



**CONTAGAS**



Corrosion & Abrasion  
Resistant flow  
Control



DN 25-80

**DIAPHRAGMS FOR WEIR TYPE DIAPHRAGM VALVES**

[www.kdvflow.com](http://www.kdvflow.com)

# Manufacturing

KDV manufactures a wide variety of premium quality reinforced diaphragms to suit a range of industrial valves. Our strict quality control standards and the use of only the best materials and construction methods ensures complete security of line media in the harshest of environments.

KDV diaphragms can be relied on to provide peace of mind and superior return on investment no matter what the application. Our specialist reinforcement and bonding techniques ensure that our diaphragms provide outstanding durability and security.



Our PTFE faced diaphragms provide a corrosion resistant barrier in applications where rubber is not appropriate. Our PTFE and EPDM food grade diaphragms carry FDA approval - and our PTFE diaphragms satisfy USP class 6 (USA pharmaceutical standard).

- **Chemical and abrasion resistance**
- **Durable**
- **Excellent compression qualities**
- **Superior leak tight sealing**
- **Optional multi layer rubber, nylon and other specialty reinforcement materials**
- **Range of custom diaphragm connector stud materials available**



# Range

1 PCS	<p><b>Elastomer</b></p>  <p><b>DN8-DN20 (Button)</b> assembled by pressing the diaphragm button into the compressor.</p>	<p><b>Elastomer</b></p>  <p><b>DN15-DN350 (Screwed)</b> assembled by screwing the diaphragm stud into the compressor thread. <small>*DN15-DN20 available on special order.</small></p>	<p><b>Bonded PTFE/Elastomer</b></p>  <p><b>DN15-DN80 (Screwed)</b> assembled by screwing the diaphragm stud into the compressor thread.</p>
2 PCS	<p><b>PTFE(TFM)/Elastomer</b></p>  <p><b>DN15-DN300 (Screwed)</b> assembled by screwing the diaphragm stud into the compressor thread.</p>	<p><b>PTFE(TFM)/Elastomer</b></p>  <p><b>DN15-DN200 (Bayonet)</b> assembled by inserting the diaphragm insert into the compressor and rotating 90°</p> <p><b>Optional Titanium Insert 2available</b> Ti Gr7 possesses excellent corrosion resistance and high impact toughness.</p>	3 PCS
		<p><b>TFM/PVDF/ Elastomer</b></p>  <p><b>DN15-200 (Bayonet)</b> assembled by rotating the diaphragm insert into the compressor and rotating 90° A PVDF interlayer<sup>1</sup> forms an additional corrosion resistant barrier against chemicals that are potentially able to permeate the molecular structure of the PTFE facing of the diaphragm.</p> <p><b>Optional Titanium Insert 2available</b> Ti Gr7 possesses excellent corrosion resistance and high impact toughness.</p>	

\*Genuine KDV diaphragms are supplied in protective packaging with a comprehensive installation guide

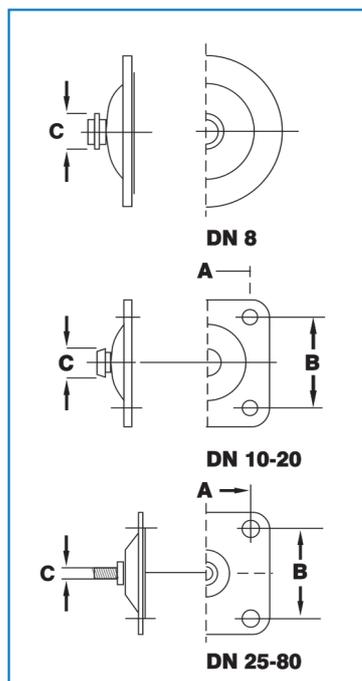
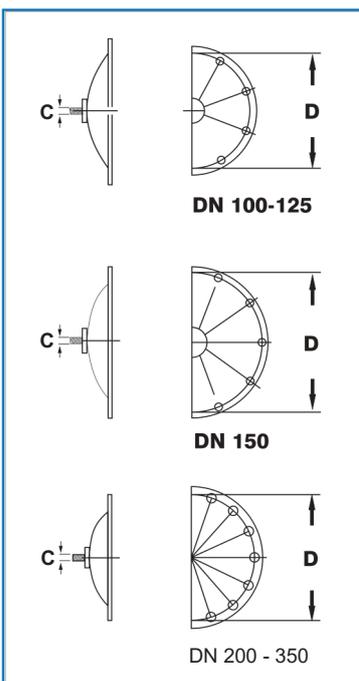
# Grades & Services

