

CID-01 – Zero leakage isolation damper



Overview

- The Safety Function of the Isolation Damper when actuated is to close and control pressure system balancing or recirculation of air. This function may be used in both high or low demand mode applications
- Each damper is tested to ensure there is zero leakage through the blades and casing
- Has been assessed by Sira Certification Service with reference to the CASS methodologies and found to meet the requirements of IEC 61508-2:2010
- Damper has achieved a SIL 2 rating

Specification

The type CID-01 Isolation Damper has been specifically designed to meet the tight shut- off requirements of the industrial and nuclear markets, where isolation of ducting for filter replacement or duct inspection is required, without shutting down complete systems. These versatile dampers can be automatically or manually operated and can be supplied with pre-drilled flanges to ease installation.

The dampers may be installed vertically or horizontally with the air flow in one direction.

Each complete damper assembly is subjected to a works pressure test of 10,000 Pa for one hour. The upstream end of the damper is sealed during the test and the pressurizing source removed. After one hour the pressure is checked to ensure that it has not dropped taking into consideration any changes in air temperature.

Dimensions

Casing

The damper casing is formed from 3.0 mm thick sheet steel into a rigid channel section to ensure proper alignment of blades and shafts. Where circular dampers are required, additional spigot adaptors are used which increase the damper insertion length from 350 to 450 mm.

Blades

The blades are a formed single skin of 3.0 mm sheet steel fitted with a closed cell pad that seals against a frame within the damper casing to provide 100% isolation.

Shafts

Continuous shafts Ø 19.05 mm with welded pivoted- blade support at each end.

Linkage

Parallel action linkage consisting of drive levers and bosses connected by flat bar link bars, driven through stainless steel pins. All linkage is contained within the depth of the casing.

