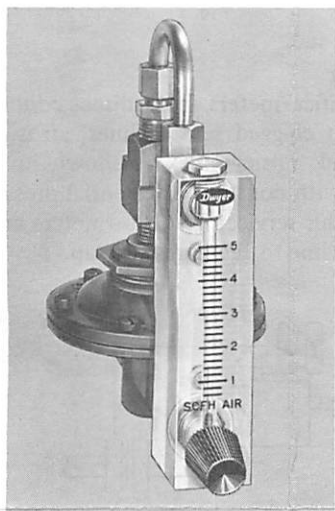




# FLOWMETER REGULATOR KIT

## Installation Instructions



RKA Flowmeter Regulator Kit  
Assembled to VFA Flowmeter

### INSTALLATION INSTRUCTIONS

1. Mount the flowmeter on the panel (if panel mount is desired).
2. Screw nipple (Part No. 1) and tubing connector (Part No. 2) into flowmeter back connections.
3. Attach street tee (Part No. 6) and connector (Part No. 5) to regulator housing as shown.
4. Screw regulator assembly (Part No. 3) into lower inlet fitting. Use small amount of joint compound or teflon tape on threads. Do not tighten excessively as damage to parts may result.
5. Assembly tube (Part No. 4) to connector (Part No. 2). It may be necessary to adjust tube by pulling the legs apart slightly or screw the regulator in or out one turn.
6. Complete assembly with wrench, making ferrule nuts leak tight.
7. Connect piping to 1/4" NPT inlet and outlet.

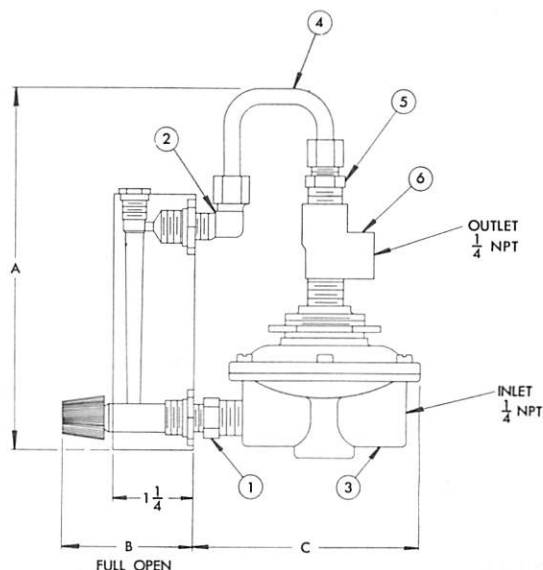


Fig. 1 — RKA-VFA  
(RK-VFB and RKA-RMA installations are similar)

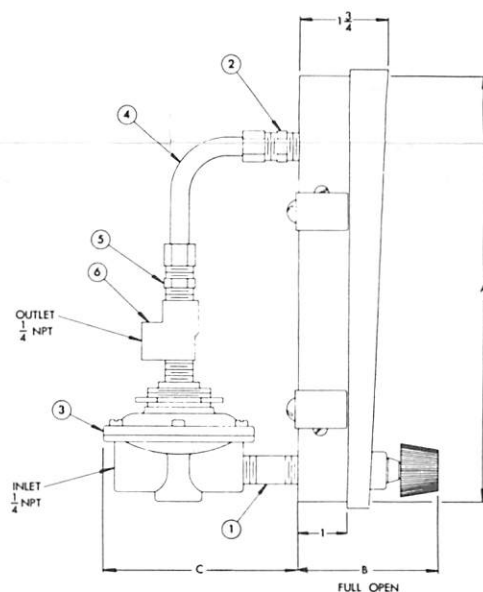


Fig. 2 — RK-RMB

### DIMENSIONS (INCHES)

| MODEL   | A       | B       | C       | WIDTH | CONN.   |
|---------|---------|---------|---------|-------|---------|
| RKA-RMA | 5-11/16 | 2-1/8   | 3-9/16  | 3     | 1/4 NPT |
| RKA-VFA | 8-1/2   | 2-1/16  | 3-9/16  | 3     | 1/4 NPT |
| RK-RMB  | 8-1/2   | 2-13/16 | 3-15/16 | 3     | 1/4 NPT |
| RK-VFB  | 7-3/4   | 2-1/16  | 3-9/16  | 3     | 1/4 NPT |

## INSTRUCTIONS AND PARTS LIST

## PRINCIPLES OF OPERATION

By providing a regulated constant differential pressure between flowmeter inlet and outlet, Dwyer Flowmeter Regulator Kits allow a nearly constant flow to be maintained in a system in which the inlet or discharge pressure is subject to fluctuations. This can be especially important on purged sensing lines where a change in flow may cause a change in pressure drop in the sensing line and introduce an inaccuracy into the sensing system.

