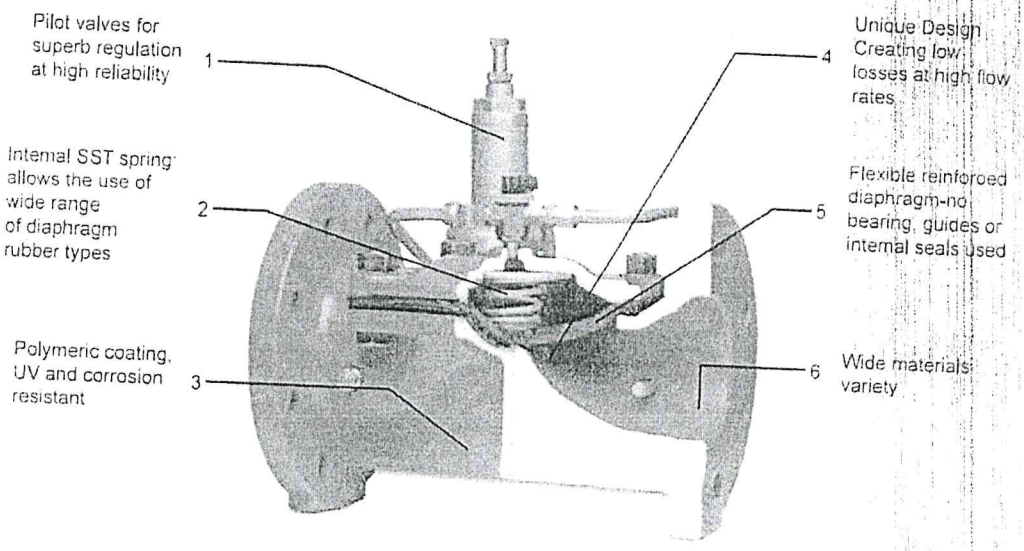
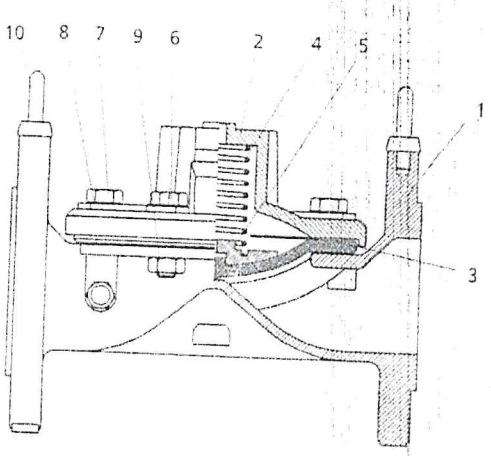
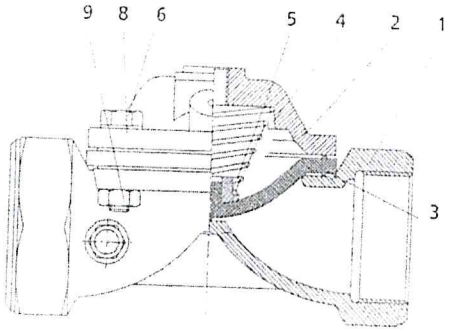
Main Components

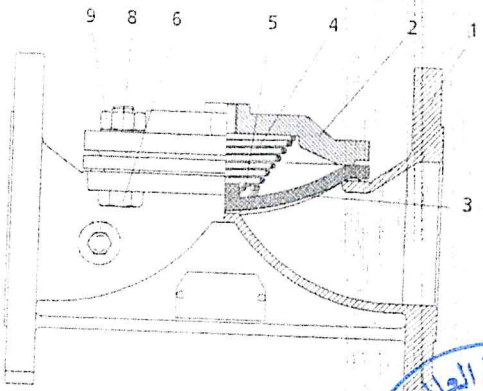


Components

Component No.	Description
1	Body
2	Bonnet
3	Diaphragm
4	Spring
5	Spring Disc
6	Bolt
7	Short Bolt
8	Washer
9	Nut
10	Suspension Ring (Hook)







Technical Data

Available Models:

