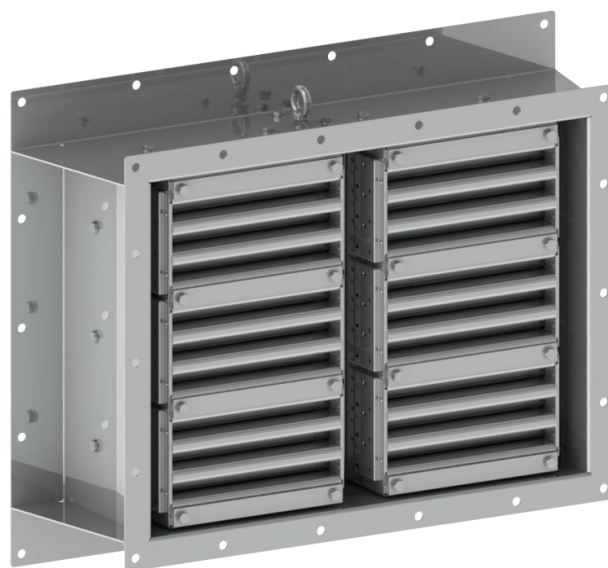


Industrial PV-KK

Continuous Flow and Protection

PV-KK Industrial Series Blast Valves PV-KK-S, PV-KK-SX and PV-KK-E are 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 closing elements and seals the building. Protected spaces can be such as control rooms, instrumentation rooms, electrical sub-stations, personnel spaces and emergency shelters.



PV-KK-S Blast Valve

The PV-KK 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

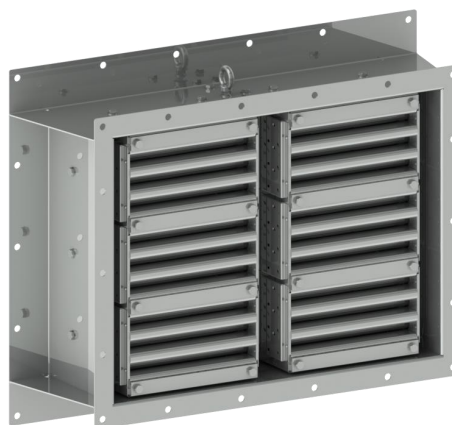
Common Features

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ 500 bar-ms blast wave protection; over 1.0 bar (14.5 psi) peak values and over 300 ms durations ■ Min. closing overpressure 0.06 bar ■ Reflections and Multiple Consecutive Explosions Protection ■ Negative Phase Protection | <ul style="list-style-type: none"> ■ Self actuating closing and opening ■ ATEX Certification ■ Low maintenance ■ Hurricane Wind Proof ■ Operating temperature of - 50 to 150°C ■ Proper functioning in high heat related to explosions, 300°C for 40min |
|--|---|

TEMET PV-KK INDUSTRIAL SERIES BLAST VALVES

PV-KK-S

PV-KK-S is the standard model. Its used in wide range of applications varying from a petrochemical plant in middle of inhabited area to a remote oil refinery in a desert.



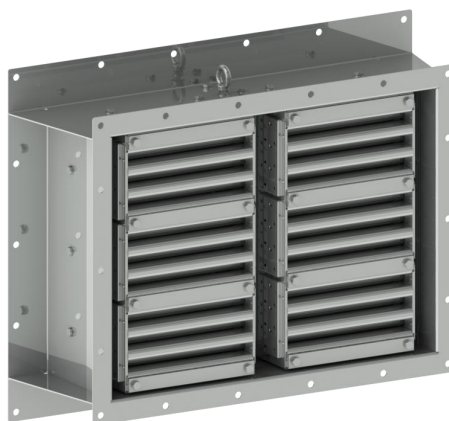
PV-KK-S Blast Valve

Features

- Easy installation, bolting on ready made wall
- Flexible in project management, not dependent on ductwork installation or concrete casting schedule
- Sizes for air ventilation openings from 330x150 mm up to 3500x1750 mm
- Hot dip galvanized structural steel

PV-KK-SX

Blast Valve PV-KK-SX is designed for corrosive environments and its widely used e.g. in marine applications. Acid proof material gives to PV-KK-SX it's long lasting durability.



PV-KK-SX Blast Valve

Features

- Very high corrosion resistance
- Installation by bolting
- Flexible in project management, not dependent on ductwork installation schedule
- Sizes for air ventilation openings from 400x200 mm up to 3500x1750 mm
- Material acid proof steel

TEMET PV-KK INDUSTRIAL SERIES BLAST VALVES

PV-KK-E

PV-KK-E model is used when large ventilation opening or even wall surface is desired.

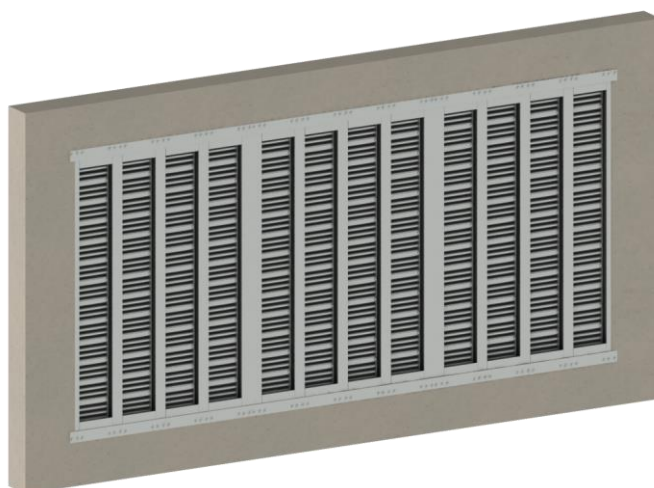
Typical uses are e.g. air tunnels, spaces holding process equipment requiring large air quantities for cooling and administrative buildings.

