

# Gemini Roof Mounting Twin Fans (G2B)

## Features and Benefits

- High performance roof mounting twin fans
- 12/24 hr run and standby facility
- Cowl and base moulded from glass fibre reinforced polyester
- Motors protected to IP44
- Motor insulation Class 'B'
- Maximum operating temperature 40°C
- Standard Thermal Overload Protection
- Manufacture controlled to BS EN ISO 9001
- Performance tested to BS 848 Part 1

Roof Mounting Centrifugal Twin Fans have been specially developed for high-pressure ducted systems, designed around an aerodynamically shaped roof cowl, offering maximum performance, reliability and minimum noise levels. G2B roof cowl assemblies are moulded from glass fibre reinforced polyester, which offers high impact resistance and provides a rigid profile against strong winds and is resistant to UV light, delivered on-site ready assembled for quick and easy installation.

Standard colour **BS00A05**, alternative B.S colours available on request. Suitable for flat or inclined roofs (max. angle 30°). Designed for kerb or purlin mounting.

Designed and developed to provide one of the most powerful roof mounting twins on the market, available in six sizes, with extract performances ranging from 0.113m<sup>3</sup>/s up to 2.085m<sup>3</sup>/s (406m<sup>3</sup>/h to 7506m<sup>3</sup>/h), with pressure characteristics of up to 350Pa.

## Motors

The Centrifugal Roof Twin fans feature two proven external rotor motors and backward curved impellers selected for performance and non-overloading characteristics. The assembly is dynamically balanced to VDI 2060. The motors in this range are protected to **IP44** according to **BS EN 60529**. Ball bearings are greased for life and are designed to run at any angle. Insulation is **Class 'B'** (from -30°C to +40°C). Manufacture is controlled to **BS EN ISO 9001** standards.

## Electrical

Single phase 220-240V Hz. Capacitor start and run. Three phase 380-415V 50Hz.

## Performance

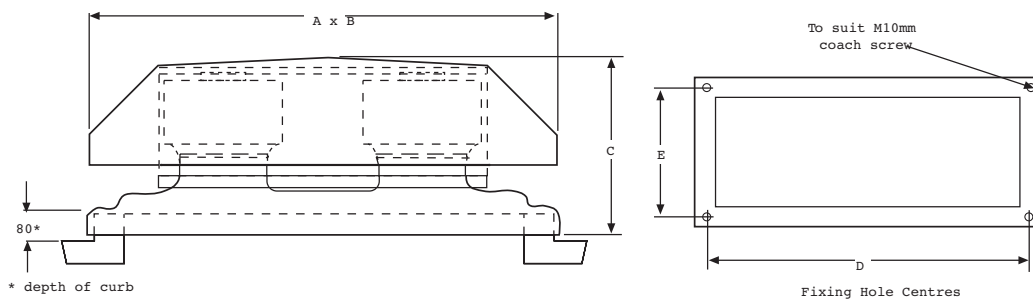
The fan performance, is in accordance with tests to **BS 848** Part 1.

## Sound Levels

Fan 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 sound power level spectra figures are dB with a reference level of  $10^{-12}$  Watts (1 pico-watt). To ensure minimum noise levels during speed control, an auto transformer speed control is recommended.



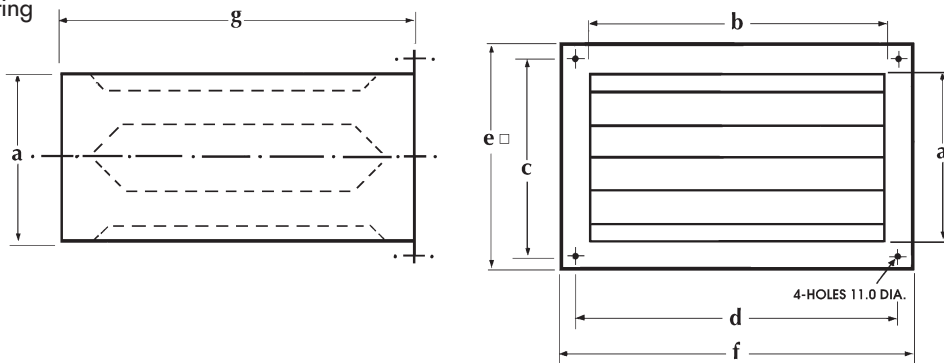
## Fan Dimensions (mm)



