# AIRPAK ARD100 Damper Specification

Within the Airpak range, Cooke Industries can offer a wide range of volume control dampers with characteristics as follows:

- Pressure Leakage - from Class 0 up to Class 4 in accordance with UNI EN 1751:2003

- Construction – aluminium, galvanised steel, or stainless steel

- Blade Increments – 50mm, 100mm 150mm & 200mm.

- Operation – Gears or linkages

- Special Execution – ATEX or Thermally Broken/Insulated Casing & Blades.

The AIRPAK ARD100 dampers are a Class 2 damper of an extruded aluminium design with integral flanges and stiffening ribs. The blades are aerofoil shaped and are fitted with a flexible edge seal for low leakage characteristics, and are eminently suitable for volume control in ducted systems. The toothed drive gears and bearings are high strength ABS plastic and are concealed within the damper housing, resulting in a clean internal and external finish. The 12 mm square brass drive shaft is suitable for motorized operation, or can be fitted with a manual lockable quadrant.
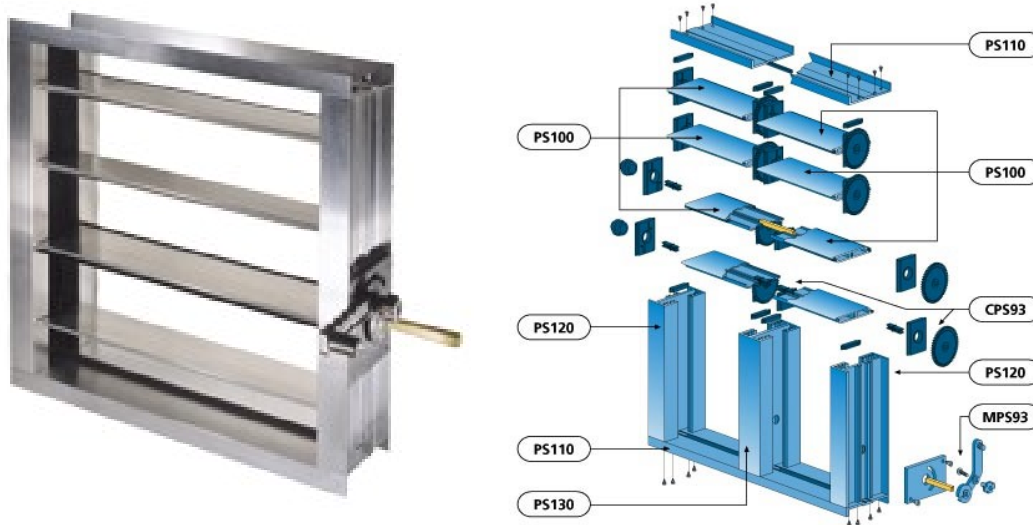
Standard internal air stream dimensions are height in increments of 100mm from 110mm and lengths to suit. Standard size restrictions are as follows:

Minimum single section size	110H x 200W (1 Blade)
Maximum single section size	710H x 1500W (7 Blades) or 2410H x 1400W (24 Blades)
Maximum double section size	1210H x 2100W (12 Blades)
Maximum triple section size	1210H x 3200W (12 Blades)

Larger dampers may require multiple drive shafts for motorised operation.

The ARD100 damper must be installed square and free of twist. It is essential that the damper be mounted with the blades horizontal for longer, maintenance free operation. For permanently set operation, the damper can be installed with the blades vertical.

Test Data

The ARD100 dampers have been an independently laboratory tested for leakage and pressure drop performance characteristics as per graph below:
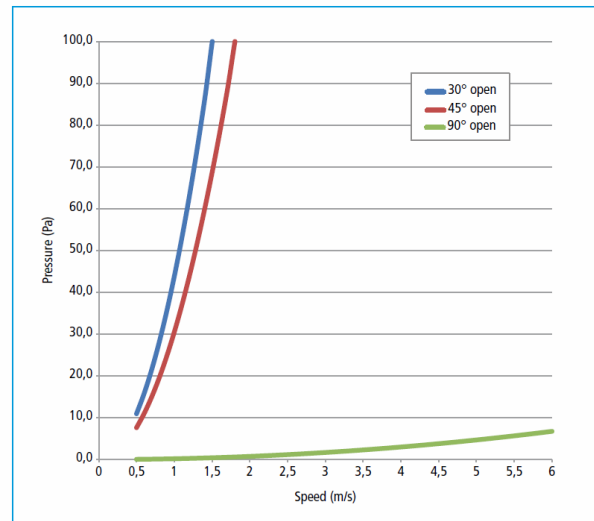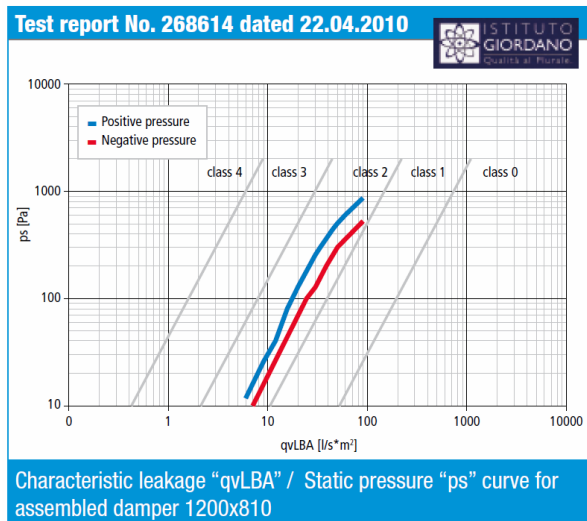
The wide open pressure drop can be calculated from the damper dynamic pressure using a K value of 0.5.

Damper actuator torque requirements can be calculated from the following formulae:

Single Damper Torque (Nm) $M = (n \times 0.25) + 2$

Double/Triple Damper Torque (Nm) $M = (n \times 0.5) + 2$

Where n is the number of blades high.

Where higher performance is required e.g. 100% shutoff, gas tight or industrial construction options, please refer to our sales office for further advice.