

BLD-01 – High pressure blast damper

Overview

- Has been independently performance tested by Aberystwyth University
- Has been certified to 04ATEX9322 for ATEX Group II Category 2 G/D use by SIRA.
- Blade angle normal open position is at 45 degrees
- These dampers are manufactured from 304L or 316L Stainless Steel only.
- BLD-01 will withstand an explosion blast force of 1.0 barg.
- Designed to deflect blast ways, and protect personnel and equipment.
- Effective even with ultra low level blast pressures.

Specification

The Flamgard Calidair type BLD-01 high pressure blast damper is of a parallel rotation, multi-blade design of exceptionally rigid construction which will withstand an explosion blast force of 1.0 barg. The damper has been designed to meet the highest specification of ventilation control equipment required for today's HVAC industry and have been independently performance tested by Aberystwyth University and certified to 04ATEX9322 for ATEX Group II Category 2 G/D use by SIRA.

Dimensions and Material Thickness

The blast damper casing is formed from sheet steel into a rigid channel section to ensure proper alignment of blades and shafts. Damper Units in excess of 1500 mm width or height shall be manufactured as a multiple assembly. Where circular dampers or dampers with width or height dimensions less than 300 mm are required, additional spigot adaptors are used which increase the damper insertion length from 500 to 600 mm.

| Blast damper type | Case thickness |
|-------------------|----------------|
| BLD-01 | 5.0 mm |

Blades

The Blast Damper blades are a formed single-skin sheet metal with lips formed at the leading and trailing edges, this lip strengthens the blades and additionally provides a measure of protection from direct weather/storm impingement. In the closed position the blades 'lipped edges' clip together and engage with the top and bottom duct stops to form a seal.

| Blast damper type | Blade thickness |
|-------------------|-----------------|
| BLD-01 | 5.0 mm |

Shafts

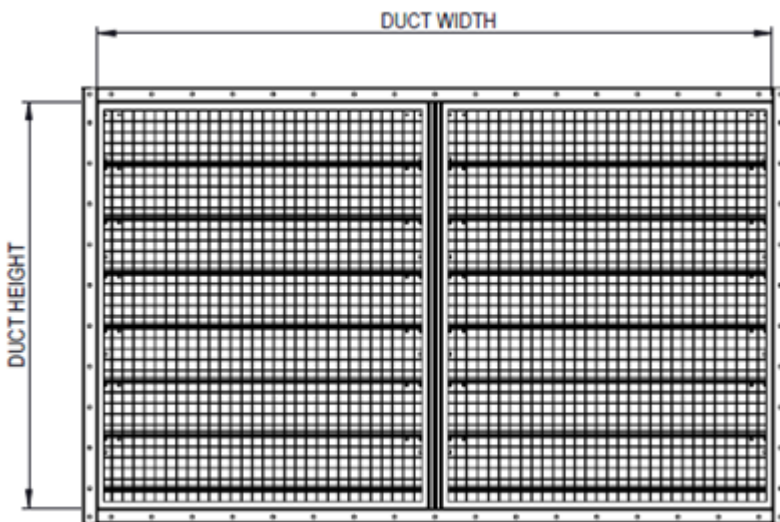
Blade shafts are of the stub type design. Each shaft has a machined flat at their inner end for direct attachment to the blade and is secured with two locked bolts. Shafts at the drive side are linked to transmit motion to the other blades.

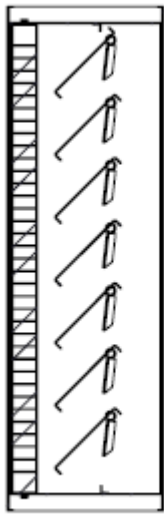
| Blast damper type | Shaft diameter |
|-------------------|----------------|
| BLD-01 | 25.4 mm |

Bearings and housings

Bearing housings are continuously welded to the drive side (control enclosure end) and non-drive side (idle end) frame members. Each bearing housing carries a Zeron duplex stainless steel bearing bush with a thrust face. The Zeron bushes are highly resistant to sea water corrosion and form a non-galling pair with the stainless steel shaft.

