

Figure 5325 Solenoid Controlled Single Acting Altitude Valve

Description

The GA Industries Figure 5325 Single Acting Altitude Valve accurately controls the high-water level in an elevated storage tank or standpipe without the need for floats or sensors. The valve is installed in the fill line to close drip tight when the maximum water level is reached. This valve is used where the tank supplies the distribution system through a separate line. Solenoid control is provided to intercept the valve operation to close the main valve. An optional check feature can be supplied to prevent reverse flow and an optional adjustable delayed opening feature allows the tank to be drawn down 3 to 20 ft. before the valve reopens.

Product Features

- Fusion bond epoxy coating and stainless steel trim for corrosion resistance
- Standard visual position indicator
- Pilot system standard with altitude pilot, 120VAC solenoid, closing speed needle valve, wye strainer, pilot isolating valves and stainless steel braided hoses with brass fittings
- Inlet pressure gauge and tank level gauge with 3-way gauge isolation and sensing line flush valve.

Standard Materials

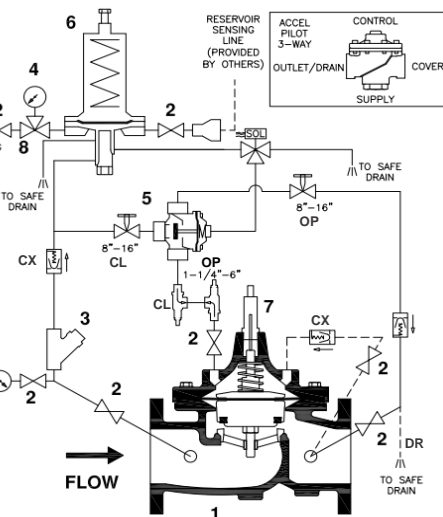
- Body & Bonnet Ductile Iron, ASTM A536
- Internal Trim Stainless Steel
- Disc Buna-N Rubber
- Diaphragm Nylon Reinforced Buna-N
- Internal Fasteners Stainless Steel
- External Fasteners Stainless Steel

Corrosion Protection

- Standard: Internal and External NSF-61 Certified Fusion Bond Epoxy

Schematic Diagram

- 1 Main Valve
- 2 Isolating Valve
- 3 Wye Strainer
- 4 Tank Level Gauge
- 5 Accelerator Pilot
- 6 Altitude Pilot
- 7 Position Indicator
- 8 Gauge Isolating and Sensing Line Flush Valve
- 9 Closing Speed Control



Data Sheet 5325.01A



Body Configurations (See table for availability)

- G – Globe Body
- A – Angle Body
- R-G – Reduced Port Globe Body

Connections (See table for availability)

- 00 – NPT Threaded
- 15 – ANSI Class 150 Flanged
- 30 – ANSI Class 300 Flanged

Spring Range (Maximum water level)

- W1 – 5 to 55 ft. above valve (Optional)
- W2 – 45 to 85 ft. above valve (Optional)
- W3 – 75 to 230 ft. above valve (Standard)
- W4 – 220 to 445 ft. above valve (Optional)

Optional Features

- CX – Check Feature (Closes Main Valve on Pressure Reversal)
- DR – Atmospheric Drain
- LG – Liquid Filled Pressure Gauge
- LH – Pilot System Mounted on Left Side Looking at Inlet
- NC – Normally Closed, De-energize to Close Main Valve
- NO – Normally Open, Energize to Close Main Valve
- OD – Delayed Opening (Adjustable 3-20 ft Below Closing)
- OP – Opening Speed Control
- S9 – Stainless Steel Pilots, Controls and Piping
- 4S – SPDT Limit Switch (Actuate Full Open)
- 5S – SPDT Limit Switch (Actuate Full Closed)
- 6S – Dual SPDT Switches (Actuate Open and Closed)

Example: 5325-G-15-W3-CX-NO-OD-5S

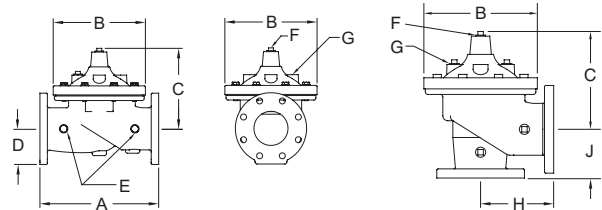
BODY CONFIGURATION		GLOBE BODY		ANGLE BODY
END CONNECTION	PRESSURE RATING	FULL PORT	REDUCED PORT	
NPT Threaded	400 PSI	1½" to 3"	N/A	1½" to 3"
ANSI Class 150 Flanged	250 PSI	1½" to 16"	3" to 10"	1½" to 10"
ANSI Class 300 Flanged	400 PSI			
MINIMUM INLET PRESSURE 10 PSI				

