

## TD102

### Heavy Duty Smoke Control Damper for Tunnel Ventilation

The Model TD102 Smoke Control damper for Tunnel Ventilation is designed specifically for tunnel installation applications where tight shutoff at high velocity and/or pressure is required. The TD102 has been tested to UL555S for temperature degradation at 250 deg. C for 1 hour.

#### STANDARD CONSTRUCTION

##### FRAME

229 x 51 x 2.8mm steel channel frame with offset flange design to allow quick installation. Stainless steel optional.

##### BLADES

Heavy duty extruded aluminum airfoil with stiffening webs.

##### BLADE ACTION

Parallel or opposed.

##### BEARINGS

Stainless steel sleeve, bolted to frame.

##### JAMB SEALS

Stainless steel, flexible metal compression type.

##### BLADE SEALS

Silicone, mechanically locked into blade edge.

##### LINKAGE

Plated steel, concealed in frame out of airstream. Stainless steel optional.

##### AXLES

19mm plated steel, mechanically locked into blade. Stainless steel optional.

##### FINISH

Mill finish steel frame, anodized aluminum blades.

##### MOUNTING

Vertical or horizontal.

##### ACTUATOR/ACCESSORIES

Electric or pneumatic fail-safe actuators, rated for elevated temperature as required by specification. Limit switches rated for elevated temperature, provided as required by specification.

##### TEMPERATURE RATING

Tested to UL555S at 250°C for 1 hour. For special customer required testing, consult Ruskin.

##### MINIMUM SIZE

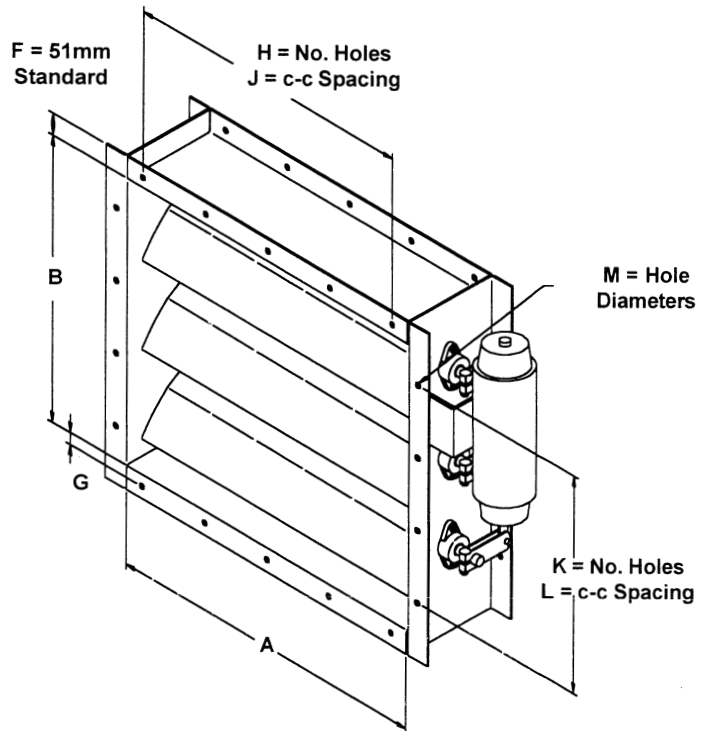
305 x 305mm.

##### MAXIMUM SIZE

Vertical installation - 1524 x 2438mm.

Horizontal installation - 1524 x 2438mm.

Multiple section assemblies, consult Ruskin.



#### QUALIFICATIONS

- Tested to UL555S at 250°C for 1 hour.
- Low leakage, less than 5.5 cfm/sq. ft. at 1.0"w.g.
- Maximum velocity of 20.3 m/s.

#### FEATURES

The TD102 Smoke Control damper offers:

- Corrosive resistant extruded aluminum airfoil shaped blades.
- High temperature silicone blade edge seals and stainless steel jamb seals, standard.
- Direct coupled actuator, providing maintenance-free attachment to the drive axle.
- Extremely low pressure drop performance at high velocity.
- Thermoplastic bearings optional.

