

# GLOBAL LP<sup>FW</sup>

Ceiling-mounted ventilation unit with plate heat exchanger



- ▶ Ventilation unit with plate heat exchanger for commercial applications. Well-suited for both newly constructed buildings and renovation projects
- ▶ Maximum airflow 2.000m<sup>3</sup>/h or 550 l/s.
- ▶ Temperature efficiency: up to 85 %
- ▶ Energy-efficient EC fans
- ▶ For installation indoors against ceiling
- ▶ Premium control technique with touchscreen HMI

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GLOBAL LP<sup>FW</sup>

## GLOBAL LP<sup>FW</sup>: HIGH EFFICIENCY DOUBLE FLOW VENTILATION UNITS

P.LEMMENS has since 1997 specialised in the design and production of double flow ventilation units with energy recovery. The aim from the outset was to focus on efficiency. Brochures of that period stressed that "it is absurd to want to recover heat energy when electric energy was being wasted..." That is why first generation TAC technology was already applied to this product. Accordingly, direct current Electronically Commutated Motor (ECM) fans with permanent magnets were selected systematically for the development of the range. With this decision, the HR range anticipated the most exacting levels of electricity consumption to come such as the ErP2013/2015 standards, simply by a philosophical choice...

The motors have been further improved since as have the control systems which are now open to MODBUS communication and all its advantages.

### PLUG & PLAY

All the HR range units are supplied as 'Plug&Play'. The standard settings are pre-programmed in the factory, so it suffices to connect the power supply and the control signals and/or the remote control, and to enter the specific settings for the application.

Putting the units into use becomes a breeze...

### ACCESSIBILITY OF COMPONENTS

The units are designed to give the user easy access to the different components. The doors are largely sized and fitted with handles. They can be withdrawn, for easy access, even when installed in limited space. The control panel is likewise easy to access and centralises all the wiring.

### COUNTERFLOW EXCHANGERS

The same focus on efficiency led us to opt for counterflow exchangers.

- These are far superior to other types of exchanger (96%).
- They ensure flawless tightness between the 2 airflows, thereby constituting great **advantage in terms of hygiene compared with rotary exchangers.**

The exchangers are in "salt-air resistant" aluminium and are suitable for temperatures up to 80°C. They are compliant with the DIN1946 tightness standard and are Eurovent approved according to the EN 308 standard (measurement of heat efficiency and validity of technical data).



## HIGH EFFICIENCY FANS

The TAC fans are equipped with high efficiency DC motors at the cutting edge of the latest technologies. They can achieve sizeable external pressure levels, whilst guaranteeing low consumption throughout the entire operating range.

The TAC control system guarantees the known precision from the operating point of view and makes an active contribution to optimising consumption.

The efficiency levels are naturally compliant with the ErP2013/2015 standards. P.LEMMENS has opted for a forward curved fan for its HR range for 2 reasons:

- Its characteristics relating to the tolerance system variations of pressure losses. In fact, it preserves good efficiency throughout the entire range of its use;
- Its lower noise level, thanks to a lower rotation speed and a higher number of blades.

## TAC5 REGULATION COMPLETES THE SYSTEM

The HR units are fitted with a complete electronic regulation system used to operate the fans, the bypass, the anti-freeze protection of the exchanger, the valves, the pre-heating coil (option), and post-heating coil (option) as well as the external hot and/or cold exchangers (option).

It is equipped with a MODBUS communication bus used for its interfacing and complete integration with a standard centralised control system.

## FIRE ALARM MANAGEMENT

The TAC5 regulation is provided with complete management of supply and exhaust airflow in case of fire alarm: for setting the airflow rate if the alarm is activated and for stopping or starting the supply and exhaust airflow independently via external contacts, intended for the fire brigade.

## FREE COOLING FOR SUMMER NIGHTS

The GLOBAL LP<sup>FW</sup> range is equipped with a 100% bypass. Operated entirely by regulation, this system cools the rooms during the night when the differences of indoor and outdoor temperature permit. This system can be connected to a ground-coupled heat exchanger to improve efficiency even more. The control settings can be adjusted by the operator.

## NON-RETURN VALVES (OPTION CT)

A non-return valve can be mounted to avoid undesirable (natural) draughts on the incoming and outgoing airflows when the unit is stopped. It can be operated by the TAC regulation. A delay is provided when starting the fans.

## AIR FILTERS

The GLOBAL LP<sup>FW</sup> units are supplied as a standard with oversized air filters (to reduce the pressure drop) that protect the exchanger and improve the quality of the incoming air. EPM10 $\geq$ 50% filters are mounted on the fresh air suction (outdoor air – F7 / ePM1 $\geq$ 60% available in option) and EPM10 $\geq$ 50% filters on the room suction (indoor air). Replacement filter kits are also available.

## INTERNAL PRE-HEATING (OPTION KWin)

The GLOBAL LP<sup>FW</sup>-range can be equipped in the factory with an electric pre-heating system built in the unit. The purpose is to avoid the risk of frosting of the exchanger when the temperatures are too low. The capacity of the exchanger is modulated automatically by the TAC regulation. It is delivered "ready to use."

## EXTERNAL POST-HEATING/ COOLING (OPTION BA+/-)

The HR ranges can be equipped with external post-heating and/or cooling exchangers. These exchangers are fitted outside the unit, but designed to be assembled harmoniously. The TAC regulation is provided to manage this option fully. It is delivered "ready to use."

## CONSTANT AIRFLOW OR CONSTANT PRESSURE

Depending on the requirements and characteristics of the application, the ventilation system chosen will be a constant pressure (CPs) or constant airflow (CA) or variable constant airflow (LS) system via a 0-10V signal. The master/slave system (which may be deactivated if necessary) between supply and extraction ensures a balanced ventilation between supply and extraction air at all times. The HR units offer a sufficient reserve of available pressure as well as a possible modularity of the installation while retaining the operating setting.

- **Constant airflow (CA mode)** is used when a stable volume of air is required, usually for non-residential purposes: offices, schools, day care centres, gyms, etc.
- **Variable constant airflow (LS mode)** is probably the most economical ventilation mode, because the airflow actually provided depends on the real demand at the moment, so there will not be any superfluous ventilation.

Thus, for instance, the constant airflow required can be linked to a measurement of the CO<sub>2</sub> rate via a 0-10V signal. When this rate is high (many people present), the flow rate will be adjusted accordingly, and vice-versa, when there are few people in the room. Energy consumption will follow the real ventilation need.

- **Variable flow rate to maintain a constant pressure (CPs mode):** a particularly interesting application of this operating mode is undoubtedly the individualised ventilation of apartments by a centralised ventilation unit. Once configured, the ventilation of each apartment remains constant even if several apartments change their ventilation demand, as the pressure in the network is maintained constant. A pressure measurement sensor must be provided to configure this very useful mode.

## THE 3 OPERATING MODES: CONCRETE EXAMPLES

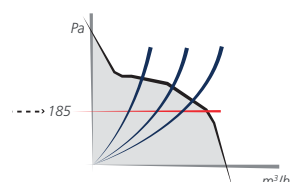
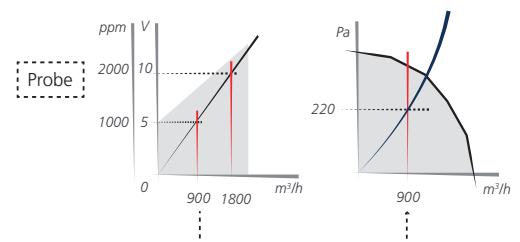
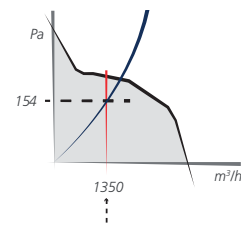
**CA** stands for "constant airflow." This means that you chose one (or more) flow rates and the TAC5 regulator will operate the fans to provide it, irrespective of the pressure loss.

Example: I request 1350 m<sup>3</sup>/h from the system and I obtain, irrespective of the pressure drop of the network, not about 1350 m<sup>3</sup>/h, but exactly 1350 m<sup>3</sup>/h....

**LS** stands for "link with a 0-10V signal." This means that you enter a specific linear relationship between a 0/10V signal (representing the temperature, humidity, CO<sub>2</sub> rate, etc.) and the airflow that the fans will have to provide. The system will see to this link, irrespective of the pressure drop of the network.

**CP** stands for "constant pressure." This means that you enter an initialisation flow rate. The resulting pressure will be stored and serve subsequently as the reference value to be maintained constant by the system which will operate the fan with that setting, irrespective of changes of the system. It is also possible to introduce the pressure value directly, if it is known.

Example: Once the network is balanced, I note that to obtain 150 m<sup>3</sup>/h in each apartment, I am creating a loss of load of 185 Pa in the network. I store this value and the system will change its flow rate to maintain it constant. This will ensure a constant flow rate in each apartment, irrespective of the changes that each inhabitant makes to his ventilation...



## SAT MODBUS

- MODBUS RTU communication circuit to be plugged in the TAC5 regulation circuit.
- It is used to network HR units in order to configure and control them and to display the settings from a central point.
- A direct application of the SAT MODBUS is the integration of HR units in a BMS system.

| ARTICLE    | CID    |
|------------|--------|
| SAT MODBUS | 025006 |



## SAT BA/KW

- This is a regulation circuit for hot (water or electric) and/or cold (water) battery.
- It regulates the external exchangers to maintain the temperature setting of the constant supply air. A setting can be configured on "hot" and another on "cold."
- It is very simple to install: just plug it in the TAC5 regulation circuit.

| ARTICLE   | CID    |
|-----------|--------|
| SAT BA/KW | 372004 |



## SAT3

- This is a circuit comprising 2 relays used to signal that the fans are on (FAN ON) as well as to give a pressure alarm.
- The signalling is carried out by potential-free contact as well as by an LED placed above each relay.
- It is very simple to install: just plug it in the TAC5 regulation circuit.

| ARTICLE | CID    |
|---------|--------|
| SAT3    | 370005 |



## TACTOUCH remote control

Remote control with touchscreen display and integrated timer with 4 actions per day and 'off day' functionality. For configuring and controlling the operation of 1 heat recovery unit. The commissioning menu, alarm history and maintenance menu are all of them focussed on efficient operation.

| ARTICLE  | CID    |
|----------|--------|
| TACTouch | 372096 |



# GLOBAL LPFW

## GLOBAL LP<sup>FW</sup>

### For installation against ceilings.

GLOBAL LP<sup>FW</sup> is a range of controlled mechanical ventilation units with high efficiency heat recovery (up to 96%), composed of a counter flow aluminium plate exchanger, a stainless steel condensate collection tray, filters (class EPM10≥50% / EPM1≥60%), a 100% bypass and centrifugal fans with high

efficiency electronic motor (TAC series), from which it draws all the advantages. It is designed for applications going up to 2000 m³/h. The efficiency of the heat exchanger often makes adding a post-heating (or post-cooling) system superfluous, although such a system is provided as an option (external module).

Their "flat" design (320 to 400 mm high) makes them ideal for false ceiling applications, which means substantial savings in terms of the use of the available surface area (€/m²).

