

# Type 252 Filter

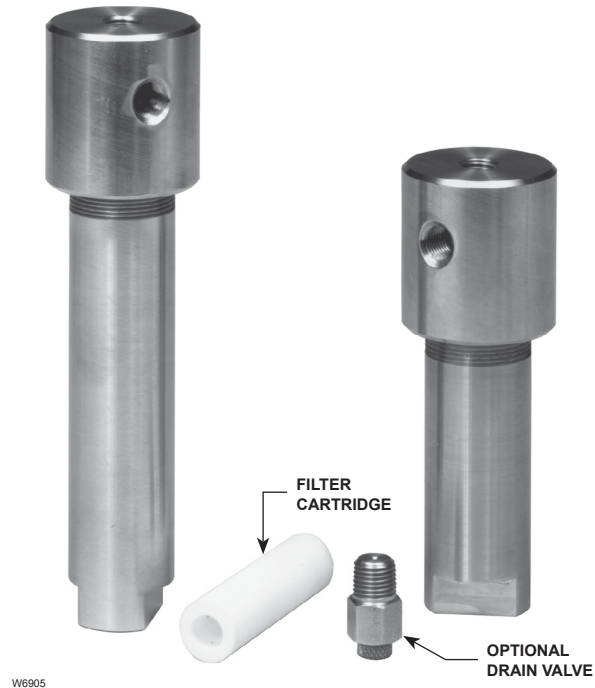


Figure 1. Type 252 Filters

## Introduction

The Type 252 filter is designed to clean the supply gas or air before it enters pilots on pilot-operated regulators, pneumatic instruments or other devices that require clean mediums to operate properly. The Type 252 will prevent paint chips, dirt, pipe scale and some moisture from reaching the equipment that it is protecting.

## Features

- **Excellent Filtration**—The polyethylene filter cartridge has a filtration capability of 20 microns.
- **Clean Pilot Supply**—Installing a filter in a pilot supply line will ensure cleaner air or gas supply to the pilot, preventing debris from clogging the pilot.
- **Drainage**—1/4 NPT tubing or pipe can be installed in place of the drain valve to provide a pipe away drain.
- **NACE Approved**—The filter complies with the recommendations of NACE MR0175.
- **Flow Capacity**—The aluminum body filter has a working pressure of up to 2150 psig (148 bar) and the stainless steel body has a working pressure of up to 2750 psig (190 bar).



## Specifications

### Inlet and Outlet Connections Size

1/4 NPT

### Maximum Working Pressure<sup>(1, 2)</sup>

**Aluminum:** 2150 psig (148 bar)

**Stainless Steel:** 2750 psig (190 bar)

### Typical Flow Capabilities

See Figure 3

### Typical Flow Coefficients

$C_g$ : 20

$C_v$ : 0.57

$C_1$ : 35

### Maximum Temperature Capabilities<sup>(1)</sup>

-40° to 180°F (-40° to 82°C)

### Filter Rating

20 microns

### Maximum Differential

100 psig (6,9 bar)

### Construction Materials

**Body Material:** 316 Stainless Steel or Aluminum (A92011 T3)

**Filter Cartridge:** Polyethylene

**O-Ring:** Nitrile (NBR)

**Optional Drain Valve:** 316 Stainless Steel

### Approximate Weights

#### Standard Body:

Aluminum, 0.8 pounds (0,4 kg)

Stainless Steel, 2.3 pounds (1 kg)

#### Extended Body:

Aluminum, 1 pound (0,5 kg)

Stainless Steel, 3 pounds (1 kg)

### Dimensions

See Figure 4

1. The pressure/temperature limits in this bulletin and any applicable standard or code limitation should not be exceeded.

2. A pressure exceeding this value can cause failure of, or leakage from, pressure-containing components.

## Construction

The Type 252 filter body is constructed of stainless steel or aluminum. A threaded connection securely joins the head and body, and a Nitrile (NBR) O-ring assures a tight seal. Upper and lower filter seats securely hold the polyethylene filter cartridge in place.

