

**DVAC**

DUCT VENTILATION AIR CONDITIONING Co. (W.L.L.)

# Non Return Dampers Catalogue



## Rectangular & Circular Spigot Case

Types: NRD-FC, NRD-SC & NRD-CSC



## NON RETURN DAMPERS / PRESSURE RELIEF DAMPERS (Aluminum Extruded Blades)

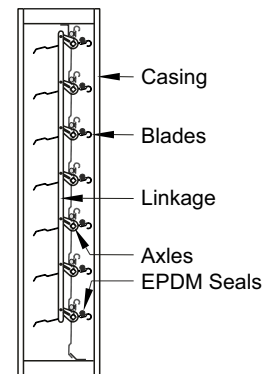
### Description

Non Return/Pressure Relief Dampers are designed for use in intake & discharge opening in Commercial & Residential Air Conditioning systems. When the ventilation system is ON, the blades of the Non-Return Damper are held in the open position by the airflow. If the system is switched OFF, the damper blades close automatically, thus preventing reverse airflow and giving protection against the ingress of untempered air, rain and birds into the air conditioning system.

- **Blades:** Linked and open in parallel.
- **Optional:** (with adjustable counterweight) Counterweight position (Left/Right) as per Customer's needs.
- **NRD-FC, NRD-SC & NRD-CSC** series Dampers can be used in applications for:
  - a. Gravity Hood Intake and Exhaust
  - b. Stairwell Pressurization
  - c. Room Pressurization
  - d. Ductwork Outlets

### Standard Construction

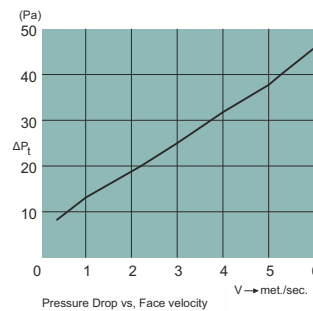
- **Casing:** Shall be made of LFQ Galv. Steel complying with ASTM A653, having G90 Coating Designation; 18 Gauge (1.2mm) thickness for Types **NRD-FC, NRD-SC & NRD-CSC**
- **Blades:** 4" (100mm) Depth, 0.04724" (1.2mm) Thickness, extruded Aluminum.
- **Axles:** 1/4"x1/4" (6.5x6.5mm) Polyamide.
- **Linkage:** Side linkage out of airstream shall be made of Aluminum 14 Gauge (2.0mm) (Concealed in frame).
- **Bearings:** Bronze
- **Seals:** EPDM Extruded blade seals.



### Performance Data

#### Pressure Loss for:

- **NRD-FC, NRD-SC & NRD-CSC**
- V (m/s) air velocity with free discharge (based on nominal size)
- $\Delta P_t$  (Pa) Pressure Drop



### Ratings

Maximum System Pressure	Maximum System Velocity
2.0 in. wg (0.5 kPa)	2000 fpm (10.2m/s)

Start-open pressure is selectable from 0.05 to 0.13 in. wg (0.01 kPa to 0.03 kPa).

- **Temperature:** 202°F (92°C)

#### Technical Data:

- Free Area of approx. 60% (with insect screen approx. 45%)
- Volume Flow rate range: 40 - 6260L/s or 144 - 22536m³/h at 2.5m/s
- Total Differential Pressure - Exhaust Air: 55Pa at 2.5m/s - Fresh Air: 60Pa at 2.5m/s

Ordering example:

**GI NRD-FC 300x150**  
 Material   
 Code   
 Width x Height

#### \* Materials Used for NRD (Casing):

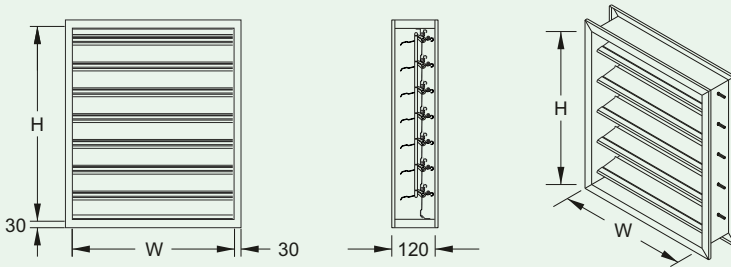
- **Galvanized Steel:** (Standard) L.F.Q. Complying with ASTM A653 & Having G90 Coating Designation.
- **Stainless Steel:** (Optional) Complying with ASTM A240M / A480M, Grade 304, 304L, 316 & 316L.
- **Aluminum Metal:** (Optional) Complying with ASTM B209, Alloy 3003, Temper H14.
- **Black Steel:** (Optional) Complying with ASTM A366/ A366M, Cold-rolled.

