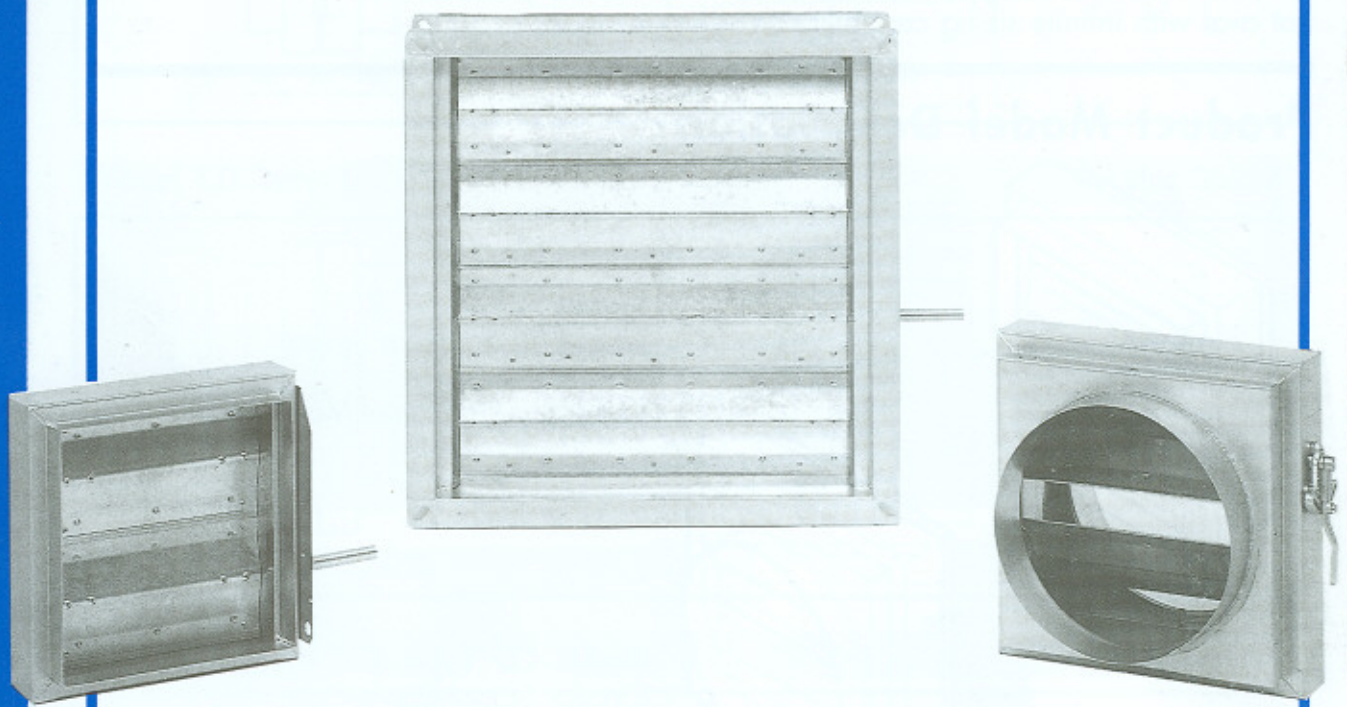
GULF MECHANICAL ACOUSTIC MANUFACTURING COMPANY

GMAMCO

CD SERIES AIR/SMOKE CONTROL DAMPERS



features

- Standard construction is galvanised mild steel. Stainless steel blades available to order
- Infinite sizing capability
- Low-high velocity models
- Balance and control blade versions
- Comprehensive control options.
- Fully welded construction
- Fire tested construction
- Compatible to B.M.S. and Bespoke control panels.

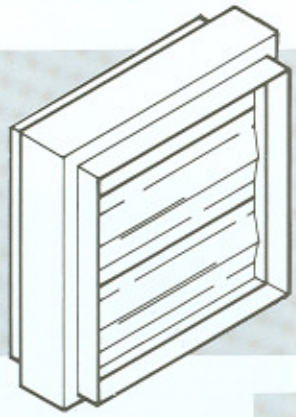
approvals

- Conformance to DW 142 and Eurovent 2/2 as relevant

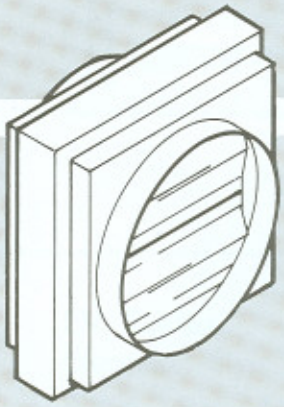
Introduction

The CD Series Air/Smoke Control Damper is designed to control air flows in addition to controlling SMOKE through ducts, walls, ceilings and floors.
The product offers numerous control options and features, as required and specified by contractors, local fire and/or hospital authorities and consultants.
There are three casing variants - all fully welded: square/rectangular, circular and flat oval with infinite sizing capability within minimum/maximum dimensions. All are suitable for low-high velocity/pressure applications.
Available to order are local and/or remote test panels with blade status indication; bespoke control management systems; single and multiple assemblies.
All are manufactured in compliance with the company's quality control and quality assurance procedures.