It is delivered ready to use, entirely pre-

wired (including the options) and with an optional remote controller, MODBUS/KNX communication for controlling the device without opening it... Just connect it to the power supply (outside the unit and to the remote control or the MODBUS/KNX communication to activate the unit, and it's ready to run -- irrespective of the options chosen: electric preheating (anti-frosting), water or electric post-heating, post-cooling, valves, etc.

| MODEL                        | CID<br>LEFT | CID<br>RIGHT | AIRFLOW         |
|------------------------------|-------------|--------------|-----------------|
| GLOBAL LP 450 <sup>FW</sup>  | 886141      | 886141       | 50 - 630 m³/h   |
| GLOBAL LP 600 <sup>FW</sup>  | 886271      | 886254       | 50 - 600 m³/h   |
| GLOBAL LP 1000 <sup>FW</sup> | 886250      | 886255       | 100 - 1680 m³/h |
| GLOBAL LP 1300 <sup>FW</sup> | 886270      | 886270       | 100 - 1300 m³/h |
| GLOBAL LP 1600 <sup>FW</sup> | 886251      | 886255       | 100 - 2100 m³/h |
| GLOBAL LP 2000 <sup>FW</sup> | 886252      | 886256       | 50 - 475 m³/h   |

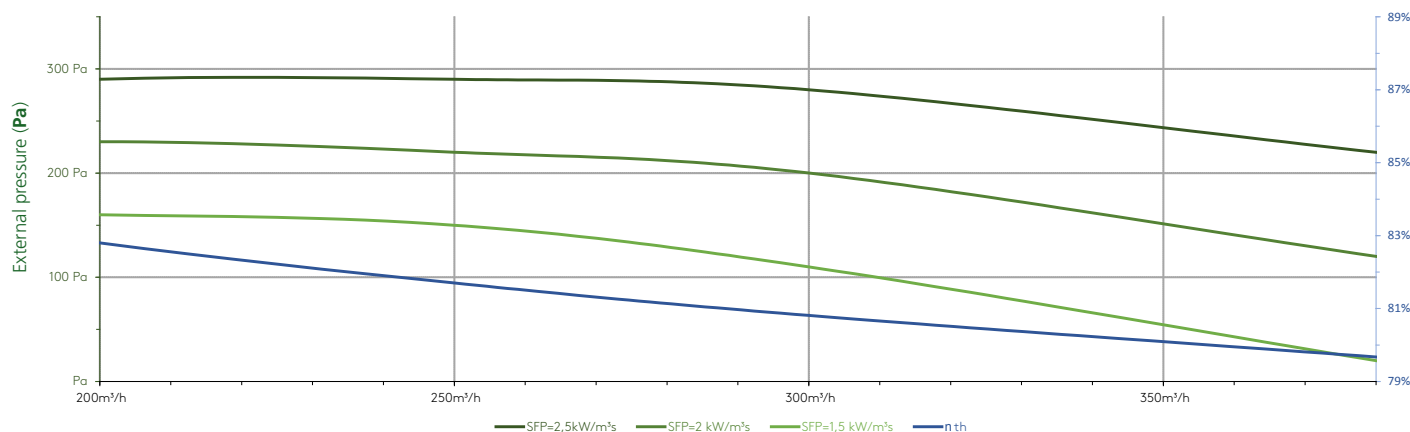


## TECHNICAL CHARACTERISTICS

- High efficiency counter flow heat exchanger (up to 96%) in aluminium resistant to salt air and for temperatures between -30° C and +100° C. Eurovent approved according to EN308.
- High efficiency centrifugal fans: direct current motor with permanent magnets and electronic commutation (ECM):
- 3 operating modes possible: constant airflow rate (CA), link with signal 0-10V (LS) and constant pressure (CPs).
- Compact housing made of an anodised aluminium structure and acoustically and thermally insulated panels in painted steel on the outside (RAL9002) and galvanised steel inside.
- Stainless steel condensate tray.
- Filters: EPM10≥50% for extract air and and EPM1≥60% for fresh air
- Filter replacement alarm based on a pressure measurement and/or operating time of the unit.
- Modulating, 100% bypass activated by an actuator for free cooling in summer (temperature settings adjustable by the user). The bypass can also be operated by a built-in clock and/or by external contact.
- Automatic anti-frosting system by means of modulating air flows or by electric preheating battery (option KWin), or via the modulating bypass.
- Operation and control (if water coil) of an external reversible water exchanger or with direct expansion (evaporation/condensation) for post-heating/cooling.
- Non-return damper, motorised or operated by regulation (option CT).
- Fire alarm management by activation of supply and exhaust air flow with possible exemption by the fire brigade via external contacts.
- Connection to a BMS system via a digital and/or analogue signal (if the MODBUS communication cannot be used).
- BMC control functions via a MODBUS RTU protocol (SAT MODBUS option).
- The units are supplied with access panels from underneath (?) for easy access in a false ceiling.
- The units are available in a left or right version.

All the units of the GLOBAL LP<sup>FW</sup> series are supplied complete with general switch, temperature sensors, servomotors where necessary, optional heat exchangers, wiring, etc. They are delivered plug & play and are individually factory tested in the after the final assembling with the options.

# GLOBAL LP 450<sup>FW</sup>



## GENERAL TECHNICAL SPECIFICATIONS

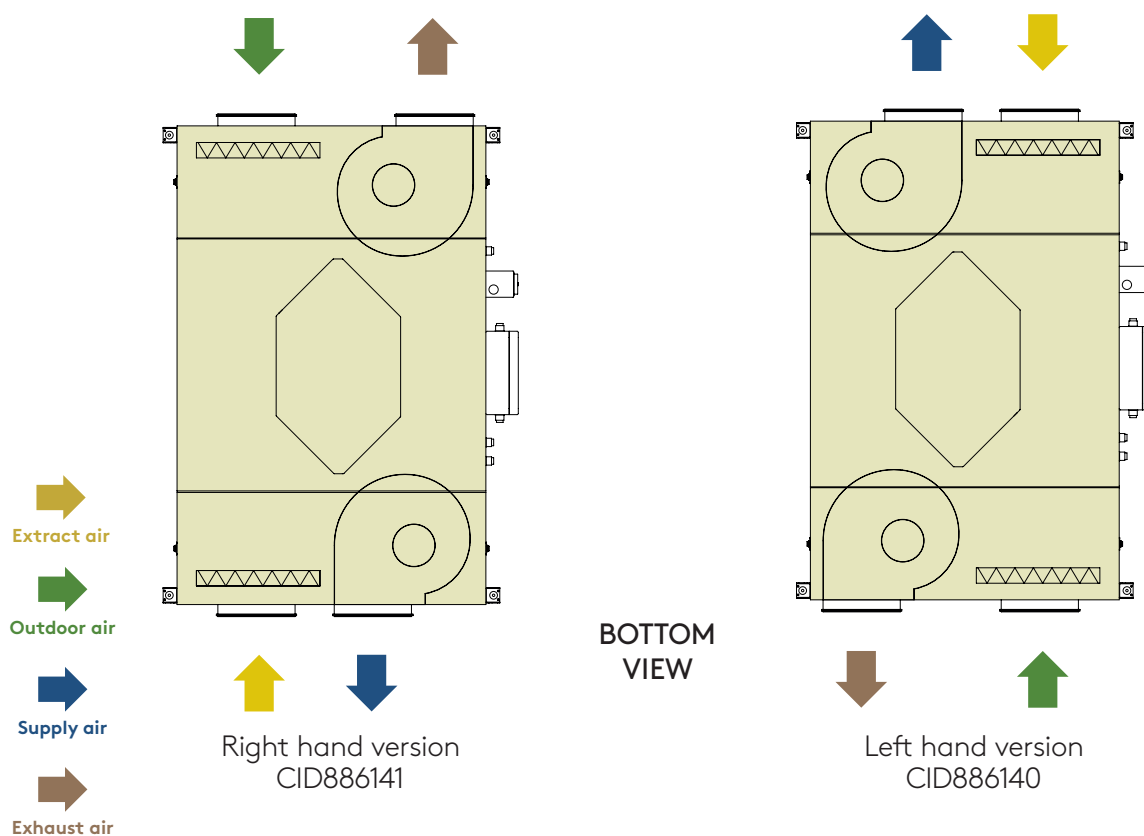
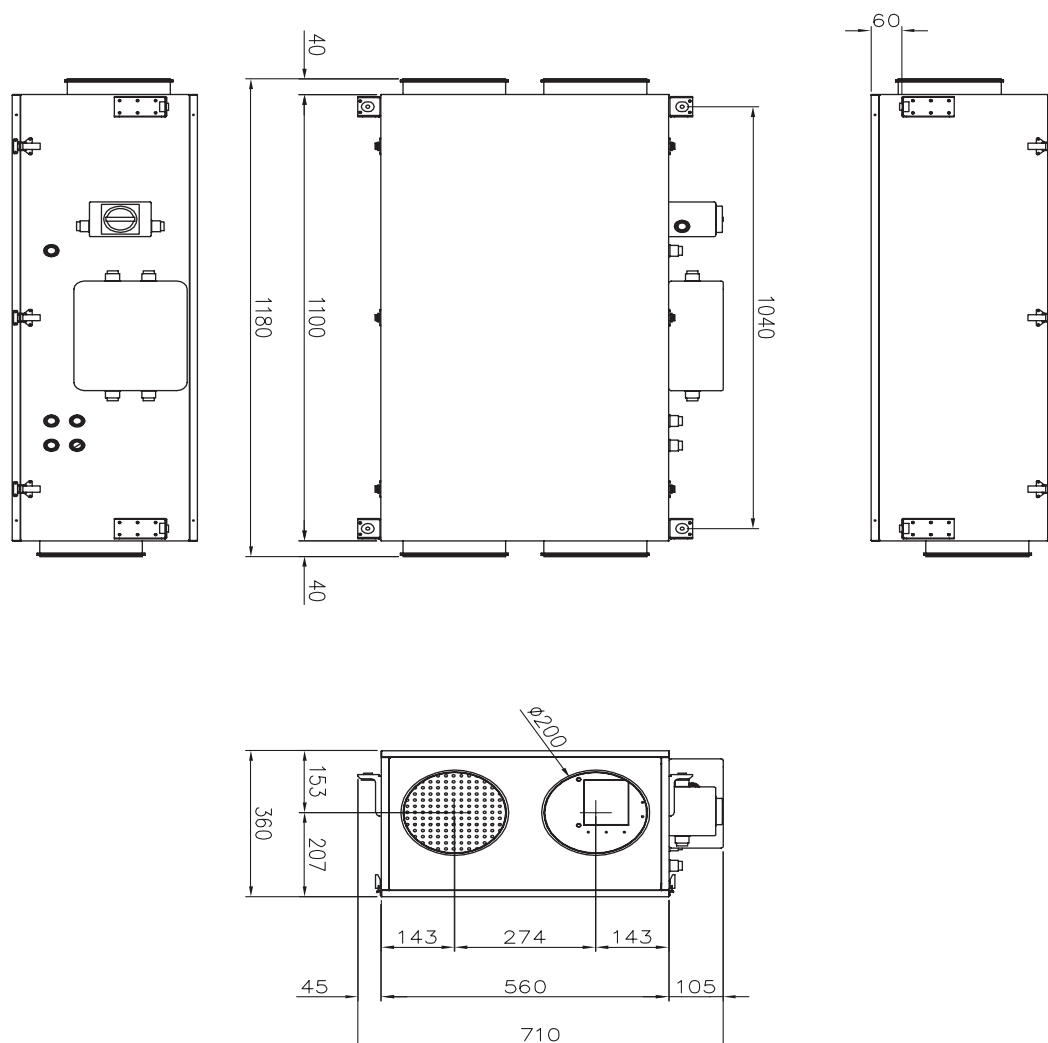
|                                     |   |
|-------------------------------------|---|
| • AIR FLOW                          | 50 - 475 m³/h                             |
| • DIMENSIONS (L X W X H)            | 1100 x 560 x 360                          |
| • WEIGHT                            | 75 kg                                     |
| • NOMINAL VOLTAGE                   | 1 x 230 V                                 |
| • MAXIMUM INTENSITY                 | 2.5 A                                     |
| • RECOMMENDED ELECTRICAL PROTECTION | D4A - 10kA - AC3                          |
| • SUPPLY / EXTRACTION AIR FILTER    | G4 / G4                                   |
| • AVAILABLE OPTIONS                 | KWin / BA+/- / CTm / ER and SR by default |
| • AUTOMATIC FREE COOLING            | Yes, modulating 100%                      |
| • OPERATING TEMPERATURE RANGE       | -20°C to +50°C                            |
| • COLOUR                            | RAL 9002                                  |

| FLOW RATE | POWER ABSORBED | SFP    | EXCHANGER EFFICIENCY | OUTLET T° AFTER EXCHANGER | SOUND LEVEL |
|-----------|----------------|--------|----------------------|---------------------------|-------------|
| m³/h      | W              | W/m³/h | %                    | °C                        | dBA         |
| 200       | 96             | 1,73   | 83,5                 | 19,5                      | 31,5        |
| 250       | 126            | 1,81   | 82,4                 | 19,3                      | 33,1        |
| 300       | 163            | 1,96   | 81,5                 | 19,1                      | 34,1        |
| 380       | 251            | 2,38   | 80,4                 | 18,8                      | 36,5        |

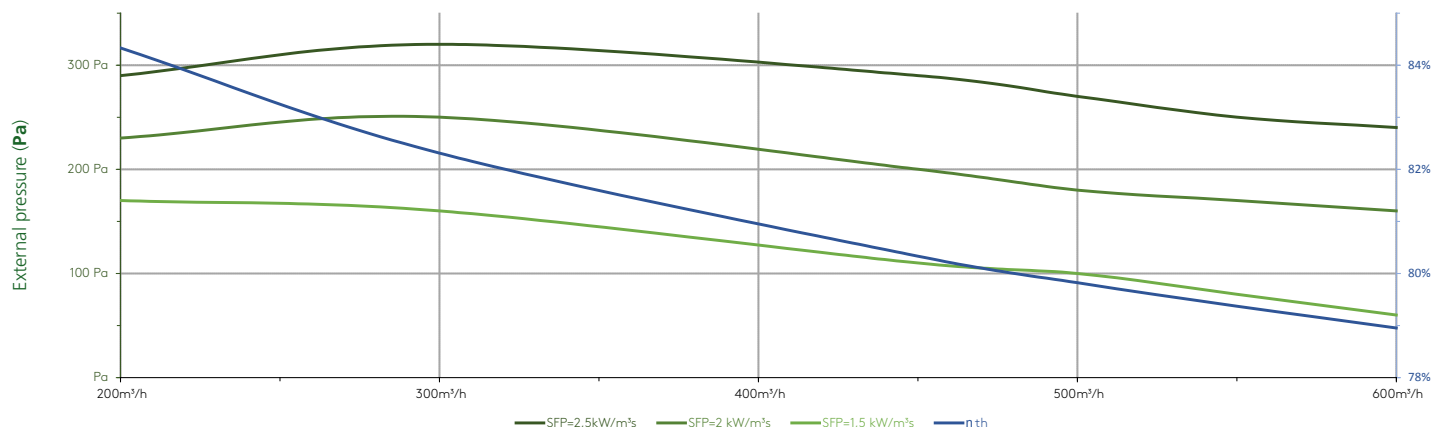
Conditions :

1. All values at 200Pa external pressure.
2. T° after heat exchanger at -10°C, 90%RH and +22°C, 50% HR.
3. Thermal efficiency at -10°C, 90%RH and +22°C, 50% HR.
4. Sound pressure for ducted unit in free field conditions at 3m.

