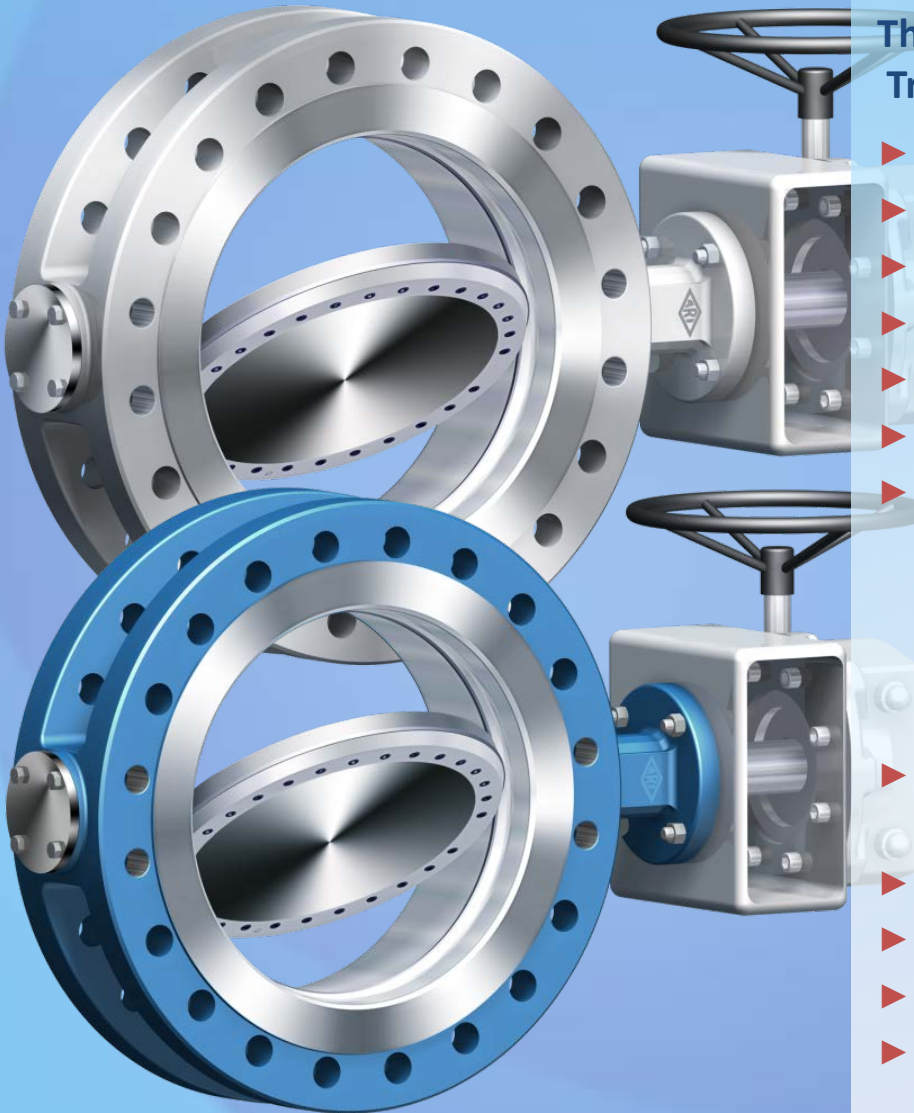


ZETRIX® 016 - Overview

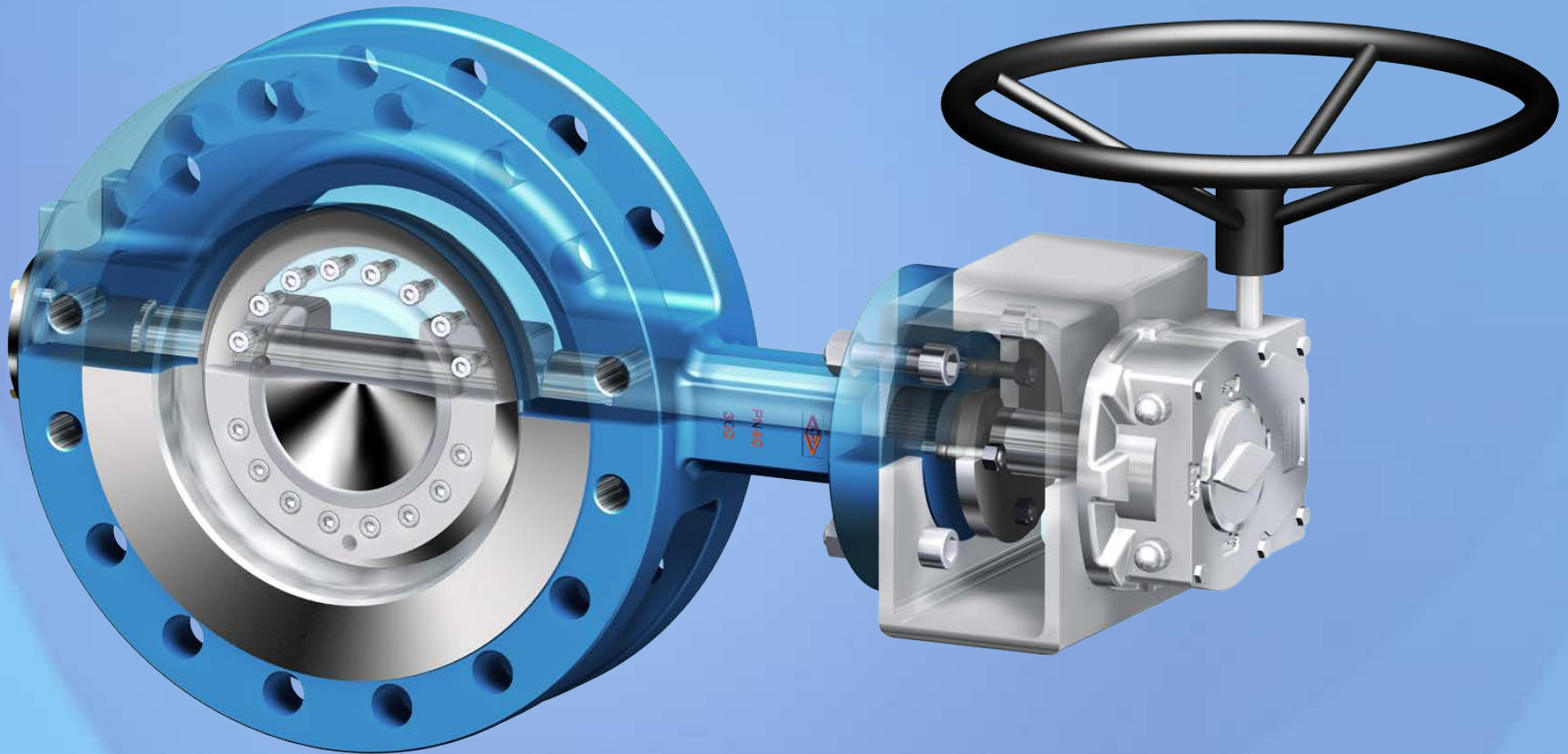


The ARI process valve Triple offset – for challenging applications!

- ▶ DN 150 - 600
- ▶ PN 10 – 40, Class 150, Class 300
- ▶ Temperature -29°C bis +427°C
- ▶ Double flange acc. to EN 1092, ASME 16.5
- ▶ Face-to-face DIN EN 558-1 Reihe 13
- ▶ top flange acc. to ISO 5211
- ▶ Body material
 - ▶ 1.061+N
 - ▶ 1.4408
 - ▶ SA216WCB
 - ▶ SA351CF8M
- ▶ Optimised characteristic permits shut-off and control function
- ▶ “smart” sealing ring – self-aligning
- ▶ elastic, stainless steel/graphite sealing ring
- ▶ stellited seat (Stellite No. 21)
- ▶ metal seal principle