GRADE	MATERIALS	TEMP		SIZE RANGE		SERVICES/PROPERTIES
		°C	°F	Imperial	Metric	
10	Natural Rubber NR	-40 - 100	-40 - 212	1/4" - 12"	8 - 350mm	General Purpose, abrasives, water, diluted minerals, acids
20	EPDM/Black Ethylene Propylene Rubber	-40 - 140	-40 - 284	1/4" - 12"	8 - 350mm	General Purpose, resistant to temperatures, most corrosive chemicals and abrasive liquids.
22	EPDM/Food Grade (FDA)	-30 - 120	-22 - 248	1/4" - 8"	8 - 200mm	Food and pharmaceuticals.
30	Butyl Rubber IIR Chlorobutyl - Isobutylene Isoprene Halogenated Nitrile Rubber NBR	-30 - 130	-22 - 266	1/4" - 12"	8 - 350mm	Acids, alkalis, hot water, low pressure steam.
40	Acrylonitrile Butadiene Rubber Neoprene CR	-20 - 100	-4 - 212	1/4" - 12"	8 - 350mm	Oils, fats & fuels.
50	Chloroprene Rubber Hypalon® CSM	-20 - 100	-4 - 212	1/4" - 12"	8 - 350mm	Air, weak chemicals, greases.
60	Chlorosulfonated Polyethylene FKM/Viton® FPM	-20 - 100	-4 - 212	1/2" - 12"	15 - 350mm	Concentrated acids & alkalis, chlorine services.
70	Fluorinated Elastomer Silicone	-20 - 150	-4 - 302	1/2" - 8"	15 - 200mm	High corrosion resistance at elevated temperatures.
80		-30 - 175	-22 - 347	1/2" - 8"	15 - 200mm	Moderate or oxidizing chemicals, concentrated sodium hydroxide. Recommended for food.
92	PTFE/EPDM Backed	-30 - 175	-22 - 347	1/2" - 12"	15 - 300mm	General applications include chlorine and other aggressive chemicals. PTFE/TFM faced diaphragms offer high chemical and temperature resistance.
93	PTFE/Butyl Backed	-30 - 150	-22 - 300	1/2" - 8"	15 - 200mm	A PVDF interlayer can be specified which forms an additional corrosion resistant barrier against chemicals that are potentially able to permeate the molecular structure of the TFM facing of the diaphragm.
96	PTFE/Hypalon® Backed	-20 - 120	-4 - 248	1/2" - 8"	15 - 200mm	For the highest corrosion resistance and high impact shock toughness, a Titanium (Ti Gr7) insert can be supplied.
97	PTFE/FKM-Viton® Backed	-20 - 175	-4 - 347	1/2" - 8"	15 - 200mm	
9E	PTFE/EPDM Backed 1 Piece Bonded	-30 - 175	-22 - 347	1/2" - 2"	15 - 50mm	
9D	TFM/PVDF/EPDM	-30 - 150	-22 - 300	1/2" - 8"	15 - 200mm	
9R	TFM/PVDF/EPDM with Titanium Insert	-30 - 150	-22 - 300	1/2" - 8"	15 - 200mm	
9A	TFM/EPDM Backed (Screwed Connector)*	-30 - 175	-22 - 347	1/2" - 10"	15 - 250mm	

**Notes**

9A also available with Butyl or Viton backing.  
 Temperature range shown is a guide only. For specific services contact your local KDV distributor. Diaphragms manufactured for vacuum duties include special reinforcing.  
 They are identified with a suffix "V" after the material code on the Tab e.g: 3V. All diaphragms intended for vacuum service must be specified.

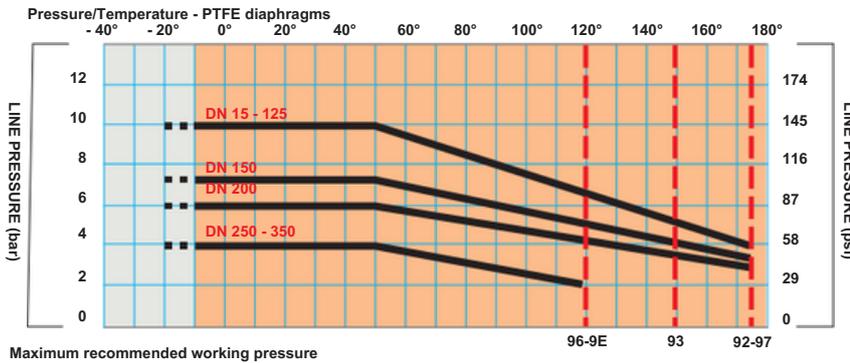
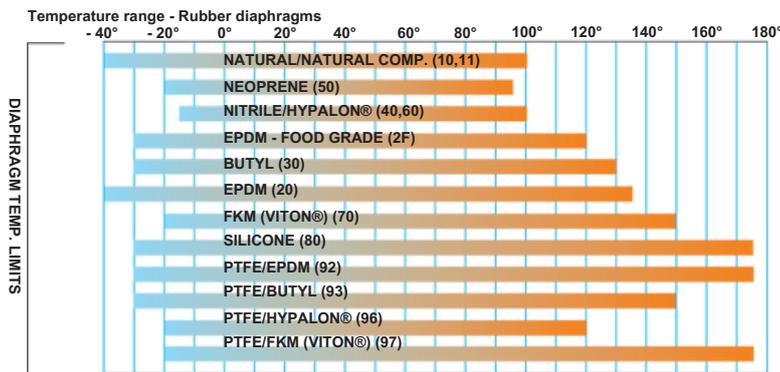
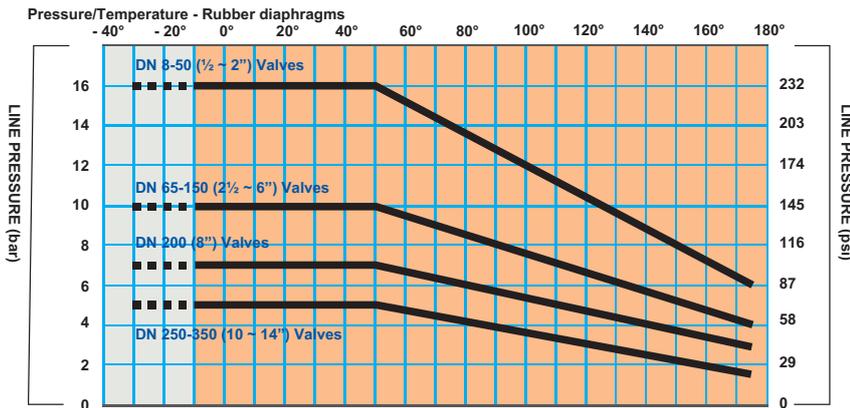
# Dimensions



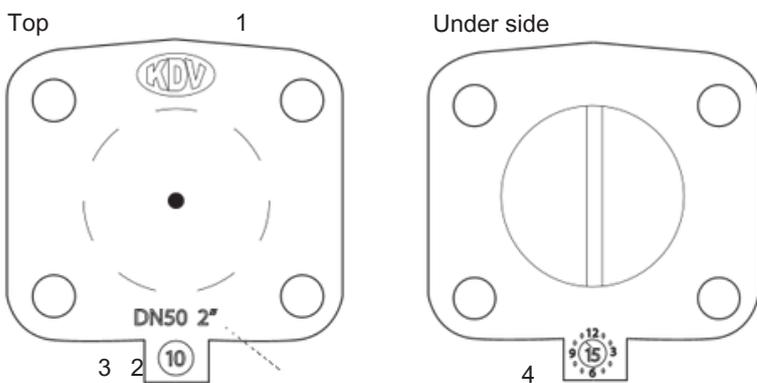
Nominal Size	A	B	C	D
8	-	-	9.5	-
10	33	37	13	-
15	33	37	13	-
20	40	44	13	-
25	46	54	1/4"W	-
32	60	67	1/4"W	-
40	65	70	1/4"W	-
50	78	83	1/4"W	-
65	95	102	1/4"W	-
80	114	127	5/16" W	-
100	-	-	5/16" W	194
125	-	-	3/8"W	222
150	-	-	3/8"W	273
200	-	-	3/8"W	381
250	-	-	7/8"W	438
300	-	-	7/8"W	508
350	-	-	7/8"W	527

W=Whitworth thread

# Pressure/Temperature



# Diaphragm identification



KDV diaphragms are stamped with size, grade and date of manufacture. This information provides measurement of service life and precise identification for re-ordering.

