

Galaxy™ In-Line Belt Driven Twin Fans (GDB)

Features & Benefits

- In-line, Belt Driven, compact centrifugal twin fan
- High Quality Heavy Gauge Galvanised Steel Casing
- Optional IP65 Service Isolator
- Motor Insulation Class F
- Maximum operating temperature 40°C
- Manufacture controlled to BS EN ISO 9001
- Performance tested to BS 848 Part 1 & 2

The GDB Galaxy In-line Belt Driven, Twin fan range represents the latest development from Vent-Axia in high performance, run and standby twin fan. 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 Heavy Gauge Galvanised Steel fitted with inlet and outlet discharge spigots. Individual gravity return shutters are fitted as standard to prevent air re-circulation through the standby or the system during shut down periods. Galaxy Duct Mounting Belt Driven Twin Fans are suitable for horizontal mounting only. Assembly controlled to BS EN ISO 9001.

To meet COSHH requirements, double pole service isolator switches are available. With access to the fan section via an easily removable access panel from the top of the unit, for cleaning and maintenance during shut down periods.

The Galaxy range is available in four models with extract performance ranging from 0.02m³/s up to 2.5m³/s (720m³/h to 9000m³/h), with pressure characteristics of up 400Pa.

Fan/Motor Assembly

Galaxy GDB belt driven fans are double inlet double width, forward curved centrifugal fans belt driven by totally enclosed fan ventilated, wound to suit 220-240V/1/50HZ or 380-415V/1/50Hz electrical supply. Protected to IP54, against dust and water jets complying with BS EN 60529:1992. Motor insulation Class F as a minimum, suitable for operating temperatures up to +40°C. Both the fans and motors are mounted on a steel frame, with anti-vibration mounts between the frame and casing and a flexible connection between the fan scroll and fan plate, minimising vibration. All belt driven Galaxy units are supplied with metric pulleys to ISO 4183 and wedge belts to ISO 4184 and DIN 7753.

Electrical

All Motors are available in either single phase 220-240V 50 Hz capacitor start and run or three phase 380V-415V 50Hz.

Sounds Levels

Fan sound levels are measured in a reverberant chamber in accordance with BS848 Part 2 1985. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of 2×10^{-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 9001:1994.

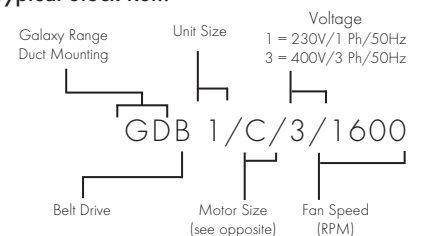
Selection Procedure

Plot your specified duty on the relevant graphs. Select motor size and fan speed required. The full Stock Ref. for your unit will comprise of the unit size, motor rating, supply and fan speed.

Motor Sizes:

0.37 kW	=	C
0.55 kW	=	D
0.75 kW	=	E
1.10 kW	=	F
1.50 kW	=	G
2.20 kW	=	H
3.00 kW	=	J
4.00 kW	=	K

Typical Stock Ref.:



Example:

Duty required	=	0.35m ³ /s @ 150Pa
Unit Size	=	GDB1
Supply	=	3Ø

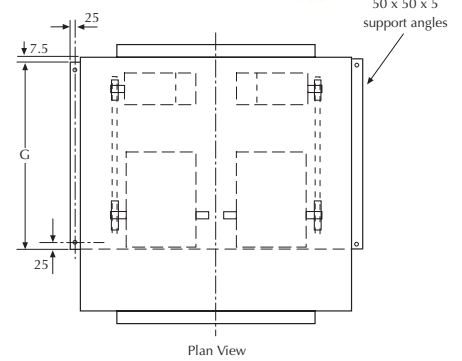
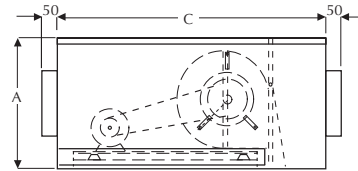
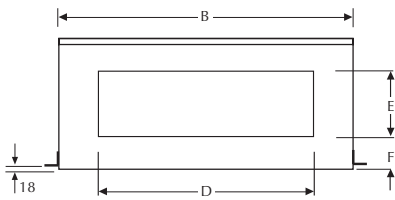
From above graph (GDB1):