# GLOBAL LP 450<sup>FW</sup>



# GLOBAL LP 600<sup>FW</sup>



## GENERAL TECHNICAL SPECIFICATIONS

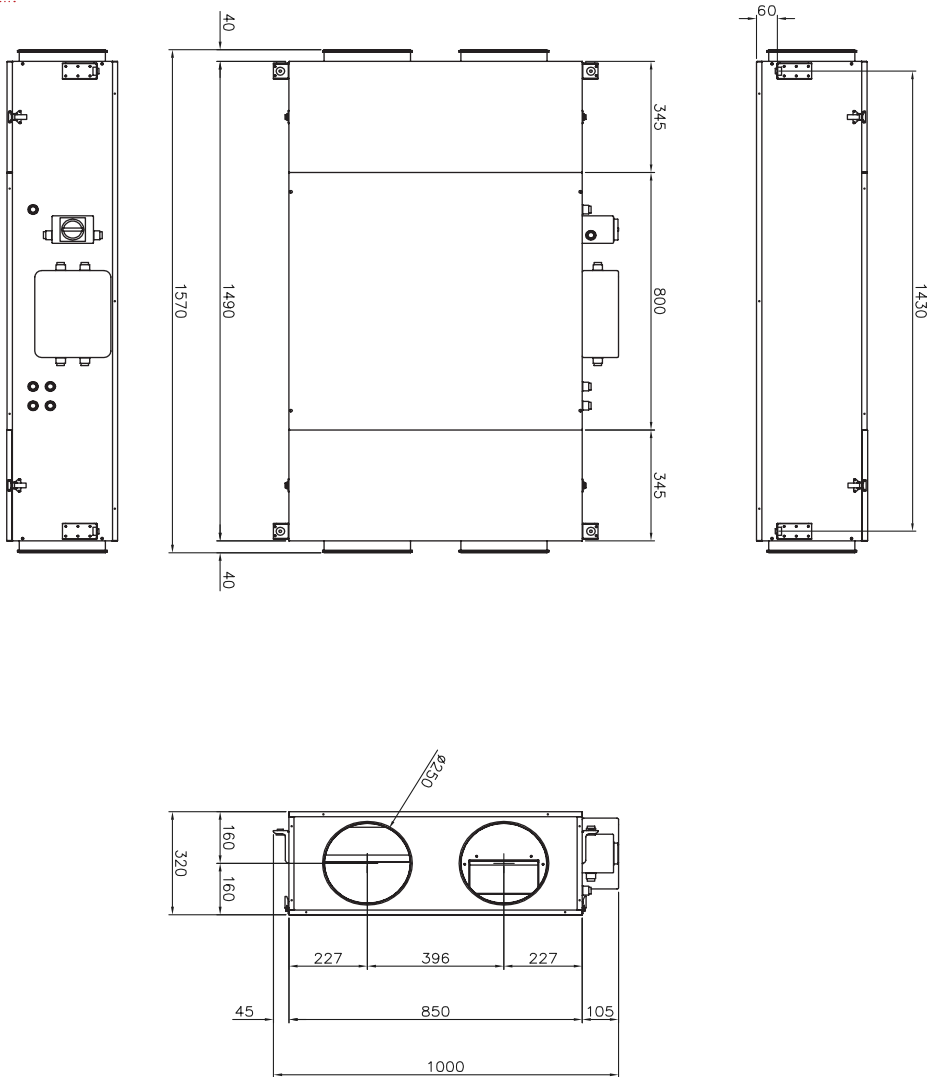
|                                     |                                     |
|-------------------------------------|-------------------------------------|
| • AIR FLOW                          | 100 - 630 m³/h                      |
| • DIMENSIONS (L X W X H)            | 1490 x 850 x 320                    |
| • WEIGHT                            | 110 kg                              |
| • NOMINAL VOLTAGE                   | 1 x 230 V                           |
| • MAXIMUM INTENSITY                 | 2.9 A                               |
| • RECOMMENDED ELECTRICAL PROTECTION | D4A - 10kA - AC3                    |
| • SUPPLY/EXTRACTION AIR FILTER      | G4/G4                               |
| • AVAILABLE OPTIONS                 | KWin/BA+/-/CTm/ER and SR by default |
| • AUTOMATIC FREE COOLING            | Yes, modulating 100%                |
| • OPERATING TEMPERATURE RANGE       | -20°C to +50°C                      |
| • COLOUR                            | RAL 9002                            |

| FLOW RATE | POWER ABSORBED | SFP    | EXCHANGER EFFICIENCY | OUTLET T° AFTER EXCHANGER | SOUND LEVEL |
|-----------|----------------|--------|----------------------|---------------------------|-------------|
| m³/h      | W              | W/m³/h | %                    | °C                        | dBA         |
| 150       | 79             | 1,9    | 86,0                 | 22,2                      | 34,6        |
| 400       | 209            | 1,9    | 81,1                 | 21,2                      | 35,3        |
| 500       | 287            | 2,1    | 80,1                 | 21,0                      | 37,1        |
| 600       | 370            | 2,2    | 79,2                 | 20,8                      | 38,3        |

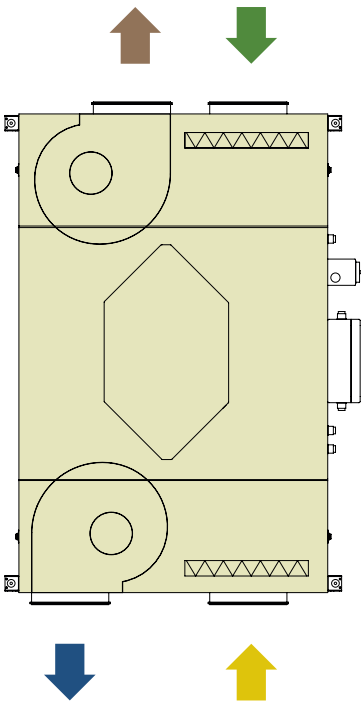
Conditions :

1. All values at 200Pa external pressure.
2. T° after heat exchanger at -10°C, 90%RH and +22°C, 50% HR.
3. Thermal efficiency at -10°C, 90%RH and +22°C, 50% HR.
4. Sound pressure for ducted unit in free field conditions at 3m.

GLOBAL LP 600<sup>FW</sup>

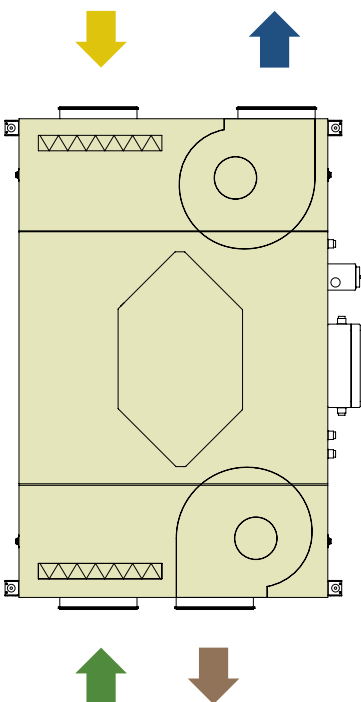


- Extract air
- Outdoor air
- Supply air
- Exhaust air



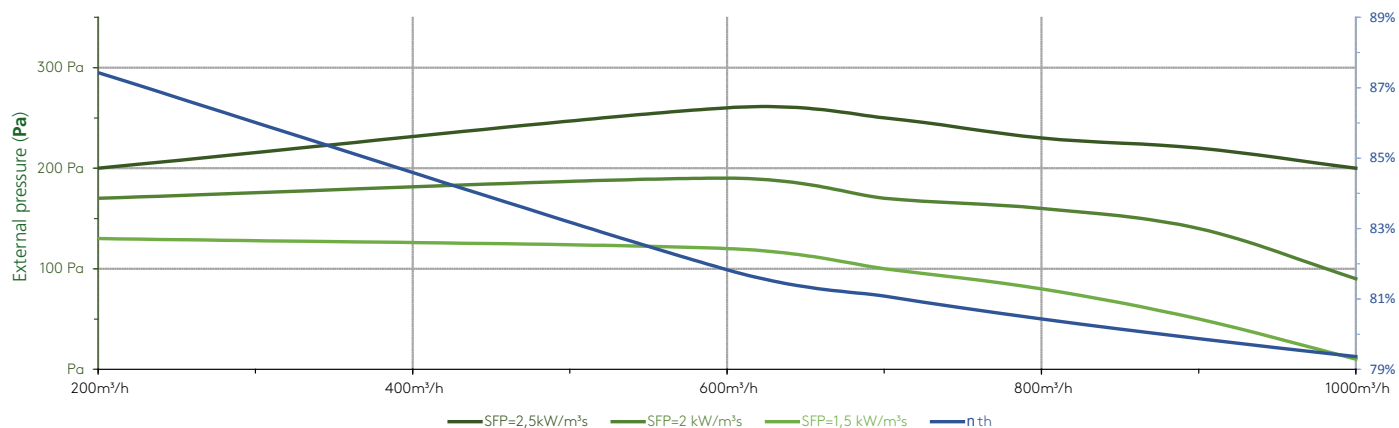
Right hand version  
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BOTTOM  
VIEW



