

# Model 78 Series

## Air Filter Regulators



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.

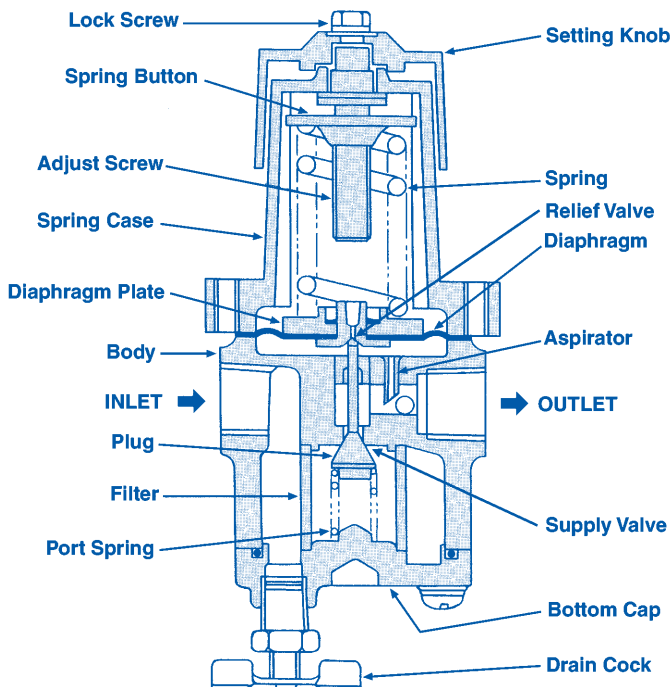


Figure 1 - Cut-away View of 78 Series Pressure Regulator

## 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

Table 1

210 psi (1.5 Mpa, 15 bar) maximum

## General Data

Inlet Pressure Rating	210 psi (1.5 Mpa, 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 $C_v$	0.25
Filter Element	Sintered Porous Polyethylene (5 $\mu$ )
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

