

ProAir PA 600LI Specifications

Unit	Area Served m ²	Unit Dimensions mm	Power Watts
PA 600LI	80 - 280	L 1025 H 675 D 475	10 - 150

Counter-flow Plate Heat Exchanger

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

Fans

Type	Control input	No. Of fans	Input voltage range
190mm backward curve.	Analog 0.10/PDM	2	220/230

Control

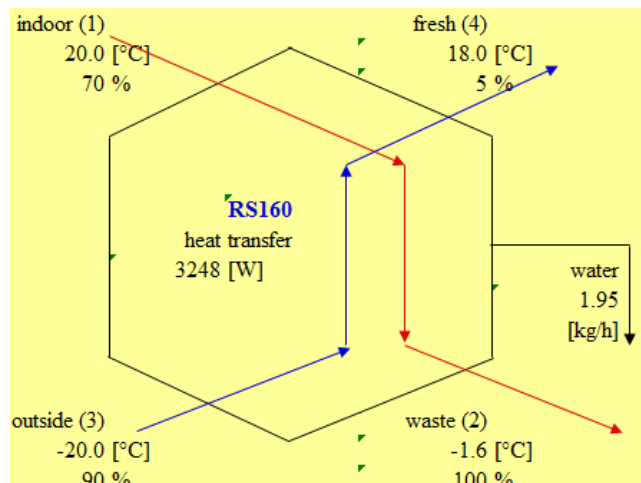
Interface	Protocol	Inputs	Outputs	Input voltage
Wired touch screen	Modbus	Digital 4 Analogue 3	Fan 2 Relay3	24 DC

Filters

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

increase to over 95%.

Counter-flow heat exchangers are capable of very high 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 sensible efficiencies in excess of 90% are easily achievable.



Thermal characteristics

Recorded Temperatures (°C) @ Volumetric Air Flow Rate = 240 m³/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

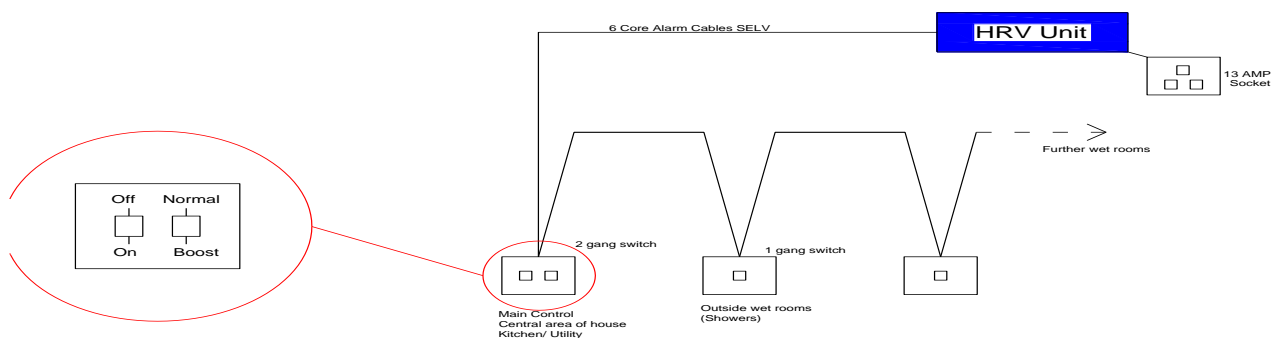
rooms	Specific Fan Power SFP (W/l/s)	Specific Electrical Power Wh/m ³	Heat Recovery Rate Efficiency (%)
n = 1	0.59	0.16	93%
n = 2	0.64	0.18	92%
n = 3	0.75	0.21	91%
n = 4	0.89	0.25	90%
n = 5	1.04	0.29	89%
n = 6	1.2	0.33	87%
n = 7	1.37	0.38	86%

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 activates digital input DI1 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

