

XOMOX®

Technische Dokumentation Technical Documentation



XOMOX® **Fully Lined Plug Valves** **Two-way & Multiport Configurations**

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Dok. Nr.: tdb_lpv_gb

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CRANE
ChemPharma Flow Solutions

Design Features & Benefits

XOMOX® fully lined plug valves are cavity-free. Due to the special body design, the liner is firmly locked. Plug coating is extended over the shaft sealing. Liners manufactured by XOMOX® are non-porous and 100% dielectrically spark tested.

For safety reasons, liner wall thickness are oversized.

Plastic liner materials are selected according to requirements. XOMOX® plug valves are used for applications where other materials have insufficient chemical resistance or are not economical.

XOMOX® plastic lined plug valves fully meet the leakage requirements of DIN 3230 Standard, page 3, leak rate 1.

Scope of Supply

Materials:

Body: EN-JS1049 (GGG 40.3, 0.7043) or A352-LCB (DN 32 only in 0.7043)
Body lining: PFA
Plug: Up to DN 32 NPS 1 ¼ plug core made form steel (1.0570)
From DN 40 NPS 1 ½ plug core made from
EN-JS1049 (GGG 40.3, 0.7043)
or steel (1.0570/ 1.0727)
PFA lining

Jacket: 1.0038

Face-to-face dimension acc. to EN 558-1 / EN 558-2

Standard design for manual operation:

up to DN 100 / NPS 4: with handle
from DN 150 / NPS 6: with worm gear

For pneumatic and electric actuators please refer to technical data sheet tdb_xrp.

Temperature range:

233 K up to 473 K (-40°C up to 200°C) for PFA

Suitable for vacuum service: (1.33 mbar / hPa)
Operating pressure max. 10 bar

Available sizes and flange dimensions:

PN 10 DN 15 - 300
PN 16 DN 15 - 300
CL 150 NPS ½ - 12
JIS 10 k DN 15 - 300

Paint:

- 1) Standard paint: 1 compound Urethane-Alkyde green RAL 6011
Application: Primer for further paints on 1- or 2 compound level
- 2) On request: Epoxy primer and coating based on AY-PUR (Acryle-Polyuretane) orange RAL2009
Application: Industrial and Sea water environment. Further paintings on request.

Orders without specifications will be delivered with standard paint.

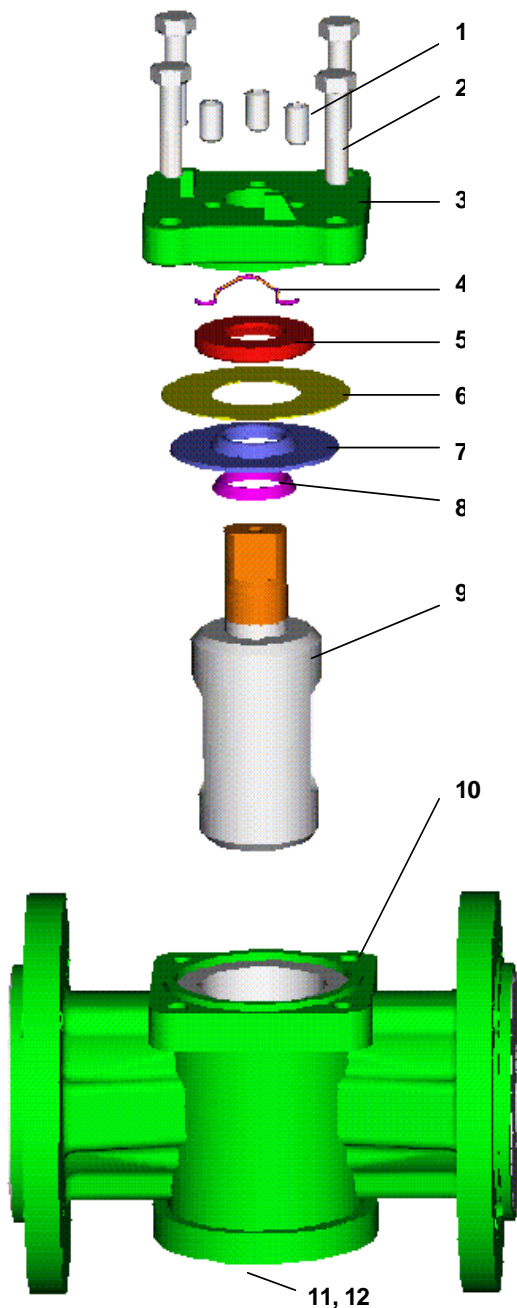
Type test approval VdTÜV-M229 for plants subject to inspection:

