

Crossover Valve Combinations

DIN: 15 - 500 / PN 10 - 40

ASME: NPS 1/2" - 20" / class 150 300

PT range: $-30 < T < 230/280^{\circ}\text{C}$, vacuum 10-8 mbar

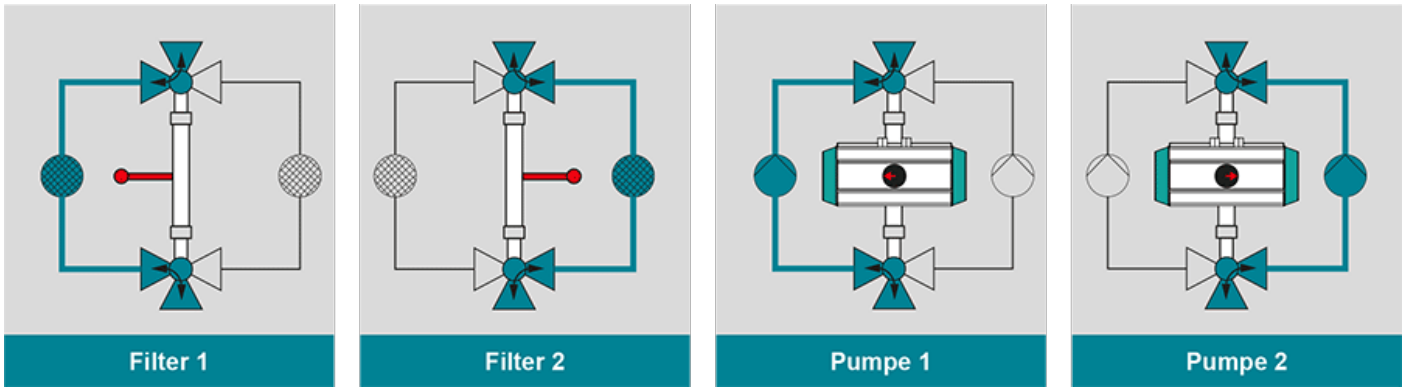


Design Features

Design Characteristics

- all types of AZ-valves combinable
- for cooling and heating cycles
- for pump cycles
- for safety-valves
- for filter-cycles
- for reactor cycles
- available hand-operated, gear-operated and with actuators

Sample applications



Filter-cycle

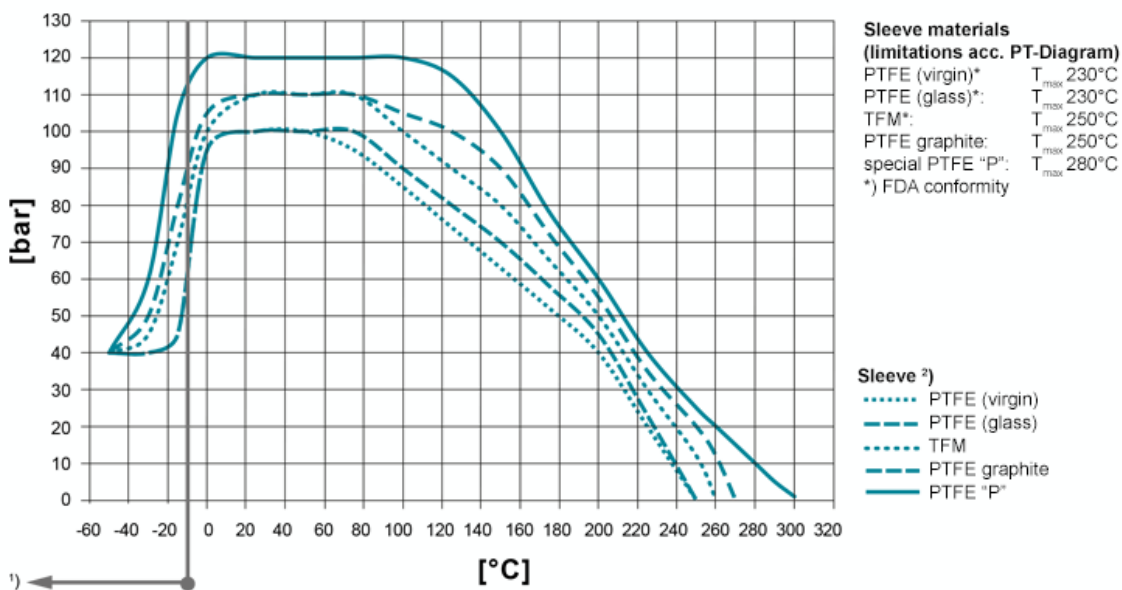
Replacement or cleaning of filter is possible without any problems by application of AZ-crossover-valve-combinations. When filter 1 is blocked up the valve combination is switched over to flow consequently regulated by filter 2. Therefore it is possible to replace the filter 1 without interruption of the continuous flow. If "LL"- plug is used moreover a continuous flow during the phase of switching is guaranteed. In this case a complete closing during switching is not possible.

