ASCO™ Series 158 Valve Body

Single & Monoblock | 2-Way Normally Closed | NPT (3/4" to 3") & ISO (20mm to 80mm) End Connectors

SERIES 158

- Series 158 is designed exclusively for use with Series 159 Motorized Actuator
- These valve bodies are two-way and normally closed and designed for on/off control of commercial or industrial gas burners
- This product is a push-to-open valve which opens when the valve stem is depressed by an 159 motorized actuator – an internal return spring closes the valve (in less than 1 second) when the motorized actuator is de-energized
- End connections in a wide range of sizes and type are available for ease of installation and service
- These valves are provided with upstream and downstream pipe taps with plugs for routine testing

Fluid

Fuel Gas

Construction

Valve Parts in Contact with Fluids	
Body	Die-cast aluminum
Bonnet	Die-cast aluminum
Seals	Nitrile
Springs	Zinc-plated steel
Stem Bushing	Delrin
Valve Stem	303 stainless steel
Discs	NBR
Retaining Ring	303 stainless steel
Pipe Plugs	Zinc-plated steel
Seal Ring	PTFE (models with overtravel)
Stem Connector	303 stainless steel

Model Types

Standard construction (quick opening trim):
For ON/OFF applications. To be used with an ON/OFF 159 ASCO motorized actuator.

Standard construction (quick opening trim) w/ Valve Seal Overtravel:
For any "on-off" application in which the user, code or approval agency requires a valve seal overtravel arrangement. To be used with an ON/OFF 159 ASCO motorized actuator with Proof-Of-Closure Switch.

Linear Trim:
For applications that require better flow control, such or low fire turn down. To be used with a High/Low/Off 159 ASCO motorized actuator.

Linear w/Valve Seal Overtravel Trim:
For applications in which both valve seal overtravel and better flow control are required. To be used with a High/Low/Off 159 ASCO motorized actuator with Proof-Of-Closure Switch.

Closeoff Pressure

75 psi (5.17 bar) maximum

Installation

Series 158 valve body mounts in any position directly to Series 159 motorized actuator.

Approvals

158 Valve with 159 Actuator

- UL listed to standard 429 "Electrically Operated Valves", Guide YIOZ, File MP932 Safety Shutoff Valves
- CSA Certified to Automatic Gas Shutoff Valves ANSIZ21.21 CSA 6.5, C/I. File 113070
  (meets applicable standard C22.2 No.139 requirements)
- FM Approved to Class 7400 "liquid and gas safety shutoff valves"
- Complies with RoHS directives
- Automatic shut-off valves for gas burners and gas appliances as per EN 161 Class A, Group 2, for gas families 1, 2 and 3 ①

① *Only when indicated "Class A" on the valve series nameplate.*

Ordering Information

Order by Catalog Number. Online configurator is available for this product on the ASCO Series 158 page on Emerson.com.

ASCO™ Series 158 Valve Body

Single & Monoblock | 2-Way Normally Closed | NPT (3/4" to 3") & ISO (20mm to 80mm) End Connectors

Codification

8 158 A 1 00 X1 X0000

Connection Type
8 = NPT Body Connection (Inches)
E = ISO 228/1 & ISO 7/1"Rp" body connections (combination thread, G)

Product Series
158 = Valve Body

Revision
A = Initial Release

Model Type
Single
1 = Standard Trim
2 = Standard w/ Seal Overtravel Trim
3 = Linear Trim
4 = Linear w/ Seal Overtravel Trim
Double Valve, Monoblock
5 = Valve 1 & 2: Standard Trim
6 = Valve 1 & 2: Standard with Seal Overtravel Trim
7 = Valve 1: Standard Trim / Valve 2: Linear Trim
8 = Valve 1: Standard with Seal Overtravel Trim / Valve 2: Linear with Seal Overtravel Trim
A = Valve 1: Standard Trim / Valve 2: Standard with Seal Overtravel Trim
C = Valve 1: Standard Trim / Valve 2: Linear with Seal Overtravel Trim

Option List
X0000 = None
X0100 = Strainer
X0800 = Strainer + Silicon Free
X1500 = Silicon Free

Vent Port Connection Type
If body connection type 8 is chosen, the vent port connection type will default to NPT, denoted by code X1.
If body connection type E is chosen, the vent port connection type will default to ISO, denoted by code X2.

