

OYSTER™ COMPOSITE VALVE

The art of fine dosing



Scope:

The Oyster Composite Valve is the perfect choice for the discharge and accurate dosing by gravity of powder and granules, without risk of cross-contamination between product and outside environment.

The Oyster Composite valve is designed for use in the Pharmaceutical, Chemical and Food Processing industries.

The unique design of the Oyster Composite valve makes it ideal for the filling of drums, bins and containers where it is essential to control accurately the flow of product and achieve a target weight within a certain tolerance.

Key Features:

- Can be fitted with Bridge-breaker for use with less free flowing materials
- Offered with a choice of contact parts and seal materials
- The dosing ball can be customised to meet specific application requirements
- High quality pharma-finish (Ra < 0.4 internal)
- Range of actuation options
- Full range of connection options

Application: Fine dosing

All Oyster™ branded sanitary valves are designed according to cGMP standards. They are manufactured to exacting tolerances and finished to the highest pharmaceutical standard.

Oyster™ Composite valve is suitable for handling:

- **Powders**
- **Granules**

OYSTER™ COMPOSITE VALVE

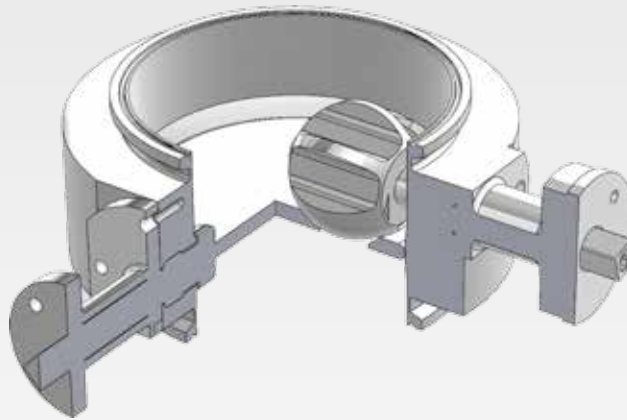
Description:

The Oyster Composite Valve, so called because it is composed of two functional parts, combines:

* **Main leaf** similar to a standard butterfly valve, which is opened and closed to achieve the bulk of the product discharge.

* **Dosing ball** which is inset into the main leaf, and discharges product through a hole machined there, and which is used to carry out the fine dosing of product in small quantities so as to achieve the target tolerance.

Both these components are independently controlled.



Operation and Control

The filling operation is achieved in two phases. These are:

Phase 1 The Bulk discharge phase. The main disc is opened by means of its actuator, and the main portion of the product discharge takes place. Use of a 4-20 mA positioner to operate the actuator enables proportional closing of the main leaf as filling proceeds, which enables the system to be configured in such a way as to get closer to the target weight during the bulk discharge phase, which optimises efficiency

Phase 2 The fine dosing phase. The main leaf is closed and the dosing ball is brought into operation, rotating backwards and forwards through 180° discharging small quantities of product each time.

OPTIONS FOR OPERATION:

Valve is supplied bare-shaft with ISO actuator mounting flanges F05 & F07. Drive square 14mm on both shafts.

Recommended installation is with 4-20 mA positioner on main leaf to enable proportional operation linked to weigh station (not supplied).

Valve automation: Actuators, positioner and solenoid valves are supplied on request.

Air supply: Min. 5bar (75 psi)/max 10bar (150psi). Dry and oil free.

ATEX: Certification available on request: II 2GD cIIB T4/T135°C

OTHER OPTIONS:

Bridgebreaker can be fitted to dosing ball for use with less free-flowing product [image supplied]

Dosing ball can be customised to suit different product characteristics and application requirements.

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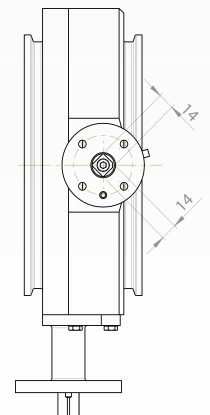
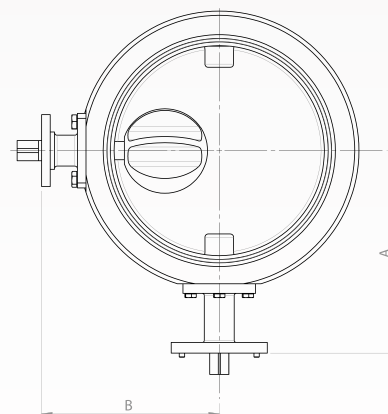
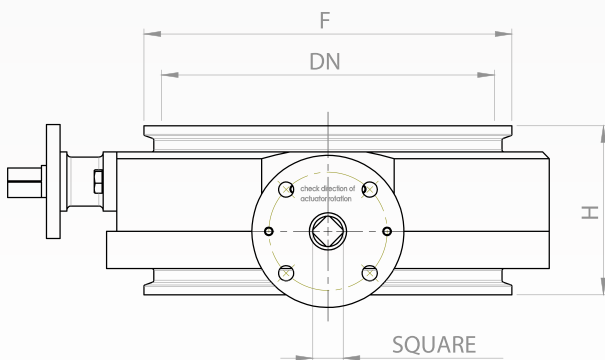
Flexibility

A significant advantage of the Oyster Composite valve and its unique dosing ball design, is that it can easily be customised to suit particular applications.

