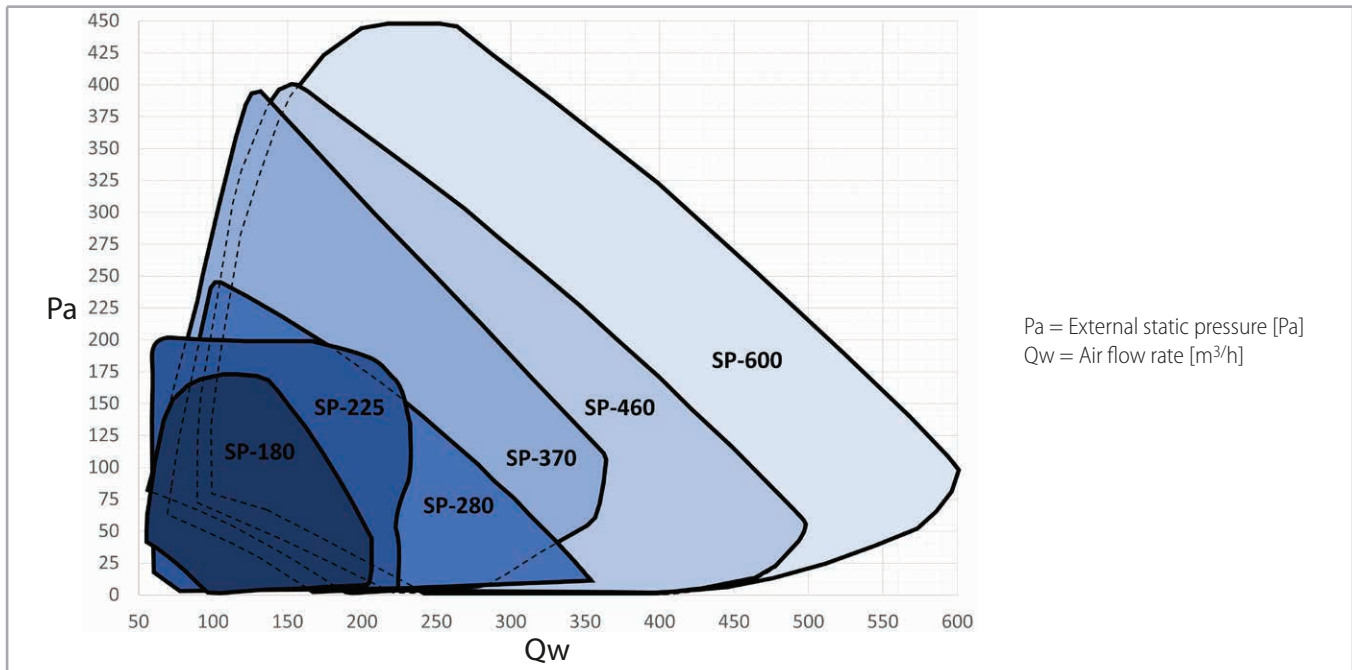


FAST UNIT SELECTION

Energy Smart units are suitable for operation in balanced or slightly unbalanced flow and return conditions. They ensure residential air exchange, recovering the heat from the extracted air and conveying it to the clean air. The chart below shows the recommended operating ranges in terms of volumetric supply air flow rate at standard conditions and available external static pressure.