Pipe Size
00 = No End Connector (Mid Size Body)
01 = No End Connector (Large Body)
11 = 3/4" (20mm)
12 = 1" (25mm)
13 = 1-1/4" (32mm)
14 = 1-1/2" (40mm)
16 = 2" (50mm)
36 = 2" - High Flow (50mm)
18 = 2-1/2" (65mm)
20 = 3" (80mm)

To order valve bodies without end connections:
select code "00" in Pipe Size for sizes 3/4" (20mm) to 2" (50mm)
select code "01" in Pipe Size for sizes 2" (50mm) High Flow to 3" (80mm)

End Connection Kits

Pipe Size in (mm)	Adapter - Hardware Kit NPT / ISO
3/4 (20)	M200687 / M200688
1 (25)	M200685 / M200686
1 1/4 (32)	M200683 / M200684
1 1/2 (40)	M200681 / M200682
2 (50)	M200679 / M200680
2 (High Flow) (50)	M200836 / M200694
2 1/2 (65)	M200835 / M200692
3 (80)	M200834 / M200690

Other Kits

Strainer Mid-size body (3/4" to 2"): M200830
Strainer Big-size body (2" HF to 3"): M200831
O-Ring replacement kit (2 units) for Mid-size body (3/4" to 2"): M200832
O-Ring replacement kit (2 units) for Big-size body (2" HF to 3"): M200833

Double Valve Monoblock Specifications English (Metric)

Base Catalog Number			Orifice Nominal in (mm)	Pipe Size (Main) in (mm)	Flow Factor Cv (Kv = m^3/h)	Flow Capacity Ft^3/Hr ①	Gas Capacity BTU/Hr ①	Heat Output Capacity kW ①	Operating Pressure Differential		Close-Off Pressure psi (bar)
									Minimum psi (bar)	Maximum psi (bar)	
Standard Trim on Both Valves	**Standard w/ Seal Overtravel Trim on Both Valves**	**Standard Trim on Valve 1 Std w/ Seal Overtravel Trim on Valve 2**									
_158A511__X0000	_158A611__X0000	_158AA11__X0000	2 3/32 (53)	3/4 (20)	17.4 (15.0)	733	932,000	273	0	20 (1.4)	30 (2.1)
_158A512__X0000	_158A612__X0000	_158AA12__X0000	2 3/32 (53)	1 (25)	27.8 (24.0)	1,192	1,490,000	437	0	20 (1.4)	30 (2.1)
_158A513__X0000	_158A613__X0000	_158AA13__X0000	2 3/32 (53)	1-1/4 (32)	39.2 (33.9)	1,683	2,103,000	616	0	20 (1.4)	30 (2.1)
_158A514__X0000	_158A614__X0000	_158AA14__X0000	2 3/32 (53)	1-1/2 (40)	46.7 (40.4)	2,003	2,503,000	734	0	20 (1.4)	30 (2.1)
_158A516__X0000	_158A616__X0000	_158AA16__X0000	2 3/32 (53)	2 (50)	53.6 (46.4)	2,300	2,874,000	842	0	20 (1.4)	30 (2.1)
_158A536__X0000	_158A636__X0000	_158AA36__X0000	3 (76)	2 High Flow (50)	84.6 (73.2)	3,631	4,538,500	1,330	0	20 (1.4)	30 (2.1)
_158A518__X0000	_158A618__X0000	_158AA18__X0000	3 (76)	2-1/2 (65)	99.7 (86.2)	4,279	5,349,000	1,568	0	20 (1.4)	30 (2.1)
_158A520__X0000	_158A620__X0000	_158AA20__X0000	3 (76)	3 (80)	112.9 (97.6)	4,845	6,057,000	1,775	0	20 (1.4)	30 (2.1)
Standard Trim on Valve 1 Linear Trim on Valve 2	**Standard w/ Seal Overtravel Trim on Valve 1 Linear w/Seal Overtavel Trim on Valve 2**	**Standard Trim on Valve 1 Linear w/ Seal Overtravel Trim on Valve 2**									
_158A711__X0000	_158A811__X0000	_158AC11__X0000	2 3/32 (53)	3/4 (20)	15.4 (13.3)	662	827,000	242	0	20 (1.4)	30 (2.1)
_158A712__X0000	_158A812__X0000	_158AC12__X0000	2 3/32 (53)	1 (25)	22.3 19.3)	959	1,198,000	351	0	20 (1.4)	30 (2.1)
_158A713__X0000	_158A813__X0000	_158AC13__X0000	2 3/32 (53)	1-1/4 (32)	32.7 (28.3)	1,405	1,756,000	515	0	20 (1.4)	30 (2.1)
_158A714__X0000	_158A814__X0000	_158AC14__X0000	2 3/32 (53)	1-1/2 (40)	41.1 (35.6)	1,766	2,207,000	647	0	20 (1.4)	30 (2.1)
_158A716__X0000	_158A816__X0000	_158AC16__X0000	2 3/32 (53)	2 (50)	48.7 (42.1)	2,088	2,610,000	765	0	20 (1.4)	30 (2.1)
_158A736__X0000	_158A836__X0000	_158AC36__X0000	3 (76)	2 High Flow (50)	76.4 (66.1)	3,278	4,097,000	1,201	0	20 (1.4)	30 (2.1)
_158A718__X0000	_158A818__X0000	_158AC18__X0000	3 (76)	2-1/2 (65)	90.9 (78.6)	3,899	4,874,000	1,428	0	20 (1.4)	30 (2.1)
_158A720__X0000	_158A820__X0000	_158AC20__X0000	3 (76)	3 (80)	97.6 (84.4)	4,189	5,236,000	1,535	0	20 (1.4)	30 (2.1)

