

Eclipse PulsePak Valve Train Segments

NFPA Series
Version 1



Gas
Valve
Train



2-1/2" - 3"
Air
Valve
Train

NFPA PulsePak Valve Train Segments

Eclipse standard PulsePak valve train segments are pre-piped and tested modules. They are ready for assembly with other piping components to meet the provisions of the NFPA 86-2007 standard for a complete gas valve train. Please refer to NFPA for more information on additional components needed to meet the requirements.

Parameter		Specifications
Pipe Sizes	Gas	1/2", 3/4", 1", 1-1/2", 2"
	Air	1-1/2", 2", 2-1/2", 3"
Ambient Environment		Designed for typical indoor industrial applications
Ambient Temperature		-20°F to 120°F (-29°C to 49°C)
Ambient Humidity		5% to 95% relative humidity
Protection		NEMA 12, IP54
Process Fluid Media		Ambient air or clean fuel gas such as natural (methane), propane, butane
Fluid Temperature		5°F to 140°F (-15°C to 60°C)
Maximum Pressure		7 psi (48 kPa)*
Electrical		120V + 10% to - 15%, 60Hz
Cycle Life		1,000,000 at a maximum of 100 cycles per hour

* Maximum pressure for the complete assembly is based on a final test pressure at 150% of this rate. Refer to the individual ratings for maximum operating pressures.

Gas Valve Train

Component Details

Safety Shut-Off Valve

Electrically operated, normally closed, automatic, fast opening, fast closing, with visual position indication, flow adjustment, aluminum body and UL, FM, CSA approvals, NEMA 12.

Ratio Regulator

Adjustable setpoint, low fire bypass, non-adjustable counter spring, vent limiter, inlet and outlet 1/4" NPT test ports, CSA approved.

Flow Ratings

0.64 specific gravity natural gas at 60°F

Size		Flow, cfh	Flow, m ³ /h
Inches	Millimeters		
1/2"	15	500	14
3/4"	20	1000	28
1"	25	1500	42
1-1/2"	40	3000	85
2"	50	5000	142

Gas Flows

For flows of a gas with a different specific gravity, use:
 $Q_2 = Q_1 * \text{SQRT}(0.64/\text{SG}_2)$

For gas at a different temperature, use:
 $Q_2 = Q_1 * \text{SQRT}(520/T_{\text{abs}2})$