Pro ENY-SP Vertical Version



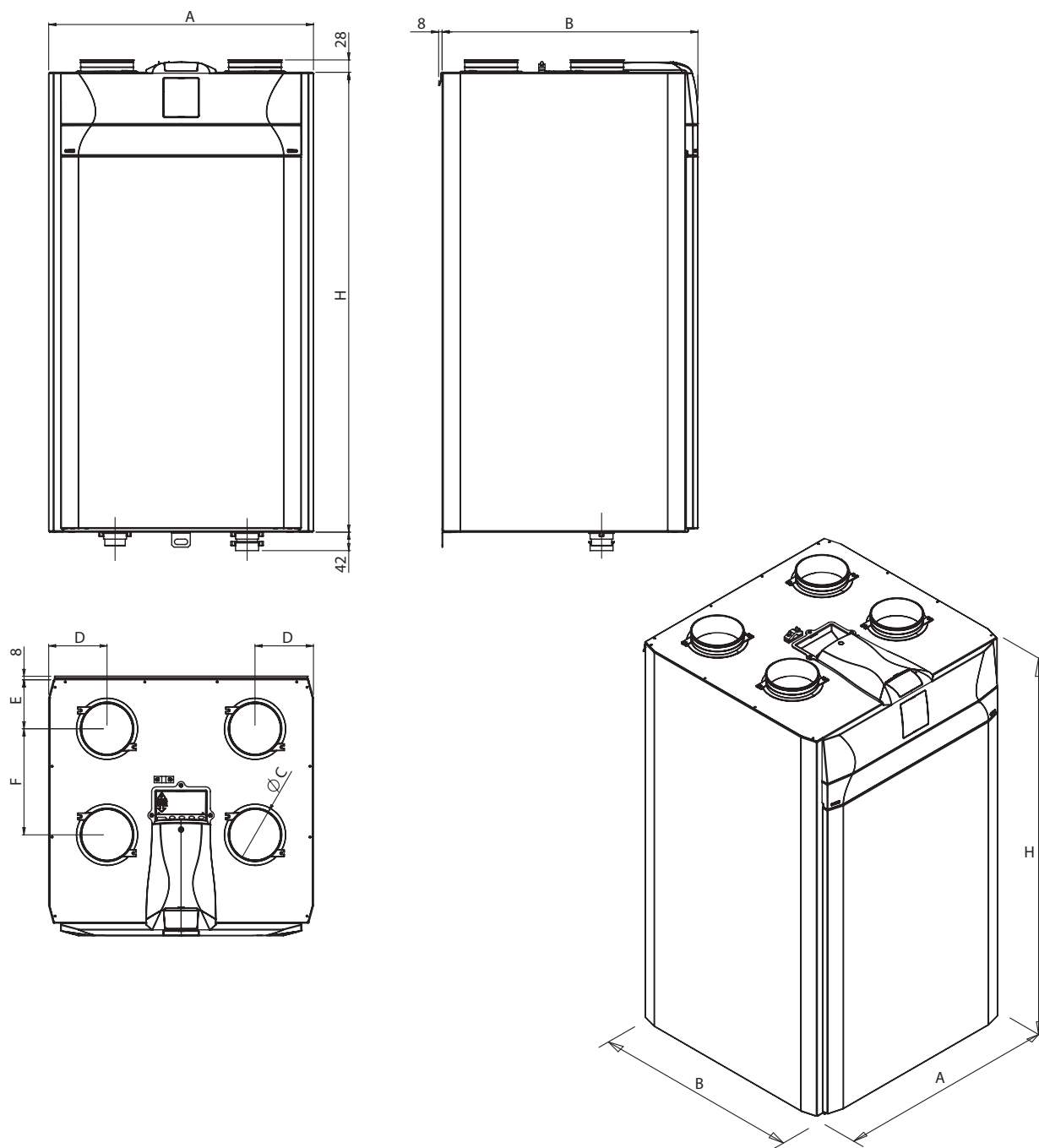
| | | ENY-SP-180 | ENY-SP-225 | ENY-SP-280 | ENY-SP-370 | ENY-SP-460 | ENY-SP-600 |
|-------------------|------------------------|----------------------------|------------|------------|------------|------------|------------|
| Q_{max} | [m ³ /h] | 180 | 225 | 280 | 370 | 460 | 600 |
| Q_{rif} | [m ³ /h] | 130 | 158 | 200 | 260 | 320 | 420 |
| P_{el} | [W] | 23 | 47,4 | 35 | 47 | 76 | 105 |
| η_{t_rvu} | [%] | 91,5% | 89,0% | 91,4% | 92,5% | 88,6% | 88,0% |
| SPI | [W/m ³ /h] | 0,174 | 0,300 | 0,174 | 0,179 | 0,237 | 0,247 |
| CTRL | - | 0,85 | 0,85 | 0,85 | 0,85 | 0,85 | 0,85 |
| SEC | [KWh/m ² a] | -42,32 | -38,60 | -42,29 | -42,47 | -40,10 | -39,71 |
| Energy class | - | A+ | A | A+ | A+ | A | A |
| Filter efficiency | - | ePM ₁ 55% - F7 | | | | | |
| | | ePM ₁₀ 50% - M5 | | | | | |
| L_{WA} | [dBa] | 38,9 | 43,0 | 43,1 | 46,3 | 47,9 | 52,4 |
| LK_i | [%] | 1,2% | 1,7% | 0,7% | 0,5% | 0,3% | 0,60% |
| LK_e | [%] | 1,7% | 1,8% | 1,0% | 0,8% | 0,7% | 1,84% |
| HEP | [W] | 500 | 800 | 900 | 1250 | 1600 | 2000 |

