

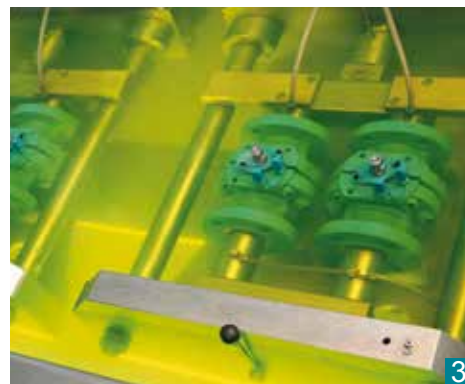
In-house testing and process technology



1



2



3



3



4



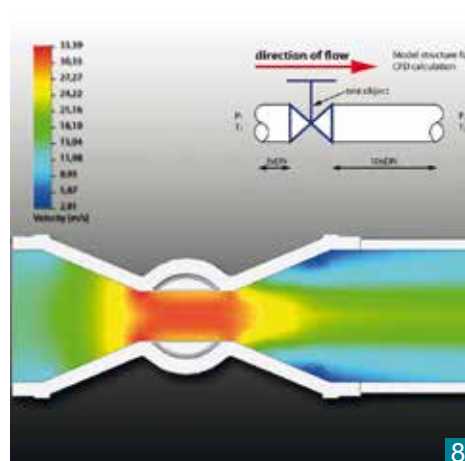
5



6



7



8

- 1 Dye penetrant test acc. to DIN EN 571
- 2 Material – spectral analysis
- 3 100% tightness testing with 6 bar air acc. to DIN EN12266 part 1 + 2
- 4 Helium leakage test by means of mass spectrometer acc. to DIN EN 1518
- 5 X-ray acc. to DIN EN 1435
- 6 TÜV approved welders using most up-to-date welding stations (MIG, MAG, TIG and SMAW/MMA)
- 7 High voltage test acc. to ISO 2746 (15.000 volt)
- 8 3D-CAD computer-aided design with CFD computational fluid dynamic

Special inspections by:

- Germanischer Lloyd
- Bureau Veritas
- TÜV / DEKRA
- DNV and others.
- Final certificates acc. to DIN EN 10204 – 3.1 are issued for each valve



AZ-Armaturen - * 0 years of experience!



AZ-Armaturen is an internationally active business with production facilities in Germany, Brazil (São Paulo), South Africa (Johannesburg) and China (Taicang), as well as two of its own foundries in Germany and Brazil. Numerous sales branches and service support centres, such as AZ-Benelux (Amsterdam), AZ-Poland (Warsaw), AZ-Italy (Milan) and AZ-Rhineland, guarantee our clients good technical assistance. There are approximately 400 people employed by the group of companies worldwide.

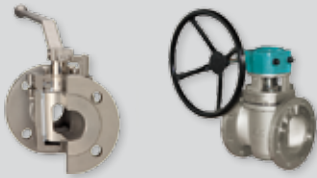


Typical application examples:

- **Chemistry/Petrochemistry:** Plug valves and sampling systems for aggressive, toxic, crystallising and polymerising media (e.g. acetic acid, melamine applications, TDI/MDI production processes etc.)
- **Refineries:** Heating jacket valves for bitumen, sulphur, sulphuric acid and for retrieving sulphur
- **Paper and pulp industry:** Plug valves for chlorine and sulphuric acid applications
- **Fertiliser industry:** Plug valves for ammoniac and urea applications
- **Shipbuilding:** Plug valves for heavy oil and diesel applications
- **Food industry:** Plug valves for steam applications, and plug valves with full circular passage for abrasive media
- **Sea water desalination:** Plug valves for osmosis plants
- **Production plants:** Plug valves for control applications

