

Tunnel Ventilation Damper

B-40 Series

Type : Tunnel Ventilation Smoke Damper
Model : TVD-B-40C2-BG
Leakage Rating : Class II as per UL555S
Blade : Aerofoil Type
Construction : Galvanized Steel (GI)

BETEC CAD's Tunnel Ventilation Dampers are designed to isolate sections of a ventilation system with very high level of sealing. The dampers are mounted in side of the tunnel or at tunnel ends to control the pressurized air, air intake and smoke exhaust in long tunnels without intermediate supplies.

In emergency situations , for fire and smoke control, the dampers pressurize the tunnel for safe egress of train, automobile, passengers to escape and creates a negative pressure in the area of the fire to remove smoke and gases.

BETEC CAD's Tunnel Ventilation Dampers are heavy duty and robust dampers requiring less maintenance and are suitable for high humidity, high pressure, dust laden environments making them ideal for installation and operation in Tunnels, Oil & Gas, Marine and Nuclear applications.

Damper Ratings

Leakage Rating : Class II @ 350° F as per UL 555S
Air Velocity : 3000 fpm (15.2 m/sec)
Pressure : 6" water gauge (1.5 KPa)

Additional Test Ratings

Operational Rating : 250° C for 1 hours. (as per HKFSD)
Fatigue Cycles : 30 pressure reversal cycles @ 3Kpa
Max . Holding Pressure : 20" W.g (5Kpa)

UL Verification Service

Air Velocity : 4400 fpm @ ambient
Pressure : 12" water gauge (3 KPa) @ ambient
Leakage Rating : Class I as per UL 555S

Standard Construction

Frame

14 gauge (2 mm) thick galvanized steel sheet with 2" (50 mm) external flanges.

Blade

Aerofoil blades of 14 gauge (2 mm) thick roll formed galvanized steel.

Blade Seals

300°C high temp, resistant Silicon rubber blade seals.

Jamb Seals

Stainless Steel.

Bearings

High temperature resistant concealed SS ball bearings.

Axle

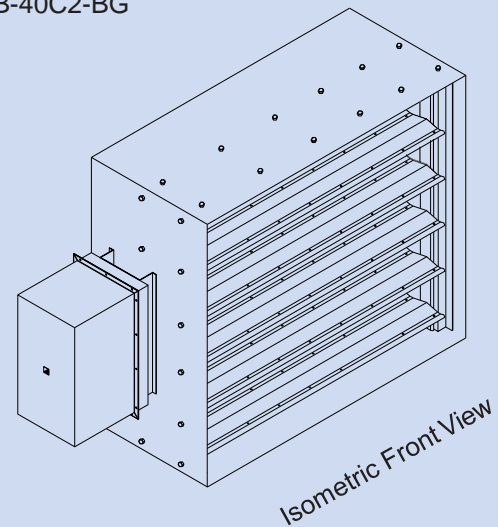
¾" (19 mm) diameter.

Actuator

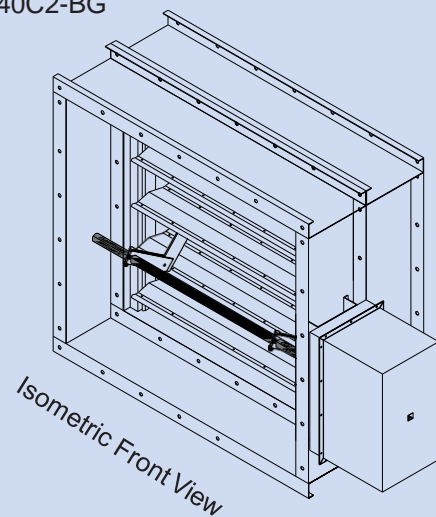
Electric spring return type with inbuilt limit switches.



