

AIRCLEAN

YOUR AIR FILTER MANUFACTURER

P.O. BOX 147,
MAIDSTONE, ME14 2LA.

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Metal Cased Discarbs

The metal cased 'Discarb' cells have the highest carbon loading in our range, and have standard or heavy-duty carbon panels permanently sealed into a galvanised sheet steel casing. This construction gives a very strong unit capable of handling large air volumes or where conditions dictate, increased contact time. The advantage of this unit is that with panels sealed in, there is no possibility of air leakage. Also, these units can be manufactured to almost any reasonable size, the limiting factors being the overall weight for handling purposes and the size of individual panels. When the unit has finished its useful life it is discarded and replaced with a complete new cell.



Standard Duty Cells							
Nominal Size	Actual Size mm	Number of	Carb.	Discarb	Airflow		Pressure
W x H x L	W x H x L	Panels	Weight	Weight	m ³ /s	cfm	Pa
12" x 12" x 12"	292 x 292 x 292	6	5 kg	9 kg	0.10	212	75
12" x 12" x 18"	292 x 292 x 445	6	8 kg	14 kg	0.15	318	95
12" x 12" x 24"	292 x 292 x 597	6	10 kg	18 kg	0.22	466	140
18" x 18" x 12"	445 x 445 x 292	8	10 kg	17 kg	0.21	445	55
18" x 18" x 18"	445 x 445 x 445	8	15 kg	25 kg	0.31	657	70
18" x 18" x 24"	445 x 445 x 597	8	21 kg	33 kg	0.41	868	105
24" x 24" x 12"	597 x 597 x 292	12	20 kg	31 kg	0.41	868	70
24" x 24" x 18"	597 x 597 x 445	12	31 kg	45 kg	0.61	1292	90
24" x 24" x 24"	597 x 597 x 597	12	42 kg	59 kg	0.81	1716	130
12" x 24" x 24"	298 x 597 x 597	6	21 kg	35 kg	0.40	847	130

Extra Duty Cells							
Nominal Size	Actual Size	No. of	Carb.	Discarb	Airflow		Pressure
W x H x L	W x H x L	Panels	weight	weight	m ³ /s	cfm	Pa
12" x 12" x 12"	292 x 292 x 292	6	6 kg	10 kg	0.13	275	125
12" x 12" x 18"	292 x 292 x 445	6	9 kg	15 kg	0.20	424	175
12" x 12" x 24"	292 x 292 x 597	6	12 kg	20 kg	0.27	572	250
18" x 18" x 12"	445 x 445 x 292	8	12 kg	19 kg	0.30	635	95
18" x 18" x 18"	445 x 445 x 445	8	19 kg	28 kg	0.41	868	125
18" x 18" x 24"	445 x 445 x 597	8	25 kg	37 kg	0.54	1144	185
24" x 24" x 12"	597 x 597 x 292	12	25 kg	35 kg	0.54	1144	125
24" x 24" x 18"	597 x 597 x 445	12	38 kg	52 kg	0.80	1694	150
24" x 24" x 24"	597 x 597 x 597	12	51 kg	68 kg	1.06	2245	225
12" x 24" x 24"	298 x 597 x 597	6	26 kg	46 kg	0.53	1122	225

The company reserves the right to change the specifications without notice. E & OE.

Code AC6/2a Ref 02/09

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Technical

The capacities shown are based on a dwell time of 0.1 seconds .

For contact times of 0.3 seconds, reduce rated airflow to 1/3rd, pressure drop will also reduce to 1/3rd.

Max Temperature 40 Deg C

Max Humidity 80% RH

Non-standard sizes

Other sizes are available to suit individual requirements. Our Technical Department will be pleased to

FAN DATA SHEET

Manufacturer: Helios
Model: GBW500 /4 / 1
Dimensions: 670 x 670 x 670mm overall
620 x 620mm inside frame
Motor Rating: 1.38 kW
Supply: 240/50/1 phase
Full Load Current: 6.4 amps
Breakout Noise: 45 dB(A) at 4m
Air Performance: 1.94 m³/s @ 200 Pa
1.57 m³/s @ 350 Pa
Speed Controller: TSW 7.5

SILENCER

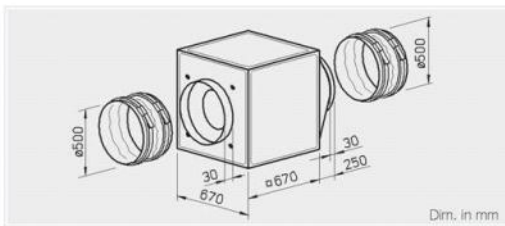
Manufacturer: eiv (2009) ltd
Type: Rectangular Splitter Silencer
Size: 620 x 620 x 600 long
Performance: 15 to 20 dB reduction

GigaBox centrifugal fan 500 mm ø



Models GB..