1

Plug-Valves metallic with PTFE - sleeve 2 - 7 ways

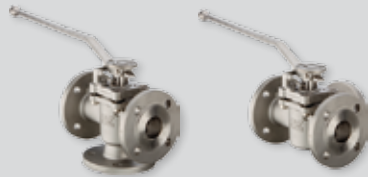


ISO - STANDARD

Plug-Valve with ISO bracketflange

DN 15 - 600 / PN 10 - 40
NPS ½" - 24" / class 150 - 300

1.1



F-3 ISO - STANDARD

Threeway plug-valve vertical / horizontal

DN 15 - 600 / PN 10 - 40
NPS ½" - 24" / class 150 - 300

1.2

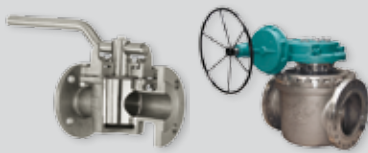


F-4 / F-5 ISO - STANDARD

Four- and five-way plug-valve

DN 15 - 600 / PN 10 - 40
NPS ½" - 24" / class 150 - 300

1.3

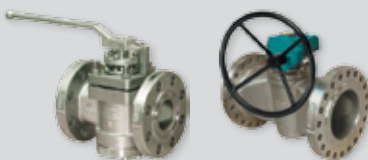


Extra

Plug-Valve full bore design

DN 15 - 600 / PN 10 - 100
NPS ½" - 24" / class 150 - 600

1.4



HDS

Plug-Valve high pressure design

DN 15 - 600 / PN 100 - 160
NPS ½" - 24" / class 600 - 900

1.5

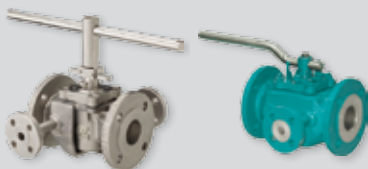


TM

Plug-Valve with heating jacket (cast design)

DN 15 - 600 / PN 10 - 100
NPS ½" - 24" / class 150 - 600

1.6

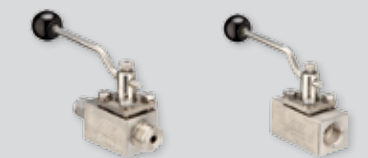


HM

Plug-Valve with full heating jacket (cast design)

DN 15 - 600 / PN 10 - 100
NPS ½" - 24" / class 150 - 600

1.7

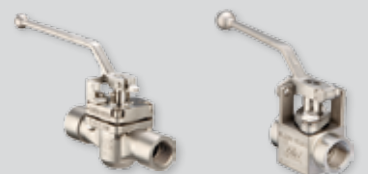


MGZ / MBZ / MB / WA

Screwed plug-valve

Size ½" to 2"
Withworth pipe thread acc. to DIN ISO 228/1
American Standard pipe thread NPT
Others on request

1.8



MG

Screwed plug-valve (cast design)

Size ¼" to 2"
NPT pipe thread acc. to ANSI B1.20.1
Withworth pipe thread acc. to DIN ISO 228/1 and DIN2999
GYROLOK / SWAGELOK Lock ring or Tube fitting

1.9



SW / BW

Plug-Valve with welded ends

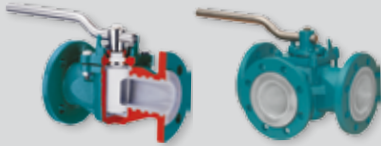
DN 10 - 600 / PN 10 - 100
NPS ¾" - 24" / class 150 - 600

1.10

2

Plug-Valves with FEP / PFA - lining 2 - 3 ways

2.1

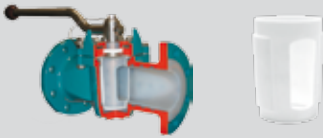


STANDARD A

Plug-Valve with FEP / PFA - lining

DN 15 - 300 / PN 10 - 40
NPS ½" - 12" / class 150 - 300

2.2



AB 2000

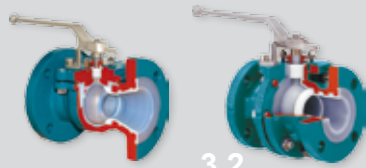
Plug-Valve with exchangeable PTFE - sleeve

