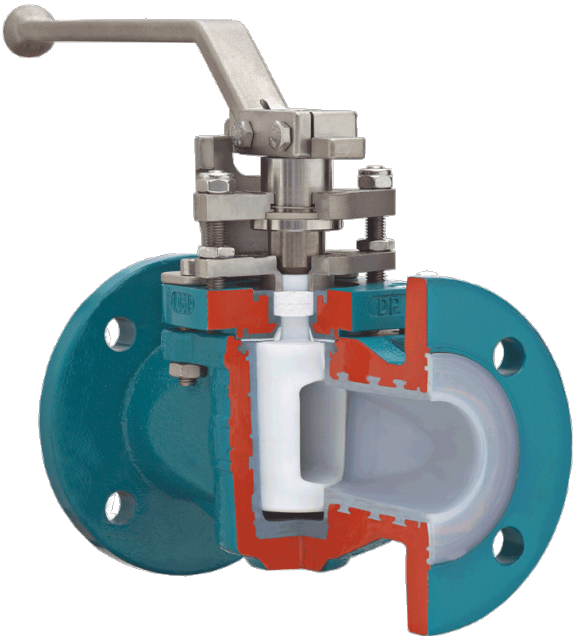
SAFE-LINED

Plug valve with chemical-resistant, vacuum-proof lining, with ISO top flange, sealing system for fluctuating temperatures Type SAFE-LINED

DIN-EN: DN 15 – 600 / PN 10 – 40
ASME: NPS ½“ – 24“ / class 150 – 300
PT range: -30 < T < 210°C, vacuum tight



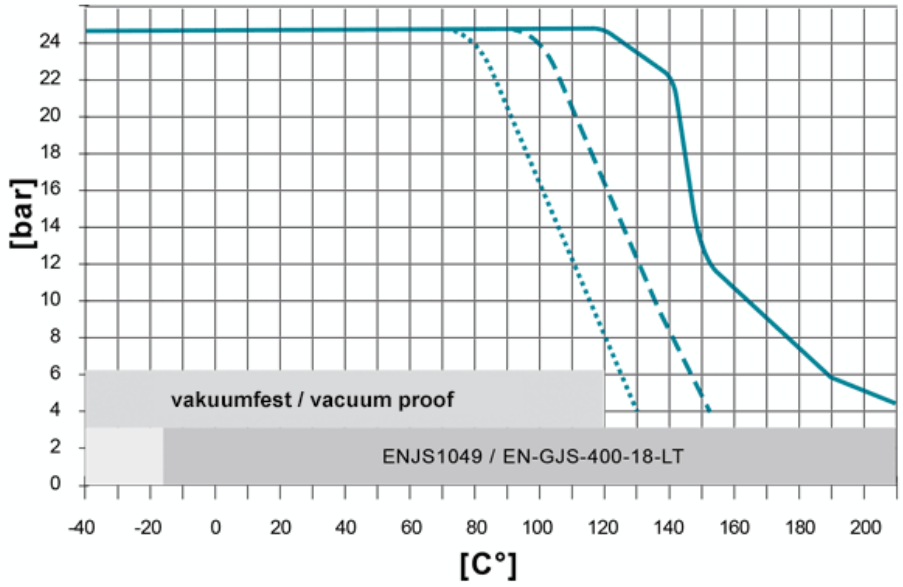
Design Features

Design Characteristics

- free of cavities
- maintenance free – self lubricating
- mounting-flange for actuators acc. to DIN ISO 5211
- easy accessible adjustment of the plug, even with mounted actuator
- with chemical resistant lining – thickness min. 3 mm
- fugitive emmission resp. clean air act certified (TA – Luft 2002 approval)
- Directive 2014/68/EU
- FDA conformity

PT-Diagramm

General Pressure-Temperature-Diagram



Lining materials		
Body	**Plug**	**Tmax**
PFA	PTFE	210°C
PFA/FEP	PFA	150°C
PFA	Special material	210°C
PFA cond.	PFA conductive	125°C

Standard lining materials::
PFA (body) and PTFE (plug)

Lining materials Body / Plug
PFA or FEP / PTFE
PFA / PFA
PFA / FEP

The specified values depend on the respective application (medium). Operating temperatures under -20°C only with body material 1.4408 or low-temperature steel. Hight pressure resistance / temperature resistance on request, e.g. PN 40.