| Unit Code | A    | B   | C   | D    | E   | Inside Curb | Outside Curb |
|-----------|------|-----|-----|------|-----|-------------|--------------|
| 200       | 800  | 470 | 280 | 700  | 370 | 325 x 650   | 425 x 750    |
| 300       | 975  | 550 | 350 | 875  | 450 | 400 x 825   | 500 x 925    |
| 350/400   | 1210 | 675 | 440 | 1000 | 500 | 400 x 900   | 600 x 1100   |
| 450/500   | 1430 | 830 | 540 | 1200 | 600 | 500 x 1100  | 700 x 1300   |

## Accessories Dimensions (mm)

### Purlin Box Mounting



| Stock Ref. | a   | b    | c   | d    | e   | f    | g   | Weight kg approx. |
|------------|-----|------|-----|------|-----|------|-----|-------------------|
| DSG2B20    | 315 | 645  | 370 | 700  | 425 | 750  | 600 | 15                |
| DSG2B30    | 395 | 815  | 450 | 875  | 500 | 925  | 900 | 20                |
| DSG2B35/40 | 390 | 890  | 500 | 1000 | 600 | 1100 | 900 | 40                |
| DSG2B35/50 | 495 | 1085 | 600 | 1200 | 700 | 1300 | 900 | 59                |