Globe and Angle Main Valve Dimensions

DIM	FULL PORT	VALVE SIZE INCHES (mm)											
		1 1/4 (32)	1 1/2(38)	2 (50)	2 1/2 (65)	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)
A	Threaded	7 1/4	7 1/4	9 7/16	11	12 1/2							
	Class 150 Flange		8 1/2	9 3/8	11	12	15	20	25 3/8	29 3/4	34	39	41 3/8
	Class 300 Flange		9	10	11 5/8	13 1/4	15 5/8	21	26 7/16	31 1/8	35 1/2	40 1/2	43 1/2
	Grooved		8 1/2	9	11	12 1/2	15	20	25 3/8	29 3/4			
B	Diameter	5 5/8	5 5/8	6 3/4	8	9 3/16	11 11/16	15 3/4	20 1/8	23 11/16	27 1/2	31 3/4	34 1/2
C	Max.	5 3/4	5 3/4	6 3/16	7 3/8	8	10 3/16	12 5/16	15 9/16	17 5/8	20 3/16	22 13/16	25 7/8
D	Threaded/Grooved	1 3/8	1 3/8	1 3/4	2 1/8	2 9/16	3 7/16	5	5	5 13/16	6 3/4	8 7/8	8 13/16
	Class 150 Flange		2 1/2	3	3 1/2	3 3/4	4 1/2	5 1/2	6 3/4	8	9 1/2	10 1/2	11 3/4
	Class 300 Flange		3	3 1/4	3 3/4	4 1/8	5	6 1/4	7 1/2	8 3/4	10 1/4	11 1/2	12 3/4
E	NPT Body Tap	3/8	3/8	3/8	1/2	1/2	3/4	3/4	1	1	1	1	1
F	NPT Cvr. Plug Tap	1/2	1/2	1/2	1/2	1/2	3/4	3/4	1	1	1	1	1
G	NPT Cover Tap	3/8	3/8	3/8	1/2	1/2	3/4	3/4	1	1	1	1	1
H	Threaded	3 1/4	3 1/4	4 3/4	5 1/2	6 1/4							
	Class 150 Flange		4	4 3/4	5 1/2	6	7 1/2	10	12 11/16	14 7/8			
	Class 300 Flange		4 1/4	5	6	6 7/16	8	10 1/2	13 1/4	15 9/16			
	Grooved		4 7/16	4 3/4	5 1/2	6	7 1/2	10	12 11/16	14 7/8			
J	Threaded	1 15/16	1 15/16	3 1/4	4	4 1/2							
	Class 150 Flange		4	3 1/4	4	4	5	6	8	8 5/8			
	Class 300 Flange		4 1/4	3 1/2	4 5/16	4 7/16	5 5/16	6 1/2	8 1/2	9 5/16			
	Grooved		3 3/16	3 1/4	4	4 1/4	5	6	8	8 5/8			
Valve Stem Internal Thread		10-32	10-32	10-32	10-32	1/4-20	1/4-20	1/4-20	3/8-16	3/8-16	3/8-16	3/8-16	3/8-16
Stem Travel (in)		7/16	7/16	3/4	7/8	1	1 3/16	1 3/4	2 3/8	2 13/16	3 7/16	3 13/16	4 5/16
Approx. Wt. (lbs)		22	26	36	55	70	130	240	440	720	820	1200	1550

