

DIAPHRAGM VALVE



AVENT
Valves and Actuators

VALVE SOLUTIONS
for Corrosive
Applications



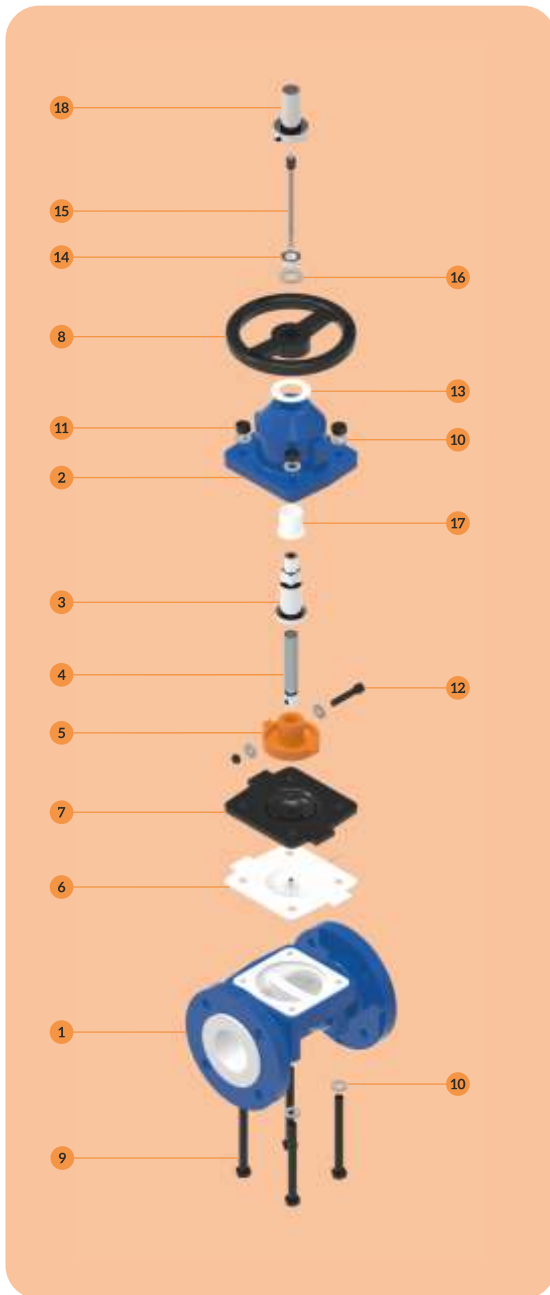
DIAPHRAGM VALVE

RIISING SPINDLE/STEM

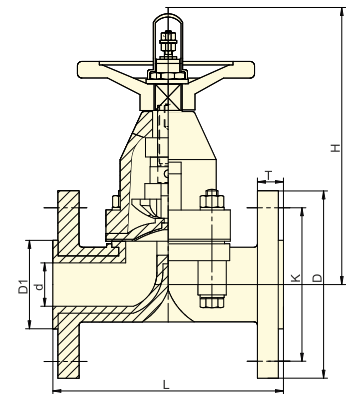
DN 15 (1/2") – DN 80 (3")

PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	1
2	Bonnet	ASTM A 216 GR. WCB	1
3	Spindle Sleeve	SS 304	1
4	Spindle	SS 304	1
5	Compressor	CARBON STEEL	1
6	Diaphragm	TFM	1
7	Diaphragm Backing Pad	EPDM	1
8	Hand Wheel	ASTM A 216 GR. WCB	1
9	Body Bolts	ASTM A 193 GR. B7	4
10	Bolt Washers	STEEL	4+4
11	Nuts	ASTM A 194 GR. 2H	4
12	Allen Bolt + Nut For Compressor	HIGH TENSILE 10.9	1
13	Bonnet Washer	PTFE	1
14	Hand Wheel Nut	BRASS/SS 304	1
15	Indicator Stud	SS 304	1
16	Hand Wheel Washer	SS 304	1
17	Bonnet Sleeve	DELIRIN	1
18	Indicator Cap	POLYCARBONATE	1