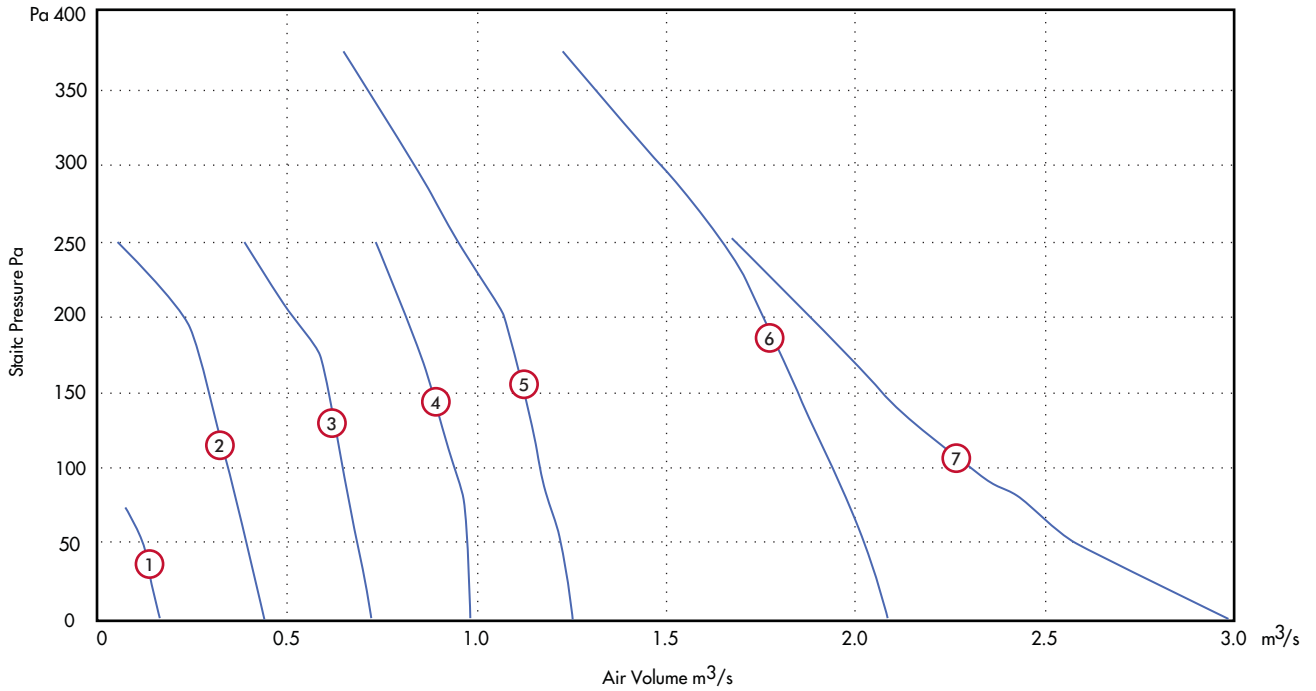
## G2B Attenuator Insertion Losses

| Stock Ref. | Length | 63 | 125 | 250 | 500 | 1k  | 2k  | 4k  | 8k  |
|------------|--------|----|-----|-----|-----|-----|-----|-----|-----|
| DSG2B20    | 600    | -1 | -3  | -8  | -19 | -32 | -36 | -24 | -17 |
| DSG2B30    | 900    | -1 | -2  | -7  | -17 | -26 | -27 | -20 | -16 |
| DSG2B35/40 | 900    | -1 | -2  | -5  | -11 | -18 | -18 | -12 | -6  |
| DSG2B45/50 | 900    | -1 | -3  | -7  | -12 | -18 | -18 | -12 | -6  |

