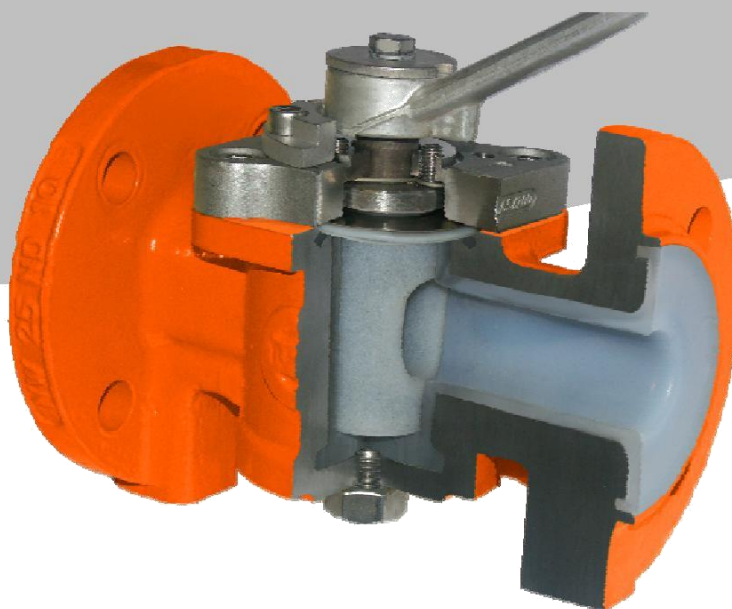


Technische Dokumentation Technical Documentation



XOMOX® Fully Lined Plug Valves Two-way 021–121-8121 ISO5211



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 EN12266-2 Standard, page 12, leak rate A.

Scope of Supply

Materials:

Body	EN-JS1049 (GGG 40.3, 0.7043) or A352-LCB (DN 32 only in 0.7043)
ISO Cover and Stop	1.4408
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 depends on body material and valve class (see the PT graph on page4 for more details)

Available sizes and flange dimensions:

PN 10	DN 15 - 300
PN 16	DN 15 - 300
CL 150	NPS ½ - 12
CL 300	NPS ½ - 10 (with WCB body)
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
- **Actuator mounting** in acc. with **ISO 5211** enables simple and economical quarter-turn valve operation
- All actuation parts centered to plug shaft ensure that lateral forces don't influence the atmospheric sealing.



Item	Qty.	Description	Material
1	3	Set Screws	A4-70
2	4	Cover Screws	A4-70
3	1	Cover	1.4408
4	1	Anti-Satic Device	1.4571
5	1	Trust Collar	1.4301
6	1	Metal Diaphragm	1.4301
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	A4-70
12	1	Lock Nut	A4-70

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

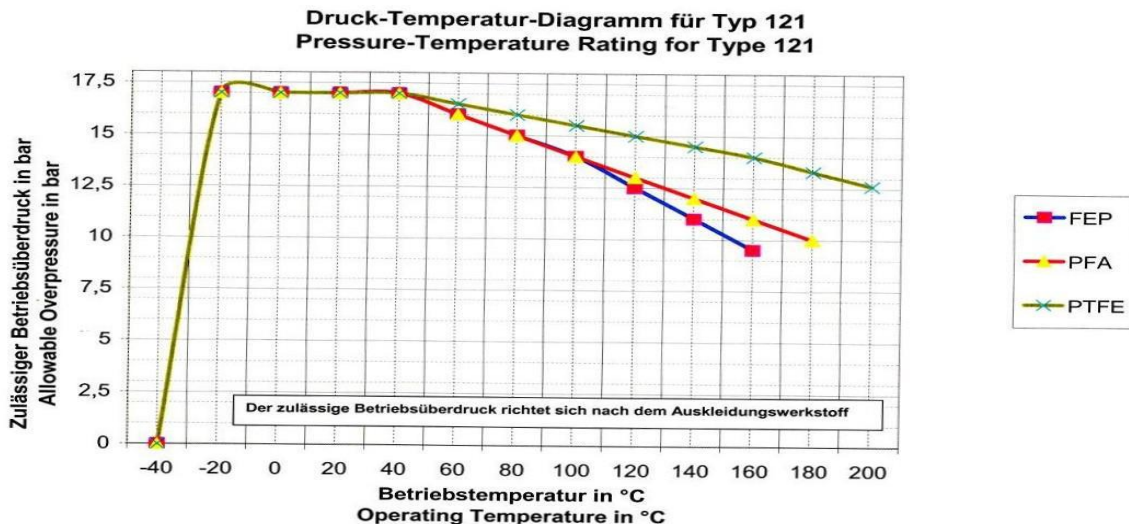
DN NPS	15 1/2	20 3/4	25 1	32 1 1/4	40 1 1/2	50 2	65 2 1/2	80 3	100 4	150 6	200 8	250 10	300 12
Cv	9,2	9,2	34,7	34,7	72,8	144,5	144,5	254	462	925	1381	2075	3063
Kv	8	8	30	30	63	125	125	220	400	800	1195	1795	2650

