Double sealing mixproof valve with leak detection,
without elastomer seal

THE WINNING COMBINATION
Based on the generation of DCX3 valves, the NEOS double seal mixproof valve, with leak detection and without elastomer seal, combines various technologies for a unique result meeting market requirements in terms of cleanliness, durability and sanitary applicability.

Benefiting from patented technology and meeting the recommendations of the EHEDG, the NEOS valve is, by design, particularly suitable for CIP “Cleaning In Place” applications by excluding the use of elastomer seals in contact with the process fluid.

It is an economically attractive alternative to double seat valves, as it offers a sufficient level of protection for product lines before pasteurisation and utility networks (CIP - water flush) while standing up to frequent cleaning and the use of aggressive products.

It is able to report the failure of a sealing point owing to its leaking chamber, thereby preventing any risk of mixing between lines.

Built into a manifold, the crossbody version allows scraping of the lower lines.

Available from Ø 25, it is fitted as standard with a PTFE diaphragm providing a physical barrier between the inside of the valve and the external environment.

Its design with a limited number of seals simplifies servicing operations, thereby reducing maintenance times and costs.

3 SPECIALLY DESIGNED COMPONENTS TO BETTER MEET USER REQUIREMENTS

PFA FLOATING SEAL

With an original profile, it features two sealing points on and below the valve plug. The floating seal principle offers the valve excellent cleanliness. The openings promote the flow of fluid on either side of the floating seal.

The PFA seal’s elastomer structure guarantees the absence of porosity or cracking, thereby eliminating the risk of contamination and bacterial growth. It has excellent resistance to particularly aggressive chemicals and high temperatures.

LEAK INDICATOR

As standard the valve is equipped with a “normally open” (NO) leak indicator. An optional microvalve can be added to clean the leak chamber, with the valve closed.

Each of these microvalves can be controlled separately using an ACS control unit equipped with 1 or 2 proximity sensors.

Leak indicator and cleaning microvalve featuring a new design:

- NO “Normally Open” leak indicator for detecting a possible leak
- ACS LED control unit
  - View valve status from a distance
  - Easily configurable and removable
  - Resin-coated electronic module
  - Equipped with 1 or 2 proximity sensors
  - Equipped with 2 or 3 solenoid valves, depending on the configuration
  - Available in point-to-point or AS-i version
  - To avoid micro-leaks when the valve is operated, we recommend separating main actuator control from that of the micro-valves.

By default, the valves are proposed fitted with:

- > 2 SV ACS unit for NEOS with 1 indicator
- > 3 SV ACS unit for NEOS with 2 indicators
- 1 SV can be removed upon simple request (common SV for controlling the main actuator and the leak indicator)
- > 1 SV ACS control unit for NEOS with 1 indicator
- > 2 SV ACS control unit for NEOS with 2 indicators

Single piece plug meeting sanitary requirements

PTE deformable sealing diagram, providing a physical barrier to the outside

NC “Normally Closed” compact pneumatic actuator
- Easily removable and transformable
- > Common to the full range of DCX shut-off valves
- Actuator designed for use with the single-action valve
- Equipped with pneumatic quick-connects to facilitate maintenance

Leak indicator and cleaning microvalve

SEAL PROFILE FEATURING TWO SEALING POINTS

- NC actuator
- Seal holder plate common throughout the DCX3 diaphragm shut-off valve range
- Connection of the actuator and shut-off unit by clamp enabling a rapid maintenance actions
- Thick walled spherical body, machined in the mass ensuring excellent resistance to expansion stresses
- > L - T - X configuration

POSSIBLE CONFIGURATIONS

Position of leak indicator on valve can be changed upon request.
Floating PTFE seal
PTFE deformable sealing diaphragm

COMPRESSED AIR PASSAGE
PROCESS FLUID PASSAGE
CLEANING LIQUID PASSAGE

1 LEAK INDICATOR

1 LEAK INDICATOR - 1 CLEANING MICROVALVE

CIP PHASE VALVE OPEN

CIP PHASE VALVE OPEN

CIP PHASE LEAKAGE CHAMBER VALVE CLOSED

Opening micro-sequence of the leak indicator to clean the leakage chamber

Opening micro-sequence of the leak indicator to clean the leakage chamber

Opening micro-sequence of the leak indicator to clean the leakage chamber
DCX3 TECHNICAL DATA

**DIMENSIONS**

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**OPERATING CONDITIONS**

- Operating temperature: -5 °C to +110 °C (23 °F to 230 °F)
- Sterilisation temperature: Up to 140 °C (284 °F) for 30 min (steam for static mode)
- Delta temperature: 100 °C (212 °F)
- Sealing pressure: 8 bar (116 psi)
- Supply pressure: between 5.5 and 7 bar (between 80 to 101 psi)
- Finish
  - Interior: 0.8 µm (180 grit)
  - Exterior: 1.2 µm (150 grit)
- Materials
  - Body and shut-off unit: stainless steel 1.4404 / AISI 316L
  - Actuator: stainless steel 1.4301 / AISI 304
  - Plug floating seal PFA
  - PTFE deformable sealing diaphragm

The operating conditions are provided as a guide. Combinations of extreme operating conditions may be inappropriate in certain circumstances. As such, it is highly recommended that you consult our technical service department.

**SHUT-OFF VALVE PRESSURE LOSS**

- Weight of ACS unit with plastic cover: 1.2 kg