Unlike competitors valves:

- Where the product being processed is not free flowing a bridgebreaker can be added to the dosing ball. This agitator moves as the ball moves and prevents the formation of a bridges above the dosing ball.
- Where a high degree of precision is required the dosing ball pocket capacity can be varied. Furthermore it is a relatively quick and easy job to swap one dosing ball for another if required.
- For very fine free flowing product the valve can be provided with a seal between dosing ball and leaf to prevent leakage.

KEY DIMENSIONS:				
(Dimensions in mm)				
Nominal size DN	150/65	200/80	250/80	300/80
TC Connection F	6"	8"	10"	12"
Nom. Dosing ball diameter	65	80	80	80
A	165	190	215	240
B	157.5	166.5	207.5	232.5
H	95.5	100	100	100
Drive Sq. Main leaf	14x14	14x14	14x14	14x14
Drive Sq. Dosing ball	14x14	14x14	14x14	14x14
Weight - Kg	11.8	16.5	20.1	24.0
* TC specification is ASME/BPE unless otherwise specified. A full range of tri-clover types can be supplied.				



Above all the valve is designed to be user friendly and easy to maintain, to ensure a long and profitable service lifetime.

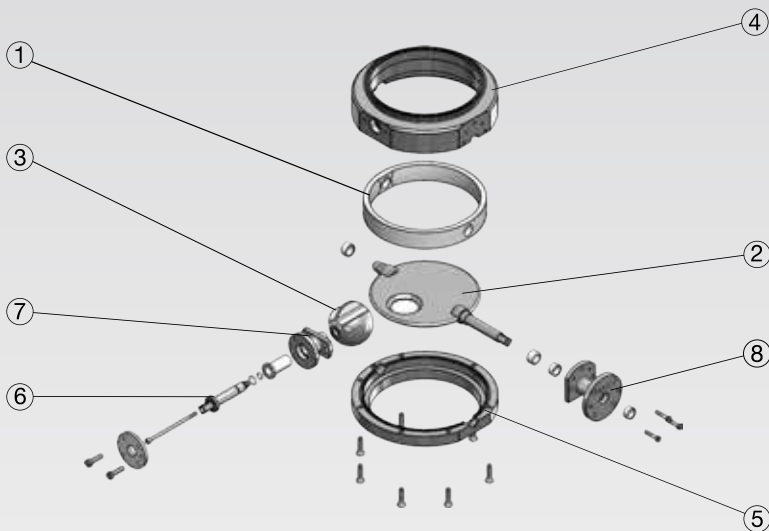


TABLE OF MATERIALS:

Ref	Part Name	Material options
1	Gasket*	See table
2	Main leaf	AISI 316L, C-22
3	Dosing ball	AISI 316L, C-22
4	Upper H.body	AISI 316L, C-22
5	Lower H.body	AISI 316L, C-22
6	Dosing ball drive shaft	AISI 316L, C-22
7	Dosing ball actuator support	AISI 304
8	Main leaf actuator support	AISI 304
Not shown	Bushings	PTFE, PEEK, PTFE-anti static
Not shown	Shaft sealing o-rings	FFKM, Silicone, EPDM

* Material in compliance with FDA §177,2600

AVAILABILITY OF SEAL MATERIALS:

	DN150	DN200	DN250	DN300
Silicone FDA, USP Class VI	YES	YES	YES	YES
EPDM White FDA	YES	YES	YES	YES
PTFE-Lined	YES	YES	YES	YES
MFKM	NO	NO	YES	NO
FFKM	YES	YES	NO	NO

A range of seal materials is available to adapt the valve to the most stringent operating conditions.

INSTALLATION ZONE:

Working pressure	
In/Out	0.5 bar (7.3 psi)
Upstr./downstream*	N/a
Temperature	
Allowed range °C (°F)	-20/+80 (-10/176)
* On the standard valve there is a 0.5mm gap between dosing ball and the inside of the hole in the main leaf.	
A version with a co-moulded seal on the dosing ball to enable perfect closure is available as an option.	

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