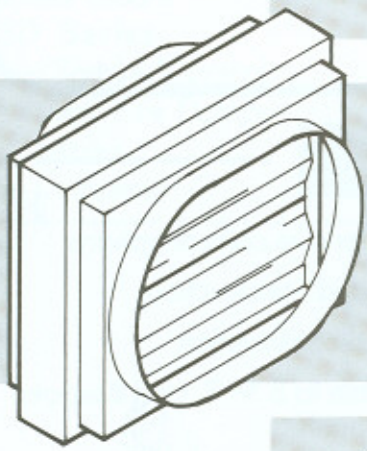
Product Model Description



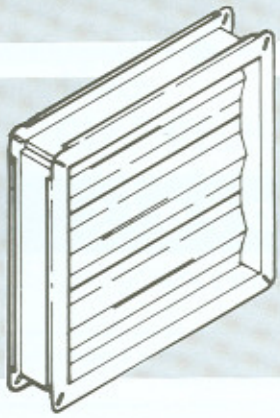
Model CD Type R
Square/Rectangular Spigot Connection.
Vertical or Horizontal Mounting



Model CD Type C
Circular Spigot Connection.
Vertical or Horizontal Mounting



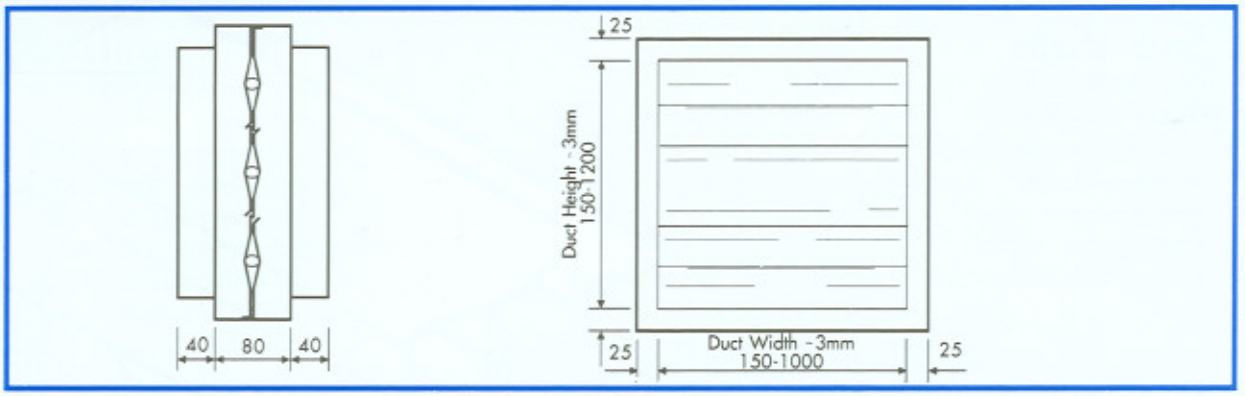
Model CD Type O
Flat Oval Spigot Connection.
Vertical or Horizontal Mounting



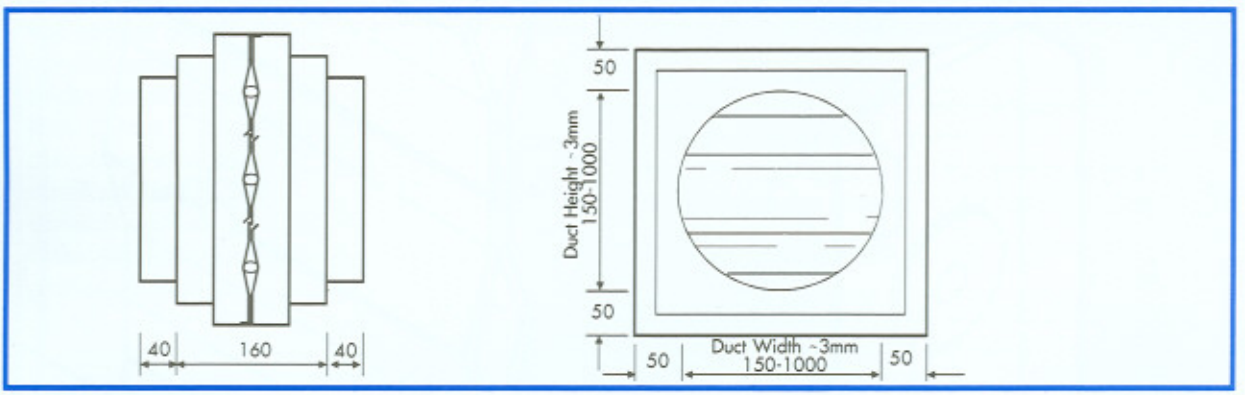
Model CD Type F
Square/Rectangular Flange Connection.
Vertical or Horizontal Mounting

