



# Model SMDR-502

Round Smoke Damper

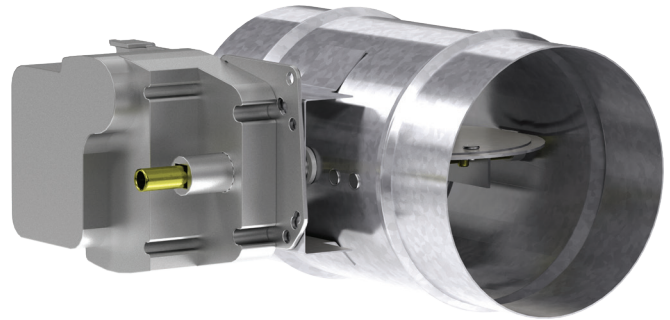
UL 555S Leakage Class II

## Application

Model SMDR-502 is round smoke damper with low leakage. The SMDR-502 is qualified to 4,000 fpm (20.3 m/s) and 4 in. wg (1 kPa) for operational closure in emergency smoke control situations, for use in HVAC system applications.

## Ratings

- Leakage:** Class II
- Pressure:** Up to 4 in. wg (1 kPa) - differential pressure
- Velocity:** Up to 4,000 fpm (20.3 m/s)
- Temperature:** Up to 350°F (177°C) - depending on the actuator



\* The diameter dimension furnished approximately 1/8 in (3mm) undersize.

Construction	Standard	Optional
Frame Material	Galvanized Steel	-
Frame Material Thickness	20 ga. (1mm)	16 ga. (1.5mm)
Blade Material	Double skin galvanized steel	-
Blade Thickness	14 ga. (2mm) equivalent	-
Axle Bearings	Bronze	316SS
Axle Material	1/2 in. (13mm) Plated steel	-

Model SMDR-502 meets the requirements for smoke dampers established by:

- National Fire Protection Association**  
NFPA Standards 90A, 92, 101 & 105
- International Building Codes (IBC)**
- California State Fire Marshal**

Listing #: 3230-0981: 0113

## Size Limitations

Diameter	Minimum	Maximum
in. (mm)	6 (152)	24 (610)



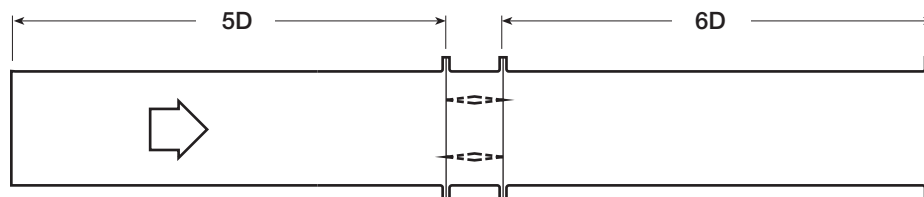
See complete marking on product.  
UL 555S Classification  
R13317

