

## CDRS82 ROUND CONTROL DAMPER

### STANDARD CONSTRUCTION

#### FRAME

- 16 gage x 6" deep (1.6 x 152) galvanized steel 4" (102) to 8" (203) diameter
- 16 gage x 8" deep (1.6 x 203) galvanized steel above 8" (203) to 18" (457) diameter
- 12 gage x 8" deep (2.8 x 203) galvanized steel above 18" (457) diameter

#### FLANGE

- 12 gage x 1 1/2" (2.8 x 38).

#### BLADE

- Standard: Single Skin, stiffened as required.
- 16 gage (1.6) 4" (102) up to 24" (610) diameter
- 14 gage (2.0) above 24" (610) thru 36" (914) diameter
- 12 gage (2.8) above 36" (914) thru 48" (1219) diameter
- With Optional Blade Seal: Double or Single Skin as noted, stiffened as required
- Double skin 18 gage (1.3) up to 18" (457) diameter
- Double skin 16 gage (1.6) above 18" (457) thru 24" (610) diameter
- Single skin 14 gage (2) above 24" (610) thru 36" (914) diameter
- Single skin 12 gage (2.8) above 36" (914) thru 48" (1219) diameter

#### BLADE STOP

- Neoprene sponge.
- Pin angle stop (with optional blade seal).

#### SHAFT

- 1/2" (13) diameter continuous plated steel to 24" (610) diameter.
- 3/4" (19) diameter above 24" (610).

#### BEARINGS

- Flange stainless steel pressed into frame.

#### FINISH

- Mill galvanized.

#### MINIMUM SIZE

- 4" (102) diameter.

#### MAXIMUM SIZE

- 48" (1219) diameter.

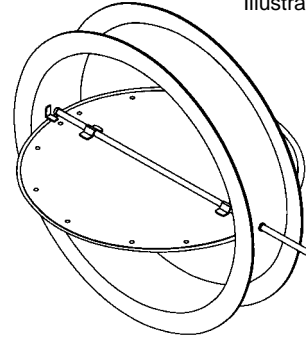
#### MAXIMUM STATIC PRESSURE

- 4.0" (102) w.g.

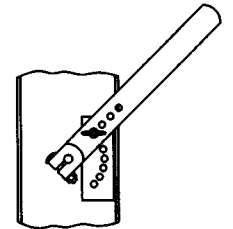
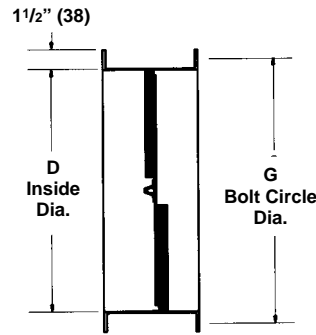
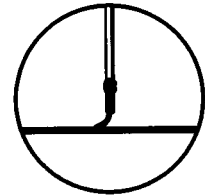
#### MAXIMUM TEMPERATURE

- 250°F (121°C).

Illustrated with optional blade seal.



#### Blade Seal Option



#### Hand Quadrant (Optional)

H = Number of bolt holes (even number only)

M = Bolt hole diameter

S = Bolt holes straddle axle

T = Bolt holes parallel with axle

Dimensions in parenthesis ( ) indicate millimeters.

| FRAME                            |  | BLADE   |  | SEALS (Opt)                      |  | BEARINGS          |  | AXLE                            |  | ACCESSORIES (Opt)          |  |
|----------------------------------|--|---|--|----------------------------------|--|-------------------|--|---------------------------------|--|----------------------------|--|
| STEEL CHANNEL - SEE STD. CONSTR. |  | STEEL, STIFFENED AS REQUIRED - SEE STD. CONSTR. |  | NEOPRENE BLADE-SEAL (MAX. 250°F) |  | SS SLEEVE PRESSED |  | PLATED STEEL - SEE STD. CONSTR. |  | BOLT HOLES IN ONE FLANGE   |  |
| 304SS (OPT)                      |  | 304SS (OPT)                                     |  | SILICONE BLADE SEAL (MAX. 300°F) |  |                   |  | 304SS (OPT)                     |  | BOLT HOLES IN BOTH FLANGES |  |
| ALUMINUM (OPT)                   |  | ALUMINUM (OPT)                                  |  |                                  |  |                   |  | ALUMINUM (OPT)                  |  | MANUAL ACTUATOR            |  |
|                                  |  |   |  |                                  |  |                   |  |                                 |  | ELECTRIC ACTUATOR          |  |
|                                  |  |   |  |                                  |  |                   |  |                                 |  | PNEUMATIC ACTUATOR         |  |

