



Extract & Ventilation Statement

Extraction Ventilation Statement

The Proposal are for installation of 1No extraction flue to the rear of the property.

Extraction Flue

The main elements of the grease and odour control system starts in the kitchen and will be accordance with the following:

Kitchen Canopy Extraction Requirements

The canopy is as existing and contains primary grease filters and all cooking equipment is below the canopy primary grease filters are cleaned every 2 – 3 days.

The extraction system has been designed to ensure that the velocity of gases through these filters enables sufficient residence time this system has been designed to have 0.4s residence time.

Panel Pre Filter

This filter will be installed in the ductwork within the filter housing this will be a disposable pleated panel filter located within the ductwork. The filter will be in-line but prior to the odour control/filtration, in the same filtration housing. The secondary filter shall be replaced every 3 months, however this could be done earlier depending on the volume of cooking.

Odour Control Filtration (Carbon Filter)

Activated carbon filters will be installed after the secondary filter.

Activated-carbon filters absorbs gaseous odours, usually volatile organic compounds, onto the filter medium. The carbon filter will have a dwell time of 0.4s. there will be 2No Carbon filters installed will be checked every 3 months prior to replacement.

The carbon filtration will be located at a sufficient distance along the duct run, to prevent the heat from the cooking reducing the efficiency of the filtration. The filter housing has been designed to ensure ease of access for maintenance and to provide a good seal around the filters to prevent gases bypassing the filters, rendering them ineffective.

The internal surfaces of the filter housing shall be cleaned monthly.

The gaseous flow rates, through the filters, shall be matched to the respective retention time of each filter to achieve optimum efficiency of the filters. It is critical to achieve optimum efficiency to effectively remove grease and odour and to prevent breakthrough of grease and odour, by too great a flow.

Extraction Motor / Fan

The extraction motor has been correctly rated for the application and at the correct speed/flow rate to achieve optimum performance of the filtration. The extract fan shall be mounted on Anti – Vibration component and the extraction motor will be cleaned and maintained in accordance with the manufactures specifications. The motor controller shall be located in the kitchen and be of, two

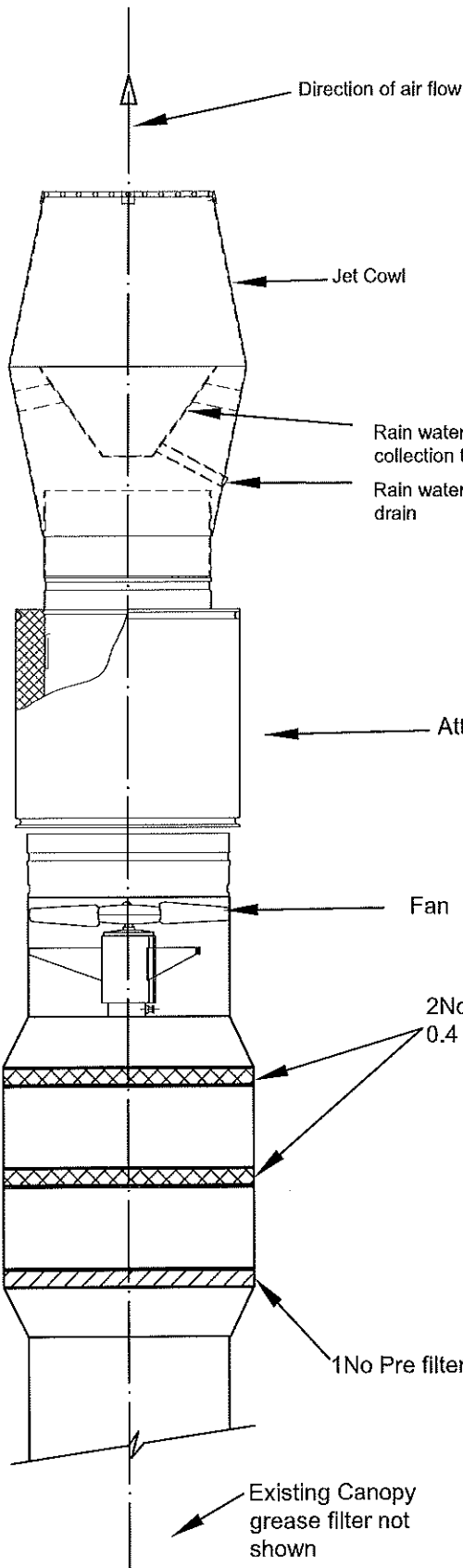
speed or variable speed design, adjusted so that the speed settings correlate to and achieve the optimum flow rates of the odour control system.

Noise Control / Attenuator

Noise control shall be implemented; attenuator will be installed after fan installation as per schematic. The attenuation will be of pod type supplied by London Fans.

Final Termination

The ducting shall discharge slightly above eaves level with no restriction to final opening. Duct termination has been designed to achieve a vertical efflux velocity of at least 8 metres per second (m/s).



Notes:

1. For component details refer to specification.
2. Length and position may vary slightly due to site conditions.
3. The filters and flue will be maintained every 3 months by a specialist.
4. Anti-vibration component will be installed on the fan.
5. Internal canopy grease filters etc will be maintained by user.
6. Ductwork to include sump at bends

Information Only

| |
|--|
| client |
| project |
| title Extraction flue component schematic |

| | | |
|-----|------------|------------|
| rev | amendments | scale: NTS |
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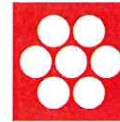
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Manufacturing
Air Filters in
the UK for
Over

40
Years

V Line Pleated Panel Filter Economy Standard



JASUN
ENVIROCORE PLC

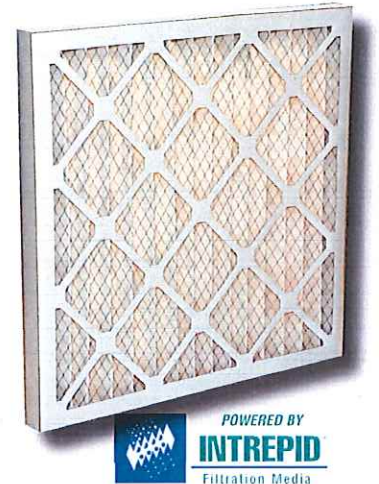


General Description

The V Line pleated Panel filter is a standard capacity disposable product offering a better than basic level of filtration, or pre-filtration in HEVAC applications. This product is made using patented Kimberly Clark media which delivers a constant level of filtration over its life.

Construction

This product is constructed by bonding a pleat pack of Intrepid V Line media into a water repellent AquaKote card frame



Features

The Frame is made from AquaKote card which has

- Superior tear resistance when wet
- Great dry tear resistance and
- Manufactured from a renewable source.

Kimberley Clark Patented Intrepid Media

- Has a Graduated Density for even dirt loading , resulting in greater dust holding
- Hydrophobic – so will not load with moisture in the air
- Has a constant efficiency due to its extra electrostatic charge
- Superior Efficiency V's Particle size (see table)
- Has a low pressure drop
- Is made form continuous fibres so will not shed

| Test Comparing Filtration efficiency V's different sized particles. Intrepid Media V's Cotton Polyester Filters | | |
|---|----------------------------------|------------------------------------|
| Particle Size Rang(mm) | Initial Fractional Efficiency(%) | |
| | V Line Intrepid | The "best" Cotton Poly Alternative |
| 0.3-0.4 | 7 | 2 |
| 0.4-0.55 | 15 | 6 |
| 0.55-0.7 | 28 | 11 |
| 0.7-1.0 | 41 | 19 |
| 1.0-1.3 | 52 | 24 |
| 1.3-1.6 | 58 | 28 |
| 1.6-2.2 | 63 | 32 |
| 2.2-3.0 | 67 | 36 |
| 3.0-4.0 | 70 | 37 |
| 4.0-5.5 | 71 | 38 |
| 5.5-7.0 | 72 | 38 |
| 7.0-10.0 | 73 | 39 |

| | | |
|-------------------------------------|---------------|-----------------------|
| Filter Efficiency to BS EN 779 | | G4 |
| Rating to ASHRAE 52.2 Test Standard | | Merv 8 |
| Filter Thickness | Rated Airflow | Initial Pressure Drop |
| 20mm | 1.5m/sec | 60Pa |
| 45mm | 2.0m/sec | 62Pa |
| 95mm | 2.5m/sec | 80Pa |
| Final Recommended Pressure Drop | | 250Pa |

