



## THE WINNING COMBINATION

Double sealing mixproof valve with leak detection,  
**without elastomer seal**



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 cleanability, 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 cleanability. The openings promote the flow of fluid on either side of the floating seal.

The PFA seal's plastomer 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.



#### SINGLE PIECE PLUG

Hygienic plug design; single piece without threads or welds.

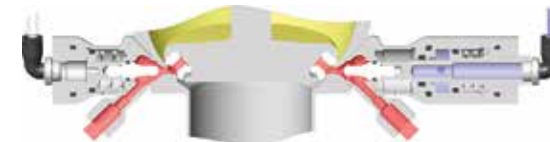


#### LEAK INDICATOR

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 2 or 3 solenoid valves, depending on the configuration.

Leak indicator and cleaning microvalve featuring a new design:



- PFA seal
- 1/8 gas connection
- Return spring outside the leak chamber, not in contact with the process fluid

#### 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 a:

- > 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

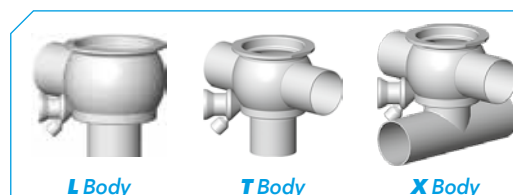
#### Floating PFA seal,

perfectly cleanable, ensuring perfect leaktightness at high temperature, resistant to cleaning products

- > Seal profile featuring two sealing points

#### NO "Normally Open" leak indicator for detecting a possible leak

#### POSSIBLE CONFIGURATIONS



#### 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

#### Leakage collector nozzle

to channel any projections of product in case of diaphragm rupture

#### Seal holder plate

common throughout the DCX3 diaphragm shut-off valve range

#### PTFE deformable sealing diaphragm,

providing a physical barrier to the outside

#### 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

#### Optional washing microvalve

for cleaning the leakage chamber, valve closed

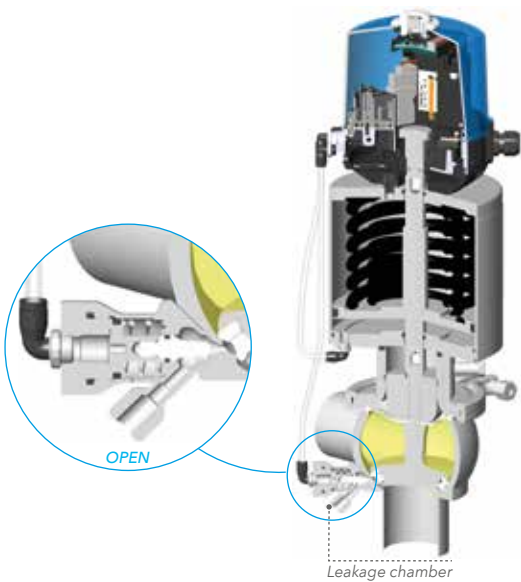


Position of leak indicator on valve can be changed upon request.

