

# Mark 58 Series

CRN Registration Number Available

## Cage Trim Back Pressure Regulators

The Mark 58 back pressure regulator features three ports: a bypass outlet on the bottom, and two side ports which are directly connected to serve as inlet and outlet for through-flow.

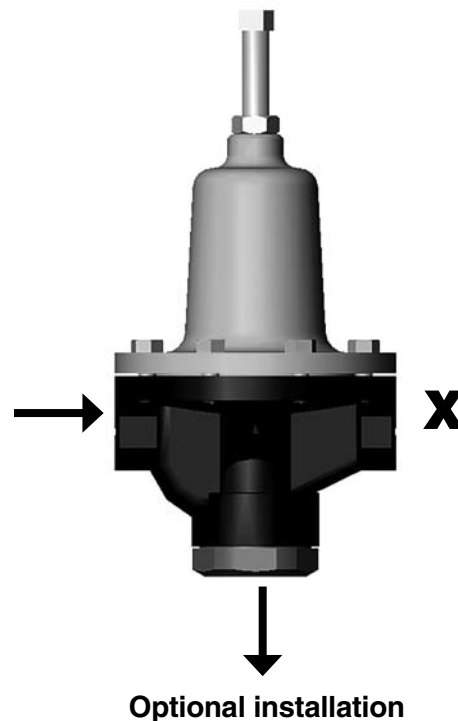
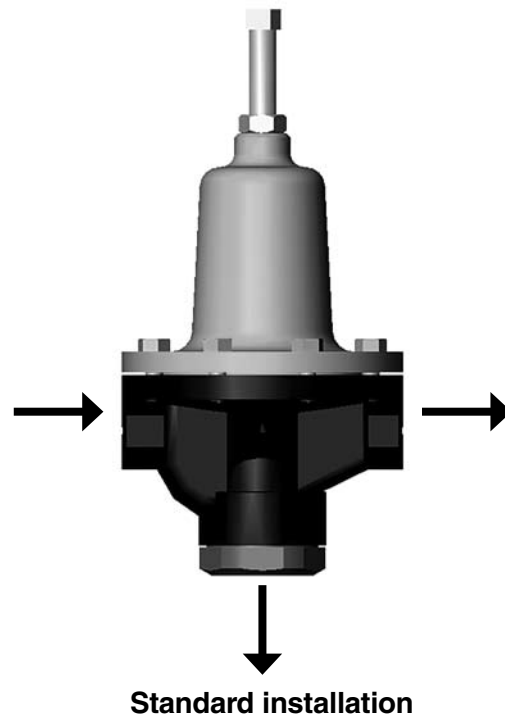
**Standard installation** – it is designed to be installed in a "T" fashion such that the fluid normally flows in one side and out the other side, with the flow being relieved through the bottom bypass when the pressure exceeds the setting.

**Optional installation** – it can also be installed with one side port as an inlet and the other side port plugged. In this arrangement when the inlet pressure exceeds the set point, fluid is relieved through the bottom port.

The Mark 58 is available in sizes up to 2" (DN50) in a wide variety of body materials. Diaphragms can be either Stainless Steel or elastomer. Low flow versions with Cv values as low as 0.26 (2,24 Kv) are available in certain sizes.

### FEATURES

- Easy to maintain and service – remove bottom entry cage to access plug; diaphragm accessible from top
- Large effective diaphragm area – reduces droop for increased accuracy and sensitivity
- Large orifices and body passages – provides high flow capacities
- "Tight Shutoff" – choice of hard (ANSI CL IV) or soft (ANSI CL VI) bubble tight seats
- Versatile application – use on steam, air, gas liquids or chemicals



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**SPECIFICATIONS**

**Sizes:** 1/4" through 2" (DN8 through DN50)

**End Connections**

- Threaded — FNPT, BSPT, BSPP
- ANSI Flanges — 150#, 300# (1/2" – 2")
- DIN Flanges — PN10/16, PN25/40 (1/2" – 2")
- Consult factory if bottom bypass port flange is required

