

Mark 58

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 dual inlets or as inlet and outlet for through-flow. 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. 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 Class IV) or soft (ANSI Class 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#
- DIN Flanges — PN10/16, PN25/40

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 Temperatures: 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

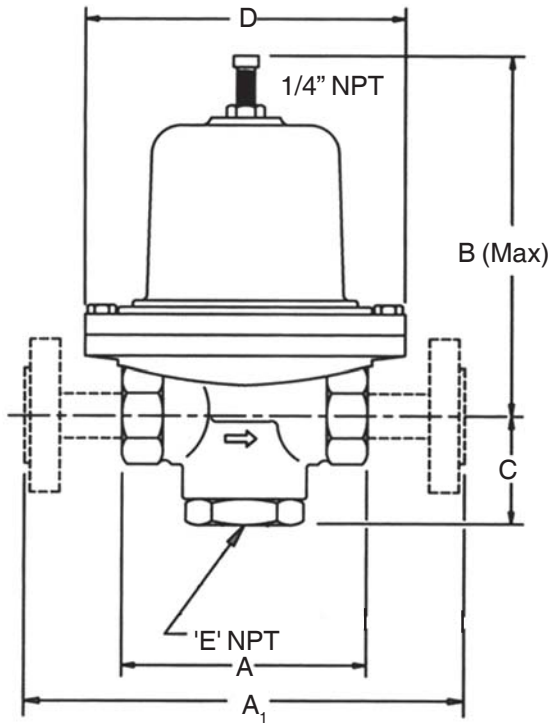
Minimum Temperatures: -20°F (-29°C) with Buna-N seats and diaphragm; 0°F (-18°C) with SST diaphragm and Buna-N seats

Cv (Kv) Values

Valve Size In. (DN)	Diaphragm Material	Orifice Size In. (mm)	Bypass		Through-Flow
			Cv (Kv)	F _L	Cv (Kv)
1/4" (DN8)	SST & Elastomer	.47" (12mm)	2.6 (2,24)	.80	3.1 (2,67)
3/8" (DN10)	SST & Elastomer	.47" (12mm)	2.6 (2,24)	.80	5.8 (4,99)
1/2" (DN15)	SST & Elastomer	.47" (12mm)	2.6 (2,24)	.80	10.8 (9,29)
3/4" (DN20)	SST	.60" (15mm)	5.5 (4,73)	.80	16.4 (14,10)
3/4" (DN20)	Elastomer	.60" (15mm)	6.5 (5,59)	.80	16.4 (14,10)
3/4" (DN20)	SST	.75" (19mm)	7.9 (6,79)	.80	16.4 (14,10)
3/4" (DN20)	Elastomer	.75" (19mm)	9.4 (8,08)	.80	16.4 (14,10)
1" (DN25)	SST	.60" (15mm)	5.7 (4,90)	.80	26.0 (22,36)
1" (DN25)	Elastomer	.60" (15mm)	6.8 (5,85)	.80	26.0 (22,36)
1" (DN25)	SST	.75" (19mm)	8.9 (7,65)	.80	26.0 (22,36)
1" (DN25)	Elastomer	.75" (19mm)	11.3 (9,72)	.80	26.0 (22,36)
1-1/4" (DN32)	SST	1.07" (27mm)	13.5 (11,61)	.85	55.0 (47,3)
1-1/4" (DN32)	SST	1.23" (31mm)	15.5 (13,33)	.85	55.0 (47,3)
1-1/2" (DN40)	SST	1.07" (27mm)	14.2 (12,21)	.85	85.0 (73,1)
1-1/2" (DN40)	Elastomer	1.07" (27mm)	18.8 (16,17)	.85	85.0 (73,1)
1-1/2" (DN40)	SST	1.23" (31mm)	17.4 (14,96)	.85	85.0 (73,1)
1-1/2" (DN40)	Elastomer	1.23" (31mm)	24.0 (20,64)	.85	85.0 (73,1)
2" (DN50)	SST	1.23" (31mm)	16.9 (14,53)	.85	105.0 (90,3)
2" (DN50)	Elastomer	1.23" (31mm)	24.7 (21,24)	.85	105.0 (90,3)
2" (DN50)	SST	1.47" (37mm)	21.7 (18,66)	.85	105.0 (90,3)
2" (DN50)	Elastomer	1.47" (37mm)	32.4 (27,86)	.85	105.0 (90,3)

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

DIMENSIONS



Note: Standard "T" installation shown. Consult factory for other installation options.

■ Threaded Ends

Size (DN)	Dimensions — Inches (Metric)					Weight lbs (kgs)
	A	B	C	D	E	
1/4" (8)	5.00 (127)	7.62 (193,5)	2.56 (65,0)	5.00 (127)	1/2" (15)	11 (5,0)
3/8" (10)	5.00 (127)	7.62 (193,5)	2.56 (65,0)	5.00 (127)	1/2" (15)	11 (5,0)
1/2" (15)	5.00 (127)	7.62 (193,5)	2.56 (65,0)	5.00 (127)	1/2" (15)	11 (5,0)
3/4" (20)	5.00 (127)	8.75 (222,3)	2.62 (66,5)	6.87 (174)	1" (25)	20 (9,1)
1" (25)	5.00 (127)	8.75 (222,3)	2.62 (66,5)	6.87 (174)	1" (25)	20 (9,1)
1-1/4" (32)	7.50 (190,5)	16.75 (425,5)	4.00 (101,6)	9.37 (238)	2" (50)	68 (30,8)
1-1/2" (40)	7.50 (190,5)	16.75 (425,5)	4.00 (101,6)	9.37 (238)	2" (50)	68 (30,8)
2" (50)	7.50 (190,5)	16.75 (425,5)	4.00 (101,6)	9.37 (238)	2" (50)	68 (30,8)