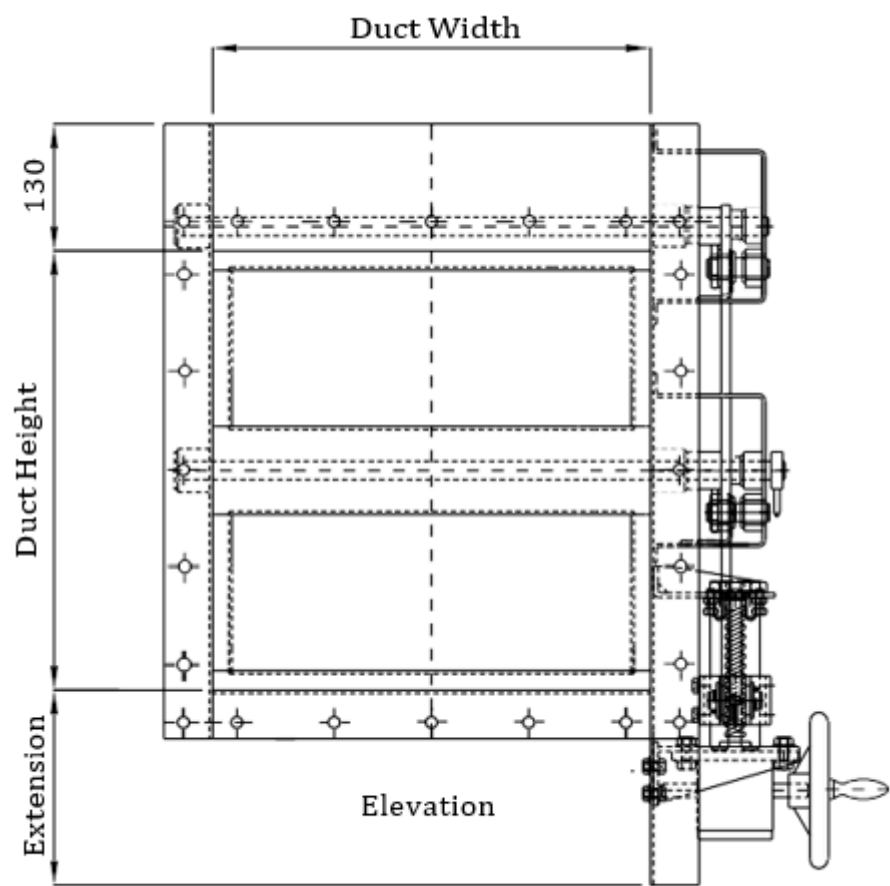
Bearings

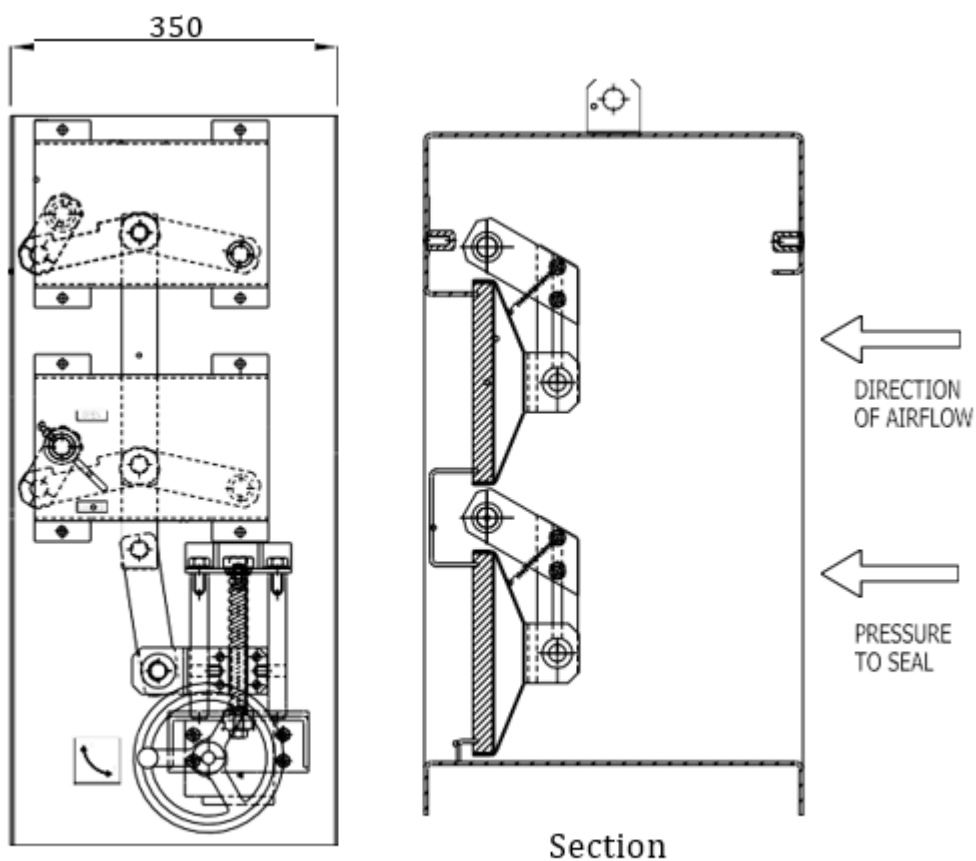
Phosphor bronze self-lubricated plain 'Oilite' bushes fitted into bearing bosses welded to the outside of the casing.

Shaft seals

Lipseal type fitted into each bearing boss.

CID-01 General Drawings





Material and Finishing

Part	Material	Finishing
Case	Steel	Painted or Galvanised
Case	Stainless Steel – 1.4307 (304L) Stainless Steel – 1.4404 (316L)	–
Blades	Steel	Galvanised
Blades	Stainless Steel – 1.4307 (304L) Stainless Steel – 1.4404 (316L)	–
Shafts	Stainless Steel – 1.4307 (304L) Stainless Steel – 1.4404 (316L)	–
Bearings	Phosphor bronze self-lubricated plain 'Oilite'	–

Product Models and Accessories

- Damper can be supplied with either; Pneumatic Actuator, Electric Actuator, Manual Handwheel

- Earth continuity bosses can be supplied upon request
- Lifting lugs are provided to allow safe lifting of the damper
- Solenoid Valves
- Remote Indication of damper blade position using microswitches
- Local Indication of damper blade position

Other variations to suit clients' specific requirements are also available. Please contact sales staff for further details

Operation Principle

The Safety Function of the Isolation Damper when actuated is to close and control pressure system balancing or recirculation of air. The damper blades are fitted with a closed cell pad that seals against a frame within the damper casing to provide 100% isolation, allowing for work to be carried out within the duct network or stopping the spread of contaminants. Please note the damper is not bi-directional and air flow must be as shown in the general drawings above.

Weights

Please note the below table gives bare shaft damper weights only at the given square dimensions. Weights for specific sizes are issued on the quotation document.

Damper size (mm)			Est. weight
Width/Dia.	Height	Depth	
150	150	450	51 kg
200	200	350	40 kg
250	250	350	43 kg
300	300	350	47 kg
350	350	350	76 kg
400	400	350	80 kg
450	450	350	85 kg
500	500	350	90 kg
550	550	350	95 kg
600	600	350	127 kg
650	650	350	132 kg
700	700	350	138 kg
750	750	350	144 kg
800	800	350	150 kg
850	850	350	185 kg
900	900	350	192 kg
950	950	350	199 kg
1000	1000	350	206 kg

Installation

Dampers can be duct mounted, floor mounted, roof mounted, or bulkhead mounted depending upon the application.

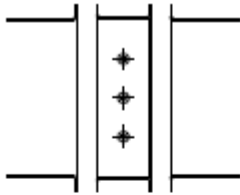


Fig.3
Duct Mounted



Fig.4
Floor Mounted

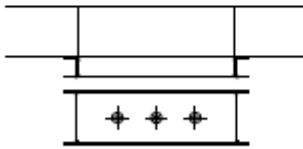


Fig.5
Roof Mounted

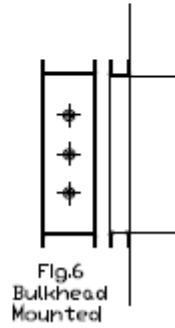


Fig.6
Bulkhead Mounted