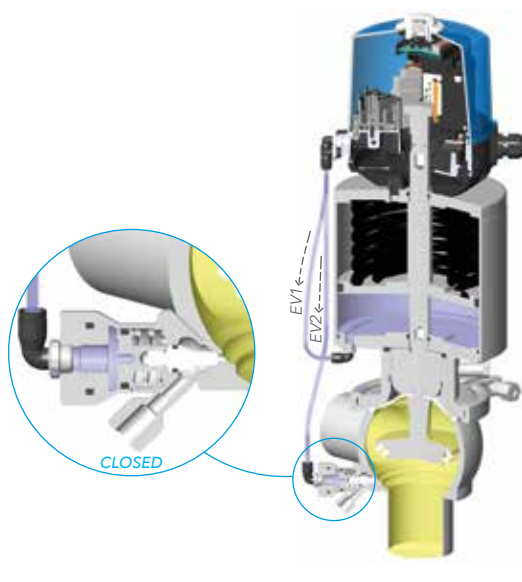


1 LEAK INDICATOR

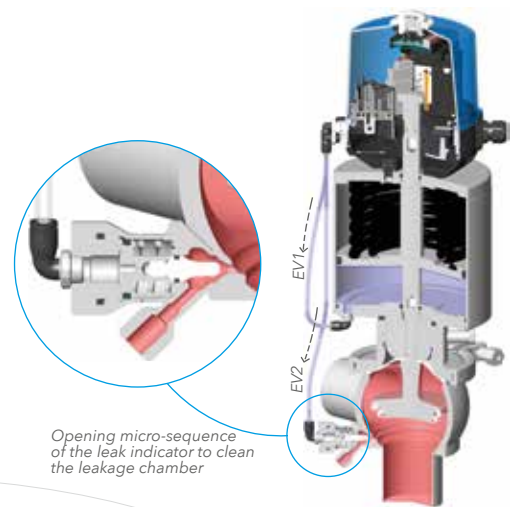
VALVE CLOSED



VALVE OPEN



CIP PHASE VALVE OPEN

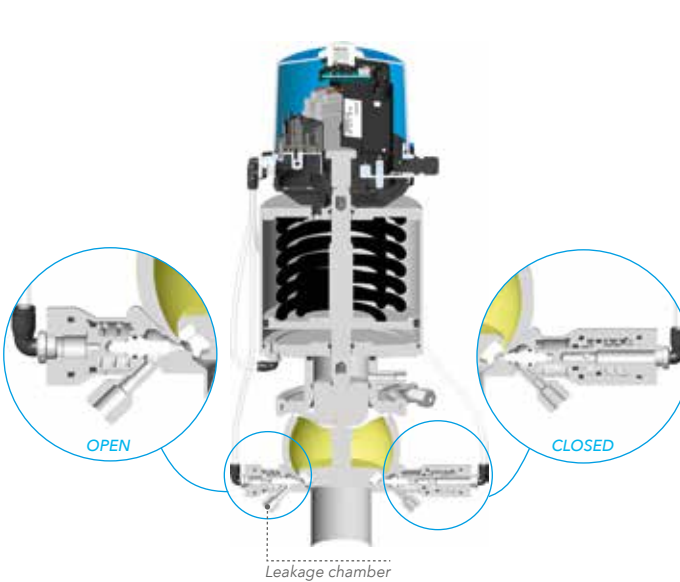


Floating PFA seal  
PTFE deformable sealing diaphragm

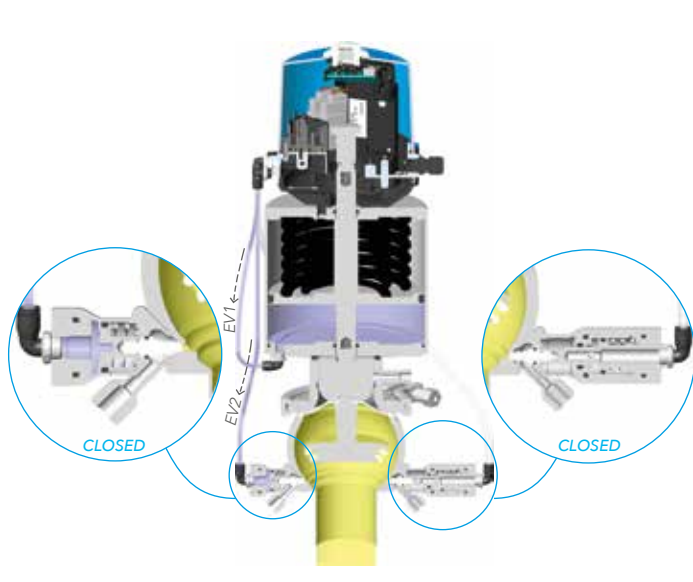
COMPRESSED AIR PASSAGE  
PROCESS FLUID PASSAGE  
CLEANING LIQUID PASSAGE

1 LEAK INDICATOR - 1 CLEANING MICROVALVE

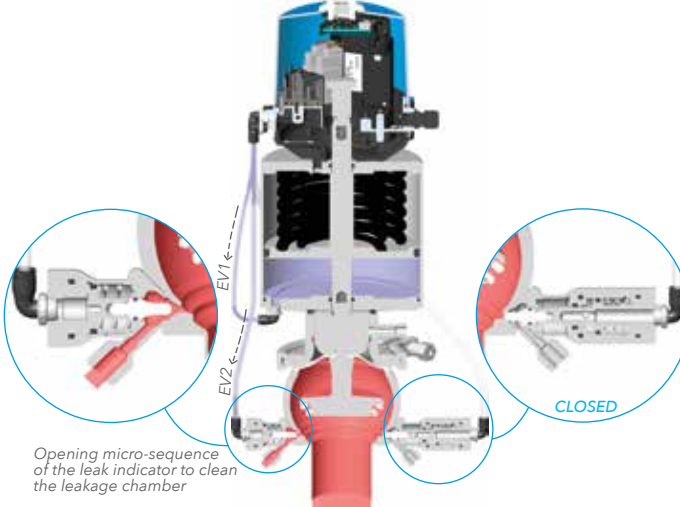
VALVE CLOSED



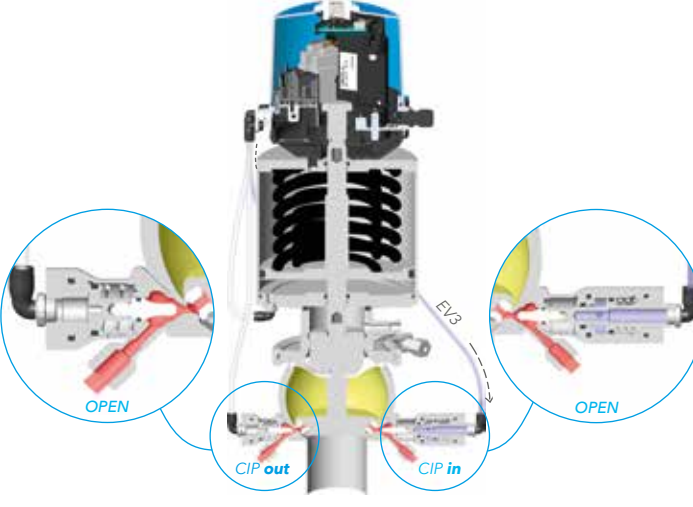
VALVE OPEN



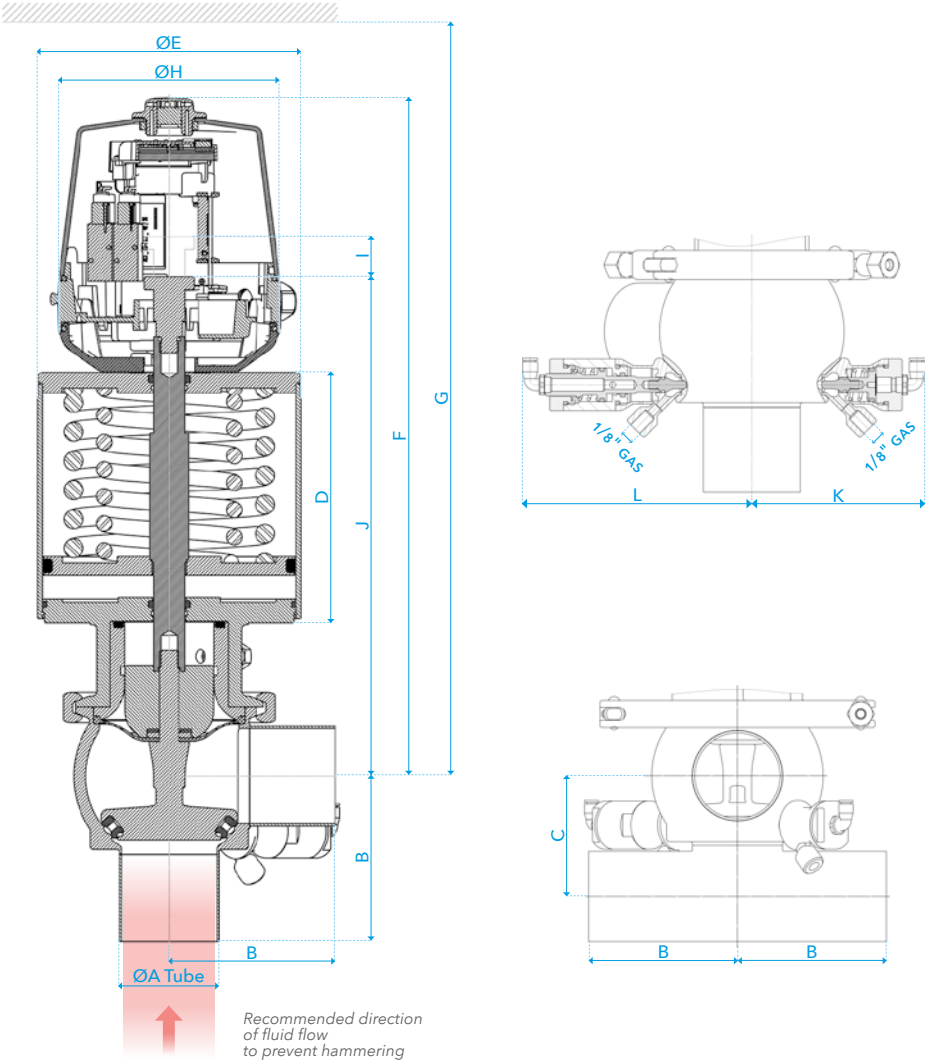
CIP PHASE VALVE OPEN



CIP PHASE LEAKAGE CHAMBER VALVE CLOSED



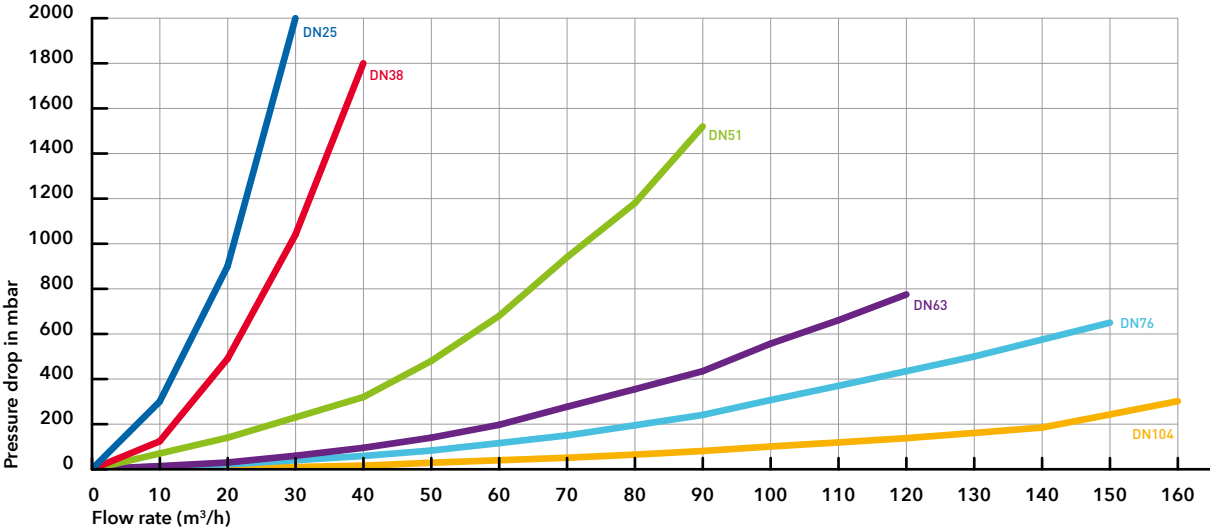
DIMENSIONS



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

SHUT-OFF VALVE PRESSURE LOSS