TVD-B-40C2-BG



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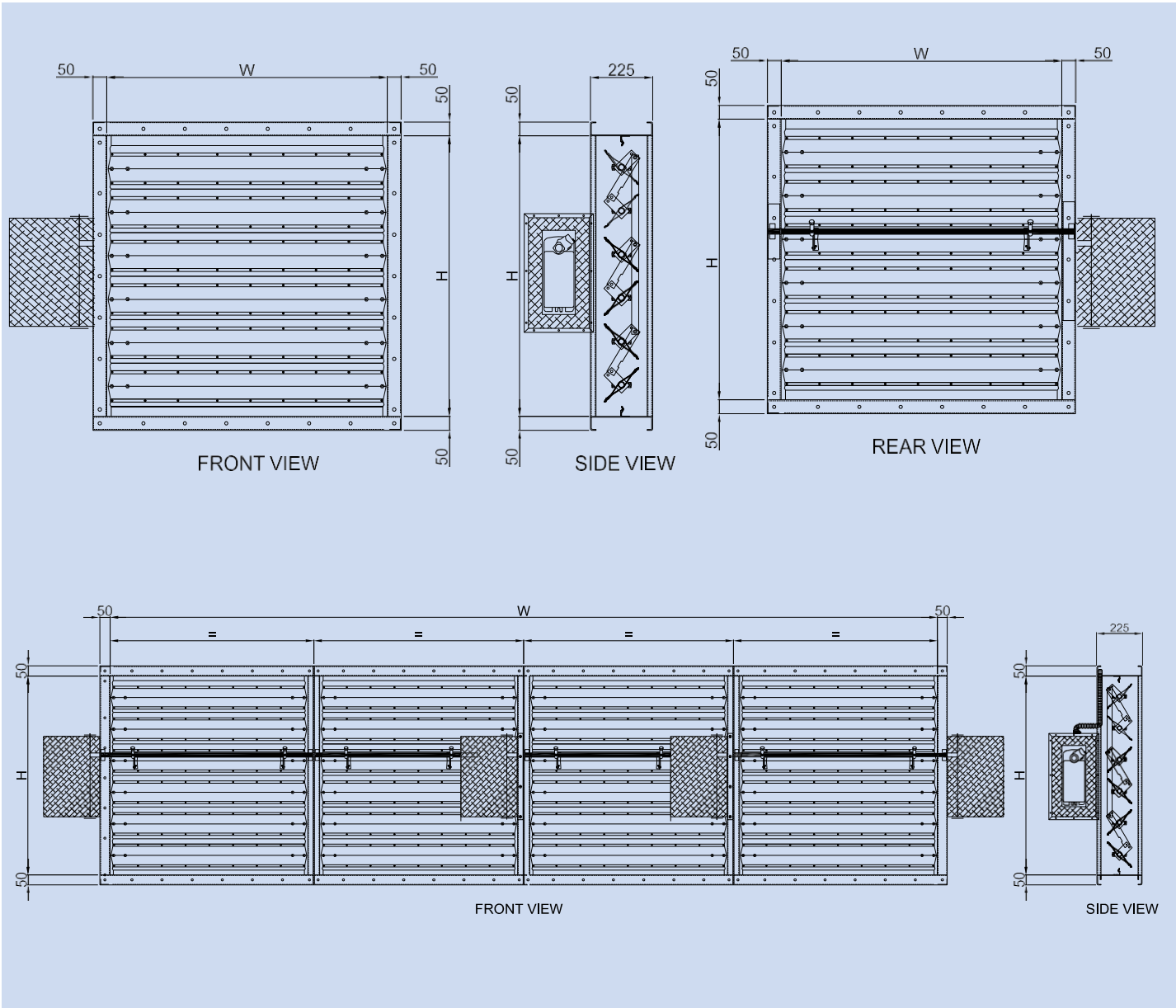


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Constructional Details

Model : TVD-B-40C2-BG



Size Limitation		
Module	Size : Width X Height	Mounting Position
Single	Max X Max.40" x 48"	V/H
Multiple	Max X Max 160" x 48"	V/H

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.



