

PHV Vertical

A vertical mounted air curtain for mounting at the side of entrances



thermoscreens®



The PHV vertical is available in heights up to 3m for mounting at the side of an entrance. It can be used singularly to cover an opening of up to 2.5m or as a pair for openings of up to 5.0m.

The PHV vertical unit offers heat outputs of up to 24kW in both water and electrically heated options. The unit is supplied with the Ecopower controller and a motorised three port valve is supplied as standard with water heated versions.

Water heated versions are available with 2 row coils for water inlet temperatures greater than 70°C.

The PHV vertical's attractive design is suitable for installation in commercial and retail environments. The finish is RAL 9010 as standard but can be matched to any RAL colour on request.

Key Features



- 2 year warranty
- Supplied with Ecopower controller as standard
- 1.5, 2, 2.5 and 3m heights available
- Maximum effective width 2.5m (5.0m when used as a pair)
- LPHW heated versions supplied with a motorised three port valve
- Available in RAL 9010 as standard
- RAL colour match available on request
- Incorporates cross flow technology with turning vanes
- Electrical units can be downrated from three phase to single phase operation with reduced heat output (available on request)

Water flow rate and pressure drop

PHV Vertical Range	2 row coil (based on 82/71°C)		
	Water Flow (l/min)	Valve ΔP (kPa)	Coil ΔP (kPa)
PHV1000WV	15.6	0.9	4.0
PHV1500WV	23.4	2.5	7.0
PHV2000WV	31.2	4.9	10.0

A control valve is supplied loose with PHV vertical series air curtains which can be fitted into the pipework during installation if required by the customer.

Water flow rate and pressure drop calculations for different water temperatures

To calculate water flow rate and pressure drop for coil and valve at different water temperatures than 82/71°C :-

For the new water temperatures use the Thermoscreens coil calculation programme to get the new water flow rate and the new water pressure drop (coil). Then calculate the *new* water pressure drop (valve) using the following formula:

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

Example: PHV1000WV at 85/65°C, EAT = 20°C

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

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:

$$\text{New water pressure drop (valve)} = 2.5 \times \left(\frac{8}{15.6} \right)^2 = 0.65 \text{ kPa}$$

Conversion factors:

1 kPa = 0.102m Water column

10 l per minute = 0.6 m³/h

Accessories

Description	Part Number
Master and slave lead: 3m	T5951001
Ecopower extension lead: 10m	T5951050
Ecopower extension lead: 15m	T5951060
Ecopower extension lead: 30m	T5951020
Extension lead coupler	T5951030
Joining kit	T7308200



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Vertical

Model	Dimensions (L x D x H) (mm)	Supply (50Hz)	Loading (A) per phase	Heat output (kW)	Max air volume (m³/h)	Weight (kg)	Noise output dB(A) @3m		
							H	M	L
Electric									
PHV1500E V	1707 x 439 x 350	400V~3P&N	27.9	9/18	3325	66	60	57	53
PHV2000E V	2257 x 439 x 350		37.5	12/24	3780	85	61	59	58
PHV2500E V	2809 x 439 x 350		18.7 top	15/30	5195	109	62	60	59
Stacked unit			27.9 bottom						
PHV3000E V	3359 x 439 x 350	18.7 top	18/36	5650	128	63	61	60	
Stacked unit		37.5 bottom							
Water 2 row 82/71									
PHV1500W V	1707 x 439 x 350	230V~1P&N	1.8	18	3040	68	60	57	53
PHV2000W V	2257 x 439 x 350		2.7	24	3455	87	61	59	58
PHV2500W V	2809 x 439 x 350		1.3 top	30	4750	114	62	60	59
Stacked unit			1.8 bottom						
PHV3000W V	3359 x 439 x 350	1.3 top	36	5165	133	63	61	60	
Stacked unit		2.7 bottom							
Ambient									
PHV1500A V	1707 x 439 x 350	230V~1P&N	1.8		3645	60	60	57	53
PHV2000A V	2257 x 439 x 350		2.7		4145	77	61	59	58
PHV2500A V	2809 x 439 x 350		1.3 top		5695	99	62	60	59
Stacked unit			1.8 bottom						
PHV3000A V	3359 x 439 x 350	1.3 top		3195	116	63	61	60	
Stacked unit		2.7 bottom							

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