



Introducing New Products
OIL COOLING UNIT
OILCON
AKZJ 8 SERIES

New Refrigerant

Amazingly improved Energy-Saving Inverter Oil Cooling Unit,
Daikin Core Inverter Control Technology developed for Air Conditioner adapted.

AKZJ 8 SERIES

Immersion Open Type

Features

- **The first class Energy Saving.**
(20% energy saving in comparison with our conventional products)
- **High-accuracy temperature control.**
Temperature control: $\pm 0.1^\circ\text{C}$ (at saturation point of Heating volume in 30~100% load)
- **Low noise.** (62 dB (A) ... corresponding value in anechoic chamber)
- **The shortest delivery, all optional specifications are listed as semi-standard.**
- **New useful functions added to current oil temperature warning functions.**
 - 1) Auto tuning function (Auto setting P-GAIN and I-GAIN parameter for oil temperature control)
 - 2) Refrigerant gas runout detection function
 - 3) 99-hour timer function
- **The smallest size in the class.**



AKZJ 358

Nomenclature

AKZJ **18** **8** - **C** - **5**

1 2 3 4 5

- 1** Model [Series No.] Inverter oil cooling unit for cutting and grinding liquid (oil)
(AKZJ:immersion open type)

- 2** Nominal cooling capacity (kW) ×10

Adoption from the sequence of JIS Z8601 (2 digits)
Ex. 18 means nominal cooling capacity of 1.8 kW.

- 3** Design No.: 8 (model change from 7)

- 4** Semi-standard (B, C, E, H, T)

- Easily selecting optional specifications until previous series as semi-standard from the list.
- According this system, delivery of optional spec was shortened.

- 5** Individual order symbol

(4-digit alphanumerical characters)

Non-standard specifications for meeting individually required specifications not included in the semi-standard.

Contents of Standard, Semi-standard, Non-standard Models

	Standard specification	Semi standard items	Non-standard	Remarks
Timer	○			99-hour timer
Circuit breaker		B		
CE specifications		C		European Safety Standard
Different voltage specifications		E		220/230/380/400 415/440/460/480V (50/60Hz)
Oil heater		H		
Oil tank		T		
UL-compliance			○	
Tropical treatment specifications			○	
Specified coating color			○	

(Remarks) For optional parts, the following are available.

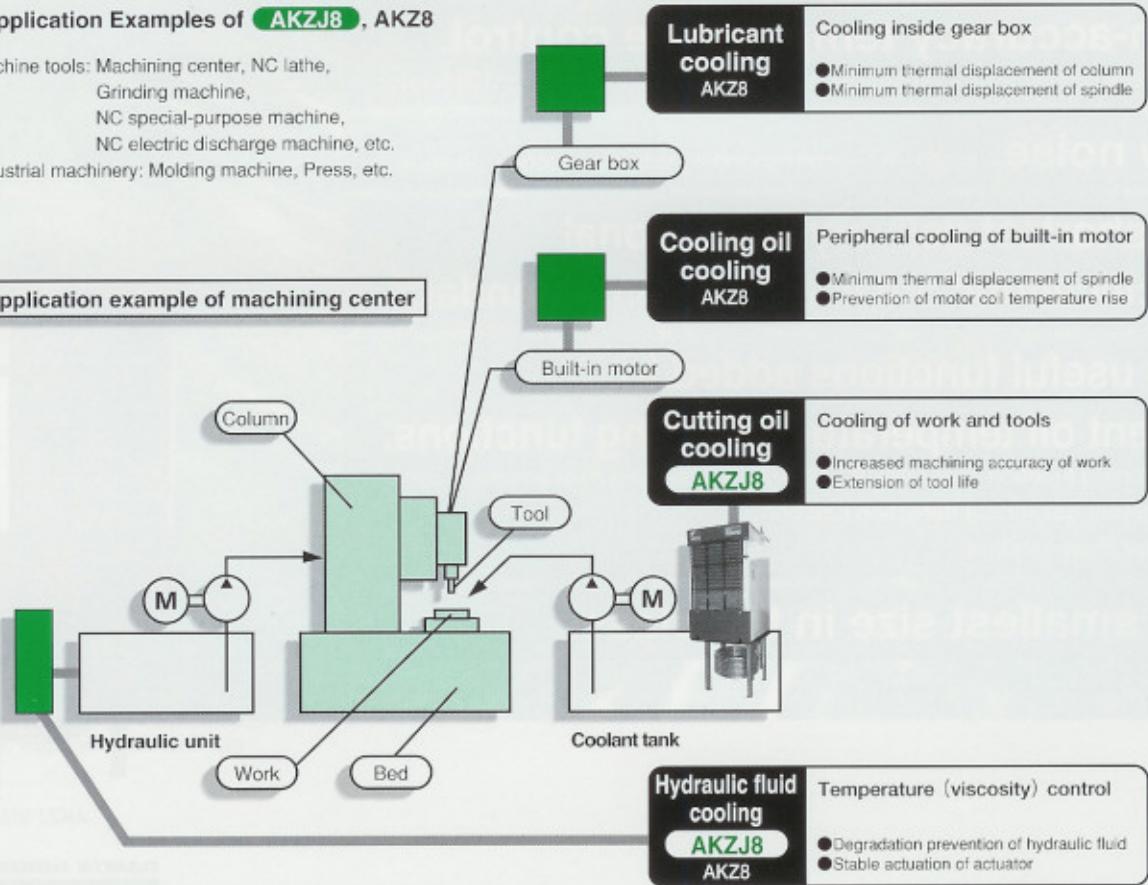
- Machine tuning sensor (lead wire length : 5m, 10m)
- Main machine communication extension board
(parallel communication and serial communication are possible.)

