

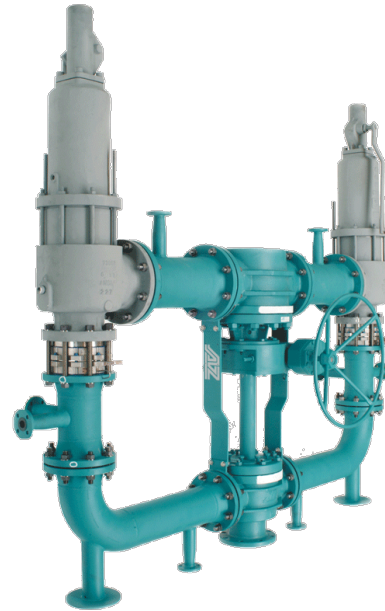
SAVA

Special cross-over combinations for Safety (Relief) valves

DIN: 25E - 500E / PN 10 - 40

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

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

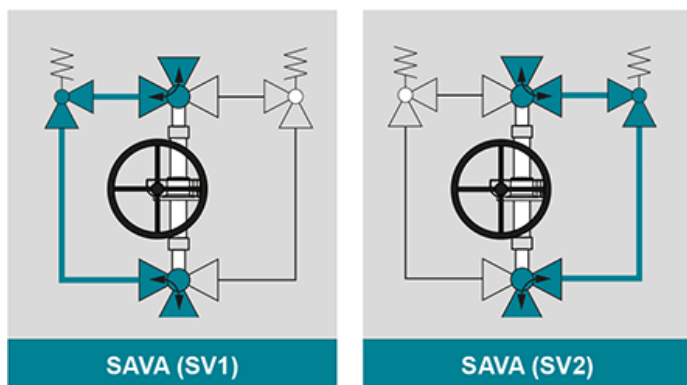


Design Features

Design Characteristics

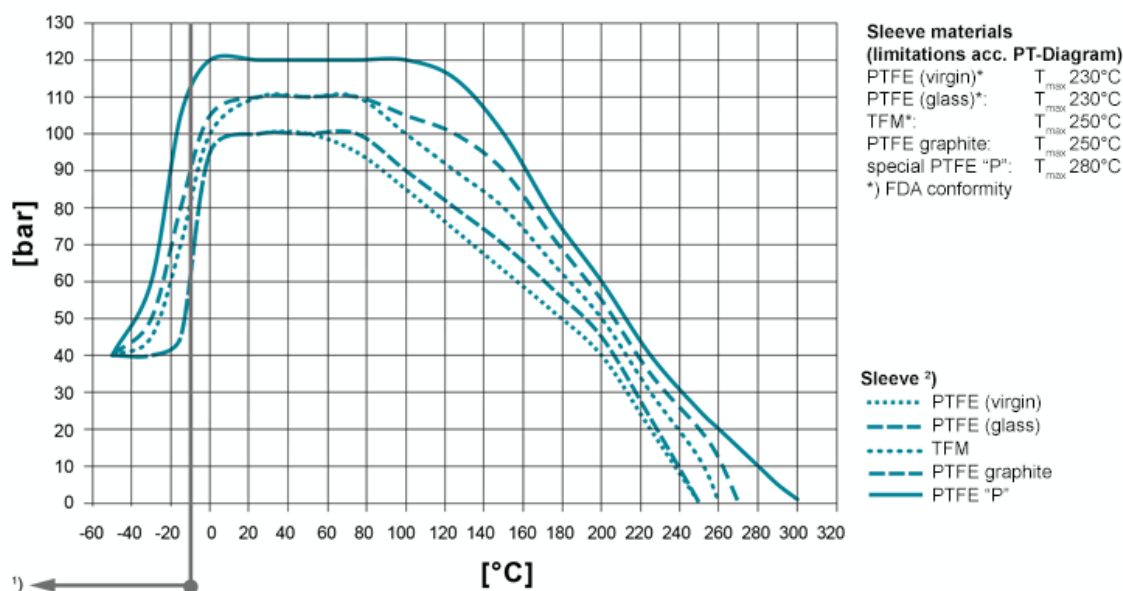
- full-flow, round bore
- cavity free (no medium contact of sealing surfaces)
- tight for years (DIN EN 12266-1)
- safe exchange of safety valves
- transflow during cross-over action
- operation errors impossible design-wise
- safe backflow of blow off capacity
- economic combination of different valve sizes
- TÜV approved

The basic principle of the safety valve exists therein, that dependent on the construction, a least cross section (A_{min}) is guaranteed during the cross-over phase from safety valve I to safety valve II. Therefore a minimal flow (protection of the vessel) is always given.