# Gemini Roof Mounting Twin Fans (G2B)

## Performance Curve

GRB200 - G2B500 - 2 & 4 Pole - 1 & 3 Phase



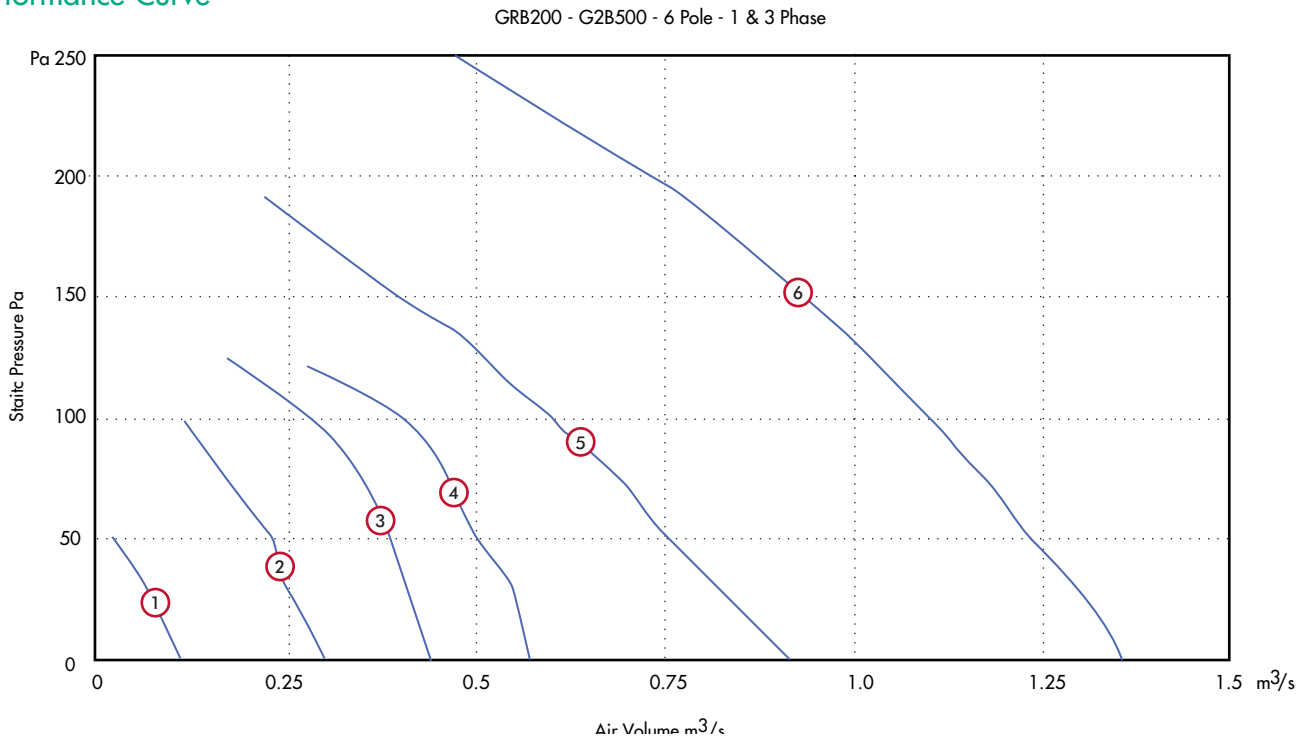
## Performance Guide

| Dia   | Motor Phase | Stock Pole | Stock Ref. | Curve r.p.m. | Curve Ref. | m³/s at Pa |       |       |       |       |       |       |       |       |       | Motor kW | S.C Amps | F.L.C Amps | dBA @ 3m |
|-------|-------------|------------|------------|--------------|------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|----------|------------|----------|
|       |             |            |            |              |            | 0          | 25    | 50    | 75    | 100   | 150   | 200   | 250   | 300   | 350   |          |          |            |          |
| 200   | 1           | 2          | G2B200/2/1 | 2400         | 7          | 0.296      | 0.279 | 0.267 | 0.256 | 0.243 | 0.218 | 0.198 | 0.166 |       |       | 0.21     | 2.6      | 0.9        | 61       |
| 200   | 1           | 4          | G2B200/4/1 | 1300         | 1          | 0.161      | 0.142 | 0.114 | 0.076 |       |       |       |       |       |       | 0.07     | 1        | 0.44       | 43       |
| 300   | 1           | 4          | G2B300/4/1 | 1300         | 2          | 0.44       | 0.417 | 0.394 | 0.37  | 0.345 | 0.283 | 0.225 | 0.045 |       |       | 0.17     | 1.5      | 0.9        | 53       |
| 350   | 1           | 4          | G2B350/4/1 | 1370         | 3          | 0.723      | 0.709 | 0.684 | 0.667 | 0.642 | 0.59  | 0.508 | 0.38  |       |       | 0.31     | 3.7      | 1.35       | 58       |
| 400   | 1           | 4          | G2B400/4/1 | 1340         | 4          | 0.985      | 0.982 | 0.965 | 0.952 | 0.935 | 0.887 | 0.811 | 0.73  |       |       | 0.52     | 5        | 2.2        | 58       |
| 400   | 3           | 4          | G2B400/4/3 | 1340         | 4          | 0.985      | 0.982 | 0.965 | 0.952 | 0.935 | 0.887 | 0.811 | 0.73  |       |       | 0.46     | 2.9      | 0.85       | 58       |
| 58450 | 1           | 4          | G2B450/4/1 | 1230         | 5          | 1.251      | 1.237 | 1.223 | 1.195 | 1.168 | 1.112 | 1.054 | 0.95  | 0.841 | 0.708 | 0.74     | 7        | 3.2        | 62       |
| 450   | 3           | 4          | G2B450/4/3 | 1230         | 5          | 1.251      | 1.237 | 1.223 | 1.195 | 1.168 | 1.112 | 1.054 | 0.95  | 0.841 | 0.708 | 0.69     | 3.4      | 1.3        | 62       |
| 500   | 1           | 4          | G2B500/4/1 | 1320         | 6          | 2.085      | 2.069 | 2.026 | 1.995 | 1.938 | 1.757 | 1.698 | 1.596 | 1.466 | 1.316 | 1.3      | 15       | 5.7        | 67       |
| 500   | 3           | 4          | G2B500/4/3 | 1320         | 6          | 2.085      | 2.069 | 2.026 | 1.995 | 1.938 | 1.757 | 1.698 | 1.596 | 1.466 | 1.316 | 1.25     | 9.2      | 2.3        | 67       |