SECTIONAL VIEW



DIMENSIONS

Size	L ±0.11		D ±0.04		d ±0.04		T +0.11/-0.00		D1 ±0.04		H ±0.19		K ±0.062		n	HOLE DIA.	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
0.5"	4.49	114	3.50	89	0.59	15	0.51	13	1.37	35	2.75	70	2.36	60	04	5/8	16
0.75"	4.88	124	3.85	98	0.78	20	0.59	15	1.69	43	2.83	72	2.75	70	04	5/8	16
1"	5.23	133	4.25	108	0.98	25	0.63	16	2.00	51	5.82	148	3.11	79	04	5/8	16
1.5"	6.53	166	5.00	127	1.57	40	0.75	19	2.87	73	6.30	160	3.86	98	04	5/8	16
2"	7.71	196	5.98	152	1.96	50	0.82	21	3.62	92	8.85	225	4.76	121	04	3/4	19
2.5"	8.74	222	7.00	178	2.55	65	0.90	23	4.13	105	9.84	250	5.51	140	04	3/4	19
3"	10.23	260	7.51	191	2.95	75	0.98	25	5.00	127	11.02	280	5.98	152	04	3/4	19

All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS.

Tolerances are given in Inches.

Tripple Layered Diaphragm (TFM+PVDF+EPDM) Option Available.

DIAPHRAGM VALVE

RIISING SPINDLE/STEM

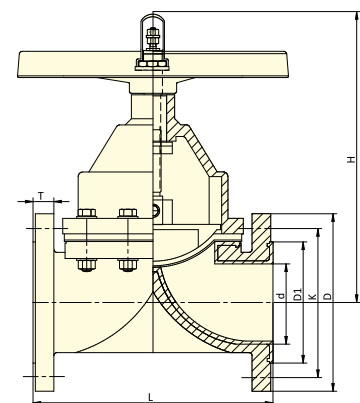
DN 100 (4") – DN 200 (8")

PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	1
2	Bonnet	ASTM A 216 GR. WCB	1
3	Spindle Sleeve	SS 304	1
4	Spindle	SS 304	1
5	Compressor	CARBON STEEL	1
6	Diaphragm	TFM	1
7	Diaphragm Backing Pad	EPDM	1
8	Hand Wheel	ASTM A 216 GR. WCB/CI	1
9	Body Bolts	ASTM A 193 GR. B7	8-14
10	Bolt Washers	STEEL	4-14
11	Nuts	ASTM A 194 GR. 2H	4-14
12	Allen Bolt + Nut For Compressor	HIGH TENSILE 10.9	1
13	Bonnet Washer	PTFE	1
14	Hand Wheel Nut	SS 304/BRASS	1
15	Indicator Stud	SS 304	1
16	Indicator Cap	POLYCARBONATE	1
17	Bonnet Sleeve	DELTRIN	1
18	Handwheel Washer	SS	1
19	Diaphragm Pin	SS	1



SECTIONAL VIEW



DIMENSIONS

Size	L ±0.11		D ±0.04		d ±0.04		T +0.11/-0.00		D1 ±0.04		H ±0.19		K ±0.062		n	HOLE DIA.	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
4"	12.24	311	9.0	229	3.93	100	0.98	25	6.18	157	13.77	350	7.51	191	08	3/4	19
6"	16.22	412	11.02	280	5.90	150	1.06	27	8.50	216	20.07	510	9.49	241	08	7/8	22
8"	20.74	527	13.50	343	7.87	200	1.18	30	10.62	270	23.81	605	11.73	298	08	7/8	22

All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS.

Tolerances are given in Inches.

Tripple Layered Diaphragm (TFM+PVDF+EPDM) Option Available.

