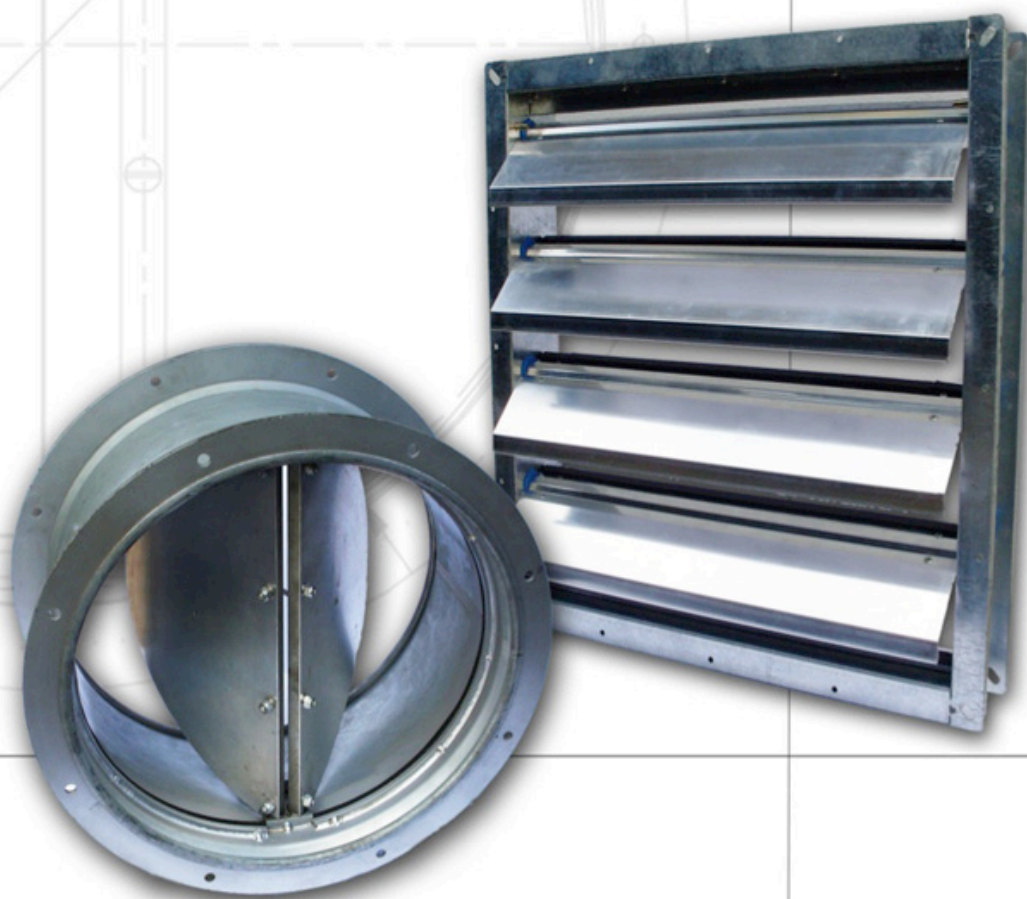


NRD

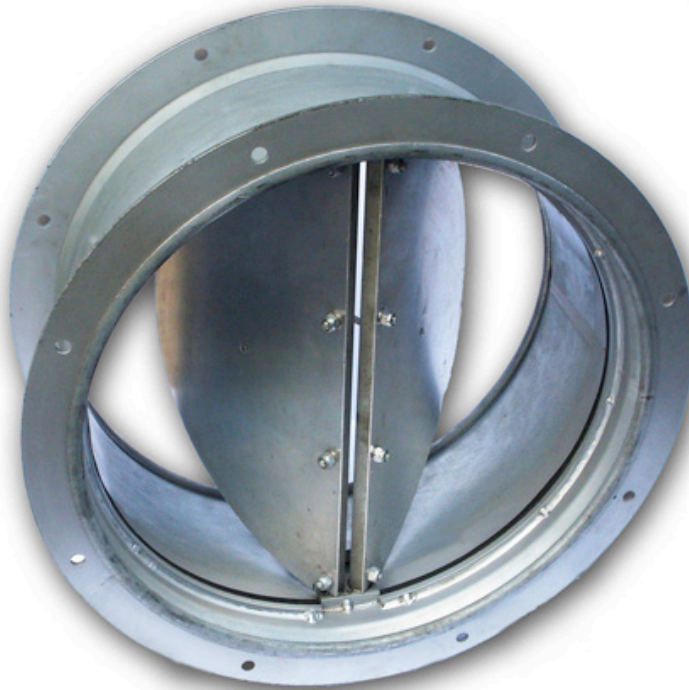
NON-RETURN DAMPERS



NA100
CD1000

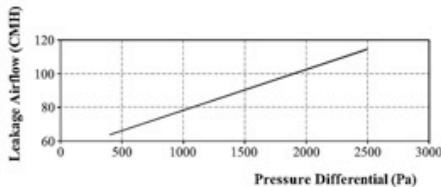
CD1000

OLS NON-RETURN DAMPER

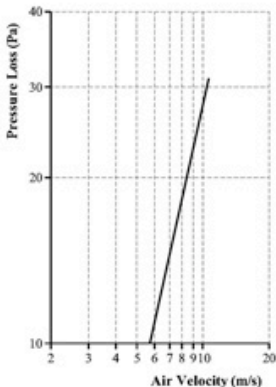


Air Leakage

When closed air leakage against backflow is well below 1 percent based on design airflow of 10 m/s at pressure differential of 1000 Pa.



Notes: Leakage performance based on test carried out with Ø700 damper.



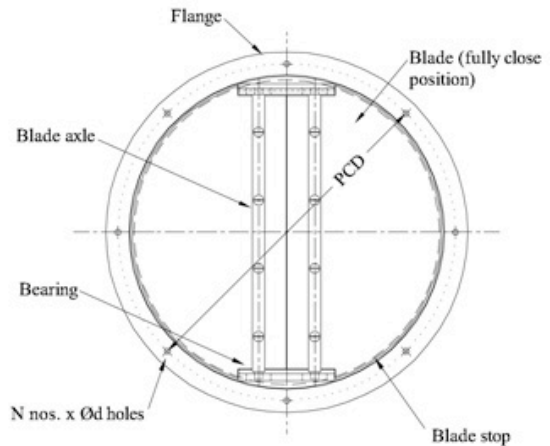
Notes: Pressure loss performance based on test carried out with Ø700 damper.

Pressure Loss

Pressure and velocity required to fully open the damper blade is as low as 10Pa and 6m/s respectively, and closes fully when the fan is turned off.

Pressure loss is less than 20Pa and 30Pa at velocities of 8m/s and 10m/s respectively.

CIRCULAR BACKDRAFT DAMPER CD1000



Damper frame