Q_2 = new flow

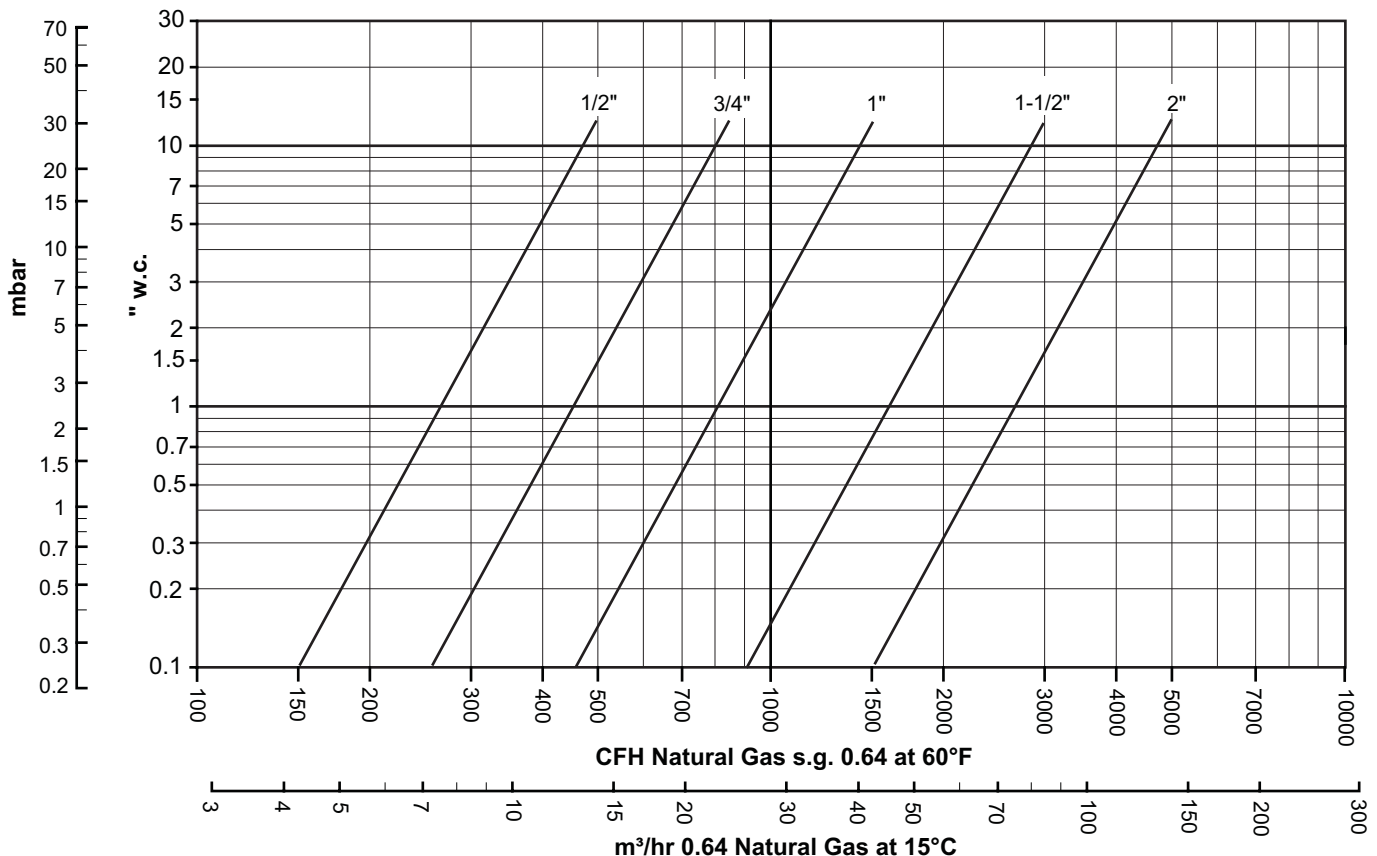
Q_1 = flow from the table

SQRT = square root function

SG_2 = specific gravity of new gas

$T_{\text{abs}2}$ = absolute temperature of the new gas (460 + °F)