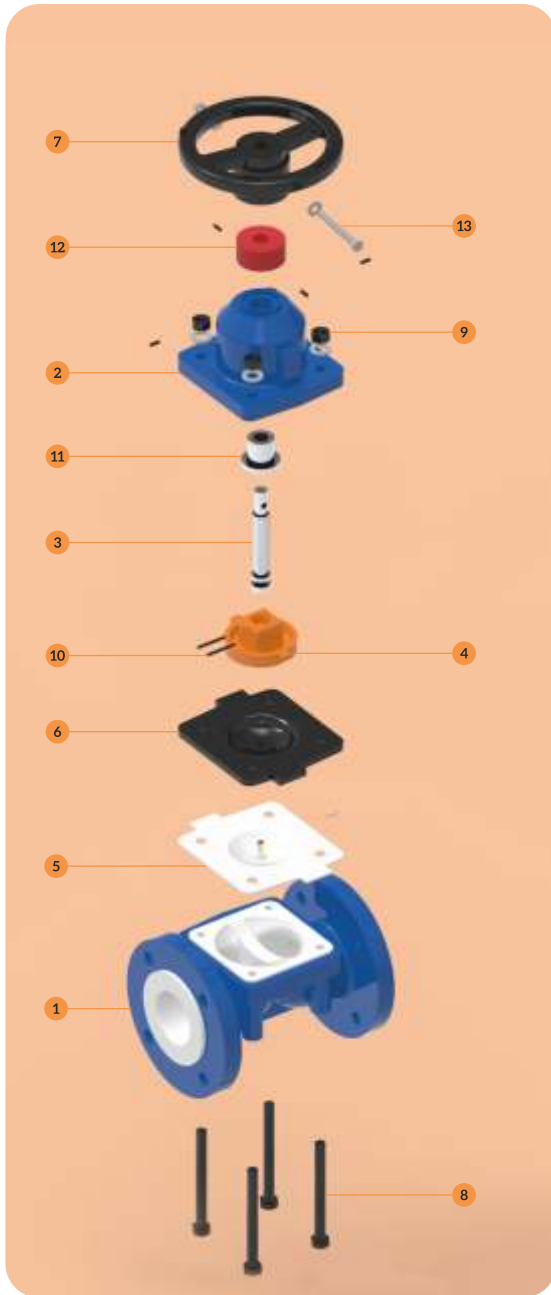
DIAPHRAGM VALVE

RISING HANDWHEEL

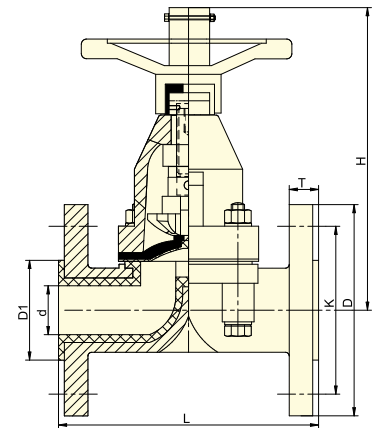
DN 25 (1") – DN 80 (3")

PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	1
2	Bonnet	ASTM A 216 GR. WCB	1
3	Spindle	SS 304	1
4	Compressor	CARBON STEEL	1
5	Diaphragm	TFM	1
6	Diaphragm Backing Pad	EPDM	1
7	Hand Wheel	CARBON STEEL	1
8	Body Bolts	ASTM A 193 GR. B7	4
9	Nuts	ASTM A 194 GR. 2H	4
10	Compressor Pin	STEEL	2
11	Bonnet Sleeve	SS 304	1
12	Grease Cup	POLYPROPYLENE	1
13	Hand Wheel Bolt+Nut	HIGH TENSILE 10.9	1



SECTIONAL VIEW



DIMENSIONS

Size	L ±0.11		D ±0.04		d ±0.04		T +0.11/-0.00		D1 ±0.04		H ±0.19		K ±0.062		n	HOLE DIA.	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
1"	5.23	133	4.25	108	0.98	25	0.63	16	2.00	51	5.59	142	3.11	79	04	5/8	16
1.5"	6.53	166	5.00	127	1.57	40	0.74	19	2.87	73	6.30	160	3.86	98	04	5/8	16
2"	7.71	196	5.98	152	1.96	50	0.82	21	3.62	92	8.85	225	4.76	121	04	3/4	19
2.5"	8.74	222	7.00	178	2.55	65	0.90	23	4.13	105	9.84	250	5.51	140	04	3/4	19
3"	10.23	260	7.51	191	2.95	75	0.98	25	5.00	127	11.02	280	5.98	152	04	3/4	19

All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS.

