Vertiv™ CoolPhase Perimeter

DX Floor Mount, PAM010-140, R513A Indoor Air cooled

Benefits at a glance

Unlock your savings

- Continuous modulation of the performance to achieve maximum efficiency in both full and part-load operations.
- Eliminates the entire water loop, including components like pumps, expansion tanks, valves, and strainers. In small to medium facilities, where saving by scale is harder, this simple design saves even more money than in bigger data centers.
- Unique free cooling option based on pumped refrigerant technology
- The absence of flammability risks limits costs increase
- 1:1 configuration maximizes scalability, lowering upfront costs and enabling the installed capacity to grow with your datacenter needs

Lower your risk

- Solid design, advanced monitoring and control algorithms
- Teamwork operations

Manage easier

- Modular design offers significant advantages during commissioning. Each unit operates independently and can be individually adjusted, eliminating the need for complex synchronization typical of centralized systems.
- Flexible layouts and easier piping routing through walls, ceilings, and raised floors. That means lower material and labor costs.
- Maximum cooling capacity with a minimal footprint, indoor and outdoor allows compact installations
- Absence of flammability risks simplify installation
- Space utilization improves: PAM systems eliminate or reduce the need for dedicated mechanical rooms and complex

Vertiv™ CoolPhase Perimeter is Vertiv indoor floor-mount unit range, equipped with onboard compressors and designed for precision air cooling in mission-critical applications through direct expansion.

PAM model range is the ideal solution for the transition to a low carbon data center using a completely safe low-GWP refrigerant solution, R513A. The absence of flammability risks simplifies installation and limits costs increase

Air cooled versions are available with or without free cooling Vertiv™ EconoPhase option, designed to be coupled with Vertiv™ CoolPhase Condenser OAC and OAV models.

Higher overall efficiency

- Inverter technology for compressors and EC fans enables continuous, efficient performance modulation.
- Proprietary control software synchronizes all system components for optimal indoor–outdoor operation.
- Patented Econophase free cooling uses pumped refrigerant to cut compressor power consumption by up to 90%.

Unique flexibiity

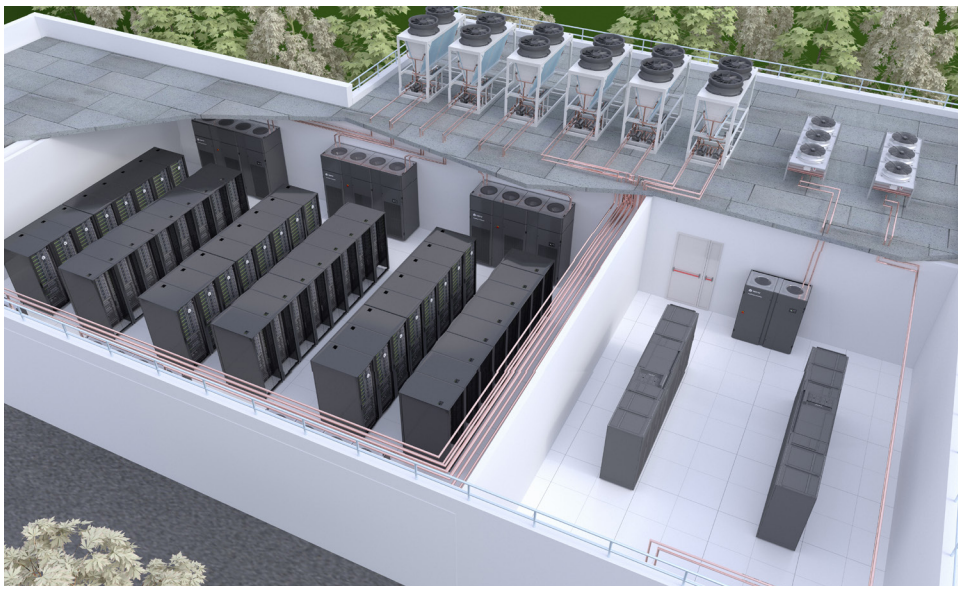
- Multiple airflow configurations, for both raised and slab floor applications
- Wide range of configurable options and accessories
- Up to 100m indoor-outdoor distance

Cooling Continuity

- Redundant design with multiple fans, DX circuits, and independent key components.
- Dual power feed allows supply reliability.
- Embedded Ultracap UPS powers controls for at least 60s during outages.
- Fast-start system with multi-sensor logic for rapid, adaptive response.
- Independent fan control for maximum fault tolerance and efficiency.