1. Genuine KDV part stamp
2. Size
3. Grade
4. Manufacturer code



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Kim Diaphragm Valves

focus: flow

KDV - Kim Diaphragm Valves Weir Type (WT)



Weir Type WT

Diaphragm Valves

# KDV: A Passion for Perfection



KDV – specialises in the manufacture and distribution of a wide range of industrial valves.



The company's core product group, continues to be the range of Kim Diaphragm Valves, now marketed internationally under the KDV brand.

The expansion of the business over the years has seen exponential growth of the KDV product base, which now includes a wide range of both manually, operated and automated diaphragm valves.

These products incorporate features now demanded by instrumentation and mechanical engineers from a wide range of industries such as:

- Water treatment
- Mining
- Chemicals and
- Manufacturing



Product features such as a range of body materials, linings, diaphragm materials and automated operators enable the KDV diaphragm valve to be one of the most versatile products available on the flow control market.

The success of KDV over the years has been primarily built upon product quality, the ability to have it readily available in the marketplace and the experience of the KDV team supporting customers, consultants, designers and end users.

An international network of dedicated KDV flow control specialists ensure that the correct product is selected and where necessary, individually "tailored" to suit the application.

With the versatility of the KDV diaphragm valve as a cornerstone, the organisation has become a major



supplier to many industries – for both major projects and for ongoing maintenance supply contracts.

The interchangeability of KDV components with other internationally recognised products has provided a steady growth in the key area of supply of spares and assembled valves. KDV support this growth with one of the largest stock holdings of spare parts and accessories for diaphragm valves.

The KDV mantra of "Corrosion & Abrasion Resistant Flow Control" has seen the product range grow to incorporate other PFA/PTFE lined valve types including butterfly valves, check valves, plug valves and ball valves.



These products when combined with a range of lined pipe and fittings allows KDV to provide more than just diaphragm valves; but total flow control solutions for corrosive environments.

A documented quality assurance system in accordance with ISO 9001:2000 underpins KDV's commitment to customer satisfaction.

Around the globe, customers depend on KDV to supply quality products that perform reliably, meet site standards and comply with up to date Occupational Health and Safety (OH&S) requirements.

KDV is more than just a brand. It's a promise of quality product and quality support from people who understand your needs.



# The KDV Diaphragm Valve Advantage



The range of KDV Weir Type (WT) Diaphragm Valves are manufactured in accordance with international standards. Available with a wide range of construction materials and lining options, the quality of KDV Diaphragm Valves helps to deliver the full potential of a simple yet versatile and effective flow control design concept.

Valve bodies, linings and diaphragms in hundreds of different combinations offer tailored solutions to suit almost any corrosive or abrasive fluid. Because the flowing media does not come into contact with the working components of the valve, total service life is dramatically increased.

The combination of inexpensive components, fast, easy inline maintenance and long service life make KDV Diaphragm Valves an attractive solution for many applications.

KDV Diaphragm Valves are used extensively throughout many industries. In fields such as:

- Chemical Processing
- Mining & Mineral Processing
- Power generation
- Water Treatment & Filtration
- Electroplating
- Steel Production
- Food & Beverage
- Paints & Coatings
- Textiles & Leather
- Semiconductors
- Pharmaceuticals
- Sugar
- Pulp & Paper.

This wide industrial use is directly attributable to the advantages that a KDV Diaphragm Valve delivers.

## BENEFITS

- **Low initial cost.**  
Simple design and low manufacturing complexity provide your application with a low cost, low maintenance, high performance solution.
- **Superior performance.**  
"Bubble-tight" shutoff. Individually tested to provide a total seal to ANSI Class VI Standards.
- **Trouble-free operation.**  
A bonnet design, free of packing and glands, removes the need for periodic adjustment and replacement.
- **Excellent throttling characteristics.**  
Reliable flow regulation between 15% to 85% of rated capacity.
- **Easy maintenance.**  
Diaphragm replacement can be performed with the valve "in-line" - reducing plant downtime and maintenance costs.
- **Clean Design.**  
The body contains no internal cavities or crevices that can trap fluids.
- **Self-draining.**  
Installation at the correct angles allow the body to self drain.
- **Omni-positional.**  
Will operate equally well in any position and flow direction.
- **Position indication.**  
See at a glance if a valve is in the open, shut or partially open position.
- **Expandable.**  
A wide choice of bonnets and other accessories are available to refine the performance of a KDV Diaphragm Valve to exactly suit your application.
- **Process Automation.**  
A wide variety of automatic actuators are easily installed with the valve "inline" and without specialist tools.
- **Component interchangeability.**  
Genuine KDV components are interchangeable with other internationally recognised products, reducing spare parts inventory and streamlining maintenance.

Users across a wide range of industries have discovered the benefits of KDV Diaphragm Valves.



In North America, KDV Weir Type Diaphragm Valves are used in chemical and water treatment industries for their low maintenance and easy availability.



# Diaphragm Valve Components



All KDV handwheels are designed for functional use and comfortable handling.

Bonnet is painted bright yellow under handle skirt to provide clear indication of valve position from any angle.

Precision machined from stainless steel provides long term corrosion resistance.