Gas Capacity

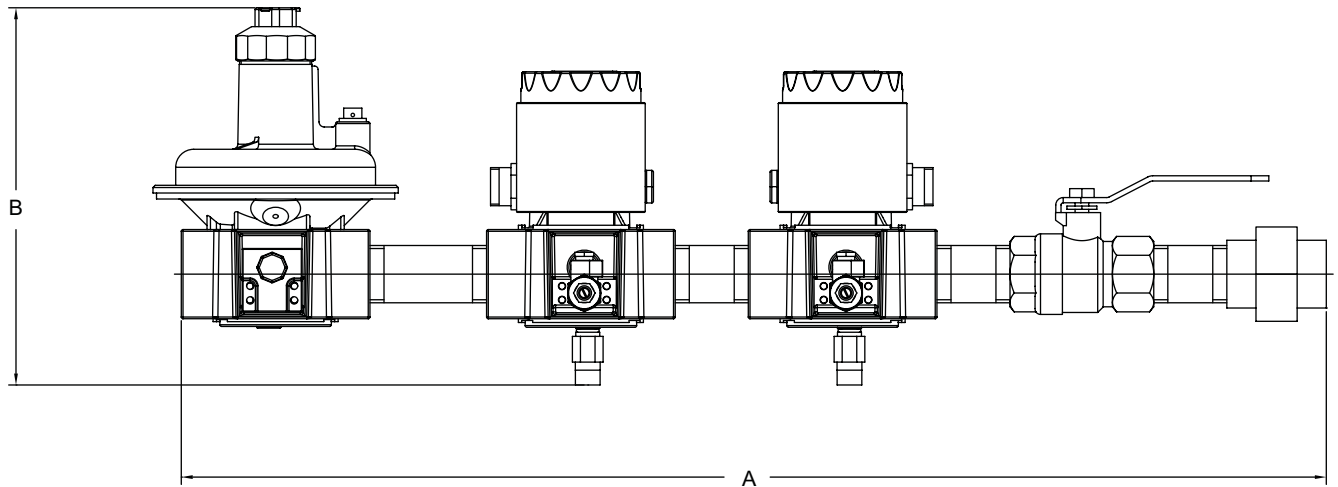
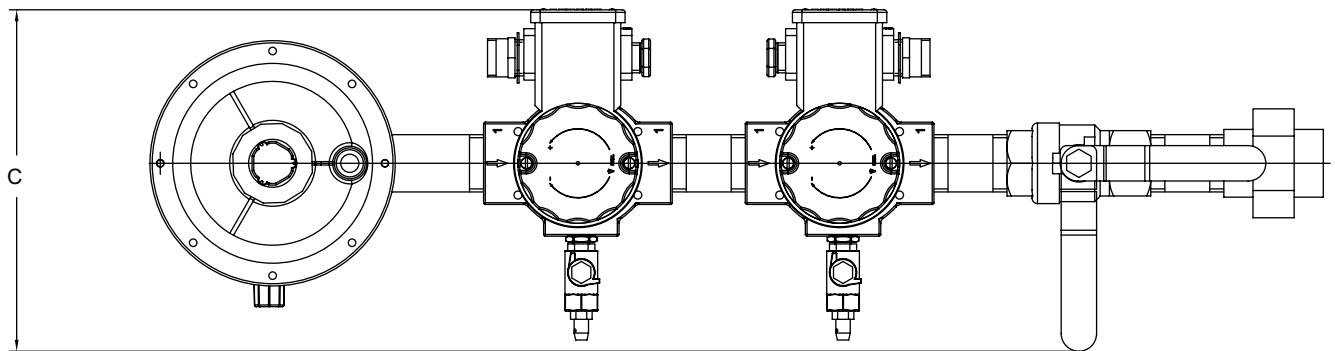


Gas Train Dimensions in inches (mm)

Part Number	Size	Flow Direction	Length A	Clearance Height B	Depth C	Weight, lbs (kg)
10048024	1/2" NPT	Left to Right	18.7 (474)	6.8 (172)	6.8 (174)	10.7 (4.9)
10049382	1/2" NPT	Right to Left	18.7 (474)	6.8 (172)	6.8 (174)	10.7 (4.9)
10048025	3/4" NPT	Left to Right	22 (558)	7.7 (196)	7.4 (188)	17.8 (8.1)
10049383	3/4" NPT	Right to Left	22 (558)	7.7 (196)	7.4 (188)	17.8 (8.1)
10048026	1" NPT	Left to Right	26.3 (668)	8.7 (220)	7.6 (193)	21.9 (9.9)
10049384	1" NPT	Right to Left	26.3 (668)	8.7 (220)	7.6 (193)	21.9 (9.9)
10048027	1-1/2" NPT	Left to Right	32.2 (818)	11.2 (284)	8.5 (215)	27.2 (12.3)
10049385	1-1/2" NPT	Right to Left	32.2 (818)	11.2 (284)	8.5 (215)	27.2 (12.3)
10048028	2" NPT	Left to Right	37.2 (946)	13.5 (343)	9.8 (250)	43.5 (19.7)
10049386	2" NPT	Right to Left	37.2 (946)	13.5 (343)	9.8 (250)	43.5 (19.7)

Dimensions may vary 2% due to pipe thread engagement tolerances.

Sizes 1/2" to 2" (Left to Right Flow Shown)



Air Valve Train

Component Details

Control Valve

Electrically operated, normally closed, fast opening, fast closing, with visual position indication, flow adjustment, aluminum body and UL, FM, CSA approvals, NEMA 12.