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 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_{max} 230°C

Type CA

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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 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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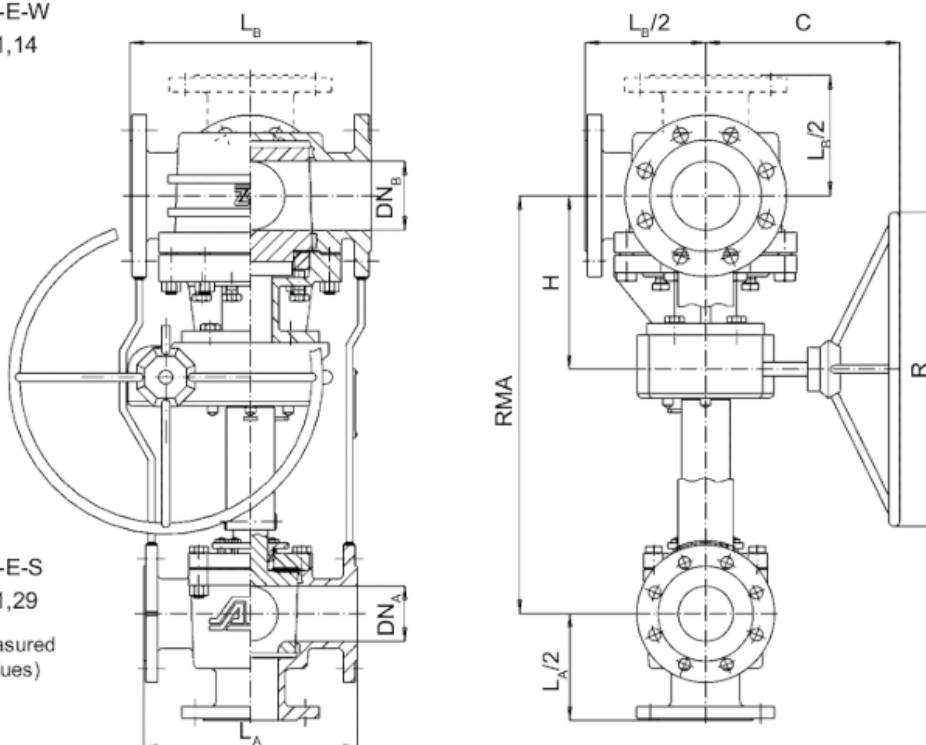
Port Forms

on request

Dimensions

F-3-E-W
 $\zeta = 1,14$

F-3-E-S
 $\zeta = 1,29$
(measured
 ζ -values)



| Classe 150 ³⁾ | | DN _A | DN _B | A _{min} | RMA min ¹⁾ | C | H | LA ³⁾ | L _A /2 | L _B ⁵⁾ | L _B /2 | R |
|--------------------------|--------|-------------------|-------------------|------------------|--------------------------|-----|-----|------------------|-------------------|------------------------------|-------------------|-----|
| 1" | 1" | 25 ⁴⁾ | 25 ⁴⁾ | 225 | 280 | 170 | 135 | 160 | 80 | 160 | 80 | 200 |
| | 2" | 25 | 50 | 225 | 360 | 230 | 205 | 160 | 80 | 230 | 115 | 350 |
| 1 1/2" | 1 1/2" | 40 | 40 | 708 | 360 | 230 | 195 | 200 | 100 | 200 | 100 | 350 |
| | 2" | 40 | 50 | 708 | 370 | 230 | 205 | 200 | 100 | 230 | 115 | 350 |
| | 3" | 40 | 80 | 708 | 450 | 280 | 275 | 200 | 100 | 310 | 155 | 457 |
| 2" | 2" | 50 | 50 | 1296 | 420 | 230 | 205 | 230 | 115 | 230 | 115 | 350 |
| | 3" | 50 | 80 | 1296 | 450 | 280 | 275 | 230 | 115 | 310 | 155 | 457 |
| 3" | 3" | 80 | 80 | 3754 | 500 | 280 | 275 | 310 | 155 | 310 | 155 | 457 |
| | 4" | 80 | 100 | 3754 | 480 | 330 | 265 | 310 | 155 | 350 | 175 | 457 |
| 4"K | 4"K | 100 | 100 | 5184 | 500 | 365 | 265 | 350 | 175 | 350 | 175 | 457 |
| 4" | 6" | 100 | 150 | 5184 | 500 | 415 | 310 | 350 | 175 | 480 | 240 | 610 |
| 6" | 6" | 150 | 150 | 14386 | 580 | 425 | 330 | 480 | 240 | 480 | 240 | 610 |
| | 8" | 150 | 200 | 14386 | 750 | 425 | 350 | 480 | 240 | 600 | 300 | 610 |
| 8" | 8" | 200 | 200 | 25833 | 660 | 455 | 350 | 600 | 300 | 600 | 300 | 610 |
| | 10" | 200 | 250 | 25833 | 700 | 455 | 385 | 600 | 300 | 730 | 365 | 610 |
| 10" | 10" | 250 | 250 | 42102 | 720 | 590 | 385 | 730 | 365 | 730 | 365 | 610 |
| | 12" | 250 ²⁾ | 300 ²⁾ | 42102 | --- | --- | --- | 730 | 365 | 850 | 425 | --- |
| 12" | 12" | 300 ²⁾ | 300 ²⁾ | --- | --- | --- | --- | 850 | 425 | 850 | 425 | --- |

