

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 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 applications in which metered flow control is not required. To be used with 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 flow control, such as slow opening, 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 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 Y10Z, File MP932 Safety Shutoff Valves
CSA Certified to Automatic Gas Shutoff Valves ANSIZ21.21
CSA 6.5, C/I. File 113070
(meets applicable standard G22.2 No.139 requirements)
FM Approved to Class 7400 "liquid and gas safety shutoff valves."
Complies with RoHS directives

Ordering Information

Order by Catalog Number and add suffix number for desired optional feature(s). Online configurator is available for this product on Emerson.com.

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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

Option List

- X0000 = None
- X0100 = Strainer

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)	M200693 / M200694
2 1/2 (65)	M200691 / M200692
3 (80)	M200689 / M200690

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Double Valve Monoblock Specifications English (Metric)

Base Catalog Number		Orifice Nominal in (mm)	Pipe Size (Main) in (mm)	Flow Factor Cv (Kv = m³/h)	Flow Capacity Ft³/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									
_158A511_X0000	_158A611_X0000	2 3/32 (53)	3/4 (20)	17.4 (15.0)	733	932,000	273	0	15 (1.0)	30 (2.1)
_158A512_X0000	_158A612_X0000	2 3/32 (53)	1 (25)	27.8 (24.0)	1,192	1,490,000	437	0	15 (1.0)	30 (2.1)
_158A513_X0000	_158A613_X0000	2 3/32 (53)	1-1/4 (32)	39.2 (33.9)	1,683	2,103,000	616	0	15 (1.0)	30 (2.1)
_158A514_X0000	_158A614_X0000	2 3/32 (53)	1-1/2 (40)	46.7 (40.4)	2,003	2,503,000	734	0	15 (1.0)	30 (2.1)
_158A516_X0000	_158A616_X0000	2 3/32 (53)	2 (50)	53.6 (46.4)	2,300	2,874,000	842	0	15 (1.0)	30 (2.1)
_158A536_X0000	_158A636_X0000	3 (76)	2 High Flow (50)	84.6 (73.2)	3,631	4,538,500	1,330	0	15 (1.0)	30 (2.1)
_158A518_X0000	_158A618_X0000	3 (76)	2-1/2 (65)	99.7 (86.2)	4,279	5,349,000	1,568	0	15 (1.0)	30 (2.1)
_158A520_X0000	_158A620_X0000	3 (76)	3 (80)	112.9 (97.6)	4,845	6,057,000	1,775	0	15 (1.0)	30 (2.1)
Standard Trim on Valve 1 Linear Trim on Valve 2	Standard w/ Seal Overtravel Trim on Valve 1 Linear w/ Seal Overtravel Trim on Valve 2									
_158A711_X0000	_158A811_X0000	2 3/32 (53)	3/4 (20)	15.4 (13.3)	662	827,000	242	0	15 (1.0)	30 (2.1)
_158A712_X0000	_158A812_X0000	2 3/32 (53)	1 (25)	22.3 (19.3)	959	1,198,000	351	0	15 (1.0)	30 (2.1)
_158A713_X0000	_158A813_X0000	2 3/32 (53)	1-1/4 (32)	32.7 (28.3)	1,405	1,756,000	515	0	15 (1.0)	30 (2.1)
_158A714_X0000	_158A814_X0000	2 3/32 (53)	1-1/2 (40)	41.1 (35.6)	1,766	2,207,000	647	0	15 (1.0)	30 (2.1)
_158A716_X0000	_158A816_X0000	2 3/32 (53)	2 (50)	48.7 (42.1)	2,088	2,610,000	765	0	15 (1.0)	30 (2.1)
_158A736_X0000	_158A836_X0000	3 (76)	2 High Flow (50)	76.4 (66.1)	3,278	4,097,000	1,201	0	15 (1.0)	30 (2.1)
_158A718_X0000	_158A818_X0000	3 (76)	2-1/2 (65)	90.9 (78.6)	3,899	4,874,000	1,428	0	15 (1.0)	30 (2.1)
_158A720_X0000	_158A820_X0000	3 (76)	3 (80)	97.6 (84.4)	4,189	5,236,000	1,535	0	15 (1.0)	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.