Speed = 1600rpm
Motor = 0.37kW

Stock Ref. will be: GDB1/C/3/1600



Fan Dimensions (mm)



Unit	A	B	C	D	E	F	Weight kg
GDB1	480	850	1000	650	250	110	125
GDB2	540	1100	1175	762	305	116	175
GDB3	675	1250	1450	900	400	135	210
GDB4	765	1500	1450	1000	457	153	270

Electrical Data

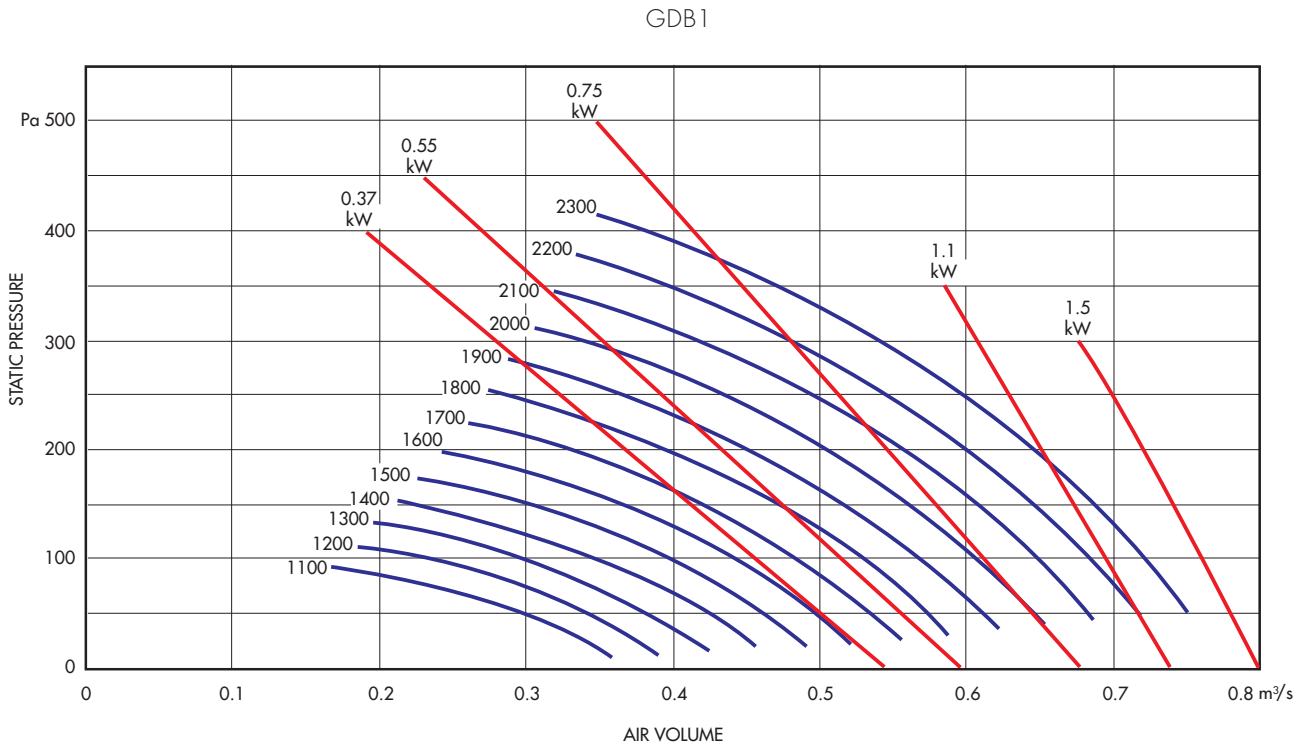
Motor Rating	Motor Nominal Speed	400V/3Ph/50Hz	
kW	rpm	F.L.C. Amps	S.C. Amps*
0.37	1400	1.2	4.73
0.55	1400	1.7	8.5
0.75	1400	2.1	9.5
1.1	1400	3.25	13.75
1.5	1400	3.9	20.7
2.2	1400	5.3	28.2
3	1400	7	37.2
4	1400	9.05	52.65

