Model: **HCD-225**

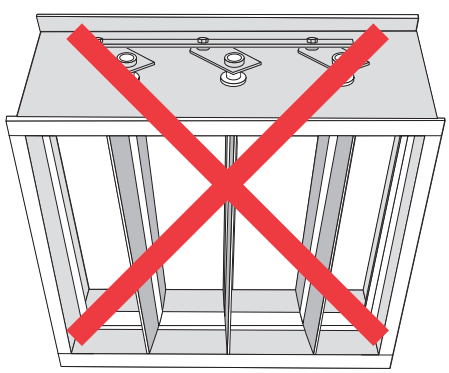
The Holyoake HCD-225 is a heavy duty control damper which has been designed for applications that exceed the design parameters of the HCD-150 control damper.
Typically this is in areas of extremely high differential pressure, high turbulence, or velocity, or severe buffeting, which prevent the use of a standard control damper.

The HCD-225 is a specialised item and consultation with the factory is essential prior to ordering, to ensure that the best solution for each application is determined.
Please discuss with your local Holyoake branch.

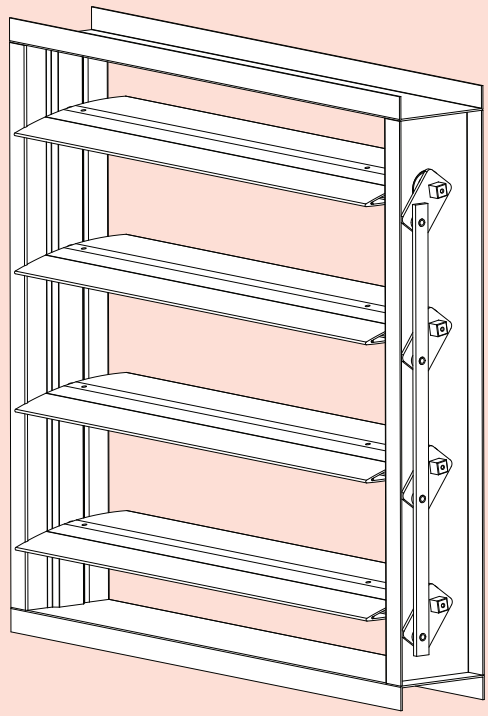
Construction

Frame:	6065 T5 extruded aluminium, 6mm nominal thickness.
Blades:	6063 T5 full aerofoil extrusion 3mm nominal thickness. Positioned at 225 mm centres.
Linkage:	60 x 6 mm mild steel plate welded to 20 mm square blade axles. Movable joints assembled with brass bearings.
Axles:	20 mm square mild steel solid shaft, inserted into blades and bolted with M8 hardware.
Bearings:	Heavy duty spherical ball bearings in greased and sealed races, mounted in the alumnium frame.
Seals:	Anodized extruded alumnium side Seals.
Controls:	To suit specific requirements.
Operation:	Parallel blade rotation only.
Finish:	Mill finish standard, anodized and powdercoat options available.
Minimum Size:	400 mm wide x 345 mm high overall flange.
Maximum Size:	1500 mm wide x 2360 mm high overall flange (Single Section).
General:	Dampers are manufactured with Full blades only, (top and bottom weirs are extended to provide intermediate sizes).

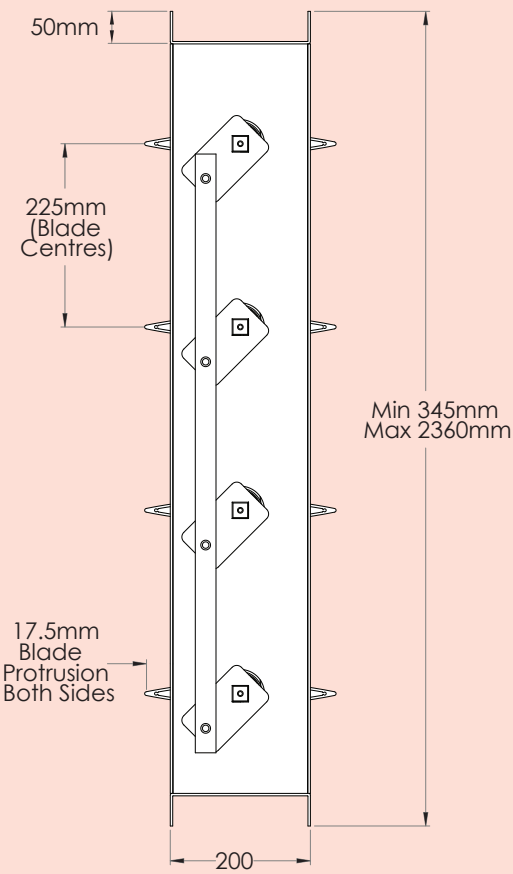
HCD-225 Dampers must not be installed with the axles vertical.



