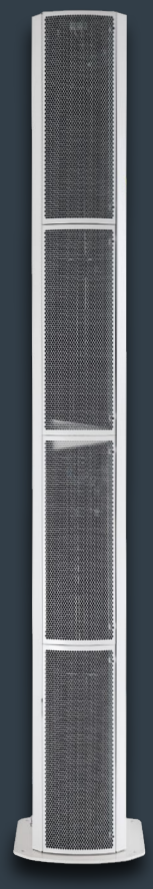
Thermoscreens



# PHV Series Vertical.

## An upright solution for commercial and retail applications.

Available in heights up to 3m, **Thermoscreens PHV** vertical air curtains are designed for applications that are not suitable for a traditional horizontal air curtain. Each unit has a coverage width of 2m, giving a total coverage of 4m when two units are paired together on either side of the doorway.

**Sizes (Height)**

1.5m, 2m, 2.5m (Stacked) and 3m (Stacked)

**Vertical Coverage**

Single unit - 2m
Two units parallel - 4m

**Colour**

Standard RAL 9016 (White)
High polished or satin brushed stainless steel finishes
RAL colour matching available

**Warranty**

2 years

## Key features.

Water | Electric | Ambient | ErP compliant | Custom Paint

- For applications that are not suitable for a traditional horizontal air curtain
- Ambient, water heated or electric heated
- Surface mounted
- Ecopower energy saving controls (water heated and electric heated units)
- ErP compliant and BMS ready
- Cross Flow technology maximises coverage
- Heat output up to 24kW (water heated and electric heated units)
- 82/71 water coils (water heated units)
- Water heated units supplied with a motorised three-port valve
- Downrated single phase output (electric units)
- Supplied with wall brackets as standard

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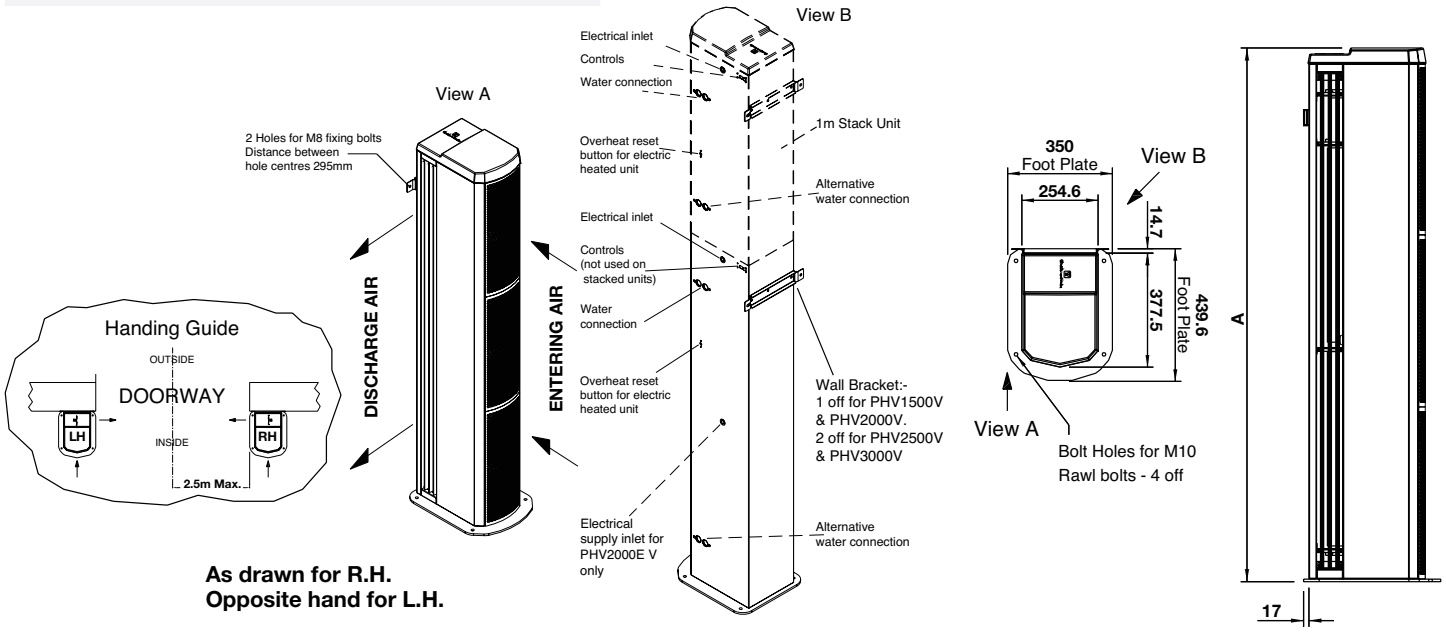
## PHV Series | Vertical

