

The Model 5200 “Low Cost” dump valve is designed for cost-conscious users without sacrificing quality or performance. This valve is ideally suited for dump valve applications in the oil and gas industry.

Features:

- **Simple Maintenance** – Valve trim or the complete actuator assembly can be quickly changed by simply removing the hammer nut and lifting the actuator assembly off the valve body. Disassembly of the actuator or removing the valve from the line is not required. No special tools are required.
- **Simple Installation** – Compact, light-weight design enables quick, easy installation with minimum labor requirements.
- **Hardened Trim** – Control valve trim is available in 17-4 PH stainless steel or Tungsten Carbide, to handle the most difficult applications.
- **Multiple Actuator Options** – Choose a non-adjustable actuator for small space requirements and tamper-proof settings, or choose an adjustable actuator for increased flexibility.
- **Bi-directional Flow** – Valve can be installed for either “flow up” or “flow down” operation, whichever best suites the application.
- **Sour Gas Service Option** – Materials are available that comply with NACE MR-01-75 specifications.



SPECIFICATIONS

Body Styles

Globe:	1" and 2"
Angle:	2" only
Tee:	1" only

End Connections / Pressure Ratings

FNPT:

4000 psig from -20 to 200°F (276 bar from -29 to 93°C)

Flanged¹:

- 150# RF 275 psig (19 bar)
- 300# RF 740 psig (51 bar)
- 600# RF 1480 psig (102 bar)
- 600# RTJ 1480 psig (102 bar)
- 900# RF 2220 psig (152 bar)
- 900# RTJ 2220 psig (152 bar)
- 1500# RF 3750 psig (259 bar)
- 1500# RTJ 3750 psig (259 bar)

Available Trim Sizes

1/4", 3/8", 1/2", 3/4", and 1"

Flow Characteristic

Quick Opening (On/Off)

Flow Coefficients

Body Size	Trim Size	Globe Body	Tee Body	Angle Body
1"	1/4"	1.68	1.92	--
	3/8"	3.82	4.34	--
	1/2"	5.70	6.72	--
	3/4"	11.6	15.2	--
	1"	15.5	20.9	--
2"	1/4"	1.68	--	1.98
	3/8"	3.82	--	4.47
	1/2"	6.19	--	7.00
	3/4"	13.0	--	15.8
	1"	18.0	--	22.0

Shutoff Classification

3/4" Trim Size and smaller: ANSI Class IV

1" Trim Size: ANSI Class III

Flow Direction

Either direction, to suit the application

Actuator Size (Diaphragm Effective Area)

Size 35 (35 in²)

Size 70 (70 in²)

Air Pressure to Actuator

3–15 Spring: 0 to 20 psig control signal recommended

6–30 Spring: 0 to 35 psig control signal recommended

Actuator Housing Maximum Pressure:

- Size 35: 50 psig
- Size 70: 35 psig

Maximum Allowable Shutoff Pressure Drops²

Trim Size	Max. Differential
1/4"	4000
3/8"	2500
1/2"	1450
3/4"	400
1"	150

Assembled Valve Temperature Limits

WCC body with Buna-N seals: -20 to 180°F (-29 to 82°C)

WCC body with Viton seals: -20 to 200°F (-29 to 93°C)

Materials of Construction

Valve Body:	WCC Carbon Steel
Seat / Cage:	17-4PH SST or Tungsten Carbide
Valve Stem:	303 SST
Seals:	Buna-N or Viton
Actuator Housing:	Steel
Diaphragm:	Nylon-reinforced nitrile
Actuator Spring:	Steel

1. Pressure ratings at 100°F (38°C).

2. Pressure drop values shown are based on size 35 non-adjustable actuator installed in a flow-up (under the seat) configuration. Contact your local Mallard Control representative for adjustable actuator maximum allowable shutoff pressure drop values.

Liquid Sizing Equation

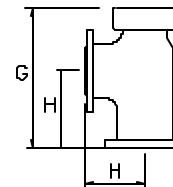
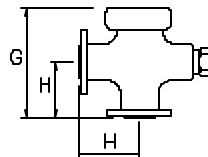
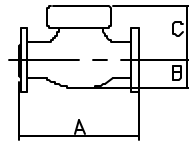
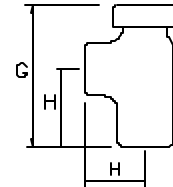
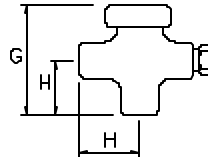
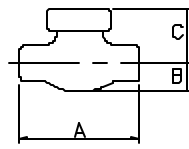
$$C_v = Q \sqrt{\frac{SG}{\Delta P}}$$

Where:

C_v	=	Flow coefficient
Q	=	Flow Rate, gpm
SG	=	Specific gravity
P_1	=	Inlet pressure, psia
P_2	=	Outlet pressure, psia
ΔP	=	Pressure drop, psi
T	=	Inlet gas temperature, °R (°F +460)

Valve Body Dimensions (Inches)