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

| Unit   | Pole |              | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | dBA @ 3m |
|--------|------|--------------|----|-----|-----|-----|----|----|----|----|----------|
| G2B200 | 2    | Inlet/Outlet | 69 | 75  | 80  | 78  | 76 | 74 | 73 | 66 | 61       |
| G2B200 | 4    | Inlet/Outlet | 62 | 64  | 63  | 61  | 58 | 56 | 53 | 43 | 43       |
| G2B300 | 4    | Inlet/Outlet | 65 | 71  | 72  | 71  | 67 | 67 | 60 | 47 | 53       |
| G2B350 | 4    | Inlet/Outlet | 65 | 84  | 79  | 77  | 73 | 70 | 65 | 58 | 58       |
| G2B400 | 4    | Inlet/Outlet | 67 | 81  | 82  | 75  | 72 | 70 | 65 | 57 | 58       |
| G2B450 | 4    | Inlet/Outlet | 74 | 86  | 85  | 80  | 76 | 74 | 69 | 62 | 62       |
| G2B500 | 4    | Inlet/Outlet | 76 | 95  | 88  | 86  | 81 | 76 | 76 | 71 | 67       |

## Performance Curve



## Performance Guide

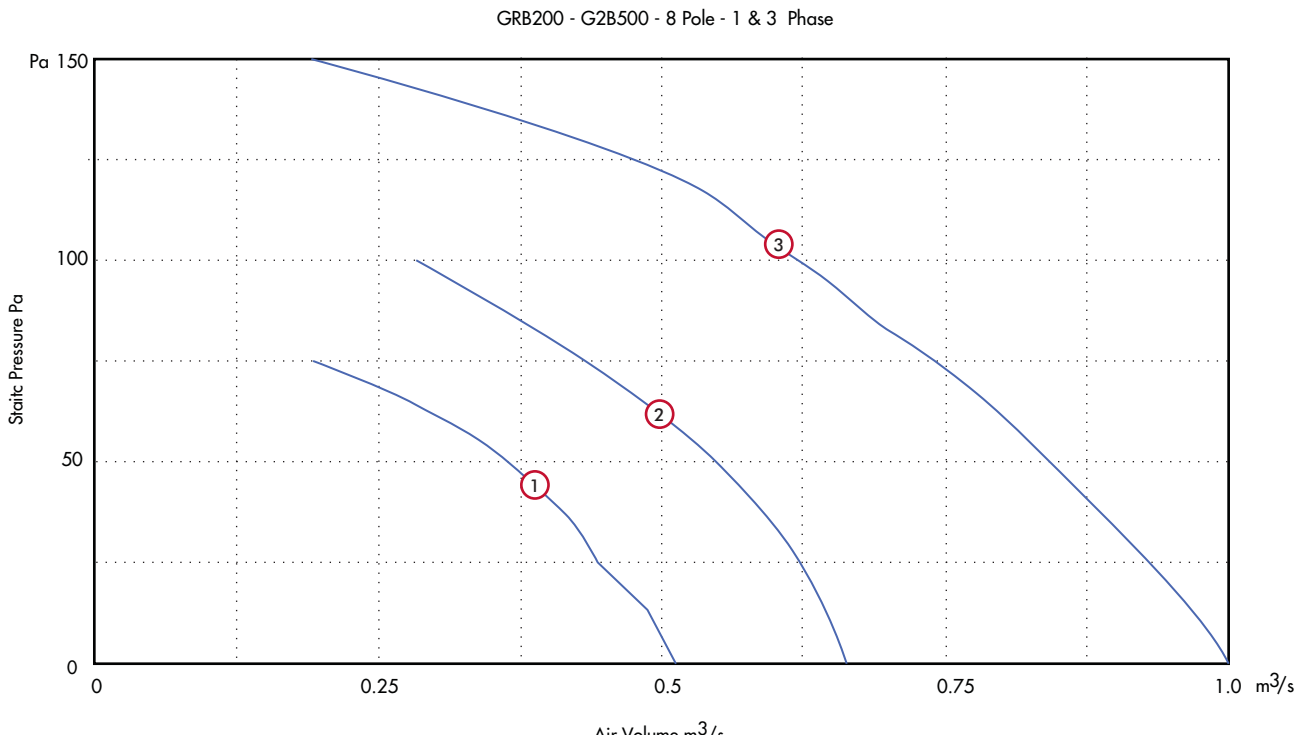
| Dia | Motor Phase | Stock Pole | Stock Ref. | Stock r.p.m. | Curve Ref. | m³/s at Pa |       |       |       |       |       | Motor kW | S.C Amps | F.L.C Amps | dBA @ 3m |      |     |
|-----|-------------|------------|------------|--------------|------------|------------|-------|-------|-------|-------|-------|----------|----------|------------|----------|------|-----|
|     |             |            |            |              |            | 0          | 25    | 50    | 75    | 100   | 150   |          |          |            |          | 200  | 250 |
| 200 | 1           | 6          | G2B200/6/1 | 1300         | 1          | 0.113      | 0.073 | 0.027 | -     | -     | -     | -        | -        | 0.15       | 1.4      | 0.62 | 34  |