LEGEND | all terms must be considered in compliance with Standard EU 1253/2014
 Q_{max} : Maximum flow rate, at max. motor speed and external static pressure of 100 Pa
 Q_{rif} : Reference flow rate - 70% di Q_{max}
 P_{el} : Power supply at Q_{rif} and external static pressure of 50 Pa
 η_{t_rvu} : Thermal efficiency at Q_{rif}
 SPI: Specific power input
 CTRL: Control factor - Centralised automatic control
 SEC: Specific energy consumption
 L_{WA} : Sound power level emitted by structure
 LK_i : Internal leakage at 100 Pa compared to Q_{rif}
 LK_e : External leakage at 250 Pa compared to Q_{rif}
 HEP: Pre-heater power (only mod. SPEL, SPER)

DIMENSIONS AND WEIGHT

Version Pro ENY SP-180, SP-280, SP-370, SP-460 and SP-600

All Pro Versions are equipped with a humidity sensor and automatic flow rate calibration system; the units are also equipped with panels with insulating features that ensure a reduction in sound emissions in the environment.



| Model | A | B | ø C | H | D | E | F | Weight with packaging | Weight without packaging |
|------------|------|-----|-----|------|-----|-----|-----|-----------------------|--------------------------|
| ENY-SP-180 | 600 | 580 | 125 | 1041 | 132 | 111 | 240 | 63 kg | 47 kg |
| ENY-SP-280 | 600 | 630 | 160 | 1041 | 132 | 111 | 290 | 67 kg | 51 kg |
| ENY-SP-370 | 660 | 680 | 160 | 980 | 147 | 126 | 305 | 75 kg | 56 kg |
| ENY-SP-460 | 660 | 680 | 180 | 980 | 147 | 126 | 305 | 75 kg | 59 kg |
| ENY-SP-600 | 660, | 680 | 180 | 980 | 147 | 126 | 305 | 75 kg | 60 kg |

TECHNICAL DATA

Pro ENY-SP version with advanced air flow control



| Model | | ENY-SP-180 | ENY-SP-225 | ENY-SP-280 | ENY-SP-370 | ENY-SP-460 | ENY-SP-600 |
|--|-------------------|--|------------|------------|------------|------------|------------|
| Depth | mm | 580 | 300 | 630 | 680 | 680 | 680 |
| Width | mm | 600 | 547 | 600 | 660 | 660 | 660 |
| Height | mm | 1041 | 799 | 1041 | 980 | 980 | 980 |
| Duct connection | - | DN125 | DN125 | DN160 | DN160 | DN180 | DN180 |
| Weight ¹ | kg | 47 | 29 | 51 | 56 | 59 | 60 |
| Maximum flow rate | m ³ /h | 180 | 225 | 280 | 370 | 460 | 600 |
| External static pressure at maximum flow rate | Pa | 100 | 100 | 100 | 100 | 100 | 100 |
| Reference flow rate | m ³ /h | 130 | 158 | 200 | 260 | 320 | 420 |
| External static pressure at reference flow rate | Pa | 50 | 50 | 50 | 50 | 50 | 50 |
| Minimum flow rate | m ³ /h | 50 | 60 | 70 | 50 | 90 | 100 |
| Maximum supply external static pressure | Pa | 160 | 200 | 240 | 390 | 400 | 450 |
| Thermal efficiency at reference flow rate (EN 13141-7) | % | 91% | 89% | 91% | 92% | 89% | 88% |
| Filtering efficiency (ISO 16980) | - | ePM ₁ 55% - F7 supply / ePM ₁₀ 50% - M5 extraction | | | | | |
| Fan type | - | Centrifugal fan with EC brushless motor and backward-curved blades (forward-blades for SP-225) | | | | | |
| Maximum power absorbed by controls and fans | W | 50 | 132 | 70 | 120 | 215 | 300 |
| Maximum current absorbed by controls and fans | A | 0,6 | 1,09 | 1,0 | 1,0 | 2,0 | 2,2 |
| Power supply | - | Single phase – 230 V – 50 Hz via 1.5 m cable with Schuko CEE 7/7 connection | | | | | |
| Standby power | | < 1 W | | | | | |
| Safety features | | IP protection rating: IP21 CE compliance ² | | | | | |
| Components and general materials | - | T-EP capacitive touch pad integrated control Main power board with Modbus interface Main structure: Polystyrene or polyurethane External covering: Painted galvanized steel plate Plastic components: ABS Acoustic insulation: Polyester fibre where present Recovery unit: Counterflow plate heat recovery unit - PET Fan blades and housings: PA6 in plastic, reinforced fibreglass or ABS Filters: Micro-pleated type - Synthetic Motorised bypass dampers: 1) ON/OFF - ABS; 2) ON/OFF - Steel plate Temperature sensors PT1000 or NTC10k (ENY-SP-225) Humidity Sensor Central Demand Control for Extract Air Condensate Drainage 1"½ gas thread Male | | | | | |
| Accessories | - | Feet External Electric Heater | | | | | |
| Maximum Defrost Pre-Heater power | W | 500 | 800 | 900 | 1250 | 1600 | 2000 |
| Maximum electric heater current | A | 3,0 | 10,0 | 5,0 | 7,0 | 9,2 | 10,0 |