① Capacity value is based on a gas having a heating value of 1000 Btu/Cu. ft. and a specific gravity of 0.64 at 2" W.C. inlet pressure per 1.0" W.C. Pressure Drop.

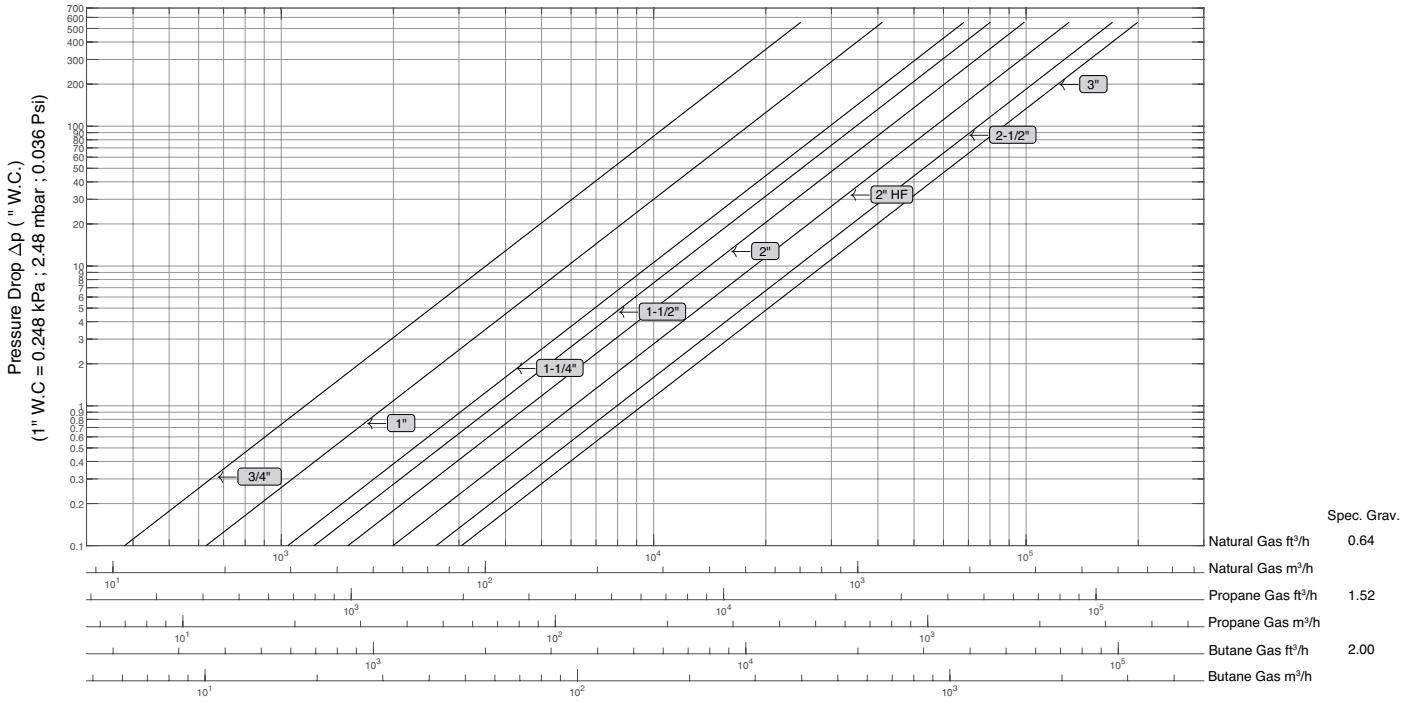
Single Valve, Specifications English (Metric)