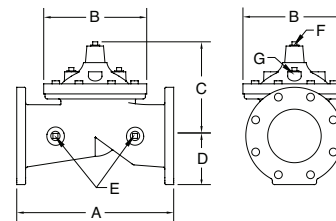
Reduced Port Main Valve Dimensions

DIM		VALVE SIZE INCHES (mm)				
		3" (80)	4" (100)	6" (150)	8" (200)	10" (250)
A	Class 150 Flange	10 1/4	14	17 3/4	21 7/16	26
	Class 300 Flange	11	14 1/2	18 11/16	22 7/16	27 7/16
B	Dia	6 3/4	9 3/16	11 11/16	15 3/4	20 1/8
C	Max	6 3/8	8 7/16	12 5/16	13 1/4	16 3/4
D	Class 150 Flange	3 3/4	4 1/2	5 1/2	6 3/4	8
	Class 300 Flange	4 1/8	5	6 1/4	7 1/2	8 3/4
E	NPT Body Tap	3/8	1/2	3/4	3/4	1
F	NPT Cvr. Plug Tap	3/8	1/2	3/4	3/4	1
G	NPT Cvr. Tap	3/8	1/2	3/4	3/4	1
Valve Stem Internal Thread		10-32	1/4-20	1/4-20	3/8-16	3/8-16
Stem Travel (in)		3/4	1	1 1/5	1 3/4	2 3/8
Approx. Wt. (Lbs) Class 150		50	90	160	280	480



Globe Style Body

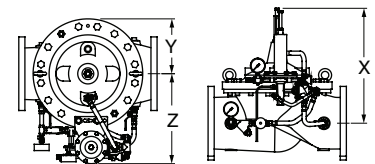
Angle Style Body



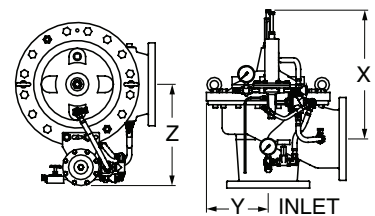
Reduced Port Body

Pilot System Dimensions

PILOT SYSTEM DIMENSIONS		VALVE SIZE INCHES (mm)											
DIM		1-1/4 (32)	1-1/2 (40)	2" (50)	2-1/2" (65)	3" (80)	4" (100)	6" (150)	8" (200)	10" (250)	12" (300)	14" (350)	16" (400)
		Full Port Body	X	15 3/4	15 3/4	16	16 3/4	17	18 1/2	19 1/2	21	23 1/4	26 1/2
Y	2 3/4		2 3/4	3 5/8	4 3/8	5 1/16	6 1/4	8 1/16	10 1/4	11 3/4	13 5/8	15 3/4	17 1/8
Z	11		11	11	10 3/4	11 1/2	12 3/4	14 1/2	17	18 3/4	19 1/4	21 1/4	23 1/2
Reduced Port Body	X					16 3/4	17	18 1/2	19 1/2	21			
	Y					4 3/8	5 1/16	6 1/4	8 1/16	10 1/4			
	Z					10 3/4	11 1/2	12 3/4	14 1/2	17			
Angle Body	X	15 1/2	15 1/2	16	16 1/4	17	18 1/4	19 1/2	21	22 1/4			
	Y	7 1/2	7 1/2	7 1/4	7	7 1/2	7 1/4	8	10 1/4	11 7/8			
	Z	12	12	12 1/4	11 3/4	12	12 3/4	14 1/2	16 1/2	18 3/4			



Globe Pilot System Dimensions



Angle Pilot System Dimensions

Operation

The GA Industries One Way Altitude Valve Model 5325 has a pilot that senses the water level in the reservoir through a field installed pressure sensing line. This pressure opens and close the main altitude pilot. When the reservoir is at low water level, the altitude pilot pressurizes the cover of the accelerator pilot. The accelerator pilot vents the cover of the main valve downstream. The main valve opens to allow water to fill the reservoir. When the reservoir reaches the high water level, the altitude pilot vents the cover of the accelerator pilot. This allows the inlet water supply to refill the cover of the main valve, closing the valve drip tight. The high water level is adjusted by screwing the altitude pilot adjustment bolt in (clockwise) to increase the water level set point and unscrewing the adjustment bolt out (counterclockwise) to decrease the set point. The closing speed control valve can be screwed in (clockwise) to slow the main valve closing. An opening speed control is optional. The position indicator shows the main valve position. There is a bleed cock on the top of the position indicator to vent air from the main valve cover and indicator. The gauge isolation valve allows for the pressure gauge to be isolated when not in use to extend its life. To flush the reservoir sensing line of any air or debris, sensing line isolation valves are provided these valves also allow setting and verification of the set point and valve function. The solenoid overrides the altitude pilot and closes the main valve.

