

November 2020

P590 Series Filters

Introduction

Scope of the Manual

This manual provides instructions for installation, maintenance and parts information for P590 Series filters.

Product Description

P590 Series filters are designed to remove dirt, scale or other solid substances from gases just upstream from pilot supply lines for air or gas pressure regulators.

P590 Series filters come with either aluminum or brass bodies and phenolic resin impregnated cellulose filter elements capable of removing all particles larger than 40 microns (0.0016 in. / 0.04 mm) in diameter.

Type P594-1: The body of this unit is brass.

Type P593-1: The body of this unit is aluminum. It is available with a NACE option.

Installation



WARNING

Personal injury, equipment damage or leakage due to escaping gas or bursting of pressure-containing parts may result if the filter is installed where its capabilities can be exceeded or where conditions exceed any ratings of the adjacent piping or piping connections.

To avoid this, install a filter where:

- **Service conditions are within unit capabilities.**
- **Service conditions are within applicable codes, regulations or standards.**

Using good piping practices, make sure that all tubing and piping are clean and unobstructed. Apply a good grade of pipe compound to the male pipeline threads. Install the filter in the line with the flow in the direction of the arrow shown in Figure 1.

Maintenance

Filter parts are subject to normal wear and must be inspected periodically and replaced as necessary. The frequency of inspection and replacement depends upon the severity of service conditions and upon applicable codes and government regulations.

Due to the care Fisher™ takes in meeting all manufacturing requirements (heat treating, dimensional tolerances, etc.), use only replacement parts manufactured or furnished by Fisher.



WARNING

To avoid personal injury resulting from sudden release of pressure, isolate the regulator/filter from all pressure and cautiously release trapped pressure from the regulator/filter before attempting disassembly.

P590 Series

Specifications

This section lists the specifications for the P590 Series filters.

Sizing Coefficient

The gas sizing coefficient (C_g) for all two filter elements at 75% clogged is in a range from 15 to 20.

Body Size and End Connection Style

Connections: 1/4 NPT

Length: 3.25 in. / 83 mm

Approximate Weight

2 lbs / 1 kg

Maximum Working Pressure

Type P594-1 with Brass Body:

1400 psig / 96.5 bar

Type P593-1 with Aluminum Body:

600 psig / 41.4 bar

1. The pressure/temperature limits in this Instruction Manual or any applicable standard limitation should not be exceeded.

Perform this procedure to clean or replace filter parts in a P590 Series filter assembly. Key numbers are referenced in Figure 1.

Remove the following parts: filter body (key 1), machine screw (key 4), spring washer (key 6), gasket (key 7), two flat washers (key 5), and filter element (key 2).

Upon reassembly, one of the flat washers (key 5) must go between the filter element and the filter head (key 3) and the other must go between the filter element and gasket. Use a good grade of pipe thread sealant on the filter head pipe threads as shown by P.T.S. in Figure 1.

Parts Ordering

When corresponding with your local Sales Office about this filter, always reference the FS number.

When ordering replacement parts, specify the complete 11-character part number from the following parts list.