Dimensional Data

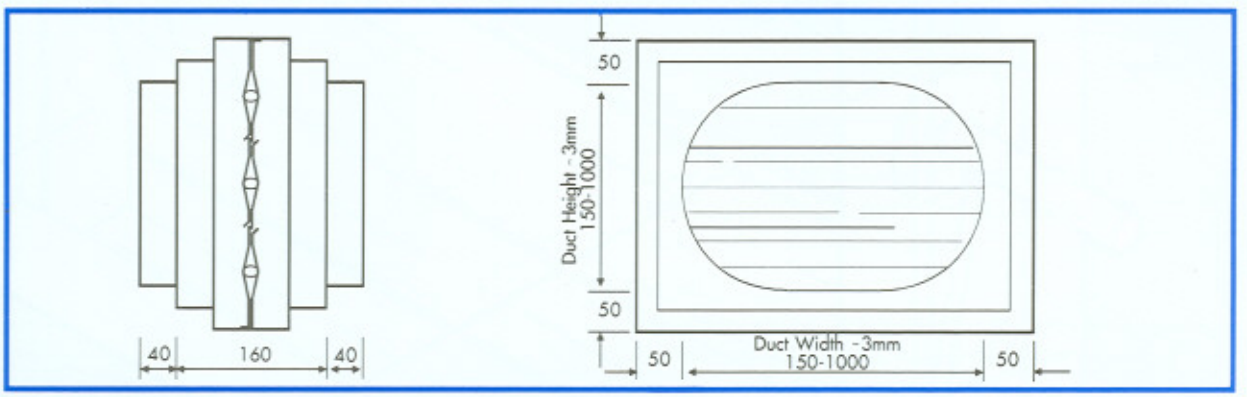
Model CD Type R — Rectangular / Square Spigot