Motor Rating	Motor Nominal Speed	230V/1Ph/50Hz	
kW	rpm	F.L.C. Amps	S.C. Amps*
0.37	1400	2.7	14
0.55	1400	3.6	18
0.75	1400	5	25
1.1	1400	7	35
1.5	1400	10	50

* D.O.L. Start
 FLC = Full load current
 SC = Starting current

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Performance Curve

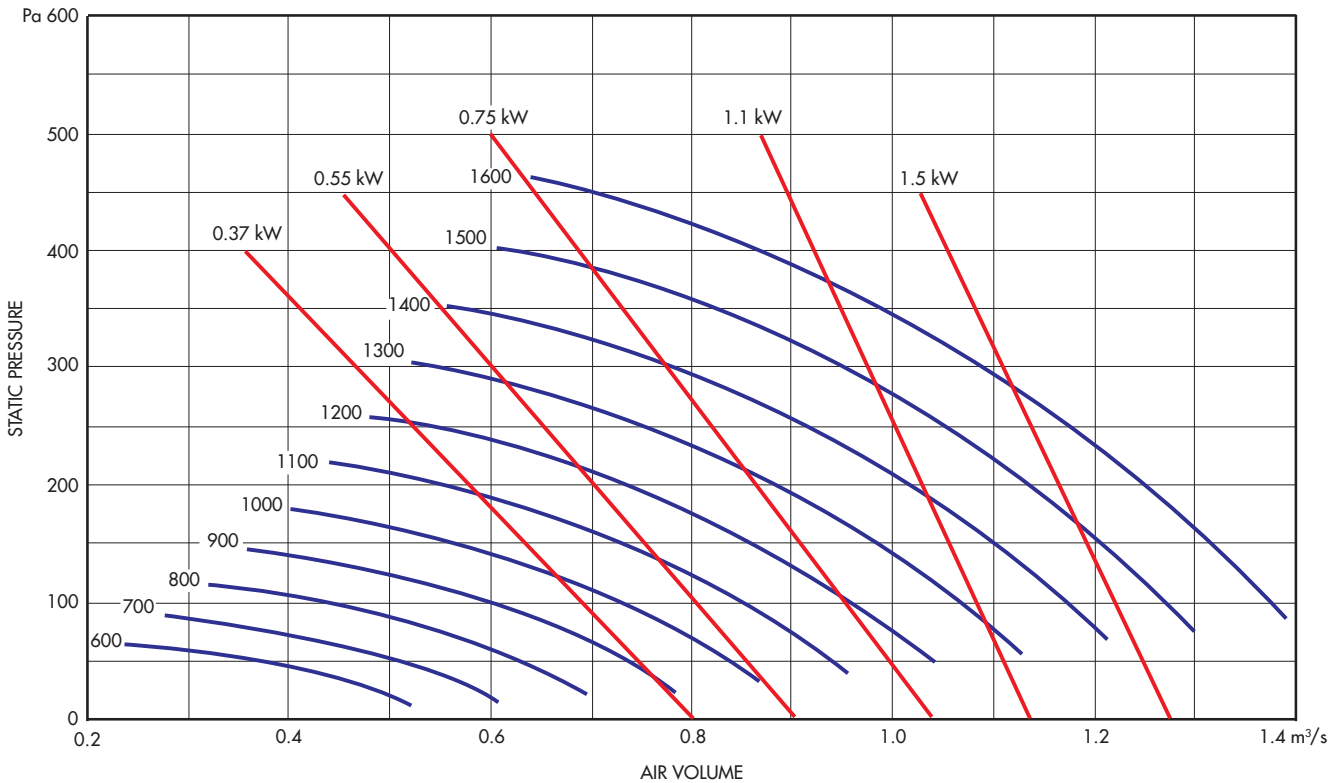


Sound Power Level Spectra dB (re 10⁻¹² Watts)

Unit Size	Fan Speed rpm	Sound Power dBW	Induct Sound Power Levels dBW @ Octave Band Mid Frequency Hz								Sound Pressure dBA @ 3m
			63	125	250	500	1k	2k	4k	8k	
GDB1	1200	71	64	66	65	65	64	61	58	52	50
GDB1	1300	73	66	68	67	67	66	63	60	54	52
GDB1	1400	75	68	70	69	69	68	65	62	56	54
GDB1	1500	76	69	71	70	70	69	66	63	57	55
GDB1	1600	78	71	73	72	72	71	68	65	59	57
GDB1	1700	79	72	74	73	73	72	69	66	60	58
GDB1	1800	80	73	75	74	74	73	70	67	61	59
GDB1	1900	82	75	77	76	76	75	72	69	63	61
GDB1	2000	84	77	79	78	78	77	74	71	65	63
GDB1	2100	86	79	81	80	80	79	76	73	67	65
GDB1	2200	88	81	83	82	82	81	78	75	69	67
GDB1	2300	90	83	85	84	84	83	80	77	71	69

Performance Curve

GDB2



Sound Power Level Spectra dB (re 10⁻¹² Watts)