Base Catalog Number		Orifice Nominal in (mm)	Pipe Size (Main) in (mm)	Flow Factor Cv (Kv = m^3/h)	Flow Capacity Ft^3/Hr ①	Gas Capacity BTU/Hr ①	Heat Output Capacity kW ①	Operating Pressure Differential		Close-Off Pressure psi (bar)
								Minimum psi (bar)	Maximum psi (bar)	
Standard Trim	**Standard w/ Seal Overtravel Trim**									
_158A111__X0000	_158A211__X0000	2 3/32 (53)	3/4 (20)	18.2 (15.7)	772	974,000	285	0	20 (1.4)	75 (5.2)
_158A112__X0000	_158A212__X0000	2 3/32 (53)	1 (25)	30.1 (26.0)	1,290	1,613,000	473	0	20 (1.4)	75 (5.2)
_158A113__X0000	_158A213__X0000	2 3/32 (53)	1-1/4 (32)	49.8 (43.1)	2,137	2,671,000	783	0	20 (1.4)	75 (5.2)
_158A114__X0000	_158A214__X0000	2 3/32 (53)	1-1/2 (40)	58.6 (50.7)	2,515	3,143,000	921	0	20 (1.4)	75 (5.2)
_158A116__X0000	_158A216__X0000	2 3/32 (53)	2 (50)	72.3 (62.5)	3,103	3,878,000	1,137	0	20 (1.4)	75 (5.2)
_158A136__X0000	_158A236__X0000	3 (76)	2 High Flow (50)	95.4 (82.5)	4,094	5,118,000	1,500	0	20 (1.4)	50 (3.4)
_158A118__X0000	_158A218__X0000	3 (76)	2-1/2 (65)	124.7 (107.9)	5,352	6,690,000	1,961	0	20 (1.4)	50 (3.4)
_158A120__X0000	_158A220__X0000	3 (76)	3 (80)	145.8 (126.1)	6,257	7,822,000	2,292	0	20 (1.4)	50 (3.4)
Linear Trim	**Linear w/ Seal Overtravel Trim**									
_158A311__X0000	_158A411__X0000	2 3/32 (53)	3/4 (20)	15.8 (13.6)	676	845,000	248	0	20 (1.4)	75 (5.2)
_158A312__X0000	_158A412__X0000	2 3/32 (53)	1 (25)	24.5 (21.2)	1,052	1,315,000	385	0	20 (1.4)	75 (5.2)
_158A313__X0000	_158A413__X0000	2 3/32 (53)	1-1/4 (32)	38.9 (33.6)	1,668	2,085,000	611	0	20 (1.4)	75 (5.2)
_158A314__X0000	_158A414__X0000	2 3/32 (53)	1-1/2 (40)	50.7 (43.8)	2,174	2,718,000	797	0	20 (1.4)	75 (5.2)
_158A316__X0000	_158A416__X0000	2 3/32 (53)	2 (50)	62.5 (54.0)	2,680	3,350,000	982	0	20 (1.4)	75 (5.2)
_158A336__X0000	_158A436__X0000	3 (76)	2 High Flow (50)	92.5 (80.0)	3,971	4,964,000	1,455	0	20 (1.4)	50 (3.4)
_158A318__X0000	_158A418__X0000	3 (76)	2-1/2 (65)	116.6 (100.8)	5,002	6,252,500	1,832	0	20 (1.4)	50 (3.4)
_158A320__X0000	_158A420__X0000	3 (76)	3 (80)	138.0 (119.3)	5,922	7,402,000	2,169	0	20 (1.4)	50 (3.4)