¹ Without packaging

² EN 60335-1, EN 60335-2-80, EN 62233, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3, EN 50581, Reg. 1253/14, Reg. 1254/14 (EU Directives: 2014/35/EU, 2014/30/EU, 2006/42/EU, 2011/65/EU)

ENY-SP and ENY-S Versions (ENY-SP-225 excluded) - Construction features of the main components

1 ENY-SP version external structure

made of hot-dip galvanised steel sheet panels painted in RAL 9003 and satin finish obtained with epoxy paint dried in oven at 180 °C; the side panels are insulated with a 25 mm thick padding, while the inspection cover is completely removable and is insulated with a 30 mm thick padding.

ENY-S version external structure

made of hot-dip galvanised steel sheet panels painted in RAL 9003 and satin finish obtained with epoxy paint dried in oven at 180 °C; the inspection cover is completely removable and is insulated with a 30 mm thick padding.

2 EPDM fan access closure

3 Filter access closure

4 Electric defrosting pre-heater

Hot filament electric heater with reinforced metal lining, controlled by PWM signal (only versions with integrated electric heater).

5 High efficiency filters compliant with Standard ISO 16890;

The filters have the following features:

- ePM₁ 55% - F7 class for the supply air;
- ePM₁₀ 50% - M5 class for the extract air.

6 ABS air distribution connections for inlet/outlet air flows

7/11 Extract air (7) and air supply (11) electric fan

consisting of:

- Permanent single-phase synchronous **EC motor**.
- High efficiency **ABS fans** with backward-curved blades.
- **ABS Motor/fan housing**.

8 High efficiency static heat recovery unit

with PET counterflow exchange plates. The reachable efficiency obtainable may be higher than 90% because they ensure counterflow heat transfer between two air flows at different inlet temperatures. The static heat recovery units do not feature moving parts and guarantee high reliability and safe operation. In order to increase the efficiency of the heat exchanger, the plate surfaces feature special swirlers.