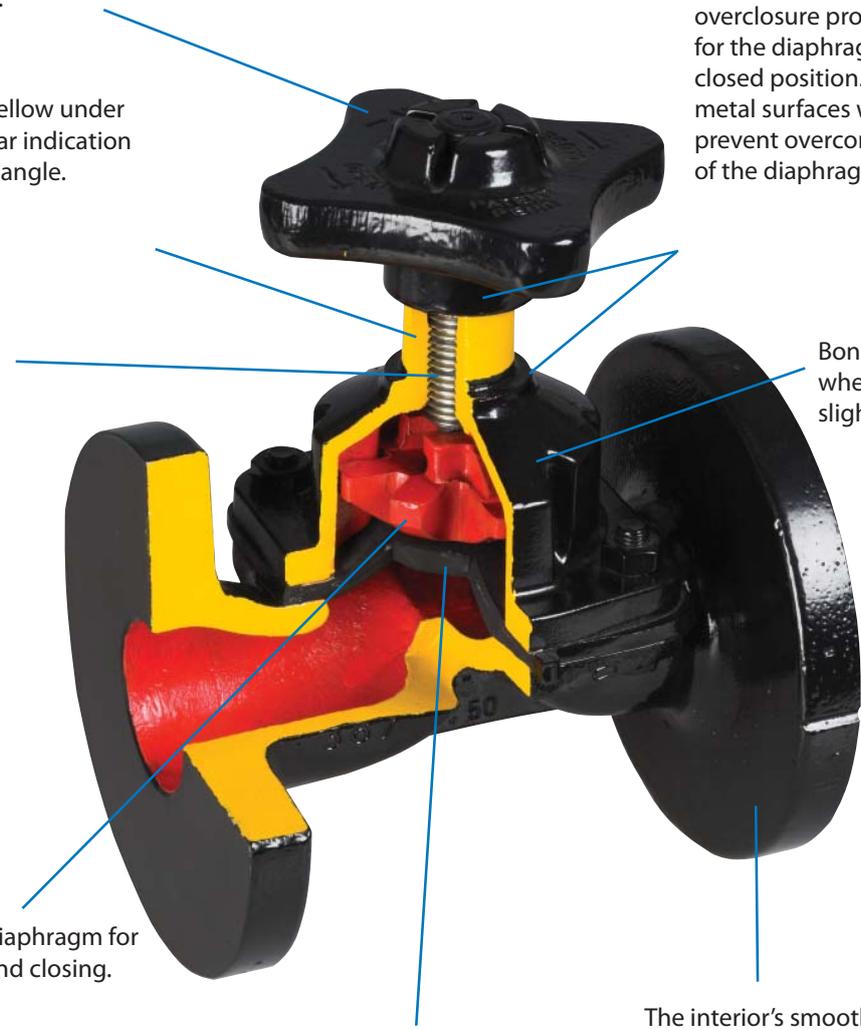
Conforms to contours of diaphragm for support during opening and closing.

Flexible membrane provides positive closure and isolates bonnet components from fluid stream.

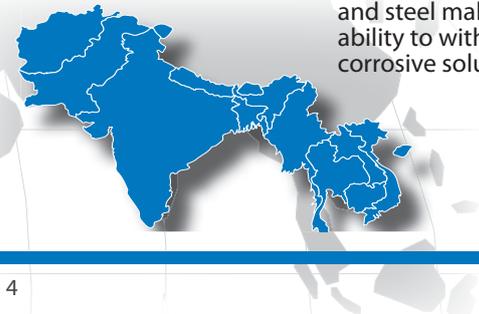
Unique bonnet design provides overclosure protection for the diaphragm in the closed position. These two metal surfaces will seat and prevent overcompression of the diaphragm.

Bonnet self-drains when mounted at slight angle.

The interior's smooth contours provide unrestricted flow and minimum pressure loss.



In Asia, KDV Weir Type Diaphragm Valves are used in water, chemical and steel making industries for their ability to withstand corrosive solutions.