Main Application Examples

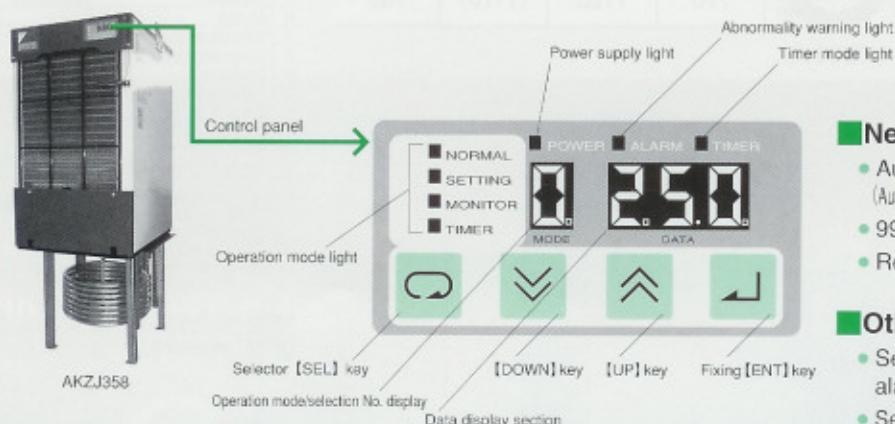
Application Examples of **AKZJ8**, AKZ8

Machine tools: Machining center, NC lathe,
Grinding machine,
NC special-purpose machine,
NC electric discharge machine, etc.
Industrial machinery: Molding machine, Press, etc.