9 Main by-pass damper

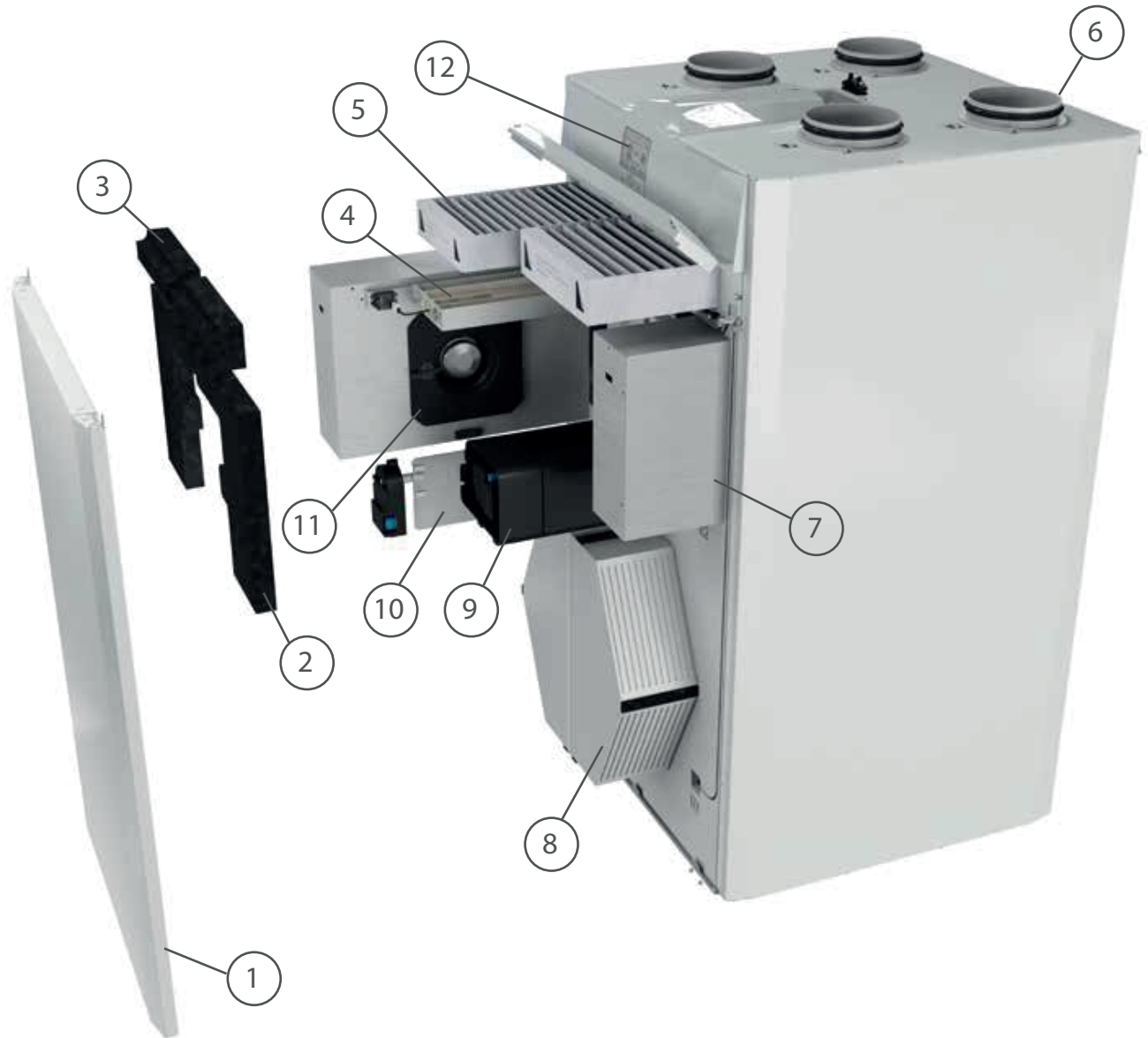
made entirely of ABS and motorised with a Valemo actuator.

10 Secondary by-pass damper

consisting of a steel blade and motorised with a Valemo actuator.

12 T-EP control

ENY-SP and ENY-S versions (ENY-SP-225 excluded)

