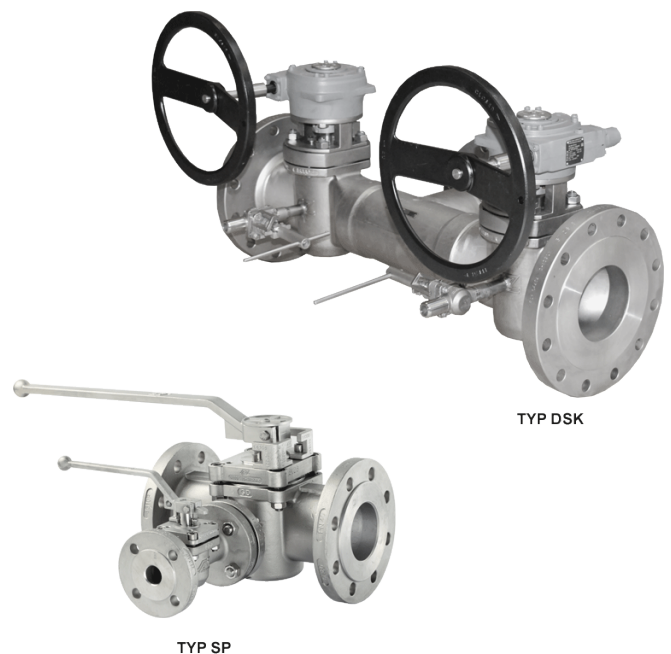


# SP / DSK

## Plug valves with flushing device

Cross-flushing or indirect flushing



## Design Features

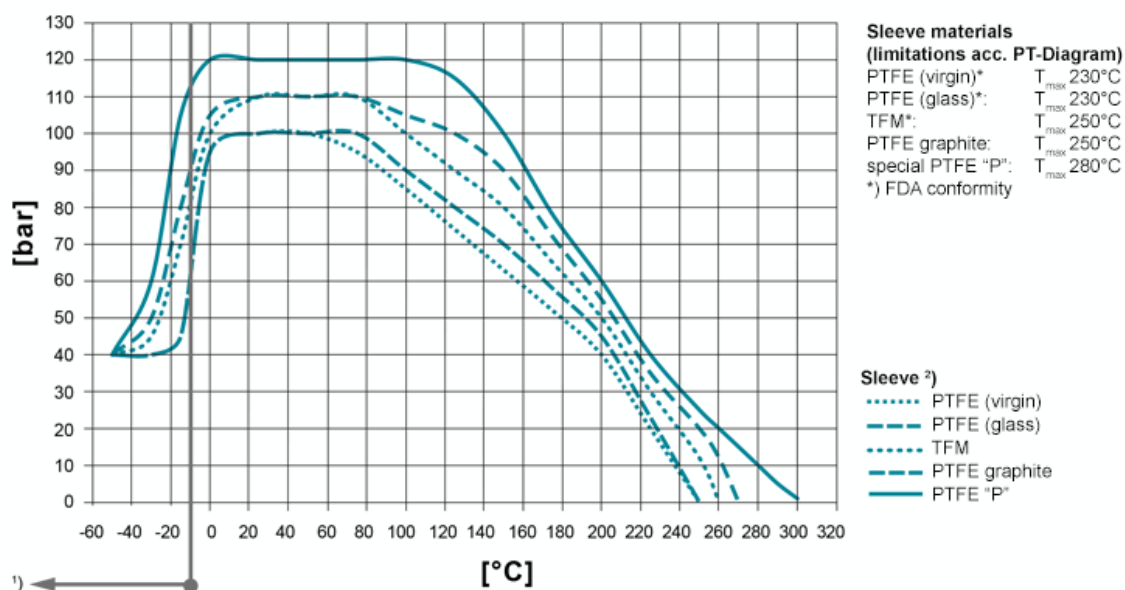
### Design Characteristics

- cavity free
- maintenance free, self-lubricating
- easy accessible adjustment of the plug
- Firesafe design API 607 / ISO 10497 (outsite)
- face to face dimensions and flanges acc. to DIN and ANSI
- TA - Luft 2002 approval
- also available with actuators

AZ-Plugvalves with flushing device for plug bore cross-flushing are preferably used where products tend to deposit sediments, stick, harden, crystallize or polymerize. E.g. tary products, bitumen, sulfur, VC + VCM, UREA etc. All these products are inclined to deposit in closed plug passage, which could then lead to a total blockage of the valves. The problems can be completely prevented by plug bore cross-flushing with suitable flushing liquid. Also, cross-flushing is used to separate various liquids from each other or to prevent contaminations.