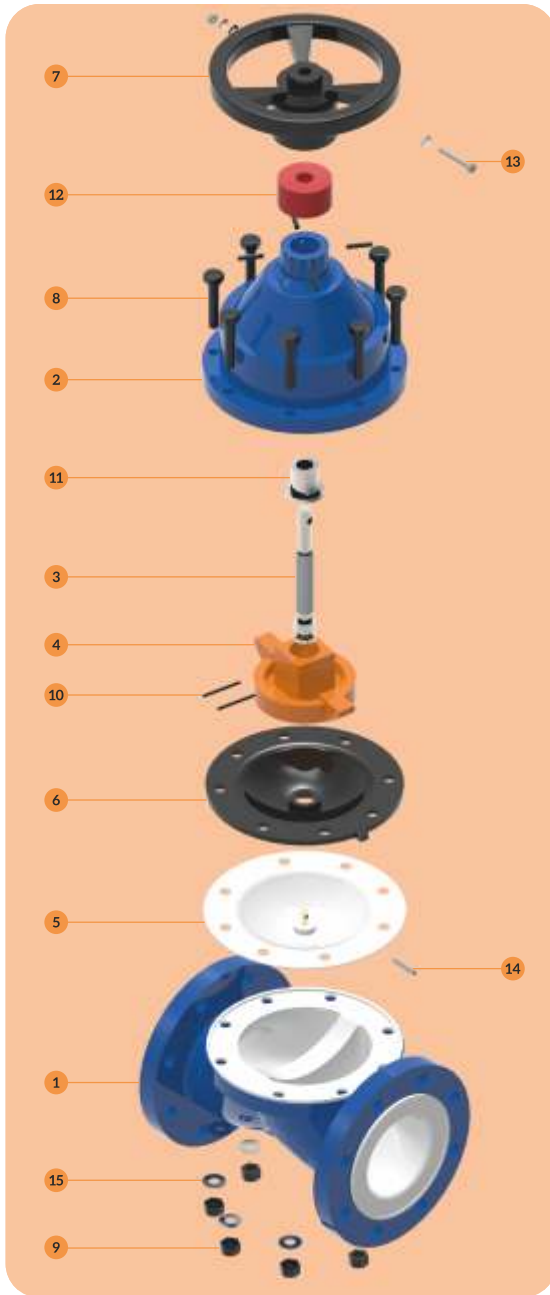
Tolerances are given in Inches.

Tripple Layered Diaphragm (TFM+PVDF+EPDM) Option Available.

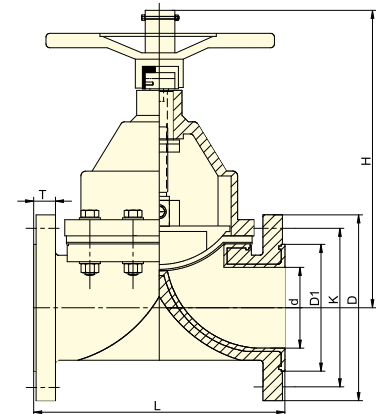
DIAPHRAGM VALVE
RISING HANDWHEEL
DN 100 (4") – DN 200 (8")

PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	1
2	Bonnet	ASTM A 216 GR. WCB	1
3	Spindle	SS 304	1
4	Compressor	CARBON STEEL	1
5	Diaphragm	TFM	1
6	Diaphragm Backing Pad	EPDM	1
7	Hand Wheel	CARBON STEEL	1
8	Body Bolts	ASTM A 193 GR. B7	8-14
9	Nuts	ASTM A 194 GR. 2H	4-14
10	Compressor Pin	STEEL	2
11	Bonnet Sleeve	SS 304	1
12	Grease Cup	POLYPROPYLENE	1
13	Hand Wheel Bolt+Nut	HIGH TENSILE 10.9	1
14	Diaphragm Pin	SS	1
15	Bolt Washers	STEEL	4-14