Hi Magnification photo showing the cross section of the Intrepid media



Coarse
↓ Airflow
Fine



FM 29257
BS EN ISO 9001:2008



EMS 81914
BS EN ISO 14001:2004

V Line Panel Filter (VL) STANDARD SIZES

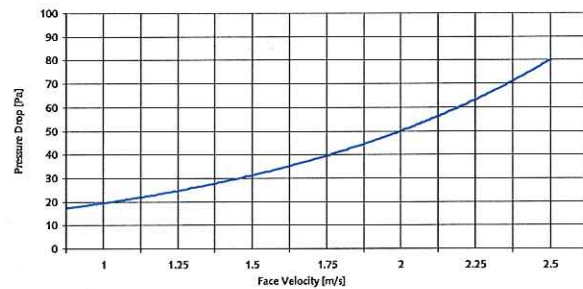


| No. | Nominal Size Inches | Height (mm) | Width (mm) | Depth (mm) | Rated Airflow m ³ /hr |
|----------|---------------------|-------------|------------|------------|----------------------------------|
| VL4-1010 | 10x10x4 | 241 | 241 | 95 | 544 |
| VL4-1020 | 10x20x4 | 241 | 495 | 95 | 1117 |
| VL4-1212 | 12x12x4 | 292 | 292 | 95 | 798 |
| VL4-1224 | 12x24x4 | 292 | 594 | 95 | 1623 |
| VL4-1515 | 15x15x4 | 368 | 368 | 95 | 1268 |
| VL4-1520 | 15x20x4 | 368 | 495 | 95 | 1705 |
| VL4-1616 | 16x16x4 | 394 | 394 | 95 | 1453 |
| VL4-1620 | 16x20x4 | 394 | 495 | 95 | 1825 |
| VL4-1625 | 16x25x4 | 394 | 622 | 95 | 2294 |
| VL4-1818 | 18x18x4 | 445 | 445 | 95 | 1854 |
| VL4-1831 | 18x31x4 | 445 | 775 | 95 | 3228 |
| VL4-2020 | 20x20x4 | 495 | 495 | 95 | 2293 |
| VL4-2024 | 20x24x4 | 495 | 594 | 95 | 2752 |
| VL4-2025 | 20x25x4 | 495 | 622 | 95 | 2882 |
| VL4-2424 | 24x24x4 | 594 | 594 | 95 | 3303 |

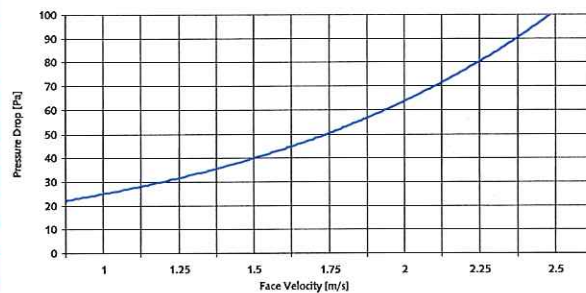
| No. | Nominal Size Inches | Height (mm) | Width (mm) | Depth (mm) | Rated Airflow m ³ /hr |
|----------|---------------------|-------------|------------|------------|----------------------------------|
| VL2-1010 | 10x10x2 | 241 | 241 | 45 | 418 |
| VL2-1020 | 10x20x2 | 241 | 495 | 45 | 859 |
| VL2-1212 | 12x12x2 | 292 | 292 | 45 | 614 |
| VL2-1224 | 12x24x2 | 292 | 594 | 45 | 1249 |
| VL2-1515 | 15x15x2 | 368 | 368 | 45 | 975 |
| VL2-1520 | 15x20x2 | 368 | 495 | 45 | 1312 |
| VL2-1619 | 16x19x2 | 394 | 470 | 45 | 1333 |
| VL2-1620 | 16x20x2 | 394 | 495 | 45 | 1404 |
| VL2-1624 | 16x24x2 | 394 | 594 | 45 | 1685 |
| VL2-1625 | 16x25x2 | 394 | 622 | 45 | 1764 |
| VL2-1818 | 18x18x2 | 445 | 445 | 45 | 1426 |
| VL2-1820 | 18x20x2 | 445 | 495 | 45 | 1586 |
| VL2-1824 | 18x24x2 | 445 | 594 | 45 | 1903 |
| VL2-2020 | 20x20x2 | 495 | 495 | 45 | 1764 |
| VL2-2024 | 20x24x2 | 495 | 594 | 45 | 2117 |
| VL2-2025 | 20x25x2 | 495 | 622 | 45 | 2217 |
| VL2-2424 | 24x24x2 | 594 | 594 | 45 | 2540 |

| No. | Nominal Size Inches | Height (mm) | Width (mm) | Depth (mm) | Rated Airflow m ³ /hr |
|----------|---------------------|-------------|------------|------------|----------------------------------|
| VL1-1010 | 10x10x1 | 241 | 241 | 20 | 314 |
| VL1-1020 | 10x20x1 | 241 | 495 | 20 | 644 |
| VL1-1212 | 12x12x1 | 292 | 292 | 20 | 460 |
| VL1-1224 | 12x24x1 | 292 | 594 | 20 | 937 |
| VL1-1515 | 15x15x1 | 368 | 368 | 20 | 731 |
| VL1-1520 | 15x20x1 | 368 | 495 | 20 | 984 |
| VL1-1619 | 16x19x1 | 394 | 470 | 20 | 1000 |
| VL1-1620 | 16x20x1 | 394 | 495 | 20 | 1053 |
| VL1-1624 | 16x24x1 | 394 | 594 | 20 | 1264 |
| VL1-1625 | 16x25x1 | 394 | 622 | 20 | 1323 |
| VL1-1818 | 18x18x1 | 445 | 445 | 20 | 1069 |
| VL1-1820 | 18x20x1 | 445 | 495 | 20 | 1189 |
| VL1-1824 | 18x24x1 | 445 | 594 | 20 | 1427 |
| VL1-2020 | 20x20x1 | 495 | 495 | 20 | 1323 |
| VL1-2024 | 20x24x1 | 495 | 594 | 20 | 1588 |
| VL1-2025 | 20x25x1 | 495 | 622 | 20 | 1663 |
| VL1-2424 | 24x24x1 | 594 | 594 | 20 | 1905 |

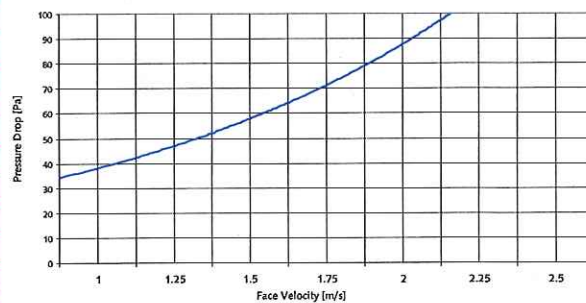
Pressure Drop vs/ Face Velocity
V Line VL4 Panel Filter 95mm Thick



Pressure Drop vs/ Face Velocity
V Line VL2 Panel Filter 45mm Thick



Pressure Drop vs/ Face Velocity
V Line VL1 Panel Filter 20mm Thick



GigaBox centrifugal fans

GigaBoxes are real multi-functional options that offer almost unlimited flexibility in various applications.

Compact frame construction and assembly-friendly accessories make a variable and thus optimal adaptation possible by simply repositioning the casing panels to the structural conditions. With five or (with series T120) three possible discharge directions this gives design flexibility to suit all site conditions. All types have integrated crane hooks for easier positioning as standard.

They are particularly suitable for medium to higher air flow volumes against high resistances in ventilation systems of every type. Furthermore, the new series GB.. T120 is suited for extraction of dirty, hot air up to 120° C. Altogether, 26 models are available with air flow volumes from 1400 to 19 000 m³/h for duct diameters 250 to 710 mm.