## 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

[read more \[...\]](#)

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

### Type FS

[read more \[...\]](#)

Chemical sealing to prevent fugitive emission  
of aggressive and toxic media  
with PTFE packing for additional stem sealing;  
T<sub>max</sub> 230°C

### Type CA

[read more \[...\]](#)

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

### Type FSN

[read more \[...\]](#)

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

[read more \[...\]](#)

Chemical safety sealing for fluctuating temperatures  
with 3x PTFE packing (adjustment) for additional stem  
sealing;  
Tmax 230°C

### Type CASN

[read more \[...\]](#)

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

### Type CASN-SL

[read more \[...\]](#)

## Spülungsarten

### Type SP 1

Cross-flushing with connection to one side of the main line: only one flushing connection into the straight through plug with additinal bore hole, or in threeway plugs, e.g. plug form T4.

### Type SP 2

Cross-flushing without connection to any side of the main line (two cross-flushing line connections: 1. intake, 2. outlet).

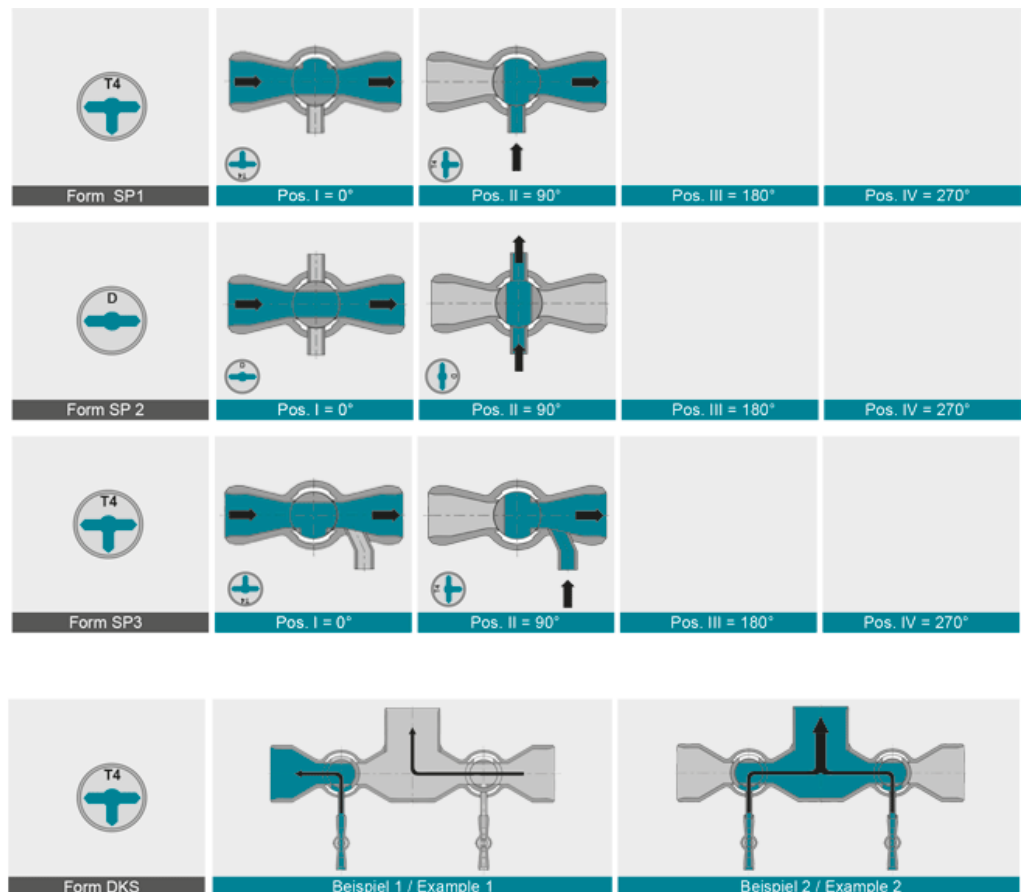
### Type SP 3

Indirect flushing through flushing connections provided on the side of the plug (especially for steam flushing at high speed to prevent damage of the PTFE sleeve).

### Type DSK

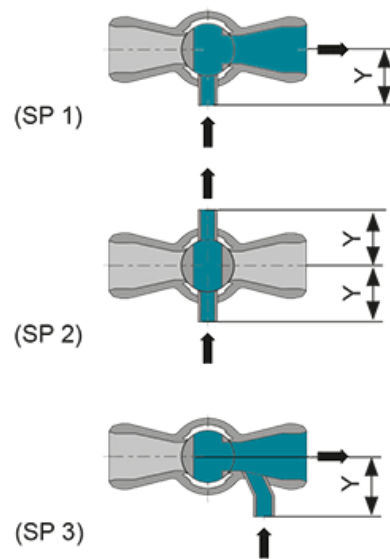
Double flushing combination with port form "T4"

Special flushing with bouncing plate on counterside etc. on request



## Dimensions

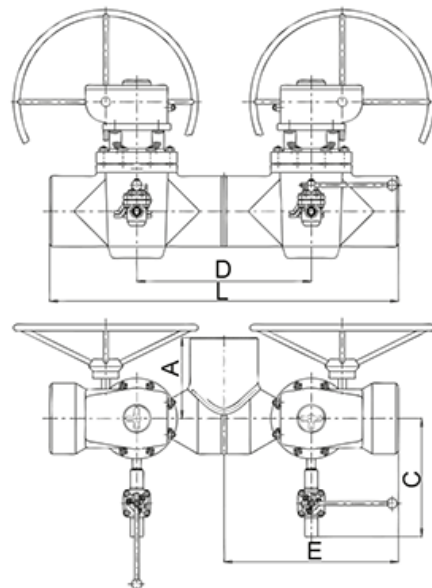
Type SP	ISO-STANDARD*	EXTRA**
DN / NPS	[mm]	[mm]
15 / ½"	65	65
20 / ¾"	76	76
25 / 1"	80	80
32 / 1¼"	90	90
40 / 1½"	100	100
50 / 2"	115	115
65 / 2½"	145	145
80 / 3"	155	155
100 / 4"	175	175
125 / 5"	162,5	162,5
150 / 6"	175	240
200 / 8"	200	300
250 / 10"	225	365
300 / 12"	250	425
350 / 14"	275	490
400 / 16"	300	550
450 / 18"	325	600
500 / 20"	350	625