Tunnel Ventilation Damper Engineering And Performance Data

B-40 Series

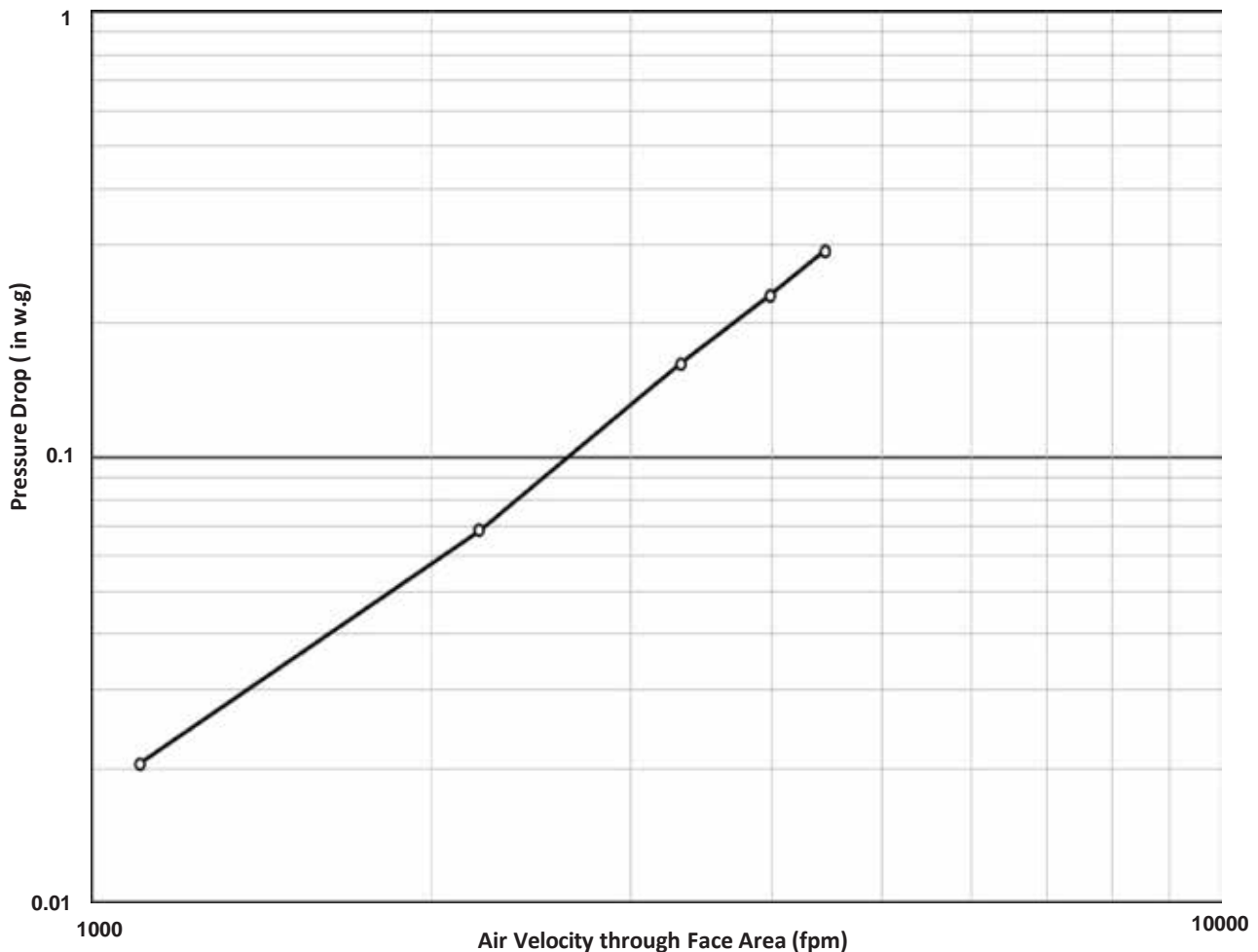
Pressure drop for Dampers

- Pressure drop and resistance of multi- leaf damper is a function of airspeed and varies in relation to the system's total pressure.
- The pressure drop is indicated in graph for opposed blade damper in 100 % open position.
- The pressure drop indicated is the difference in measured pressure before and after the damper.