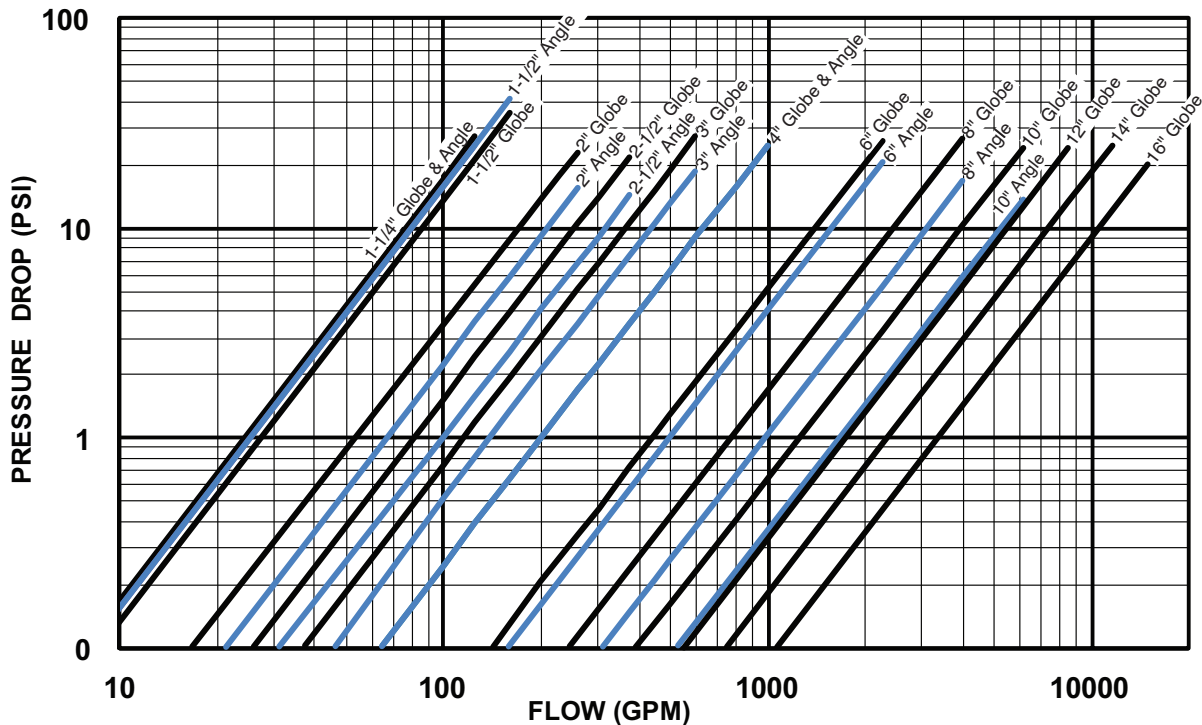
Flow Characteristics

Valve Size	inches	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
	mm	32	40	50	65	80	100	150	200	250	300	350	400
Suggested Flow (GPM)	Max. Continuous	93	125	210	300	460	800	1800	3100	4900	7000	8400	11000
	Max Intermittent	120	160	260	375	600	1000	2250	4000	6150	8700	10500	13800
Suggested Flow (Liters/sec)	Max. Continuous	6	8	13	19	29	50	113	195	309	550	665	870
	Max. Intermittent	7.6	10	16.4	23	37	62	142	246	388	440	530	95

Note: Supply adequate flow restriction downstream of the ACV to keep the flow rates below maximum recommended values to prevent premature damage to the ACV. Suggested flow calculations are based on flow through Schedule 40 Pipe. Maximum Continuous flow is approx. 20 ft./sec (6.1 meters/sec) & Maximum Intermittent is approx. 25 ft./sec (7.6 meters/sec).

Flow Characteristics

BODY MINIMUM FRICTION LOSS



Specifications

The One Way Altitude Level Control Valve shall be a single seated, line pressure operated, diaphragm actuated, globe or angle valve. The valve shall seal by means of a corrosion-resistant seat and resilient, rectangular seat disc. These and other parts shall be replaceable in the field; all such service and adjustments will be possible without removing the valve from the line. The main valve body shall be ductile iron ASTM A 536. The stem of the basic valve shall be guided top and bottom. The basic valve and its pilot control system shall contain no packing glands or stuffing boxes. The diaphragm shall not be used as a seating surface nor shall pistons be used as an operating medium. All internal and external ferrous surfaces shall be coated with a high quality, FDA Approved fusion epoxy coating. Pilot control shall include a solenoid to override hydraulic controls and operate the main valve. The valve shall be certified to NSF/ANSI/CAN Standard 61. The Solenoid Controlled Altitude Level Control Valve shall be a GA Industries Model 5325.

Job Name _____

Contractor _____

Job Location _____

Engineer _____