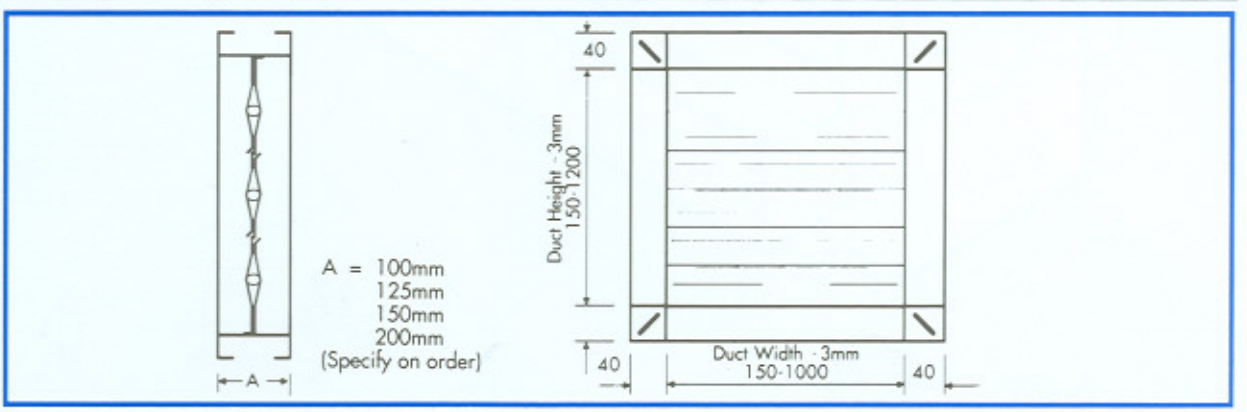
Model CD Type C — Circular Spigot



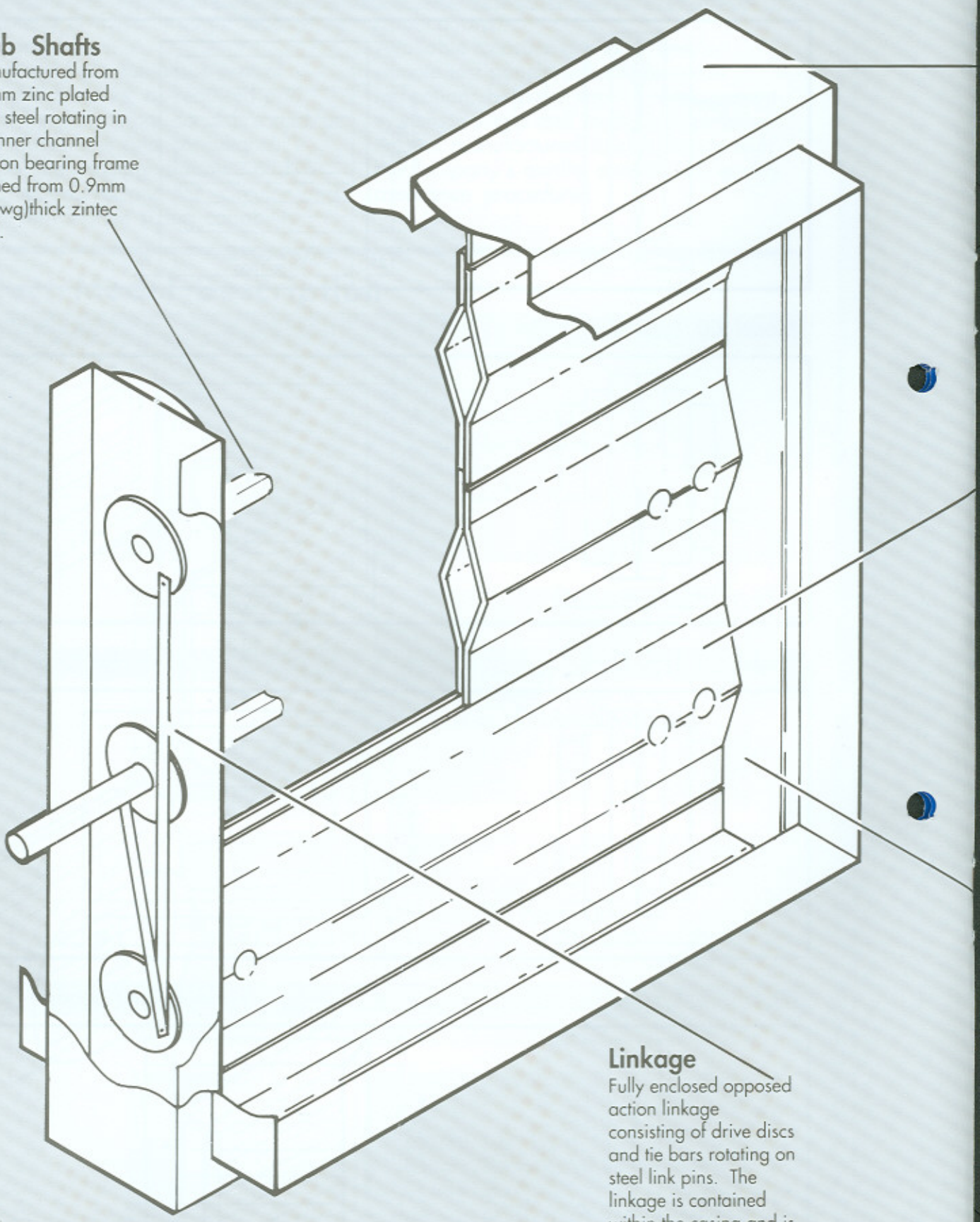
Model CD Type O — Flat Oval Spigot



Model CD Type F — Rectangular / Square Flange



Air/Smoke/Control Damper



Stub Shafts
Manufactured from 19mm zinc plated mild steel rotating in an inner channel section bearing frame formed from 0.9mm (20swg)thick zintec steel.

Linkage
Fully enclosed opposed action linkage consisting of drive discs and tie bars rotating on steel link pins. The linkage is contained within the casing and is external to the airstream.

Casing
Manufactured from 1.6mm (16swg) thick galvanised mild steel with continuously welded mitres and spigot corners ensuring airtight construction in accordance with HVCA Ductwork Specification DW142.

Blades
Roll formed double skin aerofoil section blades, each section manufactured from 0.7mm (22swg) thick galvanised steel as standard. Grade 304 stainless steel available to order. Blades are linked to give opposed action.

Blade Side Seals
Manufactured from spring tempered stainless steel, the side seals provide low leakage characteristics.

Specifications

Casing
1.6mm (16swg) galvanised mild steel to BS EN 10142 1991. Coating Class FE P02b Z275 NA

Blades
Galvanised: 0.7mm (22swg) galvanised mild steel to BS EN 10142 1991.
Coating Class FE P02b Z275 NA.
Stainless steel: 0.7mm (22swg)
grade 304 515 60 BS5770 Pt.4, 1981.

Blade Side Seals
0.3mm (0.010") stainless steel
grade 301 521 60 BS5770 Pt.4, 1981.

Bearing Channels
0.9mm (20swg) zintec plated mild steel to BS EN 10130 1991 FE P01.
Bushes are formed through this section to give a low friction integral bush for the blades to rotate.

Linkage and Shafts
Drive discs:
Galvanised mild steel punched discs 2mm in thickness with zinc plated drive pins.
Tie bars:
Zinc plated mild steel tie bars 12mm x 3mm punched to fit onto zinc plated drive pins.
Shafts:
Zinc plated mild steel drive shafts. 19mm diameter machined to ensure smooth low-friction rotation.

Bearings
Oilite bronze bearings
Inpregnated with mineral oil to ISO VG 100(SAE 30)
With wall thickness up to 3mm to ensure low-friction rotation of drive shafts.