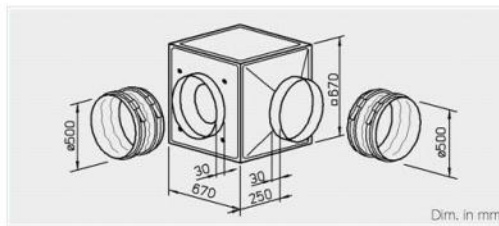
Arbitrary installation position and flexible assembly by five possible discharge directions.



Models GB.. T120

NEW!

Designed for moving dirty, humid and hot air up to max. 120° C.



Special features of type GB.. T120

- Designed for moving dirty, humid and hot air volumes up to max. 120° C.
- Motor located outside of air flow.
- Temperature insulated partition panel between motor and impeller, lined with 20 mm thick, flame-retardant mineral wool.
- Easily accessible motor and impeller unit, removable without disassembling the system components.
- Inspection cover with handle, simply remove for cleaning and maintenance.
- Condensate collector with condensate spigot included in delivery. Drill hole for rain drainage (accessories) for outdoor installation is prepared.

Assembly of types GB.. T120

Installation must be carried out with condensation discharge showing downward. Flexible assembly by three possible centrifugal discharge directions via the discharge adapter. Outdoor installation is possible using outdoor cover hood and external weather louvers (accessories).

Feature

Assembly of types GB..
Arbitrary installation position and flexible assembly by five possible discharge directions via the discharge adapter. For wall mounting the wall bracket (accessories) has to be used. Outdoor installation is possible using outdoor cover hood and external weather louvers (accessories).

Specification of both types

Casing
Self-supporting frame construction from aluminium hollow profiles. Double-walled side panels from galvanised sheet steel, lined with 20 mm thick temperature insulating and flame-retardant mineral wool. Intake cone for ideal inflow as well as spigot and flexible sleeve (for the respective max. permissible air flow temperature) for duct connection. With discharge adapter (from square to circular) on the pressure side for low-loss discharge and flexible sleeve to reduce vibration transmission. Simple positioning by standard crane hooks.

Impeller

Smooth running backward curved aluminium centrifugal impeller highly efficient and direct driven. Energy efficient with a low noise development. Dynamically balanced together with the motor to DIN ISO 1940 Pt.1 - class 6.3.

Motor

Maintenance-free external rotor motor or IEC-standard motor protected to IP 44 or 54. With ball bearings and radio suppressed as standard.

Electrical connection

Standard terminal box (IP 54) fitted on the motor; with GB.. T120 fitted on the motor support plate.

Type	Ref. No.	Air flow volume (FID) V m³/h	R.P.M. min⁻¹	Sound press. level case breakout dB(A) at 4 m	Motor power (nominal) kW	Full load current A	Current speed controlled A	Wiring diagram Nr.	Maximum air flow temperature full load °C	Temperature controlled °C	Nominal weight (net) kg	5 step transformer controller with motor protect. unit Type Ref. No.	controller without motor protect. unit Type Ref. No.	Full motor protection unit using the thermal contacts Type Ref. No.			
1 Phase motor, 230 V / 1 ph. / 50 Hz, capacitor motor, protection to IP 54																	
GBW 500/6	5519	5760	880	35	0.52	2.30	2.60	864	45	45	47	MWS 3	1948	TSW 3.0	1496	MW ¹⁾	1579
GBW 500/4	5517	8400	1350	45	1.38	6.40	8.20	865	65	55	61	MWS 10	1946	-	-	-	-
2 speed motor, 3 Phase motor, 400 V / 3 ph. / 50 Hz, Y/Δ-wiring, protection to IP 54																	
GBD 500/4/4	5518	8000/8850	1075/1340	45	0.97/1.45	1.60/2.80	2.90	867	50	50	57	RDS 7	1578	TSD 5.5	1503	M4 ²⁾	1571
1 Phase motor, 230 V / 1 ph. / 50 Hz, capacitor motor, protection to IP 54																	
GBW 500/4 T120	5776	8345	1340	45	1.40	6.1	7.0	301	120	100	75	MWS 10	1946	-	-	MW ¹⁾	1579
2 speed motor, 3 Phase motor, 400 V / 3 ph. / 50 Hz, Y/Δ-wiring, protection to IP 54																	
GBD 500/4/4 T120	5777	7320/8350	1070/1365	45	1.07/1.50	1.80/3.00	3.0	947	120	110	75	RDS 4	1316	TSD 3.0	1502	M4 ²⁾	1571