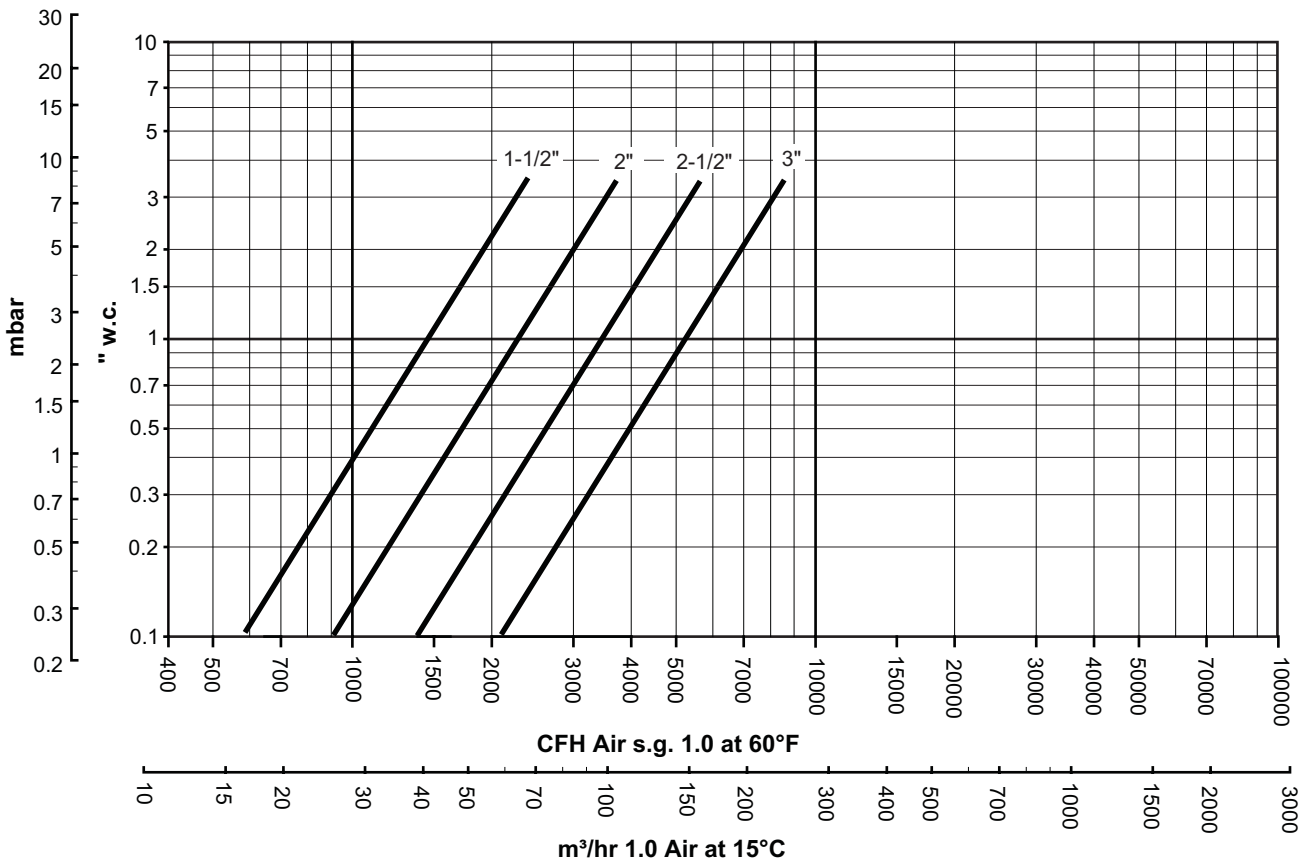
Flow Ratings

1.0 Specific gravity air at 60°F

Size		Flow, cfh	Flow, m ³ /h
Inches	Millimeters		
1-1/2"	40	2300	65
2"	50	3900	110
2-1/2"	65	5600	159
3"	80	8500	241

Air valves to be used with ambient combustion air only.