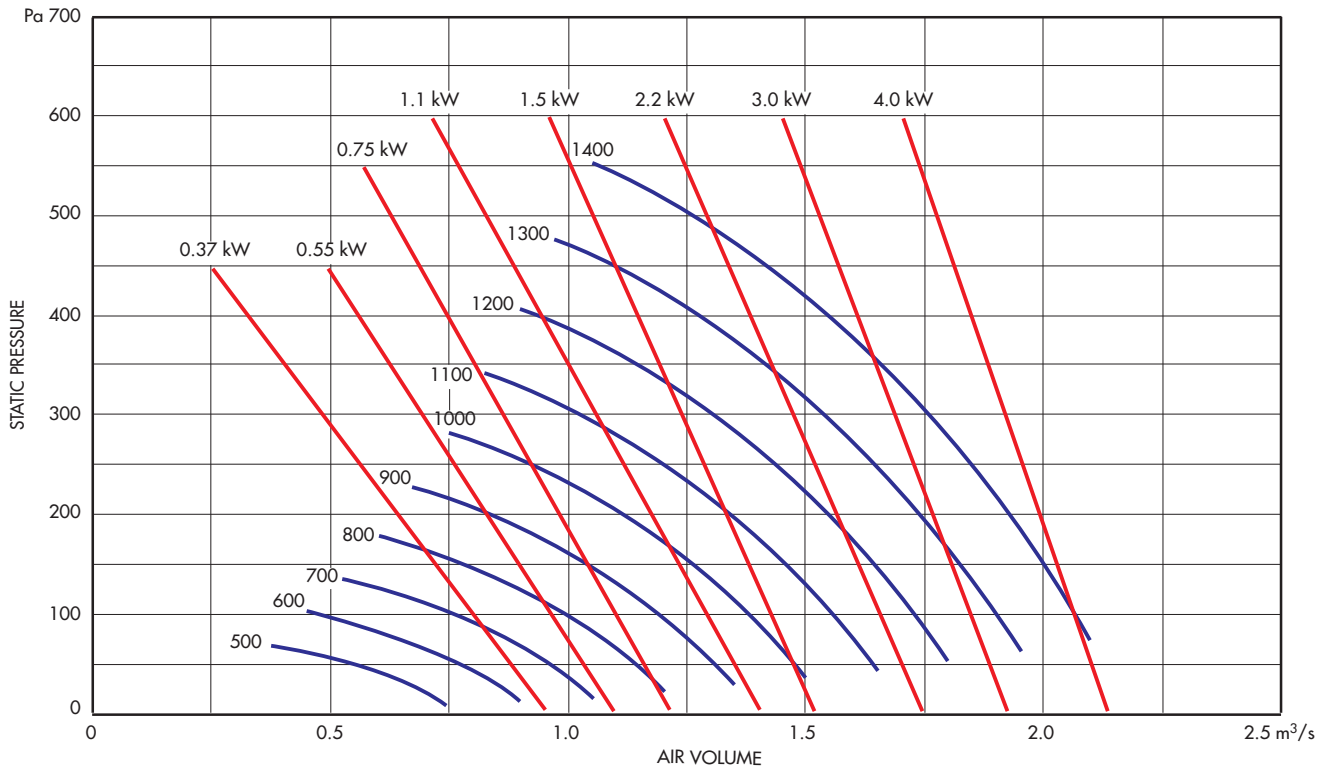
Unit Size	Fan Speed rpm	Sound Power dBW	In duct Sound Power Levels dBW								Sound Pressure dBA @ 3m
			@ Octave Band Mid Frequency Hz								
			63	125	250	500	1k	2k	4k	8k	
GDB2	600	68	61	63	60	60	58	56	55	48	45
GDB2	700	70	63	65	62	62	60	58	57	50	47
GDB2	800	73	66	68	65	65	63	61	60	53	50
GDB2	900	75	68	70	67	67	65	63	62	55	52
GDB2	1000	77	70	72	69	69	67	65	64	57	54
GDB2	1100	79	72	74	71	71	69	67	66	59	56
GDB2	1200	82	75	77	74	74	72	70	69	62	59
GDB2	1300	84	77	79	76	76	74	72	71	64	61
GDB2	1400	86	79	81	78	78	76	74	73	66	63
GDB2	1500	88	81	83	80	80	78	76	75	68	65
GDB2	1600	90	83	85	82	82	80	78	77	70	67

The sound power level shown for each speed is a typical figure for that speed. A variation dependent on the operating point on the curve may apply.

