



Mark 6800HP Series

High Pressure Regulating Valve

CRN Registration Number Available

PRESSURE REGULATORS

The Mark 6800HP is a self-operated pressure regulating valve for use on high pressure industrial gas and liquid services to 4000 psi (276 bar). The MK6800HP features exceptional accuracy with high flow capacities and simple in-line maintainability.

For durability and dependable service, the 1/2" – 1" valves are constructed of total barstock, with all stainless steel components. To aide weld integrity during installation, the standard valve body material is 316L SST. Valve plugs are available with either hard or soft seats and balanced trim is available with either seat type.

Operation

The Mark 6800HP is normally open. The downward force of the spring is used to establish the set point, or the outlet pressure, and hold the valve in the open position. As the downstream pressure increases, the pressure that is sensed under the piston will rise until it overcomes the force of the set spring, pushing the valve towards the closed position to reduce the pressure back to the desired setpoint.

Features:

- Heavy duty construction – barstock body, Stellite trim and high-strain bolting ensuring integrity of pressure containing parts for this high pressure product
- Optimized trim design – variable piston sizes, spring selections and balanced trim combine to provide excellent performance across a wide range of operating conditions
- Tight shutoff – ANSI Class III, Class IV or Class VI shut-off available
- High pressure – inlet pressure up to 4000 psi with setpoints as high as 3000 psi
- High flows – Cv ratings up to 2.5 in metal or non-metal seat materials for high pressure gas or non-cavitating liquid service. For high pressure steam service, see our Mark 68HP.



A Division of
Richards Industrials
3170 Wasson Road
Cincinnati, OH 45209

513.533.5600
lowflow@richardsind.com

www.lowflowvalve.com



Vinnova Exploration
sales@vinnova.asia
063-271-9119
www.vinnova.asia

MK6800HP SPECIFICATIONS

Line Size: 1/2", 3/4", 1" (DN15, DN20, DN25)

End Connections

- Threaded
- Socket Weld
- Flanged

Standard Materials

- Body/Spring Housing: 316L Stainless Steel
- Seat: Stellite, Vespel®, Teflon®
- Orifice: 17-4 PH Stainless Steel
- Piston: 316 Stainless Steel
- Cylinder: 17-4 PH Stainless Steel
- O-Rings: Buna-N (-65°F to 250°F/-54°C to 121°C); Viton (15°F to 400°F/-26°C to 204°C)

Service

- Stellite and Vespel® trim for hot gas service to 400°F (204°C)
- Teflon® for cold gas and non-cavitating liquids

Body Pressure Rating: 4000 psi @ 100°F (276 bar @ 37,8°C);
2500 psi @ 400°F (172 bar @ 204°C)

Cv & Shutoff

CV	KV	SEAT MATERIAL	ANSI SHUTOFF
2.5	2,2	Stellite	Class IV*
2.5	2,2	Stellite	Class III**
1.0	0,9	Stellite	Class III**
0.5	0,4	Stellite	Class III
2.5	2,2	Vespel®	Class VI
1.0	0,9	Vespel®	Class VI
2.5	2,2	Teflon	Class VI