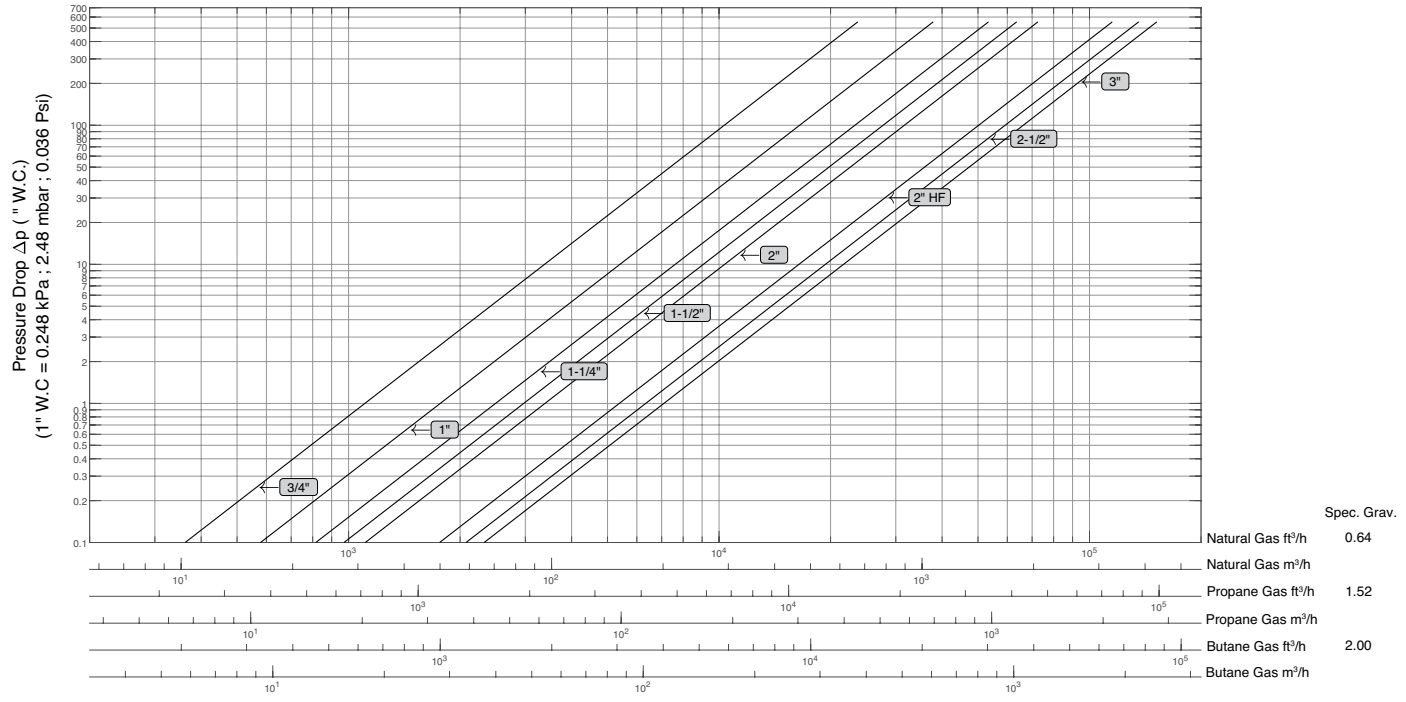
① Capacity value is based on a gas having a heating value of 1000 Btu/Cu. ft. and a specific gravity of 0.64 at 2" W.C. inlet pressure per 1.0" W.C. Pressure Drop.

Gas Flow Charts

Single Valve



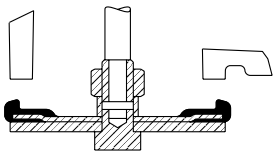
Double Monoblock Valve



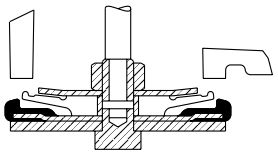
Notes: Flow curves are based on the following standard conditions: 5 psi (0.3 bar) inlet pressure and 68°F (20°C) fluid temperature.
The Single and Monoblock Valve Flow Curves are based on Standard Seal constructions.