SECTIONAL VIEW



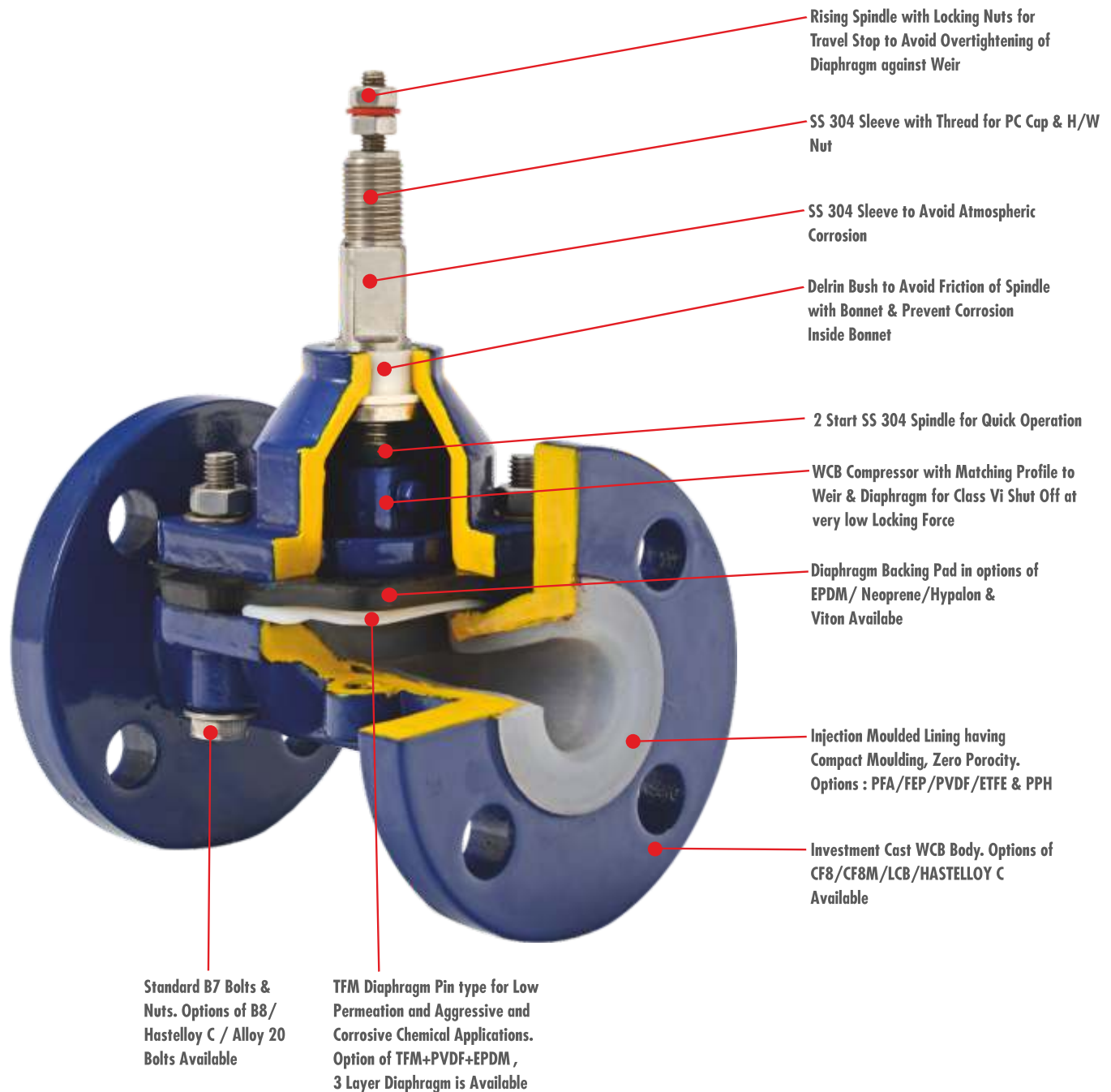
DIMENSIONS

Size	L ±0.11		D ±0.04		d ±0.04		T +0.11/-0.00		D1 ±0.04		H ±0.19		K ±0.062		n	HOLE DIA.	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
4"	12.24	311	9.01	229	3.93	100	0.98	25	6.18	157	13.77	350	7.51	191	08	3/4	19
6"	16.22	412	11.02	280	5.90	150	1.06	27	8.50	216	20.07	510	9.49	241	08	7/8	22
8"	20.74	527	13.50	343	7.87	200	1.18	30	10.62	270	23.81	605	11.73	298	08	7/8	22

All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS.
Tolerances are given in Inches.

Tripple Layered Diaphragm (TFM+PVDF+EPDM) Option Available.

DIAPHRAGM VALVE FEATURES



TORQUE VALUES & VALVE Cv

SIZE	CLOSING HAND WHEEL TORQUE IN N-M		CLOSING HAND WHEEL TORQUE IN INCH-POUND		Cv
	RISING SPINDLE	RISING HAND WHEEL	RISING SPINDLE	RISING HAND WHEEL	
0.5	12	12	106	106	4.50
0.75	15	15	133	133	6.50
1"	17	17	151	151	11.50
1-0.5"	25	25	221	221	33.00
2"	30	30	266	266	60.00
2-0.5"	35	35	310	310	85.00
3"	35	35	310	310	150.00
4"	65	65	575	575	270.00
6"	175	175	1549	1549	500.00
8"	311	311	2752	2752	1275.00

VALVE NET WEIGHTS

SIZE	WEIGHT / PC	
	KGS	LBS
0.5	2.05	5.50
0.75	3.50	7.70
1"	3.70	8.14
1-0.5"	7.40	16.28
2"	11.60	25.50
2-0.5"	18.50	40.70
3"	25.30	55.66
4"	41.40	91.00
6"	86.90	191.18
8"	205.00	451.00