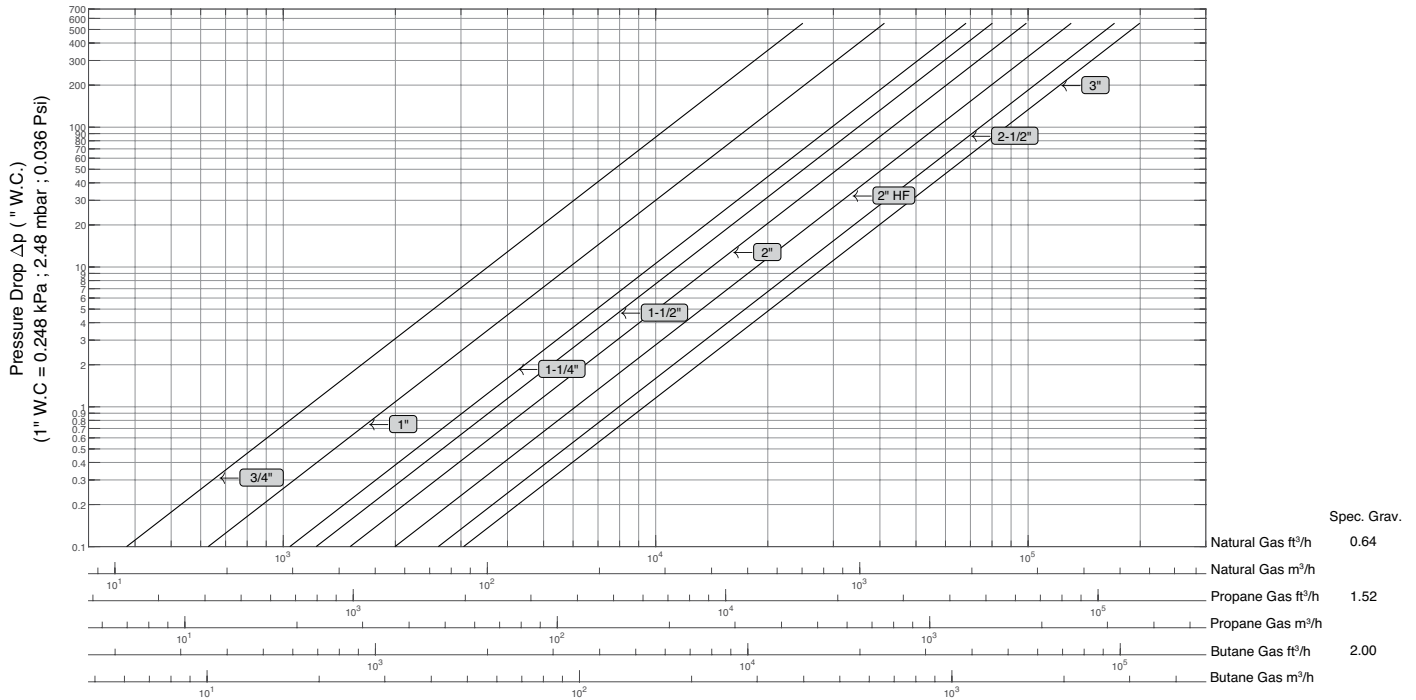
Single Valve, Specifications English (Metric)

Base Catalog Number		Orifice Nominal in (mm)	Pipe Size (Main) in (mm)	Flow Factor Cv (Kv = m³/h)	Flow Capacity Ft³/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	15 (1.0)	75 (5.2)
_158A112_X0000	_158A212_X0000	2 3/32 (53)	1 (25)	30.1 (26.0)	1,290	1,613,000	473	0	15 (1.0)	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	15 (1.0)	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	15 (1.0)	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	15 (1.0)	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	15 (1.0)	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	15 (1.0)	50 (3.4)
_158A120_X0000	_158A220_X0000	3 (76)	3 (80)	145.8 (126.1)	6,257	7,822,000	2,292	0	15 (1.0)	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	15 (1.0)	75 (5.2)
_158A312_X0000	_158A412_X0000	2 3/32 (53)	1 (25)	24.5 (21.2)	1,052	1,315,000	385	0	15 (1.0)	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	15 (1.0)	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	15 (1.0)	75 (5.2)
_158A316_X0000	_158A416_X0000	2 3/32 (53)	2 (50)	62.5 (54.0)	2,680	3,350,000	982	0	15 (1.0)	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	15 (1.0)	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	15 (1.0)	50 (3.4)
_158A320_X0000	_158A420_X0000	3 (76)	3 (80)	138.0 (119.3)	5,922	7,402,000	2,169	0	15 (1.0)	50 (3.4)

