

Striving to Make Products that Move You

Nov. 2016

R53E

Air Cooled Chillers with Built-In Water Tank

# ORION

## Air Cooled Chillers with Built-In Water Tank

# Now Offering Japanese Quality at Affordable Prices!



AKL7500A-V

AKL5500A-V

JAPAN  QUALITY

ORION brings you chillers made with world-renowned Japanese quality.

# Japanese Quality Made in Thailand

ORION chillers have a solid reputation and superior reliability among industrial chillers. Production has started in Thailand that inherits quality Japanese manufacturing. We aim to offer this quality along with improved affordability and speedier order fulfillment.

## Features

**+ 1**

### Japanese Design Ensures High Reliability

Our chiller is designed with a large water tank for convenient operation. We've adopted a immersion pump design which goes a long way to alleviate bigger troubles such as water leaks, etc. Of course, the primary components are identical to those used in our Japanese manufactured chillers.

#### Previous Construction



#### Submersible Pump Construction



If by some chance the pump does leak, the leakage would occur inside the tank, thus preventing flooding.

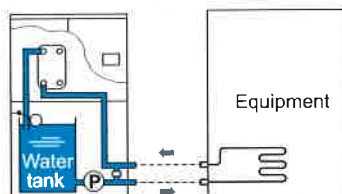
**+ 3**

### Built-In Water Tank and Pump

The water tank and pump are built in, so you don't have to deal with troublesome wiring or piping.

#### About the chiller with water tank (Closed-loop systems)

ORION Built-In Water Tank Chillers come with the water tank and discharge pump built in. Using a closed-loop system makes for easy installation, requiring only piping connections to the main chiller, and also takes up less space.



**+ 2**

### Over 200,000 Units Shipped!

Orion has shipped over 200,000 chillers to satisfied customers not only in Japan, but all around the world.

**+ 5**

### Compact Design Makes Replacement a Snap!

A 22% reduction in size compared with our previous models. As the cooling and water pressure performance of these chillers are the same as with ORION's Japanese made models, they can be substituted as is.

Overall Size (approx.)  
**22% Down**



Comparison of RKE5500A-V and AKL5500A-V

- \* 1. Size comparison with casters removed.
- \* 2. Note that installation related dimensions are not compatible.

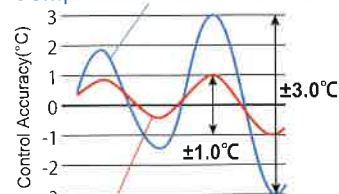
**+ 4**

### Temperature Control Accuracy to $\pm 1.0^{\circ}\text{C}$ .

HB (Hot Gas Bypass) control gives control precision to  $\pm 1.0^{\circ}\text{C}$ .

\* Excluding times of compressor on-off control or during times of changing load.

#### Compressor ON/OFF Control



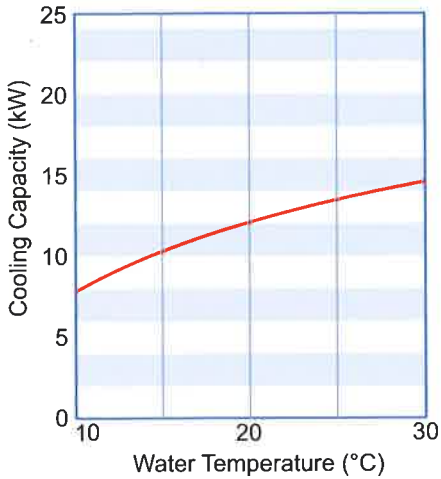
Hot Gas Bypass Control



## Cooling Capacity Diagram

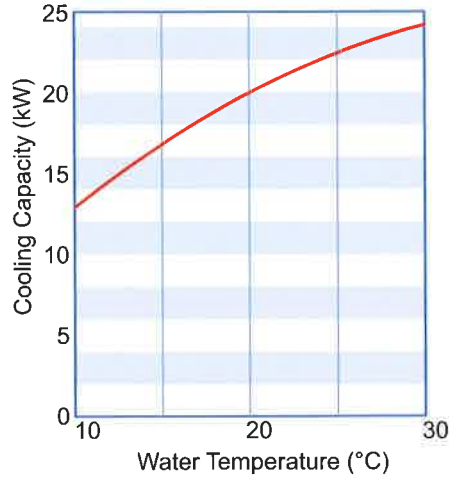
### [AKL3750A-V]