TVD-GB-40-B

Pressure Loss Vs Face Velocity
Aerofoil Blade Construction



AMCA Standard 500 D -07, Fig . 5.3

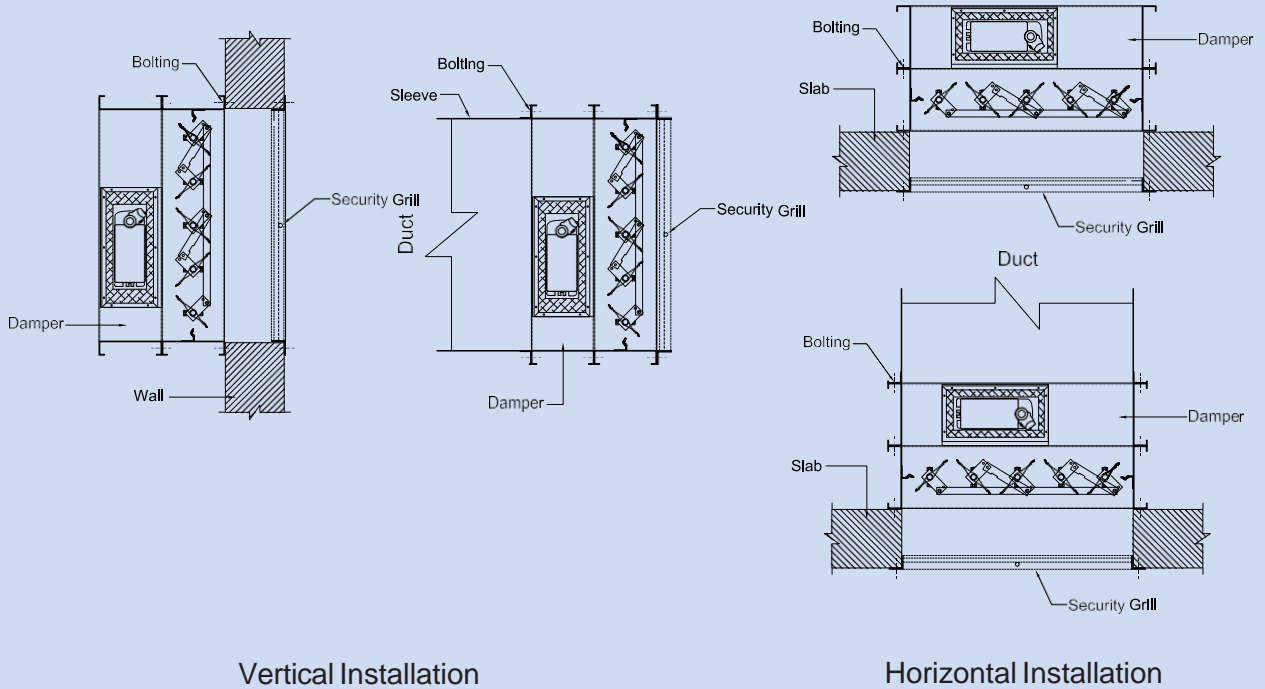
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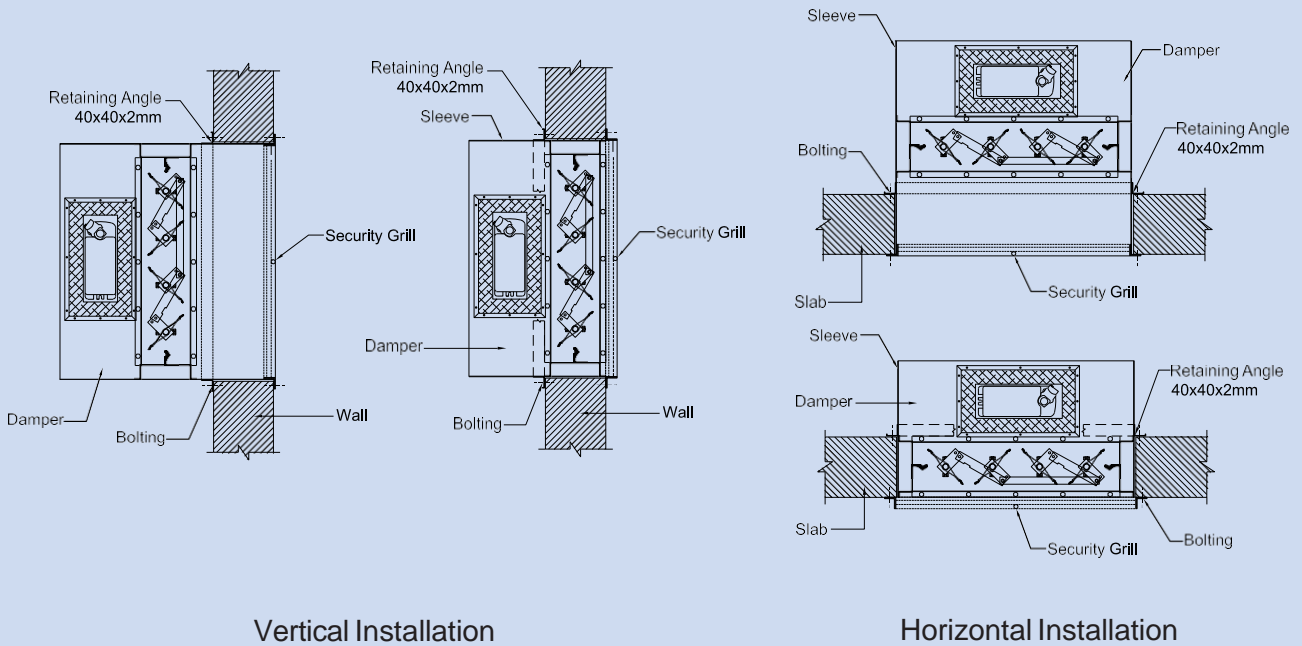
**Tunnel Ventilation Damper
Installation Details**

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Flange Type Dampers



Sleeve Type Dampers



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