**Body Materials**

- Ductile Iron
- Bronze
- Carbon Steel
- Stainless Steel

**Hard Seat Plug:** 17-4 Ph Stainless Steel

**Soft Seat Plug**

- Buna-N / 316
- Viton / 316
- EPDM / 316

**Stem:** 17-4 Ph Stainless Steel

**Cage (with hardened nickel plating)**

- DI or CS body valves: steel
- SS body valves: 303 Stainless Steel

**Cage Seat:** Stainless Steel

**Spring Housing:** Cast Iron

**Diaphragm**

- Standard: Buna-N / Nylon
- Optional: Stainless Steel; Viton / Nomex; EPDM

**Shutoff**

- Hard Seat: ANSI Class IV
- Soft Seat: ANSI Class VI for bubble-tight shutoff

**Spring Ranges PSI (BAR)**

Size (DN)	PSI	BAR
1/4" to 1/2" (DN8 to DN15)	1-10; 5-25; 20-50; 40-200; 175-275	0,1-0,7; 0,3-1,7; 1,4-3,5; 2,8-13,8; 12,1-19,0
3/4" & 1" (DN20 & DN25)	1-7; 5-22; 15-105; 95-145; 135-215	0,1-0,5; 0,3-1,5; 1,0-7,2; 6,6-10,0; 9,3-14,8
1-1/4" to 2" (DN32 to DN50)	1-20; 15-70; 60-105; 95-150	0,1-1,4; 1,0-4,8; 4,1-7,2; 6,6-10,3

**Maximum Inlet Pressure:** 300 psi (20,7 bar)

**Maximum Temperature:** 200°F (93°C) with Buna-N seats and diaphragm; 500°F (260°C) with EPDM seats and SST diaphragm; 350°F (177°C) with Viton seats and Viton or SST diaphragm

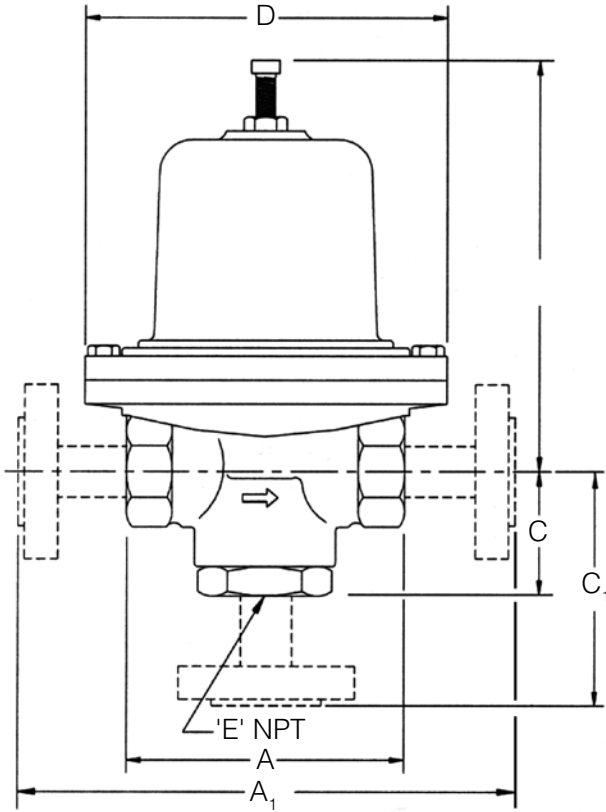
**Minimum Temperatures:** -20°F (-29°C) with Buna-N seats and diaphragm; 0°F (-18°C) with SST diaphragm and Buna-N seats