Constructed of high quality hot-dipped pre-galvanized steel of 1.20 mm thick cold-formed and fully welded at the joint. The standard frame depth is 150 mm with 38mm by 3mm thick flange pre-punched with 8 mm diameter holes for duct-to-duct connection; other frame depth and flange dimensions are available upon request.

Damper Blade

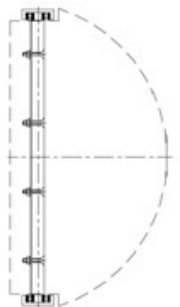
The blade is constructed of 1.20 mm thick galvanized steel cold-formed for better rigidity and pivoted vertically on the damper frame to provide better aerodynamic performance.

The blade operating mechanisms ensure long-term consistent performance and trouble-free operation without need for maintenance.

Blade Axles

Constructed of 12mm sq steel shaft for damper up to diameter 450mm. For dampers size greater than or equal to diameter 450mm, the axles are constructed of 20mm sq shaft.

Bearings are permanently lubricated ball bearings.



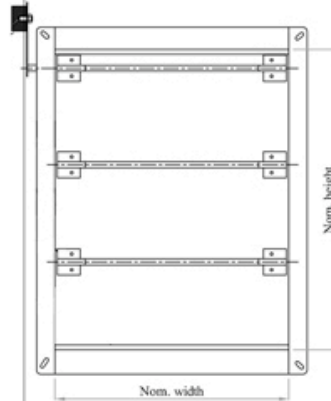
Damper may be constructed fully of stainless steel if required. For operating pressures greater than 1000Pa, please consult our representatives for more information.