GigaBoxes from Helios are delivered complete with:

- Discharge adapter from square to circular ducted system for low-loss discharge

- Flexible sleeves to reduce vibration transmission and for the connection to ducts in the usual standard diameters.

Backward curved high output centrifugal impeller guarantees an energy-efficient operation at low noise emission.



Outdoor installation with wall bracket (accessories).



Roof installation with outdoor cover hood and external weather louvers (accessories).



Installation in the attic with anti vibration mounts (accessories).

NEW!

GigaBox for air flow temperatures up to max. 120° C.



GB.. T120: The motor which is located outside of the air flow is separated from the impeller through a temperature insulated partition panel. The motor-impeller-unit is removable without disassembly of the ducting.



Assembly of the discharge adapter for GB.. T120 with centrifugal discharge direction to the top or to the side.



GB.. T120 with simply removable inspection cover.

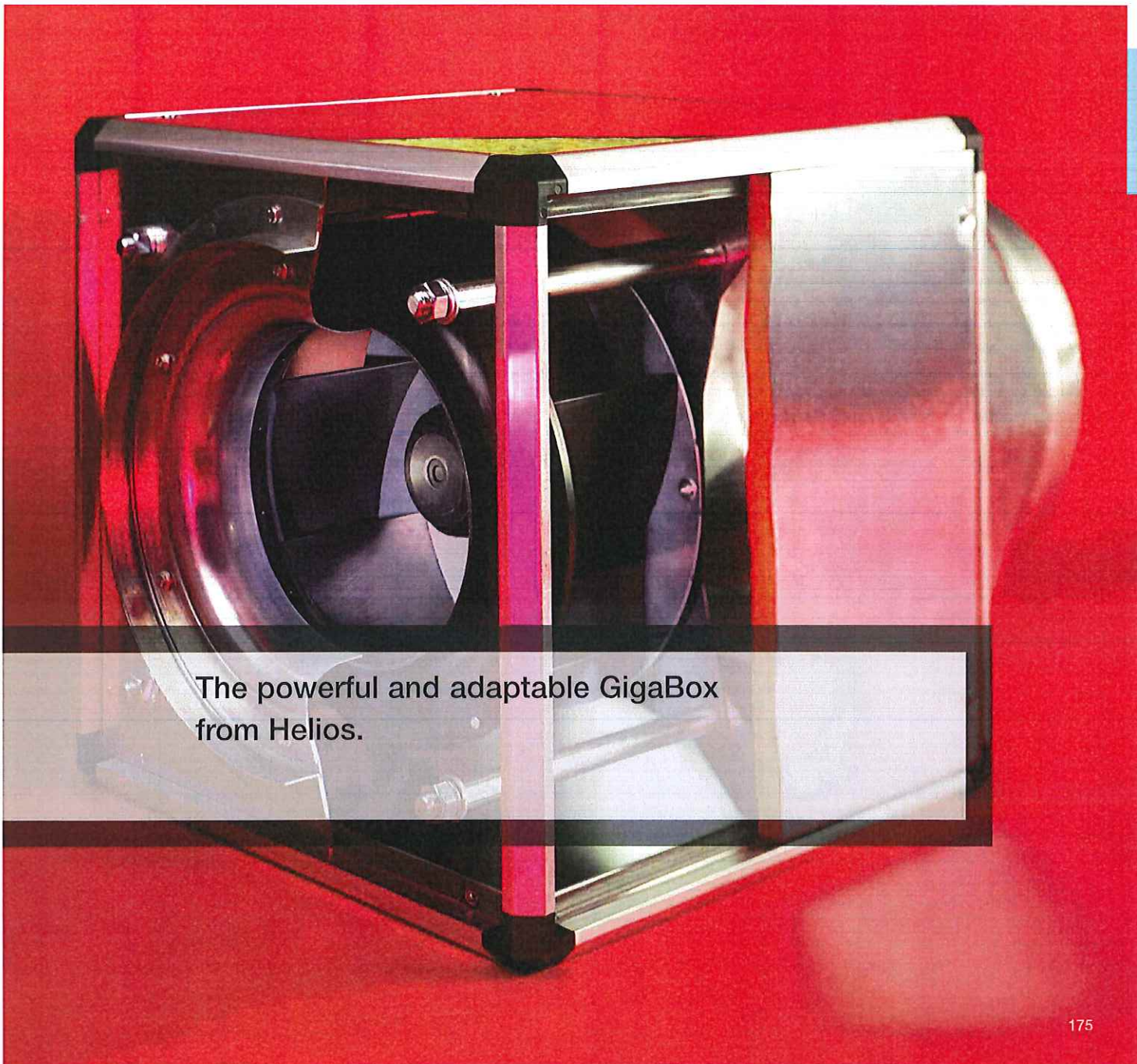
The double-walled, removeable 20 mm thick side panels are noise and temperature insulated with flame-retardant mineral wool.

This allows for a variable installation and simple inspection access. Extensive accessories like wall bracket, condensate collector incl. condensate spigot (for GB.. T120 included in delivery), external weather louvers to cover the exhaust opening, outdoor cover hood for protected outdoor installation ensure for the necessary flexibility on site.

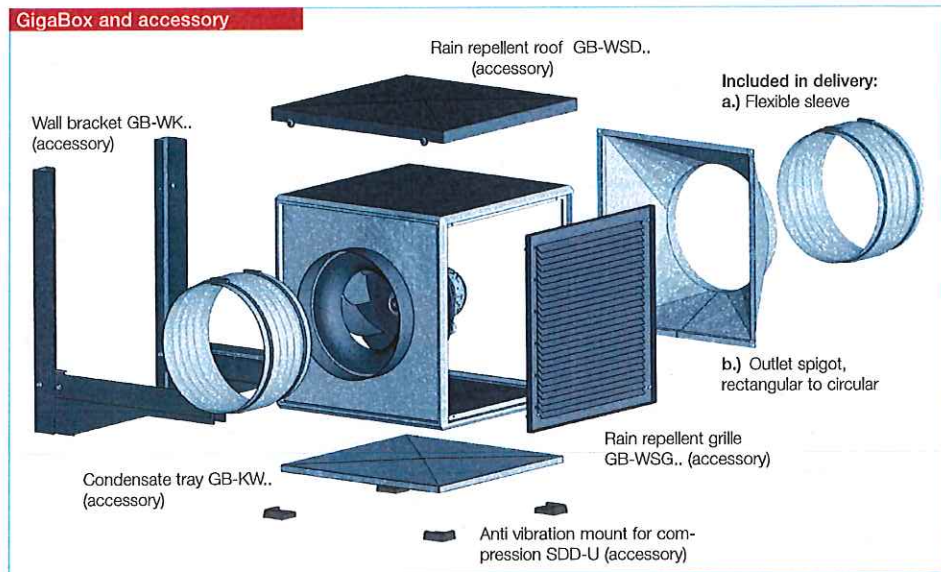
The T120 model impresses with outstanding benefits:

- Air flow temperature 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-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.
- Accessory components suitable for use to max. 120° C.

For applications with high air flow temperatures and/or steam/humidity present in the exhaust air, the GigaBox T120 is ideally suitable. Ideal for application in exhaust air systems of process technology or in commercial kitchens.



The powerful and adaptable GigaBox from Helios.



■ Application

Multifunctional fan box, suitable for medium to higher air flow volumes against high resistances in every type of ventilation system. The compact frame construction offers easy conversion of the outlet position.

Together with a choice of ideal accessories make these units ideal for all applications.

The **GB.. T120 types** are suitable for the extraction of dirty, humid and hot air up to max. 120° C, i.e. as extract air fan in commercial kitchens and many applications of process technology.

■ 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 airflow, spigot and flexible connector for duct connection. With outlet adapter (from square to circular) on the exhaust side for low-loss discharge and flexible connector to reduce vibration transmission. The flexible connectors are supplied as standard and correspond to the max. permissible air flow temperature of +70 °C and/or +120 °C with the types GB.. T120. Lifting lugs are standard for using crane hooks.