**Cv (Kv) Values**

Valve Size In. (DN)	Diaphragm Material	Orifice Size In. (mm)	Bypass		Through-Flow
			Cv (Kv)	FL	Cv (Kv)
1/4" (DN8)	SST & Elastomer	0.47 (12mm)	2.6 (2,2)	0.80	3.1 (2,7)
3/8" (DN10)	SST & Elastomer	0.47" (12mm)	2.6 (2,2)	0.80	5.8 (5,0)
1/2" (DN15)	SST & Elastomer	0.47" (12mm)	2.6 (2,2)	0.80	10.8 (9,3)
3/4" (DN20)	Elastomer	0.60" (15mm)	5.5 (4,7)	0.80	16.4 (14,1)
3/4" (DN20)	SST	0.75" (19mm)	7.9 (6,8)	0.80	16.4 (14,1)
1" (DN25)	SST	0.60" (15mm)	5.7 (4,9)	0.80	26 (22,4)
1" (DN25)	Elastomer	0.60" (15mm)	6.8 (5,9)	0.80	26 (22,4)
1" (DN25)	SST	0.75" (19mm)	8.9 (7,7)	0.80	26 (22,4)
1" (DN25)	Elastomer	0.75" (19mm)	11.3 (9,7)	0.80	26 (22,4)
1-1/4" (DN32)	SST	1.07" (27mm)	13.5 (11,6)	0.85	55 (47,3)
1-1/4" (DN32)	SST	1.23" (31mm)	15.5 (13,3)	0.85	55 (47,3)
1-1/2" (DN40)	SST	1.07" (27mm)	14.2 (12,2)	0.85	85 (73,1)
1-1/2" (DN40)	Elastomer	1.07" (27mm)	18.8 (16,2)	0.85	85 (73,1)
1-1/2" (DN40)	SST	1.23" (31mm)	17.4 (15,0)	0.85	85 (73,1)
1-1/2" (DN40)	Elastomer	1.23" (31mm)	24.0 (20,6)	0.85	85 (73,1)
2" (DN50)	SST	1.23" (31mm)	16.9 (14,5)	0.85	105 (90,3)
2" (DN50)	Elastomer	1.23" (31mm)	24.7 (21,2)	0.85	105 (90,3)
2" (DN50)	SST	1.47 (37mm)	21.7 (18,7)	0.85	105 (90,3)
2" (DN50)	Elastomer	1.47" (37mm)	32.4 (27,9)	0.85	105 (90,3)

# MARK 58 CAGE TRIM BACK PRESSURE REGULATOR

## DIMENSIONS



Consult factory if bottom bypass port flange is required

- Threaded Ends – inches (metric)

Size (DN)	Dimensions — Inches (mm)					Weight lbs (kgs)
	A	B	C	D	E	
1/4" (8)	5.0 (127)	7.6 (194)	2.6 (65)	5.0 (127)	1/2" (15)	11 (5)
3/8" (10)	5.0 (127)	7.6 (194)	2.6 (65)	5.0 (127)	1/2" (15)	11 (5)
1/2" (15)	5.0 (127)	7.6 (194)	2.6 (65)	5.0 (127)	1/2" (15)	11 (5)
3/4" (20)	5.0 (127)	8.8 (222)	2.6 (65)	6.9 (174)	1" (25)	20 (9)
1" (25)	5.0 (127)	8.8 (222)	2.6 (65)	6.9 (174)	1" (25)	20 (9)
1-1/4" (32)	7.50 (191)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	68 (31)
1-1/2" (40)	7.50 (191)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	68 (31)
2" (50)	7.50 (191)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	68 (31)

- Flanged Ends – inches (metric)

Size (DN)	Flange ANSI (PN)*	Dimensions — Inches (mm)					Weight lbs (kgs)
		A1 ⊕	B	C1	D	E	
1/2" (15)	150# (10/16)	9.50 (241)	7.62 (194)	2.6 (65)	5.0 (127)	1/2" (15)	15 (7)
	300# (25/40)	9.75 (248)	7.62 (194)	2.6 (65)	5.0 (127)	1/2" (15)	18 (8)
3/4" (20)	150# (10/16)	9.50 (241)	8.75 (222)	2.6 (66)	6.87 (174)	1" (25)	27 (12)
	300# (25/40)	9.75 (248)	8.75 (222)	2.6 (66)	6.87 (174)	1" (25)	30 (14)
1" (25)	150# (10/16)	9.50 (241)	8.75 (222)	2.6 (66)	6.87 (174)	1" (25)	27 (12)
	300# (25/40)	9.75 (248)	8.75 (222)	2.6 (66)	6.87 (174)	1" (25)	30 (14)
1-1/4" (32)	150# (10/16)	13.00 (330)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	75 (33)
	300# (25/40)	13.25 (337)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	81 (37)
1-1/2" (40)	150# (10/16)	13.00 (330)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	78 (35)
	300# (25/40)	13.25 (337)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	87 (40)
2" (50)	150# (10/16)	13.00 (330)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	84 (38)
	300# (25/40)	13.25 (337)	16.8 (426)	4.0 (102)	9.4 (238)	2" (50)	90 (41)

⊕ Not to ANSI

\* Other configurations available, consult factory

## ORDERING SCHEMATIC

Model No	Size	Body Mat'l	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Model	Model
58	Standard

