

Flow Speed Control Valve

Model 367-08



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General Description

The **Inbal** Flow Speed Control Valve model 367-08 is an adjustable restriction which provides adjustment of the opening or closing speed of any **Inbal** Control Valve. **Inbal** model 367-08 acts as a needle valve when flow direction is along the stem; but when flow is in the reversed direction, the port area enlarges significantly to allow semi-free flow. Any contaminants, debris, scales, or particles which may have gathered at the port area during restricted flow will be flushed away when the flow is unrestricted in reversed direction. Adjustment is made by the adjusting knob, and the desired opening or closing speed is secured with the locking bolt and protected by vinyl cover to secure unauthorized re-adjusting.

Features

- Reversed free flow in the **Inbal** Speed Control flushes away all particles which may have gathered in the orifices - unlike a needle valve which tends to be clogged due to the small flow area.
- Easy adjustment by a knob which is well secured by the locking bolt.
- Fine tapered needle provides very sensitive adjustment.
- Replaces a bulky assembly which includes needle valve, check valves, strainer, and various pipe connectors.
- Could be added to any **Inbal** Valve Control as either opening, closing, or both speed controls.
- Operates in any position.
- High grade standard materials and coating for excellent corrosion resistance.

Technical Data

Model Number

367-08.

Ends

Inlet Port - ½" NPT, male.

Outlet Port - ½" NPT, female.

Pressure Rating

Maximum working pressure: 300 psi (21 bar).

Temperature Range

Water: Max. +180°F (+80°C).

Materials

Standard

Brass, Nickel Chrome plated.

Optional

Bronze ;
Nickel Aluminum Bronze ;
Stainless Steel AISI 316 ;
Super Austenitic Stainless Steel ;
Super Duplex Stainless Steel ;
Titanium.

Flow Factors

Restricted flow direction when in fully open position:

$C_v = 1.12$ ($K_v = 0.97$).

Semi-free flow direction:

$C_v = 1.4$ ($K_v = 1.2$).

Weight

1.0 lbs (0.44 kg).*

* Standard materials.

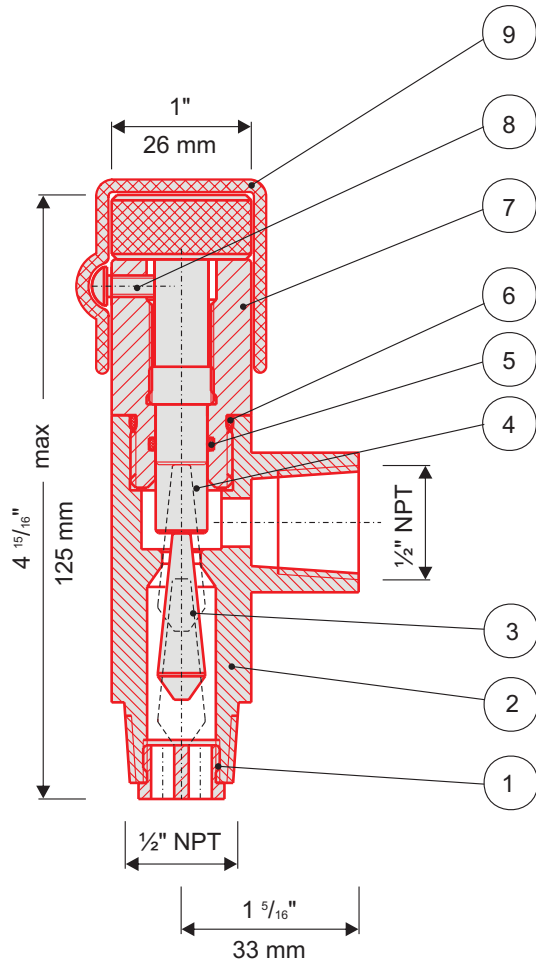


Figure (1)

Operation

The **Inbal** Speed Control Valve enables restricted flow direction and reversed semi-free flow direction. In the restricted flow direction, the needle is forced against the stem by the line pressure. Flow is metered through the control by the fine taper of the needle and the port area. In the free flow direction, the needle is forced off the stem by the line pressure, allowing increased capacity flow. Adjustment is made by the adjusting knob. Turning the knob counter-clockwise increases restriction, and clockwise decreases restriction.

The maximum restriction position still allows a certain amount of flow to ensure that full restriction will not prevent the **Inbal** Control Valve from operating.