## Pressure Drop Data

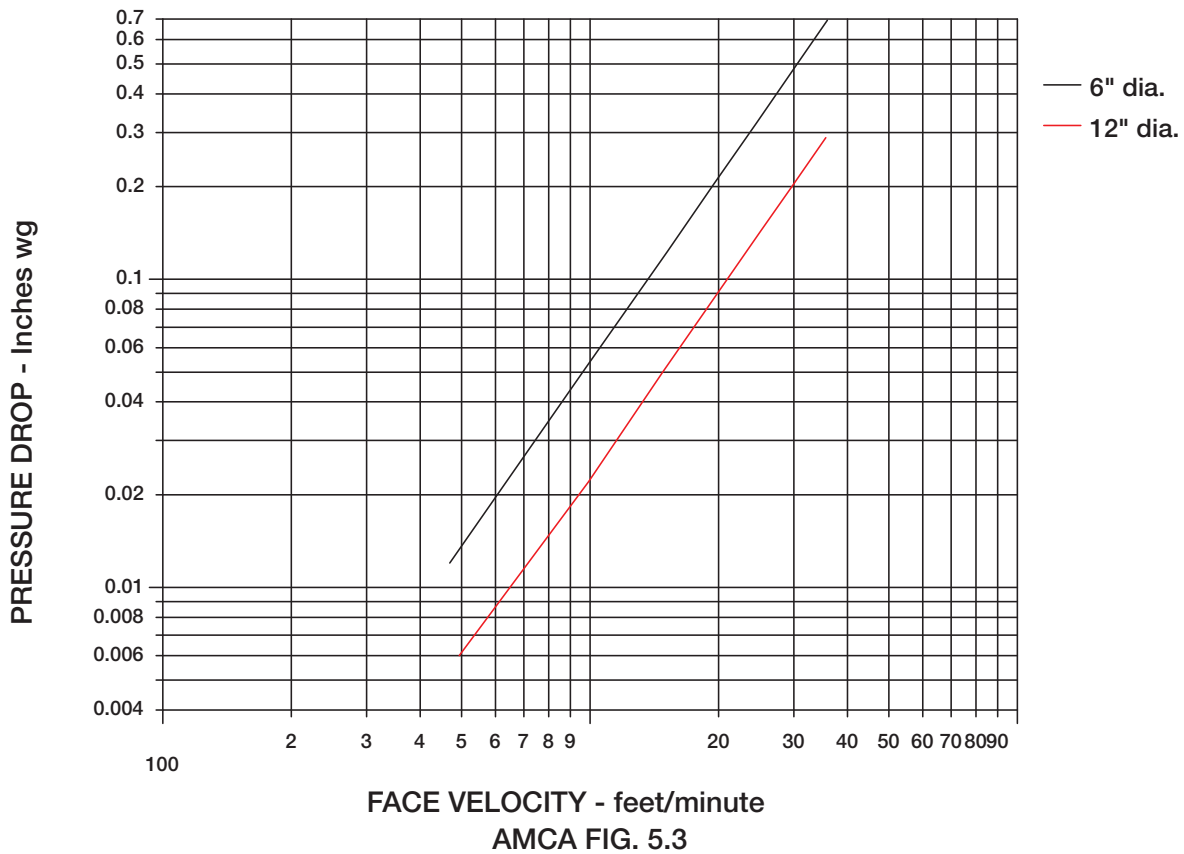
This pressure drop testing was conducted in accordance with AMCA Standard 500-D using the configuration shown. All data has been corrected to represent standard air at a density of .075 lb/ft<sup>3</sup> (1.201 kg/m<sup>3</sup>). Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

### AMCA Test Figure

Figure 5.3 illustrates a fully ducted damper. This configuration has the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.



VELOCITY VS. PRESSURE DROP



## Specifications

True round smoke dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules. Dampers shall meet the requirements of the latest edition of NFPA 92, 101, and 105. Dampers shall be tested, rated, and labeled in accordance with the latest edition of UL Standards 555S. Dampers shall be UL labeled for use in dynamic systems. The damper shall have a dynamic closure airflow rating equal to or greater than the airflow at the damper's installed location and a dynamic closure pressure rating of 4 in. wg (1 kPa).

Dampers shall have a UL 555S leakage rating of Class II and a temperature rating of 250°F (121°C) minimum and shall be rated to operate at maximum design airflow at its installed location. Dampers shall have a UL 555S operational airflow rating equal to or greater than the airflow at its installed location and operational pressure rating of 4 in. wg (1 kPa).

Damper actuators shall be factory mounted and qualified for use with the damper in accordance with UL 555S.

Damper actuators shall be (specified select one of the following) 120 or 24 volt operation or pneumatic type for 25 psi minimum operation (30 psi maximum). Manufacturer's submittal data shall indicate actuator space requirements around the damper.

All UL 555S operational ratings and leakage ratings shall be qualified for airflow and pressure in either direction through the damper. UL ratings shall allow for mounting damper vertically or horizontally.

The Damper Manufacturer's submittal data shall certify all air performance pressure drop data is licensed in accordance with the AMCA certified ratings program for test figure 5.3. Damper air performance data shall be developed in accordance with the latest edition of AMCA standard 500-D.

Basis of design is model SMDR-502.