Size	Size
025	1/4" (DN8)
038	3/8" (DN10)
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)
125	1-1/4" (DN32)
150	1-1/2" (DN40)
200	2" (DN50)

Body Material	Body Material
DI	Ductile Iron
CS	Carbon Steel (WCB)
S6	Stainless Steel (CF8M)
BR	Bronze

1 & 2	End Connections
PT	NPT
BT	BSPT
BP	BSPP
SW	FSW
F1	125# FE
F5	150# FE
F2	250# FE
F3	300# FE
F7	PN10 DIN FE
F6	PN16 DIN FE
F8	PN25 DIN FE
F4	PN40 DIN FE
ZZ	Non-Standard

**ORDERING SCHEMATIC (CON'T)**

3		Plug Seat Material
B		Buna-N
V		Viton
J		EPDM
M		Hard
Z		Non-Standard

8 & 9		Diaphragm & Body O-Ring
BN		Buna-N & Buna-N
S6		316SST & Viton
SE		316SST & EPDM
VI		Viton & Viton
ZZ		Non-Standard

4 & 5		Plug Seat Cv (Kv)	
1	0.21 (0,18)	J	9.4 (8,1)
2	0.42 (0,36)	K	11.3 (9,7)
3	0.84 (0,72)	L	13.4 (11,5)
4	1.6 (1,4)	M	13.5 (11,6)
6	2.6 (2,2)	N	14.2 (12,2)
7	2.9 (2,5)	P	15.5 (13,3)
8	4.4 (3,8)	R	16.9 (14,5)
A	5.5 (4,7)	T	17.4 (15,0)
B	5.6 (4,8)	U	17.6 (15,1)
C	5.7 (4,9)	V	18.8 (16,2)
D	6.5 (5,6)	X	21.7 (18,7)
E	6.8 (5,9)	Y	22.3 (19,2)
G	7.7 (6,6)	1	24.0 (20,6)
H	7.9 (6,8)	2	24.7 (21,2)
I	8.9 (7,7)	3	32.4 (28,0)
ZZ		Non-Standard	

9 & 10		Actuator
		1/4", 3/8", 1/2" (DN8, DN10, DN15)
M1		S6 Diaph/Ranges 20-50 & below
E1		VI & BN Diaph/Ranges 20-50 & below
M2		S6 Diaph/Ranges 40-200 & above
E2		VI & BN Diaph/Ranges 40-200 & above
ZZ		Non-Standard
		3/4", 1" (DN20, DN25)
MD		For Metal Diaph (S6) All Ranges
E1		VI & BN Diaph/Ranges 5-22 & below
E2		VI & BN Diaph/Ranges 15-105 & above
ZZ		Non-Standard
		1-1/4", 1-1/2", 2" (DN32, DN40, DN50)
MD		For Metal Diaph (S6) / All Ranges
ED		For Elastomer Diaph (VI, BN) / All Ranges
ZZ		Non-Standard

6 & 7		Range
		1/4", 3/8", 1/2" (DN8, DN10, DN15)
C2		1 - 10 (0,07 - 0,7)
C8		5 - 25 (0,3 - 1,7)
54		20 - 50 (1,4 - 3,5)
CJ		40 - 200 (2,8 - 13,8)
CW		175 - 275 (12,1 - 19,0)
ZZ		Non-Standard
		3/4", 1" (DN20, DN25)
C1		1 - 7 (0,07 - 0,5)
C7		5 - 22 (0,3 - 1,5)
CD		15 - 105 (1,0 - 7,2)
CR		95 - 145 (6,6 - 10,0)
CU		135 - 215 (9,3 - 14,8)
ZZ		Non-Standard
		1-1/4", 1-1/2", 2" (DN32, DN40, DN50)
C3		1 - 20 (0,07 - 1,4)
CC		15 - 70 (1,0 - 4,8)
CN		60 - 105 (4,1 - 7,2)
CS		95 - 150 (6,6 - 10,3)
ZZ		Non-Standard

11 & 12		Accessories
00		None
S8		18-8SS Bolting
S6		316SS Bolting
SC		Oil-Free Clean
XC		Oxygen Clean
ZZ		Non-Standard

13 & 14		PED Compliance
00		Not Required
FF		CE Category 1
ZZ		Non-Standard