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

Table 3

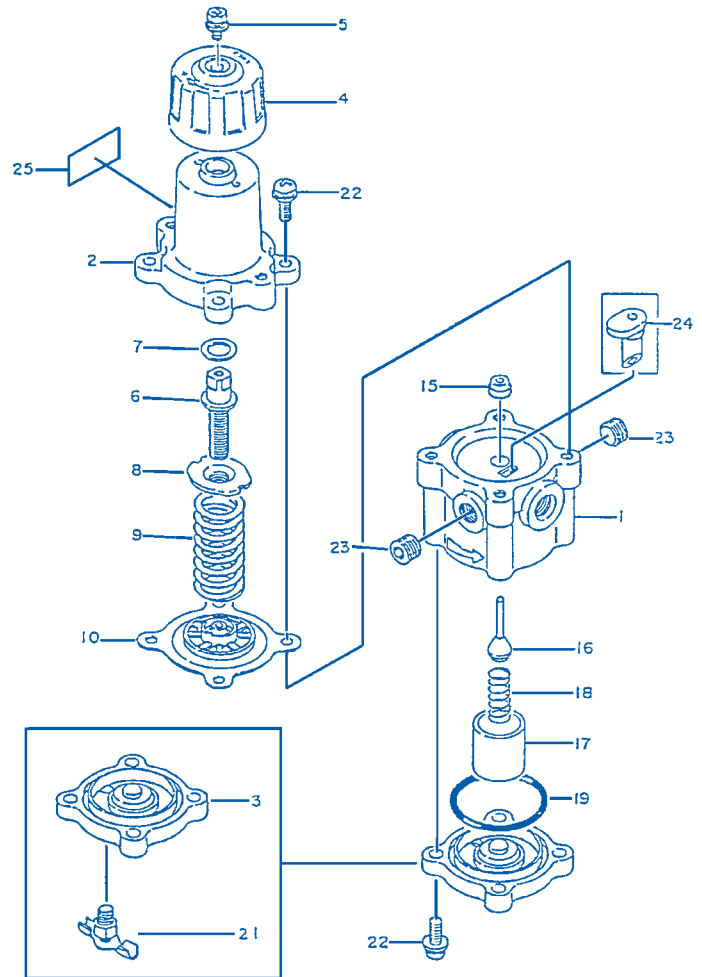


Figure 2

## Dimensions

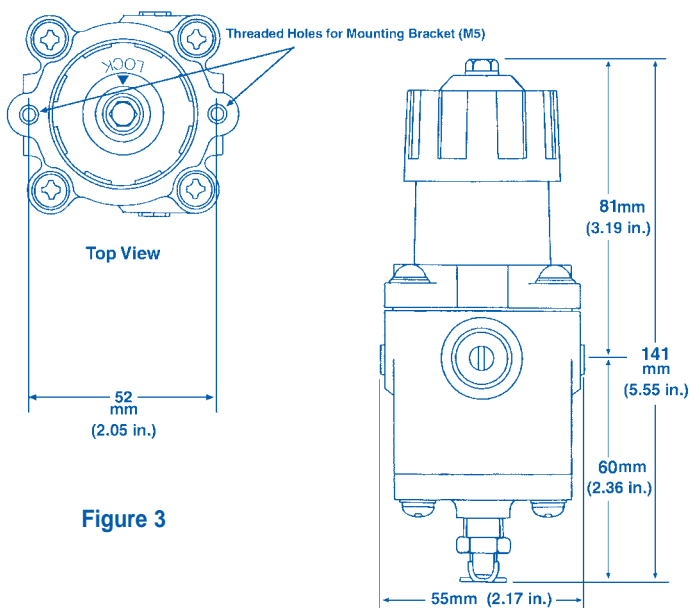


Figure 3

## Weights

Ounces	Kilograms
14	.4

Table 4

# DIRECT SALES OFFICE LOCATIONS

## BELGIUM

Phone: +32-2-344-0970  
Fax: +32-2-344-1123

## BRAZIL

Phone: 55-11-2146-3600  
Fax: 55-11-2146-3610

## CANADA

Ontario  
Phone: 905-335-3529  
Fax: 905-336-7628

## CHINA

Phone: +86-10-8486-4515  
Fax: +86-10-8486-5305

## FRANCE

Courbevoie  
Phone: +33-1-4904-9000  
Fax: +33-1-4904-9010

## GERMANY

Viersen  
Phone: +49-2162-8170-0  
Fax: +49-2162-8170-280  
Frankfurt  
Phone: +49-69-439350  
Fax: +49-69-4970802

## INDIA

Mumbai  
Phone: +91-22- 8354790  
Fax: +91-22-8354791

## New Delhi

Phone: +91-11-2-6164175  
Fax: +91-11-5-1659635

## ITALY

Phone: +39-081-7892-111  
Fax: +39-081-7892-208

## JAPAN

Chiba  
Phone: +81-43-297-9222  
Fax: +81-43-299-1115

## KOREA

Phone: +82-2-2274-0748  
Fax: +82-2-2274-0794

## KUWAIT

Phone: +965-9061157  
Fax: +965-3987879

## MALAYSIA

Phone: +60-3-2161-0322  
Fax: +60-3-2163-6312

## MEXICO

Phone: 52-5-310-9863  
Fax: 52-5-310-5584

## THE NETHERLANDS

Phone: +31-10-438-4122  
Fax: +31-10-438-4443

## RUSSIA

Veliky Novgorod  
Phone: +7-8162-15-7898  
Fax: +7-8162-15-7921

## Moscow

Phone: +7 495-585-1276  
Fax: +7 495-585-1279

## SAUDI ARABIA

Phone: +966-3-341-0278  
Fax: +966-3-341-7624

## SINGAPORE

Phone: +65-6-6861-6100  
Fax: +65-6-6861-7172

## SOUTH AFRICA

Phone: +27-11-452-1550  
Fax: +27-11-452-6542

## SOUTH & CENTRAL AMERICA AND THE CARIBBEAN

Phone: 832-590-2303  
Fax: 832-590-2529

## SPAIN

Phone: +34-93-652-6430  
Fax: +34-93-652-6444

## UNITED ARAB EMIRATES

Phone: +971-4-8838-752  
Fax: +971-4-8838-038

## UNITED KINGDOM

Uxbridge  
Phone: +44-1895-454-900  
Fax: +44-1895-454-919

## UNITED STATES

Massachusetts  
Phone: 508-586-4600  
Fax: 508-427-8971

Corpus Christi, Texas  
Phone: 361-881-8182  
Fax: 361-881-8246

Dresser Direct  
Deer Park, Texas  
Phone: 281-884-1000  
Fax: 281-884-1010

(Contractor Sales)  
Houston, Texas  
Phone: 832-590-2303  
Fax: 832-590-2529

California  
Phone: 562-941-7610  
Fax: 562-941-7810

## Aftermarket Value Services

Dresser - Masoneilan, a leading manufacturer of automated process control solutions, offers world-class global aftermarket services. Consistent and high quality services executed through a network of fully authorized and certified third party service centers, as well as company owned facilities include: Valve Repair, Technical Training, Field Support, Spare Parts Supply, Complete Equipment Replacement and Comprehensive Diagnostics.

## About Dresser, Inc.

Dresser, Inc. is a leader in providing highly engineered infrastructure products for the global energy industry. The company has leading positions in a broad portfolio of products including valves, actuators, meters, switches, regulators, piping products, natural gas-fueled engines, retail fuel dispensers and associated retail point of sale systems and air and gas handling equipment.

Leading brand names within the Dresser portfolio include Dresser Wayne® retail fueling systems, Waukesha® natural gas-fired engines, Masoneilan® control valves, Mooney® regulators, Consolidated® pressure relief valves, and Roots® blowers and rotary gas meters. It has manufacturing and customer service facilities located strategically worldwide and a sales presence in more than 100 countries. The company's website can be accessed at [www.dresser.com](http://www.dresser.com).

## Dresser Masoneilan

85 Bodwell Street  
Avon, MA 02322-1190  
Tele: 508-586-4600 / Fax: 508-941-5497  
Email: [sales@masoneilan.com](mailto:sales@masoneilan.com)

## Dresser Masoneilan

With its breadth of products, unequaled global presence and advanced process control expertise, Dresser Masoneilan is uniquely positioned to be the leading provider of flexible, best fit control valve solutions.

Supported by an integrated network of sales offices, Dresser Masoneilan provides the widest range of valve solutions and services for virtually every process control application.

