

English – January 2010

Introduction

This Installation Guide provides instructions for installation, startup and adjustment. To receive a copy of the Instruction Manual, contact your local Sales Office or view a copy at www.fisher.com. For further information refer to Y692VB Series Instruction Manual, D102661X012.

PED/PE(S)R Categories

This product may be used as a safety accessory with pressure equipment in the following categories. It may also be used outside of these Directives using Sound Engineering Practice (SEP) per table below. For information on the current PED/PE(S)R revision, see Bulletin: [D103053X012](#).

PRODUCT SIZE	CATEGORY	FLUID TYPE
DN 40 to 50 / NPS 1-1/2 to 2	I	1

Specifications

Body Sizes and End Connection Styles⁽¹⁾

DN 40 / NPS 1-1/2 : NPT, SWE, CL150 RF, CL300 RF and PN 16/25/40

DN 50 / NPS 2: NPT, SWE, CL125 FF, CL150 RF, CL300 RF and PN 16/25/40

Maximum Allowable Inlet (Positive) Pressure⁽²⁾ and Orifice Sizes

19 mm / 3/4-in. Orifice: 2.1 bar / 30 psig

30 mm / 1-3/16-in. Orifice: 0.90 bar / 13 psig

Vacuum Control Pressure Ranges⁽²⁾

See Table 1

Maximum Casing Pressure⁽²⁾

0.55 bar / 8 psig Vacuum

Pressure Registration

Type Y692VB: Internal

Type Y692VBM: External

Spring Case Connection

3/4 NPT

Type Y692VB Gauge Tap Connection

1/4 NPT

Type Y692VBM Control Line Connection

1/2 NPT

Temperature Capabilities⁽²⁾

Nitrile (NBR): -40 to 82°C / -40 to 180°F

Fluorocarbon (FKM): 4 to 149°C / 40 to 300°F

Ethylenepropylene (EPR): -29 to 93°C / -20 to 200°F

Perfluoroelastomer (FFKM): -18 to 149°C / 0 to 300°F

Silicone: -40 to 204°C / -40 to 400°F

Approximate Weight

Cast Iron: 20 kg / 45 lbs

Steel, Stainless Steel or Hastelloy® C: 26 kg / 57 lbs

Installation

WARNING

Only qualified personnel shall install or service a vacuum breaker. Vacuum breaker should be installed, operated and maintained in accordance with international and applicable codes and regulations and Emerson Process Management Regulator Technologies, Inc. instructions.

If using a vacuum breaker on a hazardous or flammable fluid service, personal injury and property damage could occur due to fire or explosion of vented fluid that may have accumulated. To prevent such injury or damage, provide piping or tubing to vent the fluid to a safe, well ventilated area or containment vessel. Also, when venting a hazardous fluid, the piping or tubing should be located far enough away from any buildings or windows so to not create a further hazard and the vent opening should be protected against anything that could clog it.

Hastelloy® C is a mark owned by Haynes International, Inc.

1. End connections for other than U.S. standards can usually be provided; consult your local Sales Office.

2. The pressure/temperature limits in this Installation Guide and any applicable standard or code limitation should not be exceeded.

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Table 1. Vacuum Pressure Information

VACUUM CONTROL PRESSURE RANGE ⁽¹⁾		CHANGE IN VACUUM CONTROL PRESSURE TO REACH WIDE-OPEN	
mbar	in. w.c.	mbar	in. w.c.
2 to 7 ⁽²⁾	1 to 3	3	1.2
7 to 20 ⁽²⁾	3 to 8	10	4.0
20 to 40	8 to 16	13	5.0
40 to 80	16 to 32	26	10.5
17 mbar to 0.21 bar	0.25 to 3 psig	0.14 bar	2 psig

1. Pressure ranges are based on the spring case pointing up. Pointing the spring case down increases the pressure range 4 mbar / 1.7 in. w.c..
 (Example: 2 to 7 mbar / 1 to 3 in. w.c. changes to 7 to 12 mbar / 2.7 to 4.7 in. w.c..)

