5				
	40	38	1 1/2"	1 1/2-11,5	23				
	50	47	2"	2-11,5	26				

PN 16 PN 25 PN 40	DN	ØD	G	NPT	A	Lk	H	R	Hm / W
	65	62	2 1/2"	2 1/2-8	31				
	80	76	3"	3 - 8	34				
100	95	4"	4 - 8	40					

PN 63	DN	ØD	G	NPT	A	Lk	H	R	Hm / W
	65	62	2 1/2"	2 1/2-8	31				
	80	76	3"	3 - 8	34				
100 *	95	4"	4 - 8	40					

PN 100	DN	ØD	G	NPT	A	Lk	H	R	Hm / W
	10	9,5	3/8"	3/8-18	13				
	15	14	1/2"	1/2-14	15				
	20	19	3/4"	3/4-14	16,5				
	25	25	1"	1-11,5	19,5				
	32	30	1 1/4"	1 1/4-11,5	21,5				
	40	38	1 1/2"	1 1/2-11,5	23				
50	47	2"	2-11,5	26					

* = gearbox recommended. Dimensions in [mm], weights in [kg].

Application

Three-way threaded end ball valves type KM 9301.X-02-03.2(-02) are isolating valves designed either to redirect or to 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.

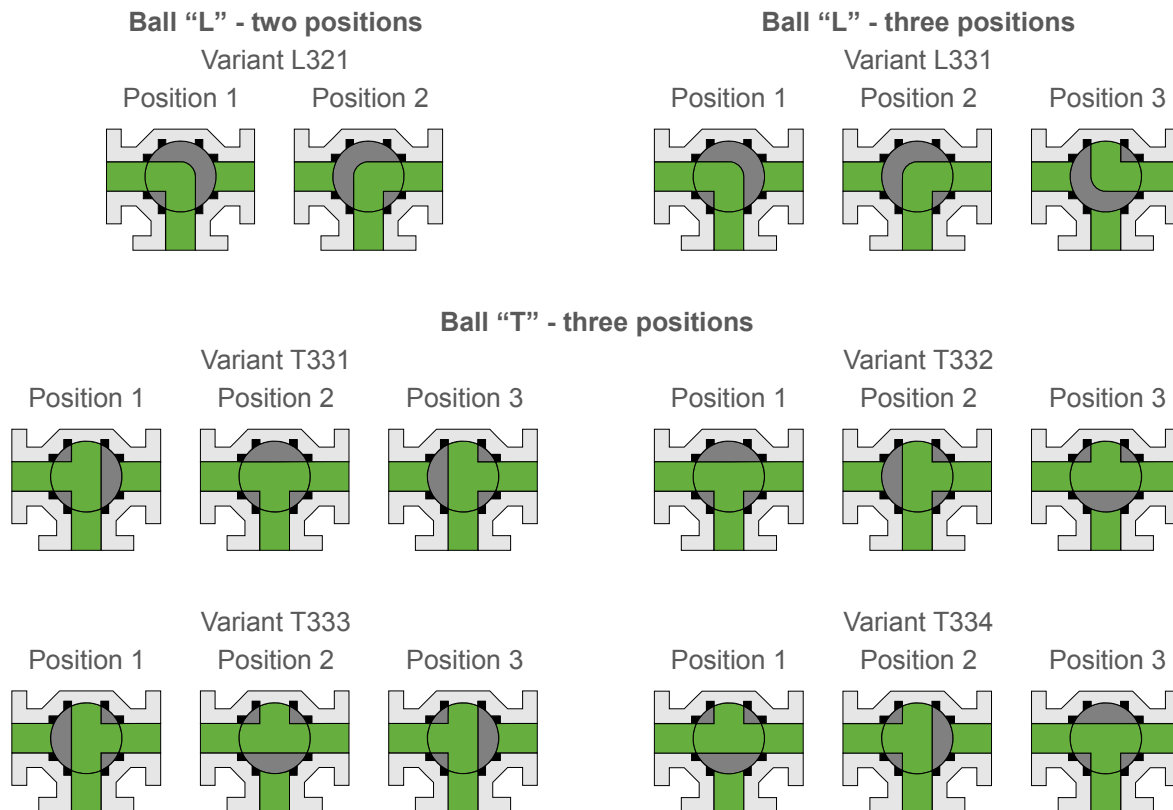
The ball valves are designated for heating gases (e.g. natural gas, lighting gas, propane-butane mixture, biogas, coke-oven gas), water, steam, oxygen, and generally for both corrosive and non-corrosive liquids and gases without mechanical impurities. Unlike common ball valves, these are sealed with Graphite and are used in applications where rubber rings do not have sufficient chemical resistance to the fluid. Service temperature range can be from -60°C to +230°C depending on body material. Allowable service pressures are in compliance with the pressure-temperature ratings (graphs B1, S1, S2, S4).

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).

The ball bore may have the form of either "L" or "T". The position of the ball in the ball valve is shown by the mark on the upper flat of the stem. The flow possibilities are shown on the schemes, other possibilities can be discussed by phone.

Flow directions



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 9331.X-02-03.2(-02)).

Connection to piping

Overall dimensions are shown in the tables of dimensions.

- internal thread G according to EN ISO 228-1 – type KM 9301.X-02-03.2
- internal thread NPT according to ANSI B 1.20.1 – type KM 9301.X-02-03.2-02
- dimension of ball bore according to EN 1983
- end-to-end dimensions not standardized

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

- 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
- extended stem – e.g. for the reason of insulation of the valve and 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
- execution according to API standards
- ball bore LL (X)