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Performance Curve

GDB3



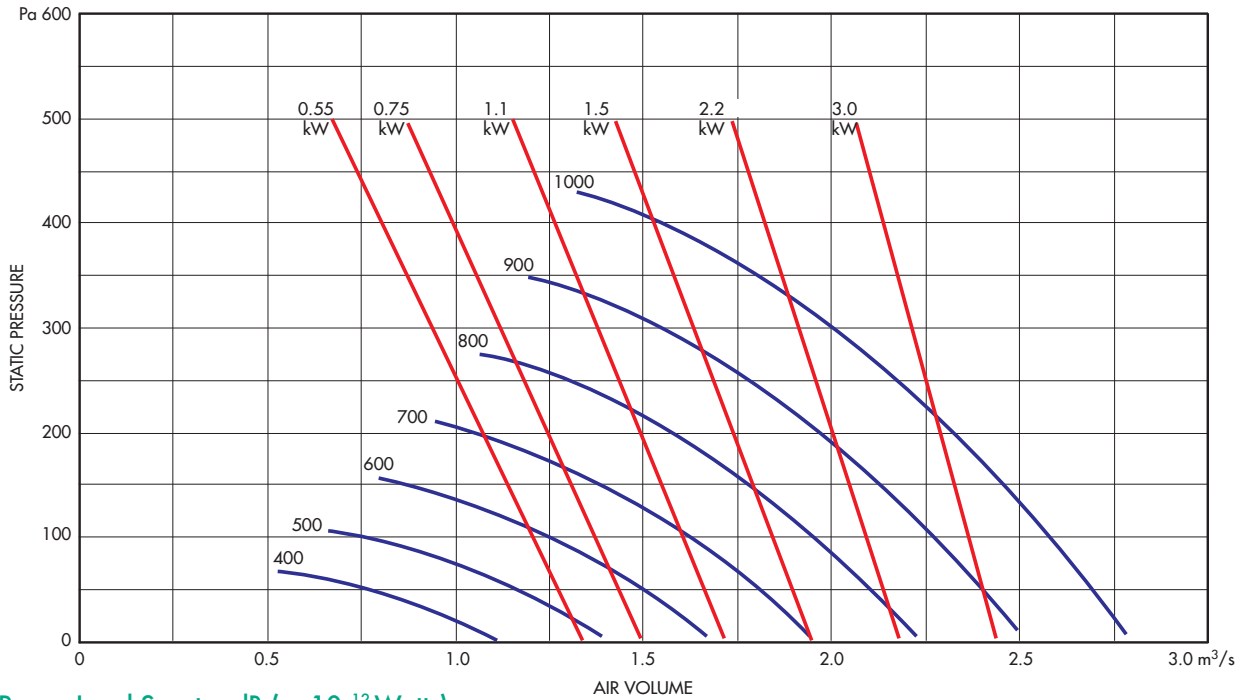
Sound Power Level Spectra dB (re 10⁻¹² Watts)

Unit	Fan Speed	Sound Power	Induct Sound Power Levels dBW								Sound Pressure
			@ Octave Band Mid Frequency Hz								
Size	rpm	dBW	63	125	250	500	1k	2k	4k	8k	dBa @ 3m
GDB3	500	69	62	63	61	60	63	58	54	51	48
GDB3	600	73	66	67	65	64	67	62	58	55	52
GDB3	700	75	70	69	67	66	69	64	60	57	56
GDB3	800	80	73	74	72	71	74	69	65	62	59
GDB3	900	83	76	77	75	74	77	72	68	65	62
GDB3	1000	86	79	80	78	77	80	75	71	68	65
GDB3	1100	88	81	82	80	79	82	77	73	70	67
GDB3	1200	90	83	84	82	81	84	79	75	72	69
GDB3	1300	92	85	86	84	83	86	81	77	74	71
GDB3	1400	94	87	88	86	85	88	83	79	76	73

The sound power level shown for each speed is a typical figure for that speed. A variation dependant on the operating point on the curve may apply.

Performance Curve

GDB4



Sound Power Level Spectra dB (re 10⁻¹² Watts)

Unit Size	Fan Speed rpm	Sound Power dBW	Induct Sound Power Levels dBW								Sound Pressure dBA @ 3m
			@ Octave Band Mid Frequency Hz								
			63	125	250	500	1k	2k	4k	8k	
GDB4	400	72	65	66	65	64	61	60	58	53	49
GDB4	500	75	68	69	68	67	64	63	61	56	52
GDB4	600	79	72	73	72	71	68	67	65	60	56
GDB4	700	83	76	77	76	75	72	71	69	64	60
GDB4	800	86	79	80	79	78	75	74	71	67	63
GDB4	900	88	81	82	74	80	77	76	74	69	65
GDB4	1000	90	83	84	83	82	79	78	76	71	67

The sound power level shown for each speed is a typical figure for that speed. A variation dependent on the operating point on the curve may apply.