Heavy Duty Control Damper



Dimensions

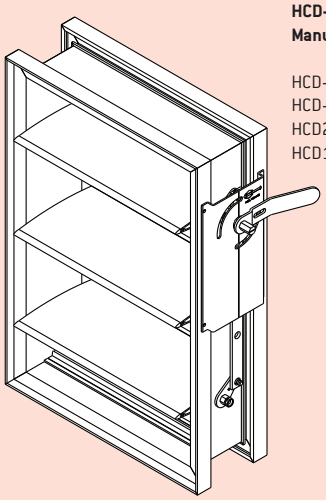


Guide Product Weights	
HCD 225 Heavy Duty Airfoil	Approximate Weight in Kg
1200 x 900	28
1200 x 1400	41

Due to a policy of continuous development and improvement the right is reserved to supply products which may differ slightly from those illustrated and described in this publication.

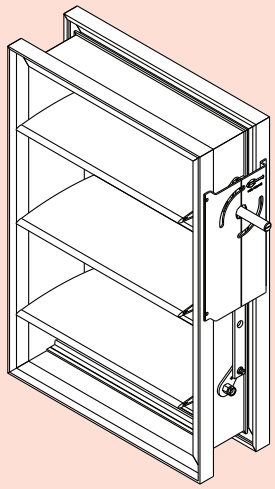
Standard Drive & Coupling Components

Standard Hardware



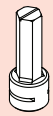
HCD-31 KIT
Manual Quadrant

HCD-02
HCD-22.36
HCD24
HCD16



HCD-32 KIT
Actuator

HCD-02
HCD-01.120
HCD-16

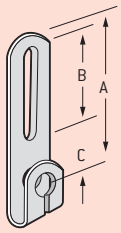


HCD-22
Hex Drive Shaft
36mm or 90mm

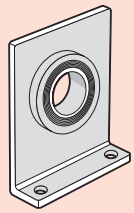
HCD-01
Actuator Drive Shaft
60mm or 120mm

HCD-18
Slotted Crank Arm
12.5 mm Hole

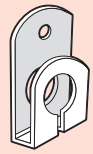
HCD-19
As Above with
25 mm Hole



HCD-09
Standard Jackshaft
Bearing (25.4 mm)



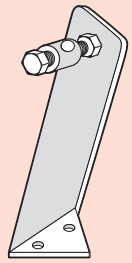
HCD-07
Standard Jackshaft
Link Arm
25.4 mm Dia



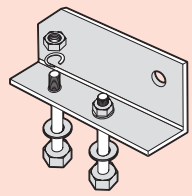
	A	B	C
HCD 18	92	67	15
HCD 19	142	79	52

HCD-20
Swivel

HCD-17
Control Arm
& Swivel



HCD-15
Coupler Bracket Assembly



Component	Description	Component	Description
HCD31	Manual Quandrant Kit includes HCD02, HCD22.36, HCD24, HCD16	HCD15	Coupler Bracket Assembly
HCD32	Actuator Kit includes HCD02, HCD01, HCD16	HCD16	Two Piece Hex Axle Bearing (-8 - 220°C)
HCD01	Round Actuator Drive Shaft 60, 120mm	HCD1602	Two Piece Round Axle Bearing (-8 - 220°C)
HCD02	Aluminium bracket for manual or actuated operation of damper	HCD17	Control Arm and Swivel
HCD04	Hex Coupler 29, 47mm	HCD18	Slotted Crank Arm 12.7mm Hole
HCD05	Tie Rod Arm	HCD19	Slotted Crank Arm 25.4mm Hole
HCD06	Tie Rod Bearing	HCD20	Swivel
HCD07	Standard Jackshaft Link Arm 25.4mm Dia	HCD21	8mm Stainless Steel Rod
HCD08	Mini Jackshaft Link Arm 12.7mm Dia	HCD22	Hex Manual Qundrant Drive Shaft 36,90mm
HCD09	Standard Jackshaft Bearing 25.4mm	HCD24	Manual Crank Arm
HCD10	Mini Jackshaft Bearing 12.7mm	HCD24EXT	PRD Counter Weight Arm
HCD11	25.4 x 1.8mm Stainless Steel Tubing	HCD34	One Piece Round Linkage Bearing (-8 - 220°C)
HCD11A	12.7 x 1.2mm Stainless Steel Tubing	HCD35	Manual Quadrant for 1/2" Shaft
HCD12	Stainless Steel Split Pin	HCDSSWIRECLIP	HCD Stainless Steel Wire Clip
HCD13E	Stainless Steel Axle & Crank	HCD150LINKARM	Aluminium Link Arm to suit HCD150
HCD13F	Stainless Steel Axle & Crank (Opposite Hand)	HCD75LINKARM	Aluminium Link Arm to suit HCD75
HCD13G	Stainless Steel Plain Hex Axle		