DN 15 - 300 / PN 10 - 40
NPS ½" - 12" / class 150 - 300

3

Ball-Valves with FEP / PFA - lining

3.1



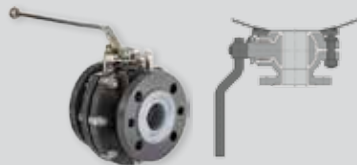
NONOBLOC / NVN

Ball-Valve with FEP / PFA - lining

DN 15 - 200 / PN 10 - 25
NPS ½" - 8" / class 150

3.2

3.3



NEO-VAL / KA

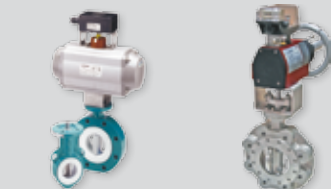
Ball- and vessel-outlet-valve

DN 15 - 200 / PN 10 - 25
NPS ½" - 8" / class 150

4

Butterfly-Valves with PTFE / PFA - lining

4.1



CV

Chemistry butterfly- and control-valve

DN 15 - 600 / PN 10 - 25
NPS 1" - 24" / class 150
Lug and Wafer design
Body materials; Aluminium / epoxy, GGG40.3 / epoxy, Stainless steel, C-steel

5

Check-Valves with FEP / PFA - lining

5.1



GLOBUS / DELTA

Lined ball-check-valves

DN 15 - 250 / PN 10 - 40
NPS 1" - 4" / class 150 - 300
Available with sight glass for visual function control
Temperature $T_{max} = 150^{\circ}C$

6

Sight glasses, Strainers with FEP / PFA-lining

6.1



OCULAR / BASKET

Lined and metallic

DN 15 - 250 / PN 10 - 40
NPS 1" - 4" / class 150 - 300
Also available with heating jacket
Temperature $T_{max} = 200^{\circ}C$

7

Sampling System for liquids, liquid gas and gas

7.1



CONTIFLOW

Sampling system for liquids and solids
 DN 15 - 100 / PN 10 - 40
 NPS ½" - 4" / class 150 - 300
 No flow interruption
 Piggable

- representative sample
- pressureless sample
- defined sample quantity
- closed system

7.2



VARIO

Sampling system for liquids
 DN 15 - 100 / PN 10 - 40
 NPS ½" - 4" / class 150 - 300
 Free definable sampling quantity

- representative sample
- pressureless sample
- defined sample quantity
- closed system

7.3



SAMPLING

Sampling system for liquids
 DN 15 - 100 / PN 10 - 40
 NPS ½" - 4" / class 150 - 300
 Spilling eliminated no contamination

- representative sample
- pressureless sample
- defined sample quantity
- closed system

7.4



GSP

Sampling system for liquid - gas - liquid gas
 DN 15 - 100 / PN 10 - 40
 NPS ½" - 4" / class 150 - 300
 Integrated system purge available
 No contamination

- representative sample
- defined sample quantity
- closed system

7.5



SAMPLING SIC

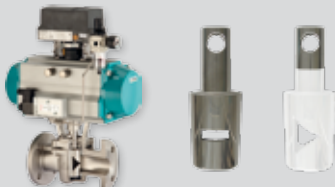
For two-phase liquids
 DN 15 - 100 / PN 10 - 40
 NPS ½" - 4" / class 150 - 300
 Representative long term sample

- representative sample
- pressureless sample
- defined sample quantity
- closed system

8

Control-Valves metallic or with FEP / PFA - lining

8.1



RH / RHS

Control-Valve
 DN 15 - 450 / PN 10 - 40 - 63 - 100
 NPS ½" - 18" / class 150 - 300 - 600
 Linear and equal percentage characteristics
 Standardized K_{vs} - values SRI - IV

9

Automation pneumatic, electrical and hydraulical

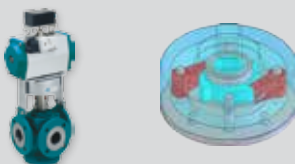
9.1



Actuators

Double and single acting
 Multiposition actuators
 With spring centered middle position
 Turning degree > 90°

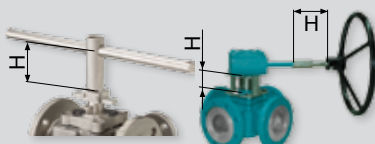
9.2



SSK

Ratchetcoupling for multiport-valves
 Possible Positions 90°, 180°, 270° und 360°
 Possible Positions 120°, 240° und 360°