Air Capacity

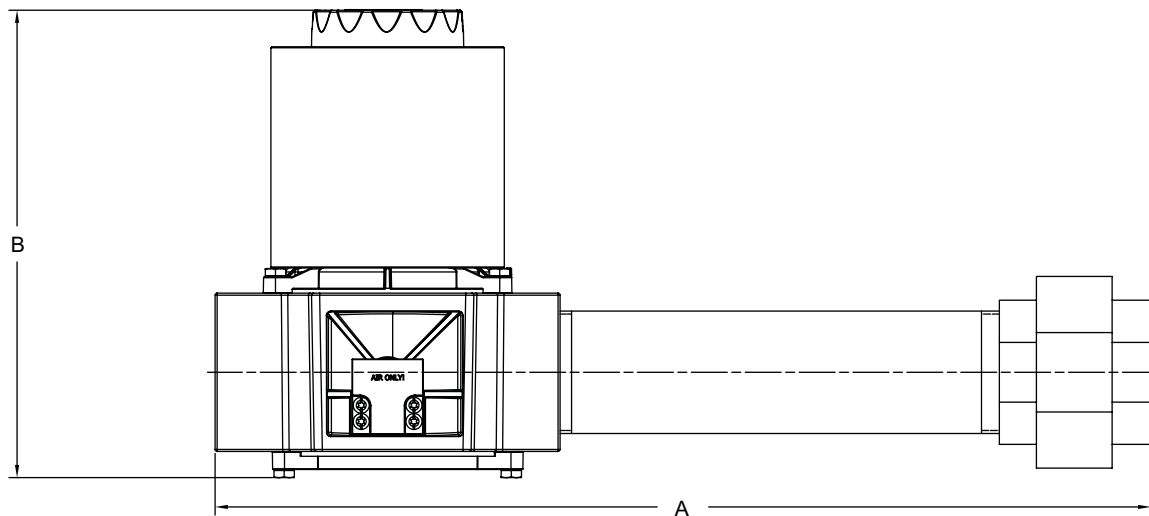
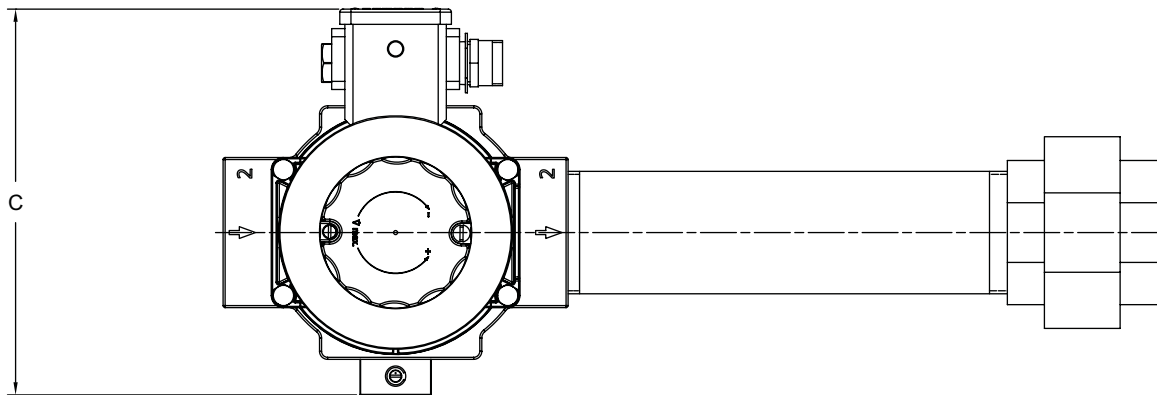


Air Train Dimensions in inches (mm)