End Connection Style	1" Globe Body			2" Globe Body			1" Tee Body		2" Angle Body	
	A	B	C	A	B	C	G	H	G	H
NPT	6.25	1.56	3.69	7.50	1.69	3.69	4.69	3.13	5.44	3.75
150#RF	7.25	1.56	3.69	10.00	1.69	3.69	5.19	3.63	6.69	5.00
300#RF	7.75	1.56	3.69	10.50	1.69	3.69	5.44	3.88	6.94	5.25
600#RF	8.25	1.56	3.69	11.25	1.69	3.69	5.69	4.13	7.31	5.63
600#RTJ	8.25	1.56	3.69	11.38	1.69	3.69	5.69	4.13	7.38	5.69
900#RF	9.38	1.56	3.69	12.88	1.69	3.69	6.25	4.69	8.13	6.44
900#RTJ	9.38	1.56	3.69	13.00	1.69	3.69	6.25	4.69	8.19	6.50
1500#RF	9.38	1.56	3.69	12.88	1.69	3.69	6.25	4.69	8.13	6.44
1500#RTJ	9.38	1.56	3.69	13.00	1.69	3.69	6.25	4.69	8.19	6.50



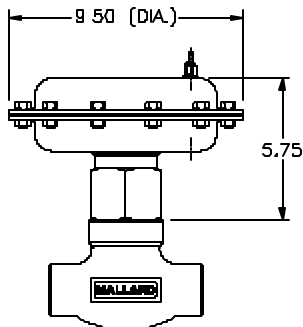
1" and 2" Globe Body

1" Tee Body

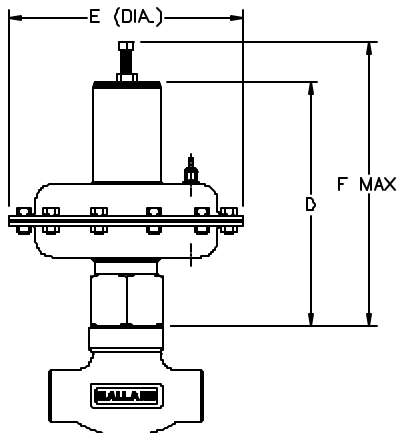
2" Angle Body

Actuator Assembly Dimensions (Inches)

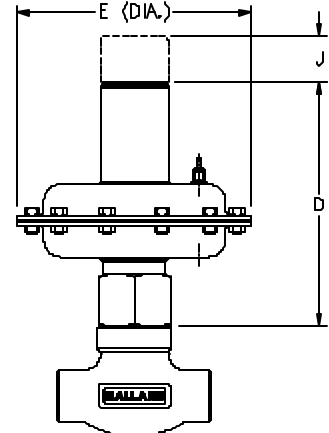
Actuator Size	Direct			Reverse		
	D	E	J ¹	D	E	F
Size 35	12.19	9.50	5.50	9.44	9.50	11.44
Size 70	13.69	12.50	7.00	10.56	12.50	12.56



Non-Adjustable



Adjustable Reverse Acting



Adjustable Direct Acting

1. Clearance required for spring cover removal.

Model Number Information

Sample Model Number: 5200 - 2 S 5 - G 33 C B - 1 3 Q

BODY SIZE	CODE
1"	1
2"	2
END CONNECTIONS	CODE
Female NPT	S
Raised Face (RF) Flange	F
Ring Type Joint (RTJ) Flange	J
Other	(special)
ANSI CLASS (PRESSURE RATING)	CODE
150 (275 psig @ 100°F)	1
300 (740 psig @ 100°F)	3
600 (1480 psig @ 100°F)	6
900 (2220 psig @ 100°F)	9
1500 (3750 psig @ 100°F)	5
FNPT Ends (4000 psig @ 200°F)	
MATERIALS OF CONSTRUCTION	CODE
WCC Steel – Standard Service	-
WCC Steel – NACE MR-01-75	N
BODY STYLE	CODE
Globe	G
Tee (1" or Angle (2"))	T
ACTUATOR SELECTION	CODE
Size 35 Actuator with 3-15 Spring	33
Size 35 Actuator with 6-30 Spring (Adjustable Actuator only)	36
Size 70 Actuator with 3-15 Spring (Adjustable Actuator only)	73
Size 70 Actuator with 6-30 Spring (Adjustable Actuator only)	76
ACTUATOR TYPE	CODE
Direct Acting (fail-open) Non-Adjustable (Size 35 only)	B
Reverse Acting (fail-close) Non-Adjustable (Size 35 only)	C
Reverse Acting (fail-close) Adjustable	R
Direct Acting (fail-open) Adjustable	D
SEAL MATERIAL	CODE
Buna-N	B
Viton	V
TRIM MATERIAL	CODE
17-4PH SST	1
Tungsten Carbide	2
TRIM SIZE	CODE
1/4"	2
3/8"	3
1/2"	4
3/4"	6
1"	8
TRIM CHARACTERISTIC	CODE
Quick Opening (On/Off)	Q

While this information is presented in good faith and believed to be accurate, Mallard Control Company does not guarantee results based upon such information. Mallard Control Company reserves the right to change the design or specifications of these products without notice.

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