HBD & HCD

Product Ordering Key and Suggested Specifications

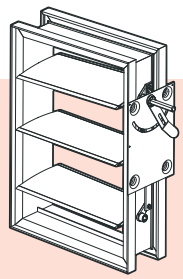
HBD-155 – [OPPOSED PARALLEL] – W x H – CONTROL

- HBD-155: Holyoake Balancing Dampers with 155 mm Aluminium Blades
- OPPOSED PARALLEL: Blade Rotation: **Opposed (Standard)** Specify Parallel
- W x H: Nominal Duct Size
- CONTROL: Quadrant Arm and Plate. Round Drive Shaft 120 mm. Hex Ext Shaft, (23, 44, 93 or 300 mm).

Balancing Dampers shall be of extruded aluminium construction. Frames shall be suitable for duct flange mounting.
Blades shall be fixed to 11 mm hexagonal shafts held by two piece acetal self lubricating bearings, with outer shells fluted to prevent rotation.
Linkages shall be out of the airstream. The damper may be furnished with a manual locking quadrant arm, a round shaft and plate, or a hexagonal shaft and plate, suitable for actuator mounting.
All shall be type HBD-155 as manufactured by Holyoake.

[HCD-75 HCD-150] – [CHANNEL LOW PROFILE CHANNEL FLANGE SURROUND] – [OPPOSED PARALLEL] – W x H – CONTROL – SPECIAL CONSTRUCTION OPTIONS

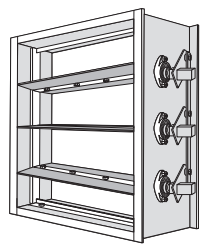
- HCD-75 HCD-150: Holyoake Control Dampers with 75 or 150 mm aluminium airfoil blades.
- CHANNEL LOW PROFILE CHANNEL FLANGE SURROUND: Frame Style
- OPPOSED PARALLEL: Blade Rotation: **Opposed (Standard)** Specify Parallel
- W x H: Nominal Duct Size
- CONTROL: Quadrant Arm and Plate. Round Drive Shaft 120mm. Hex Ext Shaft, (23, 44, 93, or 300 mm).
- SPECIAL CONSTRUCTION OPTIONS: For smoke damper see page 328H - 329H



Volume Control Dampers shall be low leakage type extruded aluminium construction, with single piece airfoil blades, fitted with self inflating edge seals. Blades shall be fixed to 11 mm hexagonal shafts, held by two piece acetal self lubricating bearings, with outer shells fluted to prevent rotation. Frames shall be suitable for either internal fixing within ductwork, or external duct flange mounting and shall be fitted with flexible aluminium side seals. Linkages shall be out of the airstream. Leakage shall be no greater than 0.04 $m^3/s/m^2$ at 1500 Pa Δp, or typically 0.45 % of full flow (at 5 m/s) with 500 Pa Δp. The damper may be furnished with a manual locking quadrant arm, a round shaft and plate, or a hexagonal shaft and plate, suitable for actuator mounting.
All shall be type HCD-75, or HCD-150, as manufactured by Holyoake.

HCD-225 – PARALLEL – W x H – CONTROL

- HCD-225: Holyoake Heavy Duty Control Dampers with 225 mm Airfoil Blades
- PARALLEL: Blade Rotation (No Opposed Option)
- W x H: **Nominal (Overall Size)**
- CONTROL: Electric Motor, Pneumatic Actuator, (Further discussion required with local Holyoake branch).



Heavy Duty Volume Control Dampers shall be constructed from extruded aluminium. Frames shall be suitable for duct flange mounting and be 6 mm thick. Blades shall be Parallel Airfoil 3 mm thick, with internal strengthening and fitted with externally mounted Heavy Duty Spherical Ball Bearings. Axle crank plates shall be 55 x 6 mm mild steel plate, with brass bearings; mounted outside of the airstream, providing a robust, long lasting operating mechanism, able to handle high turbulence/pressure and velocity. The damper shall be available with a range of control options to suit specialist applications.
All shall be type HCD-225 as manufactured by Holyoake.