BLD-01 General Drawings





Section



End Elevation

Material and Finishing

| Part | Material | Finishing |
|----------|--|-----------|
| Case | Stainless steel – 1.4307 (304L) Stainless steel – 1.4404 (316L) | – |
| Blades | Stainless steel – 1.4307 (304L) Stainless steel – 1.4404 (316L) | – |
| Shafts | Stainless steel – 1.4307 (304L) Stainless steel – 1.4404 (316L) | – |
| Bearings | Super Duplex Stainless Steel “ZERON” | – |

Product Models and Accessories

- Tool Supplied to open and arm the damper
- Lifting lugs can be added to ensure damper can be lifted safely

Further options available please contact sales team for more information.

Operation Principle

The blast damper blade is designed to close by the blast pressure present in the duct and aided by gravity. The blades are normally secured in the ‘open’ position by the tension of the Flamgard blast catch which can be adjusted to release the damper blades from the open position for various explosion pressures, thus shutting down the duct and protecting the system. When in the ‘open’ position the blade is held at 45° by a cam and roller mechanism, which breaks under explosive pressure. The blade remain closed until the torque is applied to the external reset

shaft of the damper which will then manually reset the blades.

Weights

Please note the below table gives bare shaft damper weights only at the given square dimensions. Weights for specific sizes are issued on the quotation document.

| Damper size (mm) | | | Est. weight |
|------------------|--------|-------|-------------|
| Width/Dia. | Height | Depth | |
| 150 | 150 | 600 | 58 kg |
| 200 | 200 | 600 | 58 kg |
| 250 | 250 | 600 | 58 kg |
| 300 | 300 | 500 | 58 kg |
| 350 | 350 | 500 | 68 kg |
| 400 | 400 | 500 | 78 kg |
| 450 | 450 | 500 | 89 kg |
| 500 | 500 | 500 | 100 kg |
| 550 | 550 | 500 | 115 kg |
| 600 | 600 | 500 | 128 kg |
| 650 | 650 | 500 | 142 kg |
| 700 | 700 | 500 | 156 kg |
| 750 | 750 | 500 | 175 kg |
| 800 | 800 | 500 | 191 kg |
| 850 | 850 | 500 | 208 kg |
| 900 | 900 | 500 | 225 kg |
| 950 | 950 | 500 | 247 kg |
| 1000 | 1000 | 500 | 266 kg |

Installation

We advise that the blast dampers are designed to be mounted within a duct, upon a floor, upon a roof or upon a bulkhead (as detailed below). Please note that they can only be mounted horizontally when the anticipated blast wave is vertically downwards as this orientation enables gravity to assist closure of the blades.

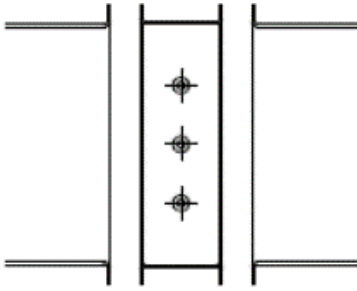


Fig.3
Duct Mounted

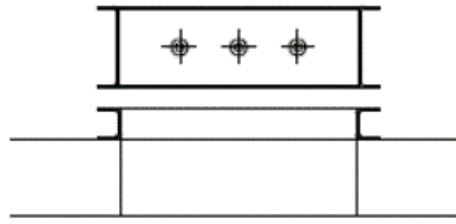


Fig.4
Floor Mounted

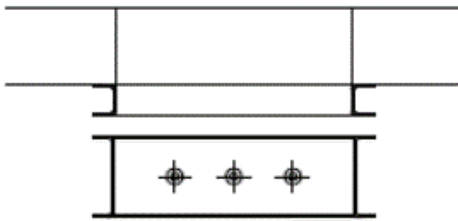


Fig.5
Roof Mounted

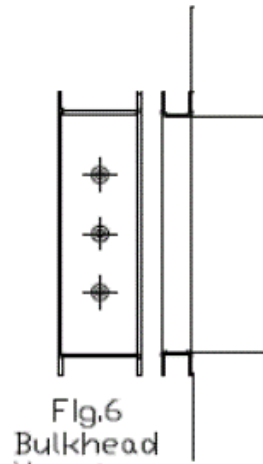


Fig.6
Bulkhead Mounted