Valve coefficients for process control: DN 15 – 300 / NPS 1/2 - 12

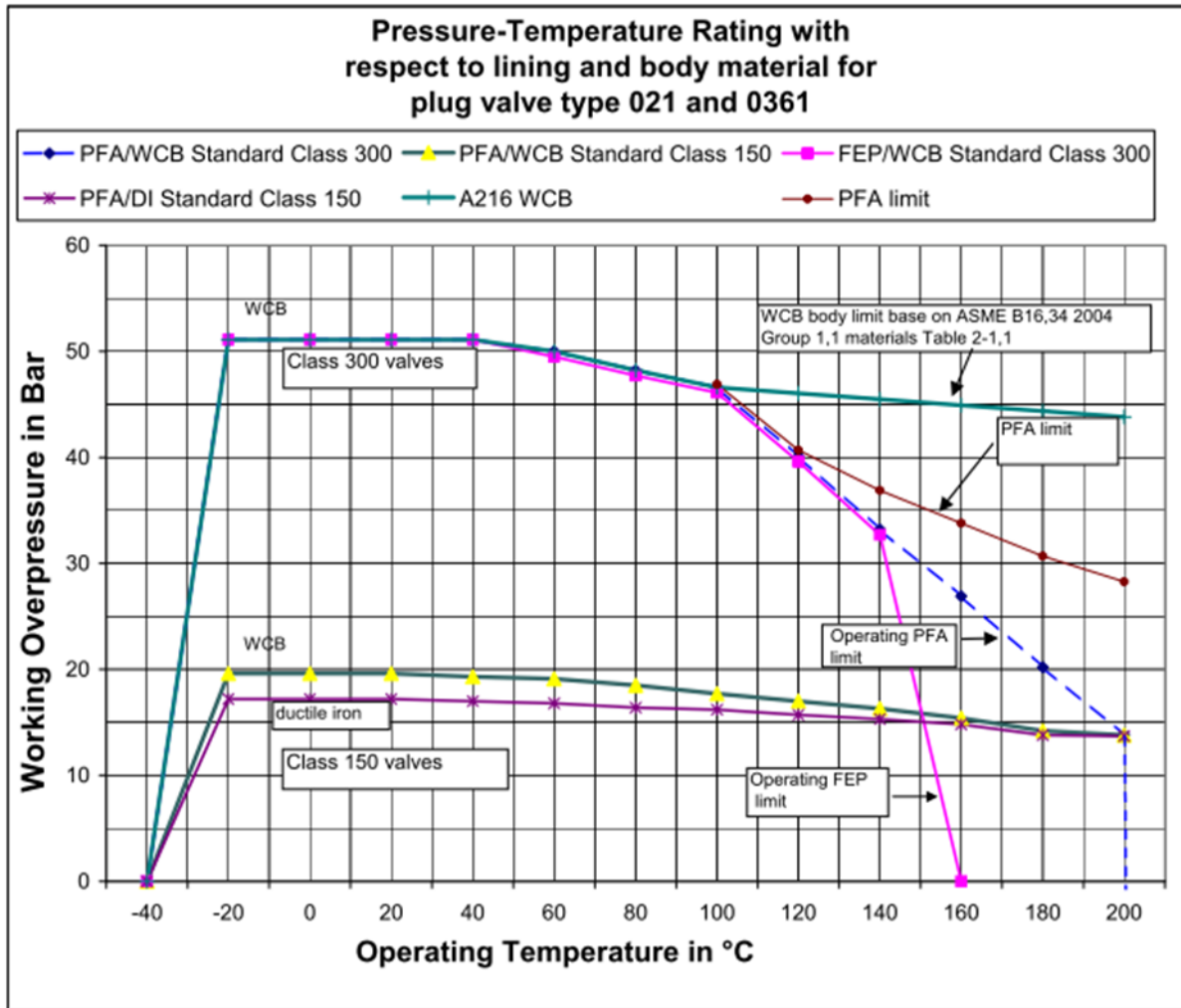
Angel of aperture	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°
Rated travel	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Recovery factor F_L	-	0.89	0.88	0.87	0.85	0.82	0.78	0.72	0.68	0.64
Factor F_L^2	-	0.79	0.77	0.76	0.72	0.67	0.61	0.52	0.46	0.41
Valve Characteristic z_V	-	0.50	0.49	0.48	0.47	0.44	0.41	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	17	17	17	17	16	15	14	13	12	11	10	8