* Non-balanced trim

** Balanced trim/high differential pressure

MK6800HP REDUCED PRESSURE RANGES

• Vespel® Soft Seat

PRESSURE SET POINT RANGE PSI (BAR)	MAX. INLET PRESSURE PSI (BAR)	CV (KV)	BALANCED TRIM?	PISTON DIAMETER INCHES (MM)	SPRING
1000-2000 (69-138)	2000 (138)	1.0 (0,9)	Yes	1.000 (25,4)	Low
800-2000 (55-138)	2000 (138)	2.5 (2,2)	Yes	1.000 (25,4)	Low
800-1500 (55-103)	1500 (103)	1.0 (0,9)	Yes	1.125 (28,6)	Low
600-1500 (41-103)	1500 (103)	2.5 (2,2)	Yes	1.125 (28,6)	Low
500-1200 (35-83)	1200 (83)	2.5 (2,2)	Yes	1.313 (33,4)	Low
400-1200 (28-83)	2000 (138)	1.0 (0,9)	Yes	1.000 (25,4)	Low
300-900 (21-62)	900 (62)	1.0 (0,9)	Yes	1.500 (38,1)	Low
250-900 (17-62)	900 (62)	2.5 (2,2)	Yes	1.500 (38,1)	Low
250-800 (17-55)	800 (55)	1.0 (0,9)	Yes	1.625 (41,3)	Low
200-800 (14-55)	800 (55)	2.5 (2,2)	Yes	1.625 (41,3)	Low
2200-3000 (152-207)	4000 (276)	1.0 (0,9)	Yes	0.938 (23,8)	High
2200-3000 (152-207)	4000 (276)	2.5 (2,2)	Yes	0.938 (23,8)	High
1800-2400 (124-166)	3500 (241)	1.0 (0,9)	Yes	1.000 (25,4)	High
1800-2400 (124-166)	3500 (241)	2.5 (2,2)	Yes	1.000 (25,4)	High
1400-2000 (97-138)	2800 (193)	1.0 (0,9)	Yes	1.125 (28,6)	High
1400-2000 (97-138)	2800 (193)	2.5 (2,2)	Yes	1.125 (28,6)	High
1000-1500 (69-103)	2200 (152)	1.0 (0,9)	Yes	1.313 (33,4)	High
800-1500 (55-103)	2200 (152)	2.5 (2,2)	Yes	1.313 (33,4)	High
800-1200 (55-83)	1800 (124)	1.0 (0,9)	Yes	1.500 (38,1)	High
600-1200 (41-83)	1800 (124)	2.5 (2,2)	Yes	1.500 (38,1)	High
600-1000 (41-69)	1500 (103)	1.0 (0,9)	Yes	1.625 (41,3)	High
500-1000 (35-69)	1500 (103)	2.5 (2,2)	Yes	1.625 (41,3)	High

MK6800HP REDUCED PRESSURE RANGES

• Teflon® Soft Seat

PRESSURE SET POINT RANGE PSI (BAR)	MAX. INLET PRESSURE PSI (BAR)	CV (KV)	BALANCED TRIM?	PISTON DIAMETER INCHES (MM)	SPRING
1200-2000 (83-138)	2000 (138)	2.5 (2,2)	Yes	1.000 (25,4)	Low
800-1400 (55-97)	1400 (97)	2.5 (2,2)	Yes	1.125 (28,6)	Low
600-1200 (41-83)	1200 (83)	2.5 (2,2)	Yes	1.313 (33,4)	Low
300-900 (21-62)	900 (62)	2.5 (2,2)	Yes	1.500 (38,1)	Low
250-800 (17-55)	800 (55)	2.5 (2,2)	Yes	1.625 (41,3)	Low

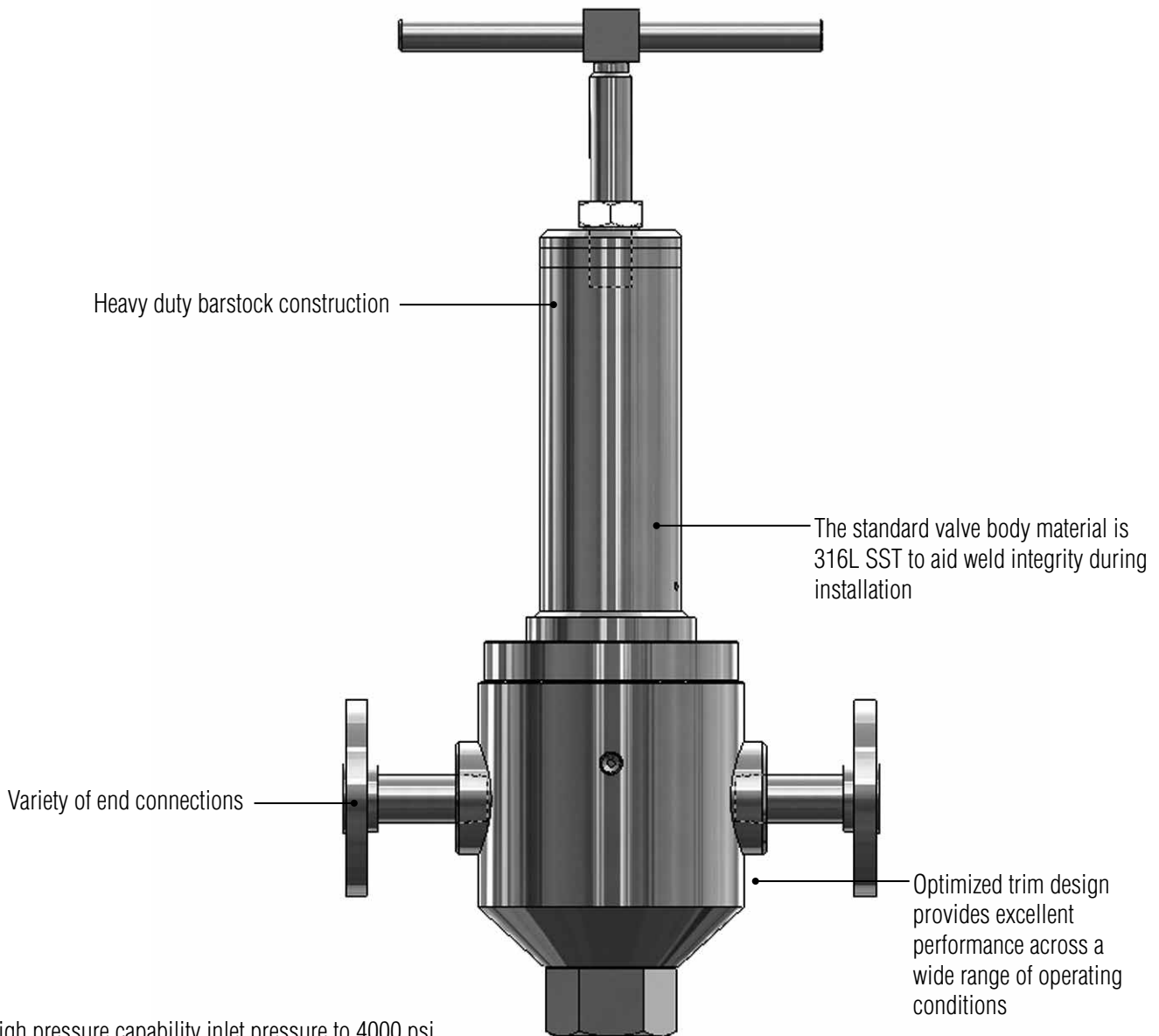
Teflon® is a registered trademark of DuPont