**N.B.:** For all kinds of NRD, materials of Blades, Axles, Bearings & Seals will be same as mentioned herein Standard Construction.

## NON RETURN DAMPER / PRESSURE RELIEF DAMPERS (Aluminum Extruded Blades)

### Flange Casing (Standard)

Type NRD-FC is fabricated of one piece Roll-Formed channel.



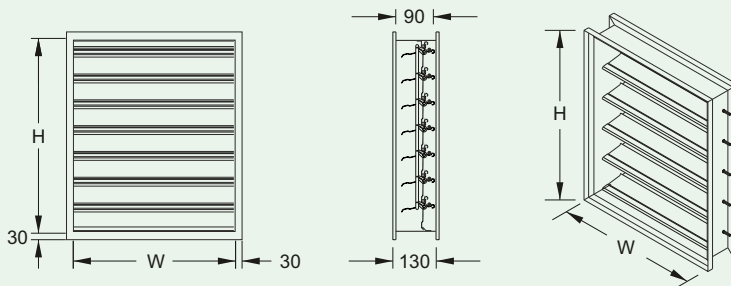
#### - Size Limitations:

- **Minimum Size:** One blade 4"x4" (100x100mm)
- **Maximum Size:** Single section 24"x60" (600x1500mm)  
Multiple sections: Unlimited

NRD-FC is to be installed between two pieces of ducts by flanges

### Sleeve Casing (Optional)

Type NRD-SC is fabricated of one piece Roll-Formed hat channel.



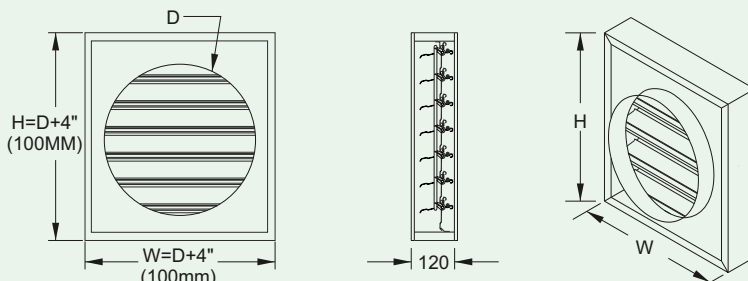
#### - Size Limitations:

- **Minimum Size:** One blade 4"x4" (100x100mm)
- **Maximum Size:** Single section 24"x60" (600x1500mm)  
Multiple sections: Unlimited

NRD-SC is to be installed inside the ducts  
 Width & Height furnished approximately 1/4" (6mm) undersize

### Circular Spigot Casing

Type NRD-CSC is fabricated of double skin steel



#### - Size Limitations:

- **Minimum Size:** 12" (300mm)
- **Maximum Size:** Single section Diam. 24" (600mm)  
Multiple sections: Unlimited

NRD-CSC is to be flexible & installed between 2 pieces of ducts by three connection types:  
**Circular Spigot - Circular Angle Flange - Circular Flat Flange**

### \* Materials Used for NRD (Casing):

- **Galvanized Steel:** (Standard) L.F.Q. Complying with ASTM A653 & Having G90 Coating Designation.
- **Stainless Steel:** (Optional) Complying with ASTM A240M / A480M, Grade 304, 304L, 316 & 316L.
- **Aluminum Metal:** (Optional) Complying with ASTM B209, Alloy 3003, Temper H14.
- **Black Steel:** (Optional) Complying with ASTM A366/ A366M, Cold-rolled.

**N.B.:** For all kinds of NRD, materials of Blades, Axles, Bearings & Seals will be same as mentioned herein Standard Construction.



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