ZETRIX® 016 - Details



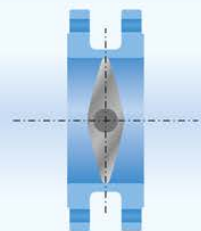
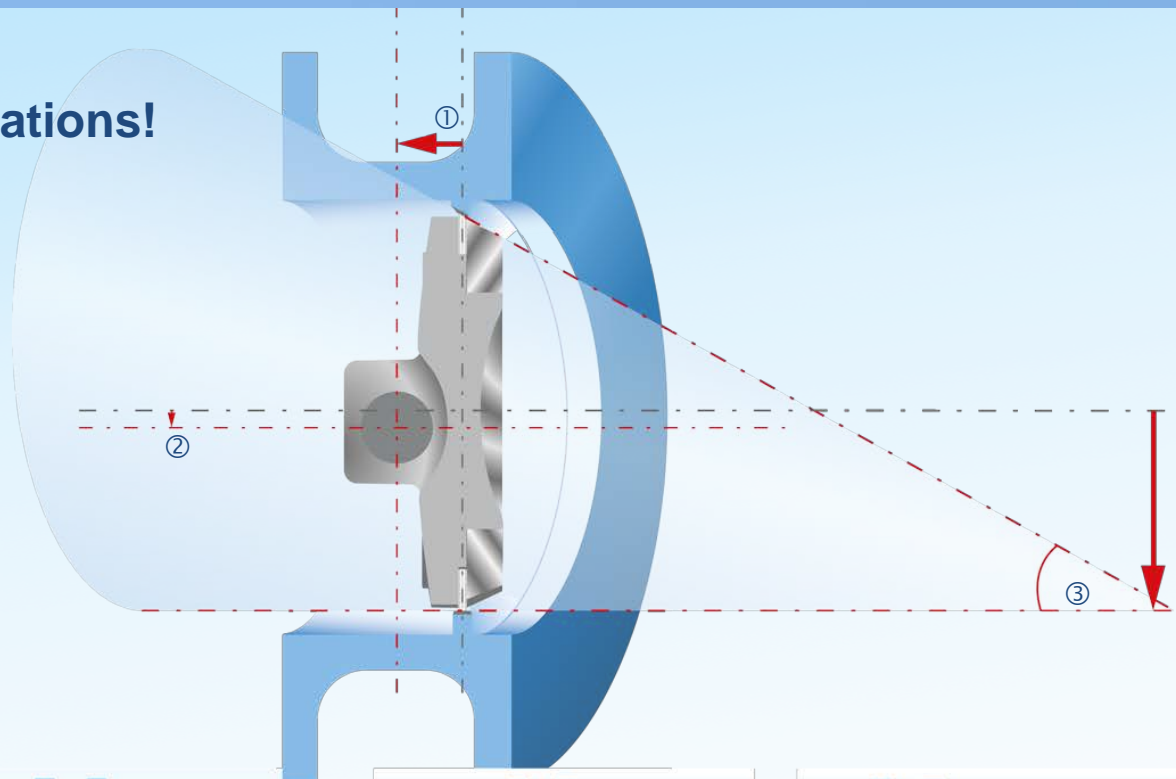
Triple offset for challenging applications!

What is “triple offset”?

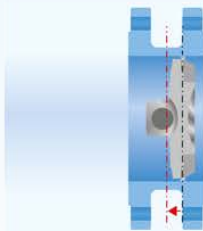
The pivot point of the disc is displaced both from the plane of the seat along the pipe axis (first offset) and from the pipe's centre line (second offset). With triple offset process valves, the seat's axis of rotation is also asymmetrically disposed to the pipe axis.

Benefits for you

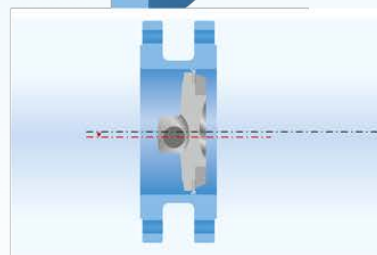
- Frictionless swivel movement
- Permanently leakproof by the metal seal principle
- Versatile applications with regard to media and temperature



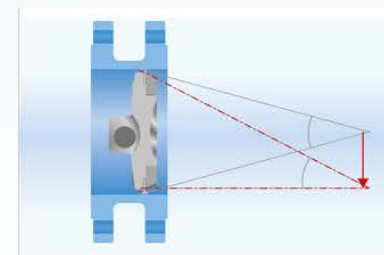
Centric disc design –
The pivot point is centrally disposed to both the seat and the pipe.



① First offset –
The pivot point of the disc is displaced from the plane of the seat along the pipe axis.