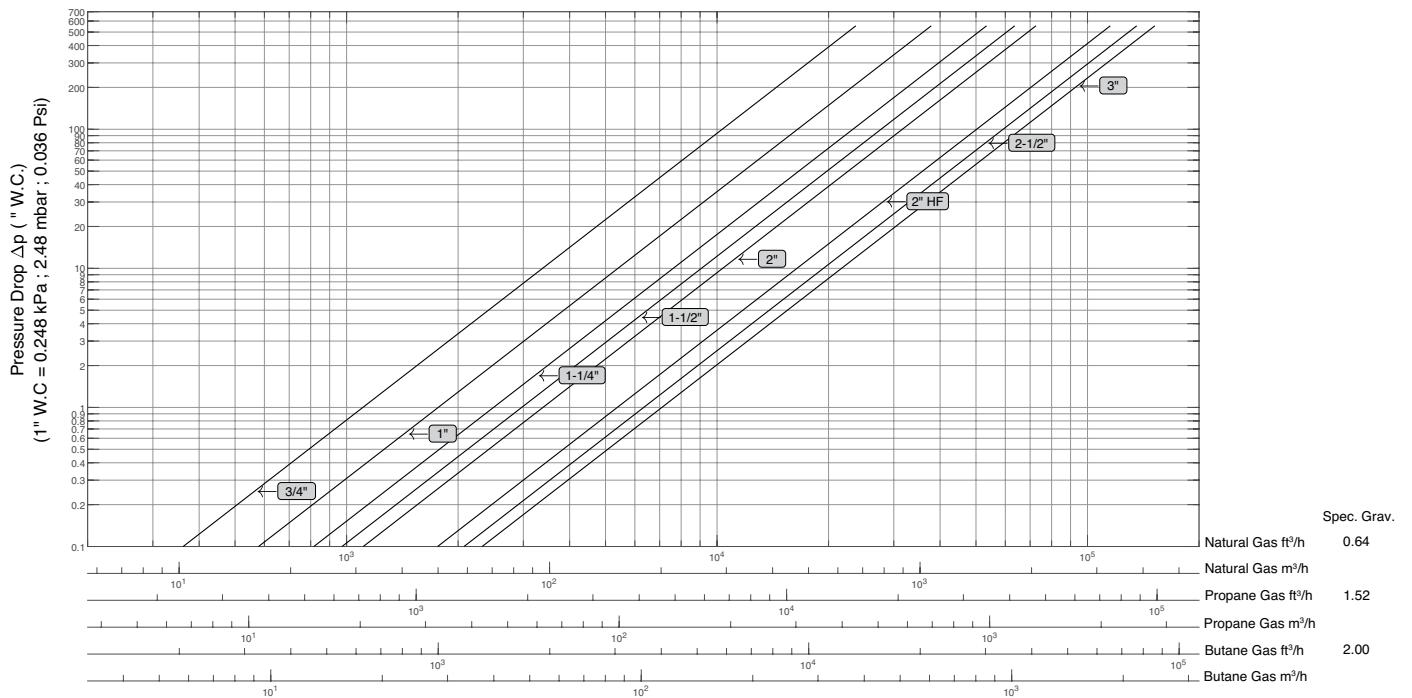
① Capacity value is based on a gas having a heating value of 1000 Btu/Cu. ft. and a specific gravity of 0.64 at 2" W.C. inlet pressure per 1.0" W.C. Pressure Drop.

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.