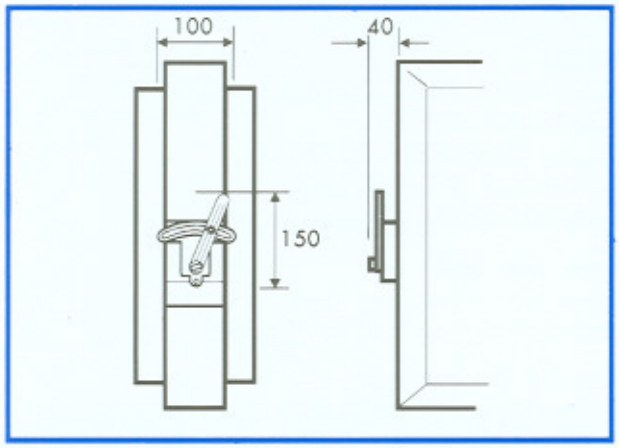
Paint
All welds, seams and joints are sprayed with commercial grade zinc based aluminium paint.

Sealant
All seams and joints are sealed with sealant conforming to the dictates of DW142.

Control Options

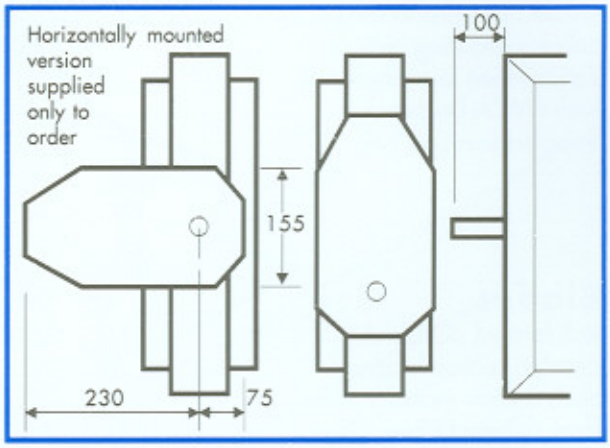
OPTION H — Manual

Lockable manual lever and quadrant assembly, manufactured in alloy.



OPTION B — Motor Bracket

19mm dia. shaft extended 100mm through the casing, with universal motor mounting plate predrilled to accept site-fitted actuators.



OPTION M — Electric

Dampers can be supplied with the following electric motors factory fitted:

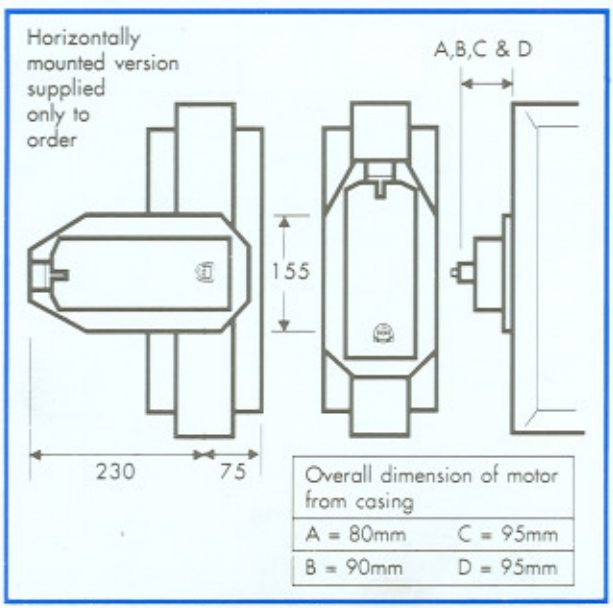
A. Open/Close Operation:
Ref: SM24, SM240

B. Open/Close Spring Return Operation:
Ref: GM24, GM240

C. Spring Return Operation:
Ref: FS/SF24, FS/SF220

D. Modulating Spring Return:
Ref: FM24SR

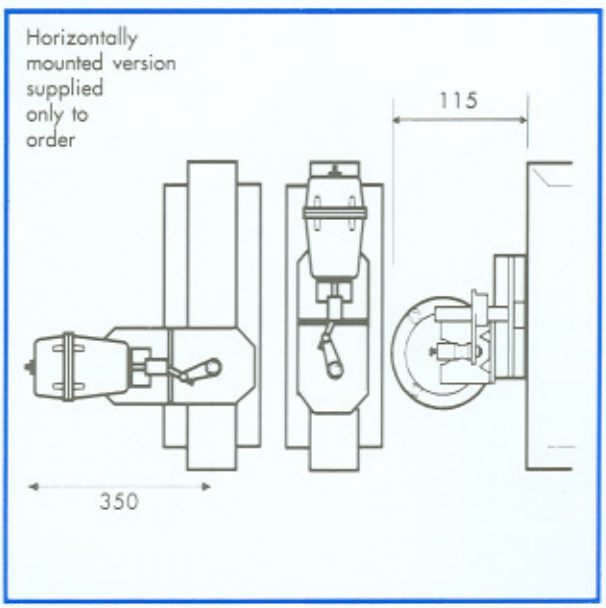
Motors with auxiliary switches available to order



OPTION P — Pneumatic

Dampers can be supplied factory fitted with the following pneumatic actuator:
Robert Shaw M573 - 3111.
Other types available on request.