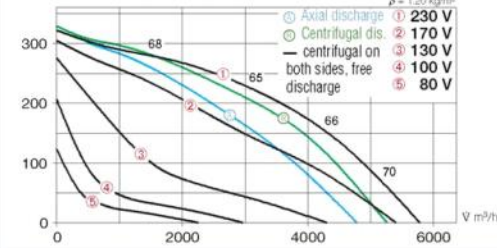
¹⁾ incl. operation switch

²⁾ incl. operation and 2 speed switch



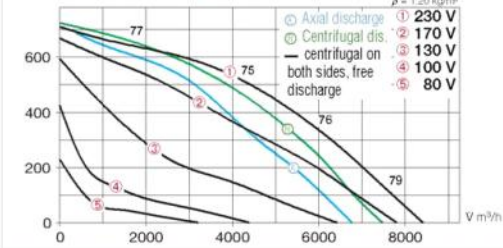
GBW 500/6

Frequency	Hr	Total	125	250	500	1k	2k	4k	8k
L _{max} Case breakout	dB(A)	56	52	51	42	40	37	32	25
L _{max} Intake	dB(A)	66	49	51	61	62	59	51	41
L _{max} Extract	dB(A)	70	58	62	67	66	64	59	46



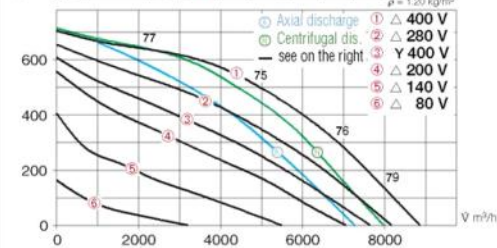
GBW 500/4

Frequency	Hr	Total	125	250	500	1k	2k	4k	8k
L _{max} Case breakout	dB(A)	65	59	62	57	56	47	41	33
L _{max} Intake	dB(A)	77	57	66	69	74	70	64	55
L _{max} Extract	dB(A)	80	61	73	74	74	73	69	60



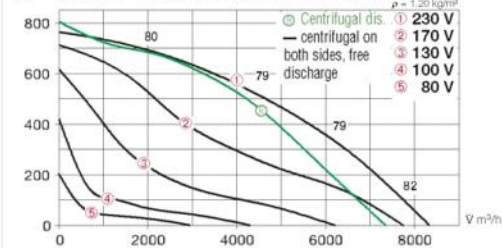
GBD 500/4/4

Frequency	Hr	Total	125	250	500	1k	2k	4k	8k
L _{max} Case breakout	dB(A)	66	59	62	57	56	47	41	33
L _{max} Intake	dB(A)	77	57	66	69	74	70	64	55
L _{max} Extract	dB(A)	80	61	73	74	74	73	69	60



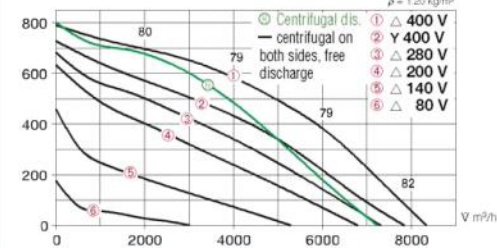
GBW 500/4 T120

Frequency	Hr	Total	125	250	500	1k	2k	4k	8k
L _{max} Case breakout	dB(A)	65	54	61	56	57	56	50	42
L _{max} Intake	dB(A)	79	66	71	73	72	73	66	58
L _{max} Extract	dB(A)	82	66	74	75	77	76	66	60



GBD 500/4/4 T120

Frequency	Hr	Total	125	250	500	1k	2k	4k	8k
L _{max} Case breakout	dB(A)	66	54	61	56	57	56	50	42
L _{max} Intake	dB(A)	79	65	71	73	72	73	66	58
L _{max} Extract	dB(A)	82	66	74	75	77	76	66	60



Motor protection

Motors have thermal contacts wired to the terminal block and must be connected to a motor protection unit.

