



WARREN MORRISON
UK LTD



DIAPHRAGM VALVE
S SERIES

Warren-Morrison Valves

Established in 1949 in the United Kingdom, Warren-Morrison UK Ltd. has been manufacturing its own unique range of industrial valves and actuators for over 75 years. Benefitting from our own internal rubber mould department, machine shop and development and test facilities, we maintain total control over production and quality through continuous 'in process inspection'. Our dedication towards future development has continued to ensure our market position as a select industrial valve and accessories manufacturer and supplier.

Warren-Morrison Diaphragm Valves:

The Warren Morrison S Series Diaphragm Valve is a well-engineered valve to suit various industries and applications from oil and gas, water treatment, HVAC, petrochemical, power and others. Designed with both options of complete lining to encapsulate the body and with no lining option.

Diaphragm Valve Features:

- Bi-directional fully rated different options PN 10/ PN 16/ PN 25/ PN 40/ ANSI 150/ ANSI 300.
- Various end connection options SW/ BW/ NPT/ BSP/ FLANGED.
- Various types of actuations from manual, pneumatic or electric actuators.
- Wide selection of body materials.
- Extensive variety of highly developed range of rubbers and synthetics for the diaphragm and lining to enable the valve to handle the widest possible range of duties.
- Option of face to face dimensions to both BS 5156 or DIN 3202F1.
- Various paint options available upon request.
- Spare parts interchangeability.

Body. The internal contours of the body ensure smooth flow providing exceptional flow coefficient and eliminating water hammer and cavitation.

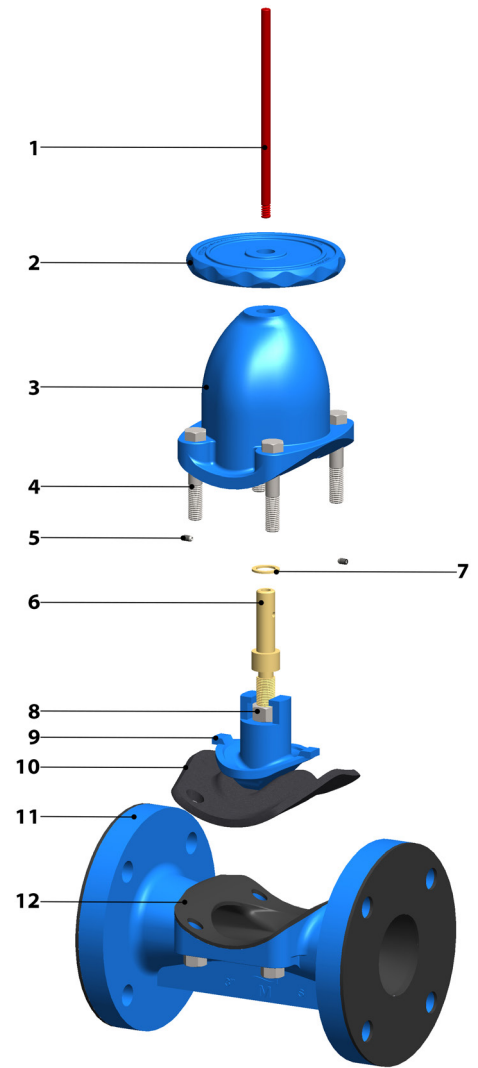
Bonnet. Innovative bonnet design to facilitate various spare parts interchangeability across different sizes.

Lining. A wide selection of highly developed rubbers and synthetics for the lining enable the valve to handle the widest possible range of duties.

Diaphragm. Advanced design diaphragm moulded in open position and has, therefore, no tendency to stick closed. It provides straight through flow whilst restricting to a minimum the flexing stress imposed on the diaphragm.

A combination of curved bonnet flange and engineered diaphragm moves from the open to closed position merely by partially straightening its curved surfaces and, therefore, no undue stress is applied to guarantee longer longevity of the diaphragm.

Stem. Bespoke design that provides minimal linear travel and non-rising stem movement.



Special PTFE S Type Diaphragm

- Unique design durable and strong.
- Ideal for elevated temperatures.
- Exceptional chemical resistance.
- Cushion backed in a variety of elastomers.

