AZ plug valves with conical plug - the cavity-free design characteristic

free of cavities and maintenance

- PTFE sleeve covers and protects the entire plug
  - sealing surfaces remain dry and are not in contact with the media
  - free of media between plug and body
- maintenance-free by self-lubricating and chemical-resistant PTFE-sleeve

Type ISO-STANDARD

- robust construction
- no contamination by cavity-free design
- vacuum-capable

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Excellent for toxic and aggressive chemicals, abrasive, crystallizing and polymerizing media

flexible

- multi-way valves
- whole range of multi-way plugs for all configurations

adjustable

- Constant accessibility guaranteed
- adjustable also with mounted actuator / gearbox
- adjustable even under extreme operating conditions

several sealing systems

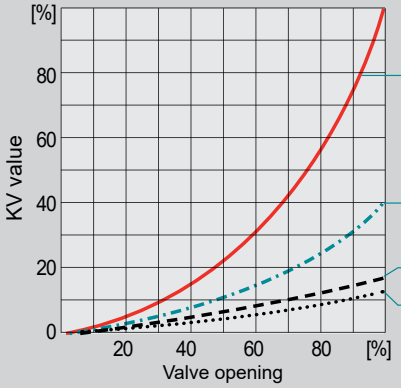
- certificate acc. to TA-Luft / ISO 15848-1 and EPA 21
- high tightness to atmosphere
- reliable tightness for years
- up to three-step seals
- sealing with "spring loaded" system on request

Sophisticated / durable

- complete PTFE chambering
- integrated cast ribs surround the passage and prevent rotation and coldflow of sleeve
- sealing surfaces are protected from medium in open and closed position
- constant torques (Δp independent!)

Designs

maximum flow rate



- Type ISO-EXTRA
- Type ISO-STANDARD
- typical high performance butterfly valve
- typical globe valve

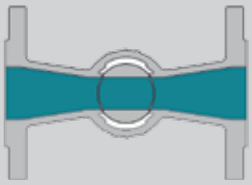
Type ISO-EXTRA

- excellent for abrasive and solid-containing applications
- maximum flow rate compared to other valve types with the same nominal size

construction variants

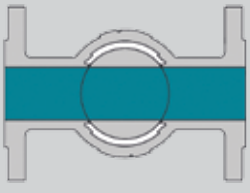
STANDARD design

- compact valve due to STANDARD plug
- optimal torques for economic automation



EXTRA design

- full round bore plug
- maximum flow rate, linear flow
- piggable



Connections and options

modular automation

- bracket according to ISO 5211 for actuator / gearbox
- simple setup of accessories due to modular system
- easy retrofitting of automation
- fast opening or closing through 90° rotation

all connections possible

- flanges acc. EN, ASME etc.
- combinations of connections
  - screwed and threaded ends
    - welded ends
      - oversize flanges
        - special connections
          - compression fittings and ferrule ring couplings

vented options

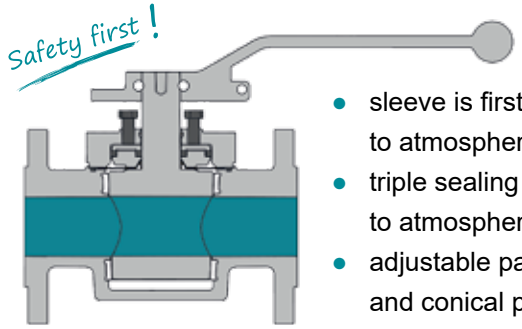
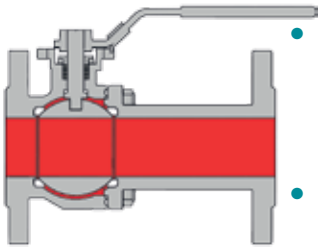
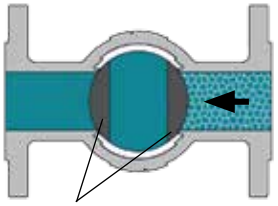
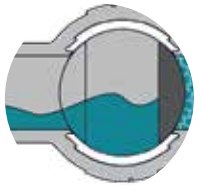
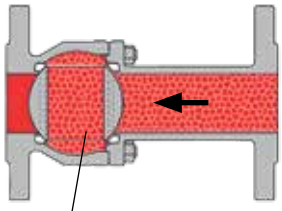
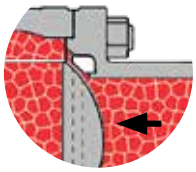
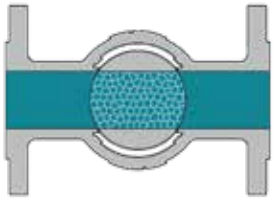
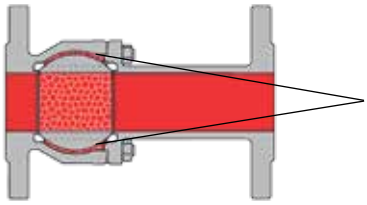
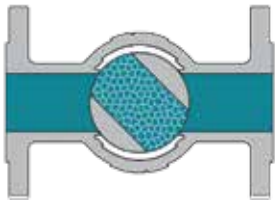
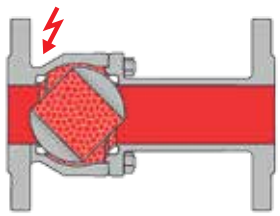
- sleeve
- plug bottom
- plug upstream / downstream

