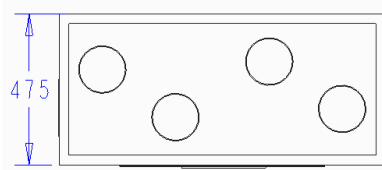


# ProAir PA 600LI Data Sheet

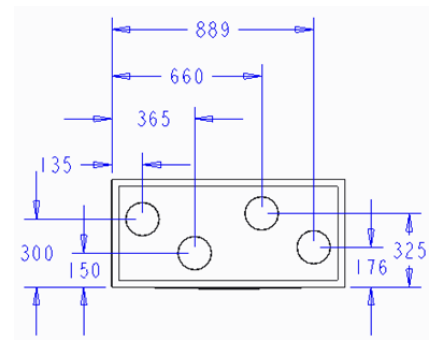
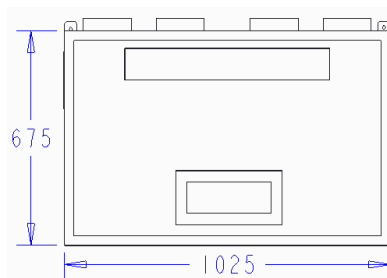
PA 600LI



TOP VIEW



FRONT VIEW



## ProAir PA 600LI Specifications

Unit	Area Served m <sup>2</sup>	Unit Dimensions mm	Power Watts
PA 600LI	80 - 300	L 1025 H 675 D 475	10 - 150

## Recair Plate Heat Exchanger - Recair, RS160

Material	Surface area m <sup>2</sup>	No. Of plates	Plate thickness mm
Polystyrene	34.68	75	0.2

## Fans - ebmpapst

Model	Control input	No. Of fans	Input voltage range
D3G190-RG07-01	Analog	2	0 - 10

## Controller - SENTERA

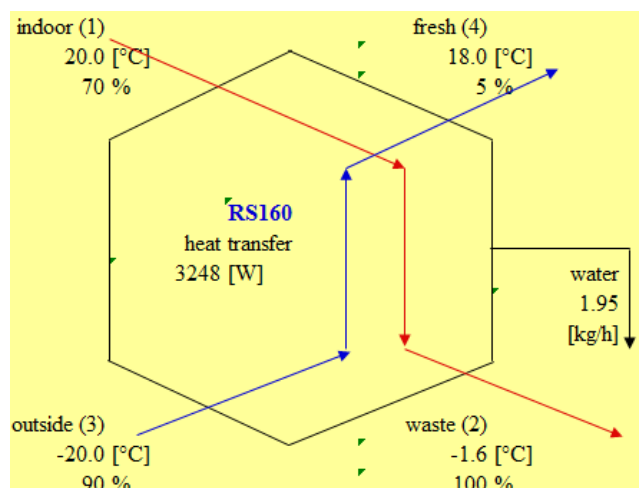
Model	Logic controller	Remote controller	Input voltage
Visual Pro	1	1	24

## Filters

Grade	Surface area m <sup>2</sup>	Dimensions mm	No. Of filters
G4 - Extract	0.14	L 390 H 210 D 45	1
G4 - Supply	0.14	L 390 H 210 D 45	1

The ProAir 600LI is of the highest efficiency in its class, achieving over 90% in non-condensing conditions and achieving a specific fan power down to 0.7 (W.s)/l of air. In condensing conditions, (colder) this can increase to over 95%.

Good counter-flow heat exchangers are nowadays capable of phenomenal efficiency under correct conditions. The graph shows that even at -20°C outside, the fresh air in can still be over 18°C. Tests on the exchangers at Eindhoven University have verified the calculations. Tests on the overall system at the Building Research Establishment (BRE) in England have demonstrated that efficiencies in excess of 90% are easily achievable.