Pattern													
Connection		Threaded	Threaded	Victaulic®	Flanged	Flanged	Flanged	Flanged	Threaded	Victaulic®	Threaded	Flanged	Threaded
Material		Cast Iron	Bronze	Cast Iron	Cast Iron	Bronze	Ductile Iron	Cast Iron	Cast Iron	Cast Iron	Bronze	Ductile Iron	Ductile Iron
Max. Pressure		16 bar / 230 psi											25 bar / 360 psi
Available Sizes	mm	inch											
	20	3/4"	•	•									
	25	1"	•	•									
	40	1 1/2"	•	•	•	•	•	•					
	50	2"	•	•	•	•	•	•	•		•		
	65	2 1/2"	•	•				•	•		•	•	•
	80	323"	•	•	•			•					
	80	3"	•	•	•	•	•	•	•		•		
	100	4"			•	•	•	•	•	•		•	
	150	6"			•	•	•	•		•		•	
	200	868"				•	•	•				•	
	200	8"				•	•	•					
	250	10"				•	•	•				•	
	300	12"				•	•	•				•	
	350	14"				•	•	•					
	400	16"						•					
	450	18"						•				•	
	500	20"						•				•	
	600	24"						•				•	

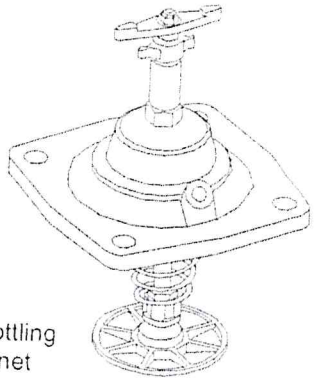
Design Specifications:

Materials	Standard	Optional*
Body and Bonnet	Cast Iron, Ductile Iron, Bronze	Cast Steel, Stainless Steel
Diaphragm	Natural Rubber	NBR, EPDM, Neoprene
Spring	SST 302	SST 316
Nuts and Bolts	Coated Steel	SST
Coating	Polyester	Epoxy, Nylon, Rubber

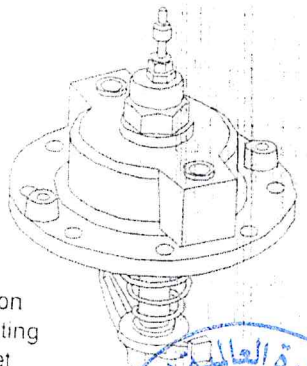
* Others Upon Request

Connections	Standard	Optional*
Flanges	ISO 2084 244* 5752	ANSI B16 JIS B22 AS 10
Threads	F-BSP	F-NPT
Control Bores	1/8", 1/4" 1/2" NPT	Epoxy, Nylon, Rubber,

Non Standard Bonnets:



Throttling Bonnet



Position Indicating Bonnet

Diaphragm Selection Table*

Diameter		Type	No.	Pressure Range	
mm	inch			mwc	psi
20, 25	3/4", 1"	Standard	18	12-160	17-230
		Low Pressure	85	5-100	7-140
40	1 1/2"	Standard	13	12-160	17-230
		S. Low Pressure	82	5-50	7-70
50, 65	2", 2 1/2", 323"	Standard	03	15-160	21-230
		Low Pressure	02	7-100	10-140
		S. Low Pressure	12	4-50	6-70
		Extreme	60	20-160	28-230
50_{HP}	$2"_{HP}$	High Pressure	69	10-250	15-360
80, 100	3", 4"	Standard	32	12-160	17-230
		Low Pressure	05	4-100	6-140
		Extreme	61	20-160	28-230
80_{HP}	$3"_{HP}$	High Pressure	70	10-250	15-360
100_{HP}	$4"_{HP}$	High Pressure	71	10-250	15-360
150	6", 868	Standard	62	15-160	21-230
		Low Pressure	09	5-100	7-140
		S. Low Pressure	91	2-60	3-85
		Extreme	35	20-160	28-230
150_{HP}	$6"_{HP}$	High Pressure	72	10-250	15-360
200, 300, 350	8", 12", 14"	Standard	35	7-160	10-230
		Low Pressure	37	2-100	3-140
		Extreme	63	20-160	28-230
200_{HP}	$8"_{HP}$	High Pressure	73	10-250	15-360
250	10"	Standard	40	7-160	10-230
		Low Pressure	50	2-100	3-140
250_{HP}, 400_{HP}, 500_{HP}, 600_{HP}	$10"_{HP}$, $16"_{HP}$, $20"_{HP}$, $24"_{HP}$,	High Pressure	78	10-250	15-360
		Low Pressure	92	2-100	3-140