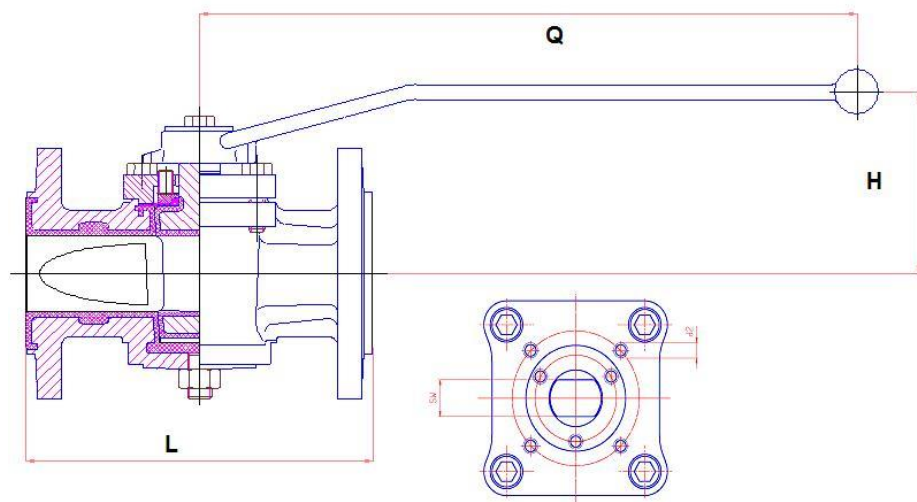


Maximum allowable operating temperature of lining: PFA: $\leq 200^\circ\text{C}$



Type 121 flanges as per DIN PN 10-16
Type 021 flanges as per ANSI Class 150
Type 8121, 8021, flanges drilled to JIS 10 K

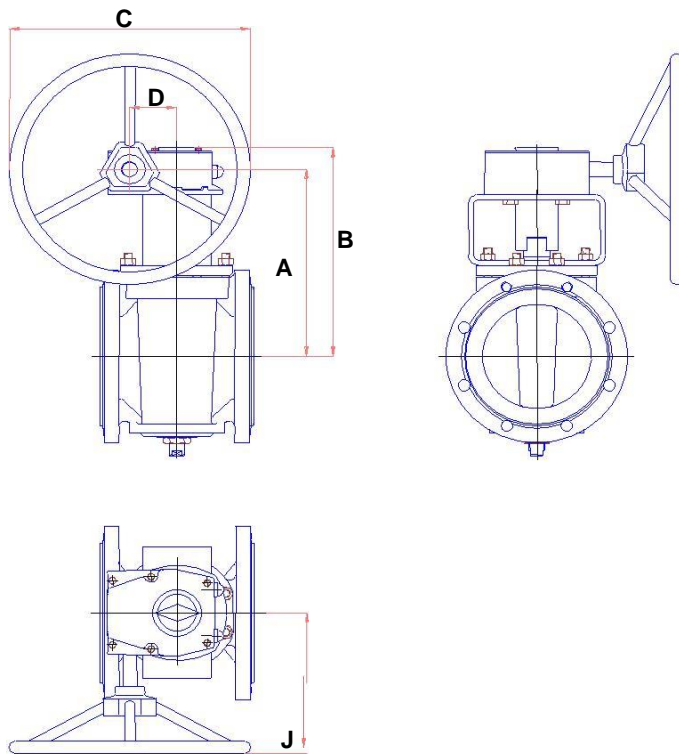
Other pressure classes on request
 Exact types per size see dimension table below.