Rule	Dampfkv	DruckbehV	Gas HL-VO	VbF
Code	TRD	TRB/TRR	TRGL/DVGW	TRbF

Optionen:

- Jacketed versions
- Valves cleaned for chlorine-application
- Valves cleaned for oxygen-application

Part description



Partlist

Item	Qty.	Description	Material
1	3	Set Screws	1.4301
2	4	Cover Screws	1.4408
3	1	Cover	EN-JS 1049 (GGG 40.3)
4	1	Anti-Static Device	1.4571
5	1	Trust Collar	1.4401
6	1	Metal Diaphragm	1.4401
7	1	Formed Diaphragm	Teflon®
8	1	Wedge Ring	Teflon®
9	1	Plug	EN-JS 1049 (GGG 40.3); PFA coated
10	1	Body	EN-JS 1049 (GGG 40.3), PFA
11	1	Set screw	1.4408
12	1	Lock Nut	1.4408

Flow Coefficient, K_v in m^3/h , $C_v=1,156 K_v$

DNN PS	15 ½	20 ¾	25 1	32 1 ¼	40 1 ½	50 2	65 2 ½	80 3	100 4	150 6	200 8	250 10	300 12
Cv	12.6	35	57	57	213	295	630	670	1400	2125	*	*	*
Kvs	10.9	30	49	49	184	255	545	580	1211	1838	*	*	*
Kva	8	8	30	30	63	125	125	220	400	800	1195	1795	2650

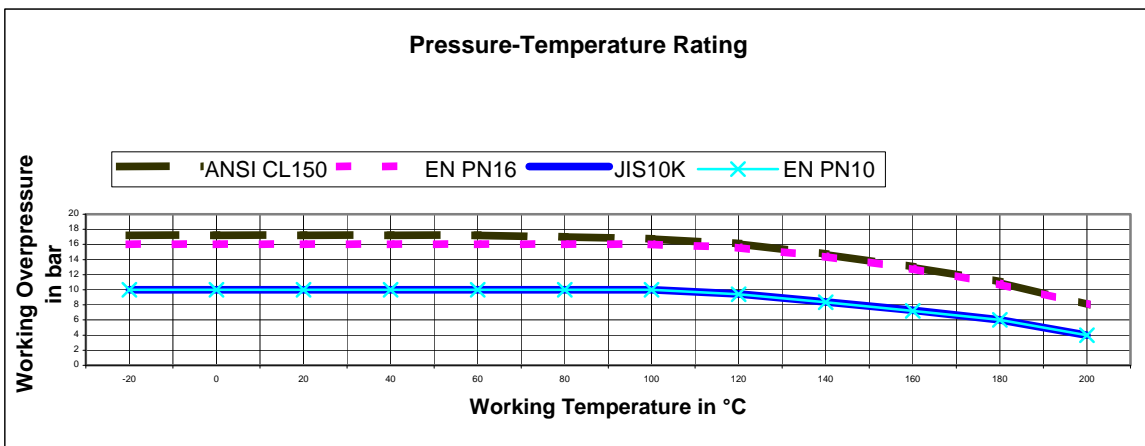
* on request

Valve coefficients for process control: DN 15 – 300 / NPS ½ - 12

Angel of aperture	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°
Rated travel	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Recovery factor F_L	-	0.89	0.88	0.87	0.85	0.82	0.78	0.72	0.68	0.64
Factor F_L^2	-	0.79	0.77	0.76	0.72	0.67	0.61	0.52	0.46	0.41
Valve Characteristic z_y	-	0.50	0.49	0.48	0.47	0.44	0.41	0.36	0.33	0.30
Pressure differential ratio κ_T	-	0.67	0.65	0.64	0.61	0.56	0.51	0.44	0.39	0.34
Valve style modifier F_d	The calculation value is a function of the required flow coefficient									