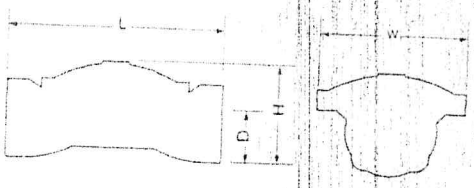
* Standard Diaphragm: Nylon Reinforced Natural Rubber. Optional Materials: Nitrile, EPDM, Neoprene Available Upon Request.
** HP = High Pressure

Pressure Rating

Pressure rating of series 100 valves is body strength, connection standard and diaphragm type.
Pressure rating of valve body of standard models: 16 Bar / 230 psi.
Pressure rating of valve body of high pressure models: 25 Bar / 360 psi.
Connection standard is marked on the identification plate, assembled on the valve body.
Diaphragms operation pressure range is presented at the above table.

Technical Data

Dimensions and Weights



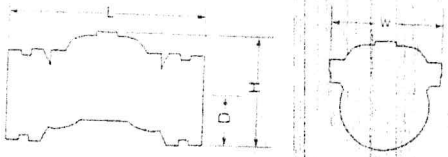
Straight Flow, Threaded Connection

Valve Size		L				H				D		W		Weight			
		Cast Iron		Bronze		Cast Iron		Bronze						Cast Iron		Bronze	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs	kg	lbs
20	3/4	115	4.53	112	4.41	43	1.69	43	1.69	20	0.79	68	2.68	1	2.2	1	2.2
25	1	120	4.72	119	4.69	52	2.05	52	2.05	24	0.94	68	2.68	1	2.2	1	2.2
40	1 1/2	170	6.69	149	5.87	93	3.66	86	3.39	33	1.3	93	3.66	2.2	4.9	1.8	4
50	2	188	7.4	184	7.24	115	4.53	101	3.98	42	1.65	112	4.41	3.2	7	2.6	5.7
65	2 1/2	219	8.62	212	8.35	118	4.65	109	4.29	46	1.81	112	4.41	3.6	7.9	3.4	7.5
80_{LF}*	323	225	8.86	221	8.7	126	4.96	116	4.57	54	2.13	112	4.41	4.5	9.9	3.9	8.5
80	3	316	12.44	316	12.44	135	5.31	135	5.31	53	2.09	200	7.87	11	24		

* LF = Low Flow

Straight Flow, Grooved Connection (Vic.)

Valve Size		L		H		D		W		Weight	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
40	1.5	177	6.97	81	3.19	26	1.02	93	3.66	1.8	4
50	2	190	7.48	100	3.94	33	1.3	112	4.41	2.6	5.7
80	323	201	7.91	120	4.72	47	1.85	112	4.41	3	6.6
80_{LF}	3	266	11.26	124	4.88	47	1.85	200	7.87	11	24.3
100	4	317	12.48	133	5.24	60	2.36	194	7.64	12	26.4
150	6	392	15.43	250	9.84	82	3.23	300	11.81	31	68.3

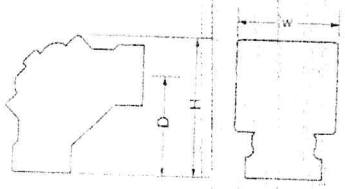


Angle Flow, Grooved Connection (Vic.)