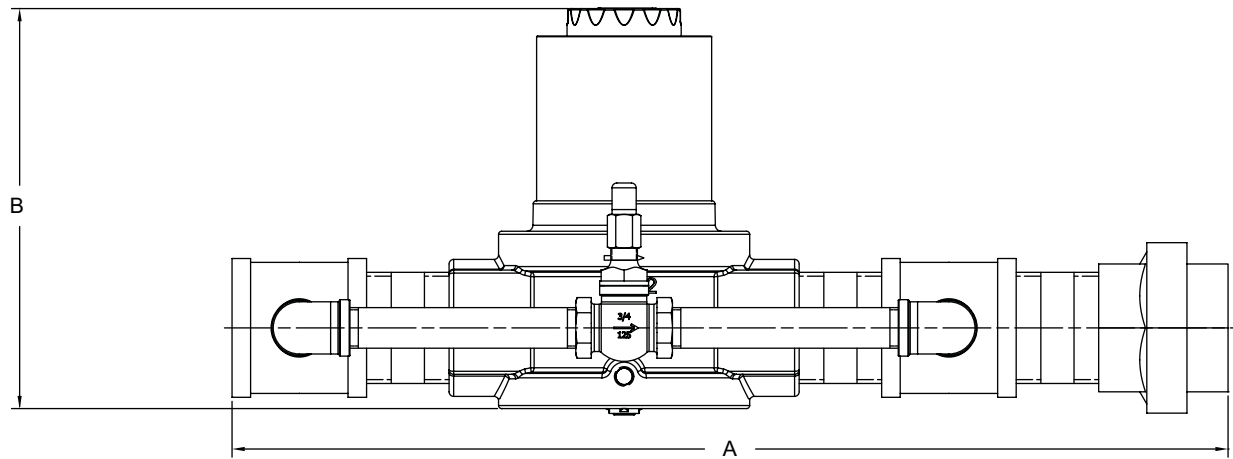
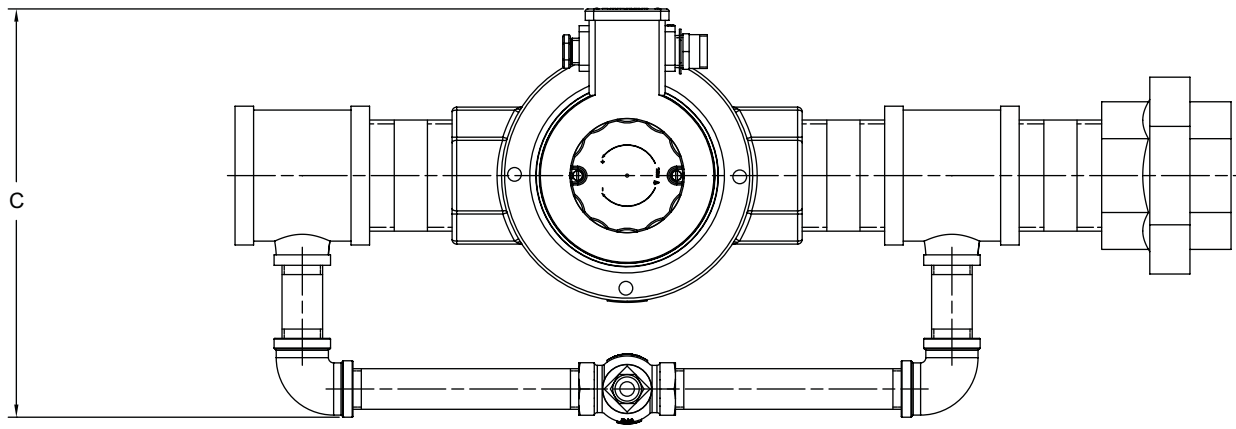
Part Number	Size	Flow Direction	Length A	Clearance Height B	Depth C	Weight, lbs (kg)
10048029	1-1/2" NPT	Left to Right	17.3 (439)	7.7 (196)	6.8 (172)	16.7 (7.6)
10048925	1-1/2" NPT	Right to Left	17.3 (439)	7.7 (196)	6.8 (172)	16.7 (7.6)
10048030	2" NPT	Left to Right	18.1 (461)	9.1 (230)	7.5 (190)	26.3 (11.9)
10048927	2" NPT	Right to Left	18.1 (461)	9.1 (230)	7.5 (190)	26.3 (11.9)
10048032	2-1/2" NPT	Left to Right	25.7 (654)	10.3 (654)	10.7 (273)	52.5 (23.8)
10048928	2-1/2" NPT	Right to Left	25.7 (654)	10.3 (654)	10.7 (273)	52.5 (23.8)
10048033	3" NPT	Left to Right	27.6 (700)	13 (330)	11.4 (290)	81 (36.7)
10048929	3" NPT	Right to Left	27.6 (700)	13 (330)	11.4 (290)	81 (36.7)

Dimensions may vary 2% due to pipe thread engagement tolerances.

Sizes 1-1/2" to 2" NPT (Left to Right Flow Shown)



Sizes 2-1/2" to 3" NPT (Left to Right Flow Shown)





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