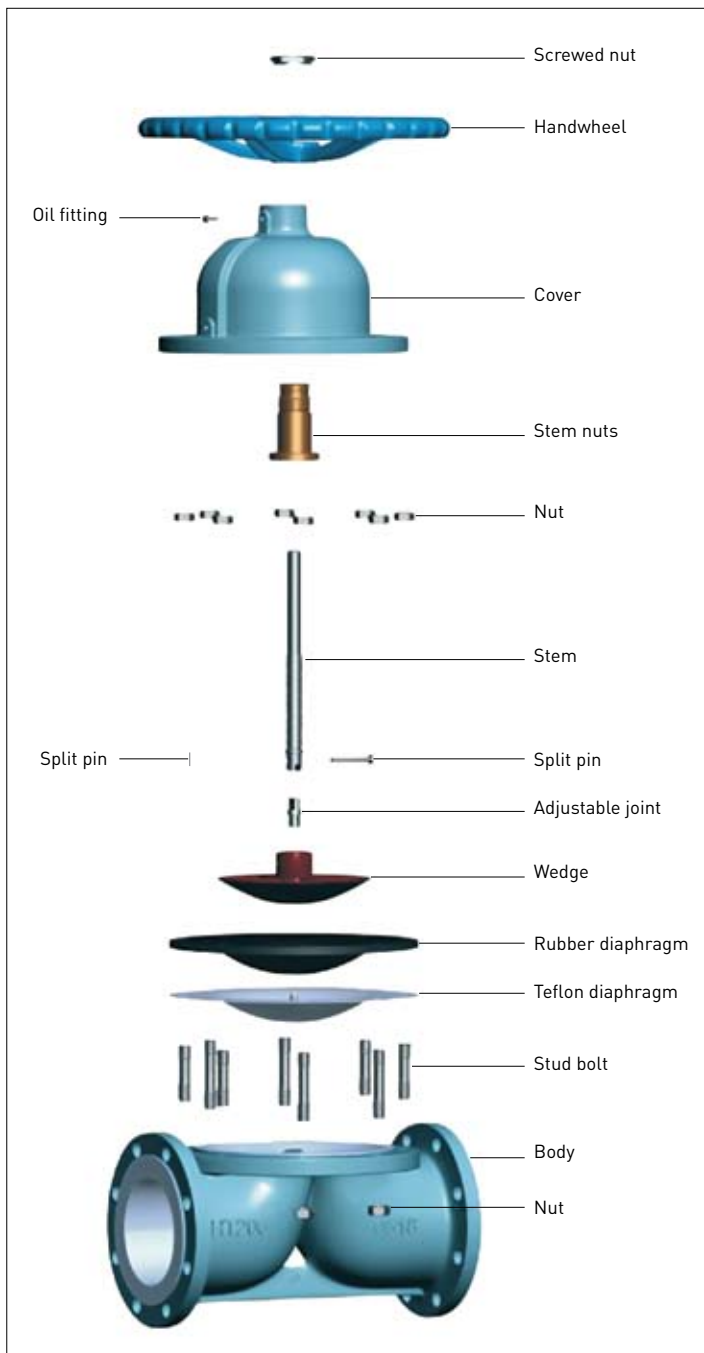


# PREM CHEM DIAPHRAGM VALVES





**DESIGN STANDARDS:**  
GB12239, BS5156

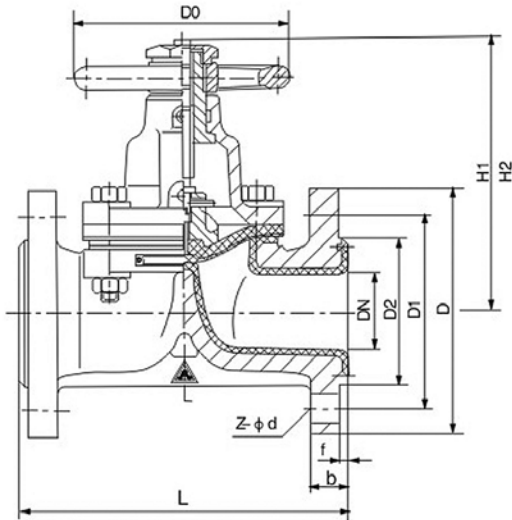
Diaphragm valves have always been popular in the chemical industry due to their simple construction and ease of containing the fluid without any outside leakpaths. Available in Weir – type design only.

