

Rossi™

Innovating HVAC Hardware

1. Product Name

- Rossi™ Positive-Locking Air Volume Damper™

2. Manufacturer

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3. Product Description

Basic Use

The Rossi positive-locking air volume damper is designed to address the problem of wingnut-operated dampers vibrating loose and throwing off the air balance due to small vibrations in the duct system. Such vibrations cause the wingnut to loosen and the damper handle to change its position, moving with the air flow instead of controlling the air flow, thereby interfering with the air balance. This deficiency requires additional test and balancing costs to troubleshoot and re-balance the air system.

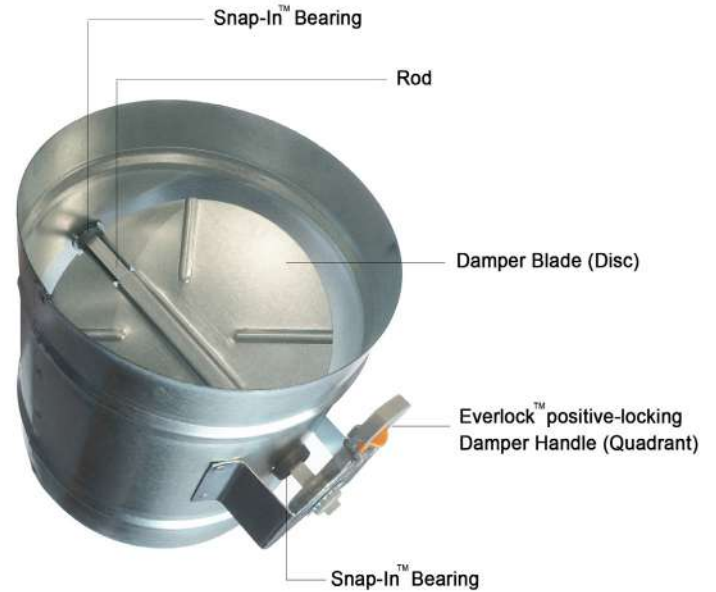
The Rossi air volume damper features the patented Everlock™ quadrant (damper handle) which has a spring-loaded locking mechanism—instead of a wingnut—which ensures that the handle's position remains locked where it is set. This is the only damper system which guarantees that a balanced air system stays that way.

An HVAC duct and fittings fabricator (such as an HVAC sheet metal shop or a mechanical contractor) would assemble the Rossi damper hardware into their duct and fittings. A typical such assembly takes less than 90 seconds per damper and involves the fabricator snapping in Rossi's Snap-In Bearings into $\frac{3}{4}$ inch holes on each side of the duct or fitting, holding the round continuous-rod damper blade in position and passing the rod through the pre-stamped channel in the blade and the bearings and then attaching the Everlock damper handle on the outside of the fitting or duct.

Once the duct or fitting with the Rossi damper is installed on-site as part of the HVAC system, the Everlock damper handle can easily be adjusted to the desired position by hand—without the need for any tool. Each time the Everlock damper handle is released, it automatically locks into position, ensuring that the balanced air system stays that way.

Rossi's Positive-Locking Damper System

(for air balancing)



Composition and Materials

The Rossi Positive-Locking Air Volume Damper consists of an Everlock positive locking damper handle (or quadrant), two $\frac{3}{4}$ inch bearings, a rod and a round damper blade.

All the components adhere to the relevant UL requirements, Plenum ratings and SMACNA standards for manual dampers; and are in compliance with NFPA 90A & 90B Standard for the Installation of Air-Conditioning and Ventilating Systems. All non metallic components are made of flame retardant polymer with a fire rating of 5VA as specified in UL 1995 Standards Code for Heating & Cooling.

The Everlock positive locking damper handle consists of a bracket, a handle, a thumb trigger, a spring and a retaining ring.



Bracket

The bracket is made of cold rolled steel in conformance with ASTM A1008, 18 gauge nominal thickness 0.0478, tolerance range 0.0438–0.0518.

Handle & Thumb Trigger

Polyamide 66 (PA66), flame retardant, glass-reinforced polymer in conformance with CSA-C22.2 No. 238 UL 1995.