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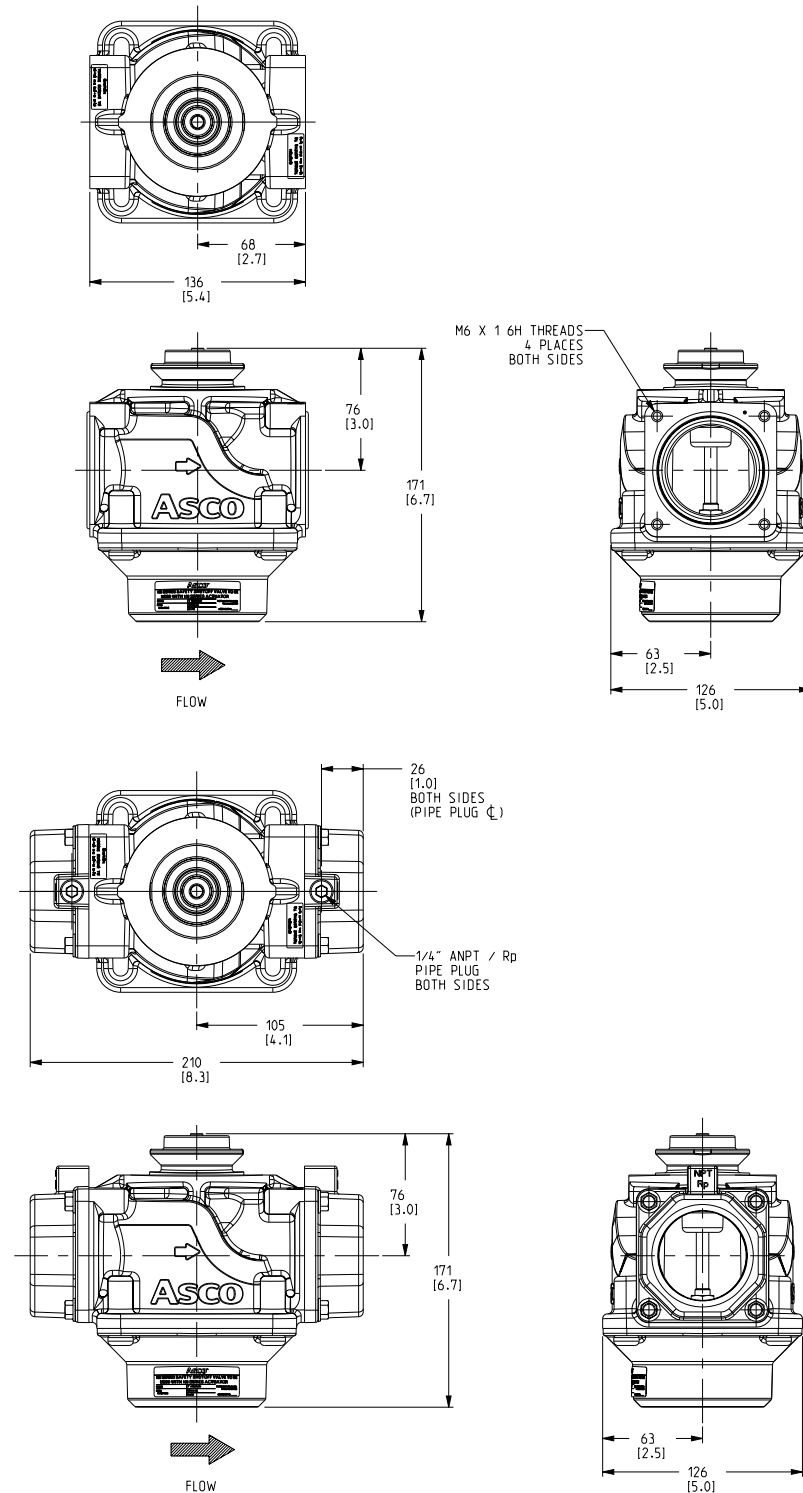
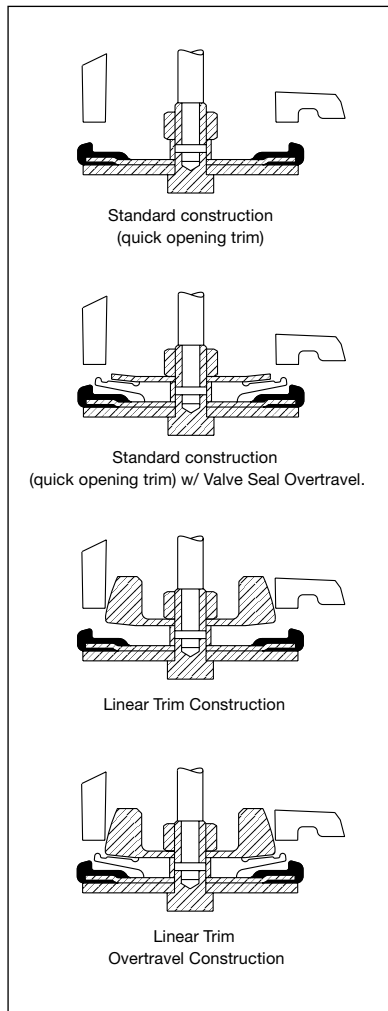
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Dimensions: mm (inches)

