

YOUNG REGULATOR COMPANY
7100 Krick Road * Walton Hills, OH 44146
(440) 232-9700 (440) 232-8266 fax www.youngregulator.com

**CONTROL DAMPERS
INSTALLATION AND OPERATING INSTRUCTIONS**

1. LOCATION

A damper must be sized to fit the opening properly. It should not be forced into undersized ductwork nor strained to suit an oversized opening. This will bend the frames causing air leakage. It must be installed plumb and squared both vertically and horizontally. Twisted and distorted frames will develop stresses causing linkage to bind and improper blade operation. All seams should be caulked.

2. OBSTRUCTIONS

Configuration of damper frames permits the use of screws, rivets, or welding to attach damper to duct or housing. Ends of fasteners must not protrude in any way, which might interfere with blade movement. Dampers correctly mounted allow complete operation from completely closed to fully open.

3. MULTIPLE ASSEMBLIES

Where dampers consist of more than one panel, sections are mounted together to form larger dampers. Matching frame members must be tightly welded or bolted together in the field. Multiple sections require additional structural support provided on site by others to insure complete rigidity. Horizontally mounted dampers may sag unless supported adequately. Blade motion is transmitted between adjacent panels by common blade shaft couplings; continuous control rods, or in the case of wide damper assemblies; by means of jackshafts. It is important that all shafts are accurately aligned, otherwise blade edges will bind and not seal.

4. ACTUATORS

Operation of dampers may be manual using locking quadrant handles, chain operators, or other devices. For automatic operation, electric or pneumatic actuators can be connected to dampers either internally or externally. Dampers constructed with multiple panels require individual actuators or jackshafts. Actuators or multiple actuators should be of adequate torque capacity to effectively open and close the damper according to its type, its size, its location, and its function in the system related to air velocity and static pressure requirements.

5. LUBRICATION

Before initial operation, all moving parts of dampers should be first cleaned and then thoroughly lubricated. Dampers furnished with stainless steel side seals should also have the seals lubricated generously. Dampers should then be manually operated several times until linkages and blades operate freely.

6. RECTANGULAR DAMPERS

Young Regulator motorized rectangular dampers are designed to "slip in" to existing ductwork. A 2 ¼" slot is cut in the side of the duct and the damper is inserted into the slot and fastened on the outside of the ductwork with self tapping sheet metal screws through the mounting plate. A foam gasket can be added around the damper frame to reduce the volume of air that passes between damper frame and ductwork. Electrical connections are made according to building codes.

7. BOWDEN CABLE CONTROLS

Rack and Pinion Gear Regulator of the Bowden Cable Controls require no lubrication under normal conditions. Wire and casing between damper and regulator should be secured every 4 feet.

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CONTROL DAMPERS MAINTENANCE

GENERAL

Dampers require proper maintenance in order to function correctly. Blade shafts, linkages, stainless steel side seals (if applicable), and other moving parts should be periodically cleaned and lubricated. A light molybdenum oil in aerosol cans is preferable since the jet nozzle permits pinpointing the stream of lubricant where required. It usually contains an evaporation solvent and dries to no oily film, which will not attract dirt.

If access doors are not available for inspection, access to dampers is sometimes possible by removing the diffuser. No maintenance or lubrication of the rack and pinion regulator of the Bowden Controls is necessary.

PERIODIC INSPECTIONS

All automatic dampers should be checked and serviced on a regular schedule. Recommended interval is every 6 months, preferable not more than 12 months. Maintenance staff should prepare and enforce adherence to this planned and scheduled maintenance. Malfunction can lead to improper control of space temperatures, excessive infiltration, and increased energy costs.

CHECK LIST

1. Observe damper motors and actuators through an operating cycle to check for defects or binding. All mounting bolts must be securely fastened.
2. Linkages from actuators should be adjusted to insure blades of damper fully open or close Within the stroke or travel of the actuator arm.
3. Blades should be checked in closed position to be sure all close tightly. If necessary, Adjustments should be made to damper linkage or linkages to close any partially open blades.
4. Damaged blades should be replaced. Dirt, soot, lint, etc. should be removed especially around operating parts.
5. Check blade edge and side seals. Replace where necessary.
6. Check pins, straps, bushings (bearings) for wear, rust, or corrosion. Replace as required.
7. Lubricate all mechanisms, moving parts and side seals as outlined under General maintenance.
8. Caulking, where used to make damper frames tight to structure, should be checked and Repaired as needed.

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GUARANTEE

1. We undertake to repair or replace free of charge any part of parts of equipment that may develop defects caused by faulty material or workmanship for 12 months from date of installation.
2. Damage due to negligence or improper use or other caused beyond our control are excluded from this guarantee.
3. We accept no liability regarding incidental expenses or consequential damages.
4. This guarantee shall be null and void should any person modify or attempt to repair our equipment.