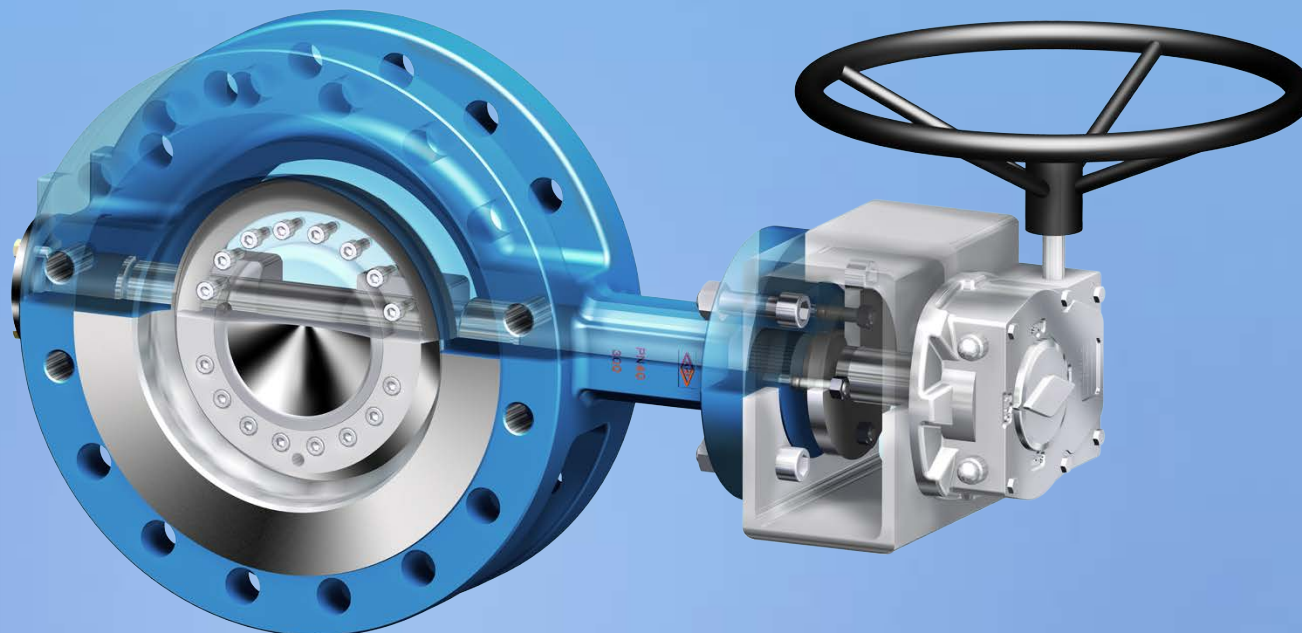


② Second offset –
The pivot point is also displaced from the pipe's centre line.

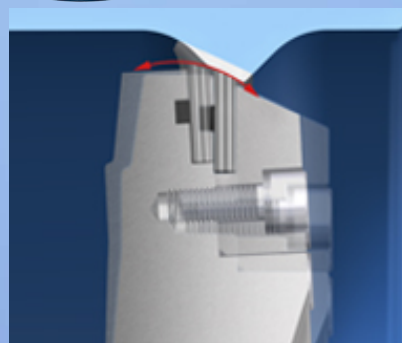


③ Third offset –
The seat's axis of rotation is also asymmetrically disposed to the pipe axis.

ZETRIX® 016 - Details



Laminated stack made of stainless steel and graphite lends additional elasticity to the sealing ring.



Triple offset design guarantees a frictionless swivel movement of the sealing ring into the seat.



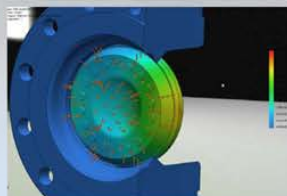
The ZETRIX® process valve seals according to the area seating principle; the required contact pressure is applied via the actuator, which can be switched off as a function of the torque.



Maximum closing force with minimum effort because the contact angles are optimised with our special geometry optimisation software.

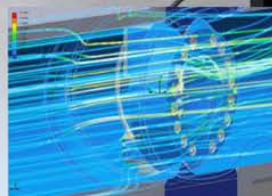


Modern development methods, tested in our own experimental lab



Finite element method

The finite element method (FEM) is a numerical calculation technique that was used to simulate the stresses and their distribution occurring in the ZETRIX® process valve. The aim was to achieve the required strength at pressure load levels in combination with an optimal weight and a flow friendly shape.



