

Presented in the USA by

Kemutec

Specialists in Powder Processing Technology

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**OYSTER
SUPERCLEAN
VALVE**

OYSTER SUPERCLEAN VALVE

The Oyster Superclean Valve is the perfect answer to situations requiring frequent cleaning cycles using Clean-In-Place systems. Compared with traditional butterfly valves, the Oyster Superclean valve has superior washability as it has no dead area where product can remain trapped and there is no need to dismantle the valve in order to permit a complete cleaning of all contact surfaces.

The unique geometry of the Oyster Superclean Valve means that when used in applications with Clean In Place technology the complete valve can be washed together with the rest of the plant as part of the normal cleaning cycle.



THE DISADVANTAGE OF TRADITIONAL VALVES

In all traditional butterfly valves, the valve stem which controls the movement of the disc has to pass through a hole in the gasket. It is clear that in the area

around this hole the disc is constantly in tight contact with the gasket, and there is no way of washing the contact surfaces completely clean without dismantling

the valve. This means downtime and loss of production for the plant, manpower costs and additional wear and tear on the components of the valve.

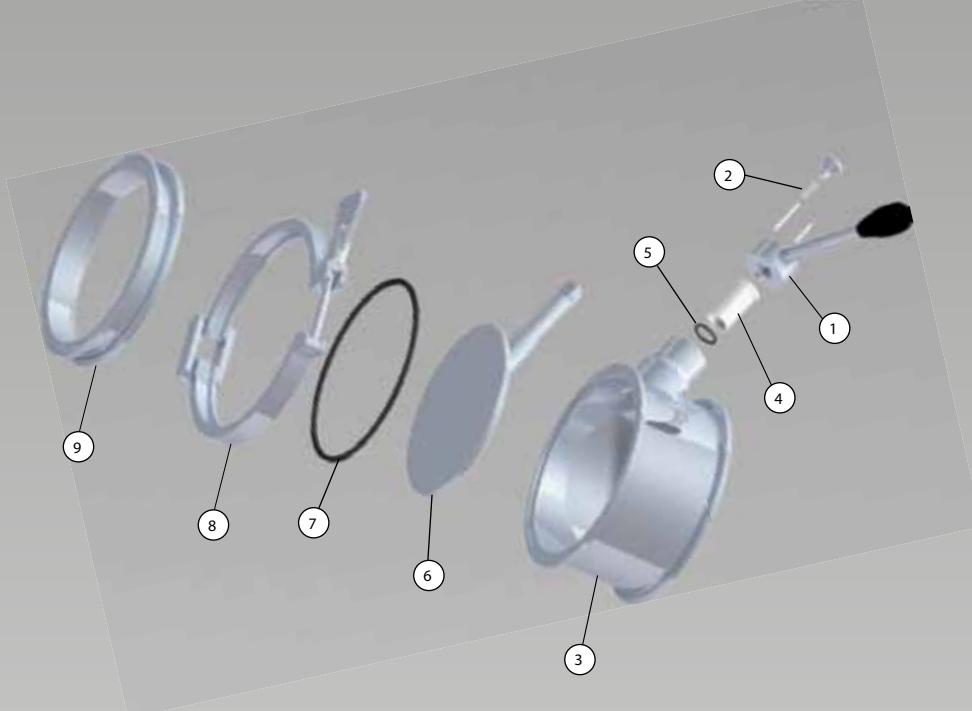


THE FUTURE IS WASHABLE!

The Oyster Superclean Valve is cleaner in two ways. First, the valve stem is inclined and so does not need to pass through a hole in the gasket. Second, because of this geometry, as the valve opens, the points of

contact between the disc and the gasket move continuously. This movement ensures that by moving the valve during cleaning, the whole surface of both seal and disc are fully exposed to the washing process, and there is no hole where

contamination can remain. Perfect washability is the result, leading to improved productivity and reduced costs. If it is necessary to dismantle the valve, this is easy and requires no special tools.



1. Lever
2. Retaining Bolt
3. Main Body
4. Bushing
5. Shaft Sealing O Ring
6. Disc
7. Main O Ring
8. Clamp
9. Lower Body

MATERIALS

The materials used for the Oyster Superclean valve fully conform to best practice and FDA norms (see table). Material certificates 3.1B are supplied for all contact parts and certificates of conformity for seals and gaskets. Valves are marked with company name and are individually identified with lot and serial numbers.

GENERAL DESIGN FEATURES

The valve has the stem inclined at an angle to the plane of the valve disc.

The degree of inclination varies from size to size for geometrical reasons.

Shaft does not pass through the gasket. Tightness is achieved by means of an O-ring or similar, enabling greater flexibility in the choice of materials and improved washability.

The half bodies are clamped together using a Tri-clamp.