Dimensions: mm (inches)

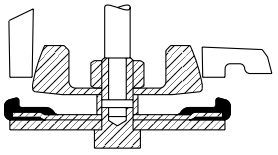
Trim Types



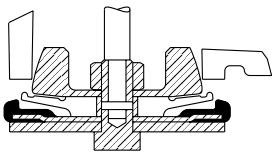
Standard construction
(quick opening trim)



Standard construction
(quick opening trim) w/ Valve Seal Overtravel.

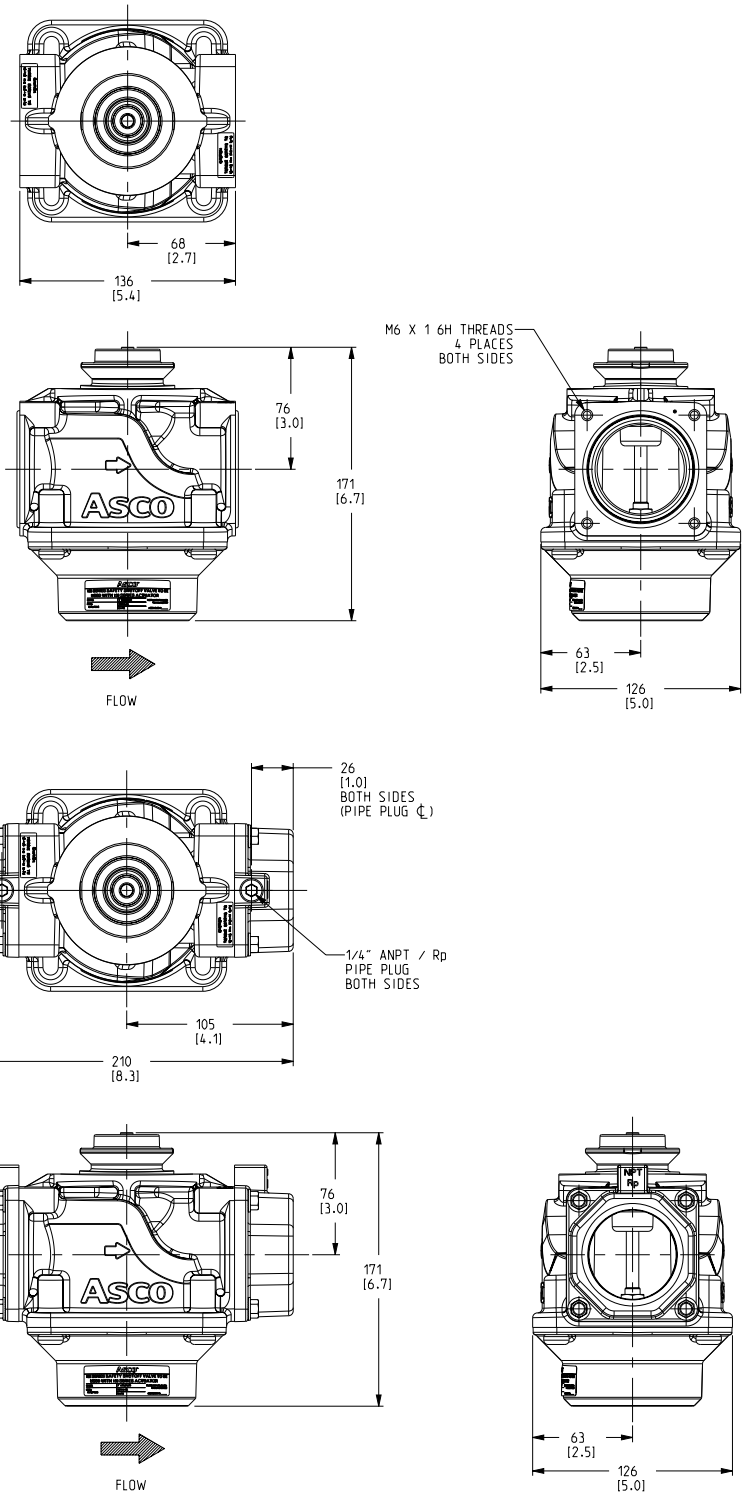


Linear Trim Construction



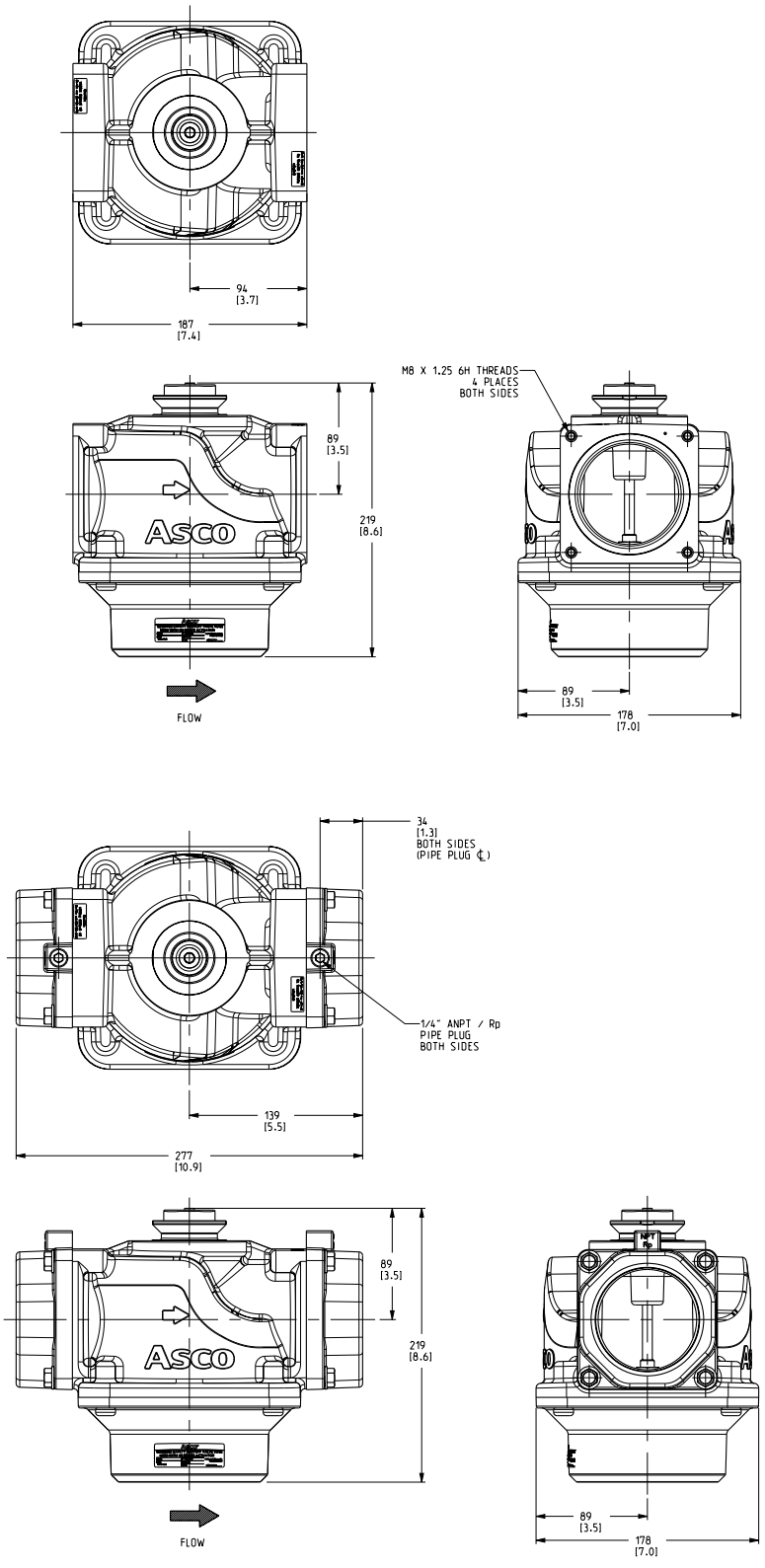
Linear Trim
Overtravel Construction

Single Valve - ¾", 1", 1 ¼", 1 ½" and 2"



