



**airwise**  
engineering

TRIDENT METAL FABRICATION

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## **Non Return and Barometric Dampers**



Ganged NRD with pressed aluminium frame.

## Specifications for aluminium models

### Non-Return Dampers

- Damper frames are manufactured of 3mm thick 6060-T5 extruded aluminium.
- Blades are manufactured of 1.5mm 6060-T5 aluminium and are of single unit design, 130mm wide with offset tip for the blade seal.
- Individual blades are hinged on an aluminium or stainless-steel pin rotating in a 6mm engineered plastic bush.
- In Non-Return Dampers having independent blades over rotation is prevented by the inclusion of rubber stops in the frame.
- Linked blades are an option in Non-Return Dampers having more than 1 blade. \*

### Barometric Dampers

- Barometric Dampers are manufactured from the same materials as the Non-Return Dampers described above with the following inclusions.
- Blades are ganged together for uniform movement.
- Counterbalance fitted to be adjustable for differing opening pressures.
- Counterbalance can be located in two positions:
  - (a) Internally on the blade. \*
  - (b) Externally on extended shaft. \*
- Side seals are an optional feature. \*
- Spring return is an optional feature. \*
- Alternative weights are available if required.

**\*Features required and airflow direction – horizontal, vertical, or vertical down - should be specified at time of ordering.**

## Specifications for galvanised or stainless models

- Damper frames are manufactured from 2.0mm galvanised or 304 stainless steel. 316 stainless is an option.
- Blades are constructed of 0.8mm to 1.2mm galvanised or stainless steel folded for rigidity.
- Bearings are Delrin® or oil retaining sintered bronze Oilite® fan 6.
- Axles and drive shafts are 12.7mm 316 stainless steel.
- As above Barometric models have ganged blades for uniform movement and blade or arm weights.
- Spring return is an option.

## Operating parameters

- The dampers are designed to work in a laminar air flow environment between 2m/s and 8m/s and at a maximum static pressure of 500pa.
- Operating temperature range is 80°C.

NOTE: The dampers are NOT designed to operate near fan discharge or in other turbulent areas.

## Installation

Prior to installation store dampers in a safe and clean location to minimise risk of damage, excessive corrosion, and limit exposure to building dust.

Before commencing installation, ensure that the damper is not damaged, and blades operate freely. Blades are sometimes taped closed for transport or in the case of barometric dampers the blades may be locked with the link nuts.

Do not fit damper near fan discharge or in turbulent air.

Install damper square and flat. This is essential to maintain the free movement of the blades.

The direction of airflow must be adhered to.

Whether installing vertically or horizontally do so with regard to which way is UP.

Carry out final field adjustment to barometric and linked blade type dampers; ensure that linkages are free to operate. This is achieved by adjusting tension on the nyloc link nuts. These can require adjustment after transport or installation.

Barometric dampers have a weight fitted which will require final adjustment to suit your air flow. **NOTE: This is not factory set as many on-site factors will affect the final setting.**

If damper is fitted in duct run an access panel of adequate size should be fitted for future maintenance.

**Note 1:** Damper should not be painted on site. Coatings can be applied in the factory and should be specified at time of ordering. If painting is required ensure that shafts, bearings, and linkages are adequately masked.

**Note 2:** Do not modify dampers. This may lead to premature failure or unsatisfactory operation.

**NOTE: Failure to observe the above may void the warranty.**



### Size: Aluminium models

- Individual modules are available from 150mm width and 150mm height to 1800mm width and 2400mm height.
- Models over 900mm width are fitted with a central mullion.
- Multi module units are constructed of two or more individual modules.

### Size: galvanised or stainless models

- Individual modules are available from 150mm width and 150mm height to 1000mm width and 2400mm height.
- Multi module units are constructed of two or more individual modules.

## Maintenance

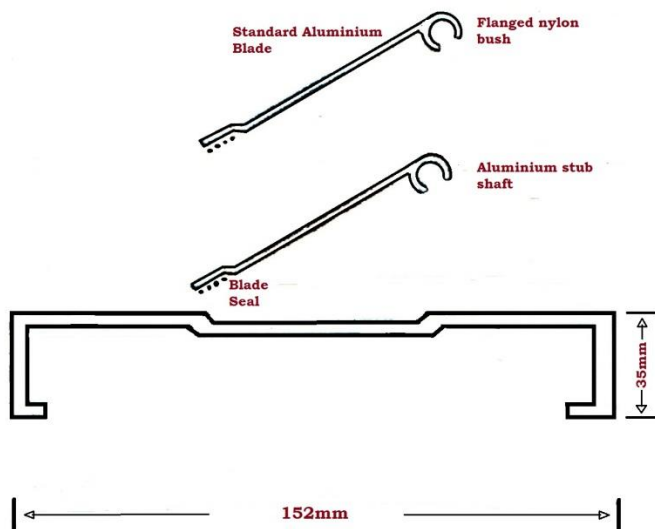
It is recommended that a maintenance schedule for dampers be implemented for any installation.

Bearings require regular lubrication to ensure free blade operation. We recommend the use of silicone spray every 6 months. In high corrosive environments the frequency should be increased to intervals not greater than every 4 months.

Dampers should be kept clean of any outside pollutants and corrosive build-ups. This may be by use of pressure cleaners, being mindful that excessive pressure may damage blades and/or their tip seals.

Alternatively solvent and brush method can be applied. This is particularly so if oily lubricants are used as they may collect dust and foreign matter at a greater rate than dry lubricants.

## Frame and blade profiles aluminium dampers



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