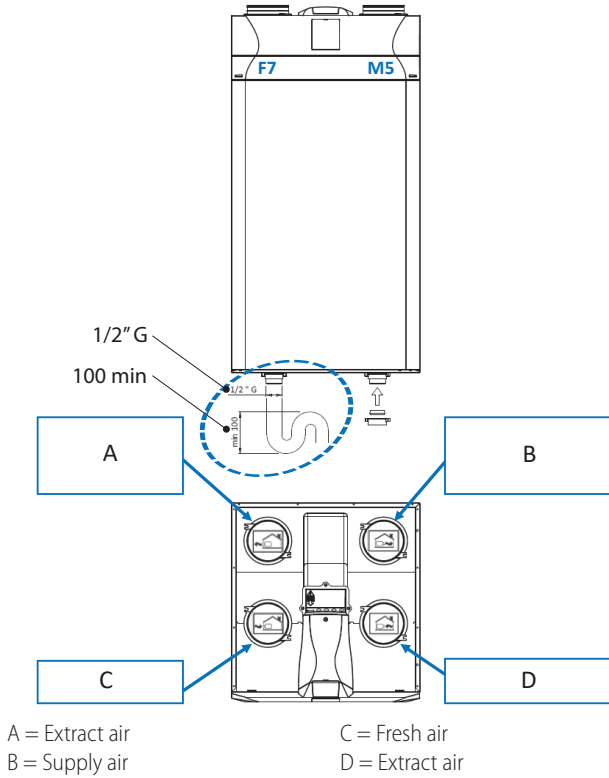


MODES

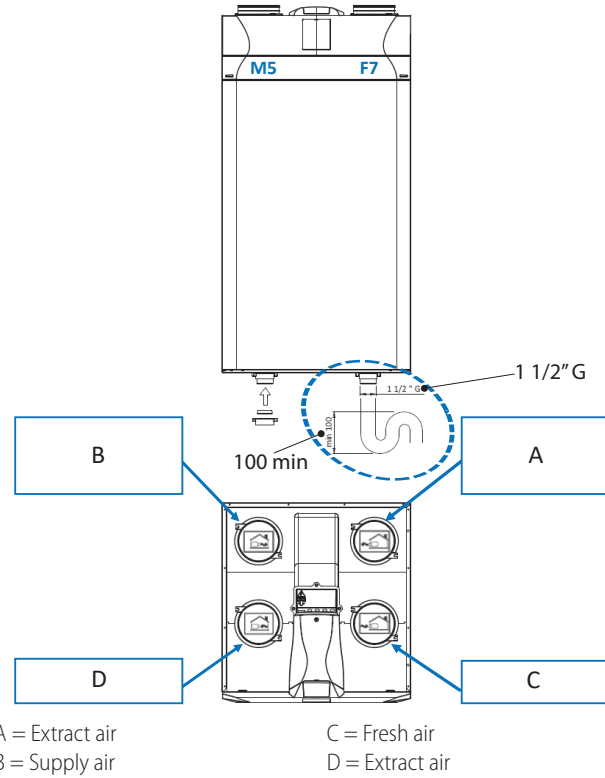
ENY-SP and ENY-S versions (ENY-SP-225 excluded)

The units are configured with the fresh air fan on the front left side and that of the extracted air on the right side. If necessary, it is possible to invert the flows by inverting the position of the filters, the position of the condensate drain, the position of the humidity probe (ENY-SP versions only) and paying attention to the proper connection of the ducts to the machine; below is the standard configuration and the inverted flow configuration.

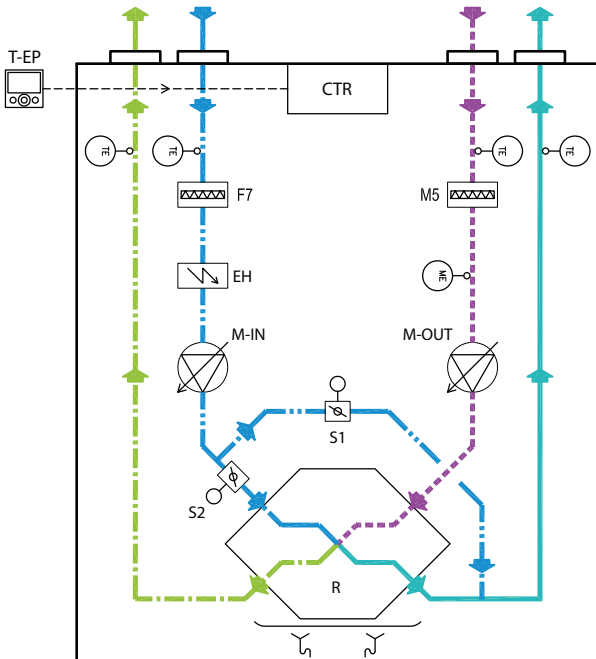
Left side configuration default



Right side configuration optional



Basic diagram



- CTR = Main power board
- EH = Electric pre-heater
- M-IN = Supply fan
- M-OUT = Extract fan
- S1 = Main by-pass damper motor
- S2 = Secondary by-pass damper motor
- R = Heat recovery system
- = fresh air
- = supply air
- = extract air
- = exhaust air
- = micro pleat filter
- = remote or on board control
- = electric pre-heater optional only required for cold climates
- = temperature sensor
- = humidity sensor central demand control
- = condensate drainage



