Riley Air Control Systems Pty Ltd.

SEVDA Series

High Performance/Aluminium

Smoke Control & Exhaust Dampers

SPECIFICATION DATA

General

The **SEVDA** Series **Aluminium Smoke Control Dampers** provide highly efficient airflow control in air handling systems. The SEVDA has a standard high temperature blade seal for ultra-low leakage with parallel or opposed blade configuration.

The damper frame, blades and linkages are made of Aluminium with minimum maintenance. Interlocking blades for reduced (LOW) leakage. Specially formed standard components and non-corrosive bearings conform to specifications required for high quality, low leakage, maximum rigidity and low operating torque. This allows the use of smaller or fewer actuators.

Multiple sections are inter-connected with a solid drive shaft and provide, together with individually adjustable internal blade linkages, a positive connection for optimum close-off sealing.

Total damper design and close manufacturing tolerances of Blendair dampers result in LONG DAMPER LIFE, SMOOTH & RELIABLE CONTROL and ENERGY SAVING.

Features

- **Aluminium construction**
- **Linkages out of air stream**
- **Compatible ot duct flanging systems.**
- **Easier and faster installation.**
- **Precision control with less motors.**
- **Clip-on inflatable silicone seal allows field retro-fit**
- **Low leakage results in energy saving**

SEVDA: SMOKE EXHAUST DAMPERS

DESCRIPTION & FUNCTION

The SEVDA Series Volume Control Damper is a HIGH PERFORMANCE low leakage damper, which provides efficient airflow control in air handling systems .

The damper frame, blades and linkages are made of aluminium. Interlocking blade edges are the principle design features for low leakage. Low friction internal blade linkages and blade bearings ensure extra low torque and smooth and efficient modulating operation, it allows the use of smaller or fewer actuators.

Dampers are installed - as standard - with horizontal blade orientation. The opening, closing or modulation of the interconnected blades is effected by electric or pneumatic actuators initiated by control signals. Dampers are also available for manual control setting.

MODELS

- **SEVDA:** Low Leakage HIGH PERFORMANCE Smoke exhaust Damper. Dampers are supplied with parallel or opposed blade configuration.

GUIDE SPECIFICATION (for the Engineer)

Smoke Exhaust Dampers installed for use in corrosive atmosphere or outside air application shall be of design and construction as the SEVDA Model supplied by Blendair, meeting requirements of LONG LIFE low leakage, extra low operating torque and smooth operation.

Frames shell be 2.5mm thick Aluminium of 6063-T5 alloy and blades shell be 3.0mm thick extruded Aluminium 6351-T5. Frames shall be recesses to hold side seal captive.

DAMPER SIZING SPECIFICATION

Modules are supplied in the following standard sizes:

Single Module: from 150mm x 150mm (min)
to 1200mm x 2400mm (max)
Size Increment: 50mm
Multi Modules: available, for details refer to Riley Air Control System Pty. Ltd.

Note: . *When specifying damper sizes (width and height), quote internal duct dimensions.*

SPECIFICATIONS - Construction

Materials & Finishes:

- Damper frame and blades are manufacture Extruded Aluminium.

Damper Frame:

Standard Construction: Extruded Aluminium
Material Thickness: 2.5 mm

Blades shall be a single unit design up to 150mm wide with a hexagonal centre axis not to exceed 1200mm in length. Dampers over 1200mm in length must have a centre mullion support. The blade shall have a grooved insert to allow fitting of an inflatable silicone seal.
Each blade shall be mounted on an 12.5mm hexagonal zinc die cast crank arm which turns in a two piece captive nylon bush. All damper blades shall be interconnected by a non-corrosive bar linked for ganged operation. Blade linkage hardware shall be mounted within the extruded frame section and out of the air stream.
Interconnecting linkages shall have separate nylon bearings to minimise friction in the linkage.
Damper flanges shall be compatible with METU system, DUCTMATE, MEZ and angle iron flanges allowing for the use, where possible, of system centre joining clamps.

.DAMPER TYPES & APPLICATIONS

Dampers are supplied with two types of blade configuration:-

Parallel Blade Dampers are constructed so that each blade rotates in parallel with or in the same direction as the blade next to it. The rotation changes the direction of the airflow and can provide mixing and linear airflow characteristics, with only a small increase in airflow resistance.

Major control applications:
For Smoke spill exhaust applications.

Opposed Blade Dampers are constructed so that adjacent blades rotate opposite to each other. The rotation does not change the direction of the airflow, but it does increase the airflow resistance as the air is funnelled through a smaller opening. Opposed blade dampers must be opened wider to obtain the same airflow as a parallel damper.

Blades: Standard Construction: Extruded Aluminium
Material Thickness: 3 mm

Blade Seals:

Blade Ends: Aluminium continuous strips (Side Seal)
Blade Edge: Clip-on, inflatable silicone

Blade Bearings:

Bearing Types: Two piece nylon held captive within frame.

Blade Axle & Drive Shaft:

Material: 12.5mm hexagonal zinc die cast crank arms

Drive Shaft: Drive Blade is fitted with hexagonal plated steel external motor mounting.

Blade Linkage Hardware:

Linkage Bracket:Left & Right crank arms.

Linkage Connection Strip:

Blade Mounting Screws: 20mm x 3mm zinc plated steel

Blade Orientation:
Dampers are available in two blade orientations (to be specified by customer): **Parallel** and **Opposed.**

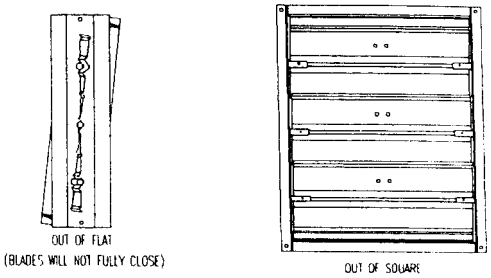
SPECIFICATIONS - Technical

Maximum Pressure Differential:
1.5 kPa (6 Inch WC)
Maximum Approach Velocity:
20 m/sec (4000 fpm)
Temperature Range:
-40 to + 200 degree C (in inflatable seal)

Leakage Characteristics On request.

INSTALLATION

Important! Improperly installed dampers prevent blades from sealing (see sketch below). Gaps between the blades and frame indicate that the damper is installed **'out of square'** or **'out of flat'**. These misalignments will cause increased leakage and can result in blade-to-linkage bind or non-closure of blades, thus overloading the damper actuator or render it inoperative.



Installation Hints:

1. Always observe and follow instructions on label affixed to damper.
2. Before installation, ensure that damper is not damaged and blades operate freely.
3. Allow sufficient room on side of damper for mounting of actuator.
4. Install damper 'square and flat' as per warning above. Carry out final field adjustment to blade linkages, ensuring that all damper close tightly and tighten all sets-crews
5. Perform trial run of damper & actuator assembly, before attaching other end of duct work to damper.

Note: Do not fit damper near discharge or other turbulent areas.

OTHER DAMPER PRODUCTS

- **Volume Control Dampers:**
  Low & Ultra Low Volume Control, Smoke Spill Damper, Min/Max Damper, Face & Bypass Damper, Zone Damper, Non-Return & Barometric Damper
- **Fire Dampers:**
  Multi-Blade Fire Damper, Single Blade Fire Damper, Circular Fire Damper, Volume-Fire Damper, Ceiling Fire Damper, Curtain Fire Damper
- **Sub Ducts**
- **Actuators & Damper Accessories:**

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