2. Do not use fluorocarbon (FKM) with these springs at diaphragm temperatures lower than 4°C / 40°F.

Personal injury, equipment damage or leakage due to escaping fluid or bursting of pressure-containing parts may result if this vacuum breaker is overpressured or is installed where service conditions could exceed the limits given in the Specifications section or where conditions exceed any ratings of the adjacent piping or piping connections.

To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices (as required by the appropriate code, regulation or standard) to prevent service conditions from exceeding limits.

Additionally, physical damage to the vacuum breaker could result in personal injury and property damage due to escaping fluid. To avoid such injury and damage, install the vacuum breaker in a safe location.

Clean out all pipelines before installation of the vacuum breaker and check to be sure the vacuum breaker has not been damaged or has collected foreign material during shipping. For NPT bodies, apply pipe compound to the external pipe threads. For flanged bodies, use suitable line gaskets and approved piping and bolting practices. Install the vacuum breaker in any position desired, unless otherwise specified, but be sure flow through the body is in the direction indicated by the arrow on the body.

Startup

The vacuum breaker is factory set at approximately the midpoint of the spring range or the pressure requested, so an initial adjustment may be required to give the desired results. With proper installation completed and vacuum breakers properly adjusted, slowly introduce inlet pressure. The unit takes control when vacuum is established. This equipment is suitable for the vacuum control pressure range stamped on the nameplate.

Adjustment

To adjust the pressure setting, remove the closing cap and turn the adjusting nut clockwise to increase the pressure setting or counterclockwise to decrease the setting. Replace the closing cap after adjustment. The closing cap may be wired to the hole provided in the spring case to discourage tampering.

Taking Out of Service (Shutdown)



To avoid personal injury resulting from sudden release of pressure, isolate the vacuum breaker from all pressure before attempting disassembly.

To shut down the unit, close the upstream shut-off valve, and then close the downstream shut-off valve to vent the equipment properly. Next, open the vent valve between the equipment and the downstream shut-off valve nearest to it. All pressure between these shut-off valves is released through the open vent valve.