Speed control

All types are speed controllable by voltage reduction using a transformer controller. The 3-phase models can also be 2 speed controlled by star/delta switch (accessories DS 2 or full motor protection unit M 4). The duties at different speeds are given in the performance curve.

Sound levels

Total sound power levels and the spectrum figures in dB(A) are given for:
 - sound level case breakout
 - sound level intake
 - sound level extract
 in the tables above the performance curve. Beside, the sound power level (on intake) is stated over the rated characteristic curve. In the table below you can also find the case breakout level at 4 m (freefield conditions).

Information Pages

Design of systems, acoustic	12 on
General techn. information, speed control	17 on

Accessory-Details Pages

Speed controller and full motor protection unit	397 on
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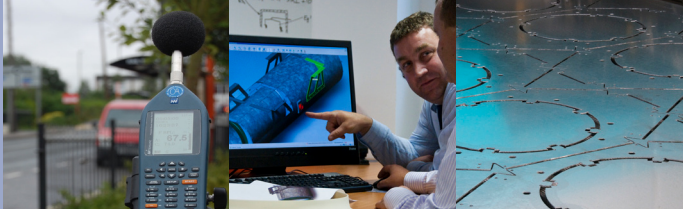
Accessories of both types

- Anti vibration mounts** for installation indoors. Set of 4.
- SDD-U** Ref. No. 5627
- Wall bracket** for wall mounting.
- GB-WK 500** Ref. No. 5626
- External weather louvers** to over exhaust opening.
- GB-WSG 500** Ref. No. 5639
- Outdoor cover hood** for outdoor installation.
- GB-WSD 500** Ref. No. 5748
- On/Off and 2-speed switch** for 3-phase star/delta motors.
- DS 2** Ref. No. 1351

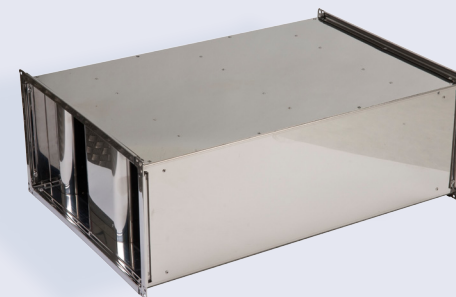
Specific accessories

- for types GB..**
- Condensate collector** with condensate spigot for pipe connection. **GB-KW 500** Ref. No. 5644 (Condensate collector with condensate spigot included in delivery with GB.. T120).
- for types GB.. T120**
- Rain drainage** for outdoor installation (drill holes for rain drainage is already prepared).
- GB-RA** Ref. No. 9418

³⁾Full motor protection unit recommended: MD Ref. No. 5849



R02 8



R02 8 RECTANGULAR SILENCER

Available in **eight** standard lengths R02 8 Rectangular Duct Mounted Silencers have excellent attenuation properties, achieved with sound absorbing infill splitters, retained in the attenuator casing by a perforated liner.

The resistance to airflow is a function of the face velocity and length. It is not recommended to select the R02 8 silencers with a face velocity above 7 metres per second without asking advice regarding re-generated self noise. We can advise on the selections and can perform system analysis to ensure the correct unit is specified.

- High performance rectangular duct silencer
- Eight standard lengths
- Many connection options
- Cross section dimensions in 1mm increments
- System pressure within ducted systems to 1500 Pa
- Special lengths on request

INSERTION LOSS (db) - CENTRE BAND FREQUENCY

PRODUCT CODE	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
R02 8-600	2	2	5	12	12	11	7	4
R02 8-900	2	4	7	15	19	18	10	5
R02 8-1200	3	5	10	19	24	23	14	6
R02 8-1500	3	7	12	24	30	30	19	7
R02 8-1800	4	8	16	27	35	36	20	8
R02 8-2100	5	9	20	33	42	42	26	10
R02 8-2400	5	10	23	38	45	45	28	12

RESISTANCE TO AIRFLOW (Pa)

FACE VELOCITY M/S	3.0	4.0	5.0	6.0	7.0
R02 8-600	9	15	22	35	45
R02 8-900	9	15	24	35	46
R02 8-1200	9	16	25	36	48
R02 8-1500	9	16	24	36	48
R02 8-1800	10	17	27	37	49
R02 8-2100	11	18	26	38	50
R02 8-2400	12	18	28	40	52

Insertion loss data is derived from continual testing to BS4718 and other standards in independent UKAS certified laboratories, which includes where appropriate re-generated or self noise testing in both forward and reverse flow conditions. If you request system analysis from our technicians all predictions will be assessed using the relevant certified insertion loss data together with relevant dynamic corrections.



