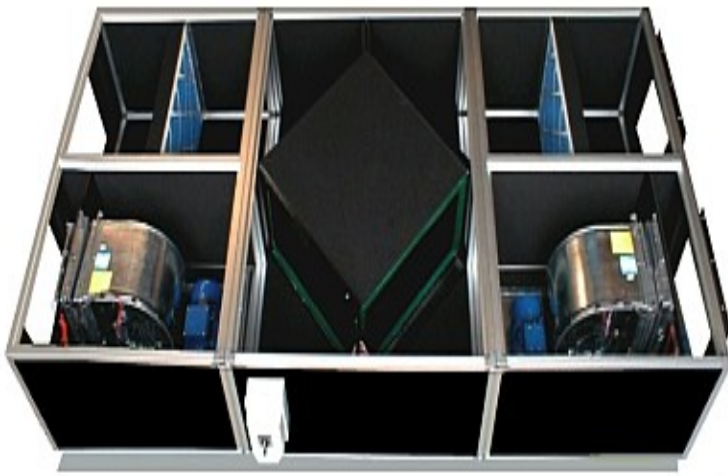


# Puma - Supply Air, Permanent Extract & Heat Recovery Units S.A.P.E.R.

Packaged Air Handling for General Ventilation Applications where  
Energy Savings and Environmentally Friendly Engineering Combine

## Belt Driven Range

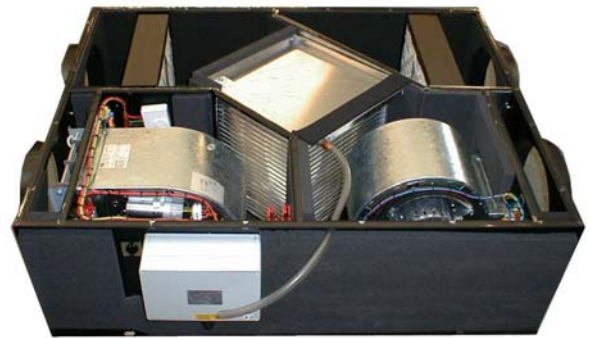
Airflow's from 0.4 to 5.5 m<sup>3</sup>/Sec – 0 to 500 Pa ESP



Aluminium Pentapost Construction and Zintec Steel Panels, lined with 25 mm Pyrosorb Insulation, finished in Satin Black Powdercoat Paint, EU 4 Panel Filters fitted either side of Heat Exchanger, 'Top Up' Electric Heater fitted with Integral Thermostat/s as required, LPHW Option Available, Double Inlet Centrifugal Fans, TEFC 4 Pole Motor, (Inverter Speed Controllers available). Full Controls Package including :- Mains Isolator, Fan Overload & Contactor, Element Overheat Thermostat, Circuit Breaker, Heater Relay and Airflow Failure Switch c/w Volt Free Contacts. Access is available on either side and Top or Bottom. Panels are removable by ½ Turn Cam Latches. Rectangular or Circular Fan Discharge Spigots.

## Options and Accessories

- DSK - Double Skin Panels
- CM - Ceiling Mounted Version
- W - Weatherproof Version
- FBPD - Face & Bypass Damper & Motor
- LPHW - Low Pressure Hot Water Coil
- HEF - High Efficiency Filters EU 8 - 14
- WMSC - Wall Mounted Speed Controller
- SR - Start Relays & Control Panels
- TFE - Twin Fan Extract
- TC - Thyristor Controlled Heating Available
- TD - Telescopic Duct / Wall Liner
- WL - Weather Louvre c/w Bird Screen
- S - Silencers
- CP - Control Panels