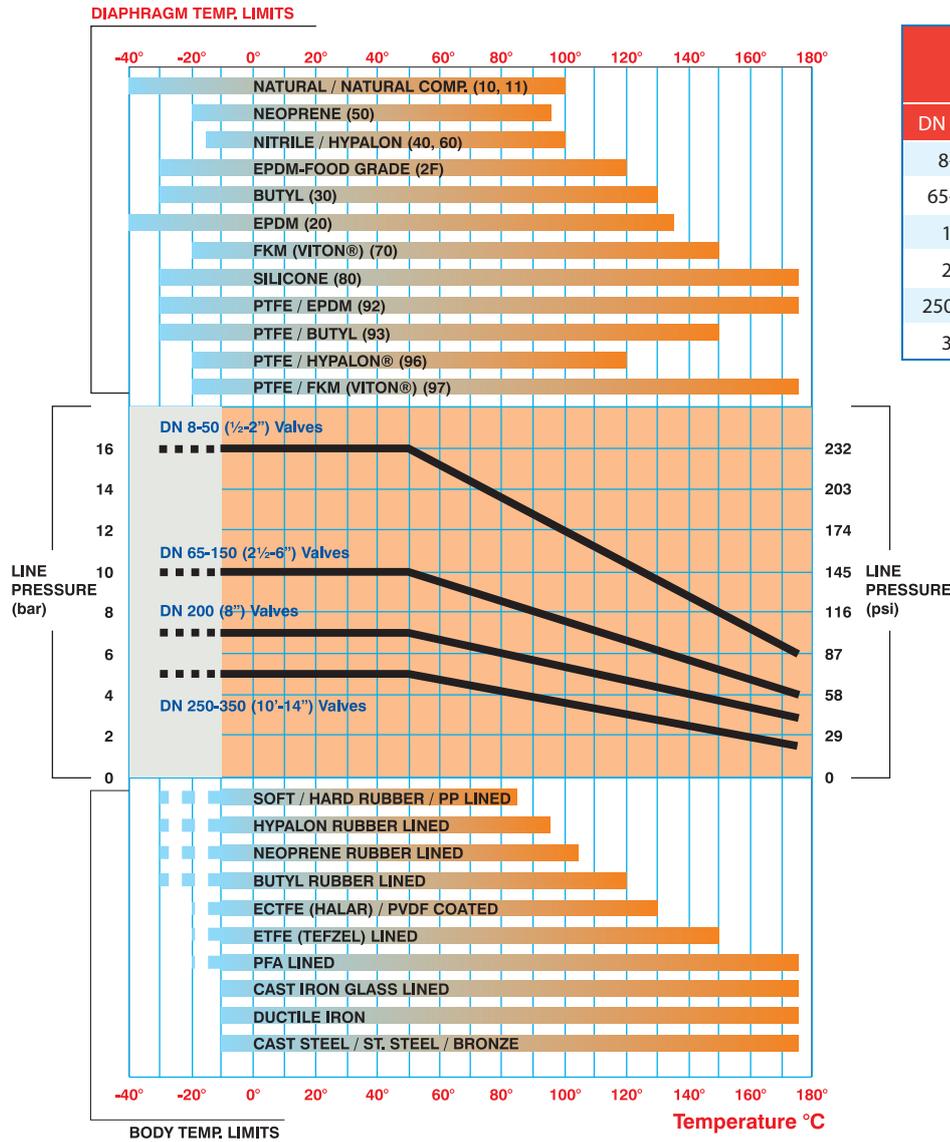


# Working Pressure and Temperature



Higher temperatures will lower the physical properties of the various diaphragm materials, requiring a decrease in working pressure and possibly adversely effecting diaphragm life. Valve body material is also a key consideration for both low and high temperature applications.

## For Valves with elastomeric diaphragms

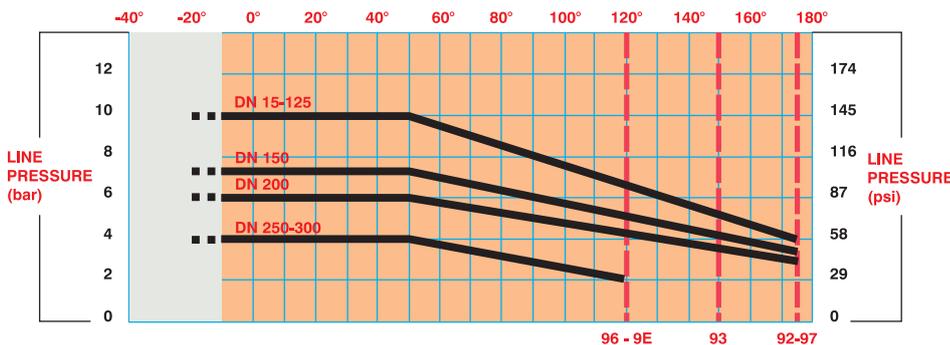


## Maximum recommended working pressure

Valve Size		Pressure with Elastomer Diaphragm		Pressure with PTFE Diaphragm	
DN (mm)	INCH	Bar	psi	Bar	psi
8-50	1/4 - 2	16	232	10	145
65-125	2 1/2 - 5	10	145	10	145
150	6	10	145	7	101
200	8	7	102	6	87
250-300	10	5	72	4	58
350	14	5	72	n/a	n/a



## For Valves with PTFE diaphragms (type 90)



# Body Selection

The flexibility of body selection in KDV Weir Type Diaphragm Valves can be seen in the table below. With a wide range of base body materials including cast/ductile iron and SS, solid plastics, elastomeric linings, injection moulded plastic linings, fluoro-polymer coatings and other specialty coatings, our range enables our valves to be optimised to suit many corrosive and abrasive environments.

The majority of body materials can be lined with our coatings, elastomer and injection moulded plastic linings. The selection of the best body material to suit an application is made based on such variables as: media type, temperature and pressure; frequency of thermal cycling, percentage of

solids, particle size profile, required end connections and size.

It is necessary to consider many other variables before finalising a selection. These include:

- Service chemical(s)
- Concentration
- Percentage solids and particle size profile
- Velocity of service
- Proximity of valve to pipe-work direction changes
- Working temperature – minimum/normal/maximum
- Working pressure – minimum/normal/maximum
- Frequency of operation (throttling requirements)

MATERIAL		END CONNECTION	SIZE AVAILABLE		TEMP.
			inch	mm	°C
UNLINED BODY	Cast Iron	Screwed	1/4" - 3"	8 - 80	-10 to 175°
		Flanged	1/2" - 14"	15 - 350	-10 to 175°
	Ductile Iron	Screwed	1/2" - 3"	15 - 80	-10 to 175°
		Flanged	1/2" - 14"	15 - 350	-10 to 175°
	Cast Steel	Screwed	1/2" - 3"	15 - 80	-30 to 175°
		Flanged	1/2" - 14"	15 - 350	-30 to 175°
	Cast St Steel	Screwed	1/2" - 3"	15 - 80	-30 to 175°
		Socket Weld	1/2" - 3"	15 - 80	-30 to 175°
		Butt Weld	1/2" - 3"	15 - 80	-30 to 175°
		Flanged	1/2" - 14"	15 - 350	-30 to 175°
	Bronze	Screwed	1/2" - 2"	15 - 50	-30 to 175°
		Flanged	1/2" - 6"	15 - 150	-30 to 175°
RUBBER LINED BODY	Soft Rubber	Flanged	1/2" - 14"	15 - 350	-10 to 85°
	Hard Rubber	Flanged	1/2" - 14"	15 - 350	-10 to 85°
	Butyl Rubber	Flanged	1/2" - 14"	15 - 350	-10 to 110°
	Neoprene Polychloroprene	Flanged	1/2" - 14"	15 - 350	-10 to 105°
	EPDM	Flanged	1/2" - 14"	15 - 350	-10 to 110°
	Hypalon® Chlorosulpho- nated PE	Flanged	1/2" - 14"	15 - 350	-10 to 95°
PLASTIC LINED BODY	ETFE (Tefzel®)	Flanged	1/2" - 8"	15 - 200	-10 to 149°
	PFA	Flanged	1/2" - 8"	15 - 200	-10 to 175°
	PVDF	Flanged	1/2" - 8"	15 - 200	-10 to 140°
	PP	Flanged	1/2" - 8"	15 - 150	-10 to 95°
COATED BODY	GLASS	Flanged	1/2" - 8"	15 - 200	175°
	ECTFE (Halar®)	Flanged	1/2" - 14"	15 - 350	120°
	ETFE	Flanged	1/2" - 14"	15 - 350	130°
	PVDF	Flanged	1/2" - 14"	15 - 350	130°
	FBE	Flanged	1/2" - 8"	15 - 200	90°
	NYLON	Flanged	1/2" - 14"	15 - 350	80°
HYGIENIC VALVE	FORGED	Butt Weld	1/2" - 3"	15 - 80	-10 to 175°
	ST STEEL	Tri Clamp	1/2" - 3"	15 - 80	-10 to 175°
SOLID PLASTIC	UPVC, PP, CPVC, ABS, PVDF	Spigot/Screwed/Union Solvent Cement and Screwed / Flanged	1/2" - 6"	15 - 150	Onapplication

