

Oil Cooling Unit

9 OIL COOLING UNIT
AKZ
SERIES

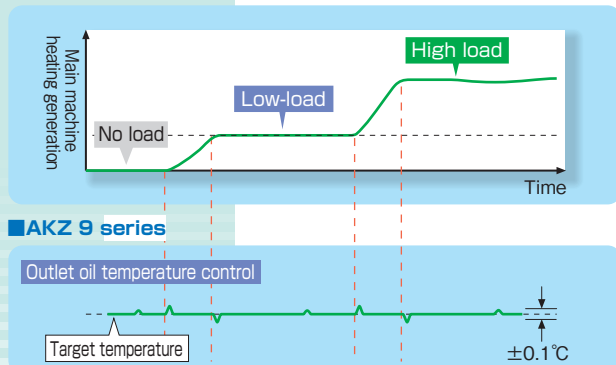
NEW
PRODUCT

Further Evolution of High-accuracy Temperature Control

- Our acclaimed $\pm 0.1^\circ\text{C}$ oil temperature control has been extended to cover an even wider range.
- The cooling capacity resolution in the low-load range has been improved through optimal control of the compressor and electronic expansion valve.

Expansion of cooling capacity control range

- Control with loads from 0% (no load) to 100% achieved



(Note) Pattern diagram with the heating load stabilized at 0 - 100% (Comparison with Daikin unit)

RoHS Compliant

- Complies with the RoHS Directive, e.g. by adopting printed circuit boards with lead-free solder.

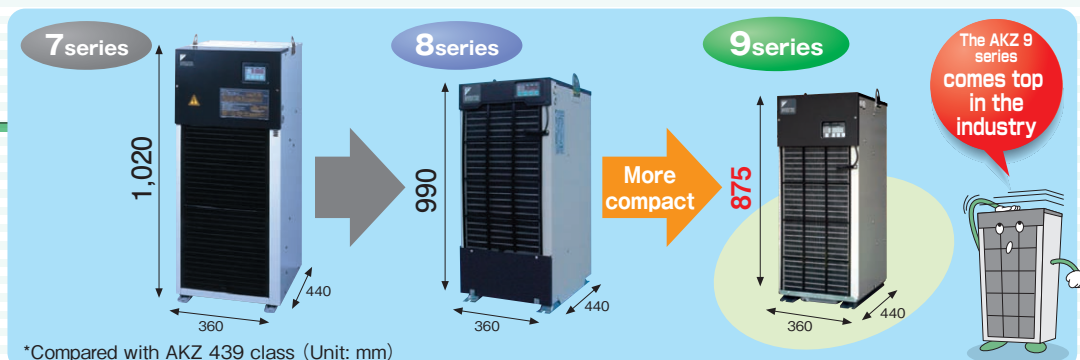
Reinforce durability for mist or dust in the severe condition of factory

- The ingress protection of the control box has been upgraded (equivalent to IP54).
- Electronic components resistant to sulfidization have been adopted.

Higher durability for long-distance transportation

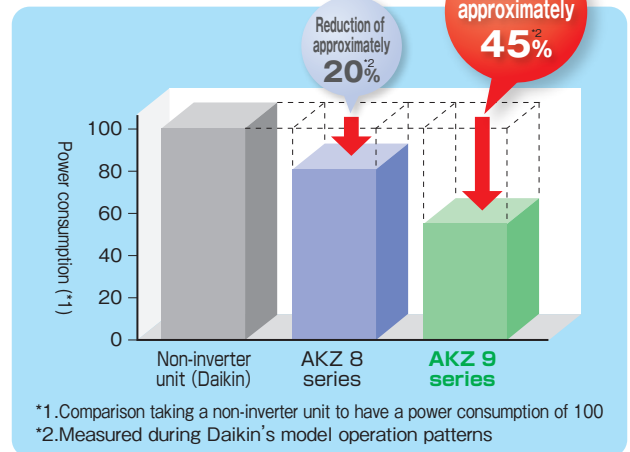
- The specifications for withstanding vibration during transport have been upgraded to reflect actual transportation conditions.

Compact design of top class in the industry



Achieve high energy-saving performance

- Achieve high energy-saving performance with the adoption of a Daikin original IPM motor and R410A refrigerant for high COP characteristics.
- The power consumption can be checked on the operation panel.