With **GB.. T120** the motor is located outside of the air flow. The thermally insulated partition panel is also the support plate for the motor and impeller unit and can be removed completely for inspection without removing the complete fan from the system.

■ Speed control

All types (except GBD 630/4 T120) are speed controllable by voltage reduction using a 5-step transformer controller or an electronic 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 performances of the speeds are given in the performance curve. 3-phase models are controllable with frequency inverters by installation of a sinusoidal filter (accessories) between inverter and motor. Type GBD 630/4 is only controllable by frequency inverter.

■ Assembly

□ Assembly of types GB..

Adaptable installation position and flexible assembly using the five possible discharge directions via the discharge adapter. Removable panels allow inspection access on all sides.

□ 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. Inspection cover with handle, for cleaning and maintenance simply remove. Lifting lugs are standard for using crane hooks. Vibration transmission to the building is minimised by anti vibration mounts (type SDD-U, accessories). Vibration transmission to the ducting is prevented by using the standard flexible connector supplied.

■ Impeller

Smooth running centrifugal impeller with backward curved polymer blades (size 250 from steel) on a galvanised steel back plate, direct driven. Size 500 and all GB.. T120 types with impellers from aluminium. These energy efficient impellers are low noise. Dynamically balanced assembled with the motor to DIN ISO 1940 Pt.1 – class 6.3 or 2.5.

■ Motor

IEC-standard motor or maintenance-free external rotor motor protected to IP 54 or 44. Thermal overload protection through built-in thermal contacts. Suitable for continuous operation S1. Insulation class F. Ball bearings are lubricated for life.

■ Electrical connection

Terminal box protection to IP 54.

■ Air flow direction

The air flow direction of centrifugal fans is not reversible, but can be set by positioning the fan to the required air flow direction. Furthermore the position can be set individually to constructional conditions through conversion of discharge adapter and panels. The correct motor rotation direction is marked through rotation arrows on the motor and has to be checked at start-up.

■ Incorrect direction of rotation

If the fan is operated in the incorrect direction of rotation the motor will overheat and the thermal contact will trip. Typical indication for this is a very low air flow combined with high noise levels and vibration.

■ Ambient temperature

The maximum permitted air flow temperature is given in the individual fan chart.

■ Surrounding temperature

From – 40° C to + 40° C.

| Information | Pages |
|---|-------|
| Design of systems, acoustic | 12 on |
| General techn. information, speed control | 17 on |



Quick selection chart for GB.. and GB.. T120 Requirements for exhaust air systems in commercial kitchens

| Type GB.. | Sound press. Case breakout | Sound press. Intake | Air flow volume Vm³/s against static pressure | | | | | | | | | | | | |
|------------------|-------------------------------|------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | L _{PA} dB(A) | L _{PA} dB(A) | (ΔP _{stat}) in Pa | | | | | | | | | | | | |
| | at 4 m | at 4 m | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 600 | 700 | 800 |
| GBW 250/4 | 27 | 39 | 0.389 | 0.319 | 0.244 | 0.147 | | | | | | | | | |
| GBW 315/4 | 29 | 41 | 0.414 | 0.361 | 0.300 | 0.236 | 0.153 | 0.042 | | | | | | | |
| GBW 355/4 | 34 | 46 | 0.817 | 0.747 | 0.675 | 0.594 | 0.505 | 0.400 | 0.258 | | | | | | |
| GBD 355/4/4 | 34 | 46 | 0.836 | 0.772 | 0.711 | 0.638 | 0.577 | 0.492 | 0.367 | 0.089 | | | | | |
| GBW 400/4 | 38 | 50 | 1.142 | 1.092 | 1.036 | 0.975 | 0.917 | 0.85 | 0.764 | 0.656 | 0.511 | | | | |
| GBD 400/4/4 | 38 | 50 | 1.097 | 1.031 | 0.961 | 0.889 | 0.811 | 0.725 | 0.628 | 0.469 | 0.114 | | | | |
| GBW 450/4 | 40 | 52 | 1.514 | 1.433 | 1.361 | 1.292 | 1.217 | 1.122 | 1.006 | 0.867 | 0.692 | 0.083 | | | |
| GBD 450/4/4 | 40 | 52 | 1.514 | 1.431 | 1.344 | 1.256 | 1.161 | 1.061 | 0.947 | 0.822 | 0.664 | 0.083 | | | |
| GBW 500/4 | 45 | 57 | 2.333 | 2.236 | 2.139 | 2.042 | 1.947 | 1.85 | 1.744 | 1.628 | 1.506 | 1.219 | 0.778 | 0.042 | |
| GBD 500/4/4 | 44 | 57 | 2.458 | 2.367 | 2.278 | 2.189 | 2.097 | 2.006 | 1.903 | 1.789 | 1.664 | 1.369 | 0.947 | 0.014 | |
| GBW 500/6 | 35 | 46 | 1.600 | 1.478 | 1.347 | 1.189 | 0.978 | 0.678 | 0.144 | | | | | | |
| GBD 560/4/4 | 44 | 57 | 3.497 | 3.397 | 3.300 | 3.203 | 3.106 | 3.011 | 2.911 | 2.811 | 2.706 | 2.461 | 2.142 | 1.731 | 1.144 |
| GBD 560/6/6 | 35 | 48 | 2.400 | 2.261 | 2.114 | 1.953 | 1.767 | 1.539 | 1.239 | 0.767 | | | | | |
| GBD 630/4/4 | 48 | 61 | 4.153 | 4.058 | 3.961 | 3.869 | 3.775 | 3.683 | 3.592 | 3.500 | 3.403 | 3.194 | 2.953 | 2.675 | 2.333 |
| GBD 630/6/6 | 43 | 56 | 3.192 | 2.992 | 2.794 | 2.597 | 2.375 | 2.103 | 1.767 | 1.356 | 0.792 | | | | |
| GBD 710/6/6 | 46 | 59 | 5.194 | 4.989 | 4.783 | 4.564 | 4.333 | 4.083 | 3.811 | 3.511 | 3.178 | 2.333 | 0.753 | | |
| Type GB.. T120 | L _{PA} dB(A) | L _{PA} dB(A) | (ΔP _{stat}) in Pa | | | | | | | | | | | | |
| | at 4 m | at 4 m | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 600 | 700 | 800 |
| GBW 355/4 T120 | 36 | 49 | 0.961 | 0.894 | 0.831 | 0.767 | 0.683 | 0.567 | 0.418 | 0.201 | | | | | |
| GBD 355/4/4 T120 | 36 | 49 | 0.964 | 0.908 | 0.846 | 0.778 | 0.697 | 0.594 | 0.469 | 0.192 | | | | | |
| GBW 400/4 T120 | 40 | 53 | 1.369 | 1.293 | 1.217 | 1.136 | 1.053 | 0.942 | 0.806 | 0.622 | 0.439 | | | | |
| GBD 400/4/4 T120 | 40 | 53 | 1.353 | 1.275 | 1.193 | 1.106 | 1.014 | 0.900 | 0.761 | 0.581 | 0.381 | | | | |
| GBW 450/4 T120 | 45 | 57 | 1.975 | 1.887 | 1.800 | 1.700 | 1.625 | 1.525 | 1.426 | 1.317 | 1.208 | 0.917 | 0.528 | | |
| GBD 450/4/4 T120 | 45 | 57 | 1.994 | 1.914 | 1.833 | 1.750 | 1.653 | 1.556 | 1.450 | 1.336 | 1.206 | 0.897 | 0.372 | | |
| GBW 500/4 T120 | 45 | 59 | 2.318 | 2.244 | 2.158 | 2.075 | 1.989 | 1.903 | 1.800 | 1.696 | 1.575 | 1.300 | 0.975 | 0.511 | |
| GBD 500/4/4 T120 | 45 | 59 | 2.319 | 2.239 | 2.157 | 2.081 | 1.994 | 0.191 | 1.833 | 1.739 | 1.642 | 1.381 | 1.061 | 0.533 | |
| GBD 560/4/4 T120 | 48 | 62 | 3.417 | 3.322 | 3.247 | 3.164 | 3.078 | 2.994 | 2.910 | 2.817 | 2.722 | 2.533 | 2.336 | 2.064 | 1.671 |
| GBD 630/4 T120 | 53 | 67 | 3.928 | 3.867 | 3.803 | 3.742 | 3.667 | 3.594 | 3.533 | 3.469 | 3.397 | 3.242 | 3.097 | 2.908 | 2.703 |