| Model | Dimensions (L x W x D) (mm) | Supply (50Hz) | Loading (A) per phase | Heat output (kW) | Max air volume ($m^3/h$) | Weight (kg) | Noise output dB(A) @3m H | M | L |
|---|---|---|---|---|---|---|---|---|---|
| **Electric** | | | | | | | | | |
| PHV1500E V | 1707x439x350 | 400V~3P&N | 27.9 | 9/18 | 3325 | 66 | 60 | 57 | 53 |
| PHV2000E V | 2257x439x350 | 400V~3P&N | 37.5 | 12/24 | 3780 | 85 | 61 | 59 | 58 |
| PHV2500E V Stacked Unit | 2809x439x350 | 400V~3P&N | 18.7 top 27.9 bottom | 15/30 | 5195 | 109 | 62 | 60 | 59 |
| PHV3000E V Stacked Unit | 3359x439x350 | 400V~3P&N | 18.7 top 37.5 bottom | 18/36 | 5650 | 128 | 63 | 61 | 60 |
| **Water 82/71** | | | | | | | | | |
| PHV1500W V | 1707x439x350 | 230V~1P&N | 1.8 | 9/18 | 3040 | 68 | 60 | 57 | 53 |
| PHV2000W V | 2257x439x350 | 230V~1P&N | 2.7 | 12/24 | 3455 | 87 | 61 | 59 | 58 |
| PHV2500W V Stacked Unit | 2809x439x350 | 230V~1P&N | 1.3 top 1.8 bottom | 15/30 | 4750 | 114 | 62 | 60 | 59 |
| PHV3000W V Stacked Unit | 3359x439x350 | 230V~1P&N | 1.3 top 2.7 bottom | 18/36 | 5165 | 133 | 63 | 61 | 60 |
| **Ambient** | | | | | | | | | |
| PHV1500A V | 1707x439x350 | 230V~1P&N | 1.8 | - | 3645 | 60 | 60 | 57 | 53 |
| PHV2000A V | 2257x439x350 | 230V~1P&N | 2.7 | - | 4145 | 77 | 61 | 59 | 58 |
| PHV2500A V Stacked Unit | 2809x439x350 | 230V~1P&N | 1.3 top 1.8 bottom | - | 5695 | 99 | 62 | 60 | 59 |
| PHV3000A V Stacked Unit | 3359x439x350 | 230V~1P&N | 1.3 top 2.7 bottom | - | 3195 | 116 | 63 | 61 | 60 |

PHV2500V and PHV3000V units consist of 2 air curtains in a stack. Each separate air curtain in the stack needs its own electrical power supply to the electrical terminal block inside the unit, Control cables can be wired with one remote control to operate both units.

| | PHV1500V | PHV2000V | PHV2500V | PHV3000V |
|---|---|---|---|---|
| A (mm) | 1707 | 2257 | 2809 | 3359 |



# PHV Series Vertical.

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## Water flow rate and pressure drop calculations for different water temperatures.

To calculate water flow rate and coil pressure drop, use our coil calculation programme. Then calculate the new water drop (valve) using the following formula:

$$\text{New Water Pressure Drop (valve)} = \text{82/71 Water Pressure Drop (valve)} \times \left( \frac{\text{New Water Flow Rate}}{\text{82/71 Water Flow Rate}} \right)^2$$

**Example:**

PHV1000W at 85/65°C, EAT = 20°C

82/71 Water flow rate = 15.6 l/min
(from water flow rate and pressure drop table below)

**New** water flow rate = 8.0 l/min
(from Thermoscreens coil calculation programme)

**New** water pressure drop (coil) = 0.3 kPa
(from Thermoscreens coil calculation programme)

**Therefore:**

**New** water pressure drop (valve) =

$$5.5 \times \left( \frac{8}{15.6} \right)^2 = 0.3 \text{ kPa}$$

**Conversion factors:**
1 kPa = 0.102m Water column
10 l per minute = 0.6 $m^3/h$

## Water flow rate and pressure drop.

| PHV Series Vertical | 2 row coil (based on 82/71˚C) | | |
|---|---|---|---|
| | **Water flow rate** (l/min) | **Water pressure drop (coil)** ΔP (kPa) | **Water pressure drop (valve)** ΔP (kPa) |
| PHV1000WV | 15.6 | 1.0 | 5.5 |
| PHV1500WV | 23.4 | 2.5 | 7.0 |
| PHV2000WV | 31.2 | 4.7 | 10.0 |

A 3- port motorised valve is supplied loose with water heated PHV vertical series air curtains to be fitted into the pipework during installation. PHV2500WV and PHV300WV units consist of 2 air curtain units in a stack. Each separate air curtain unit needs its own flow/return pipework with control valve to be installed on site external of the unit. Use the data from the above table for each unit in the stack.

PHV2500WV = PHV1500WV + PHV1000WV
PHV 3000WV = PHV2000WV + PHV1000WV

## Accessories.

| Description | Part no. |
|---|---|
| Master and salve lead: 3M + coupler | T5951110 |
| 6M Extension cable + coupler | T5951111 |
| 10M Extension cable + coupler | T5951112 |
| 15M Extension cable + coupler | T5951113 |
| 30M Extension cable + coupler | T5951114 |
| Extension lead coupler | T5951030 |
| Joining kit | T7308220 |

### Your environment is our expertise.

Thermoscreens were one of the pioneers of modern air curtain technology, and we remain at the forefront of its evolution today. Our sales team work hand-in-hand with an international network of distributors, providing solutions to customers of all types and sizes, in more than 50 countries. Across the globe, our name is synonymous with the highest quality standards; our products renowned for their energy efficiency, reliability and ease of use.

Thermoscreens

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