The optional stainless steel drain valve consists of a poppet, spring and stainless steel body, with a vent hole to bleed excess liquid. The knurled cap is permanently assembled to the valve for safety.

## Installation

Thoroughly clean and blow all pipelines to remove pipe scale and other foreign matter which accelerate the clogging of the filter.

When installing the filter, follow established piping practices. Apply a good grade of pipe compound to the external pipeline threads. Install the filter in the line with the flow as indicated by the in and out markings on the filter head.

## NACE Standard MR0175 Compliance

Optional materials are available for applications handling sour gases. These constructions comply with the recommendations of NACE International sour service standards.

The manufacturing processes and materials used by Emerson assure that all products specified for sour gas service comply with the chemical, physical, and metallurgical requirements of NACE MR0175 and/or NACE MR0103. Customers have the responsibility to specify correct materials. Environmental limitations may apply and shall be determined by the user.

Incoming raw materials are tightly controlled by specifications which cover chemical, composition, forming, hardness, heat treatment and finish. In addition, the subsequent machining, welding and heat treatment of the materials as they are processed into finished parts are strictly controlled.

## Capacity Information

The typical flow capacities shown in Figure 3 are calculated based on the flow (SCFH) of natural gas at 14.7 psig and 60°F. To determine equivalent capacities for air, propane, butane or nitrogen, multiply the listed capacity by the following appropriate conversion factor: 0.775 for air, 0.628 for propane, 0.548 for butane, or 0.789 for nitrogen. For gases of other specific gravities, multiply the given appropriate specific gravity. If capacity is desired in normal cubic meters per hour (Nm<sup>3</sup>/h) at 0°C and 1,01325 bar, multiply SCFH by 0.0268.

