

# Galaxy™ Roof Mounting Direct Driven Twin Fans (GRD)

## Features & Benefits

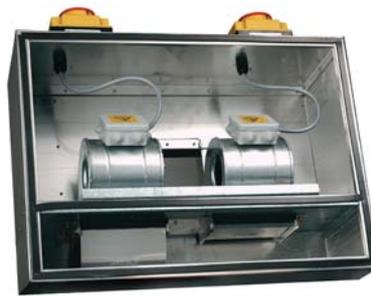
- Direct Drive Twin Fan (Run & standby)
- Backward curved centrifugal impellers
- Operating temperatures up to 40°C
- Performance range up to 2.72m<sup>3</sup>/s
- Static Pressure Development up to 500pa
- Speed controllable
- Quality assured to BS EN ISO 9001
- Performance listed to BS 848 Part 1

The GRD Galaxy Roof Mounting, Direct Driven, Twin fan range represents the latest development from Vent-Axia in high performance, run and standby twin fans. Designed to be controlled in-conjunction with Vent-Axia Trakmaster twin fan controller range, the total package offers the end user flexibility when interfaced with or without a (BMS) Building Management Systems, such as: manual selection; 12/24hr auto changeover ensuring the extended life of the fan and motor; night setback during low levels of occupancy for energy management control during 24hr extraction.

The unit casing is manufactured from mill finished aluminium fitted with a discharge aluminium weather louvre with bird mesh as standard, ensuring suitability for exposed external environments. Assembly is controlled to BS EN ISO 9001. Optional acoustic lined casing is available.

Individual gravity return shutters are fitted as standard to prevent air re-circulation through the standby fan or the system during shut down periods. The Galaxy Roof Twin Fans are suitable for horizontal mounting. When installed on a shallow pitch roof (max 20°) a special upstand will be needed to compensate for the angular difference - manufactured by others.

To meet COSHH requirements, double pole service isolator switches are fitted and pre-wired to the fans and mounted to the outer casing to reduce installation time and cost. Access to the fan section is via an easily removed top access panel for cleaning and maintenance during shut down periods.



Top view with access panel removed

The Galaxy range has ten models with extract performance ranging from 0.056m<sup>3</sup>/s up to 1.339m<sup>3</sup>/s (201m<sup>3</sup>/h to 4820m<sup>3</sup>/h), with pressure characteristics of up to 400Pa. All models are supplied with inlet spigots on the underside of the unit casing and a discharge anodised aluminium weather louvre.

## Motor/Impellers

Galaxy features motors and DIDW forward curved centrifugal impeller assembly specifically chosen for performance. The assembly is dynamically balanced to ISO 1940 Grade G.6.3. Ball bearings are greased for life. Insulation is Class 'B' (from -15°C to +40°C).

## Electrical

All Motors are single phase 220-240V/ 50Hz. The isolator is supplied with all models with PG11 entry protected against dust and water jets from any angle for external use. All motors are fitted with Standard Thermal Overload Protection (S.T.O.P.) motor protection by means of a thermal contact switch incorporated in the windings to prevent motor damage by overloading/overheating.

## Performance

GRD fan performance is tested in accordance with Test BS 848 Part 1.