DCX3

ØA Tube	B	C	D	ØE	F	G with control unit	ØH	I	J	K	L	Weight of unit without control top in kg      in lb	
SMS 22.6/25	55	45	110	89	345	480	140	13	198	93	130	4.4	9.70
SMS 35.6/38	70	55	110	89	352	480	140	13	204	93	130	4.6	10.14
SMS 48.5/51	82	70	123	114	381	510	140	19	238	101	138	7.7	16.97
SMS 60.3/63.5	105	85	159	167	430	550	140	26	288	114	151	17.7	39.02
SMS 72.9/76.1	110	95	159	167	436	560	140	26	294	114	151	17.8	39.24
SMS 100/104	130	125	181	217	487	630	140	36	342	128	166	38	83.77
DIN 26/29	55	47	110	89	345	430	140	13	198	93	130	4.4	9.70
DIN 32/35	55	51	110	89	349	430	140	13	201	93	130	4.5	9.92
DIN 38/41	70	55	110	89	351	430	140	13	204	93	130	4.6	10.14
DIN 50/53	80	71	123	114	381	510	140	19	238	101	138	7.7	16.97
DIN 66/70	108	93	159	167	433	550	140	26	291	114	151	17.8	39.24
DIN 81/85	115	105	159	167	440	560	140	26	298	116	153	18.3	40.34
DIN 100/104	130	125	181	217	487	630	140	36	342	128	166	38	83.77

Weight of ACS unit with plastic cover: 1.2 kg

ØA Tube	Kv	Air consumption (NI)	ACS unit opening time (s)	ACS unit closing time (s)
SMS 22.6/25	22	0.5	5/10	7/10
SMS 35.6/38	30	0.5	5/10	7/10
SMS 48.5/51	72	1	1	1.5
SMS 60.3/63.5	140	3.5	1.5	3.3
SMS 72.9/76.1	190	3.5	1.5	3.3
SMS 100/104	314	8	2.6	6.5
DIN 26/29	22	0.5	5/10	7/10
DIN 32/35	30	0.5	5/10	7/10
DIN 38/41	30	0.5	5/10	7/10
DIN 50/53	72	1	1	1.5
DIN 66/70	140	3.5	1.5	3.3
DIN 81/85	190	8	1.5	3.3
DIN 100/104	314	8	2.6	6.5

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.



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