\* Maximum Continuous Service Temperature  
(Refer also to Specific Chemical resistance guide for media information and Pressure/Temperature chart on page 5.)

## Standard Specifications

### Design Standards

- EN13397-2001 (BS5156:1985)
- MSS SP88-1993-(R-01)

### Face to Face Standards

- EN558-1 Series 1(DIN3202-F1)
- EN558-1 Series 7(BS5156)
- MSS SP88-1993-(R-01)

### Testing Standards

- EN12266-2 2002(BS6755 Part 1)

### Material Specifications – Metal Bodies

- Cast Iron (ASTM A126 CI B)
- Ductile Iron (ASTM A395 60-40-18)
- Carbon Steel (ASTM A216 Gr WCB)
- Stainless Steel (ASTM A351 Gr CF8)
- Stainless Steel (ASTM A351 Gr CF8M)
- Stainless Steel (ASTM A351 Gr CF3M)
- Alloy 20 (ASTM A351 Gr CN7M)
- Hastelloy C ASTM A-494 Gr CW-6M
- Bronze ASTM A83600 LG2/4

### Flange Valve Drilling Standards

- ANSI B16.5 Class 125 & 150
- EN1092 PN10/16 (BS4504)
- AS2129-2000 Table D/E (BS10 1962)
- JIS B2220

### Screwed Valve Thread Standards

- ANSI B2.1 NPT
- AS1722.1 Part 1 BSPP

Fluid behaviour differs according variables such as process conditions, temperature, concentration, pressure, nature of the flow, installation & design and site experience and these variables should be taken into account in the application of the above guidelines.

There are many critical services that demand a lined body for maximum chemical or corrosion resistance. KDV Valves offers the above standard linings with many other special linings and coatings available on request. Special linings and coatings

are available to suit specific applications where combinations of corrosion and abrasion occur. Not all linings as above are available in all different face to face standards. We recommend that your selection is confirmed with an engineer from KDV or an authorised KDV distributor.

KDV bodies can be identified by heat number traceability when requested at order and linings are spark tested in accordance with the relevant standards.

FACE TO FACE DIMENSIONS						
FLANGED				SCREWED		
DN mm	EN558-1 Series 7 BS-5156 UNLINED	EN558-1 Series 1 DN 3202 F-1 LINED/UNLINED	MSS-SP88 UNLINED	CAST IRON	STAINLESS STEEL	DN-INCHES
8	n/a	n/a	n/a	48	108	0.25
15	108	130	102	64	108	0.5
20	117	150	140	83	117	.75
25	127	160	140	108	127	1
32	146	180	165	121	146	1.25
40	159	200	165	140	159	1.5
50	190	230	190	165	190	2
65	216	290	216	203	216	2.5
80	254	310	254	254	254	3
100	305	350	318	n/a	305	4
125	356	400	356	n/a	n/a	5
150	406	480	406	n/a	n/a	6
200	521	600	521	n/a	n/a	8
250	635	730	635	n/a	n/a	10
300	749	850	749	n/a	n/a	12
350	749	980	n/a	n/a	n/a	14

For Rubber Lined Bodies - add to total length (except for EN558-1 Series 1 / DN3202),  
 • 6mm for DN15 - DN80,  
 • 8mm for DN100 - DN200,  
 • 10mm for DN250 - DN350.  
 For plastic Lined bodies - add to total length (except for EN558-1 Series 1/DN3202)  
 • 6mm for DN15 - DN200

• Individual data sheets / GA drawings available on internet site [www.kdvflow.com](http://www.kdvflow.com) or upon request.



Unlined Body



Glass Lined Body



Plastic Lined Body



Coated Body



Rubber Lined Body



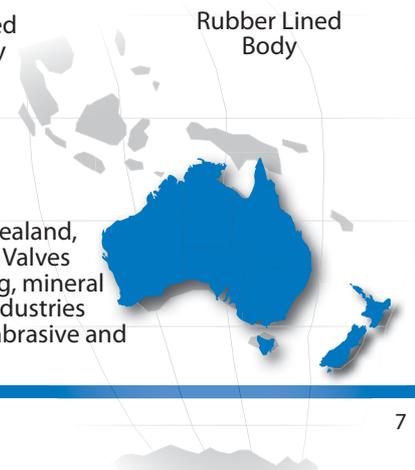
Screwed Type Body



SS Butt Welded Body



In the Australia and New Zealand, KDV Weir Type Diaphragm Valves are preferred by the mining, mineral processing and fertilizer industries for their ability to control abrasive and corrosive media.