# SAPER - Technical Performance and Specification Chart

| Model Number   | SAPER 400/ ADN 160   | SAPER 400/ ADN 180        | SAPER 450/ ADN 200       | SAPER 500/ ADN 225       | SAPER 550/ ADN 250       | SAPER 650/ ADN 280       | SAPER 750/ ADN 315       | SAPER 850/ ADN 355        | SAPER 1000/ ADN 400       | SAPER 1200/ ADN 450        | SAPER 1500/ ADN 500      |  |
|--|--|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|----------------------------|--------------------------|--|
| External Static Pressure   | <b>Belt Driven Range - Supply &amp; Extract Fan Airflow in m<sup>3</sup>/Sec - WITHOUT Face &amp; Bypass</b> |                           |                          |                          |                          |                          |                          |                           |                           |                            |                          |  |
| 0 Pa   | 0.4  | 0.5                       | 0.8                      | 1.0                      | 1.2                      | 1.6                      | 2.1                      | 2.6                       | 3.0                       | 4.0                        | 5.5                      |  |
| 100 Pa   | 0.35   | 0.4                       | 0.75                     | 0.95                     | 1.1                      | 1.5                      | 2.0                      | 2.5                       | 2.9                       | 3.9                        | 5.4                      |  |
| 200 Pa   | 0.3  | 0.35                      | 0.7                      | 0.8                      | 1.0                      | 1.4                      | 1.9                      | 2.4                       | 2.8                       | 3.8                        | 5.3                      |  |
| 300 Pa   | 0.25   | 0.3                       | 0.6                      | 0.75                     | 0.9                      | 1.3                      | 1.8                      | 2.3                       | 2.7                       | 3.7                        | 5.2                      |  |
| 400 Pa   | 0.2  | 0.25                      | 0.55                     | 0.7                      | 0.85                     | 1.2                      | 1.7                      | 2.2                       | 2.6                       | 3.6                        | 5.1                      |  |
| 500 Pa   | 0.15   | 0.2                       | 0.5                      | 0.65                     | 0.75                     | 1.1                      | 1.6                      | 2.0                       | 2.5                       | 3.5                        | 5.0                      |  |
| Heat Exchanger Efficiency and Duty based upon nominal Airflow, - 1°C Ambient and 21°C Internal | 47%  | 44%                       | 49%                      | 48%                      | 47%                      | 43%                      | 45%                      | 44%                       | 44%                       | 48%                        | 47%                      |  |
|  | 5.6 kW   | 6.4 kW                    | 9.6 kW                   | 10.8 kW                  | 13.7 kW                  | 18.2 kW                  | 24.2 kW                  | 30.2 kW                   | 34.7 kW                   | 50.3 kW                    | 68.4 kW                  |  |
| Motor Running Current Three Phase 415 V ac   | 0.55 kW 4 P<br>1.65 A / Ph   | 0.75 kW 4 P<br>2.1 A / Ph | 1.1 kW 4 P<br>2.9 A / Ph | 1.5 kW 4 P<br>3.7 A / Ph | 2.2 kW 4 P<br>5.2 A / Ph | 3.0 kW 4 P<br>6.9 A / Ph | 4.0 kW 4 P<br>9.0 A / Ph | 5.5 kW 4 P<br>12.0 A / Ph | 7.5 kW 4 P<br>15.3 A / Ph | 11.0 kW 4 P<br>20.6 A / Ph | 15 kW 4 P<br>30.6 A / Ph |  |
| Motor Starting Current Three Phase 415 V ac  | 6.6 A / Ph   | 8.8 A / Ph                | 14.5 A / Ph              | 19.0 A / Ph              | 27.0 A / Ph              | 38.0 A / Ph              | 51.6 A / Ph              | 71.4 A / Ph               | 100 A / Ph                | 134 A / Ph                 | 200 A / Ph               |  |
| <b>Electric Heater @ 380/415 V ac 3 Phase, 50 Hz</b>   |  |                           |                          |                          |                          |                          |                          |                           |                           |                            |                          |  |
| Top Up Heater  | 6 kW   | 6 kW                      | 9 kW                     | 9 kW                     | 12 kW                    | 18 kW                    | 24 kW                    | 30 kW                     | 36 kW                     | 48 kW                      | 72 kW                    |  |
| Capacity   | R S T  | R S T                     | R S T                    | R S T                    | R S T                    | R S T                    | R S T                    | R S T                     | R S T                     | R S T                      | R S T                    |  |
| Amps   | 8.7 8.7 8.7  | 8.7 8.7 8.7               | 13 13 13                 | 13 13 13                 | 17 17 17                 | 26 26 26                 | 34 34 34                 | 43 43 43                  | 52 52 52                  | 68 68 68                   | 104 104 104              |  |
| <b>Dimensions in Millimetres - Refer to Certified Drawing for full Dimensional Data</b>        |  |                           |                          |                          |                          |                          |                          |                           |                           |                            |                          |  |
| Length   | 2400   | 2400                      | 2550                     | 2600                     | 2700                     | 2900                     | 3200                     | 3250                      | 3650                      | 3650                       | 3850                     |  |
| Width  | 1290   | 1290                      | 1490                     | 1690                     | 1690                     | 2090                     | 2290                     | 2490                      | 2690                      | 2890                       | 3090                     |  |
| Height   | 550  | 550                       | 585                      | 635                      | 685                      | 785                      | 910                      | 1010                      | 1160                      | 1360                       | 1660                     |  |
| Appx. Noise Levels refer to Fan Curve  | 79 dB A  | 78 dB A                   | 81 dB A                  | 83 dB A                  | 83 dB A                  | 85 dB A                  | 85 dB A                  | 86 dB A                   | 84 dB A                   | 85 dB A                    | 85 dB A                  |  |
| Weight (Kg)  | 280  | 280                       | 300                      | 340                      | 450                      | 600                      | 800                      | 950                       | 1100                      | 1200                       | 1350                     |  |