In Compliance with EU 1254/14 - Annex IV

Table of compliance with Regulations EU 1254/14 Annex IV - Energy Smart

| Supplier name or brand | Sabiana SpA | | | | | | | | | | | | | | | | | |
|---|--|-------|-------|--|-------|-------|--|-------|-------|--|-------|-------|--|-------|-------|--|-------|-------|
| Supplier model identification | ENY-SP-180 | | | ENY-SP-225 | | | ENY-SP-280 | | | ENY-SP-370 | | | ENY-SP-460 | | | ENY-SP-600 | | |
| Specific energy consumption SEC in [kWh/(m ² a)] for each applicable climate zone (temperate, hot, cold, climate) | -42,32 | -17,2 | -81,6 | -38,6 | -13,9 | -77,2 | -42,29 | -17,2 | -81,6 | -42,47 | -17,2 | -82,0 | -40,10 | -15,4 | -78,6 | -39,71 | -15,1 | -78,1 |
| SEC class - temperate climatic zone | A+ | | | A | | | A+ | | | A+ | | | A | | | A | | |
| Type declared according to EU 1253/14 | BVU | | | BVU | | | BVU | | | BVU | | | BVU | | | BVU | | |
| Type of drive installed | Continuous speed variator | | | | | | | | | | | | | | | | | |
| Type of heat recovery system | Static sensitive heat recovery unit | | | | | | | | | | | | | | | | | |
| Thermal efficiency | 91,5% | | | 88,6% | | | 91,4% | | | 92,5% | | | 88,6% | | | 88,0% | | |
| Max. flow rate [m ³ /h] | 180 | | | 225 | | | 280 | | | 370 | | | 460 | | | 600 | | |
| Power absorbed by the fan drive, including all motor control devices, at maximum flow rate [W] | 50 | | | 112 | | | 70 | | | 120 | | | 215 | | | 300 | | |
| Sound power level (LWA) in [dB(A)] | 38,9 | | | 43 | | | 43,1 | | | 46,3 | | | 47,9 | | | 52,4 | | |
| Reference flow rate [m ³ /h] | 130 | | | 158 | | | 200 | | | 260 | | | 320 | | | 420 | | |
| Reference pressure difference [Pa] | 50 | | | 50 | | | 50 | | | 50 | | | 50 | | | 50 | | |
| SPI [W/(m ³ /h)] | 0,174 | | | 0,300 | | | 0,174 | | | 0,179 | | | 0,237 | | | 0,247 | | |
| Control factor and type of control | 0,85 Centralised ambient control with humidity sensor | | | 0,85 Central need control | | | 0,85 Centralised ambient control with humidity sensor | | | 0,85 Centralised ambient control with humidity sensor | | | 0,85 Centralised ambient control with humidity sensor | | | 0,85 Centralised ambient control with humidity sensor | | |
| Maximum percentages declared [%] of internal and external leakage | Internal leakage: 1,2% External leakage: 1,7% | | | Internal leakage: 1,7% External leakage: 1,8% | | | Internal leakage: 0,7% External leakage: 1,0% | | | Internal leakage: 0,5% External leakage: 0,8% | | | Internal leakage: 0,3% External leakage: 0,7% | | | Internal leakage: 0,6% External leakage: 1,84% | | |
| Position and description of the visual warning signal relating to the filter for RVUs intended for use with filters, including a text that emphasizes the importance of replacing the filter at regular intervals in order to safeguard unit performance and energy efficiency. | <p>Please refer to the following parts of the brochure:</p> <ul style="list-style-type: none"> - T-EP control description; - recommendations for filter replacement: filters clogging could result into relevant flow rate reduction, which implies the need of frequent windows opening and consequent thermal demand increase. Proper replacement period depends on background air quality, which can broadly vary between city centers and countryside. <p>In order to prevent filters clogging, optimum average period for filters replacement is 3 month. However, due to normal dust collection and spring pollens, maximum suggested period should not exceed 6 months.</p> <p>Filters replacement period can be modified by maintainer with a precision of days (min 30, max 360).</p> | | | | | | | | | | | | | | | | | |
| Internet address with the disassembly instructions | https://www.sabiana.it/en | | | | | | | | | | | | | | | | | |
| AEC (Annual Energy Consumption) [kWh/a] | 203 | 158 | 740 | 317 | 272 | 854 | 203 | 158 | 740 | 207 | 162 | 744 | 260 | 215 | 797 | 269 | 224 | 806 |
| AHS - (Annual Heating Energy Savings) [kWh/a] | 4670 | 2111 | 9136 | 4592 | 2076 | 8983 | 4667 | 2110 | 9131 | 4697 | 2124 | 9189 | 4591 | 2076 | 8982 | 4576 | 2069 | 8951 |