Left hand version  
CID886271

# GLOBAL LP 1000<sup>FW</sup>



## GENERAL TECHNICAL SPECIFICATIONS

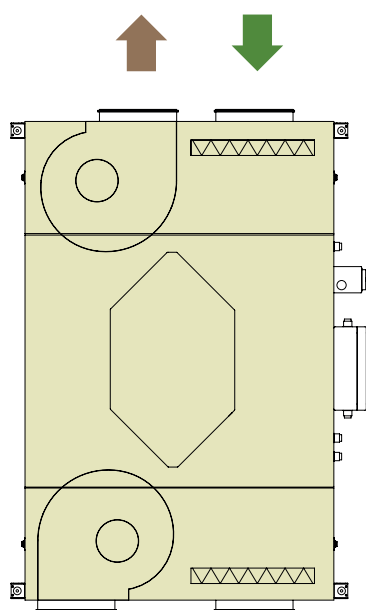
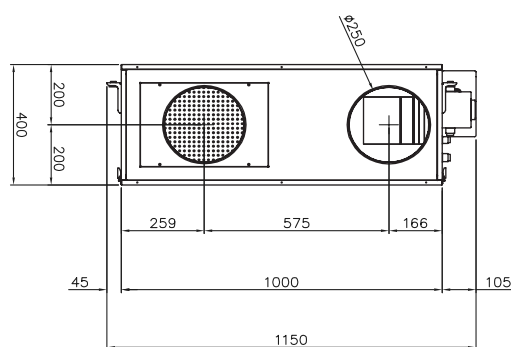
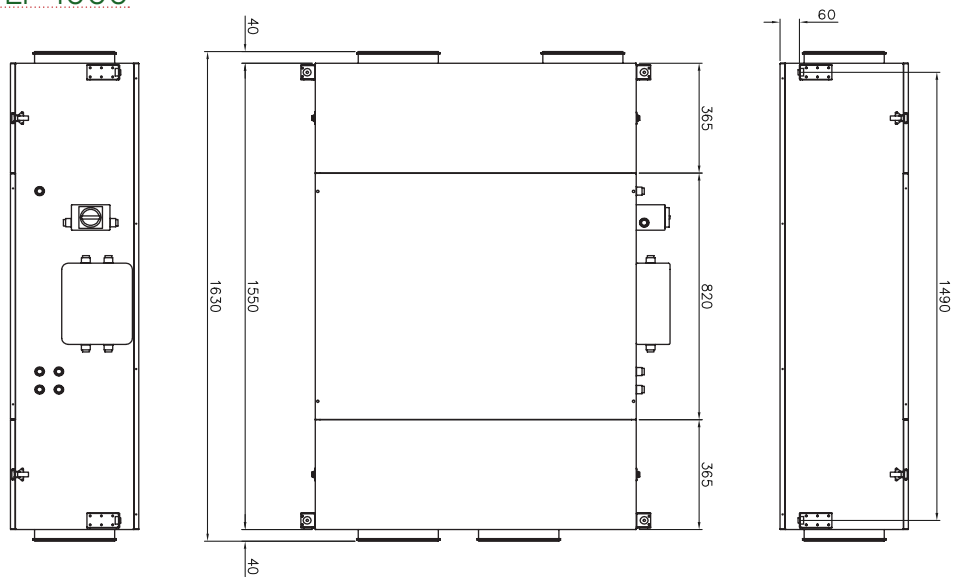
|                                     |                                     |
|-------------------------------------|-------------------------------------|
| • AIR FLOW                          | 100 - 1050 m³/h                     |
| • DIMENSIONS (L X W X H)            | 1550 x 1000 x 400                   |
| • WEIGHT                            | 160 kg                              |
| • NOMINAL VOLTAGE                   | 1 x 230 V                           |
| • MAXIMUM INTENSITY                 | 7.7 A                               |
| • RECOMMENDED ELECTRICAL PROTECTION | D10A - 10kA - AC3                   |
| • SUPPLY/EXTRACTION AIR FILTER      | ePM1 60% / ePM10 50%                |
| • AVAILABLE OPTIONS                 | KWin/BA+/-/CTm/SR and ER by default |
| • AUTOMATIC FREE COOLING            | Yes, modulating 100%                |
| • OPERATING TEMPERATURE RANGE       | -20°C to +50°C                      |
| • COLOUR                            | RAL 9002                            |

| FLOW RATE | POWER ABSORBED | SFP    | EXCHANGER EFFICIENCY | OUTLET T° AFTER EXCHANGER | SOUND LEVEL |
|-----------|----------------|--------|----------------------|---------------------------|-------------|
| m³/h      | W              | W/m³/h | %                    | °C                        | dBA         |
| 200       | 132            | 2,4    | 87,7                 | 22,5                      | 35,5        |
| 600       | 341            | 2,0    | 82,1                 | 21,4                      | 37,1        |
| 800       | 493            | 2,2    | 80,7                 | 21,1                      | 39,2        |
| 1000      | 683            | 2,5    | 79,6                 | 20,9                      | 41,1        |

Conditions :

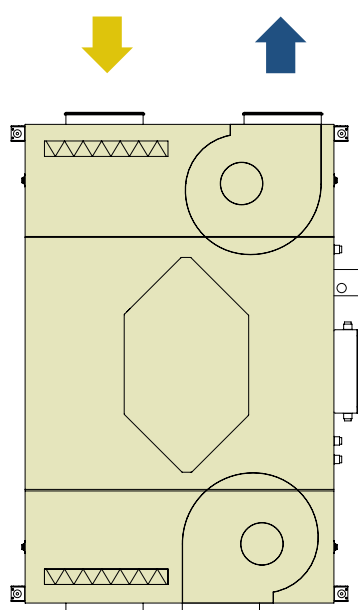
1. All values at 200Pa external pressure.
2. T° after heat exchanger at -10°C, 90%RH and +22°C, 50% HR.
3. Thermal efficiency at -10°C, 90%RH and +22°C, 50% HR.
4. Sound pressure for ducted unit in free field conditions at 3m.

# GLOBAL LP 1000<sup>FW</sup>



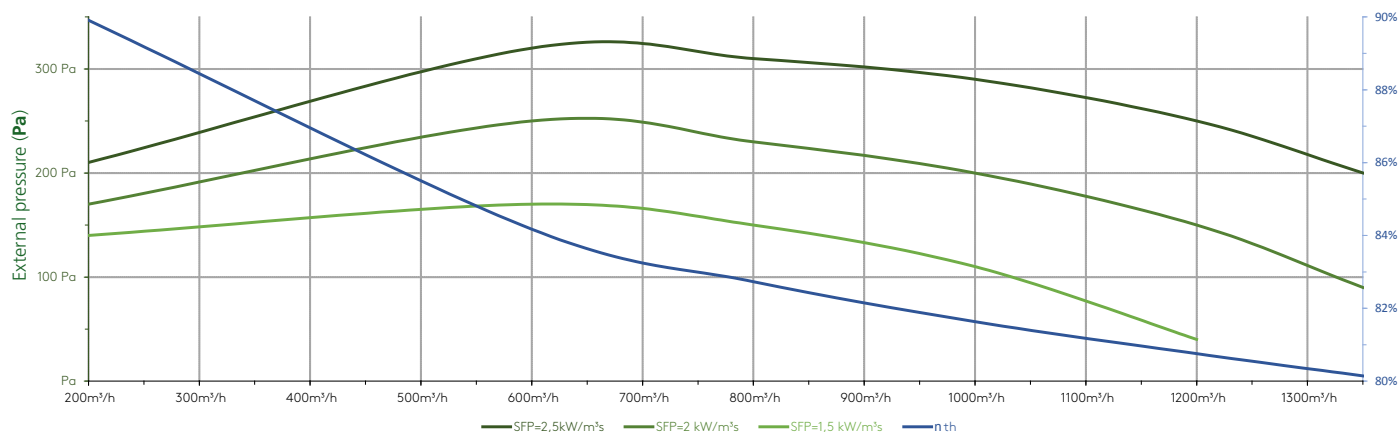
Right hand version  
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## BOTTOM VIEW



Left hand version  
CID886249

# GLOBAL LP 1300<sup>FW</sup>



## GENERAL TECHNICAL SPECIFICATIONS

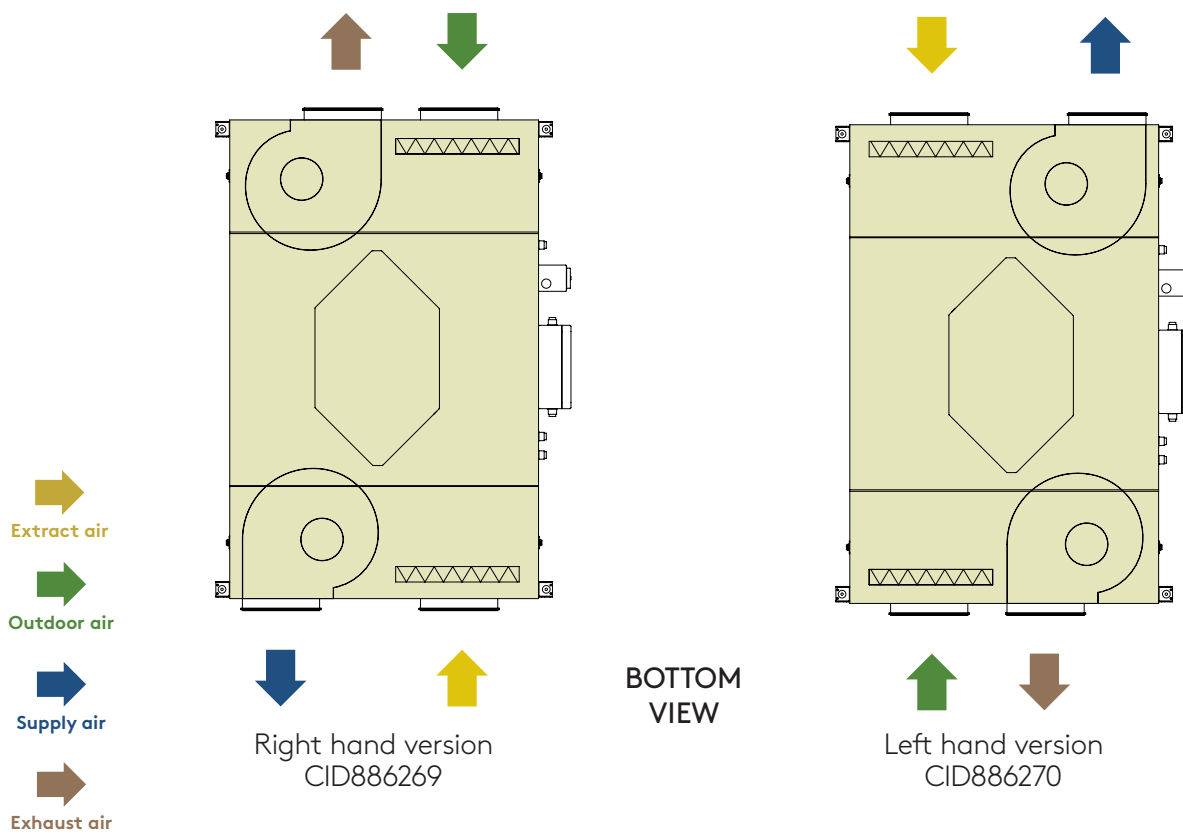
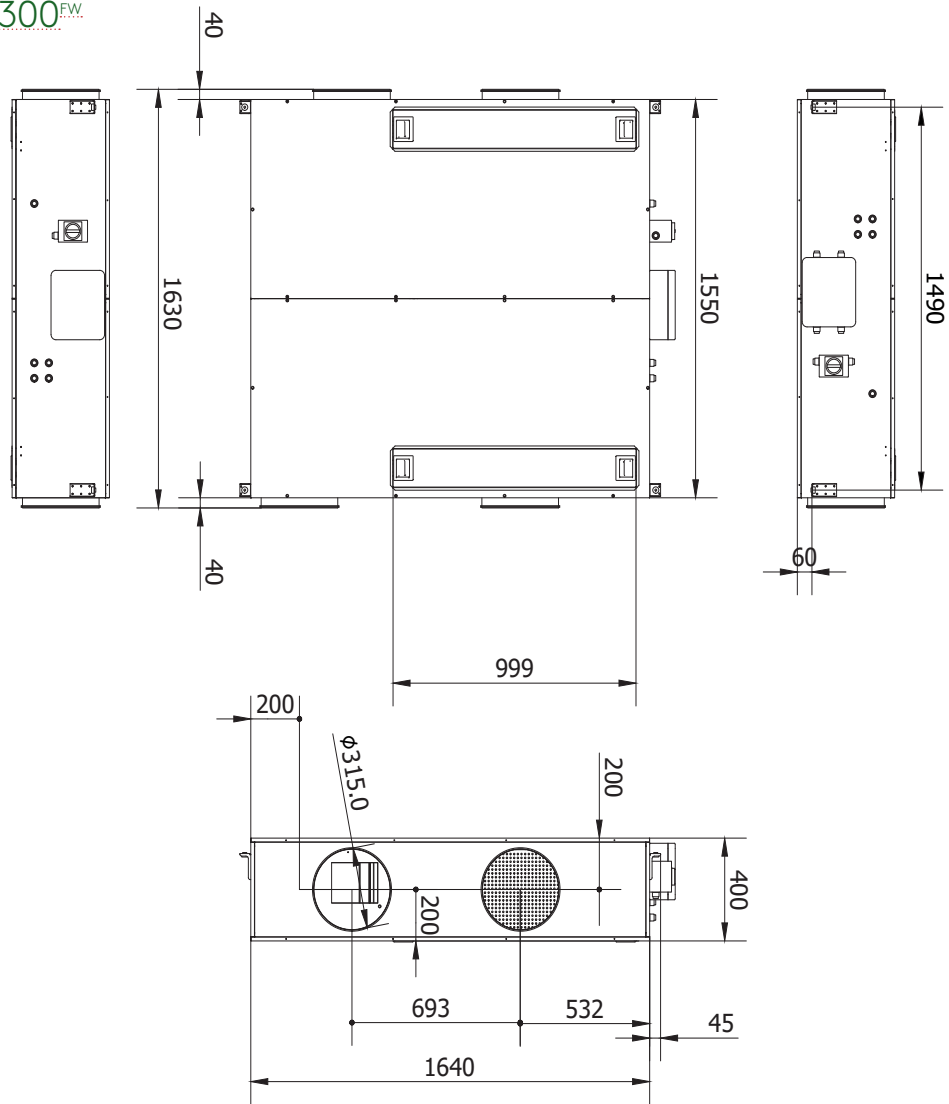
|                                     |                                  |
|-------------------------------------|----------------------------------|
| • AIR FLOW                          | 100 - 1350 m³/h                  |
| • DIMENSIONS (L X W X H)            | 1550 x 1640 x 400                |
| • WEIGHT                            | 225 kg                           |
| • NOMINAL VOLTAGE                   | 1 x 230 V                        |
| • MAXIMUM INTENSITY                 | 11.9 A                           |
| • RECOMMENDED ELECTRICAL PROTECTION | D16A/AC3/10kA                    |
| • SUPPLY/EXTRACTION AIR FILTER      | ePM1 60% / ePM10 50%             |
| • AVAILABLE OPTIONS                 | KWin/BA+/-/CTm/IRS/SR by default |
| • AUTOMATIC FREE COOLING            | Yes, modulating 100%             |
| • OPERATING TEMPERATURE RANGE       | -20°C to +50°C                   |
| • COLOUR                            | RAL 9002                         |