Compression Spring

Stainless steel 302-OP 0.25 wire, 0.026 free length; $\frac{7}{8}$ inch; ten coils, closed, not ground.

Retaining Ring

Carbon Spring Steel with Zink Bright Plating. C-SCALE Rockwell Hardness 47–51. Country of origin: USA.

Snap-in Bearings™

These bearings simply snap into a $\frac{3}{4}$ inch hole and automatically lock into place, dramatically cutting down assembly time. Snap-In Bearings also come in longer size (1 $\frac{1}{2}$ inch) (BLong) for use with inside-insulated, (lined), duct and fittings. B-Longs are recommended for all pressure class applications. B-Snaps are recommended for low or medium pressure systems.

Clip-on Bearings™

These bearings also snap into a $\frac{3}{4}$ inch hole with an E-Clip securing the bearing from the opposite side in seconds.

Continuous Rod Damper Blades

Galvanized ASTM A553 LFO G90, 20 and 22 gauge. Designed with additional radial reinforcement throughout the disc which effectively equals the strength of 18 gauge material. Available in 4–16 inch diameter. A $\frac{3}{8}$ inch full length bar fits through the formed channel in the center of each damper blade.

Benefits to Consulting Engineers, Building Owners and HVAC Contractors

A common HVAC problem is that wingnut-based damper handles tend to vibrate loose over time due to tiny consistent vibrations inherent in an air duct system. This allows the damper blade to move with the air current and completely throw off the air balance.



The Rossi Positive-Locking Air Volume Damper solves this problem, guaranteeing that a balanced air system will not be thrown off due to damper handles vibrating loose over time.

Benefits to HVAC Duct and Fitting Fabricators

The Rossi damper components are designed to assemble into a duct or fitting in less than 90 seconds. This assembly includes drilling, (or punching), $\frac{3}{4}$ inch holes on either side of the duct or fitting, inserting the Snap-In Bearings, holding the damper blade in position, passing the rod through the pre-stamped channel in the damper blade and attaching the damper handle on the outside of the duct or fitting.

The assembly process can be [viewed here](#).

Rossi Continuous rod damper blades are designed to be stackable, cutting down volume during shipping and for storing inventory in a warehouse. These blades also provide total rigidity and ensure that the blade can't snap loose inside the duct. And the Everlock positive-locking damper handle features a spring loaded locking pin which ensures that the handle on the outside of the duct cannot vibrate loose and disengage from its position the way ordinary wingnut dampers can.

4. Technical Data

Applicable Standards

American Iron and Steel Institute/Society Automotive Engineers (AISI/SAE)

- **AISI 1074-1075** SAE Steel, cold drawn, spheroidized, annealed

ASTM International

- **ASTM A1008** Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened and Bake Hardenable
- **ASTM A553** Standard Specification for Pressure Vessel Plates, Alloy Steel, Quenched and Tempered 7, 8, and 9% Nickel
- **ASTM B633** Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel



Canadian Standards Association (CSA)

- CSA-C22.2 No. 238 UL 1995

IEC (International Electrotechnical Commission)

- IEC 60695-11-10

International Organization for Standardization (ISO)

- ISO 179/1eA
- ISO 527
- ISO 1043
- ISO 11469

UL International (UL)

- UL94
- UL 746A

Unified Numbering System

- UNS G10740

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5. Installation

The assembly process can be [viewed here](#).

6. Availability and Cost

Rossi HVAC Hardware sells direct to sheet metal fabricators, mechanical contractors, HVAC contractors and HVAC supply houses, at costs competitive with wingnut dampers, and currently services accounts in the USA and Canada.

Orders can be placed at www.rossihardware.com/orderform.html or by calling 818-252 3811.

7. Warranty

No cash refunds. Authorization is required prior to return of any materials inexchange for return for credit subject to a 15% restocking fee. Items that have been discontinued are not authorized for return.

8. Maintenance

No maintenance required.

9. Technical Services

Please contact manufacturer for technical services.

10. Filing Systems

- ConstructConnect
- Additional product information is available from the manufacturer upon request ↪

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