■ Flanged Ends

Size (DN)	Flange ANSI (PN)*	Dimensions — Inches (Metric)					Weight lbs (kgs)
		A ₁ ①	B	C	D	E	
1/2" (15)	150# (10/16)	9.50 (241)	7.62 (194)	2.56 (65)	5.00 (127)	1/2" (15)	15 (7)
	300# (25/40)	9.75 (248)	7.62 (194)	2.56 (65)	5.00 (127)	1/2" (15)	18 (8)
3/4" (20)	150# (10/16)	9.50 (241)	8.75 (222)	2.62 (66)	6.87 (174)	1" (25)	27 (12)
	300# (25/40)	9.75 (248)	8.75 (222)	2.62 (66)	6.87 (174)	1" (25)	30 (14)
1" (25)	150# (10/16)	9.50 (241)	8.75 (222)	2.62 (66)	6.87 (174)	1" (25)	27 (12)
	300# (25/40)	9.75 (248)	8.75 (222)	2.62 (66)	6.87 (174)	1" (25)	30 (14)
1-1/4" (32)	150# (10/16)	13.00 (330)	16.75 (426)	4.00 (102)	9.37 (238)	2" (50)	75 (33)
	300# (25/40)	13.25 (337)	16.75 (426)	4.00 (102)	9.37 (238)	2" (50)	81 (37)
1-1/2" (40)	150# (10/16)	13.00 (330)	16.75 (426)	4.00 (102)	9.37 (238)	2" (50)	78 (35)
	300# (25/40)	13.25 (337)	16.75 (426)	4.00 (102)	9.37 (238)	2" (50)	87 (40)
2" (50)	150# (10/16)	13.00 (330)	16.75 (426)	4.00 (102)	9.37 (238)	2" (50)	84 (38)
	300# (25/40)	13.25 (337)	16.75 (426)	4.00 (102)	9.37 (238)	2" (50)	90 (41)

① Not to ANSI

* Other configurations available - consult factory

ORDER SCHEMATIC

1	—	2	—	3	/	4	5	6	7	8	9	10	11
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1	Model	
58	Standard	

2	Size		
		Inches	DN
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	

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

4	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

ORDER SCHEMATIC (CON'T FROM PAGE 3)

5	Plug Seat Material	
	B	Buna-N
	V	Viton
	J	EPDM
	M	Hard
	ZZ	Non-standard

8	Diaphragm & Body O-Ring	
	BN	Buna-N & Buna-N
	S6	316SST & Viton
	SE	316SST & EPDM
	V1	Viton & Viton
	ZZ	Non-standard

6	Plug Seat CV (Kv)			
	1	0.21 (0,18)	J	9.4 (8,08)
	2	0.42 (0,36)	K	11.3 (9,72)
	3	0.84 (0,72)	L	13.4 (11,52)
	4	1.6 (1,38)	M	13.5 (11,61)
	6	2.6 (2,24)	N	14.2 (12,21)
	7	2.9 (2,49)	P	15.5 (13,33)
	8	4.4 (3,78)	R	16.9 (14,53)
	A	5.5 (4,73)	T	17.4 (14,96)
	B	5.6 (4,82)	U	17.6 (15,14)
	C	5.7 (4,90)	V	18.8 (16,17)
	D	6.5 (5,59)	X	21.7 (18,66)
	E	6.8 (5,85)	Y	22.3 (19,18)
	G	7.7 (6,62)	1	24.0 (20,64)
	H	7.9 (6,79)	2	24.7 (21,24)
	I	8.9 (7,65)	3	32.4 (27,86)
	ZZ	Non-standard		

9	Actuator	
		1/4", 3/8", 1/2" (DN8, DN10, DN15)
	M1	S6 Diaph/Ranges 20-50 & below
	E1	V1 & BN Diaph/Ranges 20-50 & below
	M2	S6 Diaph/Ranges 40-200 & above
	E2	V1 & BN Diaph/Ranges 40-200 & above
	ZZ	Non-standard
		3/4", 1" (DN20, DN25)
	MD	For Metal Diaph. (S6) All Ranges
	E1	V1 & BN Diaph/Ranges 5-22 & below
	E2	V1 & 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. (V1, BN)/All Ranges
	ZZ	Non-standard

7	Range	
		1/4", 3/8", 1/2" (DN8, DN10, DN15)
	C2	1-10 (0,07-0,69)
	C8	5-25 (0,34-1,72)
	54	20-50 (1,38-3,45)
	CJ	40-200 (2,76-13,79)
	CW	175-275 (12,07-18,96)
	ZZ	Non-standard
		3/4", 1" (DN20, DN25)
	C1	1-7 (0,07-0,48)
	C7	5-22 (0,34-1,52)
	CD	15-105 (1,03-7,24)
	CR	95-145 (6,55-10,00)
	CU	135-215 (9,31-14,82)
	ZZ	Non-standard
		1-1/4", 1-1/2", 2" (DN32, DN40, DN50)
	C3	1-20 (0,07-1,38)
	CC	15-70 (1,03-4,83)
	CN	60-105 (4,14-7,24)
	CS	95-150 (6,55-10,34)
	ZZ	Non-standard

10	Accessories	
	00	None
	S8	18-8SS Bolting
	S6	316SS Bolting
	SC	Oil-free Clean
	XC	Oxygen Clean
	ZZ	Non-standard

11	PED Compliance	
	00	Not required
	FF	CE Category 1
	ZZ	Non-standard