FINISH

The Oyster Superclean valve is finished to pharmaceutical standards

- Contact surfaces: mirror polished (R_a max $< 0.4 \mu\text{m}$)
- Other surfaces: satin finish ($R_a < 1.2 \mu\text{m}$)
- Optional full mirror finish available for clean room installations
- Ceramics and blasting, electro-polished finish available on request

OPERATION

The valve can be supplied for either manual or automatic operation:

Manual options

Lever (with locking mechanism to prevent accidental opening)

Automatic options

- Double action (DA) pneumatic actuators (rack and pinion type)
- Fail-close system available as an optional
- Anodised aluminium actuator casing

SIZES

The Oyster Superclean valve is available in the following standard sizes

- DN 100 (4")
- DN 150 (6")
- DN 200 (8")

TABLE OF MATERIALS	
Lever	AISI 304 (DIN 1.4301)
Retaining bolt	AISI 304 (DIN 1.4301)
Main Body	AISI 316L (DIN 1.4404), Hastelloy HC 22
Bushing	PTFE
Shaft Sealing O Ring	Silicone, EPDM, FEP, Perfluoroelastomer
Disc	AISI 316L (DIN 1.4404), Hastelloy HC 22
Main O Ring	Silicone, EPDM
Clamp	AISI 304 (DIN 1.4301)
Lower Body	AISI 316L (DIN 1.4404), Hastelloy HC 22

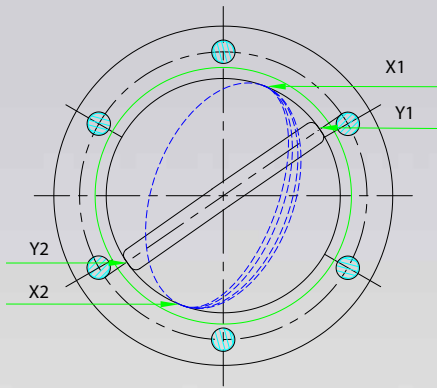


- Stainless steel actuator casing can be supplied as optional
- Can be fitted with NAMUR single or double solenoid valves, limit switches or position sensors and electro-pneumatic positioners to control the cleaning cycle
- ATEX certified on request
- Degree of opening and closing is fully adjustable
- Air supply required for pneumatic actuators; min 5 bar (75 psi), max 10 bar (150 psi)

APPLICATIONS

The Oyster Superclean valve is fully FDA compliant and is suitable for handling: Powders, Granules, Gels or Liquids in pharmaceutical, chemical or food plants.

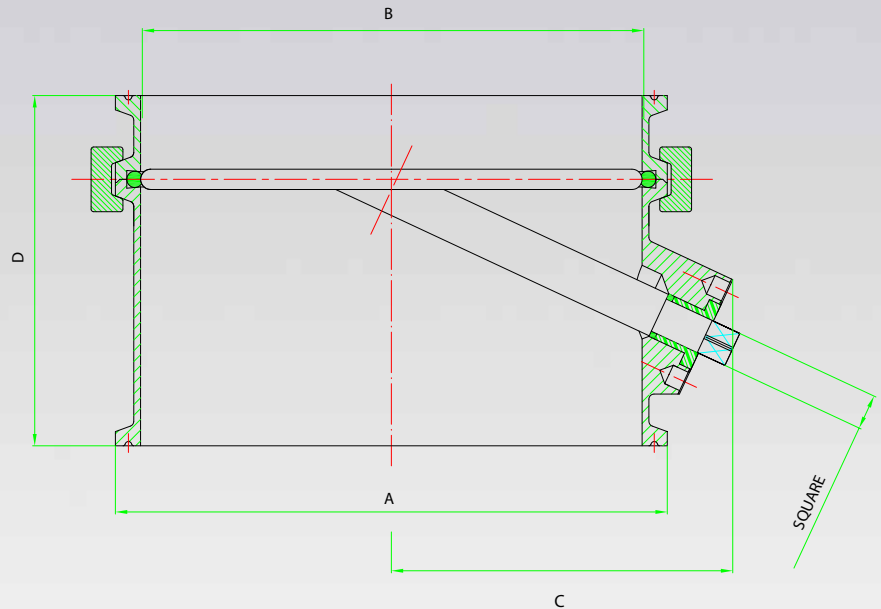
NO FIXED POINT OF CONTACT



Two views showing the disc in two different partially opened positions to demonstrate how the points of contact with the disc move from X1 & X2 in the partially opened position to Y1 & Y2 in the fully opened position.

AN END TO BRIDGING

Another problem sometimes attributed to Butterfly valves is the problem of bridging - a build-up of product in the edge of the disc eventually hampering the flow. The same movement of the disc that permits complete cleaning also helps to prevent bridge formation.



The ideal starting point for customization

STANDARD DIMENSIONS (MM)

NOMINAL VALVE SIZE	A	B	C	D	Square *
100	118.8	98	102	120	17
150	167	148	138	130	17
200	217.4	198	173.1	145	17

*The square can be supplied to other sizes at no extra charge. Actuator supports are machined to ISO standards to suit the most appropriate actuator type. Variations can be supplied on request.

OTHER MUCON PRODUCTS

Beside the Oyster Superclean valve, Mucon from Kemutec also offers the following products for powder handling which are distinguished by their innovative design and excellent engineering.

OYSTER COMPACT SERIES VALVE

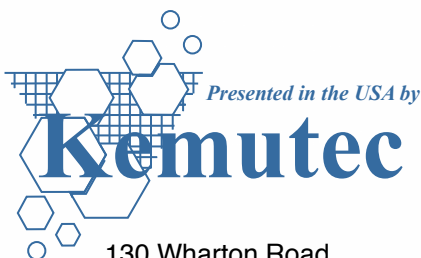
Patent clamp design and 25% lighter weight than equivalent competitor products ensure easier maintenance. Robust and clever design to enhance valve performance and lifetime of consumable components. The gold standard of Butterfly valve design.



OYSTER SAMPLEMASTER VALVE

Extract samples of powders from driers and others machines. Designed to reduce wear and easy dismantling for cleaning with no special tools.

Plus a range of accessories manufactured to full GMP standards including: Clamps, Tri-Clamps, welding ferrules, mounting flanges, hoppers, Sight glasses, silicone compensators.



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