| QTY.           | FRAME  |                     |             |             | BOLT HOLE ORIENTATION |            | COMMENTS | TAG |
|----------------|--------|---------------------|-------------|-------------|-----------------------|------------|----------|-----|
|                | D-DIA. | G Bolt Circle Diam. | H No. Holes | M Hole Dia. | S Straddle            | T Parallel |          |     |
|                |        |                     |             |             |                       |            |          |     |
|                |        |                     |             |             |                       |            |          |     |
|                |        |                     |             |             |                       |            |          |     |
| JOB CONTRACTOR |        |                     |             | LOCATION    |                       |            |          |     |

## PERFORMANCE DATA

AMCA Standard 500 provides a reasonable basis for testing and rating dampers. Testing to AMCA 500 is performed under a certain set of laboratory conditions. This does not guarantee that other conditions will not occur in the actual environment where dampers must operate.

Designs should provide a reasonable safety factor for damper performance by selecting at some point below damper leakage and pressure drop system requirements.

| DAMPER DIAMETER | MAXIMUM SYSTEM VELOCITY | LEAKAGE WITH CONTINUOUS SEALS* |           | LEAKAGE WITH SPONGE BLADESTOPS* |           |
|-----------------|-------------------------|--------------------------------|-----------|---------------------------------|-----------|
|                 |                         | % of max. flow                 | TOTAL CFM | % of max. flow                  | Total CFM |
| 48" (1219)      | 2500                    | 0.45                           | 11.30     | 1.40                            | 35        |
| 36" (914)       | 2500                    | 0.34                           | 8.50      | 1.10                            | 28        |
| 24" (610)       | 2500                    | 0.23                           | 5.65      | 1.00                            | 25        |
| 12" (305)       | 4000                    | 0.07                           | 2.85      | 0.40                            | 15        |
| 6" (152)        | 4000                    | 0.04                           | 1.41      | 0.20                            | 7.5       |

\*Leakage information based on pressure differential of 1" w.g.

Dimensions in parenthesis ( ) indicate millimeters.

## SUGGESTED SPECIFICATION

Furnish and install, at locations shown in plans or in accordance with schedules, heavy duty control damper meeting the following specifications: Dampers shall be butterfly type consisting of circular blade welded to axle within formed flanged frame. Frame shall be constructed of minimum 16 (1.6) gage through 18" (457) diameter and 12 (2.8) gage above 18" (457) diameter. Minimum frame depth shall be 6" (152) through 8" (203) diameter and 8" (203) above 8" (203) diameter. Flanges shall be minimum 1 1/2" (38) x 12 gage (2.8) for all sizes. Minimum blade thickness shall be (specifier select) single skin 16 (1.6) gage through 24" (610) diameter, 14 (2) gage through 36" (914) diameter, and 12 (2.8) gage above 36" (914), (or with optional full circumference blade seal) double skin 18 (1.3) gage through 18" (457) diameter, 16 gage double skin above 18" (457) diameter to 24" (610) diameter. When provided with full circumference blade seal, seal shall be sandwiched between blade skins on units up to 24" (610) diameter and retained by a seal ring bolted to the blade on units above 24" (610)

diameter. Adhesive type blade seal or blade seal closing against a full circumference blade stop is not acceptable. Blade stiffeners shall be provided as required to meet performance requirements. Bearings shall be flanged stainless steel sleeve pressed into frame. Bronze or oilite bearings are not acceptable. Damper axle shall be continuous plated steel extending through entire diameter of damper and beyond damper bearing a minimum of 6" (152). Minimum axle size shall be 1/2" (13) through 24" (610) diameter and 3/4" (19) above 24" (610) diameter. Stub axles are not acceptable. Maximum leakage through 48" (1219) diameter unit with (specifier select) neoprene sponge blade stop shall be 35 total CFM (or) full circumference neoprene blade seal shall be 11.3 total CFM. Submittal data shall include published leakage data on a complete range of sizes developed from testing in accordance with AMCA Standard 500 in an AMCA registered laboratory. Damper shall be Ruskin model CDRS82.