Valve Size		H		D		W		Weight	
mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
80	3	240	9.45	170	6.69	200	7.87	10.5	23.1
100	4	250	9.84	185	7.28	200	7.87	11.5	25.4

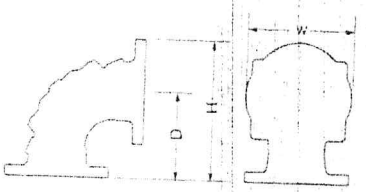
Angle Flow, Threaded Connection

Valve Size		H		D		W		Weight	
mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
40	1.5	110	4.33	75	2.95	93	3.66	1.7	3.7
50	2	136	5.35	90	3.54	112	4.41	2.4	5.3
80_{LF}	323	165	6.5	114	4.49	112	4.41	3.6	7.9
80	3	239	9.41	145	5.71	200	7.87	10.8	23.8



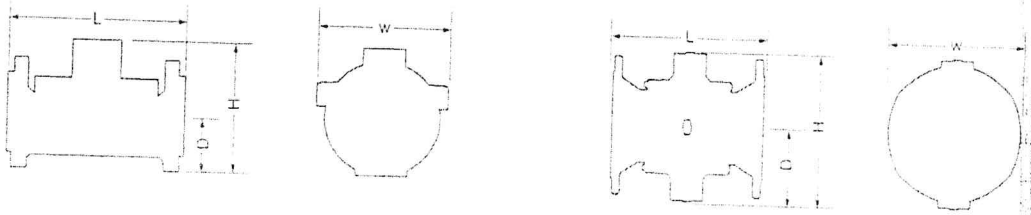
Angle Flow, Flanged Connection

Valve Size		H		D		W		Weight	
mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
80	3	278	10.9	174	6.85	200	7.87	18	39.7
100	4	300	11.8	185	7.28	230	9.06	21	46.3
150	6	380	15	230	9.06	300	11.8	45	99.2



Straight Flow, Flanged Connection - Standard Models 16 Bar / 230 psi

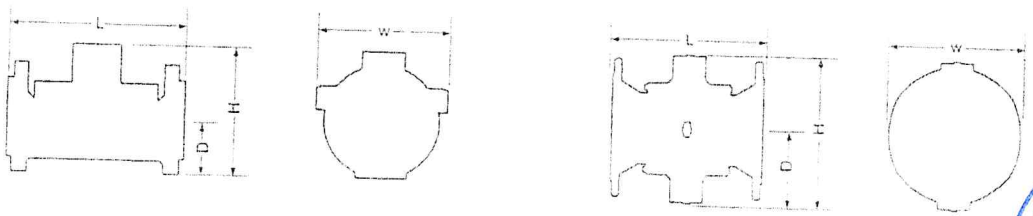
Valve Size		L		H		D		W		Weight					
										Cast Iron		Duct. Iron		Bronze	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs	kg	lbs	kg	lbs
40	1½	186	7.32	153	6.02	76.5	3.01	76.5	3.01	5.8	13	6.2	14	6.5	14.3
50	2	200	7.87	166	6.54	85	3.35	166	6.54	7.2	15.8	7.7	17	8	17.6
80_{LF}	323	200	7.87	202	7.95	105	4.13	200	7.87	11	24.3	11.8	26		
80	3	285	11.22	200	7.87	105	4.13	200	7.87	17	37.5	18.2	40.1	19	42
100	4	305	12.01	230	9.06	110	4.33	230	9.06	22	48.5	24	53	24	53
150	6	390	15.35	314	12.36	145	5.71	300	11.8	46	101	49	108	51	112
200_{LF}	868	385	15.16	350	13.78	170	6.69	365	14.4	50	110	54	119		
200	8	460	18.11	400	15.75	170	6.69	365	14.4	80	176	86	190	89	196
250	10	535	21.06	445	17.52	205	8.07	440	17.3	117	258	125	276	131	289
300	12	580	22.83	495	19.49	240	9.45	490	19.3	156	344	167	368	147	324
350	14	580	22.83	495	19.49	270	10.6	540	21.3	182	401	172	379	180	397