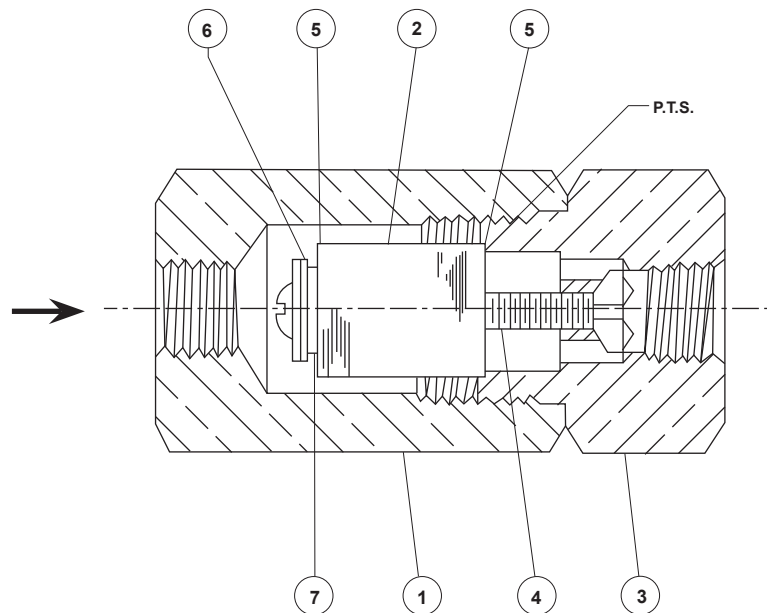
Key	Description	Part Number
1	Filter Body Types P595 and P594-1, Brass	1E312414012
	Type P593-1 Aluminum	1E3124X0022
	Aluminum (NACE)	1E3124X0013
2*	Filter Element Cellulose	1E312606992
	Cellulose (NACE)	1E312606992
3	Filter Head Types P595 and P594-1, Brass	1E312514012
	Type P593-1 Aluminum	1E3125X0022vv
	Aluminum (NACE)	1E312509012
4	Machine Screw Types P595 and P594-1, Brass	1J500218992
	Type P593-1 Aluminum	1J500209012
	Aluminum (NACE)	1J500209012
5	Washer (2 required) Types P595, P594-1, Brass	1J500018992
	Type P593-1, Aluminum	1J500010062
	Aluminum (NACE)	1J500010062
6	Spring Washer, Steel	1H885128982
7*	Gasket, Composition Types P594-1 and P593-1	1F826804022
11	NACE Tag (Type P593-1 NACE only) 18-8 Stainless steel (not shown)	19A6034X012
12	Tag Wire (Type P593-1 NACE only) 303 Stainless steel (NACE)	1U7581X0022

Parts List

Note

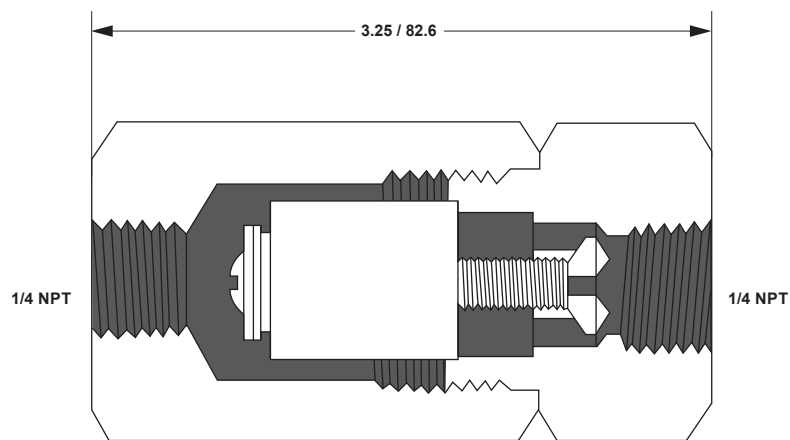
In this parts list, parts marked NACE are intended for corrosion-resistant service as detailed in the NACE International standard MR0175.

*Recommended Spare Parts



AJ5004-C
A2135-3

Figure 1. Typical P590 Filter Assembly



W1670

IN. / mm

Figure 2. Type P594-1 (Dimensions are the same for Type P593-1)

P590 Series



Webadmin.Regulators@emerson.com



Fisher.com



Facebook.com/EmersonAutomationSolutions



LinkedIn.com/company/emerson-automation-solutions



Twitter.com/emr_automation

Emerson Automation Solutions

Americas

McKinney, Texas 75070 USA

T +1 800 558 5853

+1 972 548 3574

Europe

Bologna 40013, Italy

T +39 051 419 0611

Asia Pacific

Singapore 128461, Singapore

T +65 6777 8211

Middle East and Africa

Dubai, United Arab Emirates

T +971 4 811 8100

D101555X012 © 1990, 2020 Emerson Process Management Regulator Technologies, Inc. All rights reserved. 11/20.

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their prospective owners. Fisher™ is a mark owned by Fisher Controls International LLC, a business of Emerson Automation Solutions.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Process Management Regulator Technologies, Inc. does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson Process Management Regulator Technologies, Inc. product remains solely with the purchaser.