| FLOW RATE | POWER ABSORBED | SFP    | EXCHANGER EFFICIENCY | OUTLET T° AFTER EXCHANGER | SOUND LEVEL |
|-----------|----------------|--------|----------------------|---------------------------|-------------|
| m³/h      | W              | W/m³/h | %                    | °C                        | dBA         |
| 400       | 215            | 1,9    | 84,1                 | 21,8                      | 35,3        |
| 800       | 493            | 2,2    | 80,7                 | 21,1                      | 38,4        |
| 1000      | 683            | 2,5    | 79,6                 | 20,9                      | 40,0        |
| 1300      | 1068           | 3,0    | 78,4                 | 20,7                      | 42,6        |

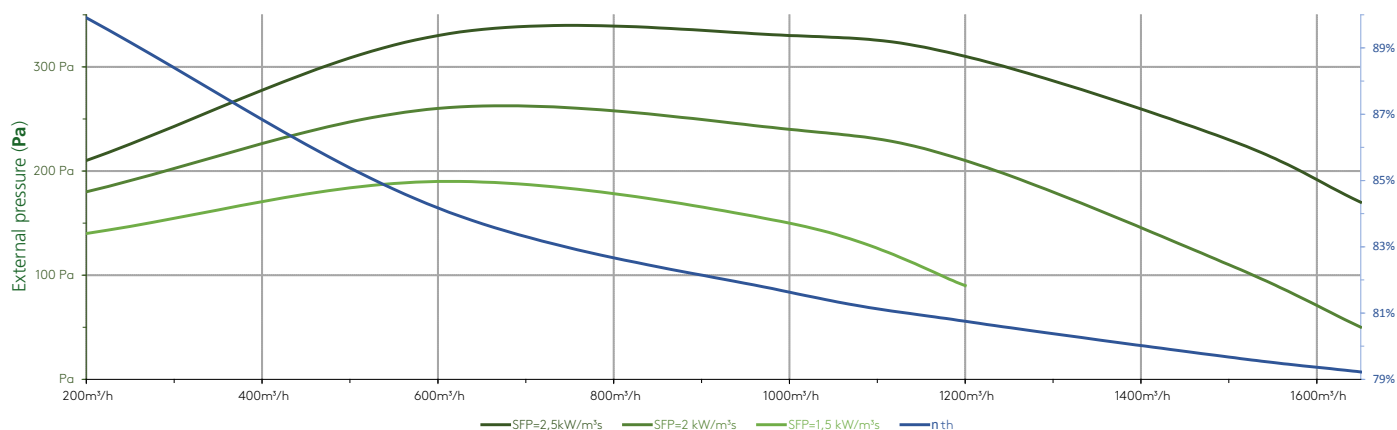
Conditions :

1. All values at 200Pa external pressure.
2. T° after heat exchanger at -10°C, 90%RH and +22°C, 50% HR.
3. Thermal efficiency at -10°C, 90%RH and +22°C, 50% HR.
4. Sound pressure for ducted unit in free field conditions at 3m.

# GLOBAL LP 1300<sup>FW</sup>



# GLOBAL LP 1600<sup>FW</sup>



## GENERAL TECHNICAL SPECIFICATIONS

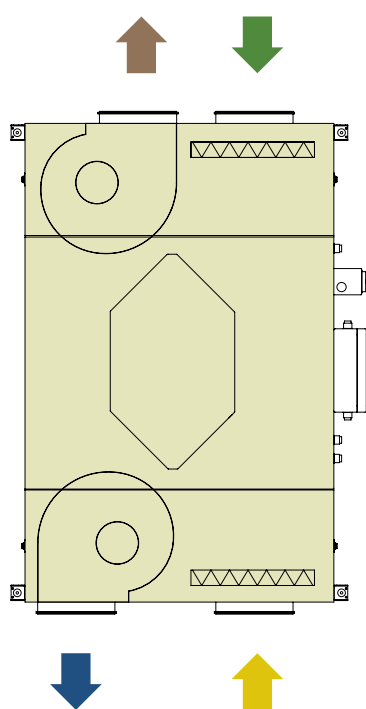
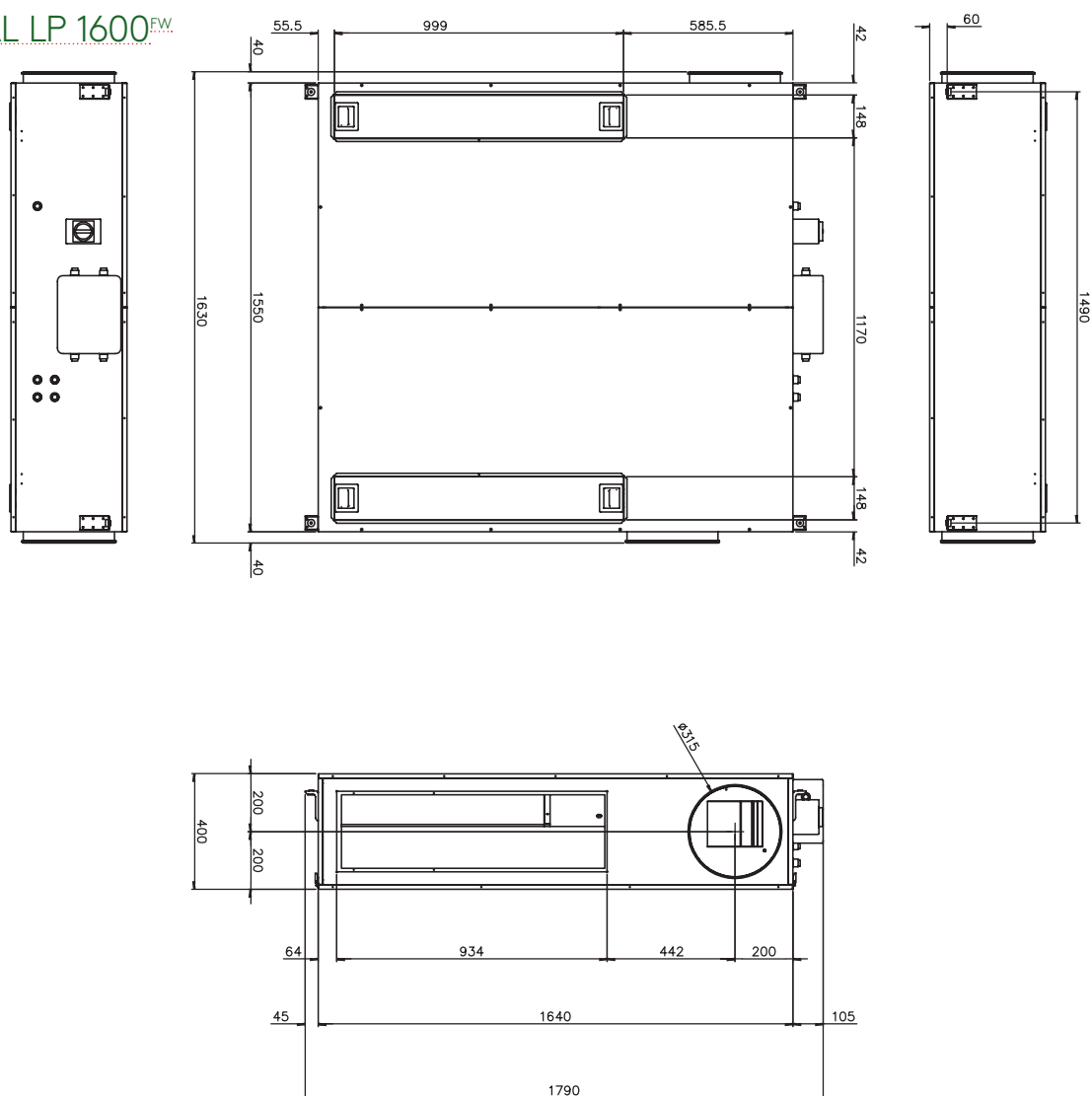
|                                     |                                  |
|-------------------------------------|----------------------------------|
| • AIR FLOW                          | 100 - 1680 m³/h                  |
| • DIMENSIONS (L X W X H)            | 1550 x 1640 x 400                |
| • WEIGHT                            | 225 kg                           |
| • NOMINAL VOLTAGE                   | 1 x 230 V                        |
| • MAXIMUM INTENSITY                 | 11.9 A                           |
| • RECOMMENDED ELECTRICAL PROTECTION | D16A - 10kA - AC3                |
| • SUPPLY/EXTRACTION AIR FILTER      | ePM1 60% / ePM10 50%             |
| • AVAILABLE OPTIONS                 | KWin/BA+/-/CTm/IRS/SR by default |
| • AUTOMATIC FREE COOLING            | Yes, modulating 100%             |
| • OPERATING TEMPERATURE RANGE       | -20°C to +50°C                   |
| • COLOUR                            | RAL 9002                         |

| FLOW RATE | POWER ABSORBED | SFP    | EXCHANGER EFFICIENCY | OUTLET T° AFTER EXCHANGER | SOUND LEVEL |
|-----------|----------------|--------|----------------------|---------------------------|-------------|
| m³/h      | W              | W/m³/h | %                    | °C                        | dBA         |
| 800       | 356            | 1,6    | 83,0                 | 21,6                      | 37,6        |
| 1000      | 479            | 1,7    | 81,9                 | 21,4                      | 39,0        |
| 1400      | 851            | 2,2    | 80,2                 | 21,1                      | 42,3        |
| 1600      | 1110           | 2,5    | 79,6                 | 21,0                      | 45,7        |

Conditions :

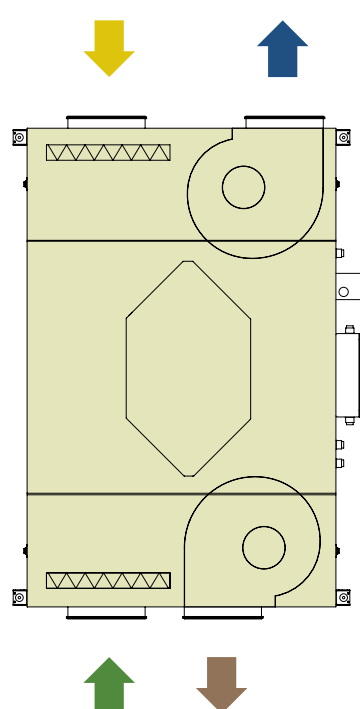
1. All values at 200Pa external pressure.
2. T° after heat exchanger at -10°C, 90%RH and +22°C, 50% HR.
3. Thermal efficiency at -10°C, 90%RH and +22°C, 50% HR.
4. Sound pressure for ducted unit in free field conditions at 3m.