| 300 | 1           | 6          | G2B300/6/1 | 900          | 2          | 0.3        | 0.269 | 0.231 | 0.184 | 0.111 | -     | -        | -        | 0.08       | 0.7      | 0.39 | 45  |
| 350 | 1           | 6          | G2B350/6/1 | 900          | 3          | 0.445      | 0.42  | 0.389 | 0.351 | 0.285 | -     | -        | -        | 0.12       | 1.1      | 0.54 | 44  |
| 400 | 1           | 6          | G2B400/6/1 | 880          | 4          | 0.574      | 0.556 | 0.506 | 0.461 | 0.406 | -     | -        | -        | 0.17       | 1.6      | 0.8  | 47  |
| 400 | 3           | 6          | G2B400/6/3 | 880          | 4          | 0.574      | 0.556 | 0.506 | 0.461 | 0.406 | -     | -        | -        | 0.16       | 1.05     | 0.36 | 47  |
| 450 | 1           | 6          | G2B450/6/1 | 840          | 5          | 0.937      | 0.83  | 0.76  | 0.69  | 0.608 | 0.408 | -        | -        | 0.3        | 2        | 1.5  | 51  |
| 450 | 3           | 6          | G2B450/6/3 | 840          | 5          | 0.937      | 0.83  | 0.76  | 0.69  | 0.608 | 0.408 | -        | -        | 0.26       | 1.1      | 0.49 | 51  |
| 500 | 1           | 6          | G2B500/6/1 | 850          | 6          | 1.364      | 1.32  | 1.23  | 1.178 | 1.09  | 0.94  | 0.072    | 0.475    | 0.45       | 4.2      | 2.2  | 55  |
| 500 | 3           | 6          | G2B500/6/3 | 850          | 6          | 1.364      | 1.32  | 1.23  | 1.178 | 1.09  | 0.94  | 0.072    | 0.475    | 0.39       | 1.75     | 0.81 | 55  |