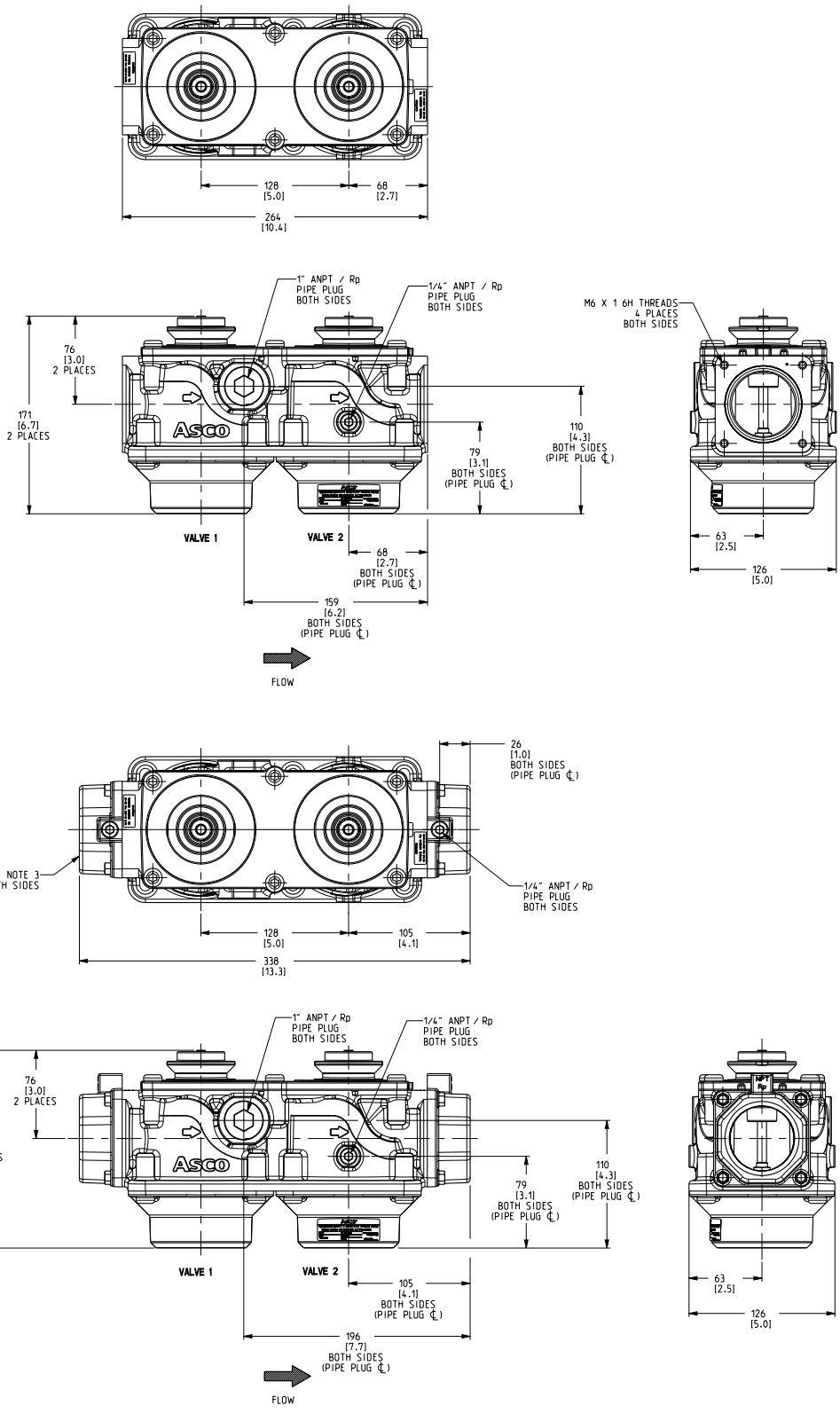
Dimensions: mm (inches)

Single Valve - 2" High Flow, 2 ½" and 3"



Dimensions: mm (inches)

Double Monoblock Valve - ¾", 1", 1 ¼", 1 ½" and 2"



Dimensions: mm (inches)

Double Monoblock Valve - 2" High Flow, 2 ½" and 3"