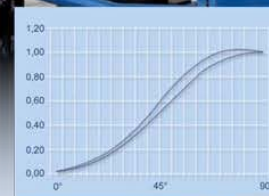
State-of-the-art flow simulations

The twofold objective of uniform flow and high flow capacity was realised with the aid of special flow software. The software simulations enable the flow velocity, flow direction and pressure distribution to be visualised. Due to the optimised ZETRIX® geometry, turbulences are reduced to a minimum and pressure loss optimized.



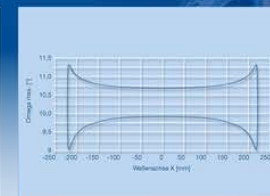
Rigorous tests (here: firesafe)

"Firesafe" is a basic stipulation in many of the environments where the ZETRIX® process valve is used. As a triple offset 90° process valve with a tight metal seal, ZETRIX® meets all requirements before, during and after the fire. The test was performed according to ISO 10497.



Characteristic measurements

The flow values at different opening angles were measured in an accredited testing laboratory. The resulting curves were used to determine the control characteristic of the ZETRIX® process valve.



Contact angle calculation

The peripheral closing angle was optimised to ensure that the valve opens and closes without sticking and without friction. Our sizing software allows the contact angle at the perimeter of the ZETRIX® process valve seat to be visualised.

High-precision manufacturing

Modern technologies

are the key to optimal safety and reliability. Our products are manufactured at three different Locations – all of them in our home country of Germany – promptly and according to rigorous quality criteria.

High performance machining centres, automated assembly cells, programmable assembly robots and a highly qualified team of staff are vital prerequisites of top-quality product solutions specially tailored to your individual requirements.

The benefit for you: Optimal reliability and efficiency.



The valve bodies are manufactured on fully automatic, CNC controlled machining centres. Our CNC programs are written on the basis of CAD data and transferred to the control online. The workpieces are clamped in specially designed fixtures that guarantee maximum machining stability and short set-up times.



The sealing surface is armoured with stellite by a fully automatic welding robot with an integrated measuring system. All CNC programs are developed by our expert in-house programmers. Synchronising the eight axes of the welding system represents a particularly daunting challenge.

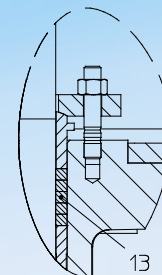
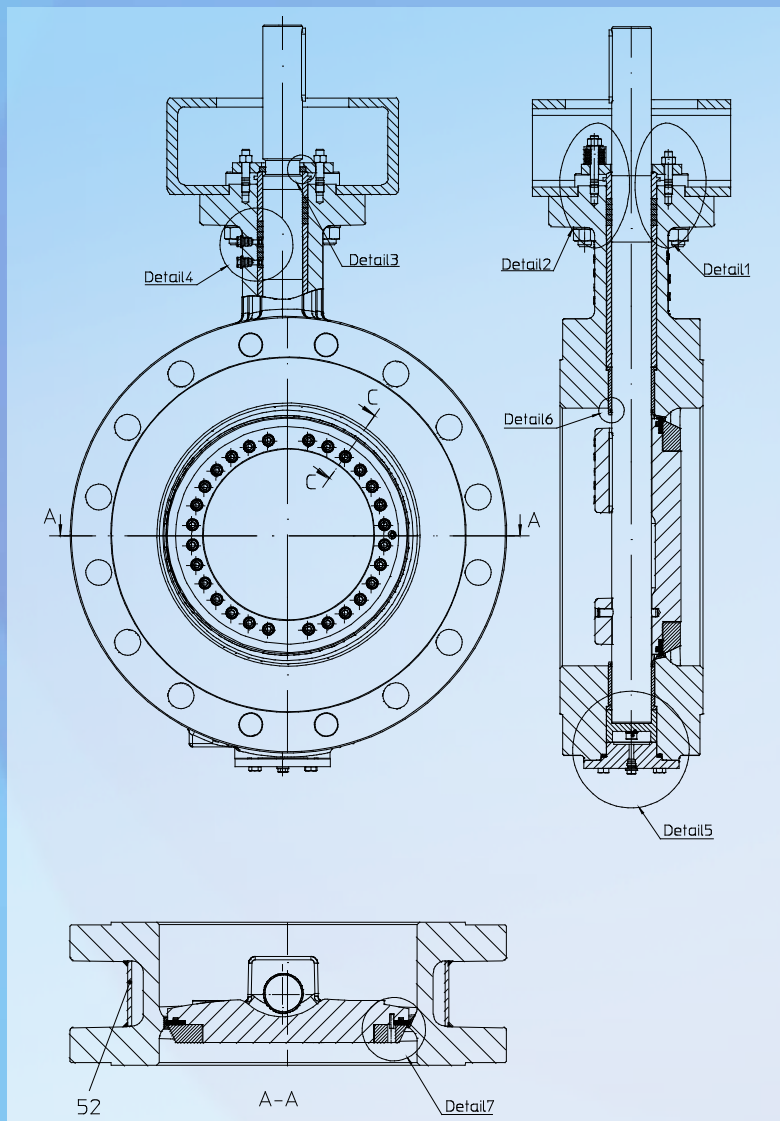