• Stellite Seat

PRESSURE SET POINT RANGE PSI (BAR)	MAX. INLET PRESSURE PSI (BAR)	CV (KV)	BALANCED TRIM?	PISTON DIAMETER INCHES (MM)	SPRING
1000-2000 (69-138)	2000 (138)	0.5 (0,4)	No	1.000 (25,4)	Low
600-2000 (41-138)	4000 (276)	1.0 (0,9)	Yes	1.000 (25,4)	Low
1000-2000 (69-138)	2000 (138)	2.5 (2,2)	No	1.000 (25,4)	Low
600-2000 (41-138)	4000 (276)	2.5 (2,2)	Yes	1.000 (25,4)	Low
800-1500 (55-103)	1500 (103)	0.5 (0,4)	No	1.125 (28,6)	Low
500-1500 (35-103)	4000 (276)	1.0 (0,9)	Yes	1.125 (28,6)	Low
700-1500 (48-103)	1500 (103)	2.5 (2,2)	No	1.125 (28,6)	Low
500-1500 (35-103)	4000 (276)	2.5 (2,2)	Yes	1.125 (28,6)	Low
500-1200 (35-83)	1200 (83)	0.5 (0,4)	No	1.313 (33,4)	Low
300-1200 (21-83)	4000 (276)	1.0 (0,9)	Yes	1.313 (33,4)	Low
500-1200 (35-83)	1200 (83)	2.5 (2,2)	No	1.313 (33,4)	Low
300-1200 (21-83)	4000 (276)	2.5 (2,2)	Yes	1.313 (33,4)	Low
300-900 (21-62)	900 (62)	0.5 (0,4)	No	1.500 (38,1)	Low
250-900 (17-62)	4000 (276)	1.0 (0,9)	Yes	1.500 (38,1)	Low
300-900 (21-62)	900 (62)	2.5 (2,2)	No	1.500 (38,1)	Low
250-900 (17-62)	4000 (276)	2.5 (2,2)	Yes	1.500 (38,1)	Low
250-800 (17-55)	800 (55)	0.5 (0,4)	No	1.625 (41,3)	Low

• Stellite Seat (con't)