Pump-cycle

On break-down of pump 1 an easy replacement of pump 1 is possible by switching the valve combination to pump 2 without interruption of the continuous flow. If "LL"- plug is used moreover a continuous flow during the phase of switching is guaranteed. In this case a complete closing during switching is not possible.

PT-Diagram

General Pressure-Temperature-Diagram



Operating temperatures < -30°C and > 220 °C have to be checked and approved by AZ according to

the operating conditions.

Besides the P/T value of the sleeve the limitations of the valve bodies also have to be considered. Please refer to the EN 12516-1 resp. ASME B16.34 in order to choose a proper pressure rating (PN/class). The shown values refer to austenitic stainless steel 1.4408 (A351 Gr. CF8M).

- 1) For operating temperatures below -10°C low temperature / austenitic steels are required.
- 2) Sleeve: There are different sleeve materials / compounds available.

Materials

Standard body materials

- Carbon Steel 1.0619, ASTM A216 WCB
- Stainless Steel 1.4408, ASTM A351 CF8M
- Stainless Steel 1.4308, ASTM A351 CF8
- Unalloyed stainless steel casting (low Temp.) 1.1138, LCC/LCB/A352

Standard plug materials

- Stainless Steel 1.4408, ASTM A351 CF8M
- Stainless Steel 1.4308, ASTM A351 CF8

Special materials

- Alloy
- Monel
- Nickel
- Zirconium
- Titan
- Tantal
- other materials on request

Sealing Systems

Standard sealing for all major applications;

Tmax 230°C

Type STD

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Firesafe safety sealing (API 607) for fluctuating temperatures

with 3x graphite packing (adjustable) for additional stem sealing; Tmax 280°C

Type FSN

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Firesafe sealing (API 607) with graphite packing for additional stem sealing; Tmax 230°C

Type FS

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Chemical sealing to prevent fugitive emission of aggressive and toxic media with PTFE packing for additional stem sealing;

T_{max} 230°C

Type CA

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Firesafe safety sealing (API 607) for fluctuating temperatures with 3x graphite packing (live loaded disc springs) for additional stem sealing; Tmax 280°C

Type FSN-SL

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Chemical safety sealing for fluctuating temperatures with 3x PTFE packing (adjustment) for additional stem sealing;

Tmax 230°C

Type CASN

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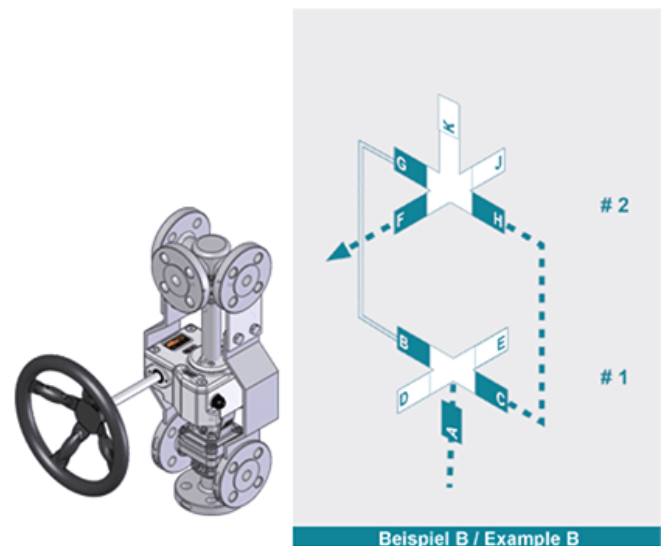
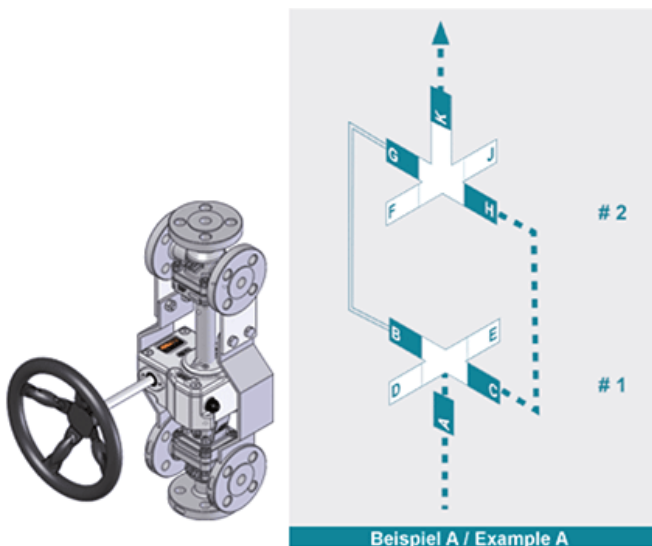
Chemical safety sealing for fluctuation temperatures with 3x PTFE packing (live loaded disc springs) for additional stem sealing; Tmax 230°C

