

# ACESIAN

## ECOFLOW VENTURI DAMPER

THE ULTIMATE IN CRITICAL AIRFLOW CONTROL



**EXCEPTIONAL QUALITY; OUTSTANDING PERFORMANCE; UNCOMPROMISED SAFETY**



# ECOFLOW VENTURI DAMPER

## where & how?

Acesian's Ecoflow Venturi Damper is a dedicated product engineered for Critical Airflow Control Solutions. The critical control in measurement makes it suitable for use in all environment that requires accurate flow control to maintain room pressure integrity and safe working environment.

The damper integrates seamlessly with all Building Management System (BMS) and most Fume Hood Controllers. Real-time accurate flow measurement using Probe-less technology and alarm feedback makes this system an exceptional choice in the control of critical room pressurization and also fume extraction equipment.



# pressure independent, fast response control

Ecoflow Venturi Damper is equipped with fast response electronic actuator, together with freely programmable BACnet® Building Controller (B-BC), enabling it to operate with Continual Real Time Airflow Feedback.

This allows the control system to respond rapidly and accurately maintain the desired airflow independent of static pressure changes.



# performance through accuracy

Paired with maintenance-free high accuracy pressure transducer, controller and fast response actuator, Ecoflow Venturi Damper achieves accurate, repeatable airflow measurement and control for critical environment.

# probe-less airflow measurement technology

Airflow measurement through unique Venturi profile. Being probe-less & pressure regain ability (due to the unique shape of the venturi), Ecoflow Venturi Damper will operate at an industry low pressure drop while achieving a 10:1 turndown ratio.

# superiority in competitiveness



## probe-less airflow measurement technology & accuracy

Airflow measurement is completed through the Venturi flow measurement method with its unique Venturi profile. Additionally, our Ecoflow Venturi Damper is able to achieve & maintain the accuracy within +/-5% of measured airflow.

## energy saving & low maintenance

With the low pressure loss of less than 50Pa and the ability to operate under low pressure regime, it proves that that Ecoflow Venturi Damper is a green product that provides energy savings.

Factoring in the fact that it is probe-less, no internal parts involved in airflow measurement is exposed in the air stream, indicating the minimization of routine maintenance.

## performance assurance

Ecoflow Venturi Damper has been tested in accordance to:

ARI 880 (AS 1217.2-1985) - Performance Rating of Air Terminals

AMCA 511 - Air Performance Rating  
- Air Leakage Rating: Class I Damper  
AMCA 611 - Air Measurement Station

## fire safety & strong chemical resistance

With the selection of Stainless Steel & ETFE (Ethylene Tetrafluoroethylene) Coating, Acesian's Ecoflow Venturi Damper is able to withstand highly corrosive chemical exhaust fume, additionally, it also offers excellent fire protection in all facilities.

Similarly, the passing of requirement for FM (Factory Mutual) Class 4922 further assures that our Ecoflow Venturi Damper is the sole product in the class to withstand BOTH highly corrosive chemicals and high temperatures in the harshest environment.

## flexibility

Acesian Ecoflow Venturi Damper's value-added point is that it is insensitive to the mounting plane; horizontal or vertical, even right after a volume control damper / fitting without affecting the airflow readings.

# operating range table

Size	Airflow Range			
	Units	Min. Flow	Max. Flow	Turndown Ratio
Ø150mm	CMH	35	342	10:1
Ø200mm	CMH	87	868	10:1
Ø250mm	CMH	170	1691	10:1
Ø300mm	CMH	286	2852	10:1
Ø350mm	CMH	439	4386	10:1

## construction

### galvanized steel:

Galvanized Steel Ecoflow Venturi Damper are used in supply/ return air or non-corrosive applications. Features include:

- Galvanized steel body
- Stainless steel damper covered all round with VITON rubber
- Stainless steel damper shaft
- Connection method: Slip in



### stainless steel:

Stainless Steel 316 Ecoflow Venturi Damper are used in exhaust air or corrosive applications. Features include:

- Stainless steel 316 body
- Stainless steel damper covered all round with VITON rubber
- Stainless steel damper shaft
- Connection method: Angle Flange



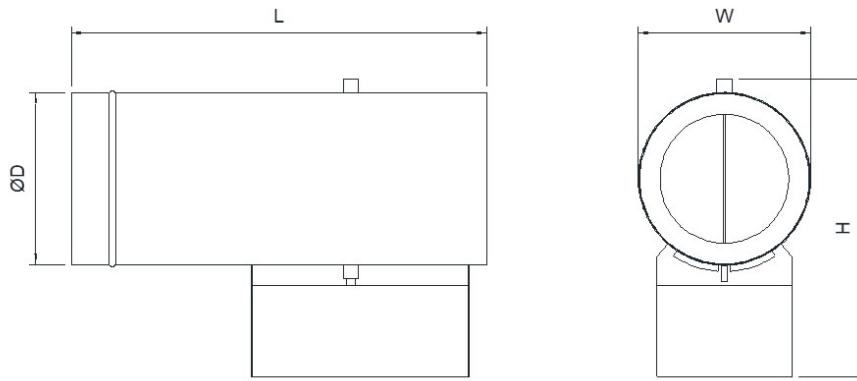
### stainless steel with ETFE coating:

