

SHADECO VALVES & PUMPS CC

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**VALVES - DECO, AMCO, NINGBO AND ACTUATORS
PUMPS - SHADECO AND EXCELLENT PUMPS
INSTALLATIONS & REPAIRS**

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DECO DIAPHRAGM VALVE

Body Material and Design

Deco Diaphragm Valve has a unique design and it has proven itself against corrosion/rust and erosion/abrasion in a hostile environment. The valve body is cast in a cast iron/ductile. The basic construction of the valve is quite simple; it is composed of five principle units called body, bonnet, diaphragm, compressor and hand wheel. Deco Diaphragm Valves can handle almost any fluid throughout the industry world wide. The Deco Diaphragm Valve is manufactured in various standards, BS 10 Table D, BS 4504 Table 10/Pn 10 and ANSI 150. It is Divided into two types namely, ST type and GW type with a hump. Deco Diaphragm Valve is a bi-directional type of valves which means it can take flow from any direction.

Straight through type (full bore)

Deco ST Diaphragm Valve is normally suitable to be used in a heavy slurry application, due to the fact that when the valve is fully opened there is no flow interference. This valve is designed in such a way that it becomes part of the pipeline in a fully opened position. It is not suitable for a perfect throttling/control application. These valves can be installed at any position vertical or horizontal. The valve is available in two types, screw in type on smaller sizes and flanged type on bigger sizes.



GW type (with a hump)

The Deco GW type Diaphragm Valve is perfectly suited for throttling applications. It can be used on the following applications, severe application like corrosive, abrasive, vigorous and fibrous, Compressed air and water recovery / treatment plant. These valves can be installed at any position vertical or horizontal. This valve is also available in two types, a screw in type on smaller sizes and flanged type on bigger sizes.

Diaphragm Material

Both Deco ST and GW type uses the same diaphragm rubber. The rubber material used depends on the media or application. It is normally controlled by temperature, fluid, pressure and frequently operations. This diaphragm is available in the following material, black natural rubber, white natural rubber (Food industry), EPDM, Nitrile, Neoprene, Hypalon, PTFE, soft rubber and Butyl.

- Natural Rubber = suitable for slurry, abrasive powder, water, gases, sewage, clean compressed air, brine and certain acidic environments.
- EPDM = Radio active fluid, chemical resistant similar to 'BG'.
- Nitrile = mineral, animal, vegetables oil and certain petrochemical products like oil, paraffin and kerosene.
- Neoprene = Compressed air, most gases, animal/vegetable oil, and greases.
- Hypalon = Good acid ozone, resistant and a certain level of chlorine concentrate.
- PTFE = suitable for all chemicals and food.
- Soft rubber = abrasive fluid.
- Butyl = severe acid and alkali conditions e.g. Sulphuric acid up to 80% concentration at ambient temperature, temperature at -25°C to 130°C.

Sealing Arrangement

Deco Diaphragm Valves are available in fully rubber lined (inside) and unlined. The valve is rubber lined with soft natural rubber for abrasive and corrosive application or poly urethane. The fully rubber lined valve provides a perfect bubble tight shut off in both directions, due to the fact that it seals through rubber

against rubber (Diaphragm and fully rubber lined body).

Bonnet

The main function of the bonnet is to isolate working parts from a hazardous atmosphere. The bonnet assembly consists of the bonnet shell, containing the operating mechanism made up of spindle, spindle brass nuts, and cast iron compressor.

Compressor

The compressor supports the sleeve through all degrees of travelling. It does this by pushing the sleeve down to close the valve and pulls it up to open the valve, it is attached to the spindle to give a positive lift.

Operations

The Deco Diaphragm Valve has a robust ductile iron hand wheel used to open and close the valve; it consists of stem bush, self lubricated brass nuts and thrust bearing. Smaller valves up to 150mm (6") have a non rising spindle and bigger valves from 200mm up to 400mm have a rising spindle. The valve can also be operated with pneumatic actuator and hydraulic cylinders.

Applications

Deco Diaphragm Valve is particularly suitable to handle severe applications like corrosive, abrasive, viscous or fibrous fluids e.g. slurry etc.