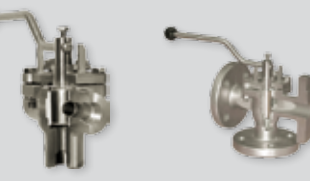
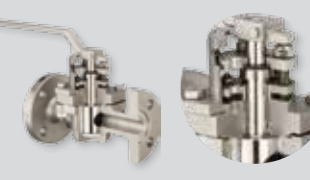

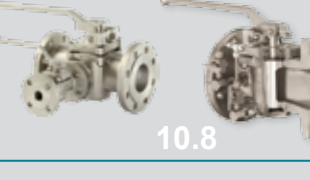

9.3



KSV

Plug-stem-extension
 Available for all AZ - valves
 Length (H) on desire
 For remote control
 For thick walled insulating tubes

10 Special-Valves and Special Designs

10.1		<p>FM-100 Manometer plug-valve 90°-safety-valve For pressure gauges and instrument leads Safe-guarded ventilation for the pressure relief of the manometer Pressure range up to PN 160</p>
10.2		<p>UK Cross-over-combination All types of AZ-valves combinable For heating and cooling cycles For reactor cycles Cross-over valves for filter cycles</p>
10.3		<p>SAVA Special cross-over valve for safety (relief) valves Full-flow, round bore 100% tight shut-off (DIN EN 12266-1) Operation errors impossible because of position indication Safe backflow of blow off capacity</p>
10.4		<p>BMH Special-valve for safe flushing of pipe systems Defined plug positions Easy depressurizing of the flushing hose Space- saving design Safe operation</p>
10.5		<p>SAFETY SEALING for AZ plug-valves Hightemperature- chemicalsealings Additional safety "to atmosphere" FIRE-SAFE certificate acc. to API 607 "TA-Luft 2002" approval</p>
10.6		<p>LOCKING DEVICE for AZ plug-valves Pilot valve combination Linear key conception Indexing plunger arrestor Pad lock eyelets</p>
10.7		<p>SP / DBBC / DBI Special valves with flushing device / double block and bleed For plug bore cross-flushing For media which tend to stick, harden, cristallize or polimerize Double plug-valve combination with pressure expansion Special combinations with flushing device / inspection connection</p>
10.10		<p>NUCLEAR High-pressure Plug-valve for nuclear facilities High-pressure design, forged steel Replacement of sleeve of installed valve Nuclear approval Complete chain of documentation for all parts</p>

Materials:

Standard body materials:

- Ductile Iron EN-GJS-400-18 (GGG40.3)
ASTM A395
- Carbon Steel 1.0619 (GS-C 25)
ASTM A216 WCB
- Stainless Steel 1.4408
ASTM A351 CF8M

Special body materials / plug materials:

- Hastelloy B / C
- Inconel
- Monel
- Nickel
- Zirconium
- Titanium
- Tantalum

Standard plug materials:

