

# Masoneilan® Model 78 Series Air Filter Regulators

Specification Data

CY7840

11/03



**Compact,  
Lightweight,  
High-Performance  
Pressure Reducing  
Regulators**



## Product Description

The 78 Series pressure regulators are compact, lightweight, high-performance pressure reducing valves. They are used primarily for supplying a stable source of air to process control equipment such as current to pneumatic transducers and control valve positioners.

## Principle of Operation

Rotation of the pressure setting knob compresses the range spring against the diaphragm plate, opening the main supply valve. As the outlet pressure increases, it flows through the aspirator and acts on the lower side of the diaphragm causing it to move upward until it balances the force of the range spring. This balanced condition maintains constant output pressure with changes in supply pressure and output load. If the output pressure rises above the set pressure, the relief valve opens and bleeds the excess pressure to atmosphere.

Should dirt or other foreign substance lodge under the inlet valve seat resulting in increased outlet pressure, the additional pressure exerted on the diaphragm will cause the relief valve to open, relieving the excess air through the relief valve seat and spring case vent to atmosphere.

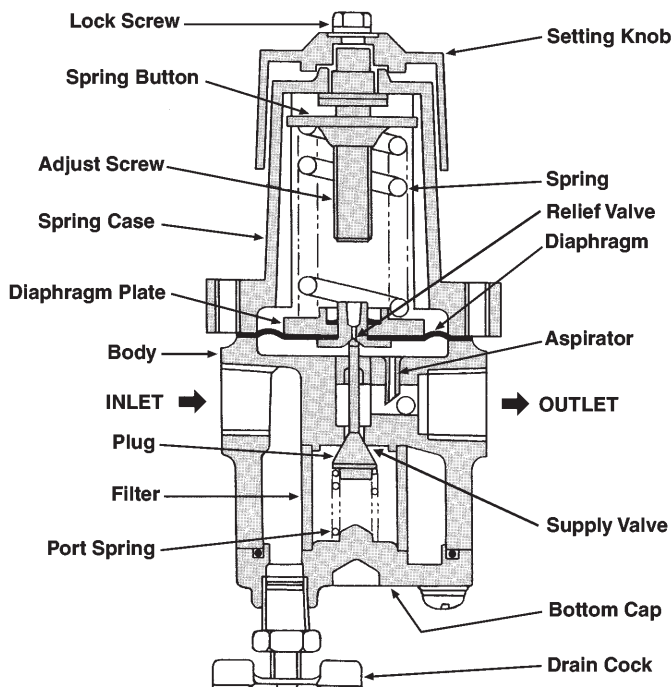


Figure 1 - Cut-away View of 78 Series Pressure Regulator

## Features and Benefits

- Excellent pressure regulation.
- Lock screw ensures output pressure remains at desired value.
- Small size and light weight allows the regulator to be nipple mounted in most installations, eliminating the need for a mounting bracket. A mounting bracket is available if required.
- Two pressure gauge ports allow installation of gauge on either side for flexibility when mounting.
- Soft seat plug on main valve provides positive shutoff.
- Sintered polyethylene filters provide 5 micron filtration rating (2 micron optional).
- Stainless steel drain.
- Corrosion resistant finish and stainless assembly hardware permit use in corrosive environments.

## Numbering System

Model No.	Pressure Range	Description
78-4	5-40 psi (35-280 kPa), (0.35-2.8 bar)	Air Loading with Relief and Filter
78-40	5-100 psi (35-700 kPa), (0.35-7 bar)	Air Loading with Relief and Filter