# Diaphragm Selection and Services



GRADE	MATERIALS	TEMP		SIZE RANGE		TYPICAL SERVICES
		°C	°F	Imperial	Metric	
10	Natural Rubber NR	-40 - 100	-40 - 212	1/4" - 14"	8 - 350mm	General Purpose, abrasives, water, diluted minerals acids,
11	Natural Rubber Composite	-40 - 100	-40 - 212	1/4" - 8"	8 - 200mm	Abrasives, slurry and suspended solids
20	EPDM/Black Ethylene Propylene Rubber	-40 - 140	-40 - 284	1/4" - 14"	8 - 350mm	General Purpose, resistant to temperatures, most corrosive chemicals and abrasive liquids.
22	EPDM/food grade	-30 - 120	-22 - 248	1/4" - 8"	8 - 200mm	Food and pharmaceuticals
30	Butyl Rubber IIR Chlorobutyl-Isobutylene/Isoprene Halogenated	-30 - 130	-22 - 266	1/4" - 14"	8 - 350mm	Acids, alkalis, hot water, low pressure steam
40	Nitrile Rubber NBR Acrylonitrile Butadiene Rubber	-20 - 100	-4 - 212	1/4" - 14"	8 - 350mm	Oils, fats & fuels
50	Neoprene CR Chloroprene Rubber	-20 - 100	-4 - 212	1/4" - 14"	8 - 350mm	Air, weak chemicals, greases
60	Hypalon® CSM Chlorosulfonated Polyethylene	-20 - 100	-4 - 212	1/2" - 14"	15 - 350mm	Concentrated acids & alkalis, chlorine services
70	FKM/Viton® FPM Fluorinated Elastomer	-20 - 150	-4 - 302	1/2" - 8"	15 - 200mm	Concentrated sulphuric & other acids, aromatic hydrocarbons, chlorine services
80	Silicone	-30 - 175	-22 - 347	1/2" - 8"	15 - 200mm	Moderate oxidizing chemicals, concentrated sodium hydroxide. Recommended for food.
92	PTFE/EPDM Backed	-30 - 175	-22 - 347	1/2" - 12"	15 - 300mm	High Chemical and temperature resistance
93	PTFE/Butyl Backed	-30 - 150	-22 - 300	1/2" - 8"	15 - 200mm	High Chemical and temperature resistance
96	PTFE/Hypalon® Backed	-20 - 120	-4 - 248	1/2" - 8"	15 - 200mm	High Chemical and temperature resistance
97	PTFE/FKM-Viton® Backed	-20 - 175	-4 - 347	1/2" - 8"	15 - 200mm	High Chemical and high temperature resistance

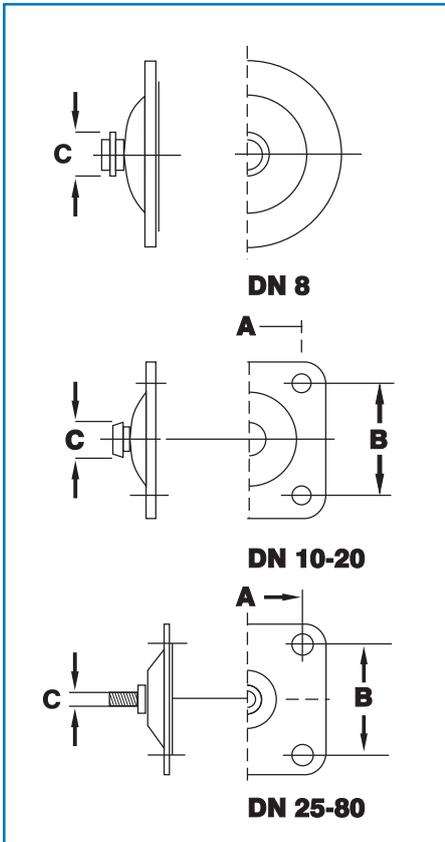
- Temperature range shown is a guide only. For specific services contact your local KDV distributor.
- Diaphragms at maximum temperatures cannot be used satisfactorily at maximum pressures. See pressure/temperature chart on Page 5.
- Vacuum. Type "W" diaphragm valves are ideally suited for vacuum application. Soft diaphragm material forms a perfect seal around the bonnet flange and across the weir. Standard KDV valves will hold vacuum down to 1 Torr (industrial vacuum).
- Note : 1 Torr = 1 mm (Hg)  
1 Torr = 1.33 millibar
- All elastomeric diaphragms are suitable for vacuum in sizes DN8-80. For sizes DN100 and above diaphragms are manufactured with special reinforcing for vacuum duties. Diaphragms with such reinforcing are identified with a suffix "V" after the material code on the Tab e.g: 3V.



In Europe, Scandinavia and Russia, KDV Weir Type Diaphragm Valves are used in general manufacturing, chemical and power generation industries for their controllability and zero leakage.



# Diaphragm Dimensions



Identification of a valve size can be performed by matching dimensions with those of the diagrams and table below.

Nominal Size	A	B	C	D
8			9.5	28
10	33	37	13	
15	33	37	13	
20	40	44	13	
25	46	54		
32	60	67	1/4"W	
40	65	70		
50	78	83		
65	95	102		
80	114	127	5/16"W	
100				194
125			3/8"W	222
150				273
200				381
250			7/8"W	438
300				508
350				527



"Screwed Style" diaphragm



"Bayonet Style" diaphragm



"Button Style" diaphragm

## Diaphragm Styles

Elastomer Diaphragms:

DN8-DN20 "Button Style" - diaphragms are assembled by forcing the diaphragm button against the corresponding recess on the compressor.

DN25+ "Screwed Style" - diaphragms are assembled by screwing the diaphragm stud into the corresponding female thread on the compressor.

Standard PTFE Diaphragms - DN15-200 two piece diaphragms are assembled by rotating the bayonet connection on the diaphragm 90°

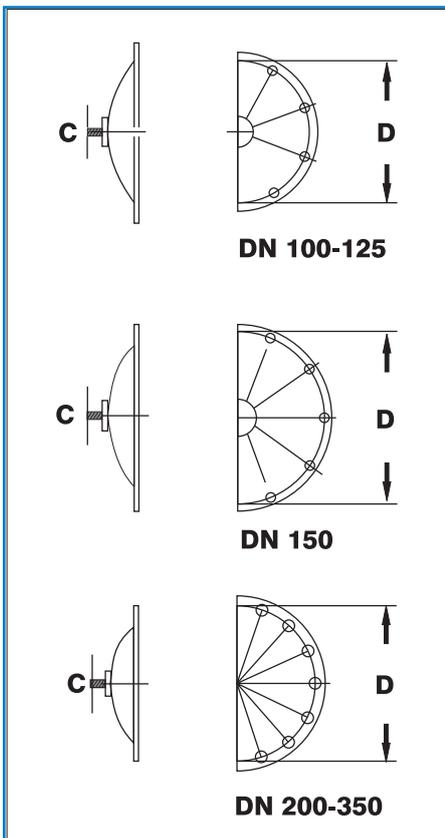
PTFE diaphragms also available include - One piece laminated diaphragms DN15-50 and DN250-300 with screwed connection, and two piece with screwed connection DN15-250.

