

Low Temperature

Energy Saving
Precision Air Processor

PAP® L Series

Cool 35 °C Air down to 8 °C with the Cool Fresh

Application Examples

- Rapid Cooling of Heated Products
- Desiccant Air Pre-Cooling, etc.

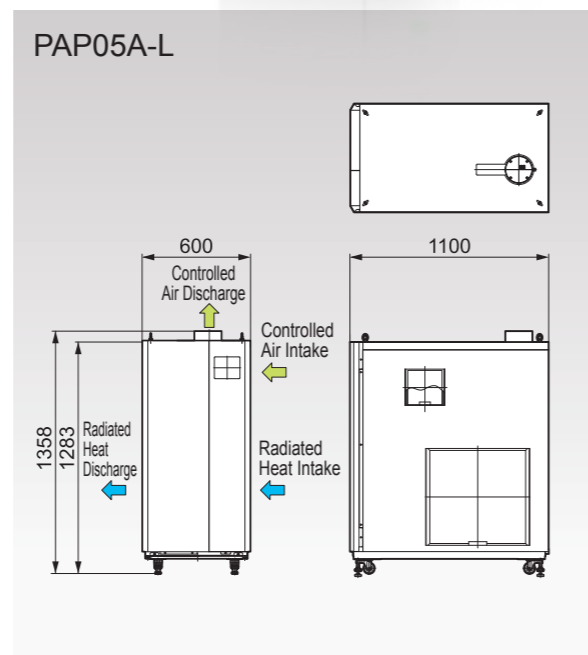
Air Cooled



Specifications

Model	PAP05A-L		
Performance Specifications	Possible Temp. Setting Range *1	°C	8 – 18
	Temp. Control Precision *2	°C	±2
	Cooling Capacity *3	kW	5.9 / 7.0
	Rated Processing Air Flow	m³/min	5 – 7
Environmental Conditions	Maximum External Static Pressure (50/60 Hz) *4	Pa	100 / 200
	Ambient Temp. and Humidity Range	°C, %	15 – 35, 30 – 70
	Temp. Gradient at Intake	°C/h	Within ±1
	External Dimensions *5	mm	(1358x1100x600)
Electrical Specifications	Product Mass	kg	(185)
	Controlled Air Outlet Port	mm	ø150
	Power Supply *6	V(Hz)	Three-phase 200 ±10% (50/60)
	Power Consumption	kW	(4.7)
	Current	A	(17)
	Power Supply Capacity	kVA	(6.5)
	Operation Control Method	Inverter speed control + Hot gas bypass control	
Chiller Compressor Output	kW	1.7	
Refrigerant	R410A		

External Dimensions



*1 Cooling only (Set temperature is lower than intake air temperature.) The range of temperature control depends on the condition of the air supplied at the intake. *2 When the air intake temperature and humidity are stable. Single output port; controller display precision. Does not include times when the compressor load is small and the compressor is cycling ON and OFF. *3 Conditions for cooling capacity calculation: Inlet temp.: 35 °C, 70%, air flow: 5 m³/min. *4 External pressure when controlled-air outlet port shutter is fully open, controlled air is output through the discharge side, and the air flow is 7 m³/min. *5 Height includes outlet port. *6 The power supply phase imbalance must be within ±3%.

*Models beyond the above-listed air flows are also manufactured. Please consult your dealer.

Safety Precautions

- For installation and wiring, please employ a qualified technician or consult your dealer.
- Be sure to select a product that suits your needs. Do not use for other than intended purposes. Use for other than intended purposes can lead to accidents or product breakdown.
- This product is designed and produced as general purpose equipment to be used in general manufacturing applications. Accordingly, the warranty does not apply to, nor cover, the following applications. However, in cases where the customer/user takes full responsibility and confirms the performance of the product in advance, and takes necessary safety precautions, please consult with ORION and we will consider if use of the product in the desired application is appropriate.
 1. Atomic energy, aviation, aerospace, railway works, shipping, medical applications, transportation/communications applications, and/or any applications where it might have a great affect on human life or property.
 2. Electricity, gas, or water supply systems, etc. where high levels of reliability and safety are demanded.