**CHARACTERISTICS OF DESIGN:**

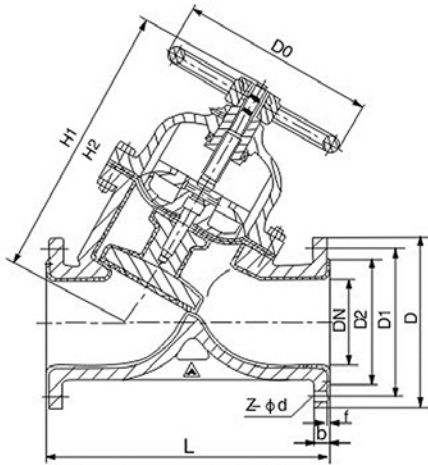
- The diaphragm is made of various Fluoroplastic material with synthetic rubber backing.
- The diaphragm is generally the only wearing part and is easy and inexpensive to replace.

**AVAILABLE WITH:** Handwheel operated, pneumatic and electric actuator.

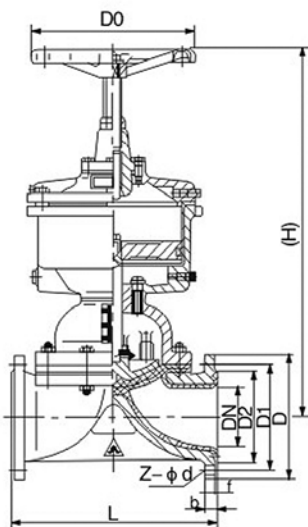




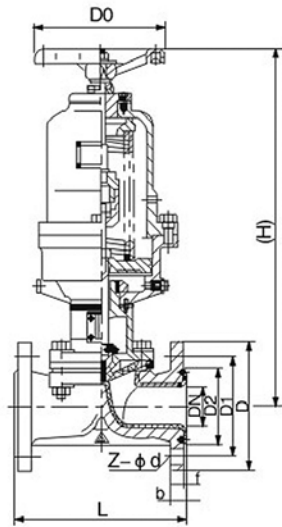
27. G41F<sub>3</sub>, F<sub>46</sub>  
H.O. diaphragm valve (weir type)



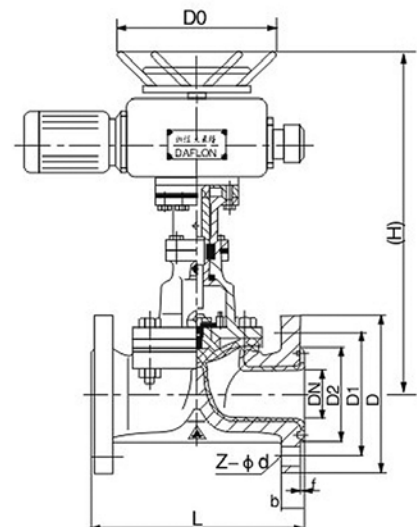
28. G45F<sub>3</sub>, F<sub>46</sub>  
H.O. diaphragm valve (Y-type)



29. G641F<sub>3</sub>, F<sub>46</sub>  
Pneumatic diaphragm valve (reciprocating type)



30. G6641F<sub>3</sub>, F<sub>46</sub>  
Pneumatic diaphragm valve (close type)



25. J941F<sub>3</sub>, F<sub>46</sub>  
Electric diaphragm valve (weir type)

### Standard

Design	GB 12239
Face to Face	JB 11688
Flange dimension	JB78 or to requirements
Test	GB/T 13927
Symbol	GB 12220
Supply	GB/T 12252

### Flange type diaphragm valve

- Basic structure: Weir type, Y-type
- Pressure: DN0.6~1.6(Mpa)
- Size: DN15~300(mm)

### Basic type (Fully lined)

Lever	G41F <sub>3</sub> (Weir type)	Pneumatic	G641F <sub>3</sub> (Reciprocating type)
	G41F <sub>46</sub> (Weir type)		G641F <sub>46</sub> (Reciprocating type)
	G45F <sub>3</sub> (Y-type)		G6 <sub>B</sub> 41F <sub>3</sub> (Close type)
	G45F <sub>46</sub> (Y-type)		G6 <sub>B</sub> 41F <sub>46</sub> (Close type)
Electric	G9 <sub>B</sub> 41F <sub>3</sub>	Electric	G941F <sub>3</sub>
	G9 <sub>B</sub> 41F <sub>46</sub>		G941F <sub>46</sub>