# GLOBAL LP 1600<sup>FW</sup>



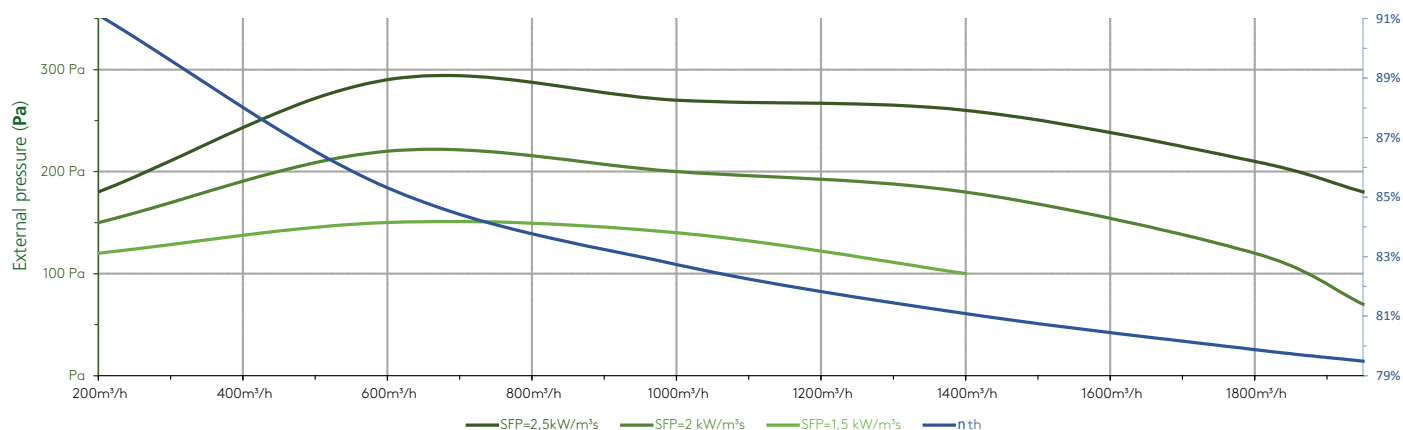
Right hand version  
CID886255

BOTTOM  
VIEW



Left hand version  
CID886250

# GLOBAL LP 2000<sup>FW</sup>



## GENERAL TECHNICAL SPECIFICATIONS

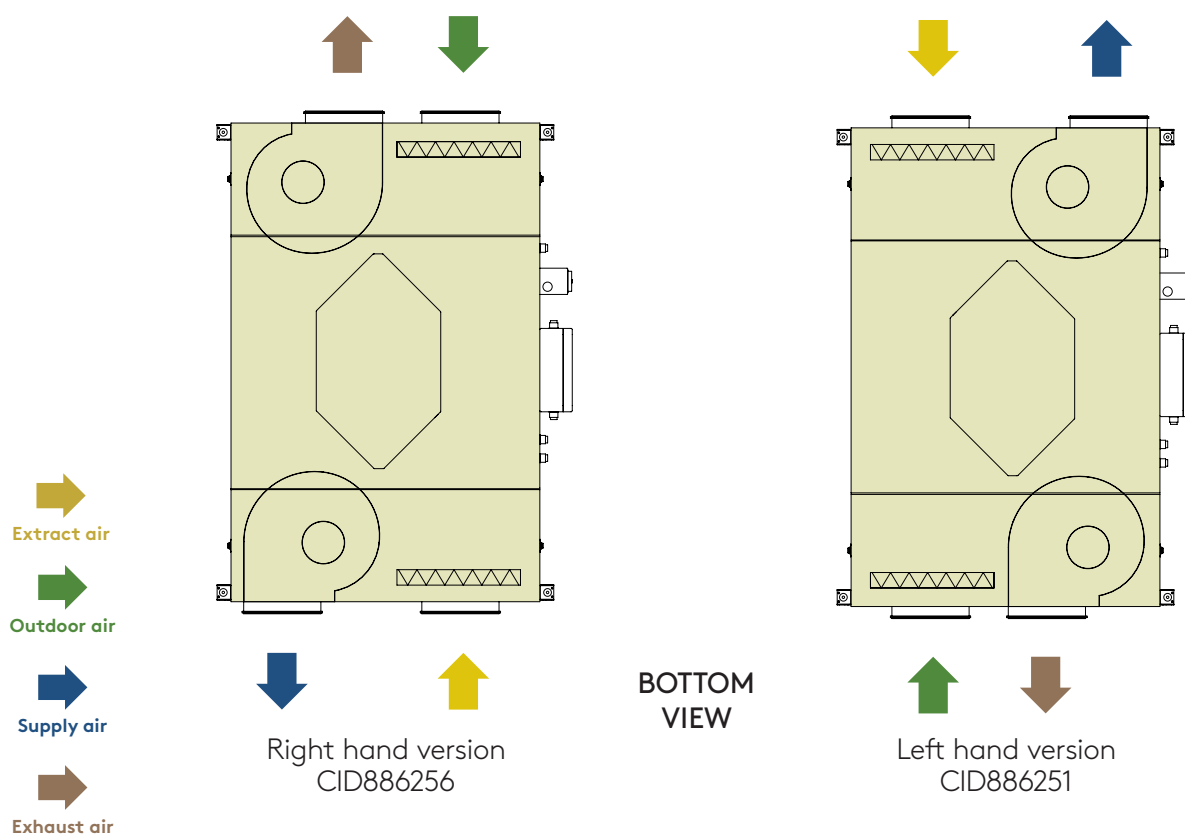
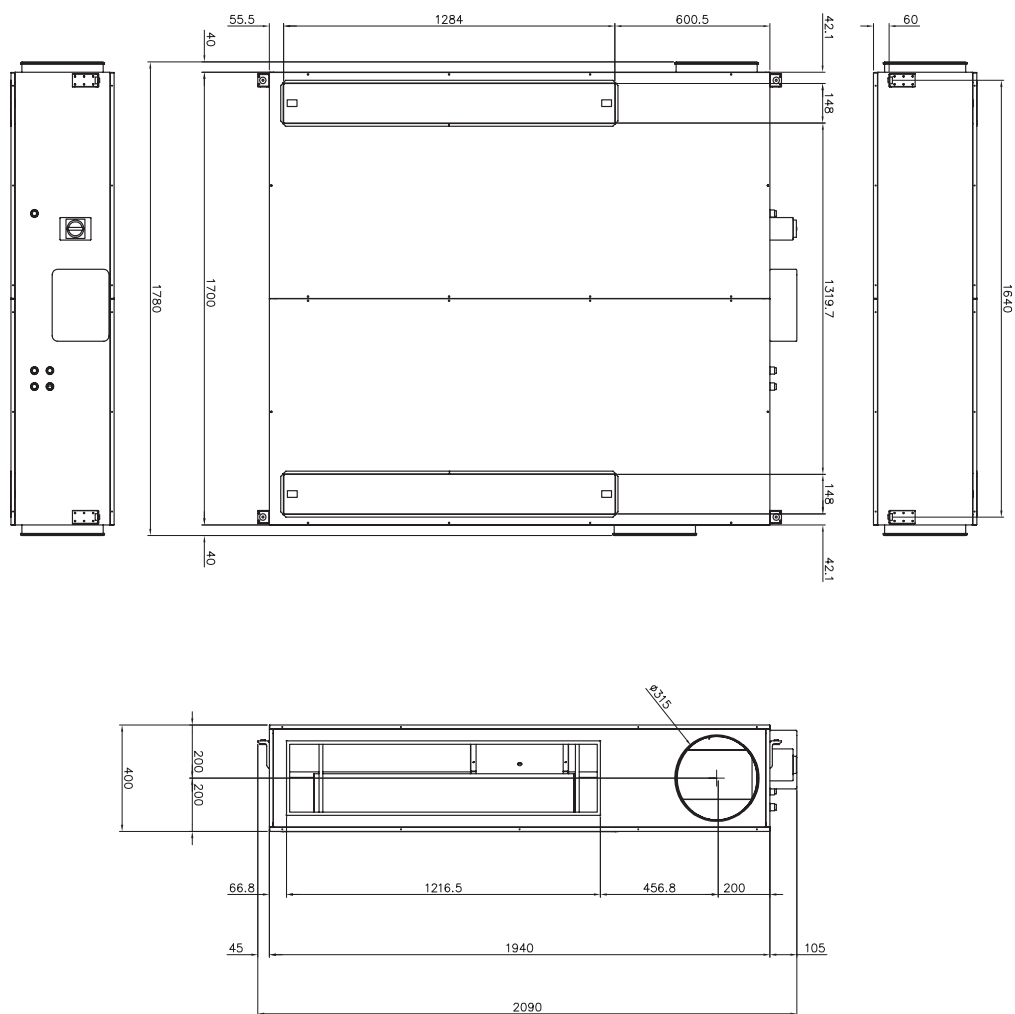
|                                     |                                  |
|-------------------------------------|----------------------------------|
| • AIR FLOW                          | 100 - 2100 m³/h                  |
| • DIMENSIONS (L X W X H)            | 1700 x 1940 x 400                |
| • WEIGHT                            | 275 kg                           |
| • NOMINAL VOLTAGE                   | 1 x 230 V                        |
| • MAXIMUM INTENSITY                 | 11.7 A                           |
| • RECOMMENDED ELECTRICAL PROTECTION | D16A - 10kA - AC3                |
| • SUPPLY/EXTRACTION AIR FILTER      | ePM1 60% / ePM10 50%             |
| • AVAILABLE OPTIONS                 | KWin/BA+/-/CTm/IRS/SR by default |
| • AUTOMATIC FREE COOLING            | Yes, modulating 100%             |
| • OPERATING TEMPERATURE RANGE       | -20°C to +50°C                   |
| • COLOUR                            | RAL 9002                         |

| FLOW RATE | POWER ABSORBED | SFP    | EXCHANGER EFFICIENCY | OUTLET T° AFTER EXCHANGER | SOUND LEVEL |
|-----------|----------------|--------|----------------------|---------------------------|-------------|
| m³/h      | W              | W/m³/h | %                    | °C                        | dBA         |
| 1000      | 533            | 1,9    | 83,0                 | 21,6                      | 38,5        |
| 1500      | 889            | 2,1    | 81,0                 | 21,2                      | 41,4        |
| 1800      | 1195           | 2,4    | 79,9                 | 21,0                      | 42,8        |
| 2000      | 1445           | 2,6    | 79,6                 | 20,9                      | 43,8        |

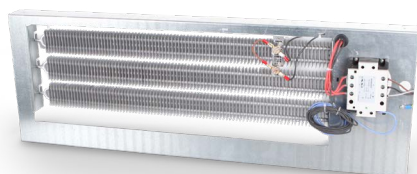
Conditions :

1. All values at 200Pa external pressure.
2. T° after heat exchanger at -10°C, 90%RH and +22°C, 50% HR.
3. Thermal efficiency at -10°C, 90%RH and +22°C, 50% HR.
4. Sound pressure for ducted unit in free field conditions at 3m.

# GLOBAL LP 2000<sup>FW</sup>



## ELECTRIC PRE-HEATING (KW<sub>IN</sub>)



The GLOBAL LP<sup>FW</sup> units can be equipped with heating elements (pre-heating). On the incoming air side.

It is possible to insert an electric pre-heating coil to avoid the risk of the exchanger frosting in case of very low exterior suction temperatures. It is supplied entirely pre-wired to the TAC5 controller and can withstand a temperature as low as -40°C (see table below) for suction at an interior temperature of +22°C, without risk of frosting, depending on the flow and humidity rates

concerned. The power of the KW<sub>in</sub> exchanger is modulated to maintain the post-exchange temperature equal to the no frost set point of the counter flow exchanger. If the temperatures are such that this temperature cannot be attained even though the KW<sub>in</sub> is at maximum power, the regulation will reduce the supply and exhaust air flow rates (balance maintained) to attain the set point.

| MODEL                             | MAXIMUM CAPACITY | ΔT <sup>(1)</sup> | MINIMUM EXTE-<br>RIOR T° <sup>(1) (3)</sup> | MAXIMUM INTENSITY<br>PER PHASE | PRESSURE<br>DROP <sup>(2)</sup> | CID    |
|-----------------------------------|------------------|-------------------|---|--------------------------------|---------------------------------|--------|
|                                   | [kW]             | [°C]              | [°C]  | [A]                            | [Pa]                            |        |
| GLOBAL LP 450 <sup>FW</sup>       | 1.5              | 9/14/29           | -22/-26/-41                                 | 6.5                            | 8 Pa                            | 882435 |
| GLOBAL LP 600 <sup>FW</sup>       | 2.0              | 9/14/29           | -22/-26/-41                                 | 8.7                            | 8 Pa                            | 882436 |
| GLOBAL LP 1000 <sup>FW</sup>      | 3.0              | 8/13/26           | -21/-25/-38                                 | 13.0                           | 9 Pa                            | 882437 |
| GLOBAL LP 1300/1600 <sup>FW</sup> | 6.0              | 11/16/33          | -23/-28/-44                                 | 8.7                            | 5 Pa                            | 882438 |
| GLOBAL LP 2000 <sup>FW</sup>      | 6.0              | 8/13/26           | -21/-25/-38                                 | 8.7                            | 11 Pa                           | 882438 |

<sup>(1)</sup> Calculated at 100 %, 66% and 33% of the maximum flow rate.