GigaBox

Special application for GigaBox T120 – commercial kitchens

For the design of exhaust air systems in commercial kitchens the VDI 2052 (2006) "Ventilation equipment for kitchens – design, layout, approval" is applied. This follows for extract air fan:

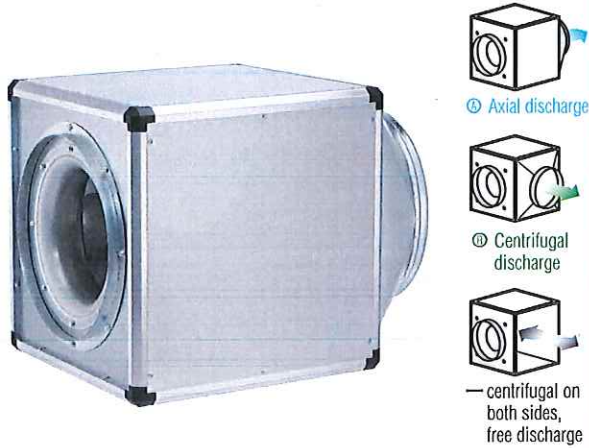
- Fans of exhaust air systems must be designed and installed in such a way that they are easily accessible, can be easily controlled and cleaned.
They must be able to be switched off from the kitchen.
The motors must be located outside of the extract air flow.
Connected kitchen extraction hoods must separate solid and liquid components, if possible.
A backdraft into following units is to be prevented.

These specific requirements from the GigaBoxes GB.. T120 are fulfilled in an outstanding manner. Easily accessible casing and double-walled side panels make cleaning simple with grease dissolving agents and steam possible.

Requirements in excess thereof of kitchen extract air units and the appropriate fire protection can deviate country-specifically; these special requirements of the respective country, in which the unit is to be used, must be considered.

Models GB..

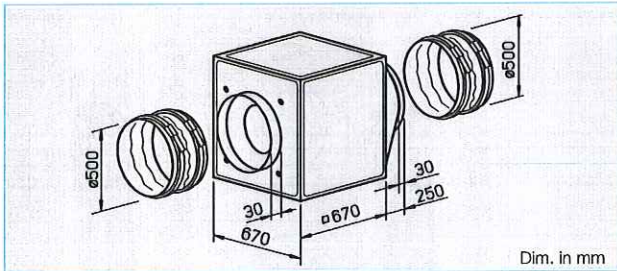
Arbitrary installation position and flexible assembly by five possible discharge directions.



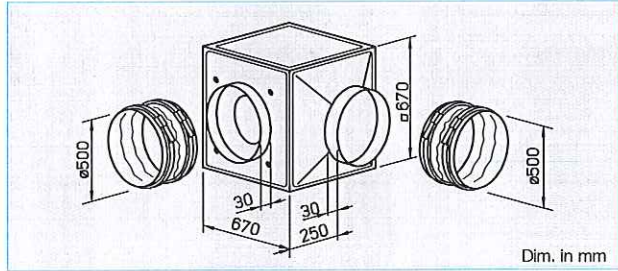
Models GB.. T120

NEW!

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



Dim. in mm



Dim. in mm

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

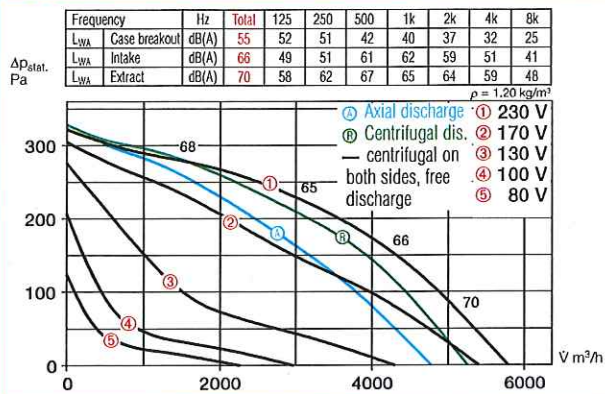
Standard terminal box (IP 54) fitted on the motor; with GB.. T120 fitted on the motor support plate.

| Type | Ref. No. | Air flow volume (FID) | R.P.M. | Sound press. level case breakout | Motor power (nominal) | full load | Current speed controlled | Wiring diagram | Maximum air flow temperature full load | Nominal weight (net) | 5 step transformer controller with motor protect. unit | | Full motor protection unit using the thermal contacts | | | | |
|---|----------|-----------------------|-----------|----------------------------------|-----------------------|-----------|--------------------------|----------------|--|----------------------|--|----------|---|----------|------|------------------|------|
| | | | | | | | | | | | Type | Ref. No. | Type | Ref. No. | 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 |

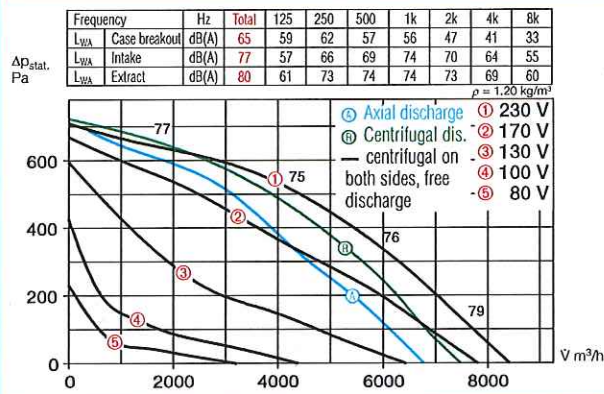
¹⁾ incl. operation switch

²⁾ incl. operation and 2 speed switch

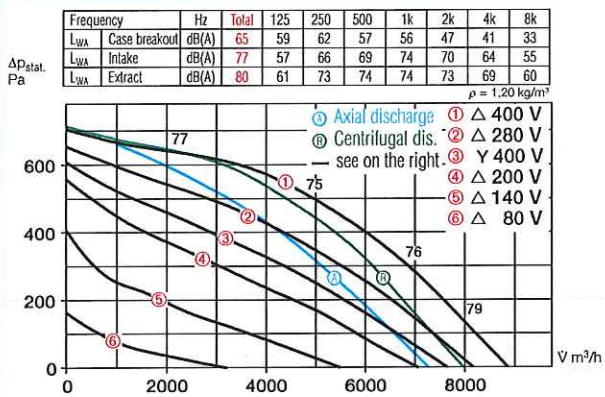
GBW 500/6



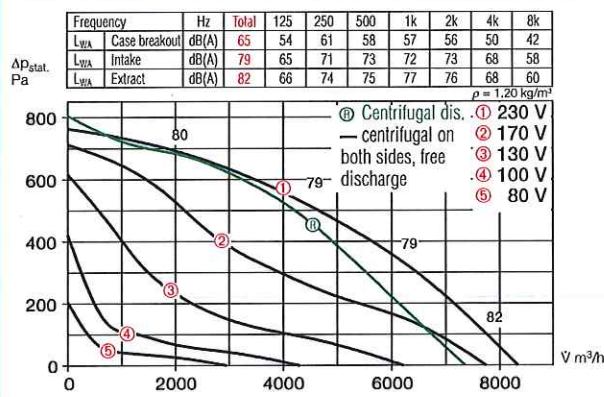
GBW 500/4



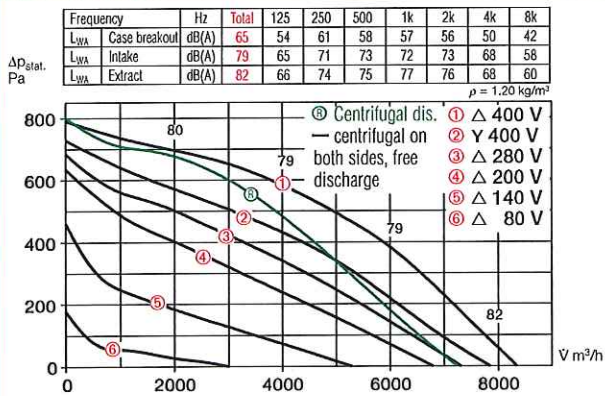
GBD 500/4/A



GBW 500/4 T120



GBD 500/4/A T120



| 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 |

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).