## Main Parts Material Specifications

Table A12

No.	Name	Grey Cast Iron	Cast Steel	Stainless Steel		Low Carbon Stainless Steel	
		Z	C	P	R	P <sub>L</sub>	R <sub>L</sub>
1	Body Cover and Wedge	HT250	WCB	CF8	CF8M	CF3	CF3M
2	Stem	35	1Cr13	1Cr18Ni9	1Cr18Ni12Mo2Ti	00Cr18Ni10	00Cr17Ni14Mo2
3	lining	FEP(F <sub>46</sub> ) PCTFE(F <sub>3</sub> )		PFA	PO		
4	Diaphragm	FEP(F <sub>46</sub> )/CR		PFA(F <sub>4</sub> )/FPDM			
5	Stem nuts	ZCuAl10Fe3		ZCuAl10Fe3			
6	Bolt	35	35	1Cr17Ni2	1Cr17Ni2	1Cr18Ni9Ti	1Cr18Ni9Ti
7	Nut	45	45	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9	0Cr18Ni9
8	Handwheel	HT200	HT200	WCC	WCC	WCC	WCC

## Dimensions and weights

Table B29

Size		Standard							Reference			
Dn (mm)	NPS (inch)	L	D	D <sub>1</sub>	D <sub>2</sub>	f	b	Z-ød	Do	H <sub>1</sub>	H <sub>2</sub>	W(kg)
PN0.6 (MPa) / PN1.0 (MPa)												
15	½	125	95	65	45	2	14	4-ø14	100	105	110	3.5
20	¾	135	105	75	55	2	16	4-ø14	100	115	125	4
25	1	145	115	85	65	2	16	4-ø14	120	120	135	5.5
32	1¼	160	135	100	78	2	18	4-ø18	120	125	150	8
40	1½	180	145	110	85	3	18	4-ø18	140	135	175	11
50	2	210	160	125	100	3	20	4-ø18	140	155	195	14
65	2½	250	180	145	120	3	20	4-ø18	200	170	200	23
80	3	300	195	160	135	3	22	4/8-ø18	200	200	255	29
100	4	350	215	180	155	3	22	8-ø18	280	270	325	46
125	5	400	245	210	185	3	24	8-ø18	320	335	405	70
150	6	460	280	240	210	3	24	8-ø23	320	370	450	95
200	8	570	335	295	265	3	26	8-ø23	400	480	600	170
250	10	680	390	350	320	3	28	12-ø23	500	545	620	270
300	12	790	440	400	368	4	28	12-ø23	500	585	680	320

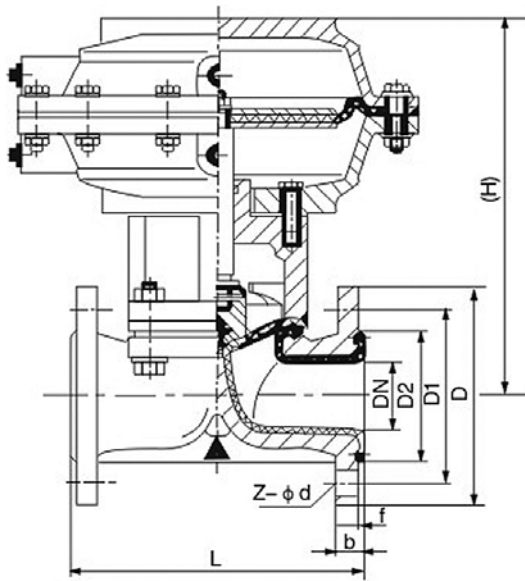
Generally, when the pressure requires PN0.6Mpa, the flange size is PN1.0Mpa. When flange to PN1.0Mpa, DN80, JB78, screw hole Z=4, t other parameter z=8.

## Dimensions and weights

Table B30

Size		Standard							Reference			
Dn (mm)	NPS (inch)	L	D	D <sub>1</sub>	D <sub>2</sub>	f	b	Z-ød	Do	H <sub>1</sub>	H <sub>2</sub>	W(kg)
PN1.6 (MPa)												
15	½	125	95	65	45	2	14	4-ø14	120	110	115	4
20	¾	135	105	75	55	2	16	4-ø14	120	120	130	5
25	1	145	115	85	65	2	16	4-ø14	140	125	140	6
32	1¼	160	135	100	78	2	18	4-ø18	140	130	155	9
40	1½	180	145	110	85	3	18	4-ø18	160	140	180	12
50	2	210	160	125	100	3	20	4-ø18	160	160	200	15
65	2½	250	180	145	120	3	20	4-ø18	200	175	205	24
80	3	300	195	160	135	3	22	8-ø18	200	205	260	30
100	4	350	215	180	155	3	24	8-ø18	280	275	330	48
125	5	400	245	210	185	3	26	8-ø18	320	340	410	75
150	6	460	280	240	210	3	28	8-ø23	320	375	460	105
200	8	570	335	295	265	3	30	8-ø23	400	485	605	182
250	10	680	405	355	320	3	32	12-ø25	500	550	625	295
300	12	790	460	410	375	4	34	12-ø25	500	590	685	345