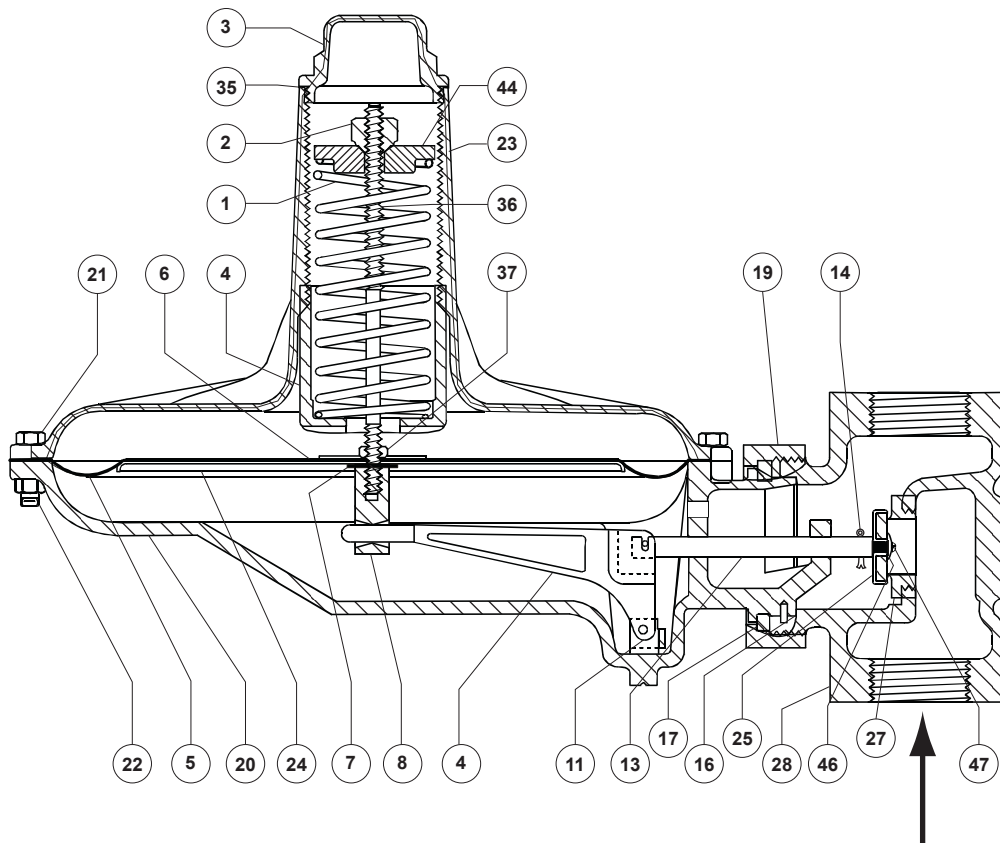


Figure 1. Y692VB Series Assembly

Parts List

Key Description

1	Spring
2	Adjusting Nut
3	Closing Cap
4	Lower Spring Seat
5*	Diaphragm
6	Upper Diaphragm Head
7*	Lower Head Gasket
8	Pusher Post
9	Lever Assembly
11	Machine Screw (2 Required)
13	Valve Stem
14*	Cotter Pin
15*	O-Ring (Stem Seal for Type Y692VBM only)
16*	Body Gasket
17	Split Ring
19	Union Nut
20	Diaphragm Casing
21	Cap Screw (12 required)

Key Description

22	Hex Nut (12 required)
23	Spring Case
24	Lower Diaphragm Head
25*	Disk Holder Assembly
27	Orifice
28	Body
29	Pipe Plug (Use on Type Y692VB)
35*	Closing Cap Gasket
36	Adjusting Stem
37	Diaphragm Hex Nut
44	Upper Spring Seat
46	Valve Disk Washer
47	Machine Screw
51	Drive Screw
56	Vent Assembly, Y602X1-11 (not shown)
71	Pipe Bushing (not shown)
95	NACE Tag (NACE Construction only, not shown)
96	Tag Wire (NACE Construction only, not shown)

* Recommended Spare Part

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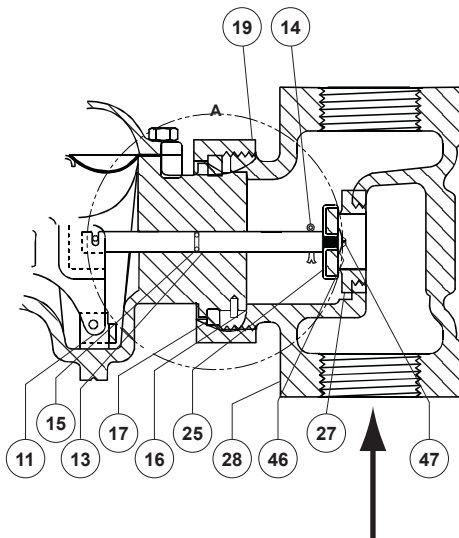


Figure 2. Type Y692VBM O-Ring Stem Seal Detail

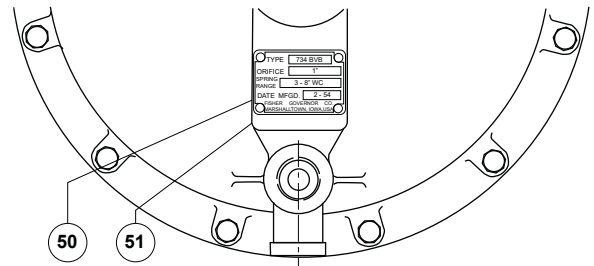


Figure 3. Y692VB Series Nameplate Detail

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For further information on the current PED/PE(S)R revision see Bulletin: [D103053X012](#) or scan the QR code.