PRODUCT DESIGN

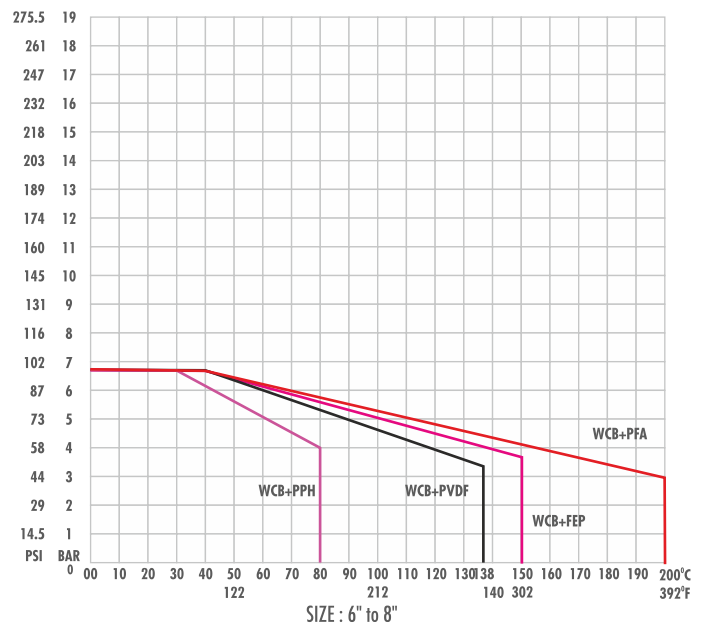
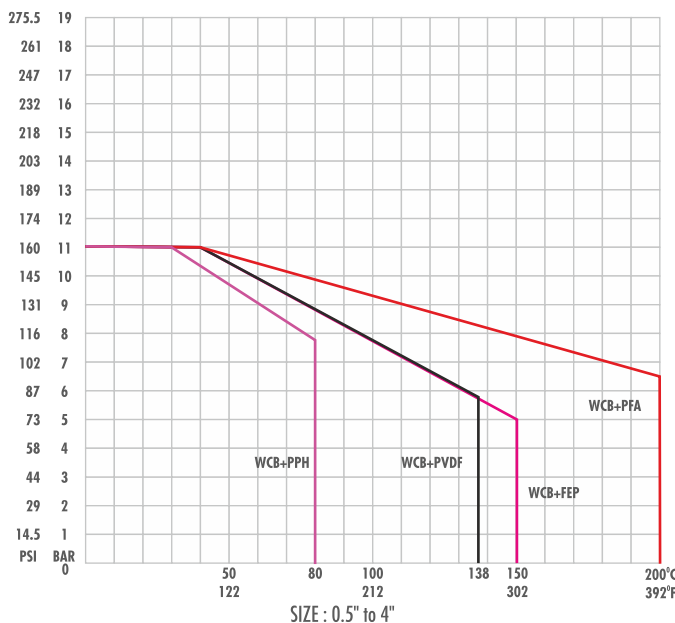
DESIGN PARAMETERS	STANDARD
VALVE DESIGN	BS EN 13397
SHELL DESIGN	ANSI B 16.34
FACE TO FACE	EN 558-1 SERIES 7
FLANGE CONNECTION RATING	ANSI B 16.5, 150# / DIN PN 10 / JIS
TESTING STANDARD	BS EN 12266-1
CONNECTION	FLANGED, RF

TESTS PERFORMED

TESTS PERFORMED	BS EN 12266-1		BS EN 12266-1	
SIZES	½" TO 4"		6" TO 8"	
HIGH PR. SHELL TEST HYDRO	225 PSI	15 KG/SQ.CM	128 PSI	9 KG/SQ.CM
HIGH PR. SEAT TEST HYDRO	165 PSI	11 KG/SQ.CM	90 PSI	6.6 KG/SQ.CM
LOW PR. SEAT TEST PNEUMATIC	85 PSI	6 KG/SQ.CM	50 PSI	3.5 KG/SQ.CM

