

Blast Damper HV

Protection and Airflow

HV Series Blast Damper is designed to protect personnel and critical equipment against blast wave created by explosion in industrial facility. Gas explosions occur in facilities such as Oil&Gas platforms and refineries.

The product is used in ventilation systems to prevent advance of the blast wave, through external walls, into the building. Force of the wave closes blades and seals the building. Protected spaces can be such as control rooms, instrumentation rooms, electrical sub-stations, personnel spaces and emergency shelters.

High performance blast protection allows flexibility in plant layout design and makes lower acceptable risk level possible.



The HV Series provides

- Improved risk management
- Staying operational in emergency situation
- Critical equipment stay in-condition, less downtime
- Minimized personnel damages
 - ▶ Less overall cost caused by incident

Features

- 250 bar-ms blast wave protection; over 1.0 bar (14.5 psi) peak values and over 300 ms durations
- Min. closing overpressure 0.03 bar
- Reflections and Multiple Consecutive Explosions Protection
- Negative Phase Protection
- Lowest pressure drop in the market
- Self actuating closing
- ATEX Certification
- Debris Impact Proof
- Hot dip galvanized and acid proof versions
- Sizes for damper openings from 300x300 mm up to 1500x1500 mm
- Operating temperature of - 50 to 80°C, proper functioning in high heat related to explosions, 300°C for 40min
- Compatibility with offshore ductwork, flange hole pattern to EN ISO 15138:2007

TEMET HV SERIES BLAST DAMPERS

Installation

1) Wall installation

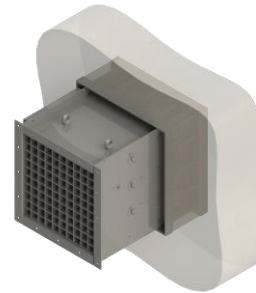
The product is bolted directly on the exterior wall. Wall material can be concrete or steel.



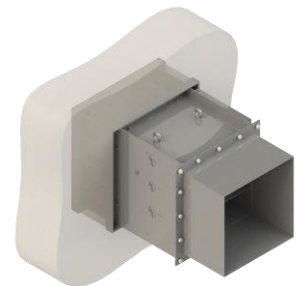
2) HV Installation Frame

On concrete walls Temet Installation Frame can be utilized. The frame is set into the concrete wall during casting phase of building. Later the damper is bolted on the frame. Position can be on the interior or exterior side of the wall.

Ductwork can be directly connected to the damper (interior installation) or installation frame (exterior installation).



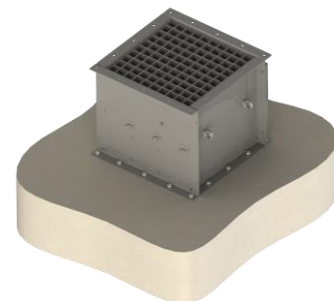
Exterior installation



Interior installation

3) Roof installation

The product can be installed on vertical position as in wall installation or on horizontal position. On horizontal position the product is bolted directly on concrete or steel roof fragment grill up.



Installation bolts can be ordered from Temet. Concrete and steel walls require different bolts. Installation manual with detailed installation instructions and bolt recommendations is included in the product delivery. Bolt hole size is standard 14 mm.

After product is installed on its place, it is made operational by loading the spring. Temet Arming Tool is useful in loading bigger sized dampers, 700 x 700 and above. The tool can be ordered from Temet.



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Selecting Correct Product

An example on how to select correct product

What is the material requirement due to operating environment?

Structural Steel or Acid Proof Steel



Project is onshore facility. Standard model is selected after consideration.

What is the main designing factor?

- A. Needed airflow and max. allowed pressure drop
- B. Wall opening



Airflow is the main factor, A. is selected

A. Needed airflow and allowed pressure drop

Airflow and pressure drop are on the axes and tilted line shows the product size (fig.1). Wall opening / duct size is seen on chart 1.

Needed airflow is 15000 m³/h and max. allowed pressure drop is 40 Pa. Product size 1000x1000 is selected.