Sleeve: There are different sleeve materials / compounds available.

Materials

Standard body materials
• Ductile cast iron ENJS 1049, ASTM Gr 60-40-18 / A395

Standard plug materials
• Stainless Steel 1.4308, ASTM A351 CF8
• Ductile cast iron ENJS 1049, ASTM Gr 60-40-18 / A395

Special materials
• Carbon Steel 1.0619, ASTM A216 WCB
• Stainless Steel 1.4408, ASTM A351 CF8M
• Unalloyed stainless steel casting (low Temp.) 1.1138, LCC/LCB/A352

Lining materials
• Body: PFA, PFA-conductive, FEP
• Plug: PTFE, PFA, PFA-conductive, FEP

Sealing Systems

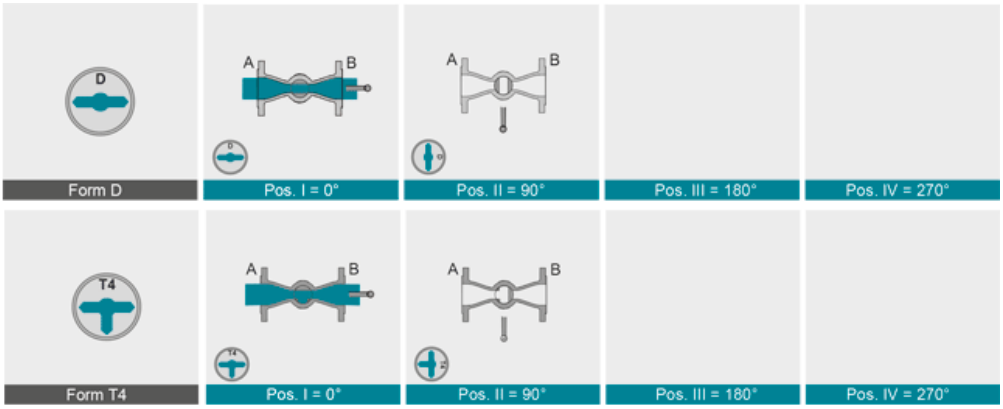
Chemical sealing for fluctuating temperatures to prevent fugitive emission of aggressive and toxic media with PTFE packing for additional stem sealing; T_{max} 230°C

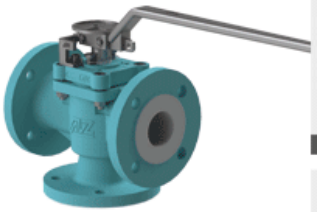
Type CASN-A

read more [...]

Port Forms

AZ plug valves are fitted with cast, rust proof position indicators.
The position indicator is securely welded to the lever to prevent it from working loose.

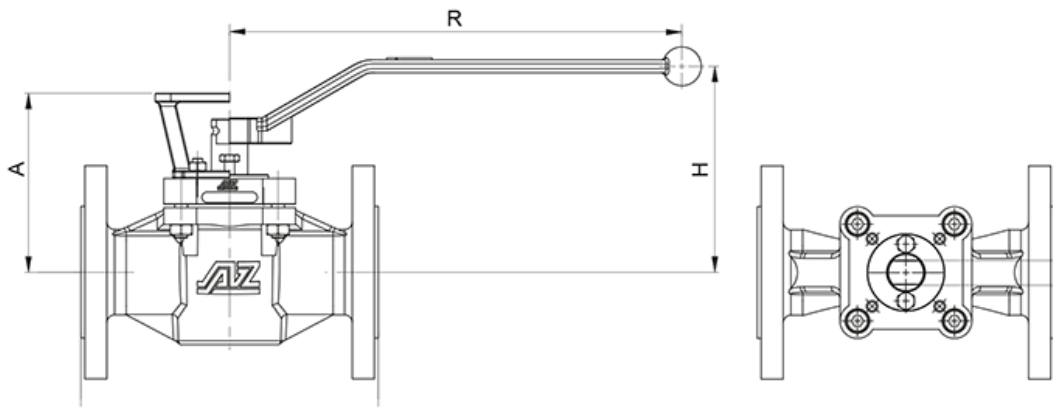




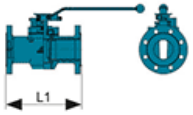
Form L	Pos. I = 0°	Pos. II = 90°	Pos. III = 180°	Pos. IV = 270°
Form LL	Pos. I = 0°	Pos. II = 90°	Pos. III = 180°	Pos. IV = 270°
Form IL	Pos. I = 0°	Pos. II = 90°	Pos. III = 180°	Pos. IV = 270°
Form TT	Pos. I = 0°	Pos. II = 90°	Pos. III = 180°	Pos. IV = 270°