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Accessories



Standard 1Ph Fan Stock Ref.	Insulated Fan Stock Ref.	KW	**ITC Man/Auto Changeover Controller Stock Ref.	**ITC-DS 12/24hr Auto Changeover Controller Stock Ref.	eDemand Inverter Stock Ref.	eDemand Changeover Stock Ref.	†Starter Stock Ref.	†Overload Stock Ref.	Mounting Stock Ref.	IP65 Isolator (Factory fitted) Bracket Stock Ref.	RVC Remote Visual Indicator Stock Ref.
			Changeover Controller Stock Ref.	Auto Changeover Controller Stock Ref.	Inverter Stock Ref.	Changeover Stock Ref.	Starter Stock Ref.	Overload Stock Ref.		Isolator Stock Ref.	
GDB1/C/1	GDBI1/C/1	0.37	*10314200	10314210	444169	444180	444744	444702	55GDB1MB	71ISOL4	10314220
GDB1/D/1	GDBI1/D/1	0.55	*10314200	10314210	444169	444180	444744	444703	55GDB1MB	71ISOL4	10314220
GDB1/E/1	GDBI1/E/1	0.75	*10314200	10314210	444170	444180	444744	444703	55GDB1MB	71ISOL4	10314220
GDB1/F/1	GDBI1/F/1	1.1	*10314200	10314210	444171	444180	444744	444705	55GDB1MB	71ISOL4	10314220
GDB2/C/1	GDBI2/C/1	0.37	*10314200	10314210	444169	444180	444744	444702	55GDB1MB	71ISOL4	10314220
GDB2/D/1	GDBI2/D/1	0.55	*10314200	10314210	444169	444180	444744	444703	55GDB1MB	71ISOL4	10314220
GDB2/E/1	GDBI2/E/1	0.75	*10314200	10314210	444170	444180	444744	444703	55GDB1MB	71ISOL4	10314220
GDB2/F/1	GDBI2/F/1	1.1	*10314200	10314210	444171	444180	444744	444705	55GDB1MB	71ISOL4	10314220
GDB2/G/1	GDBI2/G/1	1.5	ACO/9.0-15.0/1	-	444171	444180	444744	444706	55GDB1MB	71ISOL4	-
GDB3/C/1	GDBI3/C/1	0.37	10314200	10314210	444169	444180	444744	444702	55GDB3MB	71ISOL4	10314220
GDB3/D/1	GDBI3/D/1	0.55	10314200	10314210	444169	444180	444744	444703	55GDB3MB	71ISOL4	10314220
GDB3/E/1	GDBI3/E/1	0.75	10314200	10314210	444170	444180	444744	444703	55GDB3MB	71ISOL4	10314220
GDB3/F/1	GDBI3/F/1	1.1	10314200	10314210	444171	444180	444744	444705	55GDB3MB	71ISOL4	10314220
GDB3/G/1	GDBI3/G/1	1.5	ACO/9.0-15.0/1	-	444171	444180	444744	444706	55GDB3MB	71ISOL4	10314220
GDB4/D/1	GDBI4/D/1	0.55	*10314200	10314210	444169	444180	444744	444703	55GDB3MB	71ISOL4	10314220
GDB4/E/1	GDBI4/E/1	0.75	*10314200	10314210	444170	444180	444744	444703	55GDB3MB	71ISOL4	10314220
GDB4/F/1	GDBI4/F/1	1.1	*10314200	10314210	444171	444180	444744	444705	55GDB3MB	71ISOL4	10314220
GDB4/G/1	GDBI4/G/1	1.5	ACO/9.0-15.0/1	-	444171	444180	444744	444703	55GDB3MB	71ISOL4	10314220