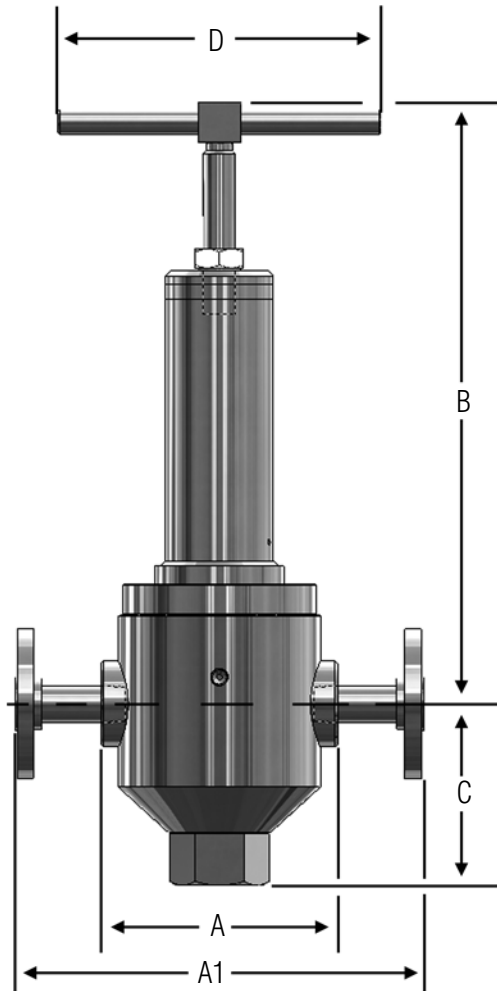
PRESSURE SET POINT RANGE PSI (BAR)	MAX. INLET PRESSURE PSI (BAR)	CV (KV)	BALANCED TRIM?	PISTON DIAMETER INCHES (MM)	SPRING
200-800 (14-55)	4000 (276)	1.0 (0,9)	Yes	1.625 (41,3)	Low
250-800 (17-55)	800 (255)	2.5 (2,2)	No	1.625 (41,3)	Low
200-800 (14-55)	4000 (276)	2.5 (2,2)	Yes	1.625 (41,3)	Low
2200-3000 (152-207)	4000 (276)	0.5 (0,4)	No	0.938 (23,8)	High
1600-3000 (110-207)	4000 (276)	1.0 (0,9)	Yes	0.938 (23,8)	High
2200-3000 (152-207)	4000 (276)	2.5 (2,2)	No	0.938 (23,8)	High
1600-3000 (110-207)	4000 (276)	2.5 (2,2)	Yes	0.938 (23,8)	High
1800-2400 (124-166)	3500 (241)	0.5 (0,4)	No	1.000 (25,4)	High
1400-2400 (97-166)	4000 (276)	1.0 (0,9)	Yes	1.000 (25,4)	High
1800-2500 (124-173)	3500 (241)	2.5 (2,2)	No	1.000 (25,4)	High
1400-2400 (97-166)	4000 (276)	2.5 (2,2)	Yes	1.000 (25,4)	High
1400-2000 (97-138)	3000 (207)	0.5 (0,4)	No	1.125 (28,6)	High
1000-2200 (69-152)	4000 (276)	1.0 (0,9)	Yes	1.125 (28,6)	High
1400-2000 (97-138)	3000 (207)	2.5 (2,2)	No	1.125 (28,6)	High
1000-2200 (69-152)	4000 (276)	2.5 (2,2)	Yes	1.125 (28,6)	High
1000-1500 (69-103)	2800 (193)	0.5 (0,4)	No	1.313 (33,4)	High
800-1600 (55-110)	4000 (276)	1.0 (0,9)	Yes	1.313 (33,4)	High
1000-1600 (69-110)	2800 (193)	2.5 (2,2)	No	1.313 (33,4)	High
800-1600 (55-110)	4000 (276)	2.5 (2,2)	Yes	1.313 (33,4)	High
800-1200 (55-83)	2400 (166)	0.5 (0,4)	No	1.500 (38,1)	High
800-1200 (41-83)	4000 (276)	1.0 (0,9)	Yes	1.500 (38,1)	High
800-1200 (55-83)	2400 (166)	2.5 (2,2)	No	1.500 (38,1)	High
600-1200 (41-83)	4000 (276)	2.5 (2,2)	Yes	1.500 (38,1)	High
600-1000 (41-69)	2000 (138)	0.5 (0,4)	No	1.625 (41,3)	High
500-1000 (35-69)	4000 (276)	1.0 (0,9)	Yes	1.625 (41,3)	High
600-1000 (41-69)	2000 (138)	2.5 (2,2)	No	1.625 (41,3)	High
500-1000 (35-69)	4000 (276)	2.5 (2,2)	Yes	1.625 (41,3)	High

MK6800HP FEATURES & BENEFITS

High pressure capability inlet pressure to 4000 psi with setpoints as high as 3000 psi