Form T4	Pos. I = 0°	Pos. II = 90°	Pos. III = 180°	Pos. IV = 270°
Form L4	Pos. I = 0°	Pos. II = 90°	Pos. III = 180°	Pos. IV = 270°

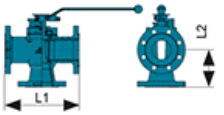
Dimensions



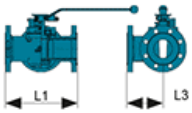
F-2 ISO-STANDARD-A



F-3-S ISO-STANDARD-A



F-3-W ISO-STANDARD-A



DIN EN 1092/1 / 558-1

DN	PN	L1	L2	L3	A	H	R	ISO 5211 flange	dihedron [mm]	torque* [Nm]	weight [kg]	K_{VS}-value [m³/h]	C_V-value [US.gal/min]
15	10-40	130	*	*	88	98	200	F05	11	40/--	3,8	7,1	8,2
20	10-40	150	75	75	88	98	200	F05	11	40/--	4,0	5,8	6,7
25	10-40	160	80	80	94	110	200	F07	11	90/60	6,5	32	37
32	10-40	180	90	90	102	117	320	F07	14	90/60	7,5	51	59
40	10-40	200	100	100	109	124	320	F07	14	160/80	10	79	92
50	10-40	230	115	115	139	160	420	F07	19	250/120	12	127	147
65	10-16 25-40	290	*	*	158	170	600	F10	22	400/260	20	179	207
80	10-40	310	155	155	158	170	600	F10	22	400/260	20	246	285
100	10-16 25-40	350	175	175	158	170	600	F10	22	400/260	30	203	203

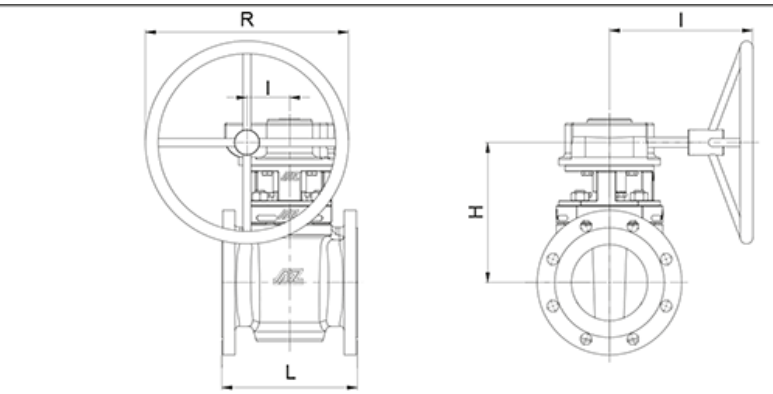
ASME B 16.5 / 16.10

NPS		L1	L2	L3	A	H	R	ISO 5211 flange	dihedron [mm]	torque* [Nm]	weight [kg]	K_{VS}-value [m³/h]	C_V-value [US.gal/min]
½“	150	108	**	**	88	110	200	F05	11	40/--	2,7	7,7	9,0
	300	140	**	**							3,8		
¾“	150	117	64	64	88	110	200	F05	11	40/--	3,2	6,4	7,4
	300	152	83	83							4,3		
1“	150	127	**	**	94	110	200	F05	11	90/60	3,5	35	41
	300	165	**	**							6,0		
1¼“	150	140	89	89	102		320	F07	14	90/60	7,5	56	65
	300	178	**	**							8,5		
1½“	150	165	**	**	109	124	320	F07	14	160/80	9	87	101
	300	190	**	**							10		
2“	150	178	**	**	139	160	420	F07	19	250/120	13	140	162
	300	216	**	**							16		
2½“	150	190	**	**	158		600	F10	22	400/260	16	197	228
	300	241	**	**							19		
3“	150	203	**	**	158	170	600	F10	22	400/260	18	271	314
	300	282	**	**							23		
4“	150	229	154	**	158	170	600	F10	22	400/260	26	223	223
	300	305	**	**							31		