# SAPER - Technical Performance and Specification Chart

| Model Number   | SAPER 450/ ADN 200 - FBD  | SAPER 450/ ADN 200 - FBD  | SAPER 550/ ADN 250 - FBD | SAPER 650/ ADN 280 - FBD | SAPER 650/ ADN 280 - FBD | SAPER 750/ ADN 315 - FBD | SAPER 1000/ ADN 400 - FBD | SAPER 1200/ ADN 450 - FBD | SAPER 1200/ ADN 450 - FBD | SAPER 1500/ ADN 500 - FBD  |  |  |
|--|---|---------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------------------|----------------------------|--|--|
| External Static Pressure   | <b>Belt Driven Range - Supply and Extract Fan Airflow in m<sup>3</sup>/Sec - WITH Face &amp; Bypass</b> |                           |                          |                          |                          |                          |                           |                           |                           |                            |  |  |
| 0 Pa   | 0.4   | 0.5                       | 0.8                      | 1.0                      | 1.2                      | 1.6                      | 2.1                       | 2.6                       | 3.0                       | 4.0                        |  |  |
| 100 Pa   | 0.35  | 0.4                       | 0.75                     | 0.95                     | 1.1                      | 1.5                      | 2.0                       | 2.5                       | 2.9                       | 3.9                        |  |  |
| 200 Pa   | 0.3   | 0.35                      | 0.7                      | 0.8                      | 1.0                      | 1.4                      | 1.9                       | 2.4                       | 2.8                       | 3.8                        |  |  |
| 300 Pa   | 0.25  | 0.3                       | 0.6                      | 0.75                     | 0.9                      | 1.3                      | 1.8                       | 2.3                       | 2.7                       | 3.7                        |  |  |
| 400 Pa   | 0.2   | 0.25                      | 0.55                     | 0.7                      | 0.85                     | 1.2                      | 1.7                       | 2.2                       | 2.6                       | 3.6                        |  |  |
| 500 Pa   | 0.15  | 0.2                       | 0.5                      | 0.65                     | 0.75                     | 1.1                      | 1.6                       | 2.0                       | 2.5                       | 3.5                        |  |  |
| Heat Exchanger Efficiency and Duty based upon nominal Airflow, - 1°C Ambient and 21°C Internal | 47%   | 44%                       | 49%                      | 48%                      | 47%                      | 43%                      | 45%                       | 44%                       | 44%                       | 48%                        |  |  |
|  | 5.6 kW  | 6.4 kW                    | 9.6 kW                   | 10.8 kW                  | 13.7 kW                  | 18.2 kW                  | 24.2 kW                   | 30.2 kW                   | 34.7 kW                   | 50.3 kW                    |  |  |
| Motor Running Current Three Phase 415 V ac   | 0.55 kW 4 P<br>1.65 A / Ph  | 0.75 kW 4 P<br>2.1 A / Ph | 1.1 kW 4 P<br>2.9 A / Ph | 1.5 kW 4 P<br>3.7 A / Ph | 2.2 kW 4 P<br>5.2 A / Ph | 3.0 kW 4 P<br>6.9 A / Ph | 4.0 kW 4 P<br>9.0 A / Ph  | 5.5 kW 4 P<br>12.0 A / Ph | 7.5 kW 4 P<br>15.3 A / Ph | 11.0 kW 4 P<br>20.6 A / Ph |  |  |
| Motor Starting Current Three Phase 415 V ac  | 6.6 A / Ph  | 8.8 A / Ph                | 14.5 A / Ph              | 19.0 A / Ph              | 27.0 A / Ph              | 38.0 A / Ph              | 51.6 A / Ph               | 71.4 A / Ph               | 100 A / Ph                | 134 A / Ph                 |  |  |
| <b>Electric Heater @ 380/415 V ac 3 Phase, 50 Hz</b>   |   |                           |                          |                          |                          |                          |                           |                           |                           |                            |  |  |
| Top Up Heater  | 6 kW  | 6 kW                      | 9 kW                     | 9 kW                     | 12 kW                    | 18 kW                    | 24 kW                     | 30 kW                     | 36 kW                     | 48 kW                      |  |  |
| Capacity   | R S T   | R S T                     | R S T                    | R S T                    | R S T                    | R S T                    | R S T                     | R S T                     | R S T                     | R S T                      |  |  |
| Amps   | 8.7 8.7 8.7   | 8.7 8.7 8.7               | 13 13 13                 | 13 13 13                 | 17 17 17                 | 26 26 26                 | 34 34 34                  | 43 43 43                  | 52 52 52                  | 68 68 68                   |  |  |
| <b>Dimensions in Millimetres - Refer to Certified Drawing for full Dimensional Data</b>        |   |                           |                          |                          |                          |                          |                           |                           |                           |                            |  |  |
| Length   | 2550  | 2550                      | 2700                     | 2900                     | 2900                     | 3200                     | 3650                      | 3650                      | 3650                      | 3850                       |  |  |
| Width  | 1490  | 1490                      | 1690                     | 2090                     | 2090                     | 2290                     | 2690                      | 2890                      | 2890                      | 3090                       |  |  |
| Height   | 585   | 585                       | 685                      | 785                      | 785                      | 910                      | 1160                      | 1360                      | 1360                      | 1660                       |  |  |
| Appx. Noise Levels refer to Fan Curve  | 79 dB A   | 78 dB A                   | 81 dB A                  | 83 dB A                  | 83 dB A                  | 85 dB A                  | 85 dB A                   | 86 dB A                   | 84 dB A                   | 85 dB A                    |  |  |
| Weight (Kg)  | 300   | 300                       | 450                      | 600                      | 600                      | 800                      | 1100                      | 1200                      | 1200                      | 1350                       |  |  |