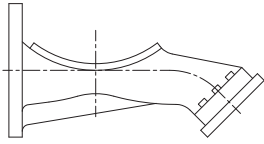
Part List

Sl. No.	Description	Sl. No.	Description
1*	Indicator	7	Thrust Washer
2*	Handwheel	8	Pressure Plate Stem Nut
3	Bonnet	9	Pressure Plate
4	Bolts, Nuts	10	Diaphragm
5	Grub screw	11	Body
6	Stem	12**	Lining

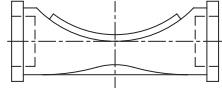
* Applicable to manual valves only

** Optional

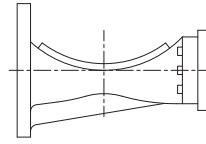
Various End Connection Arrangements & Operators



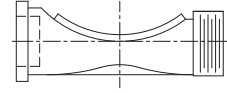
TYPE - 1



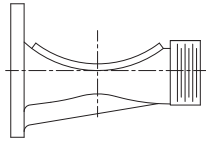
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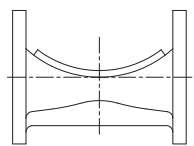
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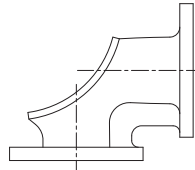
TYPE - 4



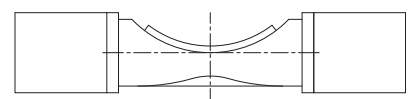
TYPE - 5



TYPE - 6



TYPE - 7



TYPE - 8

TYPE - 1	BIB NOSE, FLANGED x THREADED	TYPE - 5	STRAIGHT TYPE, FLANGED X THREADED (NPT-M)
TYPE - 2	SW X SW	TYPE - 6	FLANGED X FLANGED
TYPE - 3	STRAIGHT TYPE, FLANGED X THREADED	TYPE - 7	ANGLE, FLANGED X FLANGED
TYPE - 4	NPT-F X NPT-M	TYPE - 8	SW (EXTENDED NIPPLE) X SW (EXTENDED NIPPLE)



Pneumatically Operated Diaphragm Valve



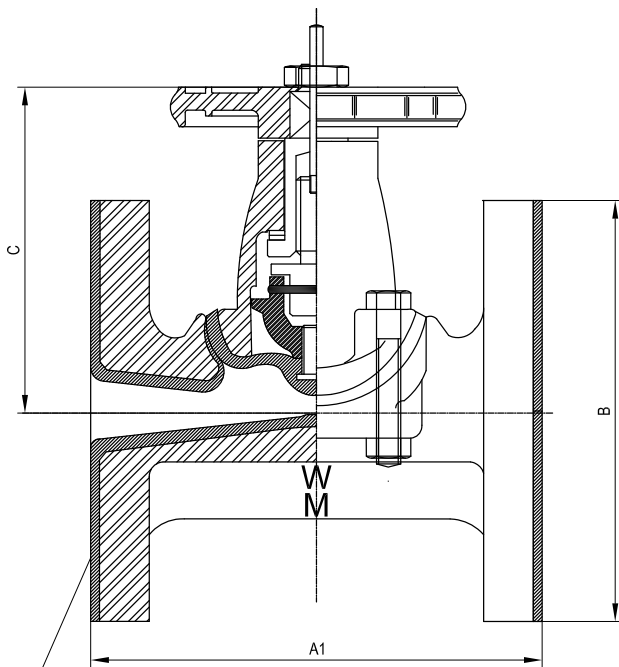
Piston Pneumatically Operated Diaphragm Valve