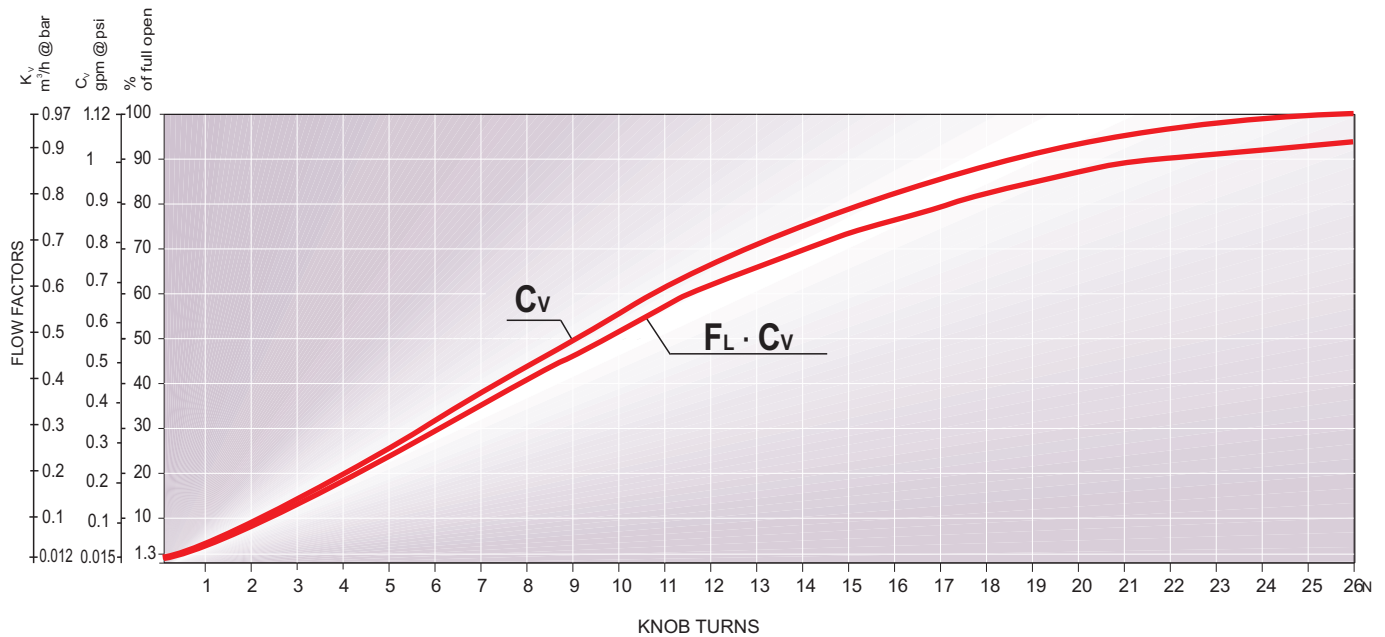
In case of using model 367-08 as opening speed controller, it is strongly recommended to conduct the opening test of the deluge valve after changing of the factory adjusting. Open the deluge valve and verify that the deluge valve opens and opening time matches with the requirement. Tighten the locking bolt and put on the vinyl security cover on the adjusting knob in order to prevent re-adjusting by any unauthorized personnel.

The ratios between the flow capacity versus the regulating handle position are shown on Graph (1). Actually, the **Inbal** 367-08 is under choked flow conditions during most of the opening or closing process. Thus, the actual flow rate through the speed control is represented by the "FL · Cv" line.

Item	Cat. No.	Description	Standard Material	Quantity
1	322802003000	Needle Seat	Brass, Nickel Chrome plated	1
2	322002023000	Body	Brass, Nickel Chrome plated	1
3	322506009001	Needle	Stainless Steel AISI 304	1
4	323702031000	Stem	Brass, Nickel Chrome plated	1
5	270620120000	O-Ring	Buna N	1
6	270620100000	O-Ring	Buna N	1
7	322102011000	Cover	Brass, Nickel Chrome plated	1
8	227006036001	Allen Bolt	Stainless Steel AISI 304	1
9	VC-750-16	Securing Cover	Vinyl	1

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Graph (1)

Installation

Refer to the applicable Trim Chart for inserting the **Inbal** Flow Speed Control Valve in the control trim.

Opening Speed Control Service:

Connect the male thread port to the **Inbal** Valve Control Chamber and the female thread port to the control trim.

Closing Speed Control Service:

Connect the female thread port to the **Inbal** Valve Control Chamber and the male thread port to the control trim.

Setting the speed control should be done when the **Inbal** Deluge, Dry Pipe, Preaction, Remote Control, or Pressure / Flow Control Valve is periodically tested.

Inspection, Maintenance, & Testing

It is imperative that the **Inbal** Flow Speed Control Valve be inspected and tested on a regular basis.

The frequency of inspections may vary due to the quality of water supply and / or corrosive atmosphere. The following recommendations are the minimum requirements to keep the **Inbal** 367-08 in good working conditions:

Operation of the **Inbal** Flow Speed Control Valve should be done quarterly. Increasing the flow (acceleration of the opening or closing time) done by turning the knob clockwise. Turning the knob counterclockwise the opening/closing time of the **Inbal** valve will slow down.

The **Inbal** Flow Speed Control Valve may be used in all **Inbal** Deluge, Dry Pipe, Preaction, and Control Valves.

The **Inbal** 367-08 is an optional feature and should be ordered separately. See **Inbal** Model Number Designation Data (bulletin F01-03) for designated letter for Opening and/or Closing Speed Control. ●