Chilled Liquid : Water Ambient Temperature : 32°C  
Flow Rate : 37L/min



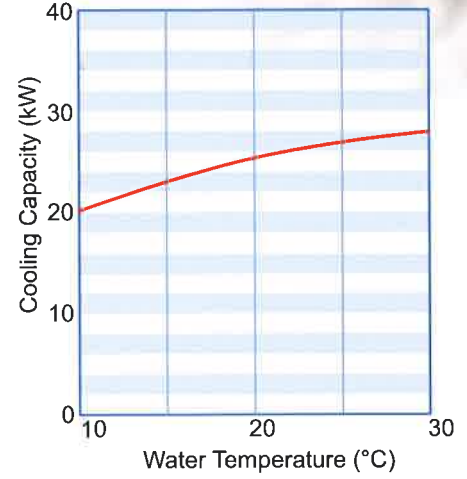
### [AKL5500A-V]

Chilled Liquid : Water Ambient Temperature : 32°C  
Flow Rate : 68L/min



### [AKL7500A-V]

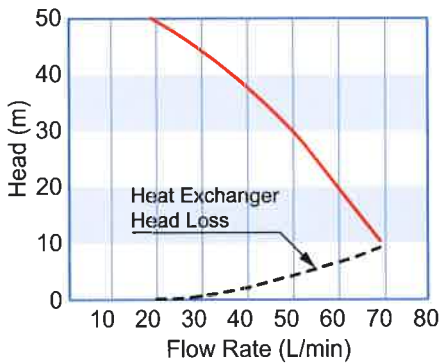
Chilled Liquid : Water Ambient Temperature : 32°C  
Flow Rate : 70L/min



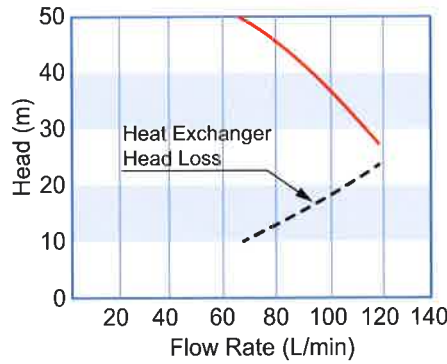
## Pump Characteristic Curves

\* Flow rate for stand-alone pump operation

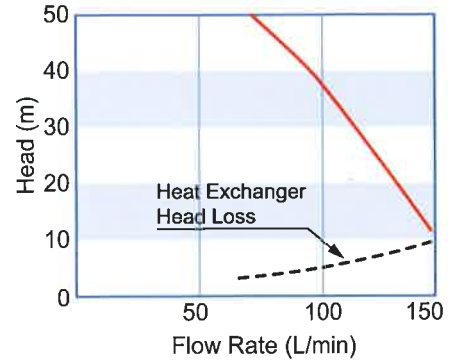
### [AKL3750A-V]



### [AKL5500A-V]



### [AKL7500A-V]



## Application Examples

### Welding Machine

Electrode and power supply cooling.



### Packaging Machinery

Cooling after heat sealing.



### Washing and cleaning machines

Concentrated cooling water supply for vapor cleaners.



### Die cooling

Can be used to supply cooling water when casting plastic or maintain even temperatures of metal molds.



### High Frequency Induction Heating Equipment

Heating coil cooling and high frequency power supply cooling.