## Thermal characteristics

**Recorded Temperatures (°C) @ Volumetric Air Flow Rate = 240 m<sup>3</sup>/h**

Indoor (1)	Waste (2)	Outdoor (3)	Fresh (4)	Heat Recovered W	Condensate kg/h
20	-1.6	-20	18.0	3248	1.95
20	1.3	-15	18.2	2842	1.73
20	3.9	-10	18.5	2436	1.48
20	6.4	-5	18.7	2030	1.21
20	8.8	0	18.9	1624	0.91
20	10.9	5	19.1	1218	0.6
20	13.0	10	19.2	812	0.26
20	15.6	15	19.4	406	0.0
20	20	20	20	0.0	0.0

## Electrical power input

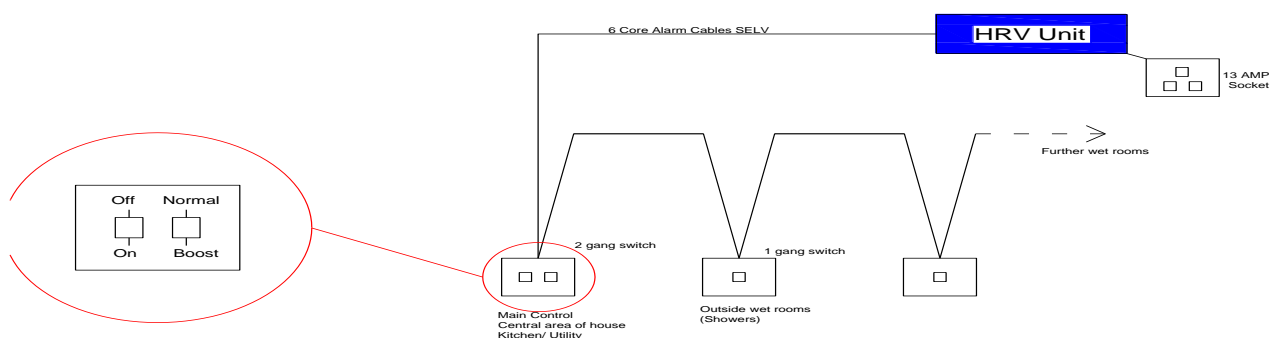
rooms	Specific Fan Power SFP (W/l/s)	Specific Electrical Power Wh/m <sup>3</sup>	Heat Recovery Rate Efficiency (%)
n = 1	0.59	0.16	93%
n = 2	0.64	0.18	92%
n = 3	0.75	0.21	91%
n = 4	0.89	0.25	90%
n = 5	1.04	0.29	89%
n = 6	1.2	0.33	87%
n = 7	1.37	0.38	86%

### Controls

The HRV system is normally run at a speed to suit the application which is set during commissioning, with a facility for a timed boost over-ride. This timed boost is manually operated by means of one or more push-to-make switches located at wet areas (shower areas). This switch line as shown in fig 2 sends a low voltage signal to the unit, to go to a higher speed for a pre-set time.

### **ProAir Visual Pro Controller**

Temperature inputs	Analog inputs	Digital inputs	Analog outputs
-	Ai1: CO2 Sensor (optional)	Di1: Stop/Run (with pulse switch)	Ao1: Fan1 output (0-10VDC, 2-10VDC, PWM).
-		Di2: On/off via fire alarm (optional)	Ao2: Fan2 output (0-10VDC, 2-10VDC, PWM).
-		Di3: Normal/boost via Humidistat (optional)	Ao3: Pre-heater Control.
-		Di4: Normal/boost via PIR (optional)	



## Filters

The filters installed in this product are G4 on extract and F7 on supply side located immediately before the heat exchanger in both the supply and exhaust air flow paths. Access to the filters is by removing access hatches that are secured with thumb screws. No tools are required to inspect or change the filters.

## Fans

The fans are high efficiency backward curved 133mm diameter light-weight plastic impellers mounted on external rotor, electronically commutated, medium voltage, EC motors, all fitted into a customised sound absorbent dense polyethylene open-scroll enclosure.