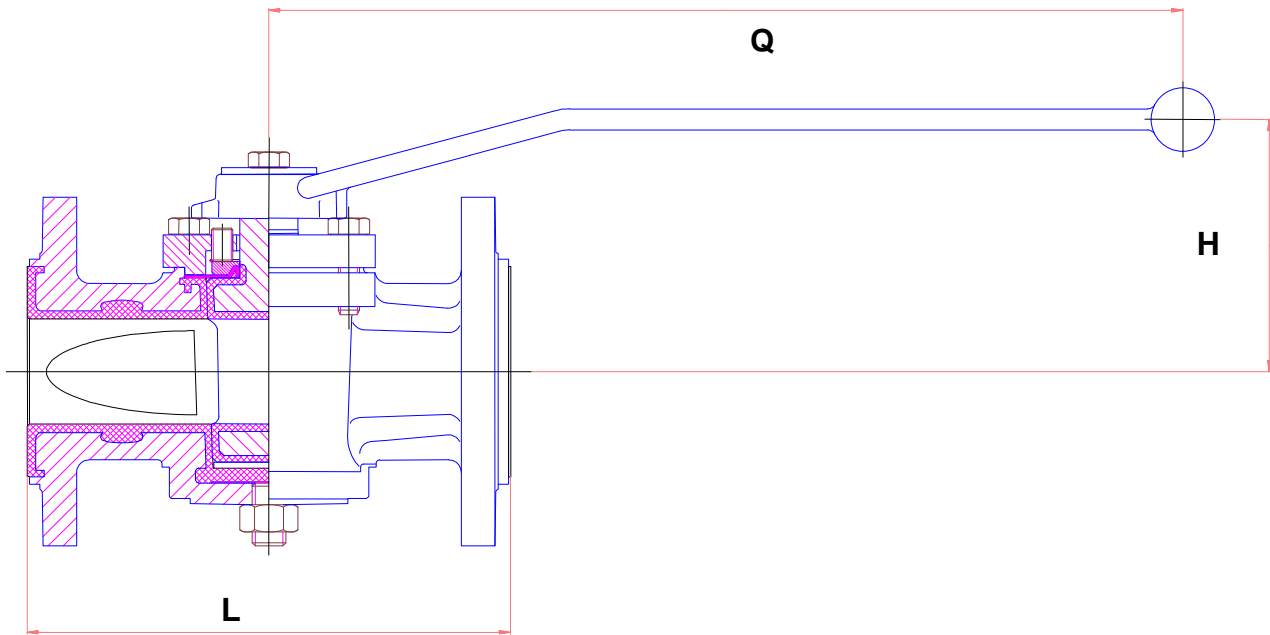
Pressure- Temperature- Rating for body and liner

Temperature in °C	- 40	- 20	0	20	40	60	80	100	120	140	160	180	200
Operating pressure PFA	0	5.8	10	10	10	10	10	10	10	10	9.5	5	



Maximum allowable operating temperature of lining: PFA: ≤ 200°C

Type 121 flanges as per DIN PN 10-16
Type 021 flanges as per ASME Class 150
Type 8121, 8021, 821 flanges drilled to JIS 10 K
 Other pressure classes on request
 Exact types per size see dimension table below.



Dimensions with wrench in mm

DN DIN	NPS ASME	L		H	Q	Approx. weight / kg		Break-away torque [Nm]
		DIN	ASME			DIN	ASME	
15	½	130	*	94	260	3.4	3.4	65
20	¾	150	*	94	260	4.0	4.0	65
25	1	160	127	94	260	5.0	3.2	65
32	1¼	180	*	94	260	7.0	7.0	65
40	1½	200	165	106	362	7.8	6.0	100
50	2	230	178	118	435	11.4	9.5	160
65	2½	290	*	118	435	16.0	16.0	160
80	3	310	203	132	435	17.4	14.5	210
100	4	350	229	149	600	29.4	22.5	300

Fully Lined Two Way Valves, Dimensions with gear