32. EG641F<sub>3</sub>, F<sub>46</sub>  
Pneumatic diaphragm valve (weir type)

**Standard**

<b>Design</b>	BS 5156
<b>Face to Face</b>	BS 5156=2F = Saunders
<b>Flange dimension</b>	GB 4216 or according to requirements
<b>Test</b>	API 598
<b>Symbol</b>	MSS SP-25
<b>Supply</b>	BS 5156

**Basic type (Fully lined)**

<b>Lever operated</b>	EG41F <sub>3</sub> (Weir type)	<b>Electric</b>	EG941F <sub>3</sub> (General type)
	EG41F <sub>46</sub> (Weir type)		EG941F <sub>46</sub> (General type)
	EG45F <sub>3</sub> (Y-type)		EG <sub>B</sub> 41F <sub>3</sub> (Explosion-proof type)
	EG45F <sub>46</sub> (Y-type)		EG <sub>B</sub> 41F <sub>46</sub> (Explosion-proof type)
<b>Pneumatic</b>	EG641F <sub>3</sub> (Reciprocating type)	<b>Pneumatic</b>	EG <sub>K</sub> 41F <sub>3</sub> (Close type)
	EG641F <sub>46</sub> (Reciprocating type)		EG <sub>K</sub> 41F <sub>46</sub> (Close type)
	EG <sub>B</sub> 41F <sub>3</sub> (Close type)		EG <sub>B</sub> 41F <sub>46</sub> (Close type)

**Flange type diaphragm valve**

- Design: according to BS standard
- Basic structure: Weir, Y-type
- Pressure: PN0.6~1.6(MPa)
- Size: DN20~200 (mm)

**Main Parts Material Specifications**

Table A13

No.	Name	Grey Cast Iron	Cast Steel	Stainless Steel		Low Carbon Stainless Steel	
		Z	C	P	R	P <sub>L</sub>	R <sub>L</sub>
1	Body Cover Wedge	A126 C.1135A	A216 WCB	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M
2	Stem	A182 F6	A182 F6	A182 F304	A182 F304	A182 F304L	A182 F316
3	lining	FEP(F <sub>46</sub> )		PCTFE(F <sub>3</sub> )	PFA	PO	
4	Diaphragm	FEP(F <sub>46</sub> )/CR		PFA(F <sub>4</sub> )/FPDM			
5	Stem nuts	ZCuAl10Fe3		ZCuAl10Fe3			
6	Bolt	A193 B7	A193 B7	A193 B8M	A193 B8M	A193 B8M	A193 B8M
7	Nut	A194 2H	A194 2H	A194 8	A194 8	A194 8	A194 8
8	Handwheel	A216 C.135A	A216 WCC	A216 WCC	A216 WCC	A216 WCC	A216 WCC



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## Dimensions and weights

Table B31

Size		Standard							Reference		
Dn (mm)	NPS (inch)	L	D	D <sub>1</sub>	D <sub>2</sub>	f	b	Z-ød	Do	H	W(kg)
		PN0.6 (MPa) / PN1.0 (MPa)									
20	¾	121	105	75	58	2	16	4-ø13.5	70	92	3.0
25	1	131	115	85	68	2	16	4-ø13.5	83	96	4.0
32	1¼	150	135	100	78	2	18	4-ø17.5	114	131	6.5
40	1½	163	140	110	88	3	18	4-ø17.5	114	142	7.5
50	2	194	165	125	102	3	20	4-ø17.5	140	167	10.5
65	2½	220	185	145	122	3	20	4-ø17.5	165	203	17.5
80	3	285	200	160	133	3	22	8-ø17.5	230	216	25.0
100	4	309	220	180	158	3	24	8-ø17.5	280	270	36.0
125	5	362	250	210	184	3	26	8-ø17.5	280	319	47.0
150	6	412	285	240	212	3	26	8-ø22	363	365	73.0
200	8	529	340	295	268	3	28	8-ø22	483	462	142
PN1.6(Mpa)											
20	¾	121	105	75	58	2	16	4-ø13.5	70	92	3.2
25	1	131	115	85	68	2	16	4-ø13.5	83	96	4.3
32	1¼	150	140	100	78	2	18	4-ø17.5	114	131	6.9
40	1½	163	150	110	88	3	18	4-ø17.5	114	142	7.9
50	2	194	165	125	102	3	20	4-ø17.5	140	167	11

Generally, when the pressure requires PN0.6Mpa, the flange size is PN1.0Mpa. When flange to PN1.0MPa, DN80, JB78, screw hole Z=4, t other parameter z=8.