for automatic pressure compensation

FDA / CIP / GMP (options)

- **FDA** = Food and Drug Administration certifications and compliant materials
- **CIP** = Clean-in-Place design (polished internal surfaces, surface finish <0.8 Ra µm (<32 Ra µin), as required by EHEDG and 3-A
- **GMP** = Good-Manufacturing-Practice

Technical comparison
cavity-free AZ plug valve vs ball valve

AZ Plug Valve, PTFE-sleeved	Ball valve, PTFE sealing rings
	
• sleeve is first sealing to atmosphere • triple sealing system to atmosphere • adjustable packing and conical plug	• full pressure behind the sealing rings, on the shaft and on the stem packing • sealing to atmosphere only on the shaft
Crystallizing and polymerizing media	
 Standard = double block  T4-plug runs empty (optional)	 clot  only one PTFE ring seals (floating ball)
• free of cavities, media cannot settle or be trapped • sealing surfaces on sleeve and plug are protected • double sealing, independent of pressure	• forming of a clot due to cavities • valve cannot be operated or only with difficulty • damage to sealing rings • torque increase through high surface pressure
Aggressive / corrosive media	
 free of cavities	 cavities
• sealing surface of plug is completely covered by PTFE sleeve, thus protected from aggressive media • corrosive media cannot be trapped behind the sleeve	• ball sealing surfaces are permanently exposed to corrosive media an can be damaged • solids in media can adhere to the sealing surface
Solids and solid-containing media	
	
• PTFE sleeve encloses and protects the whole plug • solids cannot get jammed between plug and sleeve, no damage to sleeve • solids are pushed away	• sealing rings can easily be damaged! • solid materials get trapped

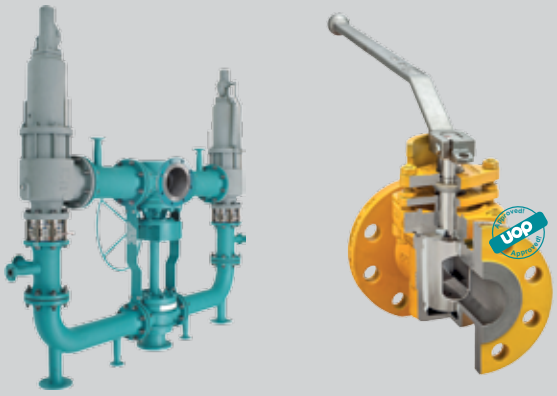
Modular plug valve concept for a wide range of products

BASIC-program

- two-way and multi-port plug valves
- various valves ends (flanges, oversize flanges, welded ends, screwed and threaded ends etc.)
- Heating jacket plug valves

HIGH-PERFORMANCE valves - the add-on to the BASIC program

- special valves and systems for processes with demanding requirements
- pre-assembled valve systems for fast and easy installation
- systems with integrated functions



Lined valves

- combinations with PFA, FEP and PTFE materials
- control plug valves
- sampling plug valves

other plug valve designs

- sampling systems
- control plug valves
- special constructions