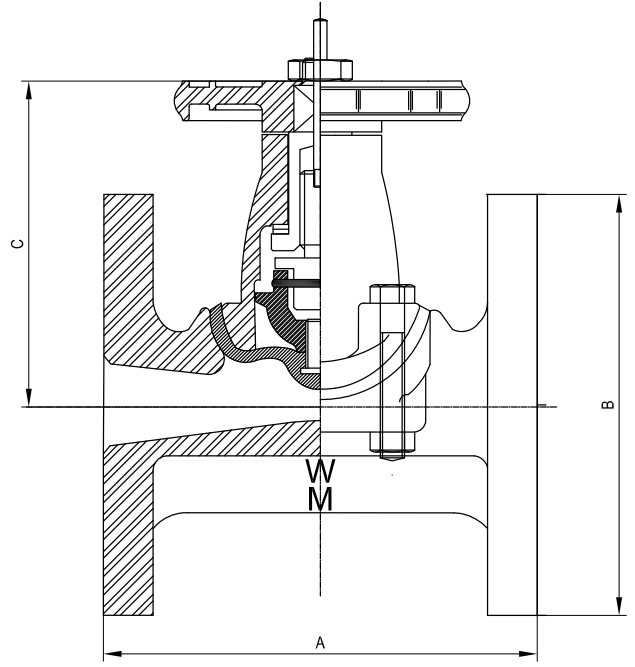
Electrically Operated Diaphragm Valve



Diaphragm Pneumatically Operated Diaphragm Valve



Rubber lined diaphragm



Unlined diaphragm

RUBBER LINING

Dimensions and Weight

Nominal Bore		15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450
Unlined to BS 5156	A	108	117	127	146	159	190	216	254	305	356	406	521	635	749	749	1100	1200
Rubber lined to BS 5156	A1	114	123	133	152	165	196	222	260	311	362	412	527	641	755	755	1112	1212
Unlined and rubber lined to DIN 3202 F1	A2	130	150	160	180	200	230	290	310	350	400	480	600	730	850	980	1100	1200
Flange Diameter	B	65	105	115	140	150	165	185	200	229	254	285	343	406	483	534	580	641
Height from centre	C	62	62	89	89	152	152	172	172	229	286	286	406	406	600	600	660	654
Weight cast iron to BS 5156	kg	2	2.3	3.6	3.8	6	9	13.2	15	28.1	45.4	60	125	152	375	409	660	680
Weight cast iron to DIN 3202 F1	kg	2.7	3	4.5	5	9.5	11	17.7	19	31	51.3	65	143	174	424	*	*	*
Standard Pressure rating	bar	16	16	16	16	16	16	10	10	10	10	10	10	10	10	10	10	10

Flanged ends drilled to BST D/E, ANSI 125/150 or metric or to your requirements. Higher pressure ratings are available. Dimensions are in mm.
Thickness of lining can be custom made (consult Factory)

Rubber Selection and Diaphragm Colour Coding

Elastomer	Colour Code	Colour Dot	Application	Temperature Range
Natural Rubber	Blue	●	General purpose abrasive elastomer also suitable for sea water application.	-60 to +70 deg C
Butyl	Red	●	Strong Acids & Alkali bases, durable.	-20 to +130 deg C
Neoprene	Yellow	●	General purpose with better oil & acid resistance than Natural Rubber.	-40 to +95 deg C
Nitrile	White	○	Mineral & vegetable Oils, Hydrocarbon solvents.	-20 to +100 deg C
Hydrogenated Nitrate	White/Blue	○ ●	Strong aggressive chemicals. Abrasive resistance.	-20 to +180 deg C
Natural Gum Rubber	Light Green	●	Soft general abrasion resistant rubber, good compression set, environmentally desirable.	-60 to +75 deg C
Hsn Gum	Pink	●	High abrasion - cut / tear resistant rubber.	-50 to +75 deg C
EPDM	Red/White	● ○	Food quality. Can handle short bursts of low pressure steam sterilization.	-50 to +130 deg C
Hypalon (acid)	Orange	●	Severe service Acids & Alkalis at elevated temperature.	-25 to +130 deg C
Hypalon (fire)	Orange/Green	● ●	Reinforced with Kevlar, good flame retardancy.	-25 to +130 deg C
PSN	Self coloured brilliant yellow	●	Exceptional abrasion resistance to aggressive slurries, mild chemical use.	-25 to +100 deg C
Vitan	Green	●	Outstanding resistance to oils, fuels, lubricants, many aliphatic and aromatic hydrocarbons and most mineral acids.	-20 to +205 deg C
ViTile	Green/White	● ○	Similar to Viton, with good adhesion characteristics, very durable.	-20 to +205 deg C
PTFE	Self coloured white	○	Highest chemicals resistance at elevated temperatures.	-200 to +250 deg C



Contact us:

www.wmvalvesuk.com
sales@wmvalvesuk.com

Warren-Morrison UK Ltd
Unit 1 Tower Lane Industrial Estate,
Tower Lane,
Eastleigh
SO50 6NZ
United Kingdom

Telephone : +44 (0) 2380 610734
Company Registration No : 03629310