The regulator maintains a constant pressure differential of approximately 3 PSIG,  $\pm .15$  PSIG. Supply pressure must be at least 3 PSIG above the flowmeter discharge pressure for the regulator to operate. The standard regulator may be used with any Dwyer flowmeter up to 200 SCFH. For higher flow rates contact the factory.

## MATERIAL SPECIFICATIONS

The standard regulator has a brass body, aluminum bonnet, and a nylon reinforced Buna N diaphragm.

## TYPICAL APPLICATIONS

## A. Liquid Level Measurement

To provide an accurate head signal in the sensing line for liquid level measurement, a flowmeter with constant differential pressure regulator can be used to keep the sensing line purged of liquid as shown in Fig. 1. Changes in

liquid level will affect static head. This in turn will affect internal pressure in the sensing line, which can be indicated by a pressure gage or used to operate a pressure switch for control functions. If other means are used to maintain a constant liquid level, this same set up can be used to detect specific gravity changes in the liquid.

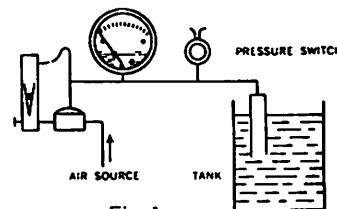


Fig. 1

## B. Orifice Purging

To protect orifice meters from direct contact with fluid, and to prevent clogged sensing lines, air is used to purge the meters and sensing lines as shown in Fig. 2. Flowmeters fitted with constant differential pressure regulators are ideal for this service. Two flowmeters are used — one for the sensing line to each pressure tap.

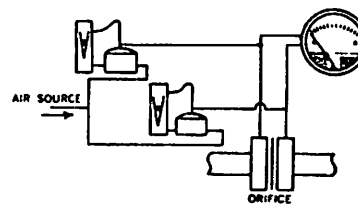


Fig. 2

## KIT PARTS LISTS

## RKA

Fig. 1

Part No. (Parts same for RMA or VFA)

1. 1/4" NPT X 1/8" SPT Reducing nipple
2. 1/8" NPT X 1/4" Tubing comp. Elbow-brass
3. Regulator assembly
4. 1/4" Tubing — Aluminum
5. 1/4" NPT X 1/4" tubing comp. connector-brass
6. 1/4" NPT Street Tee — Brass

## RK-RMB

Fig. 2

Part No.

1. 1/4" NPT X 1-1/2" Nipple-brass
2. 1/4" NPT X 3/8" tube comp. fitting
3. Regulator assembly
4. 3/8" tubing — copper
5. 1/4" NPT X 3/8" tube comp. fitting
6. 1/4" NPT Street Tee — Brass

## RK-VFB

Fig. 1

Part No.

1. 1/4" NPT X 1/8" SPT Reducing Nipple
2. 1/8" NPT X 1/4" Tubing comp. Elbow-brass
3. Regulator assembly
4. 1/4" Tubing — Aluminum
5. 1/4" NPT X 1/4" Tubing comp. Connector-brass
6. 1/4" NPT Street Tee — Brass

## HOW TO ORDER PARTS

To order replacement parts, state model number of flowmeter kit and part numbers.

Example: To order replacement regulator, order Model No. RKA, Part No. 3 regulator assembly.

FR No. 50-440191-00



DWYER INSTRUMENTS, INC.

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Phone: 219/879-8000 Telex: 25916 Fax: 219/872-9057

## INSTRUCTIONS AND PARTS LIST

## PRINCIPLES OF OPERATION

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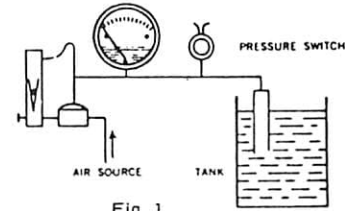


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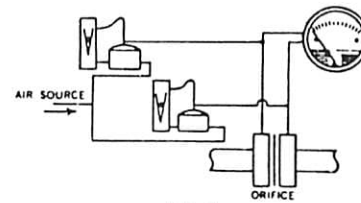


Fig. 2

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4. 1/4" Tubing – Aluminum
5. 1/4" NPT X 1/4" tubing comp. connector-brass
6. 1/4" NPT Street Tee – Brass

## RK-RMB

Fig. 2

Part No.

1. 1/4" NPT X 1-1/2" Nipple-brass
2. 1/4" NPT X 3/8" tube comp. fitting
3. Regulator assembly
4. 3/8" tubing – copper
5. 1/4" NPT X 3/8" tube comp. fitting
6. 1/4" NPT Street Tee – Brass

## RK-VFB

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FR No. 50-440191-00



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