The three-dimensional measuring system allows the process valves to be compared with 3D data, which is subsequently evaluated and saved on a PC. The measurements are carried out directly in the machine to ensure reliable production processes.

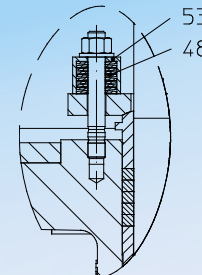


Every ZETRIX® process valve is leak-tested according to DIN EN 12266. The test pressures and times are stored on our computer aided test bed. Special tests can also be performed at the customer's request.

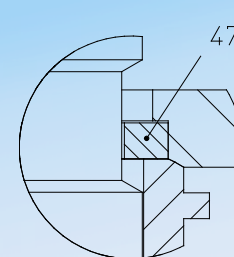
ZETRIX® 016 - Details



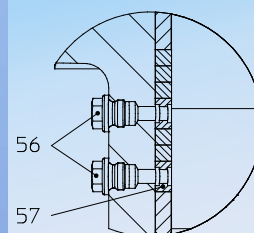
► Detail 1
stuffing box
Standard



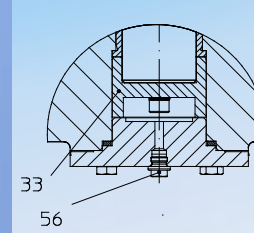
► Detail 2 - spring
loaded stuffing box
(TA-Luft)



