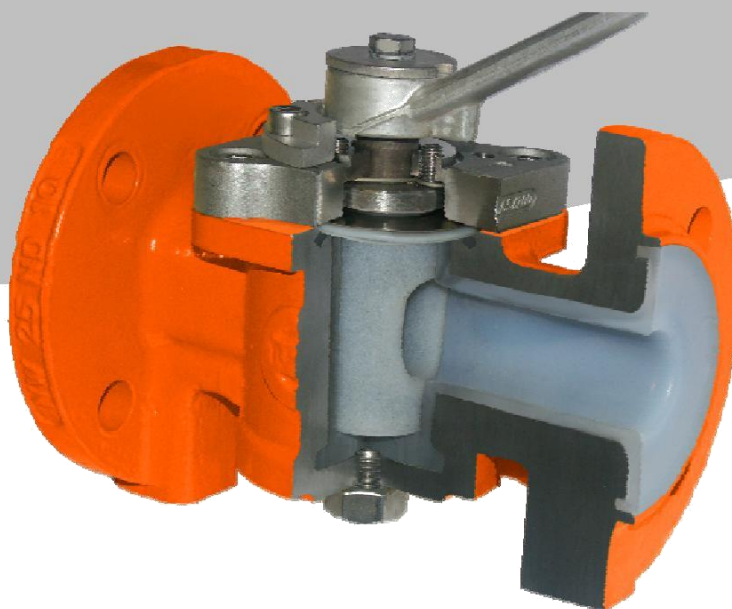


Technische Dokumentation Technical Documentation



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 , $C_v=1,156 K_V$

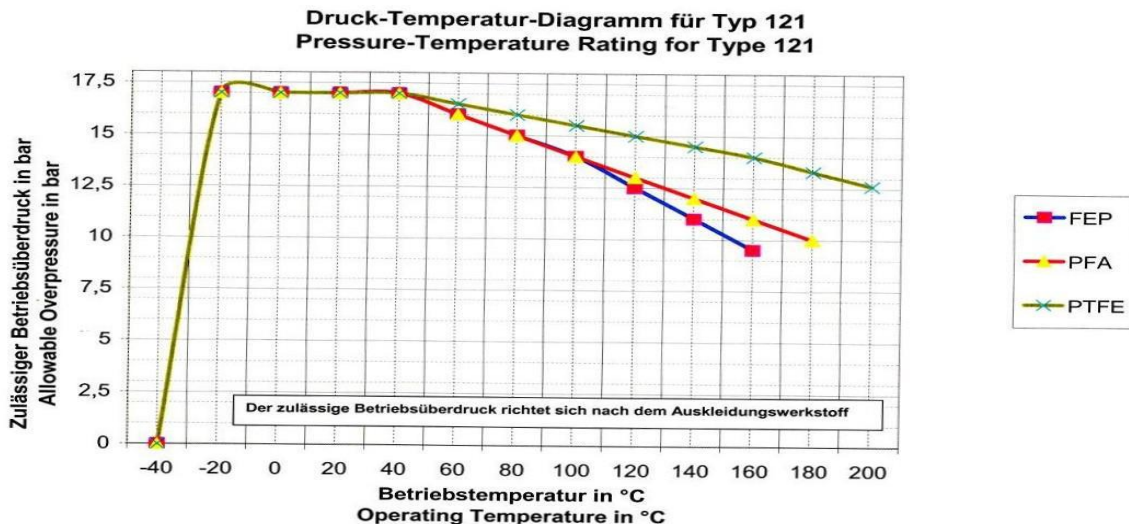
DN NPS	15 1/2	20 3/4	25 1	32 1 1/4	40 1 1/2	50 2	65 2 1/2	80 3	100 4	150 6	200 8	250 10	300 12
Cv	9,2	9,2	34,7	34,7	72,8	144,5	144,5	254	462	925	1381	2075	3063
Kv	8	8	30	30	63	125	125	220	400	800	1195	1795	2650