## Sound Levels

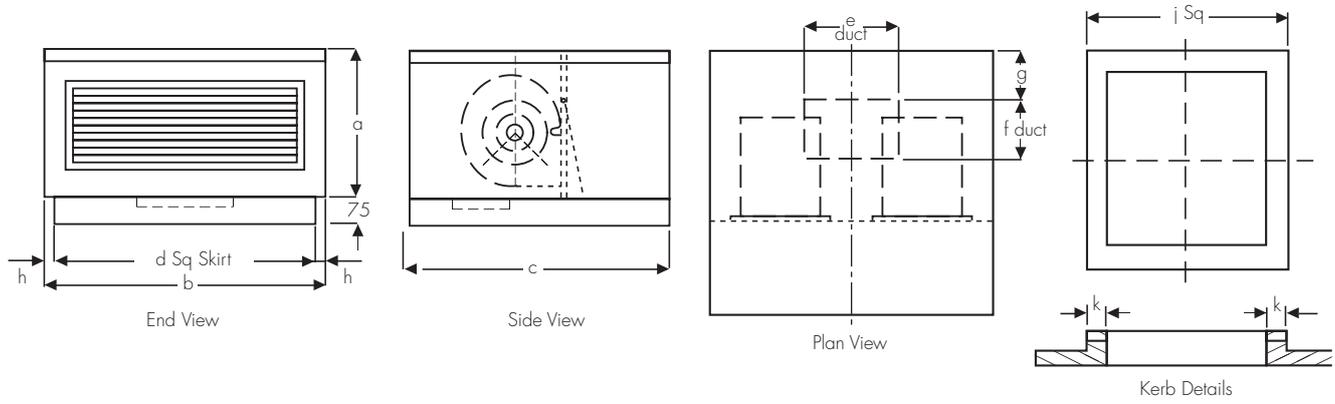
Sound levels are measured in a reverberant chamber in accordance with BS 848 Part 2. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of  $2 \times 10^{-5}$ Pa (20 micro-Pascal). The inlet and outlet sound power level spectra figures are dB with a reference of  $10^{-12}$  Watts (1 pico-watt). To ensure minimum noise levels during speed control, an auto transformer speed control is recommended.

## Quality Assurance

Design and manufacture are in accordance with the standard for quality management system BS EN ISO 9001.