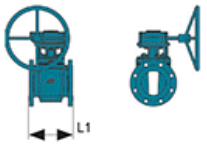
ISO flange instructions, weights and Kvs values for straight-way valves

*) Maxium breakaway torque MD $_{\text{breakaway [Nm]}}$ for F2 and F3S ISO STANDARD A depending on material combinations (PFA+PFA / PFA+PTFE). All data incl. 100% safety factor. Breakaway torques for valves - tapes F-4 and F3W on request

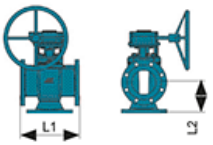
**) on request



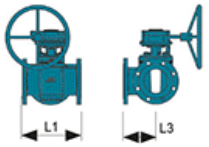
F-2 ISO-STANDARD-A



F-3-S ISO-STANDARD-A



F-3-W ISO-STANDARD-A



DIN EN 1092/1 / 588-1

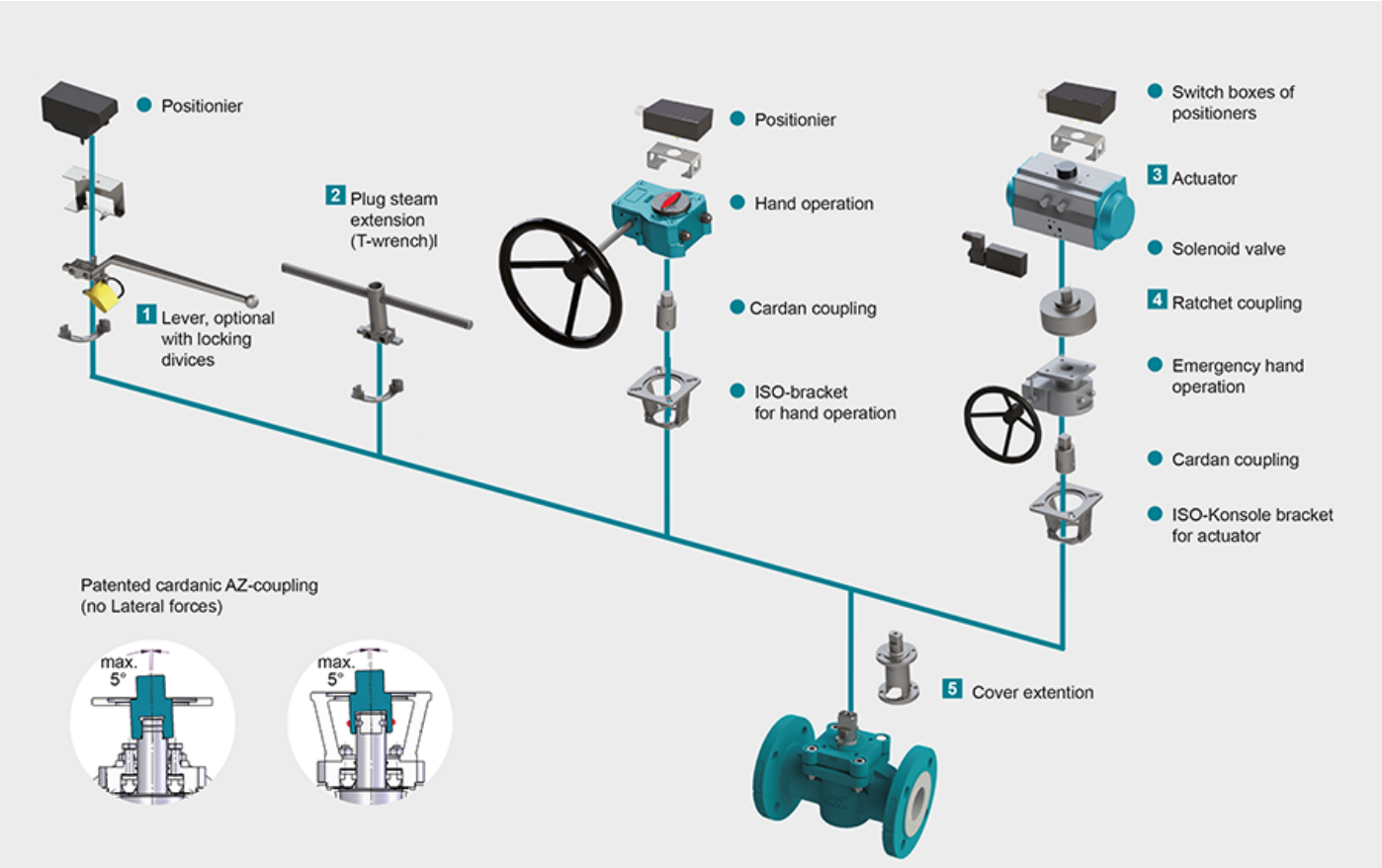
DN	PN	L1	L2	L3	E	R	H	I	Gear	ISO 5211 flange	dihe-dron	torque* [Nm]	weight [kg]	K_{vs}-value [m³/h]	C_V-value [US.gal/min]
100S	10-16 25-40	350	**	**	84	400	230	290	Q1500-S	F16	36	600/350	32 32	447	517
125	10-16 25-40	325	** **	** **	84	400	260	290	Q1500-S	F16	36	1200/900	74 78	358	414
150	10-16 25-40	350	200	200	84	400	265	290	Q1500-S	F16	36	1200/900	85 87	822	951
200	10-16 25 40	400	**	**	96,5	600	320	350	Q2000-S	F16	36	2600/--	119 131	1727	1997
250	10 16 25 40	450	** **	** **	117,5	600	352	465	Q5000-S	F16	36	3200/--	195 259	2052	2373
300	10 16 25 40	500	** **	** **	117,5	600	340	465	Q5000-S	F16	36	3200/--	253 274	1707	1973