<sup>(2)</sup> Calculated at maximum flow rate.

<sup>(3)</sup> Calculated with interior air at 22°C - 50%RH.

## REPLACEMENT FILTER KITS



The GLOBAL LP<sup>FW</sup> units are delivered as a standard with ePM1≥60% and ePM10≥50% filters.

| MODEL                             | CID    | Filters fresh air in | Filters stale airout |
|-----------------------------------|--------|----------------------|----------------------|
| GLOBAL LP 450 <sup>FW</sup>       | 510045 |                      |                      |
| GLOBAL LP 600 <sup>FW</sup>       | 510046 |                      |                      |
| GLOBAL LP 1000 <sup>FW</sup>      | 510086 | ePM1 60%             | ePM10 50%            |
| GLOBAL LP 1300/1600 <sup>FW</sup> | 510087 | ePM1 60%             | ePM10 50%            |
| GLOBAL LP 2000 <sup>FW</sup>      | 510088 | ePM1 60%             | ePM10 50%            |

## MODULE BA+/-



This external module is provided for the GLOBAL LP<sup>FW</sup> models and can be mounted either in the supply air ductway, or directly on the unit. It comprises a water (+/-) or evaporation/condensation 4-row coil. It can be used for the post-heating and/or post-cooling of the supply airstream. If the module takes a water coil, it is supplied ready to be connected to the hydraulic

network (+/-), with the full regulation and a motorised 3-way valve. It suffices to set the requested supply air temperature; the regulation will modulate the capacity of the coil to attain it.

## CONDENSATION ⊕

| MODEL                             | CONNECTIONS | HEATING CAPACITY<br>(1) (3) | $\Delta T$ (1) (3) | PRESSURE DROP AIR (2) | FLUID FLOW RATE<br>(2) (3) | PRESSURE DROP FLUID<br>(2) (3) | CID    |
|-----------------------------------|-------------|-----------------------------|--------------------|-----------------------|----------------------------|--------------------------------|--------|
|                                   | [mm]        | [kW]                        | [°C]               | [Pa]                  | [kg/h]                     | [kPa]                          |        |
| GLOBAL LP 450 <sup>FW</sup>       | 22/12       | 1,9 / 1,2                   | 13 / 16            | 40                    | 27,2                       | 0,1                            | 882446 |
| GLOBAL LP 600 <sup>FW</sup>       | 22/12       | 2,3 / 1,4                   | 11 / 14            | 61                    | 32,3                       | 0,1                            | 882446 |
| GLOBAL LP 1000 <sup>FW</sup>      | 28/12       | 6,0 / 3,5                   | 18 / 21            | 37                    | 83,5                       | 0,6                            | 882448 |
| GLOBAL LP 1300/1600 <sup>FW</sup> | 28/12       | 9,5 / 5,6                   | 18 / 21            | 47                    | 132,6                      | 1,8                            | 882450 |
| GLOBAL LP 2000 <sup>FW</sup>      | 28/12       | 10,9 / 6,6                  | 16 / 20            | 65                    | 152,5                      | 2,4                            | 882450 |

**Conditions :** Exterior air: -10°C and 90% RH, Interior air: +22°C and 50% RH, exit air temperature without BA: 19 °C (at max airflow)

<sup>(1)</sup> Calculated at 100% and 50% of the maximum flow rate.

<sup>(2)</sup> Calculated at maximum flow rate.

<sup>(3)</sup> R410A / Condensation temperature = 40°C

## EVAPORATION ⊖

| MODEL                             | CONNECTIONS | COOLING CAPACITY<br>(1) (2) (3) | $\Delta T$ (1) (3) | PRESSURE DROP AIR (2) | FLOW RATE DE FLUIDE<br>(2) (3) | PRESSURE DROP FLUID<br>(2) (3) | CID    |
|-----------------------------------|-------------|---------------------------------|--------------------|-----------------------|--------------------------------|--------------------------------|--------|
|                                   | [mm]        | [kW]                            | [°C]               | [Pa]                  | [kg/h]                         | [kPa]                          |        |
| GLOBAL LP 450 <sup>FW</sup>       | 12/22       | 2,5 / 1,6                       | 11 / 13            | 53                    | 61,1                           | 0,6                            | 882446 |
| GLOBAL LP 600 <sup>FW</sup>       | 12/22       | 3,0 / 1,9                       | 10 / 12            | 80                    | 73,1                           | 0,8                            | 882446 |
| GLOBAL LP 1000 <sup>FW</sup>      | 12/28       | 6,1 / 3,7                       | 12 / 14            | 48                    | 147,9                          | 4,9                            | 882448 |
| GLOBAL LP 1300/1600 <sup>FW</sup> | 12/28       | 10,1 / 5,7                      | 12 / 13            | 62                    | 243,6                          | 16,0                           | 882450 |
| GLOBAL LP 2000 <sup>FW</sup>      | 12/28       | 11,9 / 6,9                      | 11 / 13            | 86                    | 286,0                          | 22,5                           | 882450 |

**Conditions :** Exterior air: 30°C and 40% RH, Interior air: +22°C and 50% RH, exit air temperature without BA: 23.5°C (at max airflow)

<sup>(1)</sup> Calculated at 100% and 50% of the maximum flow rate.

<sup>(2)</sup> Calculated at maximum flow rate.

<sup>(3)</sup> R410A / Evaporation temperature = 4°C

## HOT WATER (BA+)

| MODEL                             | CONNECTIONS | WATER TEMPERATURE | CAPACITY <sup>(1)</sup> | ΔT <sup>(1)</sup> | PRESSURE DROP AIR <sup>(2)</sup> | WATER FLOW RATE <sup>(2)</sup> | PRESSURE DROP WATER <sup>(2)</sup> | CID    |
|-----------------------------------|-------------|-------------------|-------------------------|-------------------|----------------------------------|--------------------------------|------------------------------------|--------|
|                                   |             | [°C]              | [kW]                    | [°C]              | [Pa]                             | [l/h]                          | [kPa]                              |        |
| GLOBAL LP 450 <sup>FW</sup>       | 3/4"        | 80°C / 60°C       | 6,2 / 3,5               | 41 / 46           | 43                               | 274                            | 0,8                                | 882445 |
|                                   |             | 50°C / 40°C       | 3,0 / 1,6               | 20 / 21           | 41                               | 262                            | 0,8                                |        |
|                                   |             | 40°C / 35°C       | 2,2 / 1,2               | 15 / 16           | 40                               | 387                            | 1,8                                |        |
| GLOBAL LP 600 <sup>FW</sup>       | 3/4"        | 80°C / 60°C       | 7,8 / 4,4               | 38 / 44           | 65                               | 341                            | 1,2                                | 882445 |
|                                   |             | 50°C / 40°C       | 3,8 / 2,1               | 19 / 20           | 62                               | 327                            | 1,3                                |        |
|                                   |             | 40°C / 35°C       | 2,8 / 1,5               | 14 / 15           | 61                               | 483                            | 2,6                                |        |
| GLOBAL LP 1000 <sup>FW</sup>      | 3/4"        | 80°C / 60°C       | 14,8 / 8,2              | 44 / 49           | 39                               | 651                            | 2,6                                | 882447 |
|                                   |             | 50°C / 40°C       | 7,3 / 4                 | 22 / 24           | 37                               | 638                            | 2,7                                |        |
|                                   |             | 40°C / 35°C       | 5,3 / 2,8               | 16 / 17           | 36                               | 915                            | 5,4                                |        |
| GLOBAL LP 1300/1600 <sup>FW</sup> | 3/4"        | 80°C / 60°C       | 22,9 / 12,8             | 42 / 48           | 49                               | 1006                           | 3,6                                | 882449 |
|                                   |             | 50°C / 40°C       | 11,3 / 6,2              | 21 / 23           | 47                               | 986                            | 3,7                                |        |
|                                   |             | 40°C / 35°C       | 8,2 / 4,4               | 15 / 16           | 46                               | 1416                           | 7,4                                |        |
| GLOBAL LP 2000 <sup>FW</sup>      | 3/4"        | 80°C / 60°C       | 27,1 / 15,5             | 40 / 46           | 68                               | 1191                           | 4,8                                | 882449 |
|                                   |             | 50°C / 40°C       | 13,4 / 7,5              | 20 / 22           | 65                               | 1167                           | 5,1                                |        |
|                                   |             | 40°C / 35°C       | 9,7 / 5,3               | 14 / 16           | 64                               | 1680                           | 10,1                               |        |

Conditions : Exterior air: -10°C and 90% RH, Interior air: +22°C and 50% RH, Exit air temperature without BA: 19 °C (at max airflow)

<sup>(1)</sup> Calculated at 100% and 50% of the maximum flow rate.

<sup>(2)</sup> Calculated at maximum flow rate.

## COLD WATER (BA-)

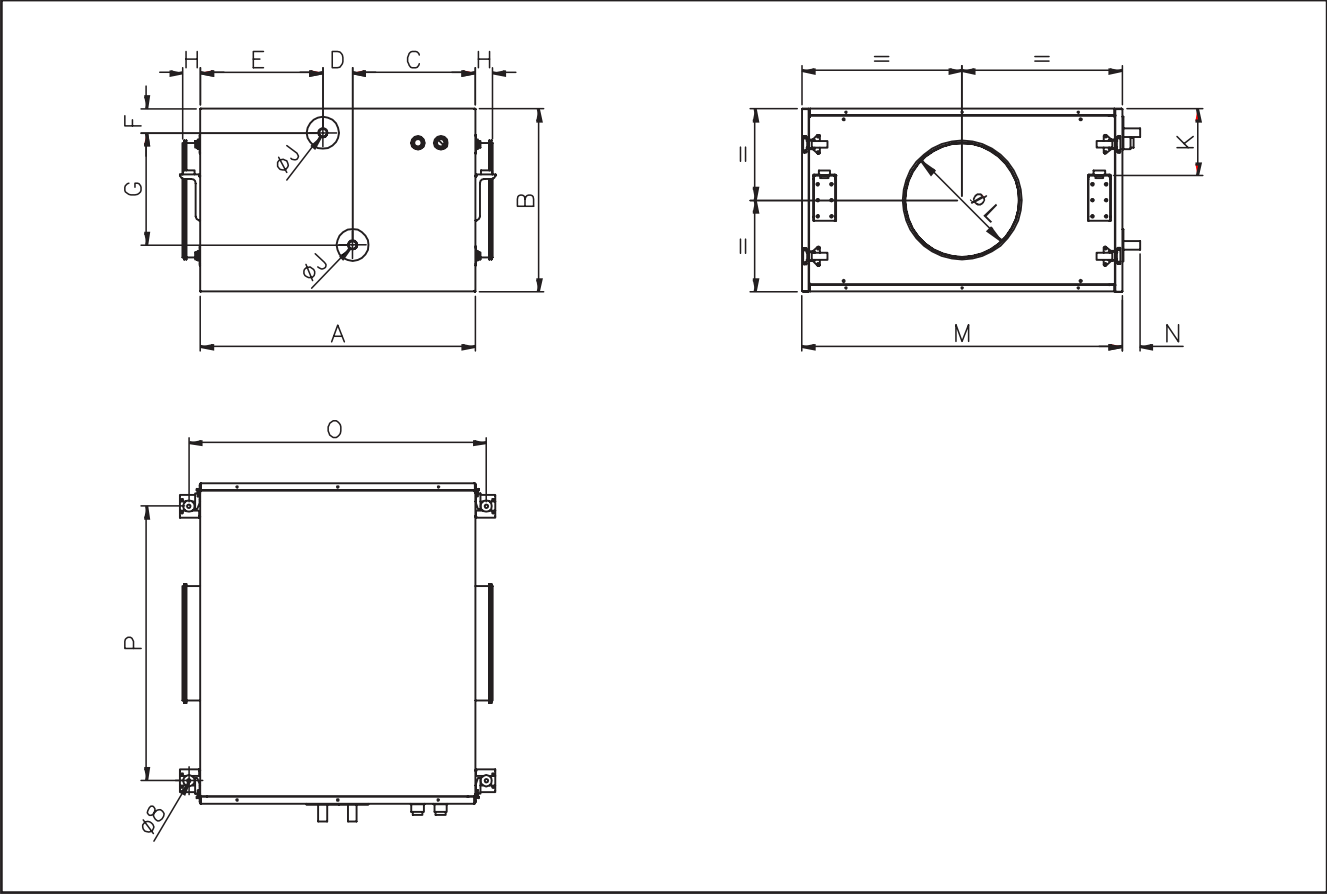
| MODEL                             | CONNECTIONS | WATER TEMPERATURE | CAPACITY <sup>(1)</sup> | ΔT <sup>(1)</sup> | PRESSURE DROP AIR <sup>(2)</sup> | WATER FLOW RATE <sup>(2)</sup> | PRESSURE DROP WATER <sup>(2)</sup> | CID    |
|-----------------------------------|-------------|-------------------|-------------------------|-------------------|----------------------------------|--------------------------------|------------------------------------|--------|
|                                   |             | [°C]              | [kW]                    | [°C]              | [Pa]                             | [l/h]                          | [kPa]                              |        |
| GLOBAL LP 450 <sup>FW</sup>       | 3/4"        | 7°C/12°C          | 1,4 / 1,0               | 8 / 10            | 44                               | 239                            | 0,9                                | 882445 |
|                                   |             | 10°C/15°C         | 1,0 / 0,7               | 7 / 8             | 39                               | 170                            | 0,5                                |        |
|                                   |             | 13°C/18°C         | 0,7 / 0,4               | 5 / 6             | 38                               | 117                            | 0,3                                |        |
| GLOBAL LP 600 <sup>FW</sup>       | 3/4"        | 7°C/12°C          | 1,6 / 1,1               | 7 / 9             | 66                               | 273                            | 1,2                                | 882445 |
|                                   |             | 10°C/15°C         | 1,1 / 0,8               | 6 / 7             | 58                               | 195                            | 0,6                                |        |
|                                   |             | 13°C/18°C         | 0,8 / 0,5               | 4 / 5             | 59                               | 134                            | 0,3                                |        |
| GLOBAL LP 1000 <sup>FW</sup>      | 3/4"        | 7°C/12°C          | 4,5 / 2,3               | 10 / 10           | 44                               | 770                            | 4,9                                | 882447 |
|                                   |             | 10°C/15°C         | 2,8 / 1,5               | 7 / 8             | 38                               | 482                            | 2,1                                |        |
|                                   |             | 13°C/18°C         | 1,6 / 1,0               | 5 / 6             | 35                               | 266                            | 0,7                                |        |
| GLOBAL LP 1300/1600 <sup>FW</sup> | 3/4"        | 7°C/12°C          | 6,9 / 3,8               | 9 / 10            | 57                               | 1188                           | 6,7                                | 882449 |
|                                   |             | 10°C/15°C         | 4,5 / 2,2               | 7 / 8             | 49                               | 767                            | 3,0                                |        |
|                                   |             | 13°C/18°C         | 2,2 / 1,5               | 4 / 5             | 44                               | 373                            | 0,8                                |        |
| GLOBAL LP 2000 <sup>FW</sup>      | 3/4"        | 7°C/12°C          | 8,1 / 4,7               | 9 / 10            | 79                               | 1394                           | 8,9                                | 882449 |
|                                   |             | 10°C/15°C         | 5,3 / 2,5               | 7 / 7             | 68                               | 915                            | 4,1                                |        |
|                                   |             | 13°C/18°C         | 2,8 / 1,6               | 4 / 5             | 61                               | 474                            | 1,3                                |        |