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

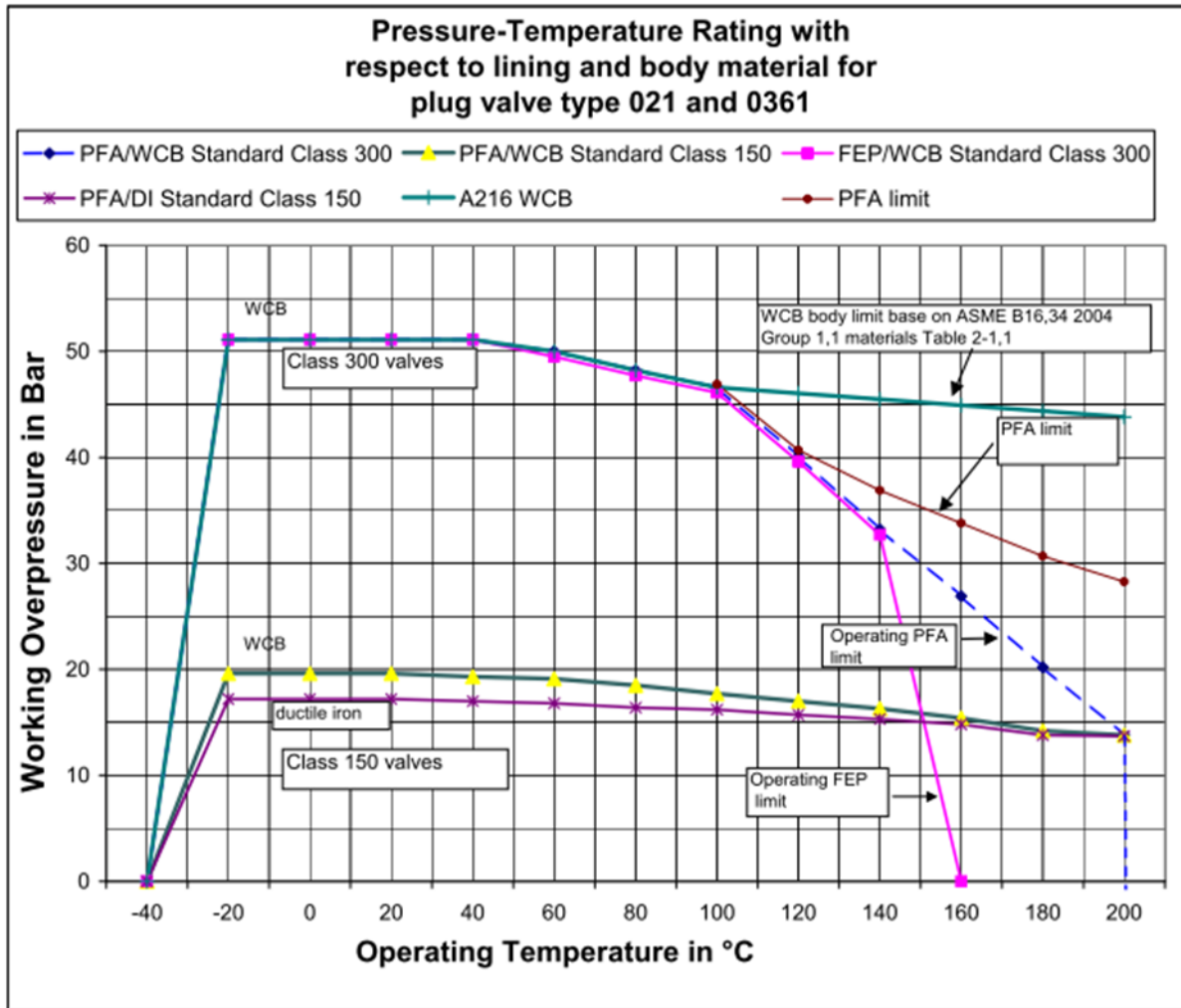
Angel of aperture	9°	18°	27°	36°	45°	54°	63°	72°	81°	90°
Rated travel	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Recovery factor F_L	-	0.89	0.88	0.87	0.85	0.82	0.78	0.72	0.68	0.64
Factor F_L^2	-	0.79	0.77	0.76	0.72	0.67	0.61	0.52	0.46	0.41
Valve Characteristic z_V	-	0.50	0.49	0.48	0.47	0.44	0.41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