Straight Flow, Flanged Connection - High Pressure Models 25 Bar / 360 psi

Valve Size		L		H		D		W		Weight	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
50	2	228	8.98	169	6.65	85	3.35	175	6.9	10	22
50_{TH}	2_{TH}	250	8.98	120	6.65	42	1.65	175	6.9	6	13
80	3	310	12.2	237	9.33	105	4.13	200	7.87	30	66.1
100	4	356	14.02	263	10.35	120	4.72	260	10.24	38	83.8
150	6	436	17.17	378	14.88	150	5.91	320	12.6	75	165.3
200	8	530	20.87	481	18.94	180	7.09	400	15.75	123	271
250	10	636	25.04	546	21.5	215	8.46	495	19.49	190	419
400	16	715	28.15	830	32.68	310	12.2	830	32.68	433	955
450	18	715	28.15	830	32.68	340	13.39	830	32.68	460	1014
500	20	900	35.43	970	38.19	490	19.29	980	38.58	674	1486
600	24	900	35.43	970	38.19	490	19.29	980	38.58	696	1534

* TH = Threaded



Technical Data

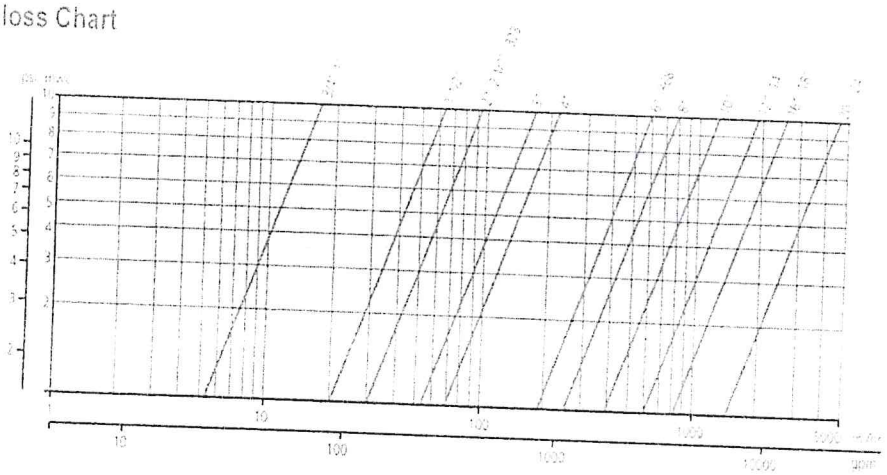
Hydraulic Performance

Valve Size	mm	20	25	40	50	65	80	80_F	100	150	200_F	200	250	300	350	400	450	500	600
	inch	3/4	1	1 1/2	2	2 1/2	323	3	4	6	868	8	10	12	14	16	18	20	24
Max. Flow Continuance	m³/hr	6	10	25	40	40	40	90	100	350	350	480	970	1400	1400	2500	2500	3890	5500
	gpm	26.4	44	110	176	176	176	396	440	1540	1540	2112	4268	6160	6160	11000	11000	17116	24200
Max. Flow Intermittent	m³/hr	16	27	68	109	109	109	245	273	955	955	1309	2645	3818	3818	6818	6818	10609	10609
	gpm	72	120	300	480	480	480	1080	1200	4200	4200	5760	11640	16800	16800	30000	30000	46680	46680
Minimal Flow	m³/hr	< 1																	
	gpm	< 5																	
Kv	m³/hr @ 1 bar	17	17	64	95	95	95	170	220	600	670	800	1250	1900	1900	2600	2600	4600	4600
Cv	gpm @ 1 psi	20	20	75	110	110	110	200	260	700	780	930	1460	2220	2220	3030	3030	5370	5370
Kv*	m³/hr @ 1 bar	-	-	-	78	-	-	120	200	550	-	800	1300	-	-	2600	2600	4600	4600
Cv*	gpm @ 1 psi	-	-	-	91	-	-	140	230	640	-	930	1520	-	-	3030	3030	5370	5370

* High pressure models

$$\Delta P_{[bar]} = \left(\frac{Q[\frac{m^3}{hr}]}{Kv}\right)^2 \qquad \Delta P_{[psi]} = \left(\frac{Q[gpm]}{Cv}\right)^2$$

Headloss Chart



Cavitation Data