Achieve low-noise operation in the low-load range

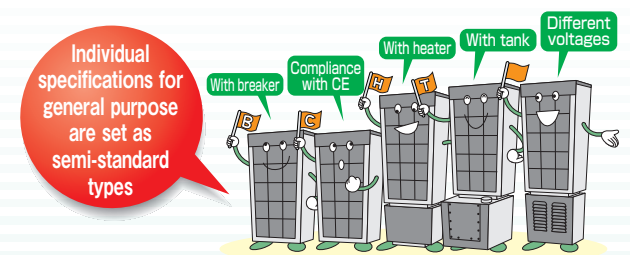
AKZ 8 \rightarrow AKZ 9
59.5dB (A) \rightarrow 58dB (A)*

Corresponding value in anechoic chamber (with AKZ 439 class)

- Noise level also reduced in line with load reduction

*At room temperature of 25 and thermal load of 1 kW

Five types of semi-standard specification units in addition to the standard type to achieve shorter product delivery terms



Specification List

Oil Cooling Unit (Circulation type)

NEW
PRODUCT



Specifications

Model name	AKZ149	AKZ329	AKZ439	AKZ569	AKZ909	
Oil Cooling Unit horsepower (HP)	0.5	1.2	1.5	2.0	3.0	
Cooling capacity(50/60Hz) *Note 1 (kW)	1.3/1.4	2.8/3.2	3.8/4.3	5.0/5.6	8.0/9.0	
Compressor(Totally enclosed DC swing type)	Equivalent to 0.4 kW	Equivalent to 0.75 kW	Equivalent to 1.1 kW	Equivalent to 1.5 kW	Equivalent to 2.2 kW	
Oil pump	Theoretical discharge rate (L/min)		12/14.4	24/28.8	30/36	
Circuit voltage	Main circuit *Note 2	3-Phase AC 200/200-220V 50/60Hz				
	Operation circuit	DC12/24V				
Max. power consumption Max. consumption current	200V/50Hz	0.90kW/3.9A	1.36kW/4.9A	1.80kW/6.6A	2.22kW/7.7A	4.25kW/13.6A
	200V/60Hz	0.91kW/3.6A	1.43kW/4.8A	1.88kW/6.4A	2.30kW/7.6A	4.30kW/13.5A
	220V/60Hz	0.91kW/3.5A	1.43kW/4.6A	1.88kW/6.1A	2.30kW/7.3A	4.28kW/13.0A
Outside dimensions(H×W×D) (mm)	650×360×440	775×360×440	875×360×440	1,110×470×560	1,220×560×680	
Mass (kg)	51	56	64	82	97	
Usable oil	Lubricant, hydraulic oil of mineral oil(Not usable for hydraulic oil of ester phosphate, water, water-soluble liquid, drugs, food products, fuel, cutting liquid, grinding liquid, etc.)					
Molded-case circuit breaker(Rated current) (A)	-					

Note)*1.The cooling capacity represents the value at the standard point(inlet oil temperature: 35°C, room temperature: 35°C, oil for use: ISO VG32). The tolerance of the product is approx.±5%.

*2.There are three types of different voltage specifications depending on the power source: -046, -047 and -048 units. -047 and -048 units deal with the different voltage by featuring a transformer.

The main circuit voltage is the transformer's secondary side voltage of 200 VAC, 50/60 Hz.

(-046 units have no transformer and therefore have the same external dimensions and mass as standard units. Their main circuit voltage is 220/230 VAC, 50/60 Hz.)

Specifications of standard, semi-standard, and non-standard types

●AKZ 9 (Circulation type)

	Standard type	Semi-standard	Non-standard	Remarks
Use of low-viscosity oil	○			Viscosity of oil for use : 1.4 – 200 mm ² /S
Discharge pressure (oil) : 0.5 MPa	○			
With timer	○			999-hour timer
With outlet temperature sensor	○			
With breaker		B		
Compliance with CE		C		European Safety Standard
Different voltages	Without transformer	046		AC220,230V 50/60Hz
	With transformer	047		AC380,400,415V 50/60Hz
		048		AC440,460,480V 50/60Hz
With heater		H		
With tank		T		
Discharge pressure (oil) : 0.98 MPa			○	Unit with separately installed pump
Discharge pressure (oil) : 1.47 MPa			○	Unit with separately installed pump
Use of twin pump			○	Unit with separately installed pump
Specified painting color			○	
With expansion board for serial communication			○	

Optional parts

- Machine temperature synchronous thermistor (Lead wire length: 5m, 10m, 15m)
- Oil temperature control thermistor (Lead wire length: 5m, 10m)
- Expansion board for main machine communication (Serial communication)

Description of model symbols



1 Oil cooling unit identification code

AKZ : High-accuracy inverter oil cooling unit
(Circulation type, for spindle and lubricant)

2 Cooling capacity (kW)×10

Indicates ten times the cooling capacity
Examples: 14, 32, 43, 56, 90,
where 14 indicates a cooling capacity of 1.4 kW

3 Symbol of series

(Symbol to represent model change)
6,7,8,9 ……

4 Specification identification code

- : Used for units with a semi-standard specification or a combination of semi-standard specifications

Single letter : When 5 below is a serial number, the semi-standard specification is identified here with a single letter of the alphabet.

5 Symbol for semi-standard types (B, C, H, T)

B : With breaker
C : Compliance with CE
H : With heater
T : With tank

046 : Different voltage AC220,230V 50/60Hz
047 : Different voltage AC380,400,415V 50/60Hz
048 : Different voltage AC440,460,480V 50/60Hz

Or, a serial number (three numerical digits)

Non-standard specifications to meet individual requirements that are not covered by the semi-standard specifications

* Contact us separately about special specifications (UL compliance, tropical treatment, etc.).