Note: The air supply as supplied by others must have a facility to be exhausted for the successful operation of these units.



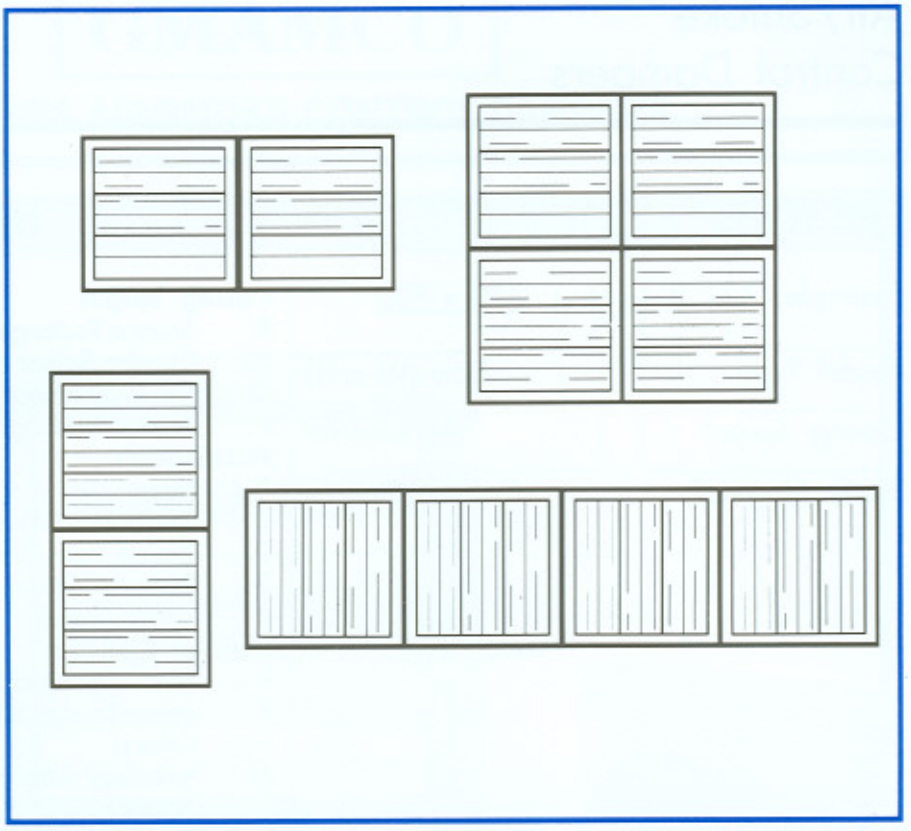
For other make/specification actuators, please specify on order.

Multiple Assemblies

It may be necessary to manufacture multiple module units so as to supply the required dimension.

The variants illustrated are a selection of what may be supplied.

The "four-in-line" units illustrated would be supplied with blades being vertically mounted.



Weight Chart

CD SERIES — **Weight Chart**

All references are in kilograms and are approximate values only

Nominal Damper size (mm)	Square / Rectangular Spigot Models Width (mm)									
	100	200	300	400	500	600	700	800	900	1000
Height (mm) 100	2	3	4	5	6	7	8	9	10	11
200	3	4	5	6	7	8	10	10	11	13
300	4	5	6	8	9	10	10	11	12	13
400	6	7	8	9	10	11	11	12	13	14
500	7	8	9	11	11	12	13	14	15	16
600	7	9	11	12	12	13	14	15	17	17
700	8	10	12	13	14	15	16	17	19	19
800	10	11	13	14	15	16	18	19	20	21
900	12	12	14	15	17	17	19	21	22	23
1000	13	14	15	16	17	18	20	23	24	26

Please Note: These values have been rounded "up or down" to whole values and are therefore illustrated for estimation purposes only.