オリオン機械株式会社は品質及び環境マネジメントシステムに関するISO認証取得会社です。

ISO 9001 認証取得(本社工場)
ISO 14001

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Low Humidity Precision Air Processor

All Fresh for Instant Dehumidification and Precision Air Processing

CE Certified Model Lineup

UL/CSA61010-1 Conformity Evaluation Completed
Conformity Report Available for Submission.



Up to **65%** Energy Savings compared with previous models

Ultra ECO Product : Over 50% Energy Savings (compared with previous models)

eco2 means Economy (energy savings) and Ecology (environmental protection) as well as Reduced CO₂ Emissions.



Precision Air Processor PAP® D Series

Pharmaceutical and Supplement Filling Processing /
Anti-Rust and Condensation-Prevention for Electronics Components /
One-Pass-Dry-Booth Powder Mixing

This catalog contains product specifications as of May 2018.
• Actual product colors may vary slightly from the pictures.
• Please note that the structure or specifications of products contained in this catalog are subject to change without prior notice. Thank you for your understanding.

Dehumidification

Energy Saving Precision Air Processor

PAP[®] D Series

Powerful Dehumidification !

A Frost-Point Limit Dew Point of 3.5 °C using only the Refrigeration Cycle

Instant Dehumidification from 27 °C, 70% to 23 °C, 28%
Achieves defrost-free performance relying on the refrigeration cycle only, with an industry top-class dew point of 3.5 °C.



- Temp. Setting Range **18 °C to 30 °C**
- Humidity Setting Range **20% to 40%**
- Temp. Control Accuracy **±0.2 °C**

The PAP-D Series: Precision Air Processing AND Dehumidification Combined

Air Cooled

PAP03A-D
PAP06A-D
PAP10A-D

Water Cooled

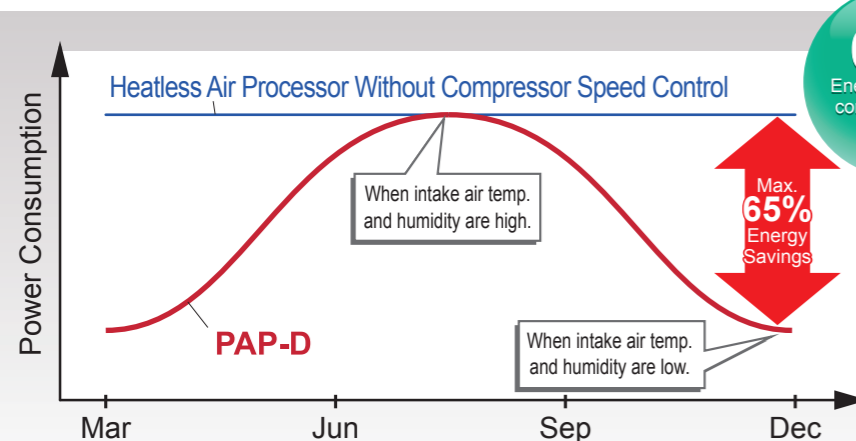
PAP03A-WD
PAP06A-WD
PAP10A-WD

[Performance Examples] PAP03A-D,WD, Air Flow: 3 m³/min
PAP06A-D,WD, Air Flow: 6 m³/min
PAP10A-D,WD, Air Flow: 10 m³/min

Intake Air	Discharge Air
30 °C, 55%	25 °C, 25% or lower
28 °C, 65%	23 °C, 28% or lower
27 °C, 70%	21 °C, 32% or lower

Of Course Heatless ! And Compressor Speed Control for Energy Savings as much as 65% !

Once the set humidity is attained, compressor speed control takes over for energy savings.



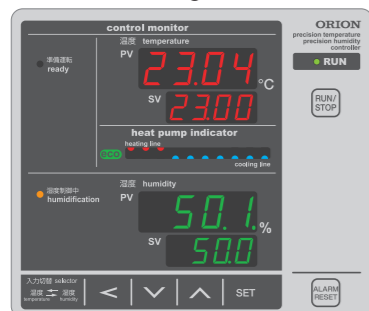
Max. 65% Energy Savings compared with previous models



Low Rotation Speed During Low Load Conditions
The compressor speed is controlled in response to light load conditions in order to reduce unnecessary drying.

Built-In Intelligent Monitor Patented

Various tracked systems are displayed on the built-in Intelligent Monitor. This allows for an easy-to-understand quick response when alarm conditions occur or during maintenance.