### Laser

Cooling of diode laser oscillators and optical systems.

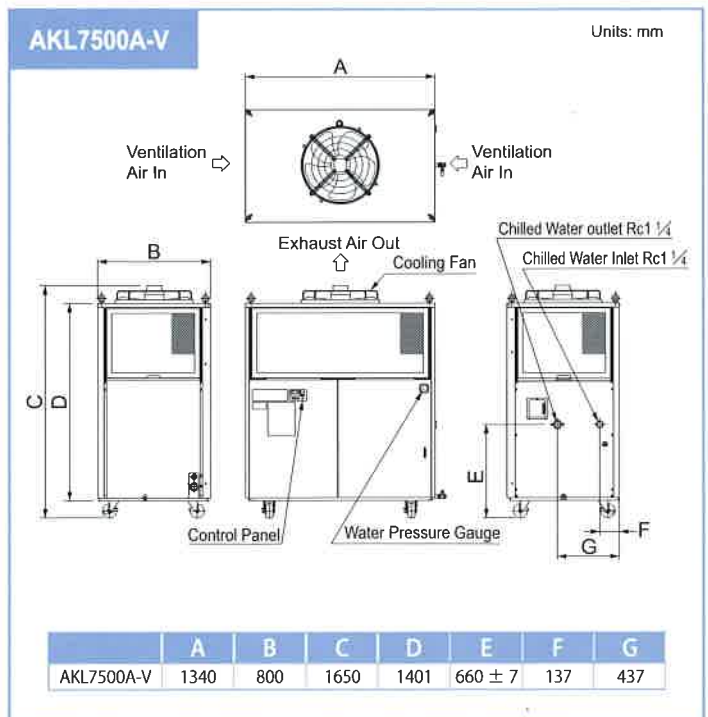


## Specifications Chart

Model		AKL3750A-V	AKL5500A-V	AKL7500A-V	
Item					
Cooling Capacity * 1	kW	12.0	20.0	25.0	
Outside Dimensions (H × D × W)	mm	1685×905×805	1825×990×855	1650×800×1340	
Unit Mass (dry weight)	kg	235	285	330	
Chilled Water	Operable Ambient Temp. Range	°C			
	Operable Liquid Temp. Range	°C			
	Control Precision * 4	±1.0°C or Lower			
	Operating Water Pressure	MPa	0.10 ~ 0.50	0.28 ~ 0.50	0.10 ~ 0.50
Operating Flow Rate	L/min	20 ~ 70	68 ~ 120	70 ~ 150	
Inlet and Outlet Port Size		Rc1			
Power Specifications	Power Source * 2	V(Hz)			
	Power Consumption * 1	kW	5.4	11	11.3
	Electric Current * 1	A	9.7	19	21.5
	Power Capacity * 3	kVA	8.1	14	18.1
Equipment Details	Compressor	Fully sealed scroll type			
	Condenser	Fin and tube forced air cooling			
	Operation Control Method	Hot gas bypass control			
	Heat Exchanger	Plate type heat exchanger / SUS316 (Brazing: Cu)			
	Discharge Pump	Construction / Output	Multistage centrifugal immersion type / 1.1	Multistage centrifugal immersion type / 1.6	Multistage centrifugal immersion type / 2.14
	Water Tank Capacity	L	Approx. 95	Approx. 115	Approx. 140
	Refrigerant		R-407C	R-410A	

\* 1. Operating Conditions: Chilled water temp.: 20 °C, Ambient temp.: 32 °C. Cooling capacity is at least -5 % of listed figures. \* 2. Source voltage phase unbalance should be less than ±3 %. \* 3. The figure noted is when operating at the highest capacity in the normal operating range. \* 4. Continuous current load fluctuation within ±10 %, and with stable ambient temp. and power supply, etc. Does not include starting times or when the cooling load is too small, in which case the compressor may cycle on and off.

## External Dimensions



Please feel free to contact the following representative:

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