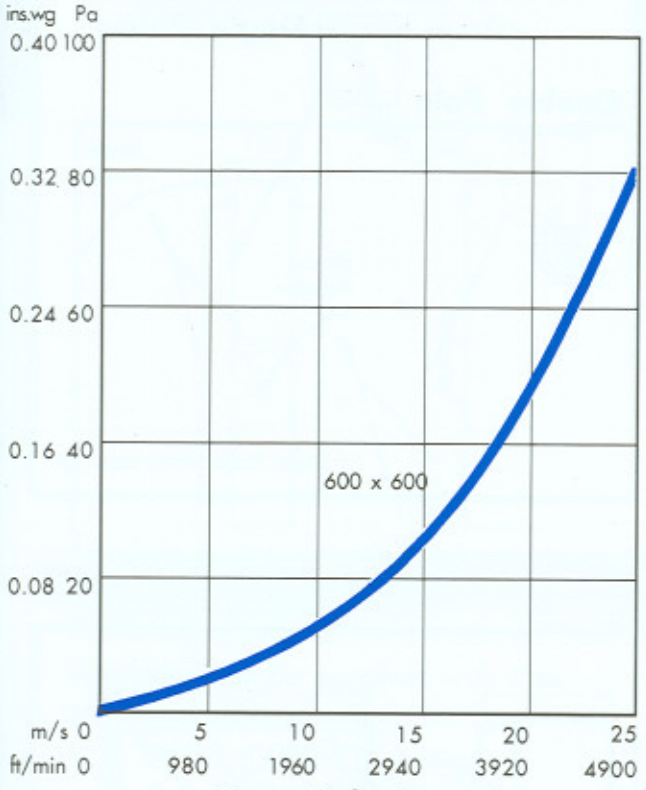
CD SERIES — **Circular Spigot Models Diameter**

Nominal Damper size (mm)	100	200	300	400	500	600	700	800	900	1000
	3	6	8	10	13	15	18	21	24	27

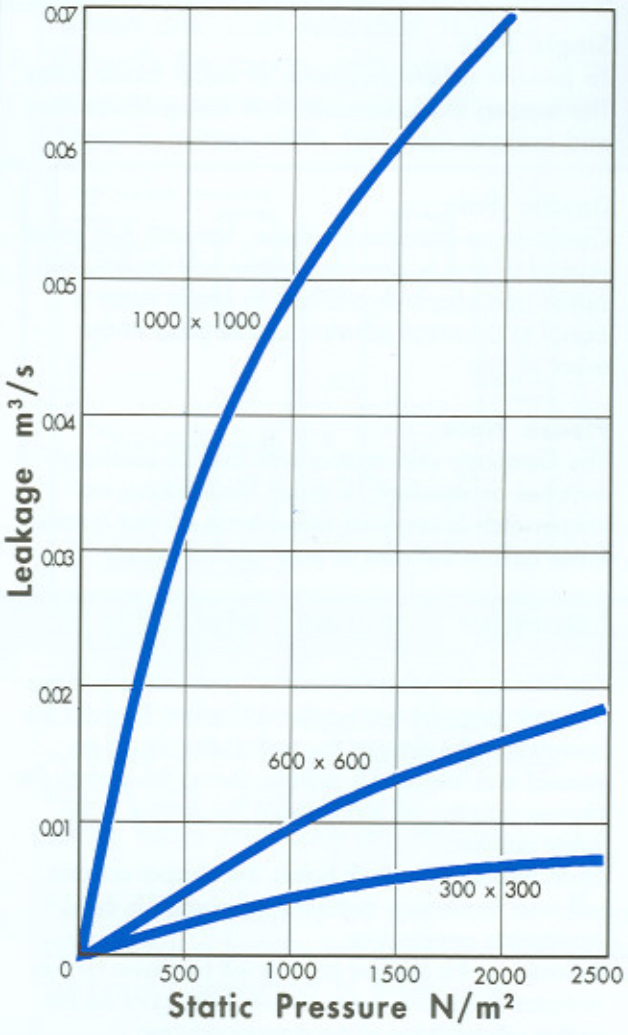
Performance Characteristics

Open Pressure Drop Curve

Tolerance ± 15%



Leakage Curve (blades closed)



Torque Chart

CD Series — **Torque Chart**

Duct Pressure (Pa)	Width x Height (mm)					
	200 X 200		500 X 500		1000 X 1200	
	Nm	lb/ins	Nm	lb/ins	Nm	lb/ins
250	2	18	5	44	10	88
500	3	26	6	53	11	97
750	4	35	7	62	13	115
1000	5	44	8	71	15	132

Please Note: The above values have been rounded-up and down and are therefore approximate only.
The torque calculated during rotation of the blades is less than the total torque calculated during blade lock.
When motorising multi-sections, please allow 10% extra capacity to compensate incurred resistance.

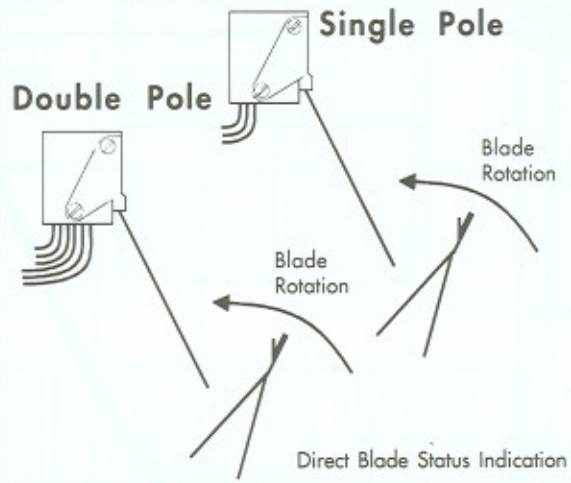
Accessories

Microswitches

Single Pole
To provide remote indication of actual blade status. The leading blade connects with the extension arm and operates the switch whilst rotating.