Dimensions with wrench in mm

DN DIN	NPS ANSI	DIN	L ANSI	H	Q	ISO 5211 DIN/ANSI	Approx. weight / kg		Break-away torque [Nm]
							DIN	ANSI	
15	½	130	*	94	260	F05	3.4	3.4	65
20	¾	150	*	94	260	F05	4.0	4.0	65
25	1	160	127	94	260	F05	5.0	3.2	65
32	1¼	180	*	94	260	F05	7.0	7.0	65
40	1½	200	165	106	362	F05	7.8	6.0	100
50	2	230	178	118	435	F07	11.4	9.5	160
65	2½	290	*	118	435	F07	16.0	16.0	160
80	3	310	203	132	435	F07	17.4	14.5	210
100	4	350	229	149	600	F10	29.4	22.5	300

Fully Lined Two Way Valves Dimensions with gear



Dimensions with gear in mm

DN	NPS	L	ANSI	A	B	C	ISO 5211	D	J	Approx. weight /		Break-away torque [Nm]
										DIN	ANSI	
100	4	350	229	233	265	250	F10	52	184	43.0	36.0	300
150	6	**	267	304	343	300	F12	66.7	223		53.4	650
200	8	**	292	380.5	424	457	F14	89.5	279		88.0	1200
250	10	**	330	408.5	464	610	F14	123	366		150.0	1800

DN 300 / NPS 12 on request

Face-to-face dimensions and flanges

** Type 121 Face-to-face and flanges – drilled as per DIN

* Type 0121 Face-to-face and flanges DIN – drilled as per ANSI Class 150 Type

8121 Face-to-face and flanges DIN – drilled as per JIS 10 K

Type 8021 Face-to-face and flanges ANSI – drilled as per JIS 10 K

Other pressure classes on request

Design and Dimensions of Wrenches for XOMOX[®] Plug Valves (with flow direction indicator)

Figure 1 Standard Wrench

Material: Aluminium

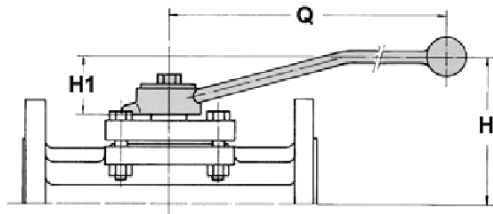
Figure 2 Wrench with hub cap

Material: Steel

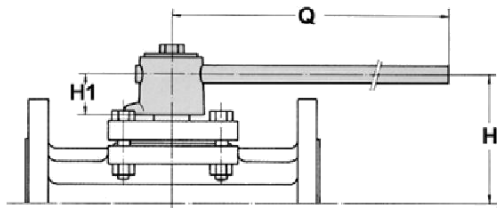
(Special Design for DN 15 - 80 / NPS ½ - 3)

Figure 3 T-Wrench

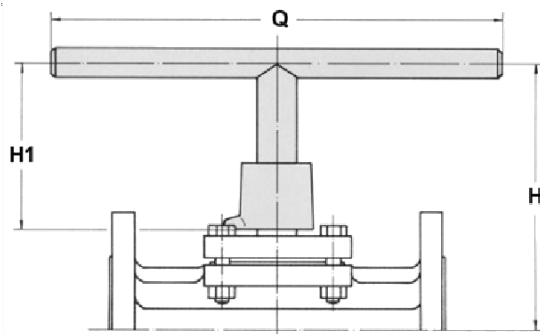
Material: Steel



DN	NPS	H	H1	Q	Weight in kg
15	½	76	45	180	0.1
20	¾	76	45	180	0.1
25	1	96	46	260	0.2
32		96	46	260	0.2
40	1 ½	106	45	362	0.3
50	2	118	47	435	0.4
65		112	47	435	0.4
80	3	132	47	435	0.4



DN	NPS	H	H1	Q	Weight in kg
15	½	68	36	190	0.3
20	¾	68	36	190	0.3
25	1	80	30	250	0.7
32		80	30	250	0.7
40	1 ½	91	30	300	1.1
50	2	108	37	450	1.6
65		102	37	450	1.6
80	3	122	37	450	1.6
100	4	151	45	600	3.2



DN	NPS	H	H1	Q	Weight in kg
15	½	132	100	300	0.3
20	¾	132	100	300	0.3
25	1	195	145	300	0.6
32		195	145	300	0.6
40	1 ½	206	145	400	0.9
50	2	216	145	500	1.3
65		210	145	500	1.3
80	3	230	145	500	1.3
100	4	256	150	600	2.8

T-Wrench: Recommended wrench for isolated piping systems.
DN 150 – 250 / NPS 6 – 10 are standard equipped with a worm gear
Subject to technical modifications

Crane Co., and its subsidiaries cannot accept responsibility for possible errors in catalogues, brochures, other printed materials, and website information. Crane Co. reserves the right to alter its products without notice, including products already on order provided that such alteration can be made without changes being necessary in specifications already agreed. All their trademarks in this material are property of the Crane Co. or its subsidiaries. The Crane and Crane brands logotype are registered trademarks of Crane Co. All rights reserved.