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 2³⁾ 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



AC207-2-2424

Carbon Panel 24x24x2 Grade 70% CTC

Description/Application

Carbon 208 EA - High grade carbon panel filters Grade: Minimum 70% CTC

Description

Made with a strong galvanised steel frame, our archive grade carbon filters use granules of activated carbon bonded together to form a carbon panel. Whats more, our archive grade carbon panel filters are specially treated for enhanced H25 removal. Our very own dry bonding technique allows the finished filter to maintain the characteristics of unbonded carbon and negates any possibility of settling or bowing which can happen in loose fill panels.

Application

Specification

EU Grade

207C

Efficiency (>95%)

μ (Micron)

Capacity

Rated Capacity (CFM): 336

Rated Capacity (M³/hr): 572

Resistance

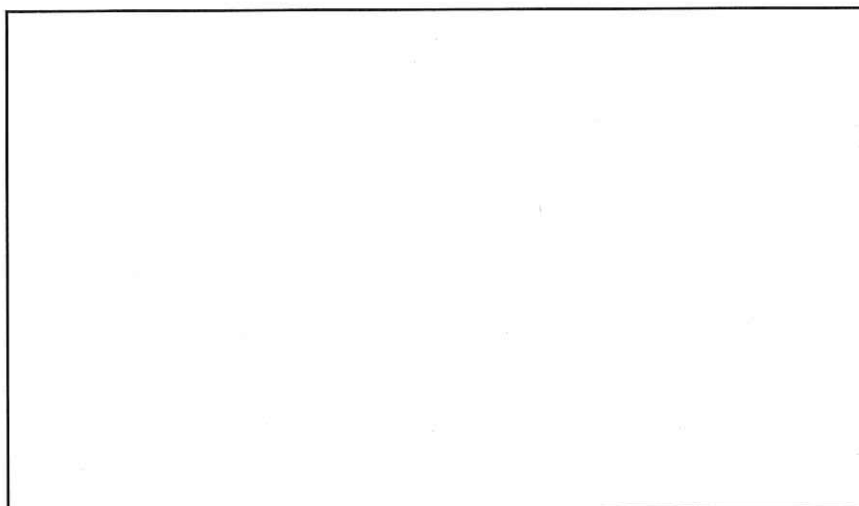
Dimensions

Nominal (Inches): 24x24x2

Actual (mm): 594x594x45

Pockets:

Visual



Riverside House, Parrett Way, Colley Lane, Bridgwater, Somerset TA6 5LB
Tel: +44(0)1278 452277 Fax: +44(0)1278 450873 sales@jfilters.com www.jfilters.com





CASED AXIAL ACCESSORIES

SILENCER

PERFORMANCES

The performances are derived from tests to BS848. Measurements of fan noise are made with and without the silencer in position. The difference between recorded levels is the dynamic (with airflow) attenuation or insertion loss of the silencer. Type B silencers may be directly coupled to both inlet and outlet flanges of the fan. When type C silencers are directly coupled to the fan flanges they are most effective on the outlet. A spacer duct of 1D length between the fan inlet flange and a type C silencer is necessary to ensure maximum performance.

Note: C type silencers mounted close to a fan may effect the aerodynamic performance.

CONSTRUCTION

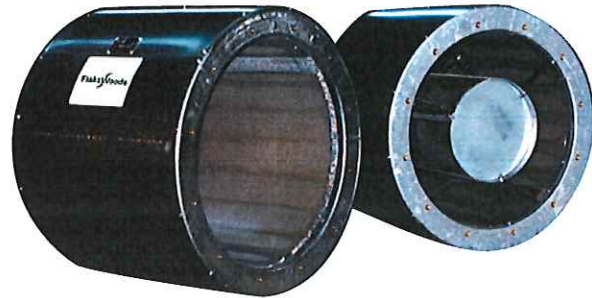
Casings are of rolled, pre-galvanised sheet steel with spun end rings incorporating tapped inserts for fixing. Suitable fixing screws are provided with all steel silencers.

The absorbent material is acoustic grade mineral fibre with an erosion resistant facing. It is protected and contained by a pre-galvanised perforated steel sheet formed to match the fan diameter.

Cylindrical silencers shall be suitable for air pressures up to a maximum of 1000 Pa. For duct pressures in excess of 1000 Pa please enquire.

A Melinex Lining (variant code M) can be supplied for critically clean applications such as hospitals to ensure no fibre migration. The lining may also be used in moisture or grease laden conditions, such as kitchen extract systems where the material is used to stop the ingress of grease etc. into the acoustic media.

The use of the lining also allows the silencers to be low pressure steam cleaned. Some reduction of attenuation due to the lining will be experienced.



SIZE RANGE

Type B silencer bore diameters range from 280 mm to 1000 mm metric range in lengths equal to or twice the bore diameter (1D or 2D) Pressure loss for type B silencers is the same as a plain duct.

Type C silencers have a centrally mounted absorbent pod in the airway for increased attenuation. The pressure loss due to the pod is provided in Fan Selector when selecting the C type silencer as an accessory.

The diameter range is 315 mm to 1000 mm metric range.

FINISHES

Standard finish is galvanised zinc coating to BS2989 Z2. Other finishes including epoxy paint are available to special order.

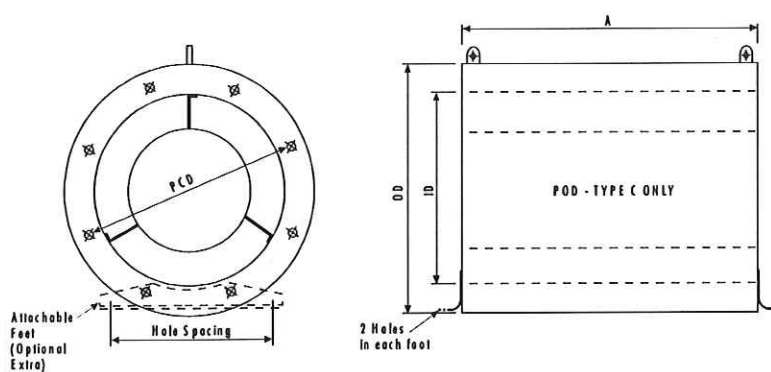
TEMPERATURE RANGE

Standard silencers are suitable for temperatures from -40°C to 200°C. When moisture resistant lining is used the continuous air handling temperature is limited to 80°C. Special treatments enable silencers to operate at temperatures up to 600°C. For smoke applications, please enquire.

MOUNTING

Galvanised steel mounting feet and matching flanges corresponding to those supplied for Aerofoil fans are available.