ASME B 16.5 / 16.10

NPS	Class	L1	L2	L3	E	R	H	I	Gear	ISO 5211 flange	dihe-dron	torque* [Nm]	weight [kg]	K_{vs}-value [m³/h]	C_V-value [US.gal/min]
4"S	150 300	254 325	154 **	154 **	84	500	230	328	Q1500-S	F16	27	600/350	27 32	492	569
5"	150 300	254 325	** **	** **	118	500	260	363	Q1500-S	F16	27	1200/900	61 78	394	455
6"	150 300	267 403	** **	** **	118	500	265	363	Q1500-S	F16	27	1200/900	66 77	904	1046
8"	150 300	292 419	** **	** **	138	500	320	440	Q2000-S	F16	36	2600/--	103 138	1900	2197
10"	150 300	330 457	** **	** **	138	500	352	440	Q5000-S	F16	36	3200/--	140 176	2257	2610
12"	150 300	356 502	** *	** *	138	500	340	440	Q5000-S	F16	36	3900/--	168 187	1877	2170

For geometric reasons, threads are used in the flange bores in a few cases
ISO flange instructions, weights and Kvs values for straight-way valves
*) Maxium breakaway torque MD breakaway [Nm] for F2 and F3S ISO STANDARD A depending on material combinations (PFA+PFA / PFA+PTFE). All data incl. 100% safety factor. Breakaway torques for valves – tapes F-4 and F3W on request
**) on request

Actuation



1 Locking Devices
Pilot valve combinations, pad lock eyelets, linear key conception, indexing plunger arrestor.
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2 Plug stem extension
Solid construction in stainless steel with T-wrench, Standard extension 100 mm or 150 mm, non standard lengths are available on request
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3 Actuators
Actuators for mounting-flange acc. to DIN ISO 5211
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NEW: Pneumatic actuator AIR GEAR for plug valves with high torque ≥150.000 Nm
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4 Ratched coupling
To usw on multiport valves with standard 90° actuator for bigger switchpositions than 90°
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5 Cover extension
Solid construction in stainless steel, Standard extension 100 mm or 150 mm high, non standard lengths are available on request . Hexagonal bolts on adjustment ring freely accessible. Note: Don’t use with sealing FSN/FSN-SL and CASN/CASN-SL
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