**Not suitable for use with eDemand controllers. For compatible changeover panel see accessories and controls section

† Will require 2 x DOL starters and overloads per installation



Standard 3 Ph Fan Stock Ref.	Insulated Fan Stock Ref.	KW	**ITC Man/Auto Changeover Controller Stock Ref.	**ITC-DS 12/24hr Auto Changeover Controller Stock Ref.	eDemand Inverter Stock Ref.	eDemand Changeover Stock Ref.	†Starter Stock Ref.	†Overload Stock Ref.	Mounting Stock Ref.	IP65 Isolator (Factory fitted) Bracket Stock Ref.	RVC Remote Visual Indicator Stock Ref.
GDB1/C/3	GDBI1/C/3	0.37	*10314200	10314210	444172	444179	444747	444700	55GDB1MB	71ISOL4	10314220
GDB1/D/3	GDBI1/D/3	0.55	*10314200	10314210	444172	444179	444747	444701	55GDB1MB	71ISOL4	10314220
GDB1/E/3	GDBI1/E/3	0.75	*10314200	10314210	444172	444179	444747	444701	55GDB1MB	71ISOL4	10314220
GDB1/F/3	GDBI1/F/3	1.1	*10314200	10314210	444173	444179	444747	444702	55GDB1MB	71ISOL4	10314220
GDB2/C/3	GDBI2/C/3	0.37	*10314200	10314210	444172	444179	444747	444700	55GDB1MB	71ISOL4	10314220
GDB2/D/3	GDBI2/D/3	0.55	*10314200	10314210	444172	444179	444747	444701	55GDB1MB	71ISOL4	10314220
GDB2/E/3	GDBI2/E/3	0.75	*10314200	10314210	444172	444179	444747	444701	55GDB1MB	71ISOL4	10314220
GDB2/F/3	GDBI2/F/3	1.1	*10314200	10314210	444173	444179	444747	444702	55GDB1MB	71ISOL4	10314220
GDB2/G/3	GDBI2/G/3	1.5	*10314200	-	444173	444179	444747	444703	55GDB1MB	71ISOL4	-
GDB3/C/3	GDBI3/C/3	0.37	10314200	10314210	444172	444179	444747	444701	55GDB3MB	71ISOL4	10314220
GDB3/D/3	GDBI3/D/3	0.55	10314200	10314210	444172	444179	444747	444701	55GDB3MB	71ISOL4	10314220
GDB3/E/3	GDBI3/E/3	0.75	10314200	10314210	444172	444179	444747	444701	55GDB3MB	71ISOL4	10314220
GDB3/F/3	GDBI3/F/3	1.1	10314200	10314210	444173	444179	444747	444702	55GDB3MB	71ISOL4	10314220
GDB3/G/3	GDBI3/G/3	1.5	*10314200	10314210	444173	444179	444747	444703	55GDB3MB	71ISOL4	10314220
GDB3/H/3	GDBI3/H/3	2.2	*10314200	10314210	444174	444179	444747	444703	55GDB3MB	71ISOL4	10314220
GDB3/J/3	GDBI3/J/3	3	ACO/9.0-15.0/3	10314210	444174	444179	444747	444704	55GDB3MB	71ISOL4	10314220
GDB3/K/3	GDBI3/K/3	4	ACO/9.0-15.0/3	-	444175	444179	444747	444705	55GDB3MB	71ISOL4	-
GDB4/D/3	GDBI4/D/3	0.55	*10314200	10314210	444172	444179	444747	444701	55GDB3MB	71ISOL4	10314220
GDB4/E/3	GDBI4/E/3	0.75	*10314200	10314210	444172	444179	444747	444701	55GDB3MB	71ISOL4	10314220
GDB4/F/3	GDBI4/F/3	1.1	*10314200	10314210	444173	444179	444747	444702	55GDB3MB	71ISOL4	10314220
GDB4/G/3	GDBI4/G/3	1.5	*10314200	10314210	444173	444179	444747	444703	55GDB3MB	71ISOL4	10314220
GDB4/H/3	GDBI4/H/3	2.2	*10314200	10314210	444174	444179	444747	444703	55GDB3MB	71ISOL4	10314220
GDB4/J/3	GDBI4/J/3	3	ACO/9.0-15.0/3	10314210	444174	444179	444747	444704	55GDB3MB	71ISOL4	10314220
GDB4/K/3	GDBI4/K/3	4	ACO/9.0-15.0/3	-	444175	444179	444747	444706	55GDB3MB	71ISOL4	-

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