CASED AXIAL ACCESSORIES



B TYPE SILENCER

| Bore Dia. mm (A) | Product Number (BID) | OD | No of holes | PCD | Thread | Mounting Foot holes | | A Length | | Weight (kg) | |
|---------------------|-------------------------|------|----------------|------|--------|---------------------|---------|----------|------|----------------|-----|
| | | | | | | Dia | Spacing | 1D | 2D | 1D | 2D |
| 315 | SB211401 | 415 | 8 | 355 | M8 | 10 | 265 | 315 | 630 | 10 | 17 |
| 355 | SB221401 | 455 | 8 | 395 | M8 | 10 | 305 | 355 | 710 | 12 | 20 |
| 400 | SB241401 | 500 | 8 | 450 | M10 | 10 | 350 | 400 | 800 | 15 | 25 |
| 450 | SB251401 | 600 | 8 | 500 | M10 | 10 | 400 | 450 | 900 | 20 | 33 |
| 500 | SB271401 | 650 | 12 | 560 | M10 | 10 | 450 | 500 | 1000 | 25 | 41 |
| 560 | SB281401 | 710 | 12 | 620 | M10 | 10 | 510 | 560 | 1120 | 30 | 50 |
| 630 | SB301401 | 780 | 12 | 690 | M10 | 12 | 580 | 630 | 1260 | 35 | 61 |
| 710 | SB311401 | 860 | 16 | 770 | M10 | 10 | 660 | 710 | 1420 | 44 | 76 |
| 800 | SB331401 | 1000 | 16 | 860 | M10 | 12 | 750 | 800 | 1600 | 55 | 96 |
| 900 | SB341401 | 1100 | 16 | 970 | M12 | 12 | 850 | 900 | 1800 | 70 | 129 |
| 1000 | SB351401 | 1200 | 16 | 1070 | M12 | 12 | 950 | 1000 | 2000 | 82 | 157 |

C TYPE SILENCER (PODDED)

| Bore Dia. mm (A) | Product Number (BID) | OD | No of holes | PCD | Thread | Mounting Foot holes | | A Length | | Weight (kg) | |
|---------------------|-------------------------|------|----------------|------|--------|---------------------|---------|----------|------|----------------|-----|
| | | | | | | Dia | Spacing | 1D | 2D | 1D | 2D |
| 315 | SC211401 | 415 | 8 | 355 | M8 | 10 | 265 | 315 | 630 | 13 | 19 |
| 355 | SC221401 | 455 | 8 | 395 | M8 | 10 | 305 | 355 | 710 | 15 | 24 |
| 400 | SC241401 | 500 | 8 | 450 | M10 | 10 | 350 | 400 | 800 | 18 | 30 |
| 450 | SC251401 | 600 | 8 | 500 | M10 | 10 | 400 | 450 | 900 | 24 | 39 |
| 500 | SC271401 | 650 | 12 | 560 | M10 | 10 | 450 | 500 | 1000 | 29 | 48 |
| 560 | SC281401 | 710 | 12 | 620 | M10 | 10 | 510 | 560 | 1120 | 35 | 58 |
| 630 | SC301401 | 780 | 12 | 690 | M10 | 12 | 580 | 630 | 1260 | 42 | 72 |
| 710 | SC311401 | 860 | 16 | 770 | M10 | 10 | 660 | 710 | 1420 | 53 | 90 |
| 800 | SC331401 | 1000 | 16 | 860 | M10 | 12 | 750 | 800 | 1600 | 66 | 116 |
| 900 | SC341401 | 1100 | 16 | 970 | M12 | 12 | 850 | 900 | 1800 | 84 | 150 |
| 1000 | SC351401 | 1200 | 16 | 1070 | M12 | 12 | 950 | 1000 | 2000 | 100 | 182 |



CASED AXIAL ACCESSORIES

SILENCER ACOUSTIC PERFORMANCE

TYPE B DYNAMIC ATTENUATION

| BORE DIA. MM (D) | LENGTH | OCTAVE-BAND MID FREQUENCIES HZ | | | | | | | |
|---------------------|--------|--------------------------------|-----|-----|-----|----|----|----|----|
| | | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
| 315 | 10 | 1 | 2 | 4 | 9 | 11 | 10 | 9 | 7 |
| | 20 | 1 | 2 | 5 | 11 | 16 | 12 | 11 | 10 |
| 355 | 10 | 1 | 2 | 4 | 10 | 12 | 10 | 9 | 7 |
| | 20 | 2 | 3 | 6 | 13 | 17 | 14 | 11 | 11 |
| 400 | 10 | 2 | 3 | 5 | 10 | 13 | 11 | 9 | 8 |
| | 20 | 3 | 4 | 7 | 14 | 18 | 15 | 11 | 12 |
| 450 | 10 | 2 | 3 | 6 | 12 | 13 | 11 | 10 | 6 |
| | 20 | 3 | 4 | 8 | 17 | 18 | 15 | 11 | 11 |
| 500 | 10 | 2 | 3 | 6 | 13 | 14 | 10 | 10 | 5 |
| | 20 | 3 | 4 | 8 | 19 | 18 | 14 | 11 | 10 |
| 550 | 10 | 2 | 4 | 7 | 14 | 14 | 9 | 10 | 7 |
| | 20 | 3 | 5 | 9 | 19 | 18 | 14 | 12 | 11 |
| 630 | 10 | 2 | 5 | 7 | 15 | 13 | 8 | 9 | 8 |
| | 20 | 4 | 6 | 9 | 19 | 19 | 14 | 13 | 12 |
| 710 | 10 | 2 | 5 | 7 | 15 | 13 | 9 | 9 | 8 |
| | 20 | 4 | 6 | 9 | 19 | 17 | 13 | 12 | 11 |
| 800 | 10 | 2 | 5 | 8 | 16 | 12 | 9 | 9 | 8 |
| | 20 | 4 | 6 | 10 | 19 | 15 | 12 | 11 | 10 |
| 800 | 10 | 2 | 5 | 10 | 17 | 13 | 11 | 10 | 8 |
| | 20 | 4 | 6 | 12 | 19 | 15 | 12 | 11 | 10 |
| 1000 | 10 | 4 | 5 | 11 | 16 | 11 | 10 | 8 | 9 |
| | 20 | 4 | 8 | 13 | 19 | 14 | 12 | 11 | 11 |

TYPE C DYNAMIC ATTENUATION

| BORE DIA. MM (D) | LENGTH | OCTAVE-BAND MID FREQUENCIES HZ | | | | | | | |
|---------------------|--------|--------------------------------|-----|-----|-----|----|----|----|----|
| | | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
| 315 | 10 | 2 | 5 | 5 | 9 | 18 | 20 | 18 | 15 |
| | 20 | 2 | 6 | 6 | 12 | 20 | 25 | 20 | 17 |
| 355 | 10 | 2 | 5 | 6 | 9 | 18 | 22 | 19 | 16 |
| | 20 | 2 | 6 | 7 | 13 | 25 | 27 | 21 | 17 |
| 400 | 10 | 2 | 6 | 6 | 10 | 19 | 24 | 20 | 17 |
| | 20 | 3 | 7 | 8 | 14 | 29 | 29 | 23 | 18 |
| 450 | 10 | 2 | 4 | 7 | 13 | 20 | 23 | 22 | 17 |
| | 20 | 2 | 5 | 9 | 16 | 29 | 29 | 21 | 20 |
| 500 | 10 | 2 | 3 | 8 | 16 | 21 | 22 | 21 | 17 |
| | 20 | 2 | 4 | 10 | 20 | 29 | 30 | 20 | 26 |
| 550 | 10 | 3 | 5 | 8 | 16 | 20 | 18 | 19 | 15 |
| | 20 | 4 | 5 | 10 | 20 | 29 | 28 | 21 | 23 |
| 630 | 10 | 3 | 5 | 8 | 15 | 19 | 16 | 14 | 12 |
| | 20 | 5 | 6 | 10 | 19 | 29 | 25 | 21 | 20 |
| 710 | 10 | 3 | 5 | 8 | 15 | 19 | 15 | 14 | 12 |
| | 20 | 5 | 6 | 10 | 20 | 26 | 23 | 18 | 17 |
| 800 | 10 | 4 | 5 | 8 | 16 | 19 | 15 | 14 | 13 |
| | 20 | 5 | 7 | 11 | 22 | 23 | 21 | 16 | 14 |
| 800 | 10 | 4 | 5 | 9 | 17 | 19 | 15 | 14 | 13 |
| | 20 | 5 | 7 | 12 | 24 | 23 | 21 | 16 | 15 |
| 1000 | 10 | 5 | 5 | 11 | 18 | 19 | 15 | 14 | 13 |
| | 20 | 5 | 7 | 13 | 26 | 24 | 20 | 16 | 16 |

All performances are derived from tests to BS848.