¹⁾ bigger pipe centre line (RMA) on request

²⁾ size on request

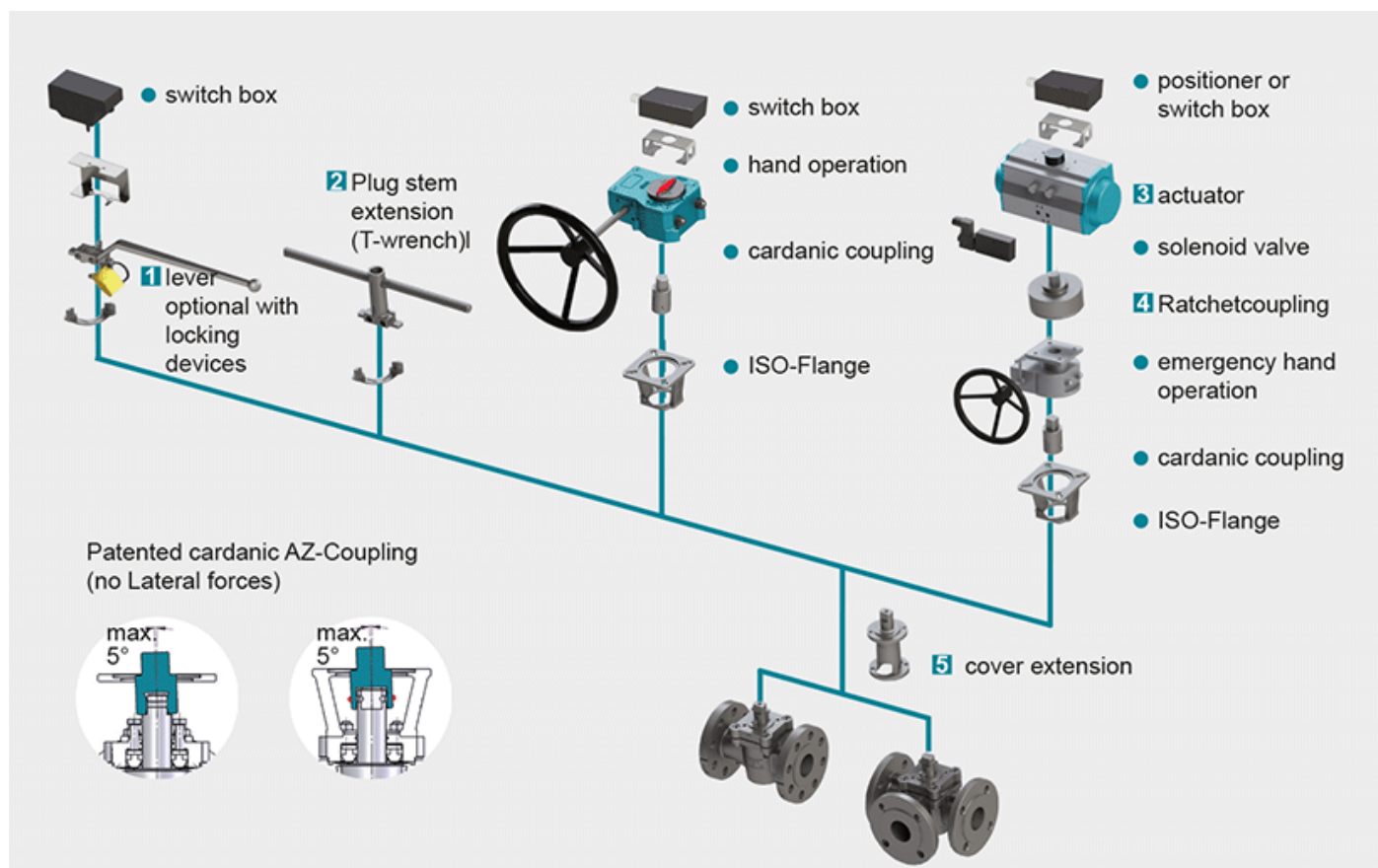
³⁾ Flanges acc. to ASME class 300/600 or others on request

⁴⁾ also available with T-wrench

⁵⁾ F/F dimension acc. to DIN 3202/EN 558-1

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 =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 \[...\]](#)