\*) valid for all plug valves unless EXTRA

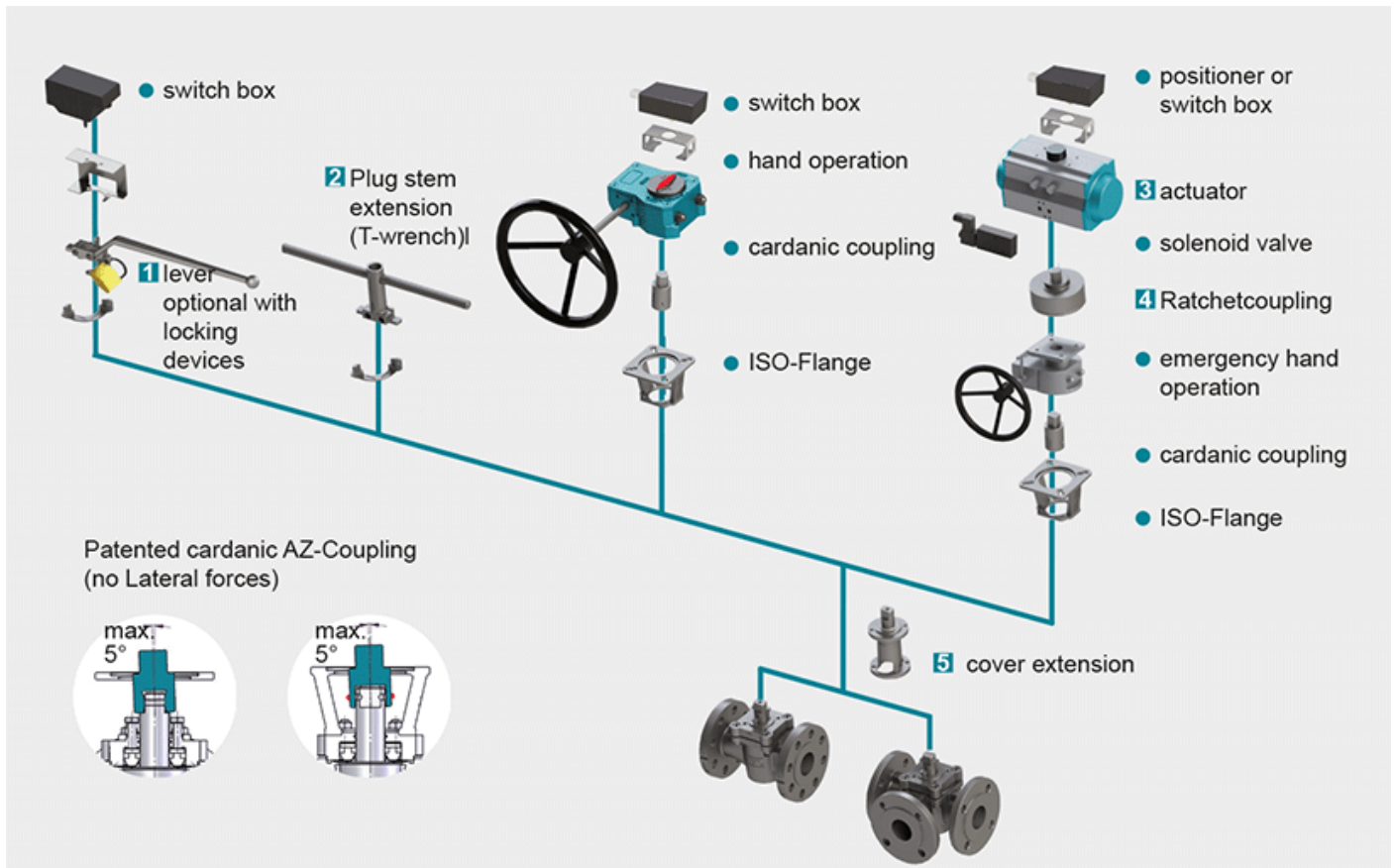
\*\*) valid for EXTRA plug valves

Dimensions Type DSK						
ANSI Class	A	L	C	D	E	
2" 150	120	432	232,5	216	216	
3" 150	140	620	252,5	310	310	
4" 150	150	700	272,5	350	350	
6" 150	200	864	292,5	432	432	
8" 150	270	1016	312,5	508	508	
10" 150	300	900	332,5	450	450	
12" 150	350	1000	382,5	500	500	
300						
Flushing valve DN ½"						



For geometric reasons, threads are used in the flange bores in a few cases

## Actuation



## 1 Locking Devices

Pilot valve combinations, pad lock eyelets, linear key conception, indexing plunger arrestor.  
[read more \[...\]](#)

## 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  
[read more \[...\]](#)

## 3 Actuators

Actuators for mounting-flange acc. to DIN ISO 5211  
[read more \[...\]](#)

NEW: Pneumatic actuator AIR GEAR for plug valves with high torque  $\geq 150.000$  Nm  
[read more \[...\]](#)

## 4 Ratched coupling

To usw on multiport valves with standard 90° actuator for bigger switchpositions than 90°  
[read more \[...\]](#)

## 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  
[read more \[...\]](#)