

78 Series

Masoneilan* Air Filter Regulators



Model 78 Air Filter 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.

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	5-4 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 (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 3

Table 2

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.
- Stainless steel drain.
- Corrosion resistant finish and stainless assembly hardware permit use in corrosive environments.

Cut-away View of 78 Series Pressure Regulator

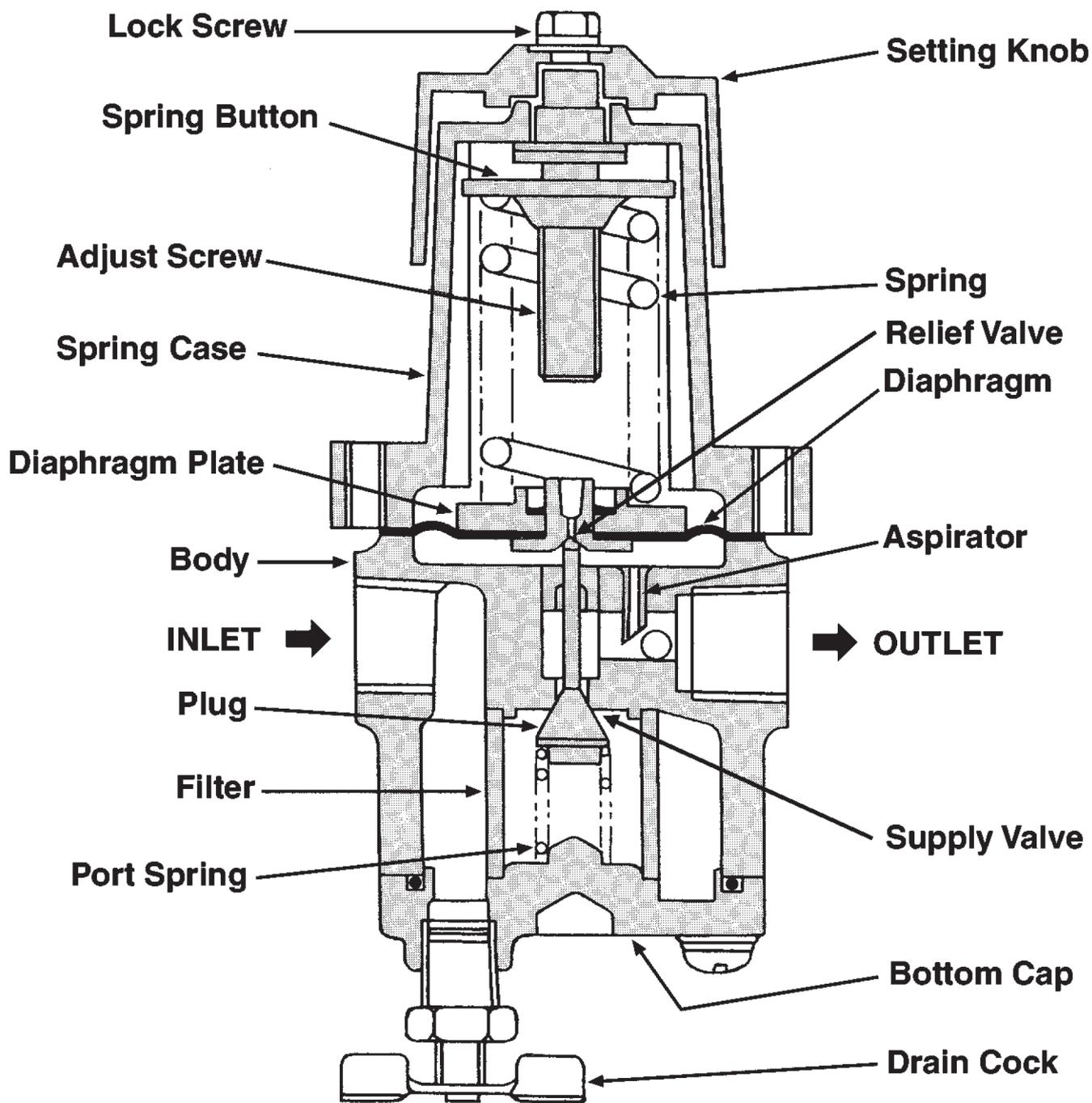


Figure 1

Materials of Construction

NO.	PART	STANDARD MATERIAL
1	Body	Aluminum Die Casting
2	Spring Casting	Aluminum Die Casting
3	Bottom Cap	Aluminum Die Casting
4	Setting 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™ 420
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™ 420
25	Nameplate	Aluminum