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

| Unit   | Pole |              | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | dBA @ 3m |
|--------|------|--------------|----|-----|-----|-----|----|----|----|----|----------|
| G2B200 | 6    | Inlet/Outlet | 55 | 54  | 52  | 53  | 49 | 46 | 39 | 28 | 34       |
| G2B300 | 6    | Inlet/Outlet | 57 | 60  | 63  | 65  | 59 | 59 | 43 | 41 | 45       |
| G2B350 | 6    | Inlet/Outlet | 63 | 65  | 64  | 61  | 61 | 56 | 50 | 45 | 44       |
| G2B400 | 6    | Inlet/Outlet | 66 | 70  | 71  | 63  | 61 | 59 | 51 | 43 | 47       |
| G2B450 | 6    | Inlet/Outlet | 77 | 73  | 74  | 67  | 66 | 64 | 56 | 48 | 51       |
| G2B500 | 6    | Inlet/Outlet | 76 | 82  | 77  | 73  | 70 | 65 | 59 | 53 | 55       |

# Gemini Roof Mounting Twin Fans (G2B)

## Performance Curve



## Performance Guide

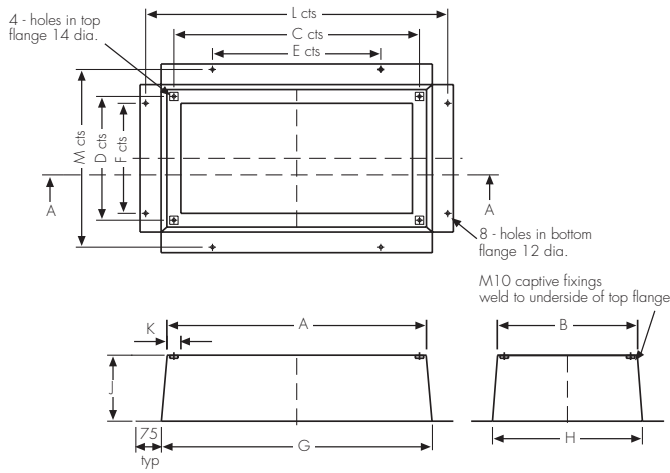
| Dia | Motor |      | Stock Ref. | r.p.m. | Curve Ref. | m³/s at Pa |       |       |       |       |      | Motor kW | S.C Amps | F.L.C Amps | dBA @ 3m |
|-----|-------|------|------------|--------|------------|------------|-------|-------|-------|-------|------|----------|----------|------------|----------|
|     | Phase | Pole |            |        |            | 0          | 25    | 50    | 75    | 100   | 150  |          |          |            |          |
| 400 | 1     | 8    | G2B400/8/1 | 655    | ①          | 0.509      | 0.444 | 0.361 | 0.19  |       |      | 0.13     | 1        | 0.68       | 39       |
| 400 | 3     | 8    | G2B400/8/3 | 655    | ①          | 0.509      | 0.444 | 0.361 | 0.19  |       |      | 0.09     | 0.5      | 0.26       | 39       |
| 450 | 1     | 8    | G2B450/8/1 | 600    | ②          | 0.66       | 0.62  | 0.52  | 0.427 | 0.285 |      | 0.15     | 1        | 0.63       | 44       |
| 450 | 3     | 8    | G2B450/8/3 | 600    | ②          | 0.66       | 0.62  | 0.52  | 0.427 | 0.285 |      | 0.12     | 0.55     | 0.27       | 44       |
| 500 | 1     | 8    | G2B500/8/1 | 640    | ③          | 0.999      | 0.931 | 0.84  | 0.736 | 0.617 | 0.19 | 0.23     | 2.05     | 1.15       | 47       |
| 500 | 3     | 8    | G2B500/8/3 | 640    | ③          | 0.999      | 0.931 | 0.84  | 0.736 | 0.617 | 0.19 | 0.18     | 1        | 0.41       | 47       |

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

| Unit   | Pole |              | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | dBA @ 3m |
|--------|------|--------------|----|-----|-----|-----|----|----|----|----|----------|
| G2B400 | 8    | Inlet/Outlet | 64 | 60  | 60  | 55  | 55 | 51 | 42 | 33 | 39       |
| G2B450 | 8    | Inlet/Outlet | 70 | 67  | 65  | 60  | 60 | 57 | 49 | 41 | 44       |
| G2B500 | 8    | Inlet/Outlet | 69 | 73  | 69  | 64  | 62 | 56 | 50 | 42 | 47       |

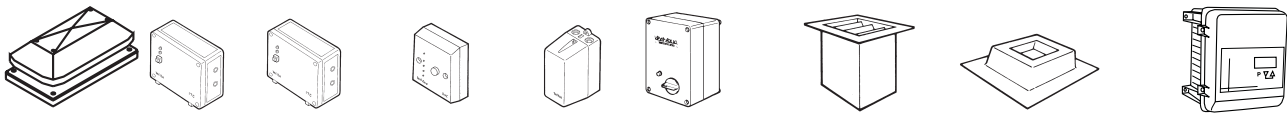
### Accessories Dimensions (mm)

#### Purlin Box Mounting



| Unit Code | A    | B   | C    | D   | E    | F   | G    | H   | J   | K  | L    | M   |
|-----------|------|-----|------|-----|------|-----|------|-----|-----|----|------|-----|
| 200       | 740  | 410 | 700  | 370 | 600  | 320 | 740  | 410 | 240 | 50 | 852  | 522 |
| 300       | 925  | 500 | 875  | 450 | 775  | 400 | 964  | 534 | 240 | 50 | 1087 | 662 |
| 350       | 1070 | 570 | 1000 | 500 | 920  | 470 | 1120 | 620 | 250 | 70 | 1230 | 732 |
| 400       | 1070 | 570 | 1000 | 500 | 920  | 470 | 1120 | 620 | 250 | 70 | 1230 | 732 |
| 450       | 1270 | 670 | 1200 | 600 | 1120 | 570 | 1320 | 720 | 250 | 70 | 1430 | 832 |
| 500       | 1270 | 670 | 1200 | 600 | 1120 | 570 | 1320 | 720 | 250 | 70 | 1430 | 832 |

