

# Modular Circular Blast Resistant Valves – BV Range

## Introduction

European EMC Products Limited (EEP) offer modular circular blast resistant valves from 150mm to 350mm. Each valve is designed to protect the air supply in the event of a blast. They are suitable for both inlet and exhaust air, where a large airflow is required. The valves are designed and tested to with-stand loads of up to 2 MPa (20 bar) from both sides.

The BV Range of blast valves can with-stand temperatures of up to 180°C.

EEP manufacture 3 versions with different diameters:

**BV-350** – 350 mm diameter

**BV-250** – 250 mm diameter

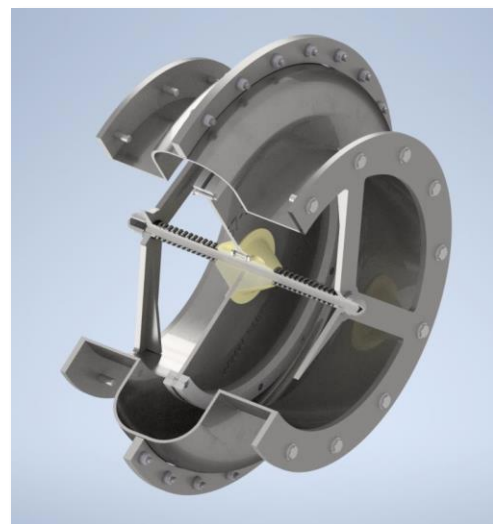
**BV-150** – 150 mm diameter

## Design & Materials

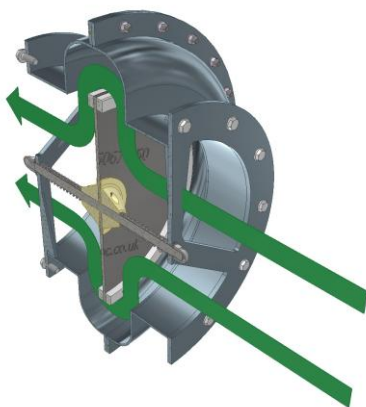
Blast valves generally form part of a blast wall, where the valves are either mounted vertically or horizontally into a steel wall frame. The quantity of blast valves is determined by the requirement of free air movement specified.

The Blast Valve closes upon impact of a blast and during the reverse pressure phase. When the blast has passed, the valve returns to its open (resting) position.

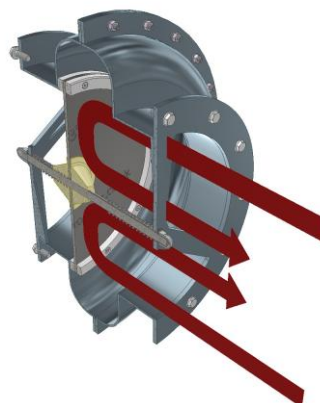
Wall frames are generally constructed from steel and are designed for casting into concrete. A wall frame can also be designed and supplied for bolting onto, or welding into, steel walls.



**Blast Valve Open (Air Flow)**



**Blast Valve Closed (Air Flow)**



## Blast Valve Surface Treatment

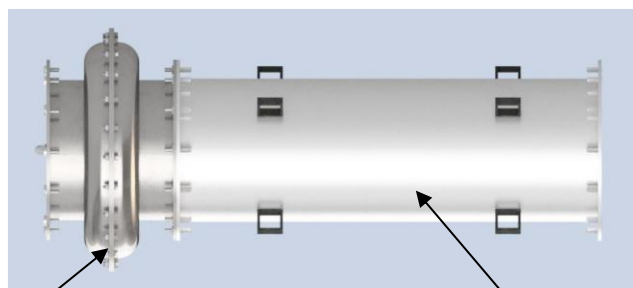
Each blast valve is manufactured using high grade stainless steel to ensure strength and a high level of corrosion protection. Each valve is then powder coated for additional protection. Each blast valve uses stainless steel springs together with a stainless steel baffle plate with a nylon sealing ring.

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## Blast Valve Wall Sleeves

Where blast valves are installed within a concrete wall, blast valve wall sleeves are used.

Blast valve wall sleeves can be designed and manufactured to meet the site requirements and match the full range of blast valve diameters.



Blast Valve

Wall sleeve



## Wall Sleeve Surface Treatment

Each blast valve wall sleeve is manufactured from mild steel, then hot dip galvanized to ensure a high level of corrosion protection.

## Air Flow Capacity

The air volume at the required pressure drop will determine the total number of valves required.

The airflow/pressure drop is the same for both inlets and outlets.

## Airflow Performance

The blast valves are designed to maintain airflow while withstanding high-pressure shock events.

The performance table below represents typical airflow performance across the range of circular blast valves, showing the relationship between volume flow rate (m<sup>3</sup>/hr) and pressure drop (Pa) across the valve..

Configuration	Diameter	Airflow at 200Pa (M <sup>3</sup> /hr)	Airflow at 300Pa (M <sup>3</sup> /hr)
BV-350	350mm	3240	3960
BV-250	250mm	2314	2827
BV-150	150mm	1370	1675

All airflow figures are estimated.

## Blast Rating

The valves are engineered and independently tested to withstand blast loads of up to 2.0 MPa (20 bar), ensuring reliable performance under extreme pressure conditions.

## Accessories

The wall frames can be fitted with particle filters and shields for protection against weather and shrapnel. Adapter boxes can be installed for use with rectangular and square ducts.

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European EMC Products

**Technical Datasheet**

## Pressure Resistance

Incident Pressure Durability: 2 MPa (20 bar)

Reflected Pressure Durability: 2 MPa (20 bar)

Capable of withstanding both incident and reflected blast pressures up to 20 bar.

## Other Specifications

Peak Incident pressure durability	2.0 MPa (20 bar)
Peak Reflected pressure durability	2.0 MPa (20 bar)
Working temperature	-40 to + 180°C

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