QTY.	DIMENSIONS		A DIM.	B DIM.	F DIM.	G DIM.	M DIM.	H DIM.	J DIM.	K DIM.	L DIM.	VARIATIONS
	A* - WIDE	B* - HIGH										
PROJECT: ARCH/ENGR: REPRESENTATIVE:						LOCATION: CONTRACTOR: DATE:						

**SUGGESTED SPECIFICATION AND PERFORMANCE DATA**

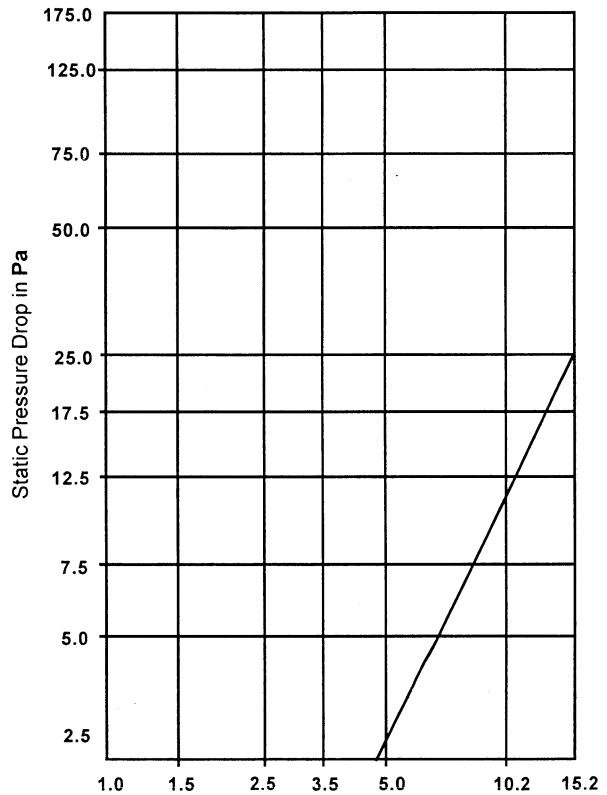
Furnish and install at locations shown on plans, or as described in schedules, Heavy Duty Smoke Control dampers meeting or exceeding the following specifications. Damper shall be of heavy duty construction with extruded aluminum frame and airfoil shaped blades. Bearings shall be stainless steel sleeve bolted to the frame. The blades shall be airfoil shaped double skin construction of minimum 3.2mm extruded aluminum. Axles shall be 19mm minimum diameter mechanically locked into blade. Blade seals shall be silicone, mechanically fastened to blade edge and jamb seals shall be stainless steel compression type. Linkage shall be concealed in jamb, out of the airstream; exposed (blade face mounted) linkage is not acceptable.

Damper shall be tested to UL555S for leakage. Damper shall have leakage not more than 5.2 CFM/Sq. Ft. at 1.0"w.g.

As part of the damper qualification, dampers shall have demonstrated a capacity to operate (to open and close) under HVAC system operating conditions, with pressures of at least 4" w.g. (996 Pa) in the closed position and 20.3 m/s air velocity in the open position.

In addition to the leakage ratings already specified herein, the dampers and their actuators shall be tested and exhibit operation at 250°C for a period of 1 hour and the ability to operate at ambient temperature after removal and cooling from the elevated temperature test. Appropriate actuators shall be installed by the damper manufacturer at time of damper fabrication. Damper and actuator shall be supplied as a single entity. Damper and actuator assembly shall be factory cycled 10 times to assure operation. Dampers shall be **Ruskin Model TD102**.

**Pressure Drop - Damper Open (610 x 610mm size)**



Air Velocity in METERS PER SECOND through FACE AREA. Tested per AMCA Std. 500, Fig. 5.3, ductwork upstream and downstream.

TD102 PERFORMANCE DATA				
DAMPER WIDTH millimeters	MAX. SYSTEM PRESSURE (kPa)	MAX. SYSTEM VELOCITY (m/s)	Leakage with Seals*	
			% of Max. Flow	CFM/Sq. Ft.
1524	2.5	20.3	0.13	5.2
1219	3.8	20.3	0.13	5.2
914	5.0	20.3	0.13	5.2
610	6.3	20.3	0.13	5.2

Leakage rating is at 1.0"w.g. (250 Pa)  
Maximum System Pressure is for structural reference only.

The TD102 is tested to UL Standard 555S for leakage, elevated temperature and operation at flow and pressure.



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