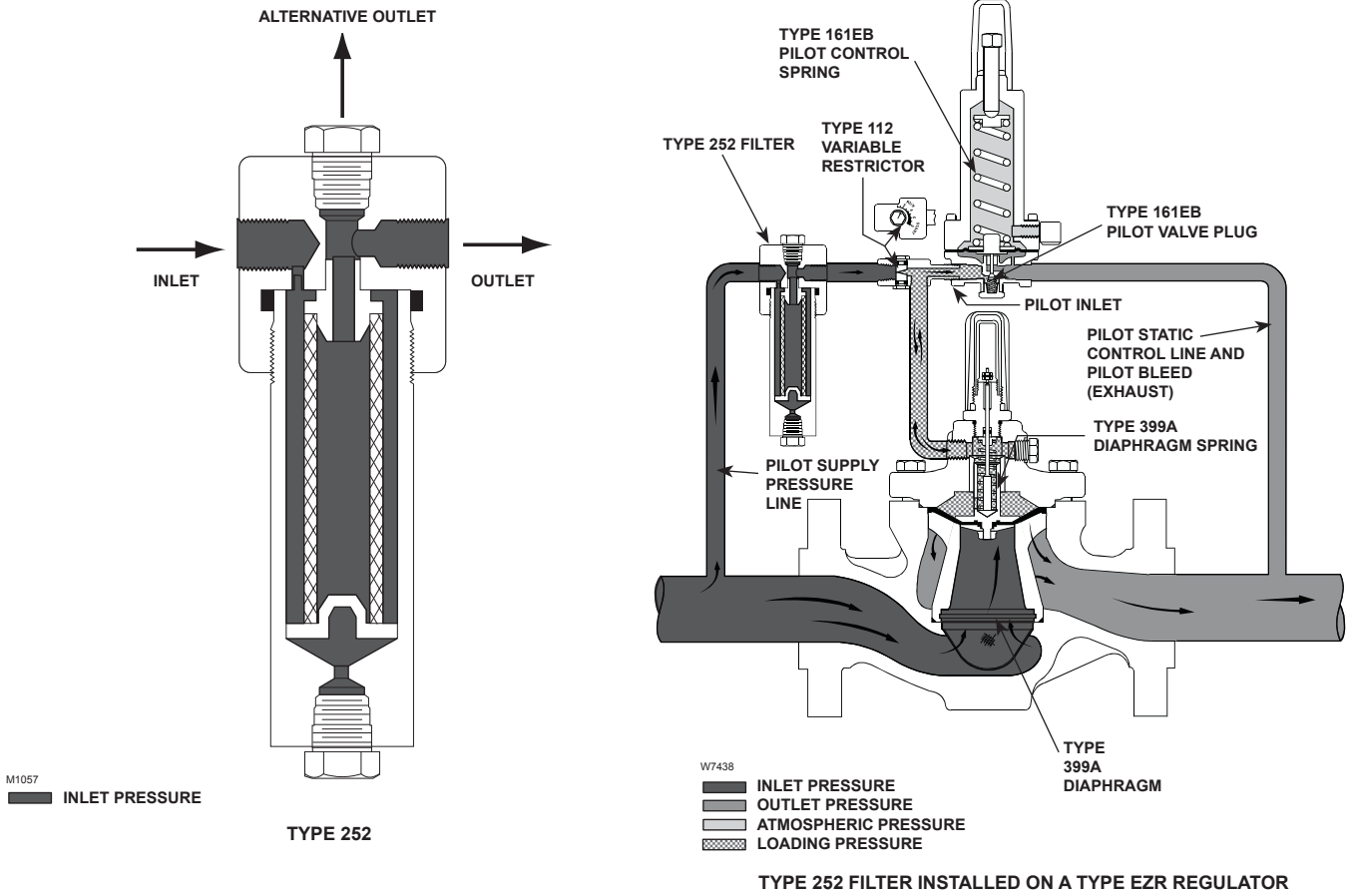


Figure 2. Operational Schematics

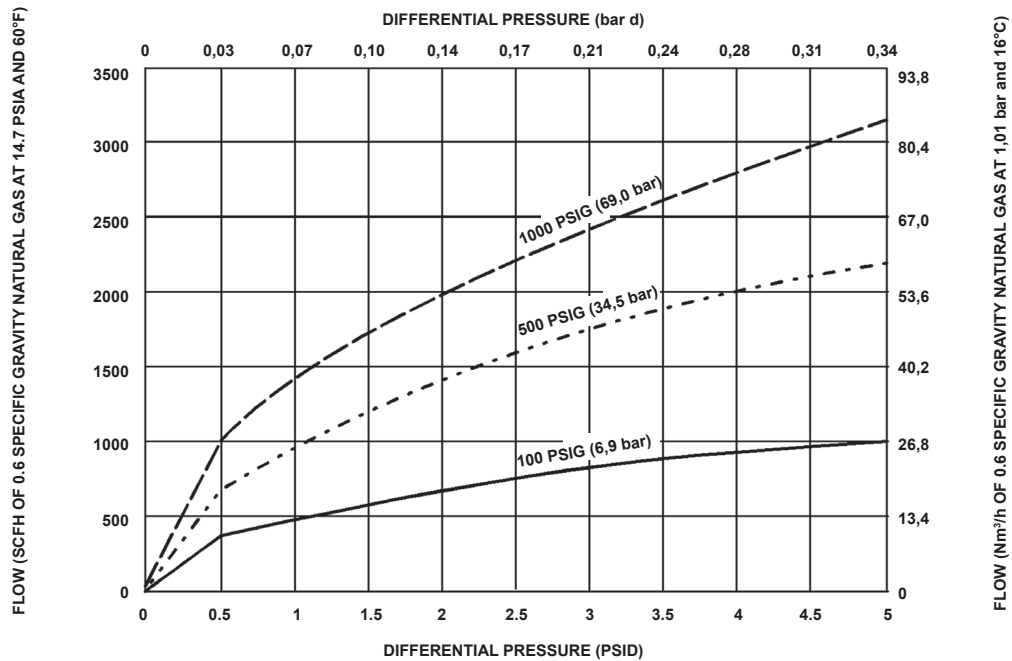


Figure 3. Typical Flow Capabilities

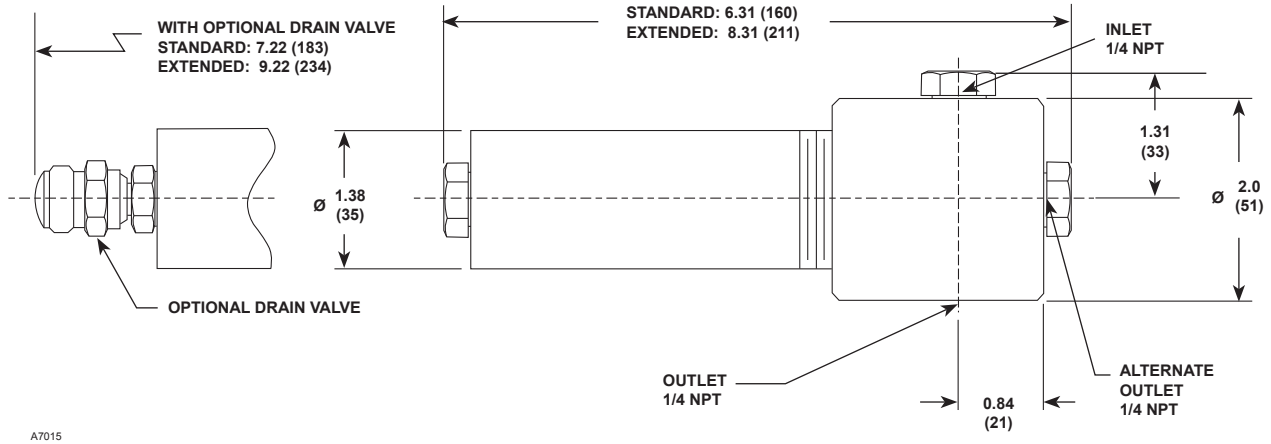


Figure 4. Dimensions

INCHES  
(mm)

For example, to convert the capacity information from natural gas to air for an inlet pressure of 3000 SCFH (80,4 Nm<sup>3</sup>/h), use the following formula.

$$\text{Air SCFH} = 0.775 \times 3000 = 2325$$

Therefore, the equivalent capacity for air at 14.7 psia and 60°F would be 2325 SCFH (62,3 Nm<sup>3</sup>/h).

## Ordering Information

When ordering, specify standard or extended filter body, with or without the optional drain valve and the desired construction material.

### Industrial Regulators

#### Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters  
McKinney, Texas 75069-1872 USA  
Tel: 1-800-558-5853  
Outside U.S. 1-972-548-3574

Asia-Pacific  
Shanghai, China 201206  
Tel: +86 21 2892 9000

Europe  
Bologna, Italy 40013  
Tel: +39 051 4190611

Middle East and Africa  
Dubai, United Arab Emirates  
Tel: +971 4811 8100

### Natural Gas Technologies

#### Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters  
McKinney, Texas 75069-1872 USA  
Tel: 1-800-558-5853  
Outside U.S. 1-972-548-3574

Asia-Pacific  
Singapore, Singapore 128461  
Tel: +65 6777 8211

Europe  
Bologna, Italy 40013  
Tel: +39 051 4190611  
Gallardon, France 28320  
Tel: +33 (0)2 37 33 47 00

### TESCOM

#### Emerson Process Management Tescom Corporation

USA - Headquarters  
Elk River, Minnesota 55330-2445 USA  
Tel: 1-763-241-3238

Europe  
Selmsdorf, Germany 23923  
Tel: +49 (0) 38823 31 0

For further information visit [www.emersonprocess.com/regulators](http://www.emersonprocess.com/regulators)

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, Inc., a business of Emerson Process Management.

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. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Process Management 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 product remains solely with the purchaser.