



Controlling Your Comfort Room By Room

Single Blade, Round, Spring Return Dampers

The RDL series are galvanized steel, single blade dampers compete with a 120 Volt, spring return motor actuator. These dampers are shipped complete and ready for installation. The RDL can be installed in any position in any properly sized duct. All RDL dampers are rated for duct systems less than 1.0" W.C. The RDL has a gasket seal that ensures a tight shut off when the damper is closed.

Dampers are available in 4" 5", 6", 7", 8", 9", 10", 12", 14", 16", 18" and 20" diameters. Dampers are ordered as RDLdd, using 2 digits for each dimension.

All RDL dampers are typically shipped as Normally Closed dampers that are powered open and spring returned closed. A 120 Volt AC, 50/60 Hz, spring return damper motor, powers the RDL. The motor powers the damper open and spring returns the damper closed for fail-safe operation

The 120 Volt, hysteresis, synchronous motor has been tested to over 250,000 cycles to provide long life.

The RDL is also unique in that it can be field converted from powered open to powered closed in less than a couple of minutes. See conversion procedure on sheet 2.

The RDL motor also has a simple adjustment for setting the damper to a minimum position. A minimum position allows for excess by-pass air. To set a minimum position, loosen the setscrew, align the setscrew to the minimum position label and re-tighten.



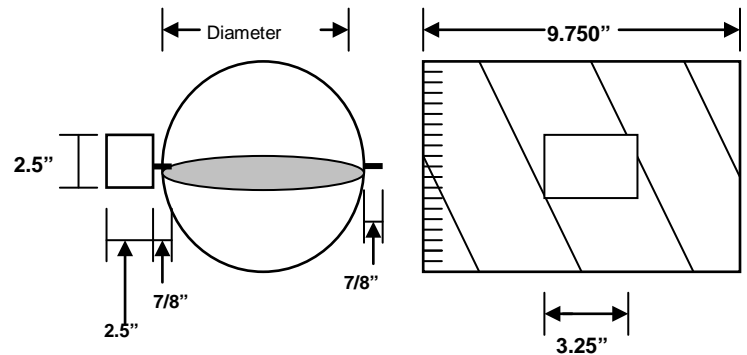
Minimum Position Adjustment

The minimum position screw can also be used to determine the damper position. The setscrew is aligned with the position of the damper blade. When the setscrew is perpendicular to the damper body, the damper blade is closed. When it is parallel to the damper body and resting against the actuator's anti-rotation post, the damper blade is in the open position.

Round Damper Spring Return Model RDL



Dimensional Drawing



All dimensions are nominal. Dampers 10" diameter and less are 9.750" in length. Dampers 12" and over are .250" shorter in length than the diameter.

Damper Specifications

- Construction – 24 Ga. Galvanized Steel (4" – 8")
22 Ga. Galvanized Steel (9" – 20")
- Linkage – Direct Drive
- Sizes – 4", 5", 6", 7", 8", 9", 10", 12", 14", 16", 18", 20" Diameters
- Motor Voltage – 120 Volts AC, 50/60 Hz, 6.5 Watts, 7VA
- Torque – Power Start: 65in-oz, Power Finish: 45in-oz
Spring Start: 45in-oz, Spring Finish: 30in-oz
- Temperature Rating - 0°F to 150°F Operating, -20°F to 175°F Storage
- Humidity – 5% to 95% Non-Condensing
- Damper Timing – Nominal 30 Sec. Powered, 6 Sec. Spring Return
- Connection: 4" Wire Leads
- Duct Pressure – Maximum 1.0" W.C.
- Leakage - Less than 1% at Full Closed

Converting to (RDLO) Powered Closed, Normally Open

All RDL dampers are shipped as Normally Closed, Power Open dampers. The RDL can be field converted in less than a minute by the following steps:

- 1) Before applying any power to the damper leave the damper in the normally closed position.
- 2) Loosen the set screw and remove motor from the blade shaft.
- 3) Pinch inside of positioning hole grommet and push grommet from hole to remove.
- 4) Push out plastic hole plug on opposite side of damper.
- 5) Switch holes for the grommet and plug.
- 6) Move damper blade to the Open.
- 7) Place motor on opposite side of damper blade shaft and placing the anti-rotation shaft into the grommet hole.
- 8) Tighten the set screw (Make sure the blade is still in the OPEN position).
- 9) Wire the damper accordingly.

To convert back just reverse this procedure.

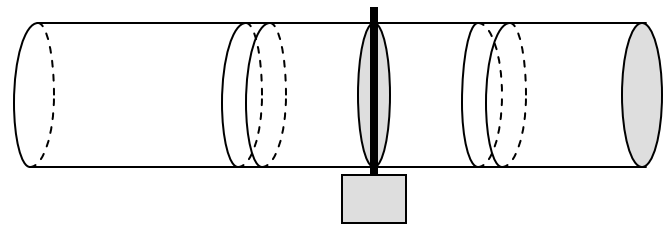
Installation

The RDL is used in-line with the duct and can be installed on a take-off or in-line at any point in the duct. It is recommended the damper be installed as close to the air handler as practical.

Place the flat collar end of the damper over the crimped end of the take-off or rigid metal duct. Insert crimped end of round damper into un-crimped end of rigid round duct and secure with sheet metal screws. When using flexible duct, slip duct over end of the round damper and secure with duct straps (not provided).

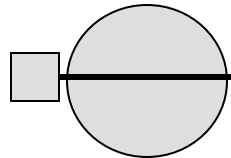
The drawing below shows a top view of the damper in line of the duct. When mounting is recommended that the motor and blade shaft be horizontal to the ground.

Top View



Round damper in-line with round duct.

Side View



WIRING DIAGRAM