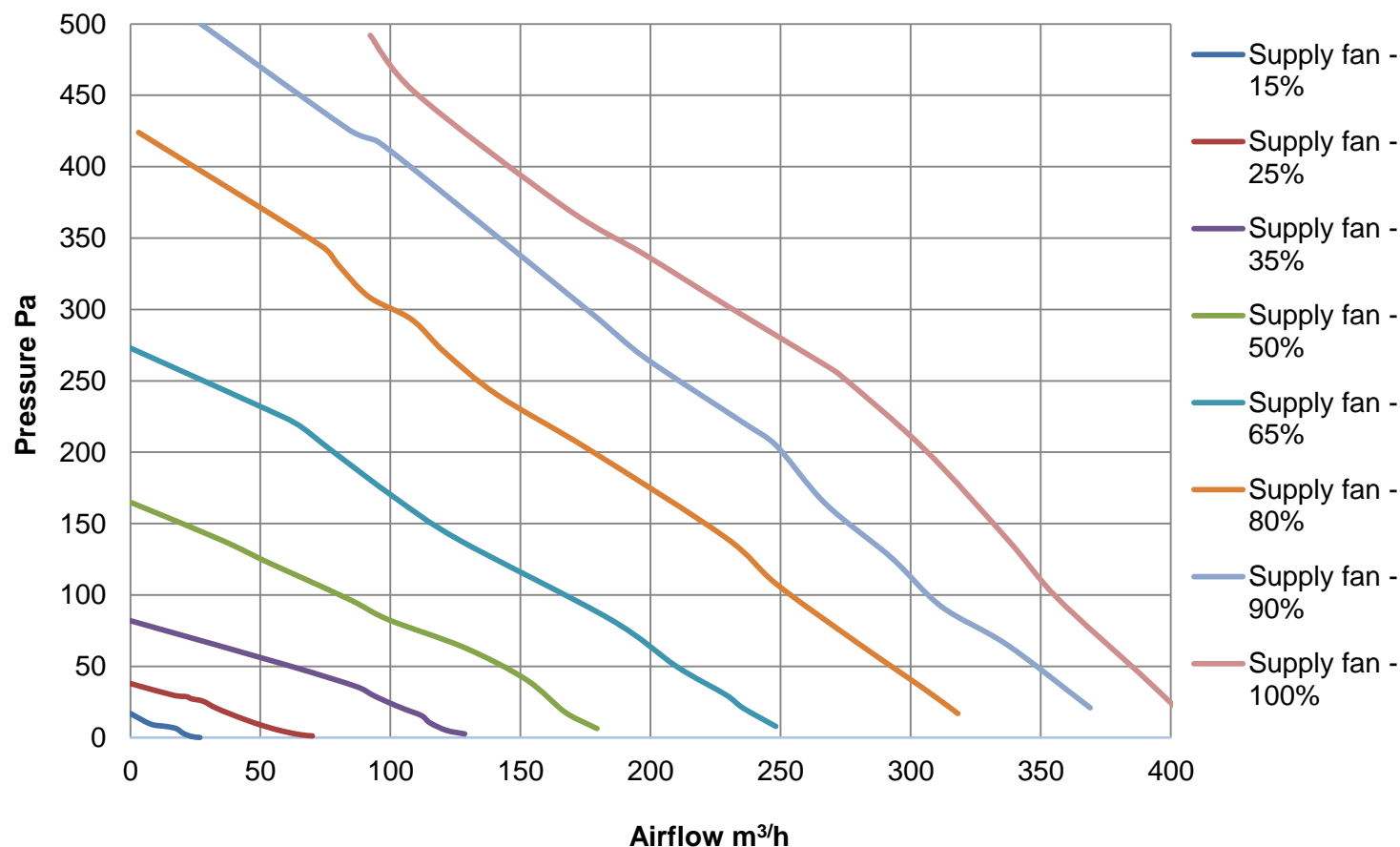
The PA 600LI has been connected to a simulated installation duct network in the ProAir's test laboratory. Figure 1 presents the recorded data at various fan speeds (15-100%).

Figure 2 identifies the performance of the PA 600LI fans with the addition pressure caused by the heat exchanger, filter and inlet spigot. The Y axis shows the amount of pressure that these exert on the fan across the range of airflows.

The performance of the unit will be further affected by connected components such as ducting, air terminals, inlet/exhaust terminals, etc. The pressure exerted on the fans by these components is known as the external pressure.

A typical HRV installation should develop an external pressure of between 15 and 50 Pa per leg, (extract- exhaust and Fresh – supply) depending on speed.

**Air flow/pressure curve - PA 600LI**



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