Tight shutoff - ANSI Class III, Class V, or Class VI available

MK6800HP DIMENSIONS



- Threaded Ends**

VALVE SIZE	DIMENSIONS				WEIGHT LBS
	A	B	C	D	
1/2"	5.50	14.00	4.22	7.50	30
3/4"	5.50	14.00	4.22	7.50	30
1"	5.50	14.00	4.62	7.50	30

- Threaded Ends, Metric**

VALVE SIZE	DIMENSIONS				WEIGHT KGS
	A	B	C	D	
DN15	140	356	107	191	14
DN20	140	356	107	191	14
DN25	140	356	117	191	14

- Flanged Ends**

VALVE SIZE	ANSI FLANGE	DIMENSIONS			WEIGHT LBS	
		A1	B	C	D	
1/2"	150#	9.50	14.00	4.22	7.50	33
	300#	9.75	14.00	4.22	7.50	35
	600#	10.00	14.00	4.22	7.50	35
	900#	10.00	14.00	4.22	7.50	39
	1500#	10.00	14.00	4.22	7.50	39
	2500#	10.38	14.00	4.22	7.50	45
3/4"	150#	9.50	14.00	4.22	7.50	35
	300#	9.75	14.00	4.22	7.50	37
	600#	10.00	14.00	4.22	7.50	37
	900#	10.00	14.00	4.22	7.50	41
	1500#	10.00	14.00	4.22	7.50	41
	2500#	10.75	14.00	4.22	7.50	47
1"	150#	9.50	14.00	4.22	7.50	35
	300#	9.75	14.00	4.22	7.50	37
	600#	10.00	14.00	4.22	7.50	39
	900#	10.00	14.00	4.22	7.50	47
	1500#	10.00	14.00	4.22	7.50	47
	2500#	12.12	14.00	4.22	7.50	53

- Flanged Ends, Metric**

VALVE SIZE	FLANGE (PN)	DIMENSIONS			WEIGHT KGS	
		A1	B	C	D	
DN15	10/16	241	356	107	191	15
	25/40	248	356	107	191	16
	600#	254	356	107	191	16
	900#	254	356	107	191	18
	1500#	254	356	107	191	18
	2500#	264	356	107	191	20
DN20	10/16	241	356	107	191	16
	25/40	248	356	107	191	17
	600#	254	356	107	191	17
	900#	254	356	107	191	19
	1500#	254	356	107	191	19
	2500#	273	356	107	191	21
DN25	10/16	241	356	107	191	16
	25/40	248	356	107	191	17
	600#	254	356	107	191	18
	900#	254	356	107	191	21
	1500#	254	356	107	191	21
	2500#	308	356	107	191	24



ORDERING SCHEMATIC

MK6800HP ORDERING SCHEMATIC

Model No.	Body Mat'l	O-Ring	/	1	2	3	4	5	6	7	8

MODEL	
6800HP	Standard

BODY MATERIAL	
316	316 Stainless Steel

O-RING	
B	Buna-N
E	EPDM
V	Viton

1 & 2		BODY	
	Size		End Connection
A	1/2" (DN15)	A	FNPT
B	3/4" (DN20)	B	FSW
C	1" (DN25)	C	150# Flange
		D	300# Flange
		E	600# Flange
		F	900# Flange
		G	1500# Flange
ZZ		Non-Standard	

3 & 4		TRIM	
AA		Cv 2.5 (Kv 2,2), Stellite, Un-balanced	
BB		Cv 2.5 (Kv 2,2), Stellite, Balanced	
CC		Cv 2.5 (Kv 2,2), Vespel, Balanced	
DD		Cv 2.5 (Kv 2,2), PTFE, Balanced	
EE		Cv 1.0 (Kv 0,9), Stellite, Balanced	
FF		Cv 1.0 (Kv 0,9), Vespel, Balanced	
GG		Cv 0.5 (Kv 0,4), Stellite, Un-balanced	
ZZ		Non-Standard	

5 & 6		PISTON/CYLINDER	
09		0.938" (23,8mm) diameter	
10		1.000" (25,4mm) diameter	
11		1.125" (28,5mm) diameter	
13		1.312" (33,6mm) diameter	
15		1.500" (38,1mm) diameter	
16		1.625" (41,3mm) diameter	
17		1.750" (44,6mm) diameter	

7 & 8		SPRING/ACTUATOR	
LR		Low Range	
HR		High Range	
ZZ		Non-Standard	



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 www.vinnova.asia