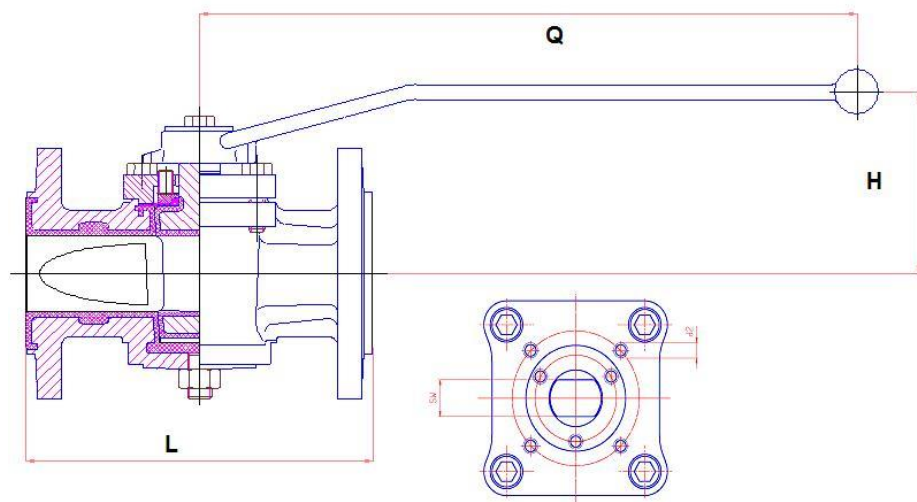


Maximum allowable operating temperature of lining: PFA: $\leq 200^\circ\text{C}$



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

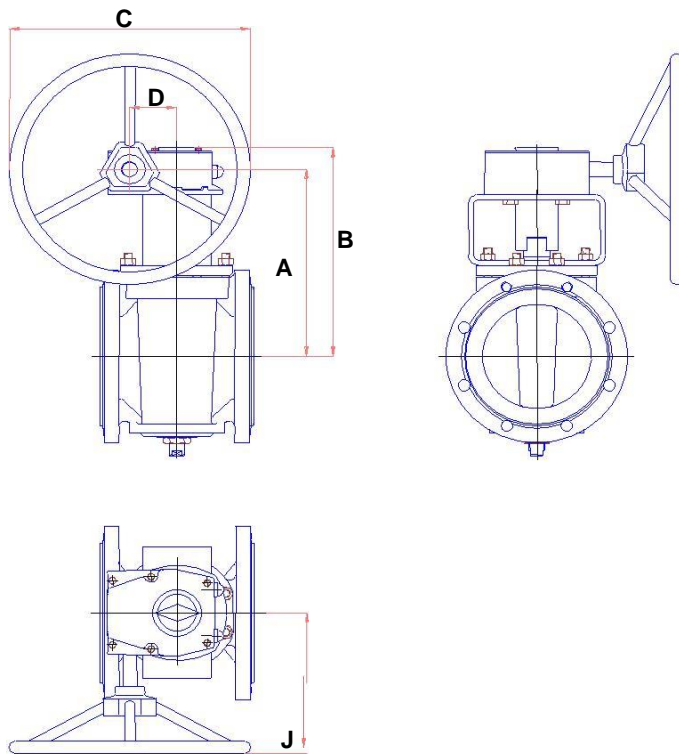
Other pressure classes on request
 Exact types per size see dimension table below.



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	A	B	C	ISO 5211	D	J	Approx. weight /		Break-away torque [Nm]	
									DIN	ANSI		DIN
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

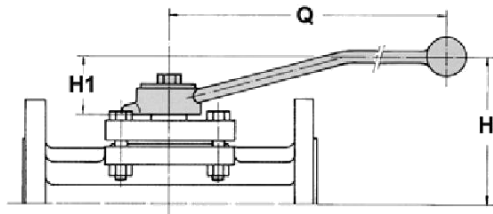
Figure 2 Wrench with hub cap

Material: Steel

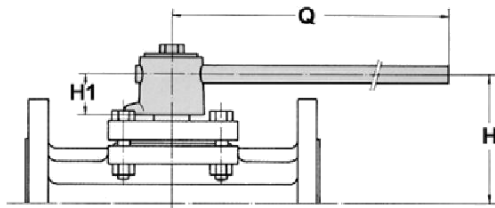
(Special Design for DN 15 - 80 / NPS ½ - 3)

Figure 3 T-Wrench

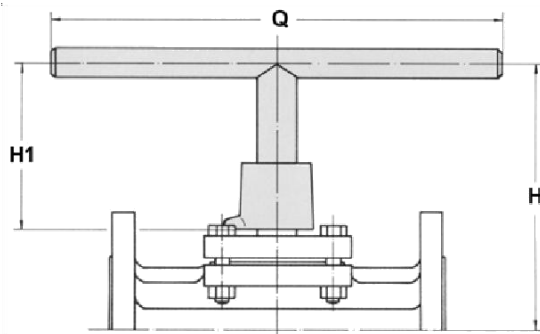
Material: Steel



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

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