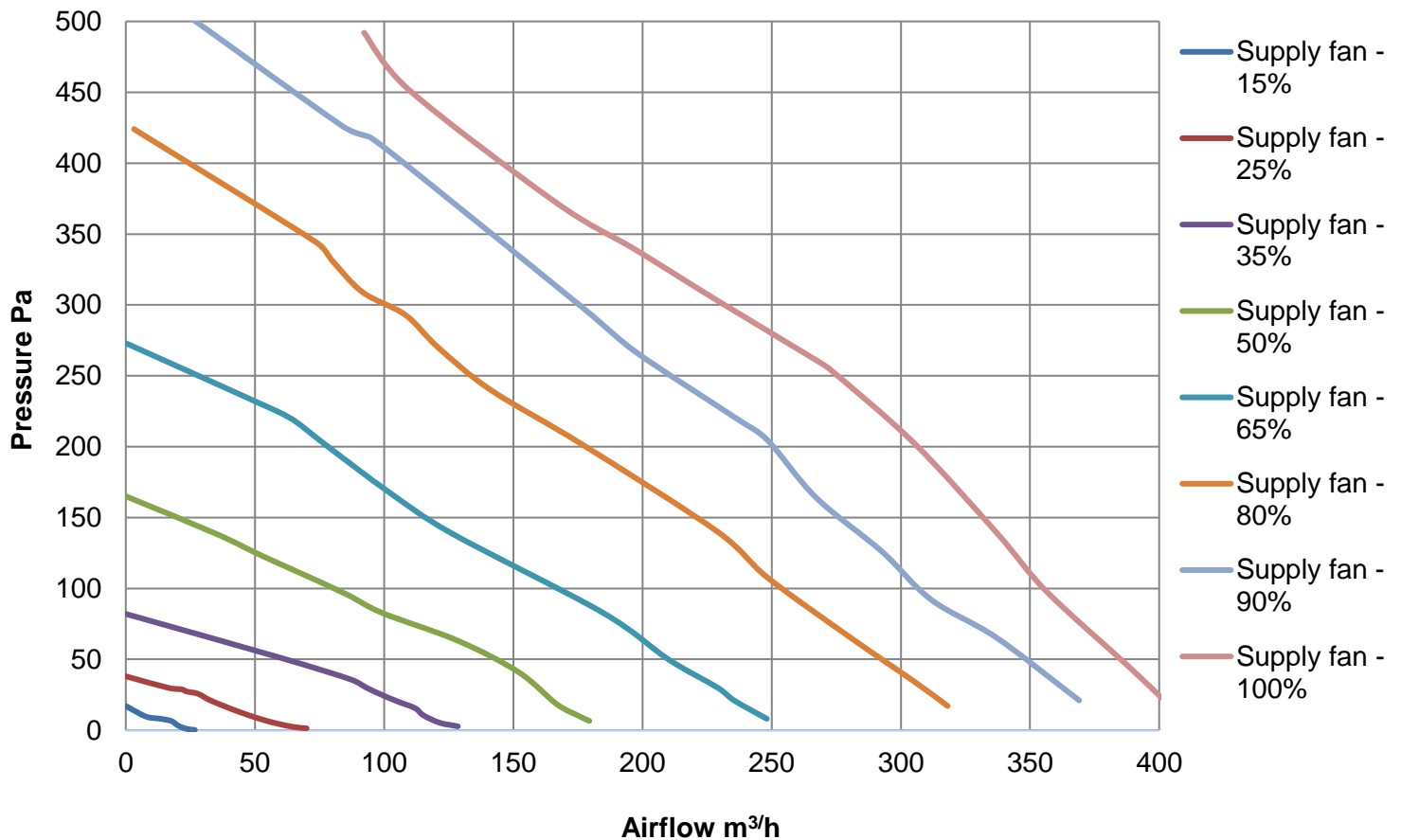
The filters installed in this product are G4 on extract and supply side, with an option to install a higher grade relative to the application. Access to the filters is by removing access hatches that are secured with thumb screws. No tools are required to inspect or change the filters.

Fans

The fans are high efficiency backward curved 190mm 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. The graph below shows the pressure drop across the fans when connected to the network.

Air flow/pressure curve - PA 600LI



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