### Fan Dimensions (mm)

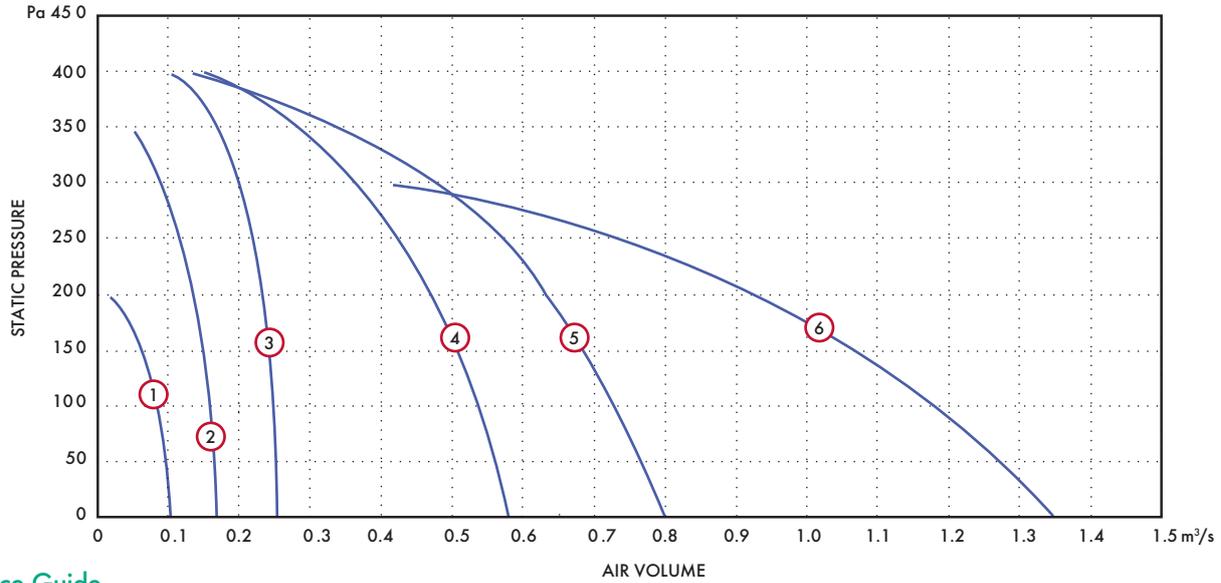


| Unit   | a   | b    | c    | d    | e   | f   | g   | h  | j    | k  | Weight Kg |
|--------|-----|------|------|------|-----|-----|-----|----|------|----|-----------|
| GRD1X  | 250 | 670  | 500  | 500  | 150 | 100 | 150 | 85 | 490  | 75 | 11        |
| GRD2X  | 340 | 750  | 700  | 700  | 225 | 150 | 150 | 25 | 690  | 75 | 22        |
| GRD2XH | 340 | 750  | 700  | 700  | 225 | 150 | 150 | 25 | 690  | 75 | 22        |
| GRD5   | 550 | 1000 | 950  | 950  | 500 | 250 | 150 | 25 | 940  | 75 | 55        |
| GRD6   | 550 | 1050 | 1050 | 1050 | 600 | 300 | 150 | -  | 1040 | 75 | 61        |
| GRD7   | 650 | 1250 | 1150 | 1150 | 750 | 350 | 150 | 50 | 1140 | 75 | 65        |

# Galaxy™ In-Line Direct Driven Twin Fans (GRD)

## Performance Curve

GRD1X - GRD7 - 1 Phase



## Performance Guide

| Duct Size<br>W x H | Phase<br>Motor | Stock<br>Ref. | Curve<br>rpm | Curve<br>Ref. | m <sup>3</sup> /s at Pa |       |       |       |       |       |       |       |       |       |       |  | Motor<br>kW | S.C.<br>Amps | F.L.C.<br>Amps | dBA<br>@ 3m |
|--------------------|----------------|---------------|--------------|---------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------------|--------------|----------------|-------------|
|                    |                |               |              |               | 0                       | 25    | 50    | 75    | 100   | 150   | 200   | 250   | 300   | 350   | 400   |  |             |              |                |             |
| 150 x 100          | 1              | GRD1X         | 1650         | 1             | 0.099                   | 0.095 | 0.092 | 0.087 | 0.081 | 0.055 | 0.018 |       |       |       |       |  | 0.075       | 1.4          | 0.35           | 44          |
| 225 x 150          | 1              | GRD2X         | 1700         | 2             | 0.162                   | 0.16  | 0.158 | 0.155 | 0.151 | 0.141 | 0.128 | 0.108 | 0.086 | 0.045 |       |  | 0.175       | 3.2          | 0.77           | 47          |
| 225 x 150          | 1              | GRD2XH        | 2050         | 3             | 0.249                   | 0.248 | 0.246 | 0.243 | 0.24  | 0.236 | 0.223 | 0.212 | 0.195 | 0.169 | 0.1   |  | 0.3         | 6            | 1.31           | 57          |
| 500 x 250          | 1              | GRD5          | 1400         | 4             | 0.573                   | 0.563 | 0.554 | 0.544 | 0.53  | 0.5   | 0.467 | 0.422 | 0.365 | 0.285 | 0.148 |  | 1.32        | 13           | 6.2            | 46          |
| 600 x 300          | 1              | GRD6          | 1400         | 5             | 0.792                   | 0.774 | 0.756 | 0.742 | 0.724 | 0.68  | 0.628 | 0.567 | 0.477 | 0.342 | 0.113 |  | 1.42        | 13           | 6.2            | 55          |
| 750 x 350          | 1              | GRD7          | 900          | 6             | 1.339                   | 1.305 | 1.265 | 1.215 | 1.17  | 1.058 | 0.927 | 0.747 | 0.414 |       |       |  | 1.6         | 13           | 8              | 55          |

## Sound Power Level Spectra dB (re 10<sup>-12</sup> Watts)

| Model. |              | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | dBA @3m |
|--------|--------------|----|-----|-----|-----|----|----|----|----|---------|
| GRD1X  | Inlet/Outlet | 76 | 73  | 69  | 60  | 61 | 59 | 55 | 50 | 49      |
| GRD1X  | Breakout     |    |     |     |     |    |    |    |    | 44      |
| GRD2X  | Inlet/Outlet | 79 | 77  | 69  | 63  | 64 | 63 | 59 | 55 | 52      |
| GRD2X  | Breakout     |    |     |     |     |    |    |    |    | 47      |
| GRD2XH | Inlet/Outlet | 89 | 87  | 79  | 73  | 74 | 73 | 69 | 65 | 62      |
| GRD2XH | Breakout     |    |     |     |     |    |    |    |    | 57      |
| GRD5   | Inlet/Outlet | 72 | 73  | 67  | 66  | 67 | 66 | 62 | 58 | 54      |
| GRD5   | Breakout     |    |     |     |     |    |    |    |    | 46      |
| GRD6   | Inlet/Outlet | 77 | 83  | 80  | 74  | 77 | 74 | 72 | 66 | 63      |
| GRD6   | Breakout     |    |     |     |     |    |    |    |    | 55      |
| GRD7   | Inlet/Outlet | 75 | 79  | 71  | 76  | 76 | 74 | 72 | 66 | 63      |
| GRD7   | Breakout     |    |     |     |     |    |    |    |    | 55      |