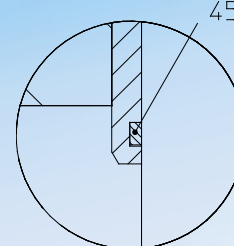
► Detail 3
blowout protection



► Detail 4
leak-off- and flush
connection



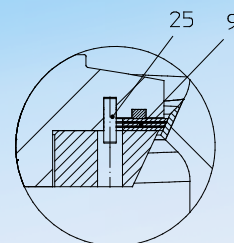
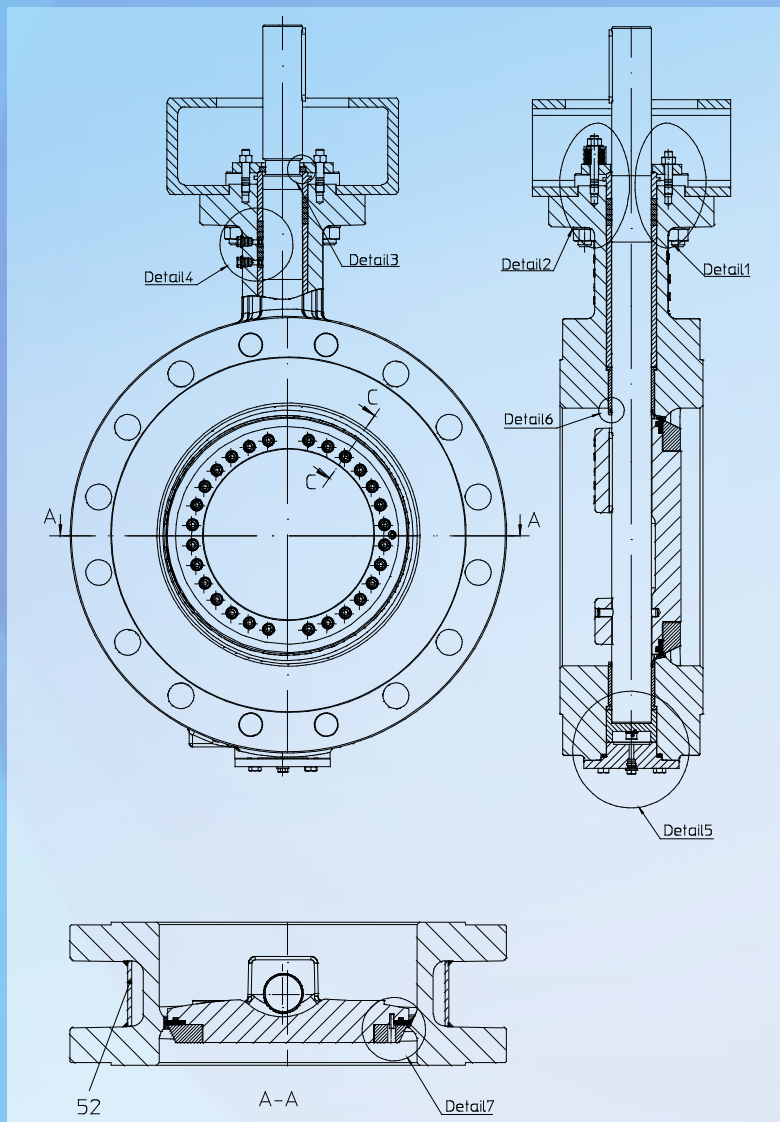
► Detail 5
leak-off connection
for bottom flange



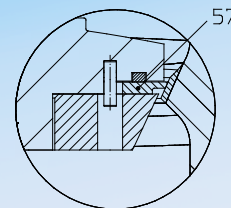
► Detail 6
bearing protection



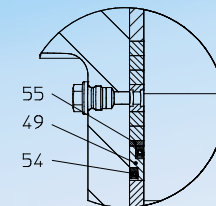
ZETRIX® 016 - Details



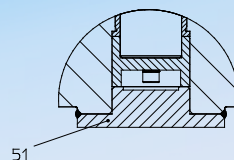
► Detail 7
seal ring (Standard)



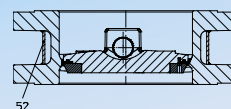
► Detail 7
massive seal ring
(Option)



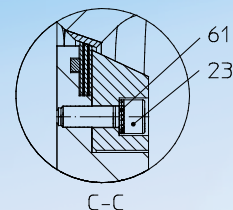
► Detail
test connection
(TA-Luft)



► Detail
welded bottom
flange

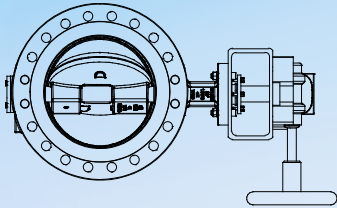


► Detail
heating jacket

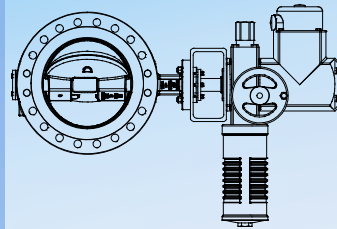


► Detail
self-retaining
washer

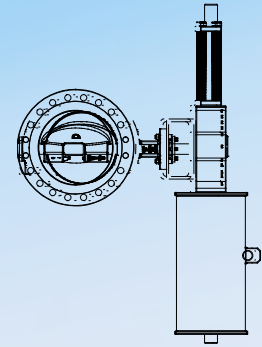
ZETRIX® 016 - Variants



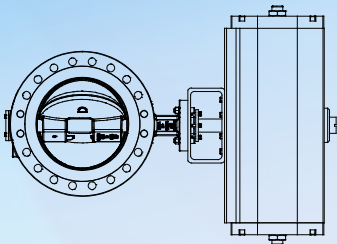
► 016 ZETRIX with worm gear



► 016 ZETRIX with electric rotary actuator Auma



► 016 ZETRIX with hydraulic actuator



► 016 ZETRIX with pneumatic actuator