### Accessories



| Stock Ref. | **ITC Man./Auto |                 | **ITC-DS 12/24hr |            | RVC ELV     | RSC Remote | Roof Attenuator |              | *eDemand Controller |            |            |
|------------|-----------------|-----------------|------------------|------------|-------------|------------|-----------------|--------------|---------------------|------------|------------|
|            | Changeover      | Auto Changeover | Remote Visual    | Setback    | Auto        | 600mm      | 900mm           | Purlin Box   | Voltage             | 1/3 Phase  | 3 Phase    |
|            | Controller      | Controller      | Controller       | Controller | Transformer | Stock Ref. | Stock Ref.      | Stock Ref.   | Control             | Inverter   | Inverter   |
| Stock Ref. | Stock Ref.      | Stock Ref.      | Stock Ref.       | Stock Ref. | Stock Ref.  | Stock Ref. | Stock Ref.      | Stock Ref.   | Stock Ref.          | Stock Ref. | Stock Ref. |
| G2B200/2/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10313103    | DSG2B20    | -               | G2B/A2 00    | 444164              | -          | -          |
| G2B200/4/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10313103    | DSG2B20    | -               | G2B/A200     | 444164              | -          | -          |
| G2B300/4/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B30         | G2B/A300     | 444164              | -          | -          |
| G2B350/4/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B35/40      | GB/A350/400  | 444164              | -          | -          |
| G2B400/4/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B35/40      | G2B/A350/400 | 444164              | -          | -          |
| G2B400/4/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B35/40      | G2B/A350/400 | 444166              | 444177     | 444172     |
| G2B450/4/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314105    | -          | DSG2B45/50      | G2B/A450/500 | 444164              | -          | -          |
| G2B450/4/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314304    | -          | DSG2B45/50      | G2B/A450/500 | 444166              | 444177     | 444172     |
| G2B500/4/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314107    | -          | DSG2B45/50      | G2B/A450/500 | 444165              | -          | -          |
| G2B500/4/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314304    | -          | DSG2B45/50      | G2B/A450/500 | 444166              | 444177     | 444173     |
| G2B200/6/1 | 10314200        | 10314210        | 10314220         | 10314230A  | -           | DSG2B20    | -               | G2B/A200     | 444164              | -          | -          |
| G2B300/6/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B30         | G2B/A300     | 444164              | -          | -          |
| G2B350/6/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B35/40      | G2B/A350/400 | 444164              | -          | -          |
| G2B400/6/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B35/40      | G2B/A350/400 | 444164              | -          | -          |
| G2B400/6/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B35/40      | G2B/A350/400 | 444166              | 444177     | 444172     |
| G2B450/6/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B45/50      | G2B/A450/500 | 444164              | -          | -          |
| G2B450/6/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B45/50      | G2B/A450/500 | 444166              | 444177     | 444172     |
| G2B500/6/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B45/50      | G2B/A450/500 | 444164              | -          | -          |
| G2B500/6/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B45/50      | G2B/A450/500 | 444166              | 444177     | 444172     |
| G2B400/8/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B35/40      | G2B/A350/400 | 444164              | -          | -          |
| G2B400/8/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B35/40      | G2B/A350/400 | 444166              | 444177     | 444172     |
| G2B450/8/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B45/50      | G2B/A450/500 | 444164              | -          | -          |
| G2B450/8/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B45/50      | G2B/A450/500 | 444166              | 444177     | 444172     |
| G2B500/8/1 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314103    | -          | DSG2B45/50      | G2B/A450/500 | 444164              | -          | -          |
| G2B500/8/3 | 10314200        | 10314210        | 10314220         | 10314230A  | 10314301    | -          | DSG2B45/50      | G2B/A450/500 | 444166              | 444177     | 444172     |

\* 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