## Accessories



Standard  
Unit  
Stock Ref. No.

Insulated  
Unit  
Stock Ref. No.



eDemand  
Auto Changeover  
Stock Ref.



\*eDemand Controller  
Voltage Control  
Stock Ref.

| Standard Unit Stock Ref. No. | Insulated Unit Stock Ref. No. | eDemand Auto Changeover Stock Ref. | *eDemand Controller Voltage Control Stock Ref. |
|------------------------------|-------------------------------|------------------------------------|--|
| GRD1X                        | GRD11X                        | 444180                             | 444164   |
| GRD2X                        | GRD12X                        | 444180                             | 444164   |
| GRD2XH                       | GRD12XH                       | 444180                             | 444164   |
| GRD5                         | GRD15                         | 444180                             | 444165   |
| GRD6                         | GRD16                         | 444180                             | 444165   |
| GRD7                         | GRD17                         | 444180                             | 444165   |



\*\*ITC Man./Auto  
Changeover Controller  
Stock Ref.



\*\*ITC-DS 12/24hr Auto  
Changeover Controller  
Stock Ref.



RVC ELV Remote  
Visual Controller  
Stock Ref.

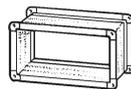


RSC Remote  
Setback Controller  
Stock Ref.

| Model Ref. | **ITC Man./Auto Changeover Controller Stock Ref. | **ITC-DS 12/24hr Auto Changeover Controller Stock Ref. | RVC ELV Remote Visual Controller Stock Ref. | RSC Remote Setback Controller Stock Ref. |
|------------|--|--|---|--|
| GRD1       | 10314200   | 10314210   | 10314220                                    | 10314230                                 |
| GRD2X      | 10314200   | 10314210   | 10314220                                    | 10314230                                 |
| GRD2XH     | 10314200   | 10314210   | 10314220                                    | 10314230                                 |
| GRD5       | 10314200   | 10314210   | 10314220                                    | 10314230                                 |
| GRD6       | 10314200   | 10314210   | 10314220                                    | 10314230                                 |
| GRD7       | 10314200   | 10314210   | 10314220                                    | 10314230                                 |



Auto Transformer  
Stock Ref.



Flexible  
Connection  
Stock Ref.



Duct Attenuator

| Model Ref.    | Auto Transformer Stock Ref. | Flexible Connection Stock Ref. | Duct Attenuator  |                  |                   |
|---------------|-----------------------------|--------------------------------|------------------|------------------|-------------------|
|               |                             |                                | 600mm Stock Ref. | 900mm Stock Ref. | 1200mm Stock Ref. |
| GRD1          | 10314103                    | GRD1FC                         | 10535150         | 10536150         | -                 |
| GRD2X/ GRD2XH | 10314103                    | GRD2FC                         | 10535250         | 10536250         | 10537250          |
| GRD5          | 10314107                    | GRD5FC                         | GRS5-600         | GRS5-900         | GRS5-1200         |
| GRD6          | 10314107                    | GRD6FC                         | -                | GRS6-900         | GRS6-1200         |
| GRD7          | 10314113                    | GRD7FC                         | -                | GRS7-900         | GRS7-1200         |

\* For full range of speed controller options, see Accessories & Controllers Section

\*\*Not suitable for use with eDemand controllers. For compatible changeover panel, see Accessories and Controllers Section

**NOTE:** For end Inlet please add E1 to the end of the Stock Ref. number

**NOTE:** Inlet silencers shown for GRD1X to GRD3 are circular due to the small inlet sizes - a transformation piece will be required - supplied by others