Conditions : Exterior air: 30°C and 40% RH, Interior air: +22°C and 50% RH, Exit air temperature without BA: 23.5°C (AT MAX AIRFLOW)

<sup>(1)</sup> Calculated at 100% and 50% of the maximum flow rate.

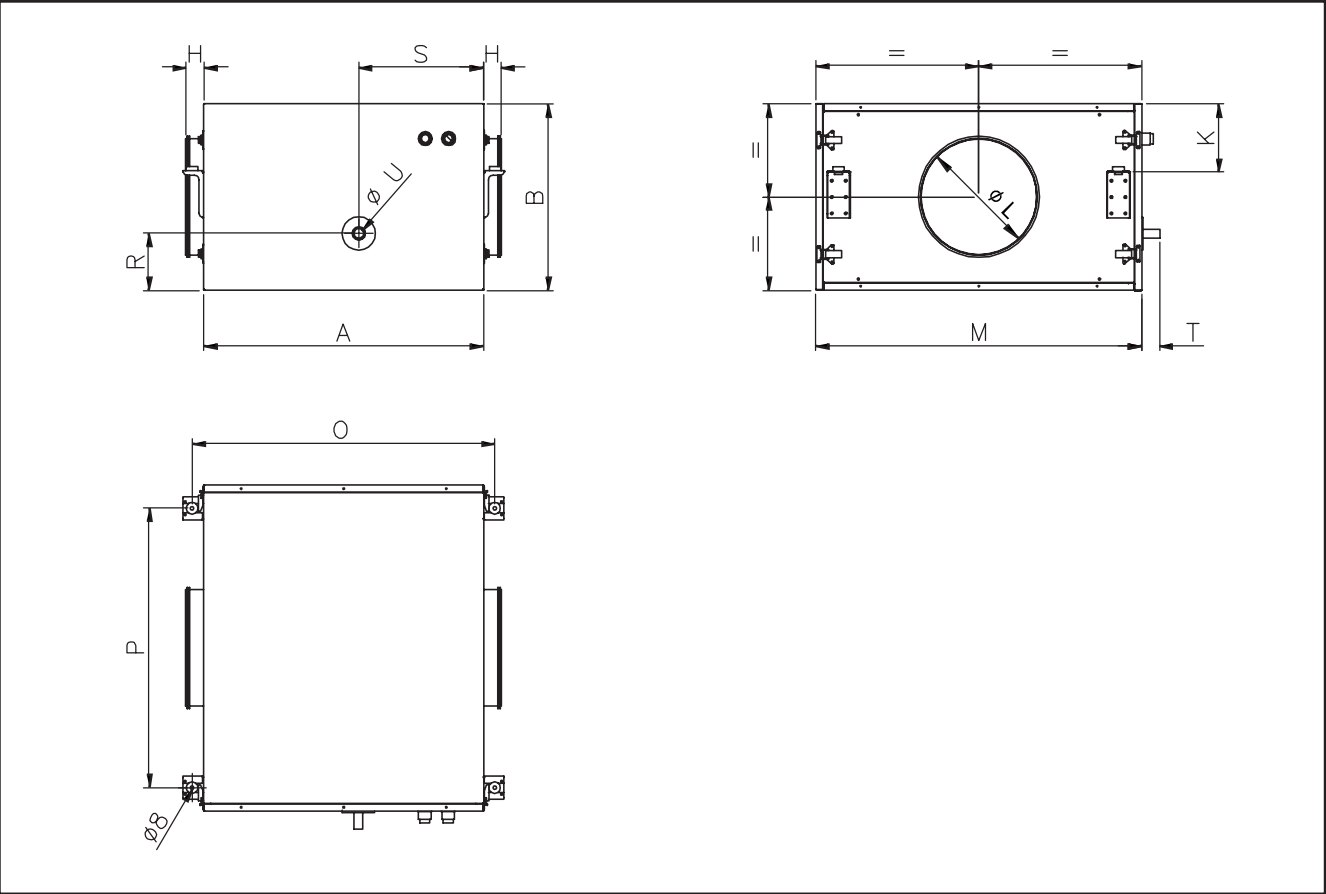
<sup>(2)</sup> Calculated at maximum flow rate.

DIMENSIONS BA W (HOT WATER/COLD WATER)



| MODEL                                     | CID    | A   | B   | C   | D  | E   | F  | G   | H  | J    | K   | L   | M   | N  | O   | P   | R | S | T | U |
|---|--------|-----|-----|-----|----|-----|----|-----|----|------|-----|-----|-----|----|-----|-----|---|---|---|---|
| [mm]                                      |        |     |     |     |    |     |    |     |    |      |     |     |     |    |     |     |   |   |   |   |
| GLOBAL LP 450 / 600 <sup>FW</sup>         | 882445 | 600 | 320 | 268 | 65 | 268 | 49 | 158 | 39 | 3/4" | 107 | 250 | 500 | 55 | 650 | 400 | - | - | - | - |
| GLOBAL LP 1000 <sup>FW</sup>              | 882447 | 600 | 400 | 268 | 65 | 268 | 53 | 245 | 39 | 3/4" | 147 | 250 | 700 | 55 | 650 | 600 | - | - | - | - |
| GLOBAL LP 1300/ 1600 / 2000 <sup>FW</sup> | 882449 | 600 | 400 | 268 | 65 | 268 | 53 | 245 | 39 | 3/4" | 147 | 315 | 900 | 55 | 650 | 650 | - | - | - | - |

BA DX DIMENSIONS (EVAPORATION/CONDENSATION)



| MODEL                                    | CID    | A   | B   | C | D | E | F | G | H  | J | K   | L   | M   | N | O   | P   | R   | S   | T  | U  |
|--|--------|-----|-----|---|---|---|---|---|----|---|-----|-----|-----|---|-----|-----|-----|-----|----|----|
| [mm]                                     |        |     |     |   |   |   |   |   |    |   |     |     |     |   |     |     |     |     |    |    |
| GLOBAL LP 450 / 600 <sup>FW</sup>        | 882446 | 600 | 320 | - | - | - | - | - | 39 | - | 107 | 250 | 500 | - | 650 | 400 | 132 | 268 | 55 | 22 |
| GLOBAL LP 1000 <sup>FW</sup>             | 882448 | 600 | 400 | - | - | - | - | - | 39 | - | 147 | 250 | 700 | - | 650 | 600 | 122 | 268 | 55 | 28 |
| GLOBAL LP 1300/1600 / 2000 <sup>FW</sup> | 882450 | 600 | 400 | - | - | - | - | - | 39 | - | 147 | 315 | 900 | - | 650 | 650 | 122 | 268 | 55 | 28 |

## MOTORISED DAMPER (CTm)



The GLOBAL LP<sup>FW</sup> units can be equipped with motorised dampers delivered pre-wired to cut draughts when the unit is deactivated. They are delivered with a pre-wired servomotor and are controlled entirely by the regulation system. A starting delay of the fans is designed to allow the damper to open first.

They are made of galvanised steel and are designed and sized to reduce the air resistance optimally. They are airtight thanks to the particular design of blades that fit into each other.

They are 130 mm deep.

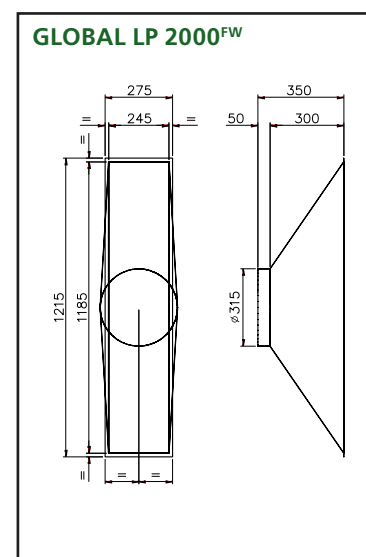
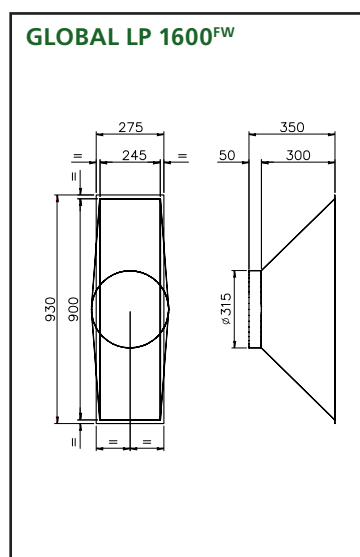
| MODEL                                      | CID    | INTERIOR DIMENSIONS [mm] | EXTERIOR DIMENSIONS [mm] |
|--|--------|--------------------------|--------------------------|
| CTm GLOBAL LP 450 <sup>FW</sup>            | 882454 |                          | 368 x 368                |
| CTm GLOBAL LP 600 <sup>FW</sup>            | 882455 |                          | 368 x 568                |
| CTm GLOBAL LP 1000 <sup>FW</sup>           | 882456 |                          | 368 x 468                |
| CTm GLOBAL LP 1300/1600/2000 <sup>FW</sup> | 882457 |                          | 368 x 998                |

## ROUND/SQUARE INLET (IRS)



The inlet side of the GLOBAL LP 1600<sup>FW</sup> and 2000<sup>FW</sup> models is rectangular.

A round/square adaptation is available as an option for these 2 models to allow the use of a circular ducting.



| MODEL                             | CID    |
|-----------------------------------|--------|
| GLOBAL LP 1300/1600 <sup>FW</sup> | 168025 |
| GLOBAL LP 2000 <sup>FW</sup>      | 168026 |

**We make every breath count.**