MATERIAL & FINISH

All components are manufactured from mill finish hot dip galvanised mild steel conforming to EN10327 (BS2989). To prevent erosion of absorbing materials, the R Series silencers are fitted with perforated splitters manufactured from galvanised mild steel conforming to EN10327 (BS2989)

R Series silencers utilise acoustic grade mineral fibre absorbing infill and are manufactured to the HVCA specification DW142 class B and M&E 100 for sheet steel thickness and stiffening.

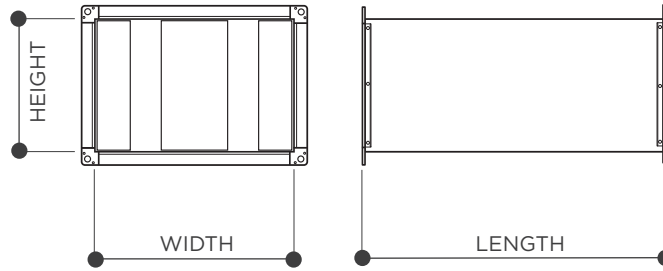
- Pressure: Up to 1500 Pascal’s positive and negative.
- Temperature: - 12° to + 100° C.
- Location: Internally & externally mountable.

MELINEX LINING (OPTIONAL)

Where moist conditions exist (e.g. process systems) or for critically clean applications (e.g. hospitals) the sound absorbing material may be required to be fully sealed by Melinex lining to prevent fibre migration. This will however, effect the acoustic performance of the silencer. Please contact us to discuss your requirements.

ALTERNATE SPECIFICATION

The above specification refers to our standard, stock range. We can also supply custom materials such as 304 and 316 grade stainless steels, cold reduced (CR4) mild steel and aluminium.



DIMENSIONAL DATA

DIMENSION	MINIMUM	MAXIMUM
DUCT WIDTH	100mm	1200mm
DUCT HEIGHT	100mm	1200mm
LENGTH	400mm	2400mm

Units smaller than the minimum and larger than the maximum with the same areo-acoustic performances are available but may have different manufacturing methods and are therefore coded accordingly.

CONNECTION OPTIONS	
MEZ FLANGES	20, 30 & 40mm
DUCTMATE FLANGES	25 & 35mm
CIRCULAR SPIGOT	“SPIRAL FIT” circular spigots, can be offset.
RECTAGULAR SPIGOT	Rectangular spigots, can be offset
RAW	plain end for slip jointing etc.

INSTALLATION

For recommendations for the support of the fan the principles of Part six (pages 43-46) of the HVCA DW144 standard should be followed. Always use the correct size bolts as specified in the dimensional data table above. The arcuate holes are sized to allow the metric thread sizes to be utilised, for an M10 fixing for example the slot is made 19mm long by 13mm wide. Please contact us to confirm the suitability of any fan manufacturers product.

Centrifugal Fans	Position at least one duct width from inlet or outlet.
Axial Fans	Position at least one duct width from inlet or outlet.
Mixed-Flow Fans	Position at least one duct width from inlet or outlet.
Ductwork Bends	Position at least three duct widths from inlet or outlet. One duct width will increase resistance by 90%, two by 20%. Ensure splitters are in parallel plane to bend.
Ductwork Reducers	Direct couple only with reducers of maximum 15° cheek slope.
Finned Coils & Filters	Leave 500mm plenum between silencer and coil or filter, and suitable reducer as specified in HVCA DW/144 1998.

MAINTENANCE

Silencers are of a passive nature and as such require no routine maintenance or lubrication.

CLEANING

Should the product require routine cleaning we recommend low-pressure air blasting, vacuuming or wiping the exposed surfaces with damp cloth. It is not unusual for “White zinc oxide” to develop on galvanised silencers when the zinc in the galvanising reacts electrolytically with moisture.