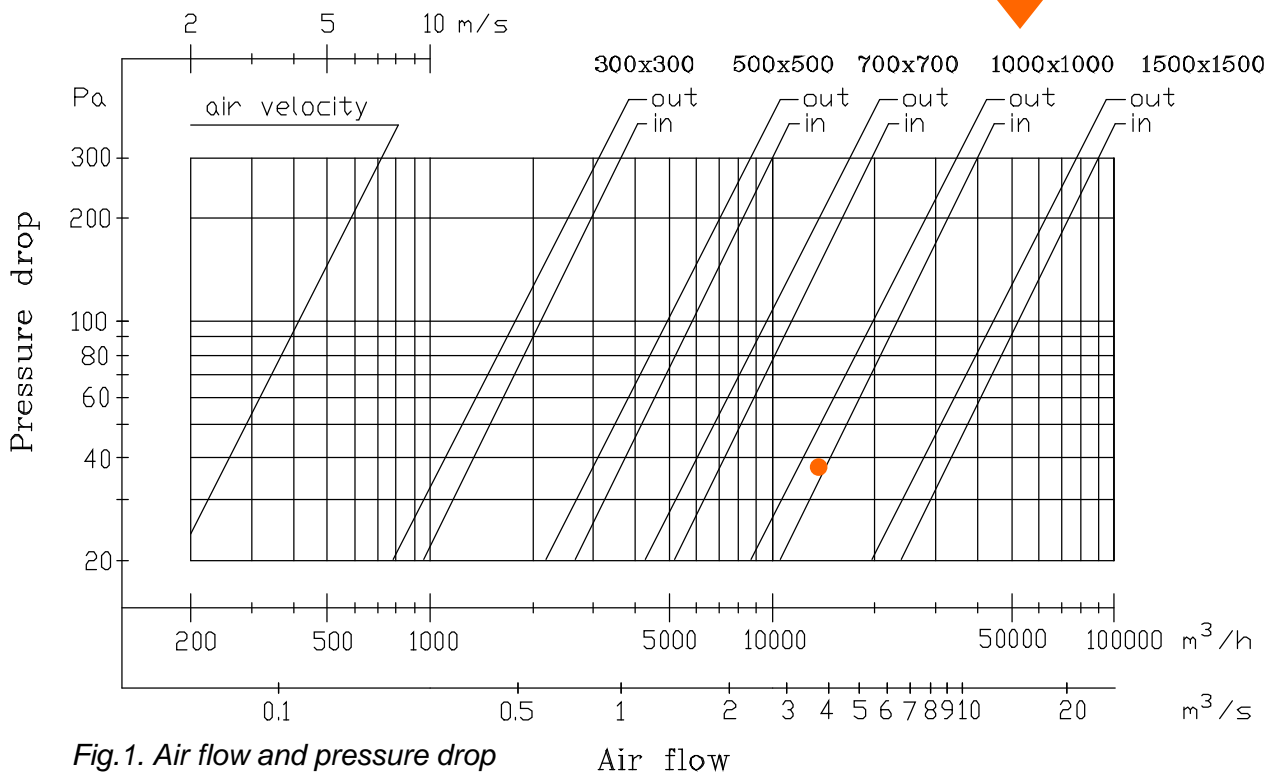


Fig.1. Air flow and pressure drop

Pressure drop in Steel wall and Concrete wall installation is similar when following max. opening dimensions.

Values in figure 1 (+/- 10%) are measured at 20°C corresponding to air density of 1.2 kg/m³.

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B. Wall opening

Blast Damper	Installation Type			
	Steel Wall		Concrete Wall	
	A_{max}	B_{max}	W_{max}	H_{max}
HV-300x300	300	300	130	130
HV-500x500	500	500	350	350
HV-700x700	700	700	550	550
HV-1000x1000	1000	1000	850	850
HV-1500x1500	1500	1500	1370	1370

Standard model HV-1000x1000 is selected. The product is installed on concrete wall resulting as an opening of 850x850 mm in the wall.

Chart 1. Product size – Wall opening relation

Dimensioning for the common sizes shown in the chart. W and H are maximum wall opening in concrete wall installation, A and B are maximum wall opening in steel wall installation.

When main designing factor is wall opening, the product size is selected according to installation situation and opening. Airflow and pressure drop are seen on fig.1.

For more sizes contact sales representative.

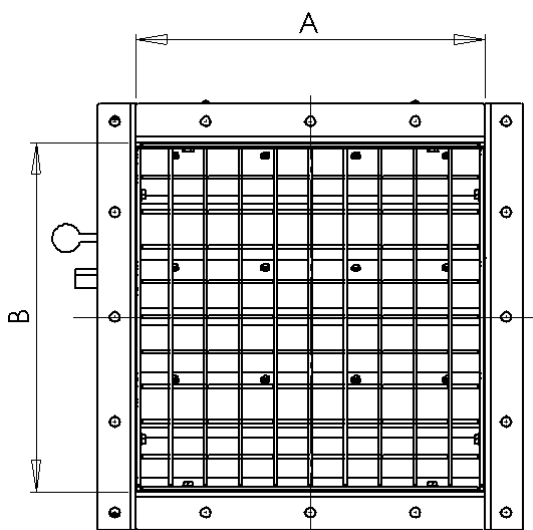


Fig.2 Opening in steel wall installation

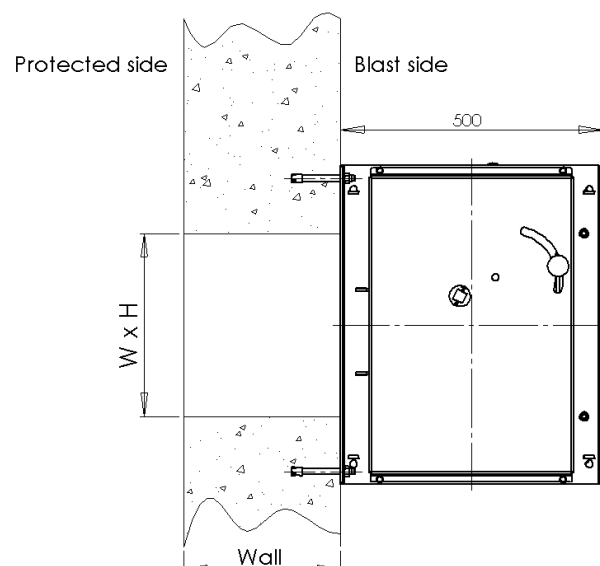


Fig.3 Opening in concrete wall installation

Retailer Network



Contact Details

Local retailers and Temet Sales Managers are at your service. Contact details can be found at www.temet.com