NA100

OLS NON-RETURN DAMPER

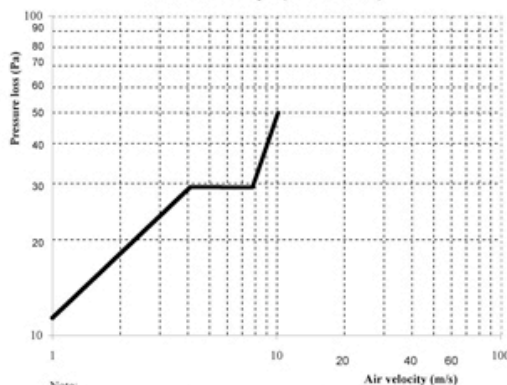
RECTANGULAR NON-RETURN DAMPER NA100



Damper frame

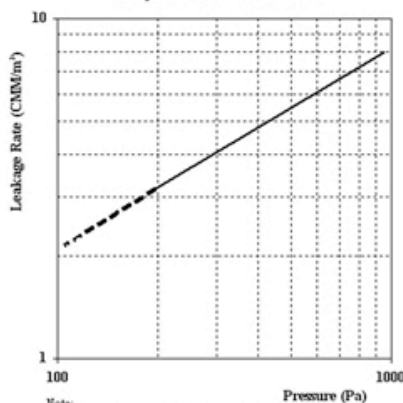
Damper frame is constructed of high quality hot-dipped pre-galvanized steel sheet of 1.20 mm thick cold-formed 'C' channels. The channels are mechanically fastened and welded at each corner. The standard frame depth is 150 mm with 38 mm flange for duct-to-duct connection; other frame depth and flange dimensions are available upon request.

Static Pressure Drop Through
Non-return Damper (Model: NA100)



Note:
The above graph was plotted based on data measured from tests conducted on a 600 x 600mm non-return damper without counterweight.

Leakage Graph of Non-Return
Damper Of 600W x 600H x 100D



Note:
The above graph was plotted based on data measured from test conducted on a 600 x 600mm non-return damper without counterweight.

Damper Blade

The horizontal blade is constructed of 1.20 mm thick aluminum cold-formed for better rigidity and to provide better aerodynamic performance. For size of 300 mm and smaller in height, the damper will be constructed of single blade. Blade-edge neoprene seal on each blade is provided to minimize air leakage from backflow.

Blade Axles

Each blade is fitted with 12.7 mm square zinc-plated steel axles at each end and pivot on the non-metallic two-part nylon bushes fitted in the vertical frames. The use square axle prevents slipping between blade and axle over prolong period of operation. The use of two-part nylon bearing precludes the need to use stainless steel blade axle. In addition, nylon is resistant to corrosion and possesses low coefficient of friction.

Interconnecting blade linkage mechanism consists of galvanized steel brackets fastened to the blade axles outside the air stream and linked together by galvanized steel bar, which is connected to each bracket with a stainless steel pin. The use of square axle prevents slipping between the blade and linkages.

Damper may be fitted with counterweight for pressure relief function. The maximum size of a single-module damper is 900 mm width by 1500 mm height and larger damper is constructed of multiple modules, up to a maximum factory-assembled size of 2400 mm width by 1200 mm height.

NON-RETURN DAMPER APPLICATIONS

Application Considerations

Excessive turbulence and pulsation may cause bending and twisting of damper blades and stress on bearings and linkages, resulting in accelerated wear on these parts. In addition excessive noise and pressure loss will occur as a result of excessive turbulence. This can occur when dampers are located near large fans, abrupt duct transition or near elbow without turning vane. Damper located near to fan discharge must be reinforced, due to severe turbulence that can easily cause fatigue

failure of the damper. After installation, it is recommended that the damper be inspected during actual operation to ensure that the damper blades are not subject to severe vibration. If severe vibration occurs, reinforcement may be necessary or the damper may be moved away from the fan. If possible, damper should be located as far away from the fan discharge as possible. As a guide, damper should be located at least 2.5 equivalent diameter distance away from axial and centrifugal fan discharge. In addition, for velocities greater than 12.5 m/s add one equivalent duct diameter for each additional 5 m/s increase in velocity.

For more ordering information, please contact our representatives at



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