## Assembly of Diaphragms

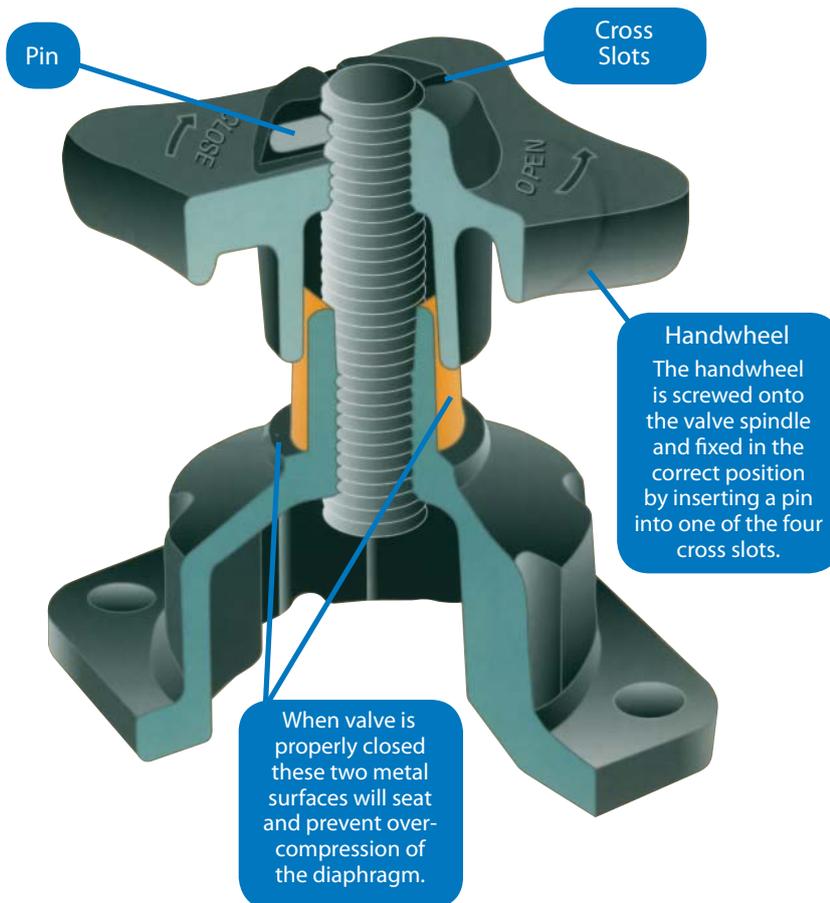
Screw the threaded stud into the compressor and turn, tightening completely. Rotate back counter-clockwise to align the holes. Bonnet and diaphragm are then ready to be assembled onto the body by tightening the bolts diagonally and evenly. Torque levels for each size can be found in the Installation and Maintenance Manual.



"Screwed Style" diaphragm - DN 150



## KDV<sup>®</sup> OVER-CLOSURE PROTECTED BONNET



Stem sealed handwheel



Non-rising handwheel



Lockable rising handwheel



Lockable rising handwheel



FBE/nylon coated rising handwheel body

### Bonnet/Operator variations

- Chain-wheel adapted bonnet for valves in elevated positions – fitted with chain wheel, guides and chain to suit the “drop” required.
- Extension Spindle for valves in inaccessible positions – can be single straight extension or fitted with single/multiple universal joints and/or fitted with key operation for pit environment.
- Sealed bonnet assembly fitted with FKM O-Ring spindle seals
- Stainless Steel bonnet assemblies in Non Rising handwheel configuration for environmental corrosion applications with OH&S lockout system as an option. Larger sizes fitted with ball thrust bearing on handwheel.
- Plastic bonnets and SS/Plastic bonnets for environmental corrosive/high temperature services.
- Sliding spindle bonnet assemblies to suit adaptation to specific automation systems – cylinders, diaphragm actuators
- Automation systems – KDV actuators in various configurations with many accessories to suit control and automated isolation valve applications using pneumatic or electric actuators.
- Normally Closed/Open and Double Acting diaphragm operated pneumatic actuators in various materials – plastics, cast iron, stainless steel or steel, fitted with accessories such as limit stops, visual position indication, emergency handwheel over-ride device, mechanical or proximity switches, pneumatic and electro pneumatic positioners.

Overclosure adjustment in five easy steps..



1 Remove handwheel pin.



2 Turn handwheel anti-clockwise one turn.



3 Insert a piece of steel wire.



4 Close valve tightly and remove steel wire.



5 Turn handwheel clockwise until sleeve seats on bonnet rim and re-insert handwheel pin.



# Other Valve Types and Automated Controllers



KDV diaphragm valves can be automated using a variety of actuation systems. Pneumatic actuation is achieved by piston/cylinder or diaphragm operation; both can be fitted with a wide range of accessories including:

- solenoid valves
- switch enclosures
- electro-pneumatic positioners
- limit stops
- emergency hand wheel overrides.

The range offers a low maintenance solution for the control of corrosive and erosive media where repeated control and integration into plant control systems is of paramount importance. KDV electric actuators are available in a wide range of voltages and configurations and can be offered using all world wide brands of valve electric actuators.

A KDV automation/control package is available to suit your specific process conditions, offering tailored features to optimise production and minimise maintenance downtime.



"ST" Type  
Diaphragm Valves



High Purity  
Diaphragm Valves



Plastic Valve  
Systems



PFA Lined  
Ball Valves



Flap Check  
Valves



PTFE Lined  
Butterfly Valves



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### AVAILABLE FROM:

[www.kdvflow.com](http://www.kdvflow.com)

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