

## Diaphragm Control Valves VC-210-30 Series

### GENERAL DESCRIPTION

Model VC-210-30 Control Valves are built with stainless steel investment castings and especially designed for the control of water, steam, gas, vacuum etc. Valves are single seated, bellows sealed to prevent stem leakage.

The pneumatic actuator consists of a molded 29 sq. in. Buna-N Nylon reinforced diaphragm enclosed in a steel housing.

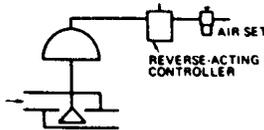
### FEATURES

- Low Flow Designs
- "Packless" Bellows Stem Seal
- Stainless steel investment castings
- Molded Buna-N diaphragms, nylon reinforced
- Steel diaphragm cases
- Multiple steel springs
- Sturdy cast iron frame
- Quick disconnect valve stem construction
- Valve position indicator



**CRN Registered**

### TYPICAL APPLICATION



Control Valve Action: Air-to-Open  
 Action on Air Failure: Valve Closes  
 Controller Action: Output decreases with increasing temperature

### HOW TO ORDER:

Specify:

1. Complete Model No.

*Example:* 1/2" VC-210-30 air-to-open, Cv=0.6

2. Quantity

3. Bench test spring range required. (If other than standard). See Table III.

4. Medium through valve.

5. Upstream Pressure.

6. Pressure drop.

7. Shipping and billing instructions.

**TABLE I**

Valve Action	Material	Flow Characteristic	Trim Material	Valve Size, In.	Valve Port In.	Cv
Direct	316 St. St.	linear	316 St. St.	1/2	1/4	0.6, 0.3, & 0.1

## SPECIFICATIONS

### ACTUATOR ASSEMBLY

**Nominal Size:** ..... 29 sq. in.

**Action:** Reverse acting .. Increasing air pressure moves stem upward.

**Maximum Travel:** ..... 1.0" (25.4 mm)

**Maximum Air Pressure:** ..... 40 psi (4.8 bar)

**Maximum Ambient Temperature:** ..... 180°F (82°C)

**Air Connection:** ..... 1/4" - 18 NPT

#### Materials of Construction:

**Diaphragm** ..... Molded Buna-N Nylon reinforced

**Housing & Frame** ..... Steel, painted with polyurethane

**Spring** ..... Zinc plated Tempered MB wire

### VALVE ASSEMBLY

#### Action:

**Direct** ..... (Provides air-to-open action with actuator)

#### Valve Body Assembly Ratings:

200 psig at 350°F (13.8 bar at 177°C)

Max. Close Off = 100 psi

**End Connections:** ..... 1/2" Female NPT

**Travel:** ..... 3/8"

#### Materials of Construction:

**Body** ..... 316 Stainless Steel

**Trim** ..... 316 Stainless Steel

**Seat Ring:** ..... 316 Stainless Steel

**Primary Packing** ..... 316 Stainless Steel bellows

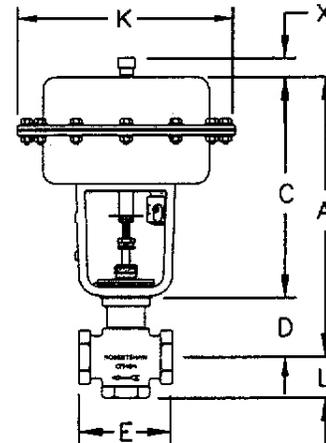
**Secondary Packing** ..... Spring loaded Teflon\* chevrons

### ACCESSORIES

VC-210-30 Control Valves are available with the Model P-2 positioner or No. 84589-A2, 110 VAC solenoid valve mounted on the valve and pre-piped to the actuator. Also, available are PRVs, Limit Switches, and I-P Transducers to handle most application needs. See Sales Manual for details.

## DIMENSIONS, SHIPPING WEIGHTS

(All dimensions in inches (mm)).



**TABLE II**

#### Dimensions

A=13.38 (340)

C=10.86 (276)

D=2.5 (64)

E=4 (102)

K=9.5 (241)

L=1.75 (44)

X=1 (25)

#### Weight

25# (11.3Kg)

**TABLE III**

NOMINAL VALVE SIZE	BENCH TEST RANGES		
	6-15psi* 0.4-1.0bar	8-15 psi 0.55-1.0bar	11-15 psi 0.75-1.0 bar
1/2 x 1/4"	MAX. ALLOWABLE PRESSURE DROP		
	100	100	100

### MAXIMUM ALLOWABLE PRESSURE DROP

When the control valve is required to close off against the full upstream pressure with 0 psig on the downstream side of the valve, the upstream pressure should be considered as the maximum pressure drop. The tabulated maximum pressure drops are for throttling service only. Where rapid cycling or On-Off type service the application, the pressure differential across a VC-210-30 control valve should not exceed 50 psi (3.45 bar). In any case the upstream pressure should not exceed 100 psi (6.89 bar). The tabulated ratings are based on 3-15 (0.2 - 1.0 bar) signal.

# Robertshaw

**U.S.A. and CANADA**

Robertshaw Industrial Products Division

1602 Mustang Drive

Maryville, TN 37801

Phone: (865) 981-3100 Fax: (865) 981-3168

<http://www.robertshawindustrial.com>

### Exports

Invensys Appliance Controls

2809 Emerywood Parkway

P.O. Box 26544

Richmond, Virginia 23261-6544

Phone: (804) 756-6500 Fax: (804) 756-6561

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