Double Pole
Operation is identical to above, but with two poles instead of one to provide double-pole facility. This option can supply in addition to blade status a signal to a control panel to isolate plant in the event of fire.

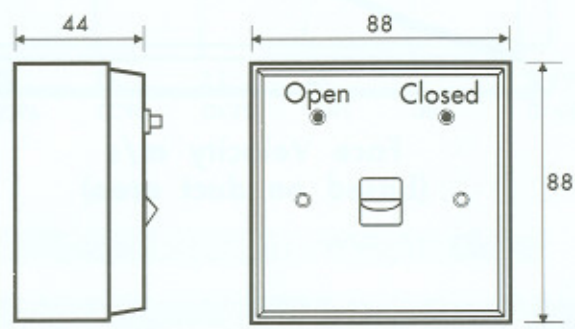
Please Note:
The Company uses motors with built-in auxiliary switches as standard. If direct blade status via microswitch is required then please do not connect these built-in switches to your control panel.



Direct Blade Status Indication

Damper Test Unit - DTU

The DTU has a momentary contact push button and two indicator lamps for end position indication. To check the operation of the damper, the push button should be pressed and held for 15 seconds. During this period, the damper actuator will spring return the damper to the safety position.
Upon release of the push button, the damper actuator will drive the damper to the normal position in the appropriate running time.
Indication of the damper position will be shown by the indicator lamps. The lamps receive their signal via the built-in microswitches of the damper actuator.
These microswitches are preset at 10° and 80° and are non-adjustable.



For our technical data page, please contact our sales office.

Technical Data

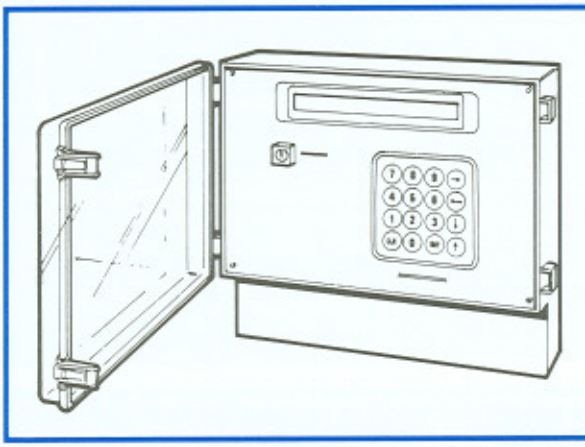
DTU24	Supply Voltage: 24VAC/DC
DTU 230	Supply Voltage: 230VAC + 10%AC

BMS Bespoke Control Panel

The Microtech TWIN Two Wire Interface Network has been designed to reduce the cost of electrical wiring installations. A number of devices can share the same two wires to communicate information to a central controller.

This is particularly useful where control items are distributed through a building, e.g., security points, lighting, space temperature sensors, etc., where the cost of dedicated wiring is high.

Up to 300 points can be controlled or monitored at 100 or more locations up to 2km from the controller.



Please contact our Sales Office for further details of these control systems to your requirements.

GMAMCO

CD SERIES
Air/Smoke Control Dampers

CD SERIES — Order Specifications

Example: CD R G H 1 450 x 300

- CD — Model Type
- R — Casing Spigot
- G — Blade Material
- H — Control Options
- 1 — Accessories
- 450 x 300 — Size (W x H)

Casing Spigot

R Square/Rectangular Spigot
C Circular Spigot
O Flat Oval Spigot
F Square/Rectangular Flange

Accessories

0 None
1 Single Pole Microswitch
2 Double Pole Microswitch
3 Damper Test Unit - DTU
4 Control Panel

Control Options

H Hand Operated Locking Quadrant
B Motor Bracket & Extended Shaft (Motor by Others)
M Motorised withy Factory Fitted Electrical Actuator
P Pneumatic with Factory Fitted Actuator

Blade Material

G Galvanised Mild Steel
S Stainless Steel (Grade 304)

Product Range

AD Series
Fishtab and Oval Model Access Doors

FSD Series
Fire/Smoke/Control Multileaf Fire Damper

IS Series
Iris Dampers

EV Series
European Style Insulated Blade/Case Damper

FB Series
Folding Blade Fire Dampers

LO Series
Louvres

LS & VC Series
Duct Balancing and Control Dampers

ML Series
Aluminium Multi-Leaf Damper

PR Series
Pressure Relief Damper

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GULF MECHANICAL ACOUSTIC MANUFACTURING COMPANY
P.O. BOX 50174, DUBAI, TEL. : 3476961, FAX : 3476963
E-mail : gmamco@emirates.net.ae

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