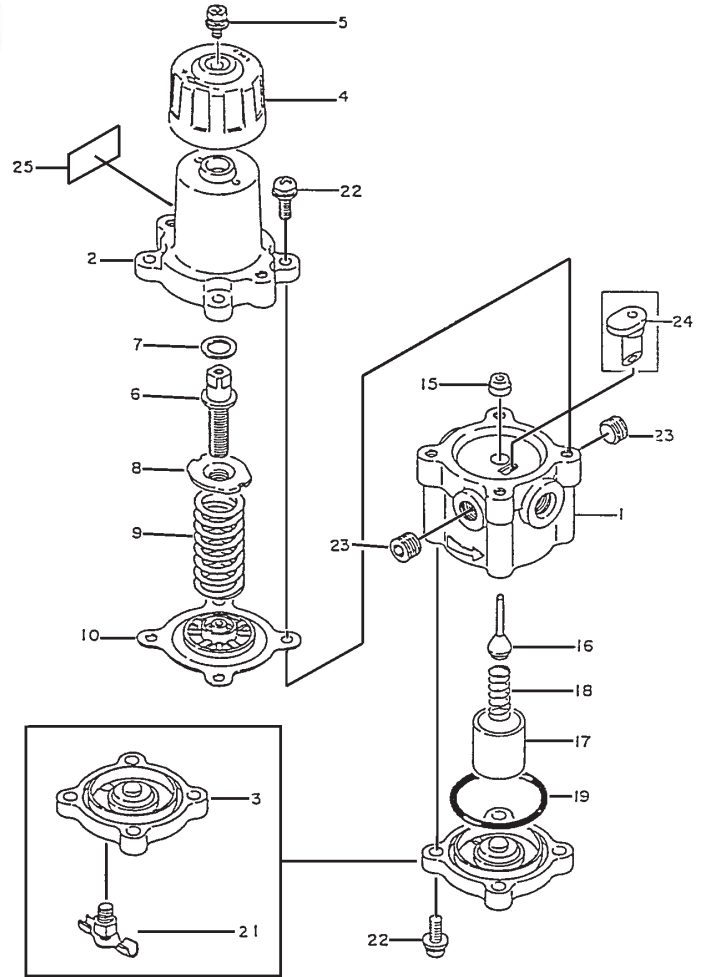
## General Data

Inlet Pressure Rating	215 psi (1.5Mpa, 15 bar) maximum
Pressure Set Range	5-40 psi (35-280 kPa, 0.35-2.8 bar) 5-100 psi (35-700 kPa, 0.35-7 bar)
Connection	1/4 NPT or Rc
Rated C <sub>v</sub>	0.25
Filter Element	Sintered Porous Polyethylene (5μ)
Ambient Temperature Range	-40° to +83°C (-40° to +182°F)
Air Consumption	0.004 scfm (100 sccm)
Weight	1 lb. (0.45 kg)
Materials of Construction	See figure 2 and table 2

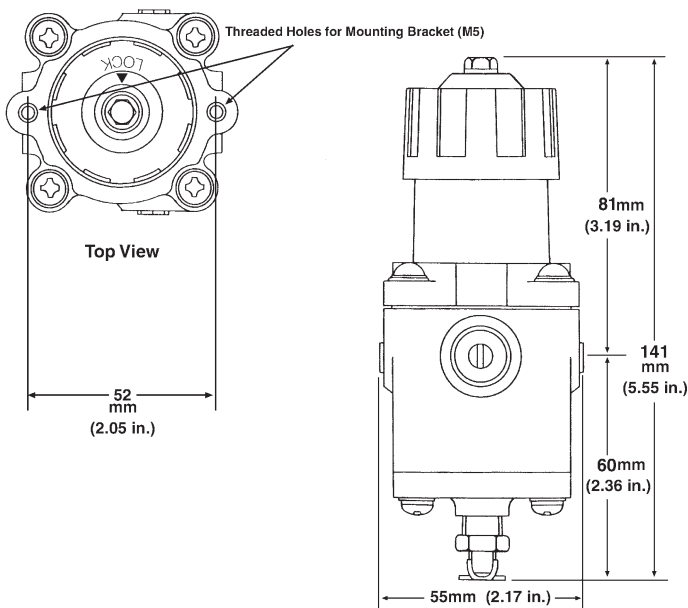
## Materials of Construction

No.	Part	Standard Material
1	Body	Aluminum Die Casting
2	Spring Casing	Aluminum Die Casting
3	Bottom Cap	Aluminum Die Casting
4	Knob	VALOX 420
5	Lock Screw	Stainless Steel
6	Adjusting Screw	Stainless Steel
7	Spacer	VALOX 420
8	Spring Button	Zn-Cr plated Carbon Steel
9	Spring	Coated Spring Steel
10	Diaphragm *	NBR
15	Plug Guide	VALOX 325
16*	Plug	Neoprene/416 Stainless Steel
17*	Filter	Sintered Polyethylene
18*	Port Spring	Stainless Steel
19*	"O"-ring	NBR
-		
21	Drain Cock	Stainless Steel
22	Screw	Stainless Steel
23	Pipe Plug	Chrome Molybdenum Steel
24	Aspirator	VALOX 325
25	Nameplate	Aluminum

\* Recommended Spare Parts



## Dimensions



## Weights

Ounces	Kilograms
14	.4

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