Type CASN-SL

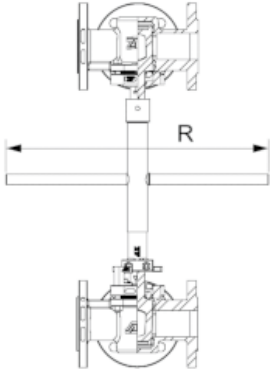
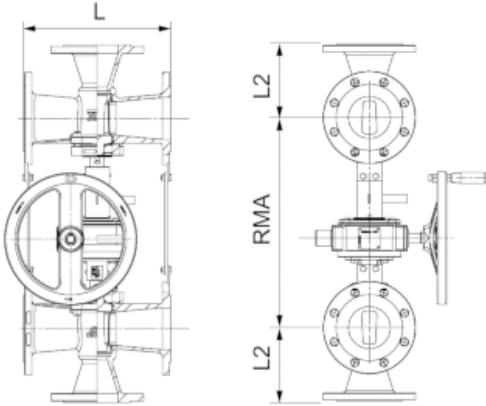
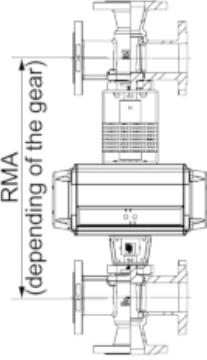
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Port Forms

Order the desired combination, port form select by AZ.