The above silencers give the following approximate dBA reductions: -

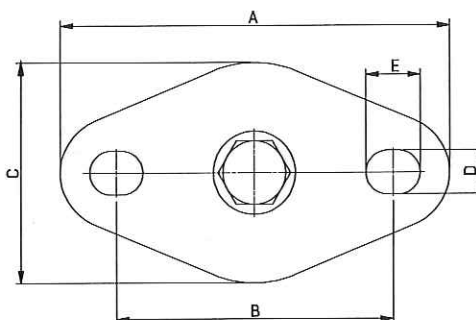
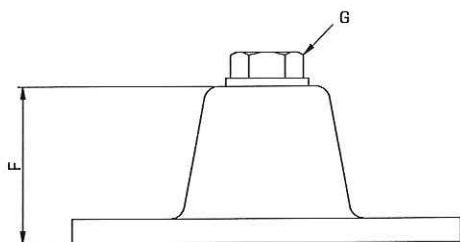
B Type 1 diameter length - 7 to -10 dBA

C Type 1 diameter length - 12 to -15 dBA

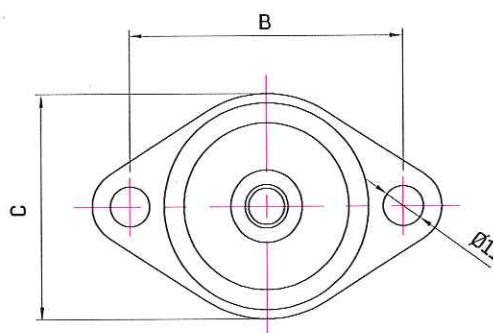
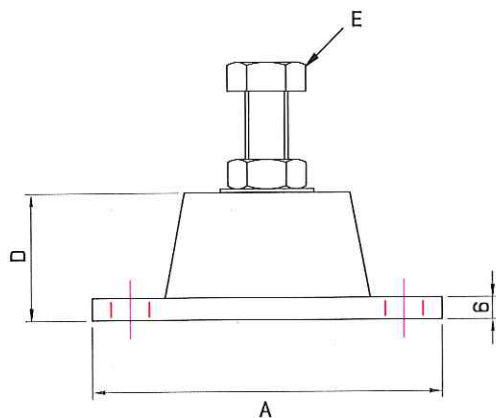
For full acoustic details and resistance to airflow for type C please refer to fan selector.

CASED AXIAL ACCESSORIES

RUBBER IN SHEAR ANTI-VIBRATION MOUNTS



| Product Code | Type | Load at 5.8mm deflection (Kg) | A | B | C | D | E | F | G |
|--------------|-----------------------------|-------------------------------|----|----|----|---|----|----|----|
| 505000 | AV Rubber MP2-28 Yellow ISL | 28 | 80 | 57 | 45 | 9 | 11 | 32 | M8 |
| 505001 | AV Rubber MP2-50 Blue ISL | 50 | 80 | 57 | 45 | 9 | 11 | 32 | M8 |
| 505002 | AV Rubber MP2-80 Red ISL | 80 | 80 | 57 | 45 | 9 | 11 | 32 | M8 |



| Product Code | Type | Load at 8mm deflection (Kg) | A | B | C | D | E |
|--------------|------------------------------|-----------------------------|-----|-----|----|----|------------|
| 863893 | AV Rubber MP5-110 Yellow ISL | 110 | 95 | 71 | 60 | 9 | M10 x 25mm |
| 863894 | AV Rubber MP5-180 Blue ISL | 180 | 95 | 71 | 60 | 9 | M10 x 25mm |
| 863895 | AV Rubber MP5-280 Red ISL | 280 | 95 | 71 | 60 | 9 | M10 x 25mm |
| 863896 | AV Rubber MP6-260 Blue ISL | 260 | 150 | 115 | 80 | 11 | M12 x 30mm |

All dimensions in mm.

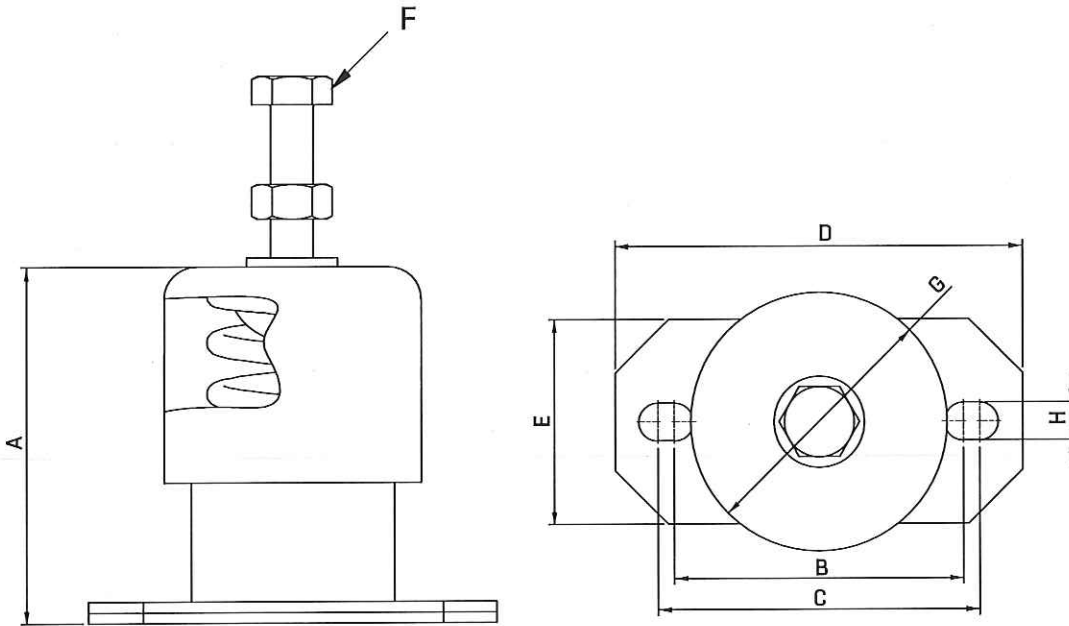
Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 580.





CASED AXIAL ACCESSORIES

ENCLOSED SPRING ANTI-VIBRATION MOUNTS



| Product Code | Type | Load at 20mm deflection (Kg) | A | B | C | D | E | F | G | H |
|--------------|----------------------|------------------------------|----|----|----|----|----|----|----|---|
| 505009 | MMS1-L-10 Claret ISL | 10 | 66 | 54 | 60 | 76 | 38 | M8 | 48 | 7 |
| 505010 | MMS1-L-15 Yellow ISL | 15 | 66 | 54 | 60 | 76 | 38 | M8 | 48 | 7 |
| 505011 | MMS1-L-20 Grey ISL | 20 | 66 | 54 | 60 | 78 | 38 | M8 | 48 | 7 |
| 505012 | MMS1-L-40 Green ISL | 40 | 66 | 54 | 60 | 76 | 38 | M8 | 48 | 7 |
| 505013 | MMS1-L-70 Red ISL | 70 | 66 | 54 | 60 | 76 | 38 | M8 | 48 | 7 |
| 505014 | MMS1-L-100 Blue ISL | 100 | 66 | 54 | 60 | 76 | 38 | M8 | 48 | 7 |

| Product Code | Type | Load at 25mm deflection (Kg) | A | B | C | D | E | F | G | H |
|--------------|--------------------|------------------------------|----|----|----|-----|----|-----|----|---|
| 505015 | MMS1-30 Yellow ISL | 30 | 96 | 85 | 90 | 110 | 70 | M10 | 78 | 9 |
| 505016 | MMS1-60 Green ISL | 60 | 96 | 85 | 90 | 110 | 70 | M10 | 78 | 9 |
| 505017 | MMS1-100 Blue ISL | 100 | 96 | 85 | 90 | 110 | 70 | M10 | 78 | 9 |
| 505018 | MMS1-160 White ISL | 160 | 96 | 85 | 90 | 110 | 70 | M10 | 78 | 9 |
| 505019 | MMS1-250 Red ISL | 250 | 96 | 85 | 90 | 110 | 70 | M10 | 78 | 9 |

Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 580.