Eco friendly without compromises

- R513A low-GWP refrigerant: 631 as per IPCC AR4 (-70% *vs* R410A)
- Flammable risk free



Technical specification condenser

Single Circuit Units	PAM Model		PAM010	PAM020	PAM030	PAM040	PAM050
Max airflow at input condition	Max Airflow	m3/h	7180	7750	7650	12390	21570
Max cooling at input condition	Net Sensible Cooling Capacity (NSHR =1)	kW	18.5	19	31	46	63
Performance at 80% modulation Air indoor 35°C|35%RH	Net Sensible Cooling Capacity (NSHR =1)	kW	16.7	16.5	26.4	39.9	56.5
	Net Sensible EER Indoor / System	-	3,4 | 3,09	3,6 | 3,25	3,8 | 3,37	3,8 | 3,48	3,3 | 3,03
Performance at 80% modulation Air indoor 30°C|35%RH, DT12°C	Net Sensible Cooling Capacity (NSHR =1)	kW	13.9	15.1	23.7	35.3	48.3
	Net Sensible EER Indoor / System	-	3,2 | 2,89	3,6 | 3,27	3,4 | 3,04	3,5 | 3,24	3,3 | 3,03
Input conditions	Power supply	V | p | Hz	400/3/50				
	Refrigerant	Type	R513A				
	External Static Pressure / Filter	Pa | Class	0 Pa | ePM10 50%				
	Outdoor air temperature	°C	35°C				
	Condenser Match	Model	1xOAC033	1xOAC033	1xOAC042	1xOACH58	1xOACH87
	Unit Configuration	Airflow | Fans	Downflow frontal, High Efficiency Fans				
Design features	Refrigerating circuits	n°	1	1	1	1	1
	Variable Speed Compressors	n°	1	1	1	1	1
	Fixed Speed Compressors	n°	-	-	-	-	-
	EC Centrifugal Fan - Backward Curve Blower	n°	1	1	1	1	2
	Capacity Modulation	%	Continuous from 25 to 100%				
	Indoor Length [L]	mm	750	844	844	1200	1750
	Indoor Width [W]	mm	750	890	890	890	890
	Indoor Height [H]	mm	1970	1970	1970	1970	1970
	Indoor Weight	kg	285	354	363	550	730
System configurations	Air cooled	Availability	✓	✓	✓	✓	✓
	Air cooled with Freecooling EconoPhase		-	-	-	-	-
	Water cooled		ETO	ETO	ETO	ETO	ETO
	Water cooled with Indirect Freecooling		ETO	ETO	ETO	ETO	ETO
Airflow delivery available	DownFlow UP - Fans Over the Raised Floor	Availability	✓	✓	✓	✓	✓
	DownFlow UP - Frontal air delivery		✓	✓	✓	✓	✓
	UpFlow		✓	✓	✓	✓	✓

0-15 kW
Frame 0

15-30 kW
Frame 1

30-45 kW
Frame 2

45-60 kW
Frame 3

Dual Circuit Units	PAM Model		PAM060	PAM080	PAM100	PAM120	PAM140
Max Airflow at input condition	Max Airflow	m3/h	21150	34170	34330	52550	52550
Max cooling at input condition	Net Sensible Cooling Capacity (NSHR =1)	kW	63	77.5	121.6	145	165.3
Performance at 80% modulation Air indoor 35°C|35%RH	Net Sensible Cooling Capacity (NSHR =1)	kW	55.5	68.9	101.8	126.6	140.5
	Net Sensible EER Indoor / System	-	3,97 | 3,54	3,59 | 3,31	3,39 | 2,95	3,62 | 3,17	4,09 | 3,37
Performance at 80% modulation Air indoor 30°C|35%RH, DT12°C	Net Sensible Cooling Capacity (NSHR =1)	kW	47.2	58.7	89.4	107.4	119.9
	Net Sensible EER Indoor / System	-	4,01 | 3,54	4,1 | 3,7	3,31 | 2,86	3,83 | 3,30	4,21 | 3,42
Input conditions	Power supply	V | p | Hz	400/3/50				
	Refrigerant	Type	R513A				
	External Static Pressure / Filter	Pa | Class	0 Pa | ePM10 50%				
	Outdoor air temperature	°C	35°C				
	Condenser Match (Standard Fans)	Model	2xOAC042	2xOAC058	1xOAV165	1xOAV165	1xOAV255
	Unit Configuration	Airflow | Fans	Downflow frontal, High Efficiency Fans				
Design features	Refrigerating circuits	n°	2	2	2	2	2
	Variable Speed Compressors	n°	1	1	1	1	1
	Fixed Speed Compressors	n°	1	2	2	2	2
	EC Centrifugal Fan - Backward Curve Blower	n°	2	3	3	4	4
	Capacity Modulation	%	Continuous from 25 to 100%				
	Indoor Length [L]	mm	1750	2550	2550	3200	3200
	Indoor Width [W]	mm	890	890	890	1050	1050
	Indoor Height [H]	mm	1970	1970	1970	2570	2570
	Indoor Weight	kg	730	937	1250	1600	1600
System configurations	Air cooled	Availability	✓	✓	✓	✓	✓
	Air cooled with Freecooling EconoPhase		ETO	ETO	✓	✓	✓
	Water cooled		✓	✓	ETO	ETO	ETO
	Water cooled with Indirect Freecooling		✓	✓	ETO	ETO	ETO
Airflow delivery available	DownFlow UP - Fans Over the Raised Floor	Availability	✓	✓	✓	✓	✓
	DownFlow UP - Frontal air delivery		✓	✓	✓	✓	✓
	UpFlow		✓	✓	✓	✓	✓

45-60 kW
Frame 3

60-100 kW
Frame 5

100-160 kW
Frame 10

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