Maximum operating pressure, temperature and sizes

- Deco Diaphragm Valves can handle temperatures ranging from -30°C up to 130°C.
- Deco Diaphragm Valves provide a bubble tight shut off in both directions up to a maximum line pressure of 10 bar.
- Available sizes range from ½" (15mm) up to 16" (400mm).

Paint

The valve cast iron components are normally dipped into a degrease solution after machining to remove all grease and oil and painted with anti-rust prime and finished with a blue industrial paint.

Drilling

Deco Diaphragm Valves is designed to adapt easily to different flange drilling namely, Table 10, Table D and ANSI 150.

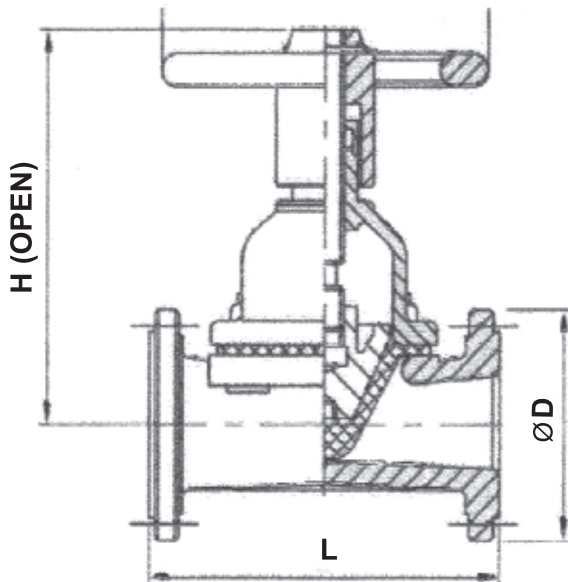
Maintenance

- The Deco Diaphragm Valve is a fully refurbishable type of valve. The valve can be easily repaired in two ways at the plant, by purchasing new parts to replace the worn out parts from the manufacturer or by sending the valve back to the manufacturer.
- It is also possible, with easy dismantling and reassembly, to repair the valves without removing the valves body from the pipelines.



DECO DIAPHRAGM VALVE TECHNICAL DRAWING

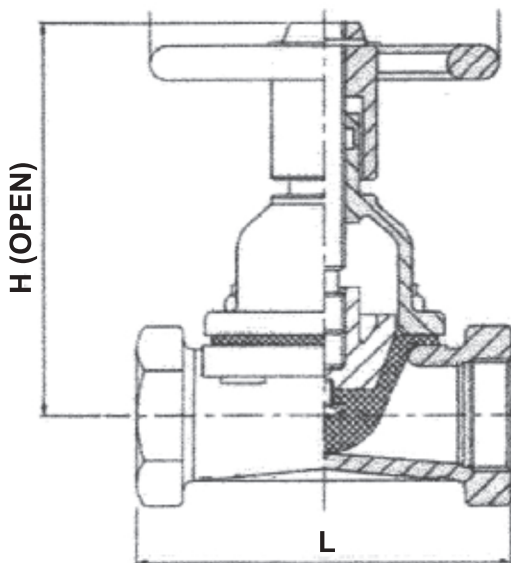
FLANGED ST TYPE



Nominal Bore (m/m)	BS STANDARDS			Approx weight (kg unlined)
	L		H	
	Unlined	Lined	Open	
25	127	133	113	4.2
32	146	152	117	4.5
40	159	165	148	6.3
50	190	196	194	9.8
65	216	222	227	15.7
80	254	260	249	22.5
100	305	313	326	34.0
125	356	364	372	51.5
150	406	414	435	69.0
200	521	529	480	115.0
250	635	643	545	180.0
300	749	757	640	280.0
350	750	760	700	300.0

DECO GW TYPE VALVE TECHNICAL DRAWING

SCREWED IN TYPE



Nominal Bore (m/m)	BS STANDARDS		Approx weight (kg)
	L	H	
		Open	
25	108	112	2.8
32	121	125	3.5
40	140	142	4.0
50	165	169	6.2
65	203	226	9.8
80	254	227	19.5