SPARK TEST	KVDC
SPARK TEST	20 KVDC

PRESSURE - TEMPERATURE GRAPH



DIAPHRAGM VALVE CODE USED

TYPE OF VALVE	CODE
DIAPHRAGM VALVE	DGMV
BODY CASTING	CODE
ASTM A 216 GR. WCB	C1
ASTM A 351 GR. CF 8	C2
ASTM A 351 GR. CF8M	C3
ALLOY 20	C4
ASTM A 890 GR. 4A(CD3MN)	C5
HASTELLOY C (276/22)	C6
DIAPHRAGM	CODE
TFM+EPDM	T7
TFM+PVDF+EPDM	T3
TFM+HYPALON	TH
TFM+NEOPRENE	TN
TFM+VITON	TV
LINING MATERIAL	CODE
PFA	L1
FEP	L2
PVDF	L3
ETFE	L4
PPH	L6
ANTISTATIC PFA	L7
SEAT	CODE
NOT APPLICABLE	XX
FASTENERS	CODE
SS 304	F2
SS 316	F3
HIGH TENSILE	F4
ASTM A 193 GR. B7	F5

OPERATION	CODE
HANDWHEEL	H
BARE STEM	B
LOCKING	CODE
PROVIDED	Y
NOT-PROVIDED	N
SIZE	CODE
0.5" 0.75" 1" 1.5" 2" 2.5" 3" 4" 6" 8"	
CODE	
0H 75 01 1H 02 2H 03 04 06 08	

HOW TO READ CODE

CODE	DGMVC1T7L1XXF5HY02
VALVE TYPE	DIAPHRAGM DGMV
BODY CASTING	ASTM A 216GR.WCB C1
DIAPHRAGM	TFM+EPDM T7
BODY LINING	PFA L1
SEAT	NOT APPLICABLE XX
FASTENERS	ASTMA193 GR.B7 F5
OPERATION	HAND WHEEL H
LOCKING	PROVIDED Y
SIZE	2" 02



LINED DIAPHRAGM VALVE
Pneumatically Actuated



LINED DIAPHRAGM VALVE
Electrically Actuated



LINED DIAPHRAGM VALVE
Control Type

ACTUATION OPTIONS OFFERED BY UNP

ACTUATOR TYPE	SINGLE ACTING / SPRING RETURN	DOUBLE ACTING
FAIL POSITION	OPEN/CLOSE	STAY PUT
AIR SUPPLY PRESSURE	4/5 BAR OR 58/72 PSI	4/5 BAR OR 58/72 PSI
BODY MATERIAL OFFERED	MS POWDER COATED	MS POWDER COATED
MAKE OFFERED	UNP/PROCON	UNP/PROCON

NOTE : DIAPHRAGM TYPE ACTUATOR CAN BE OFFERED WITH OR WITHOUT TOP MOUNTED HANDWHEEL (TMH)

SOLENOID VALVES OFFERED

SOLENOID VALVE	SINGLE ACTING/SPRING RETURN ACTUATOR	DOUBLE ACTING ACTUATOR
TYPE	3/2 WAY NON- NAMUR	5/2 WAY NON- NAMUR
COIL RATING	24/110/220 V AC OR 24/110 V DC	24/110/220 V AC OR 24/110 V DC
COIL INSULATION CLASS	F OR H	F OR H
COIL HOUSING	WEATHER PROOF/EX-PROOF/ FLAME PROOF OR IS	WEATHER PROOF/EX-PROOF/ FLAME PROOF OR IS
SOLENOID VALVE BODY MATERIAL	ALLUMINIUM/SS 316/ SS 316L	ALLUMINIUM/SS 316/ SS 316L
GLAND CONNECTION	¼" / ½" or ¾" NPT	¼" / ½" or ¾" NPT

LIMIT SWITCHES OFFERED

LIMIT SWITCH	MECHANICAL MICROSWITCH	PROXIMITY TYPE
SWITCHES OFFERED	HONEYWELL OR SIEMENS	P & F OR SIMILAR
NO. OF SWITCHES	1 NO + 1 NC OR 2 NO + 2NC	1 NO + 1 NC OR 2 NO + 2 NC
HOUSING TYPE	WEATHER PROOF / FLAME PROOF	WEATHER PROOF / FLAME PROOF

UNP PROVIDES ELECTRO PNEUMATIC POSITIONERS OF YTC / SIEMENS OR ANY OTHER MAKE OF CUSTOMER PREFERENCE

NOTE : ELECTRICAL/MOTORISED ACTUATOR CAN BE OFFERED OF MAKE BELIMO/ITORQUE/ROTORK/AUMA