CE Marking Certified

2 Lineups of CE Marking Certified Models (Built-to-order)
UL/CSA61010-1 Conformity Evaluation Completed / Conformity Report Available for Submission



3 m³/min

PAP03A-D
PAP03A-WD

6 m³/min

PAP06A-D
PAP06A-WD

10 m³/min

PAP10A-D
PAP10A-WD

PAP03A-D-CE

PAP06A-D-CE

Specifications

Model	Air Cooled				Water Cooled				
	PAP03A-D	PAP03A-D-CE	PAP06A-D	PAP06A-D-CE	PAP10A-D	PAP03A-WD	PAP06A-WD	PAP10A-WD	
Possible Temp. and Humidity Setting Ranges *1	18 - 30, 20 - 40								
Temperature and Humidity Control Precision *2	±0.2, ±2 (Dehumidification function not available.)								
Possible Control-Air Dew Point (Lower Limit) *3	3.5								
Maximum Cooling Output *4	(3.7)		(6.6)		(10.5)	(4.1)	(6.8)	(11.0)	
Heating Power *5	(0.3)		(0.7)		(1.1)	(0.3)	(0.7)	(1.1)	
Rated Processing Air Flow	3 - 5		6 - 8		10 - 12	3 - 5	6 - 8	10 - 12	
Maximum External Static Pressure *6	500		500		500	500	500	500	
	(3 m ³ /min)		(6 m ³ /min)		(10 m ³ /min)	(3 m ³ /min)	(6 m ³ /min)	(10 m ³ /min)	
Maximum External Static Pressure *6	100		300		200	100	300	200	
	(5 m ³ /min)		(8 m ³ /min)		(12 m ³ /min)	(5 m ³ /min)	(8 m ³ /min)	(12 m ³ /min)	
Ambient Temp. and Humidity Range	17 - 35, 30 - 70								
Temp. Gradient at Intake	Within ±1								
Humidity Gradient at Intake	Within ±5								
Cooling-Water Temperature Gradient	-								
External Dimensions *7	(1310x820x661)	(1654x820x661)	(1610x1150x770)	(1802x1150x770)	(1860x1200x990)	(1310x820x661)	(1610x1150x660)	(1860x1200x990)	
Product Mass	(210)	(230)	(330)	(350)	(450)	(210)	(330)	(450)	
Controlled Air Outlet Port	ø150		ø200		ø200	ø150	ø200	ø200	
Rate of Supply							2.0	3.0	3.0
Supply Temp. Range							5 - 32		
Supply Pressure							0.69 or lower		
Inlet/Outlet Pressure Difference							0.2 or higher		
Connection Port Size							Rc3/4		Rc1
Power Supply *8	Three-phase 200 ±10% (50/60)								
Power Consumption *9	0.8 - 2.9		1.3 - 4.1		1.6 - 4.4	1.6 - 5.3	0.7 - 2.6	1.1 - 3.9	1.5 - 4.7
Current *10	11.3		17.2		18.3	20.2	10.7	16.6	19.5
Power Supply Capacity *11	4.7		6.6		7.2	4.2	6.3	6.9	
Operation Control Method	Heat Pump Balance Control (Utilizes waste heat)								
Chiller Compressor Output	1.7		3.0			1.7		3.0	
Refrigerant	R410A								
CE Marking	—		Built to Order		—		—		

*1 The indicated value does not necessarily denote the actual controllable temperature and humidity. The actual controllable temperature and humidity ranges will depend on the temperature and humidity of the intake air. (This product does not include humidification functionality.) *2 When the intake air and humidity are stable. (For water-cooled models, the cooling water temperature and flow rate are also stable.) Over-dehumidification may occur when there is a single discharge point, depending on the controller display precision and conditions. *3 Attainable dew point will depend on the intake air conditions. *4 Maximum cooling capacity of the evaporator unit inside the product. *5 The difference between the heating capacity of the heater unit and the cooling capacity of the evaporator inside the product. *6 Indicates the external static pressure when the blower fan operating frequency is 60 Hz, when air is being discharged through the controlled-air outlet side, and when operating at the prescribed air flow. *7 Height includes the discharge port. *8 The power supply phase imbalance must be within ±3%. *9 Minimum to maximum values when operating within product specification operating ranges. *10 Maximum value when operating within product specification operating ranges. *11 When the product is operating at the maximum operating current and within product specification operating ranges.

External Dimensions