†Recommended Spare Parts

Weights

OUNCES	KILOGRAMS
14	.4

Table 4

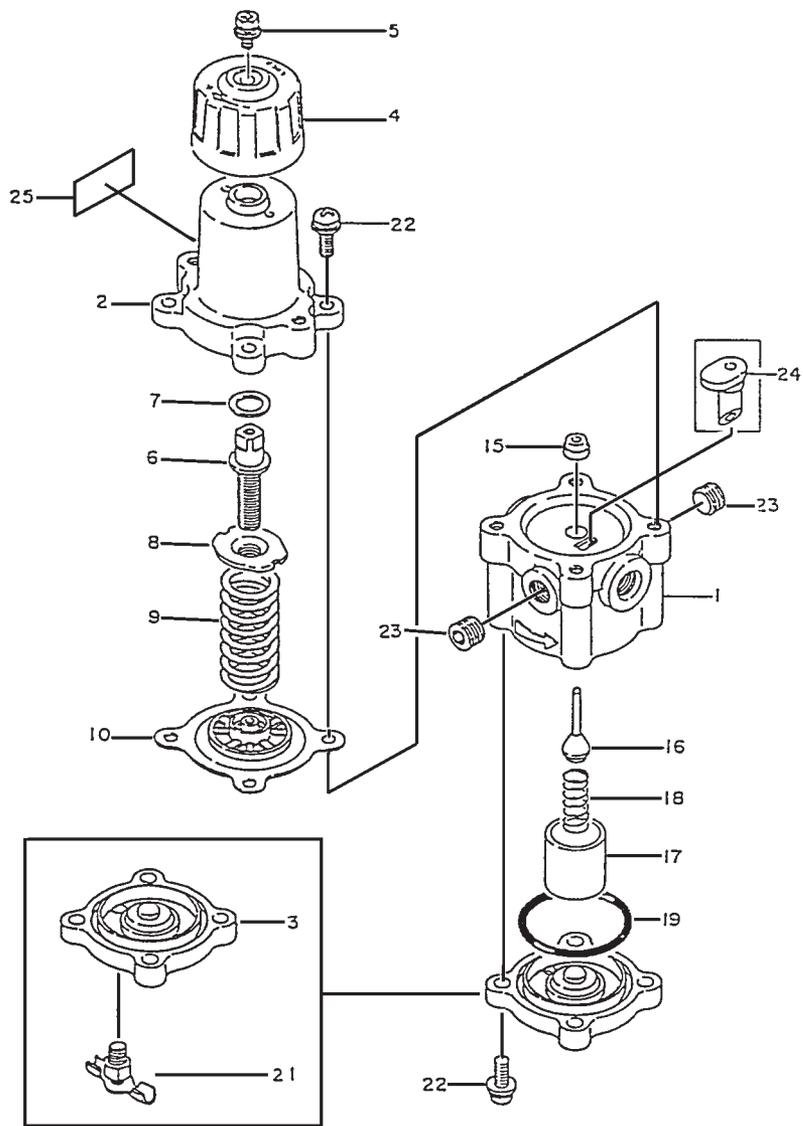


Figure 2

Dimensions

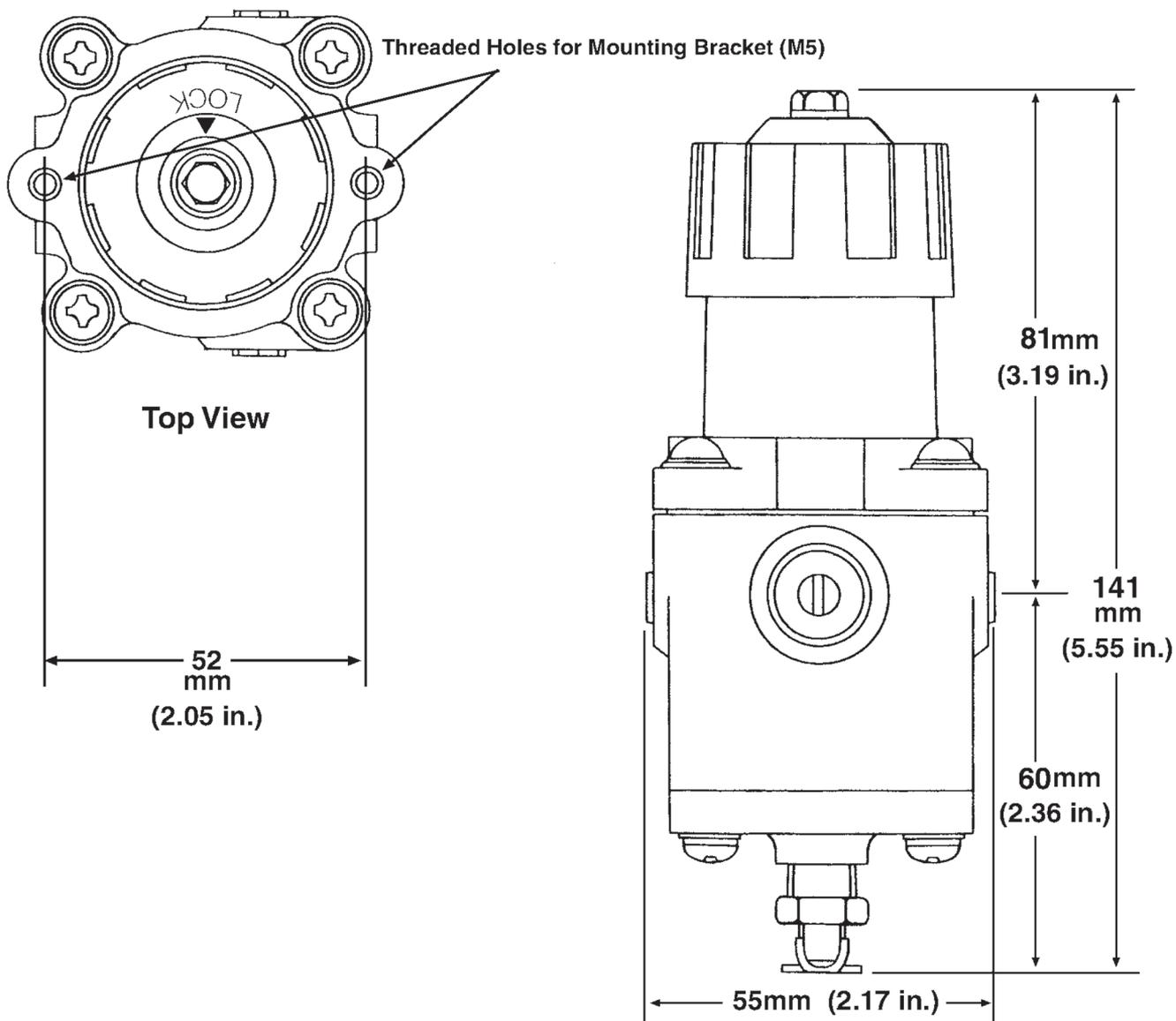


Figure 3

DIRECT SALES OFFICE LOCATIONS

AUSTRALIA

Brisbane:
Phone: +61-7-3001-4319
Fax: +61-7-3001-4399

Perth:
Phone: +61-8-6595-7018
Fax: +61 8 6595-7299

Melbourne:
Phone: +61-3-8807-6002
Fax : +61-3-8807-6577

BELGIUM

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

BRAZIL

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

CHINA

Phone: +86-10-5689-3600
Fax: +86-10-5689-3800

FRANCE

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

GERMANY

Ratingen
Phone: +49-2102-108-0
Fax: +49-2102-108-111

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

MALAYSIA

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

MEXICO

Phone: +52-55-3640-5060

THE NETHERLANDS

Phone: +31-15-3808666
Fax: +31-18-1641438

RUSSIA

Veliky Novgorod
Phone: +7-8162-55-7898
Fax: +7-8162-55-7921

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

SOUTH AFRICA

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

SOUTH & CENTRAL AMERICA AND THE CARIBBEAN

Phone: +55-12-2134-1201
Fax: +55-12-2134-1238

SPAIN

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

UNITED ARAB EMIRATES

Phone: +971-4-8991-777
Fax: +971-4-8991-778

UNITED KINGDOM

Bracknell
Phone: +44-1344-460-500
Fax: +44-1344-460-537

Skelmersdale

Phone: +44-1695-526-00
Fax: +44-1695-526-01

UNITED STATES

Massachusetts
Phone: +1-508-586-4600
Fax: +1-508-427-8971

Corpus Christi, Texas

Phone: +1-361-881-8182
Fax: +1-361-881-8246

Deer Park, Texas

Phone: +1-281-884-1000
Fax: +1-281-884-1010

Houston, Texas

Phone: +1-281-671-1640
Fax: +1-281-671-1735

*Denotes a trademark of General Electric Company.

Other company names and product names used in this document are the registered trademarks or trademarks of their respective owners.

© 2015 General Electric Company. All rights reserved.

GEA31894 06/2015