The model is set inside the wall during casting phase of the building construction.

Even bigger air flow quantities and ventilation openings are possible due to modular structure. The products can be attached to each other from the side creating bigger opening. No middle reinforcement required.



PV-KK-E-52 (4x13) Blast Valve



Three PV-KK-E-52 (4x13) products attached

Features

- Very large ventilation opening and air flow quantity possible
- Even wall surface
- Installation to rebar before casting
- Sizes for air ventilation openings from 400x200 mm up to 1700x3300 mm
- Modular structure allowing even larger than 1700x3300 mm openings
- Hot dip galvanized structural steel

TEMET PV-KK INDUSTRIAL SERIES BLAST VALVES

Installation

1) Wall surface installation

Models PV-KK-S and PV-KK-SX can be installed on the surface of blast side wall, usually exterior wall. On concrete wall anchor bolts are used and on steel wall through bolting is preferred.



Exterior wall

2) Embedded installation

Model PV-KK-E is embedded inside the concrete wall during casting phase of building.



Embedded

3) Roof installation

PV-KK-S and PV-KK-SX can be installed on concrete or steel roof by bolting.



Roof

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.

After product is installed on it's place it does not have to be made separately operational. Due to the product structure PV-KK models are always operational.

TEMET PV-KK INDUSTRIAL SERIES BLAST VALVES

Selecting Correct Product

An example on selecting correct product

What is the material requirement due to operating environment?

Structural Steel or Acid Proof Steel

Project is offshore facility and duct class is B by EN 15138. Acid proof model is selected after consideration.

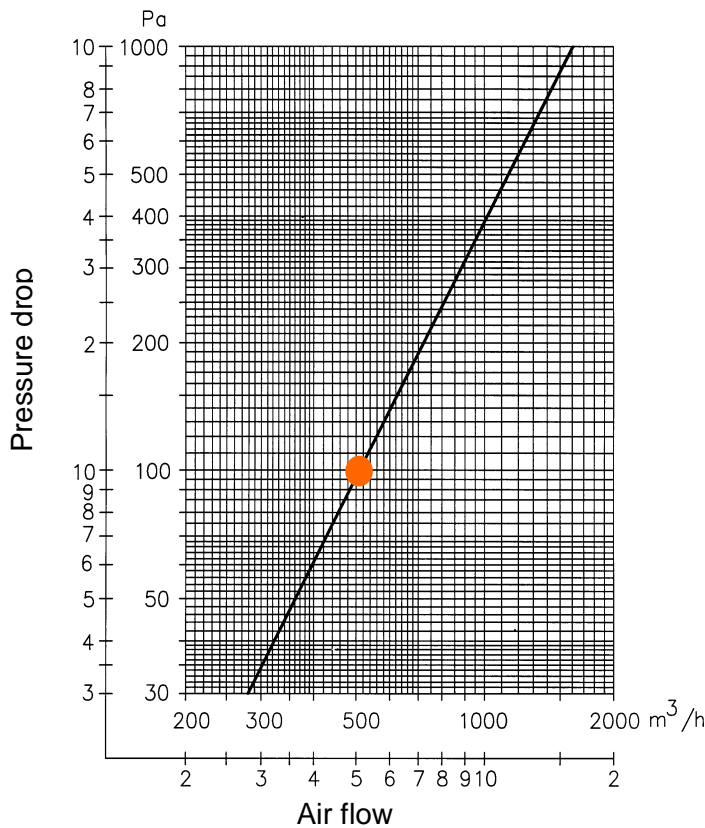
What is the main designing factor?

- 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

PV-KK is constructed of blocks. After the airflow is selected, the tilted line shows the pressure drop of one block. (fig.1). Wall opening can be seen on chart 1.



Air flow of 10 000 m³/h is required and max. allowed pressure loss is 100 Pa.

10 000 m³/h is divided by 500 m³/h/block. 20 blocks needed

Fig. 1. Air flow and pressure drop for one block

The required number of valve blocks is determined by dividing the total air flow by the air flow capacity of one valve block.

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

TEMET PV-KK INDUSTRIAL SERIES BLAST VALVES

B. Wall Opening

Blast Valve	Installation Type			
	Opening (mm), Concrete Wall		Opening (mm), Steel Wall	
	W_{max}	H_{max}	W_{max}	H_{max}
Wall Surface Installation, model S / SX				
PV-KK-S/SX-4 (2x2)	722	325	802	405
PV-KK-S/SX-6 (3x2)	1118	325	1198	405
PV-KK-S/SX-6 (2x3)	722	505	802	585
PV-KK-S/SX-20 (4x5) ●	1514	865	1594	945
Embedded Installation, model E				
PV-KK-E-4 (2x2)	870	460	-	-
PV-KK-E-6 (3x2)	1305	460	-	-
PV-KK-E-6 (2x3)	870	640	-	-

20 blocks is set to a form of 4x5 resulting as an opening of 1594 mm x 945 mm in steel wall for model PV-KK-SX (4x5).

Chart 1. Product size – Wall opening relation

In chart 1 is an example shown on determining wall opening. Product size depends also on installation situation and wall opening. Airflow and pressure drop can be seen on fig.1.

For all product sizes and wall openings, consult sales presentative.

Retailer Network



Contact Details

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