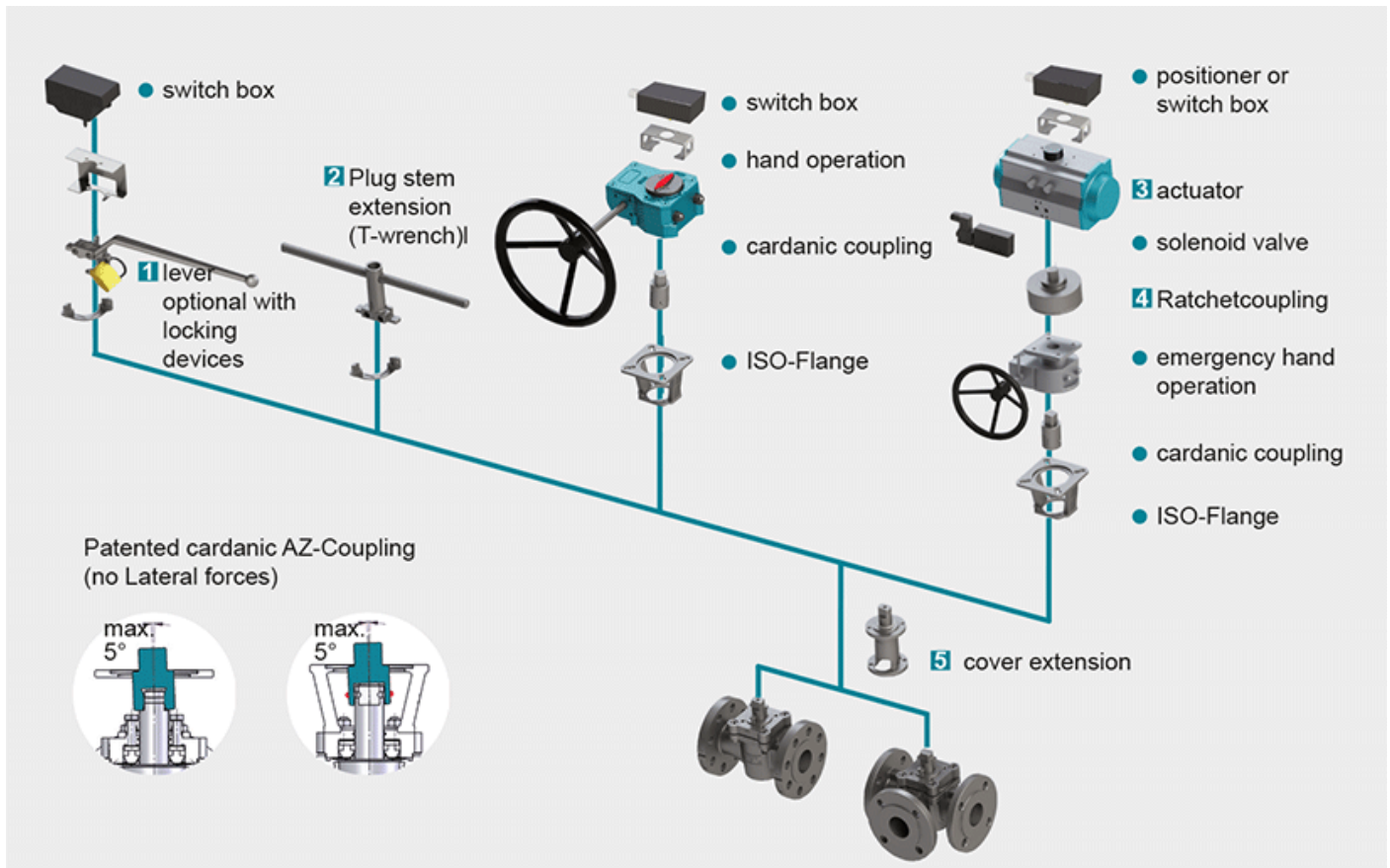


Dimensions

Type UK with plug stem extension (T-wrench)					Typ UK with gearbox					Type UK with pneumatic actuator					
															
für Typ ISO-STANDARD, PN 10 - 40 gemäß DIN EN 1092-1 / 558	DN	PN	L	L2	für Typ ISO-STANDARD, Class 150 / 300 gemäß ASME B16.10	NPS	L	L2	Umschaltkombinationen für Typ ISO-STANDARD	Valve 1	Valve 2	R	RMA _{min} [mm]		
			[mm]	[mm]				[mm]		[mm]				[mm]	T-wrench
	15	10 - 40	130	65		1/2"	150	108	54		15	15	250	200	270
	20	10 - 40	150	75		3/4"	300	140	70		20	20	250	200	270
	25	10 - 40	160	80		1"	150	118	59		25	25	250	210	280
	32	10 - 40	180	90		1 1/2"	300	152	76		32	20	250	200	270
	40	10 - 40	200	100		2"	150	127	64		40	25	250	210	280
	50	10 - 40	230	115		3"	300	165	83		50	40	250	240	310
	65	10 - 40	290	245		4"	150	165	82,5		65	25	250	220	280
	80	10 - 40	310	155		5"	300	191	95		80	40	250	240	320
	100	10 - 40	350	175		6"	150	178	89		100	50	250	270	330
	125	10 - 40	325	162		8"	300	216	108		125	40	250	260	340
	150	10 - 40	350	200		10"	150	203	102		150	50	400	290	350
	200	10 - 40	400	220		12"	300	283	142		200	65	250	310	360
	250	10 - 40	450	275			150	228	152		250	50	250	310	370
							300	305	172		100S	65	500	340	380
							150	254	178		150	80	250	340	380
							300	325	163		200	80	250		400
							150	267	191		250	100	250		430
							300	403	216		300	150	250		500
							150	292	228		400	100	250		450
							300	418	254		500	150	250		510
							150	330	331		600	200	250		590
							300	457	331		800	150	250		570
							150	356	349		1000	200	250		650
							300	502	356		1500	200	250		690
											2000	250	250		720
											2500	250	250		750

*) UK design with gearbox
 other nominal sizes on request
 Specify desired dimension (RMA), minimum size = RMA_{min}

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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