- Stainless steel 1.4408
ASTM A351 CF8M
- Stainless steel 1.4308
ASTM A351 CF8

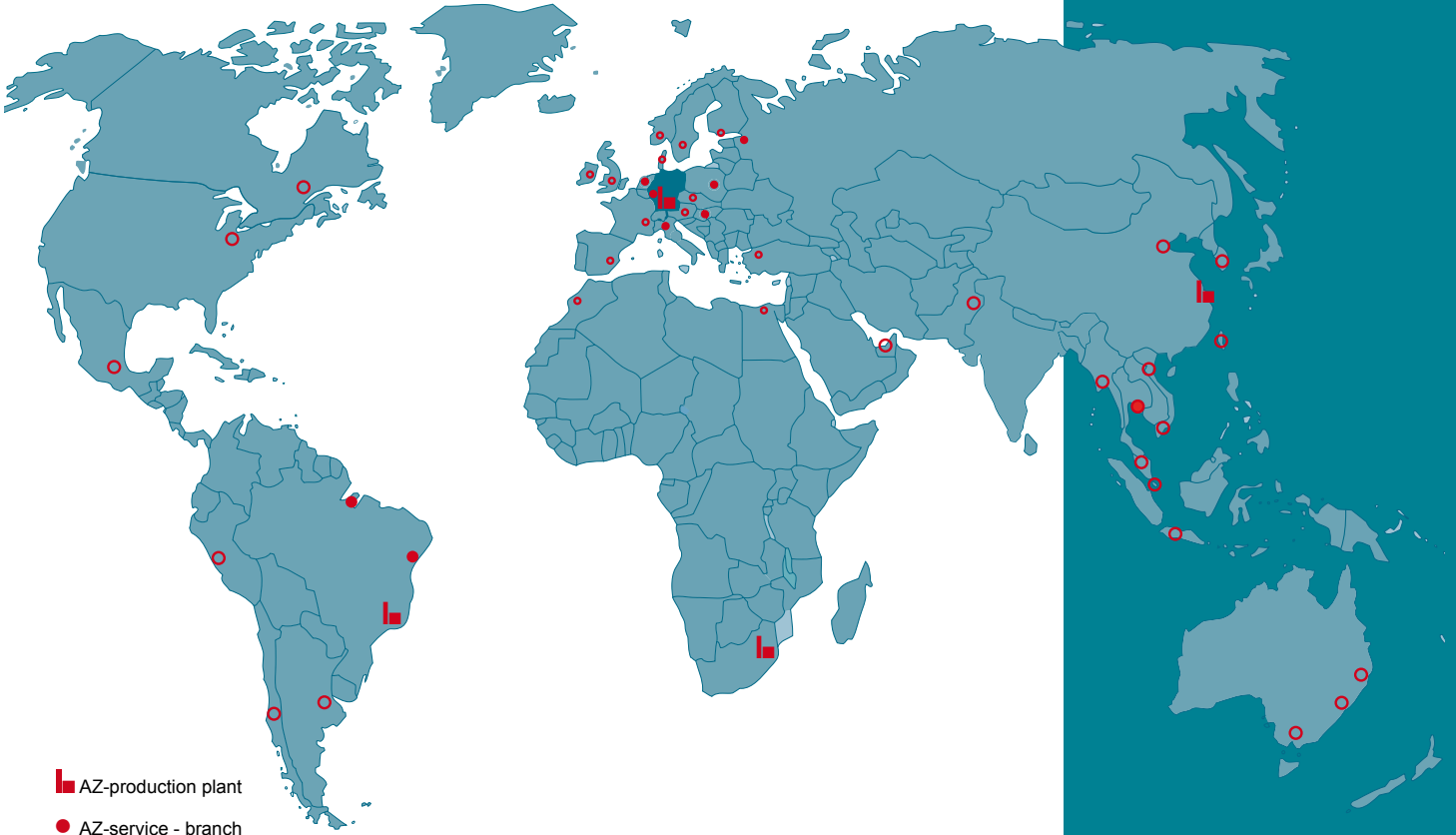
Standard lining materials:




- FEP
- PFA
- PFA conductive
- PVDF

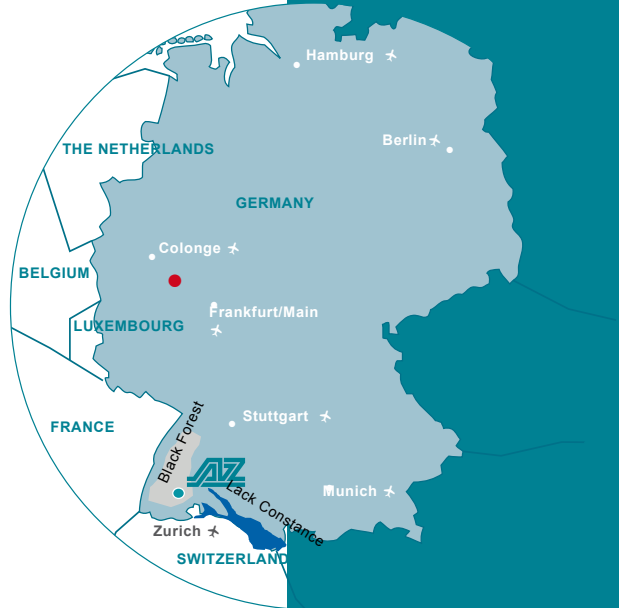
Standard operation temperature for PTFE - sleeves: $T_{max} = 220^{\circ}\text{C}$
 Higher temperature and special design on request



AZ-Armaturen - all over the world



-  AZ-production plant
-  AZ-service - branch
-  AZ-agency



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