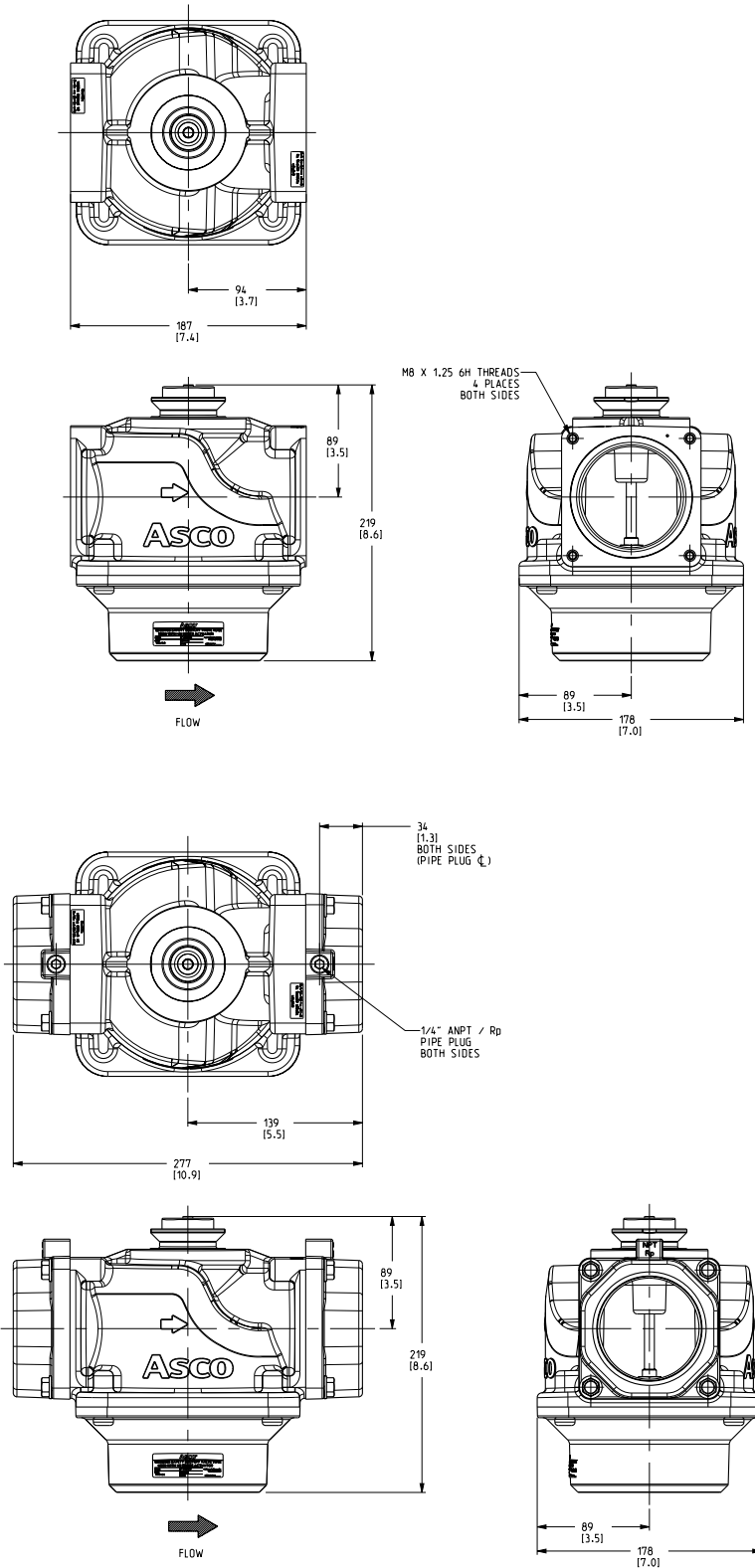
Single Valve - 3/4", 1", 1 1/4", 1 1/2" and 2"