Stainless Steel 316 Ecoflow Venturi Damper with ETFE coating are used in highly corrosive applications. Features include:

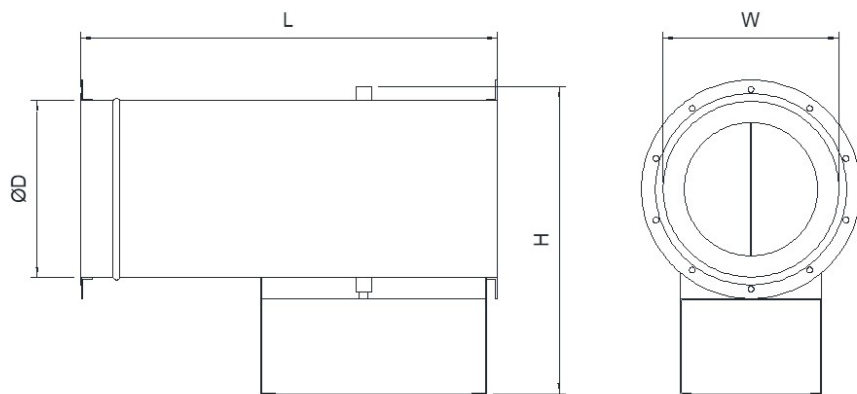
- Stainless Steel 316 body coated with FM approved ETFE Coating
- Stainless steel 316 damper covered all round with VITON rubber
- Stainless steel 316 damper shaft
- Connection method: Angle Flange



### Galvanized Steel Ecoflow Venturi Damper w/o Angle Flange



### Stainless Steel Ecoflow Venturi Damper c/w Angle Flange



## dimension table

Size, ØD (mm)	Length, L (mm)		Height, H (mm)	Width, W (mm)
	Galvanized Steel	Stainless Steel		
Ø150	610	590	350	155
Ø200	610	590	400	205
Ø250	610	590	450	255
Ø300	610	590	500	305
Ø350	610	590	550	355

# what makes it work?

## Variable Air Volume (VAV) Application



### Controller c/w Pressure Sensor

#### MACH-ProAir™ MPA-35-F

MACH-ProAir™ is a fully programmable BACnet® Building Controller (B-BC) with flexible I/O options

#### Protocol

BACnet® MS/TP (EIA-485)

#### Main Features:

- 3 Universal Inputs (0-10 VDC, 4-20mA, thermistor / dry-contact)
- 3 Universal Outputs ; 0-12 VDC or Solid State Relay Output
- PID Loops – Standard P, PI, or PID controllers for closed loop control
- Single-point / Multipoint Trend Logs / Runtime Report
- Schedules / Calendars
- 5 years WARRANTY

#### Velocity Sensor

±0–500 Pa (0–2" WC).

Maximum zero-point accuracy: 0.2 Pa (0.0008" WC).

Resolution: 0.122 Pa (0.0005" WC).

Span accuracy: 3% of reading.

#### Certification

BTL Listed [B-BC]; CE; CFR47 Part 15 Class B; UL 916 Listed; WEEE



### Fast Acting Electric Actuator

#### GAP191.1E

Electronic actuator for modulating control, nominal torque 6 Nm, at 2s running time, range mechanically adjustable between 0...90°

#### Main Features:

- Operating voltage / Frequency: AC/DC 24V ±20% / 50/60 Hz
- Power Consumption: 30VA / 22W
- Nominal Torque: 6 Nm
- Nominal rotary angle: 90°
- Runtime for 90° rotary angle: 2s
- 5years WARRANTY

# what makes it work?

## SMART Sensor Thermostat (optional)



### SMART - Sensor™

#### SS3-E

Compliment to any room, the SMART-Sensor series delivers a modern, networked- sensor solution that allows you to connect up to 10 configurable parameters related to your space.

#### Main Features:

Slim Profile

Easy Programming

Multiple Screen Style

Optional Humidity, VOC, CO<sup>2</sup> or/and occupancy available

5years WARRANTY



**ACESIAN TECHNOLOGIES PTE LTD**

ADD: 33 MacTaggart Road | #04-00 | Singapore 368082

TEL: +65 6757 5310

FAX: +65 6757 5319

EMAIL: sales@acesian.com

WEBSITE: www.acesiantechnologies.com

REV: 221021

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