Trim Types



Dimensions: mm (inches)

Single Valve - 2" High Flow, 2 1/2" and 3"



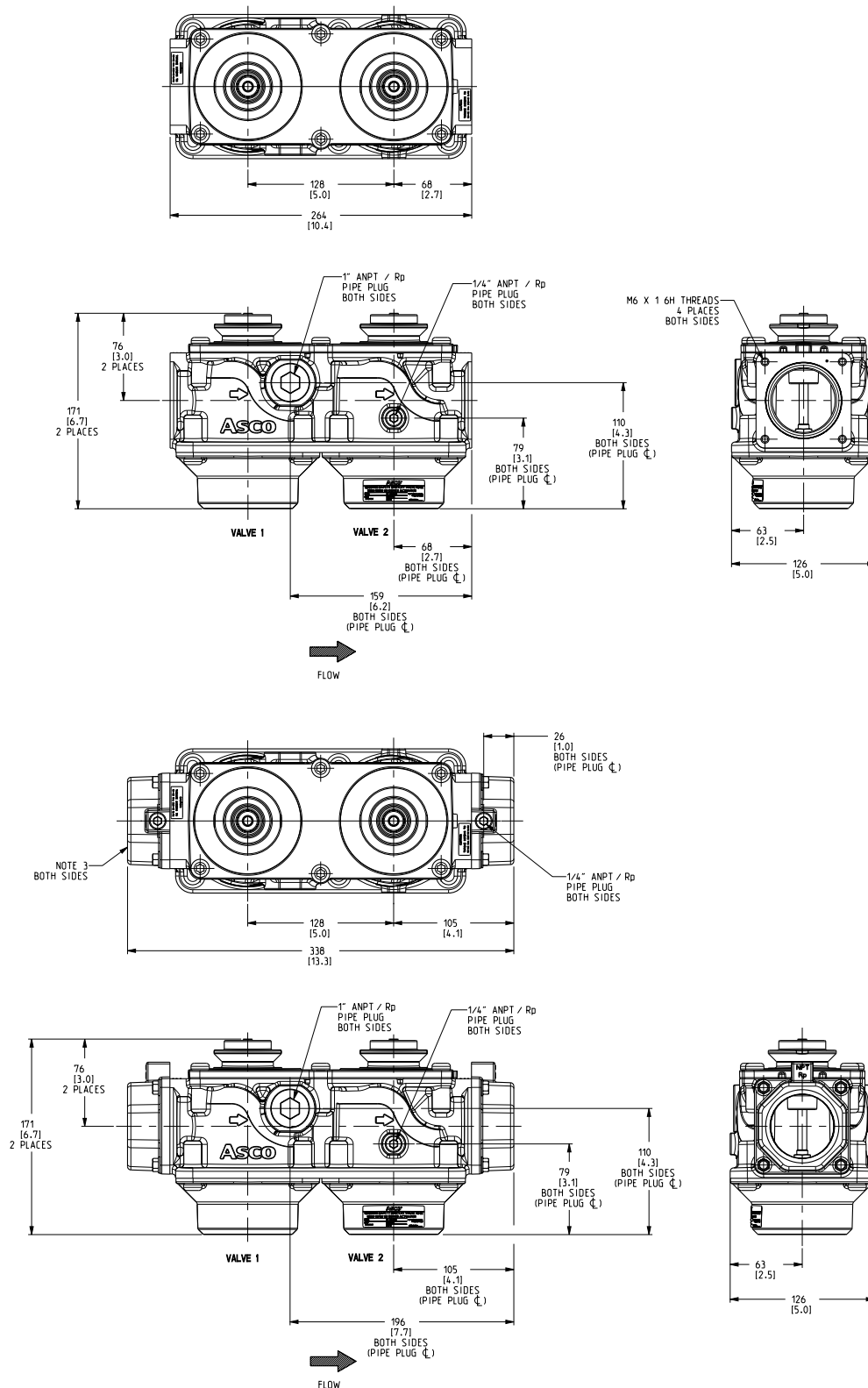
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Dimensions: mm (inches)

Double Monoblock Valve - 3/4", 1", 1 1/4", 1 1/2" and 2"



Dimensions: mm (inches)

Double Monoblock Valve - 2" High Flow, 2 1/2" and 3"