Application example of machining center



Functions of Control Panel



Specifications

OILCON equivalent horse power (HP)		0.5		1.2					
Model		AKZJ 188 (-B, -C)	AKZJ 188-H	AKZJ 358 (-B, -C)	AKZJ 358-H				
Cooling capacity (50/60Hz) ¹⁾ kW		1.6/1.8		3.2/3.5					
Power source Main circuit (50/60Hz)		AC 3-phase 200/200~220V		50/60Hz					
Control circuit		DC12/24V							
Max. power consumption 200V 50Hz	1.07kVA/3.1A	1.35kVA/5.7A	1.76kVA/5.2A	1.76kVA/5.9A					
Max. current consumption 200V 60Hz	1.09kVA/3.2A	1.35kVA/5.6A	1.78kVA/5.2A	1.78kVA/5.8A					
220V 60Hz	1.07kVA/2.8A	1.62kVA/5.1A	1.79kVA/4.9A	1.79kVA/6.3A					
Painted color	White (Munsell N7.5)								
Dimensions (H×W×D) mm	980×360×440		1120×360×440						
Compressor	Hermetic DC swing type								
Evaporator	Open coil type								
Condenser	Cross fin coil type								
Fan	Propeller fan (φ300)								
Fan motor	75W								
Agitator motor	1φ, 50W, 4P								
Heater	1φ, AC200V, 50/60Hz	—	1kW	—	1kW				
Power density/3W/cm ² or lower									
Temperature control	Tuning type	Room temperature and Machine surface temperature ²⁾							
Fixed type	Control subject	Tank oil temperature							
	Tuning range	-9.9~+9.9 (K)							
Control subject	Control range	5~50°C							
Refrigerant control	Compressor capacity control by inverter + electronic expansion valve								
Protector	Fan motor inner thermostat, Agitator inner thermostat, Restart prevention timer, Reverse phase protector, Low-rot temperature protection thermostat, High-oil temperature protection thermostat, Low-oil temperature protection thermostat, Discharge pipe temperature thermostat, Condenser temperature thermostat, Refrigerant leak detector, and full set of inverter protector, Dry-firing prevention thermostat ³⁾ , Fuse ⁴⁾ , High-pressure pressure switch ⁵⁾ , Compressor protection thermostat ⁶⁾ , No-fuse breaker ⁷⁾								
Name of refrigerant (new refrigerant)	R410A								
Operating range Room temperature °C	5~45								
Oil viscosity mm ² /s	Tank oil temperature °C	5~50							
	Oil viscosity mm ² /s	0.5~200							
Usable oil	Water-soluble cutting and grinding oil, Cutting and grinding oil, Lubricating oil, Oil pressure hydraulic fluid, Industrial water (however, not usable for chemicals, foods, fuel)								
Noise (corresponding value in anechoic chamber)	62dB (A) (front: 1m; height: 1m)								
Weight kg	38	41	44	47					
Transportation vibration	Vertical 14.7m/s ² (1.5G) × 2.5hr (10~100 Hz sweep/5 min)								
Rated current of circuit breaker (locally procured) A	10	10	10	10					
Locally procured products	Tank (400mm or deeper), supply pump, circuit breaker for wiring								

Note) *1. Cooling capacity means the rate at standard point (tank liquid temperature: 35°C; room temperature: 35°C) and in oil used ISO VG32. Product tolerances are about ±5%.

*2. Optional machine tuning thermistor (optional parts separately available) is required.
*3. To be applied to AKZJ**B-H (with heater) only.

*4. To be applied to AKZJ**B-C (CE compliance) only.

*5. To be applied to AKZJ**B-B (with circuit breaker) only.

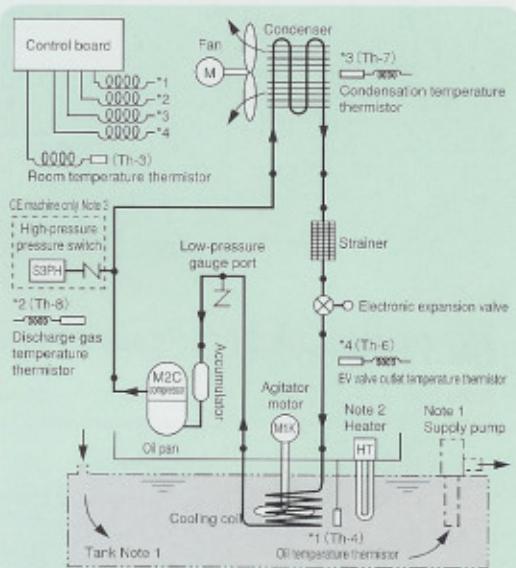
New functions of AKZJ8 Series

- Auto tuning function (Auto setting P-GAIN and I-GAIN parameter for oil temperature control)
- 99-hour timer function
- Refrigerant gas runout detection function

Other continuing functions

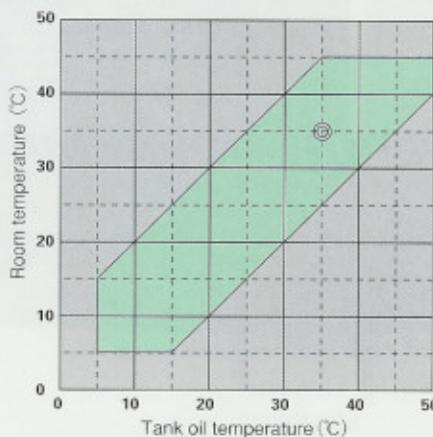
- Setting of oil temperature warning, alarm display function
- Set temperature and monitor display functions

Piping diagram (AKZJ188, 358)



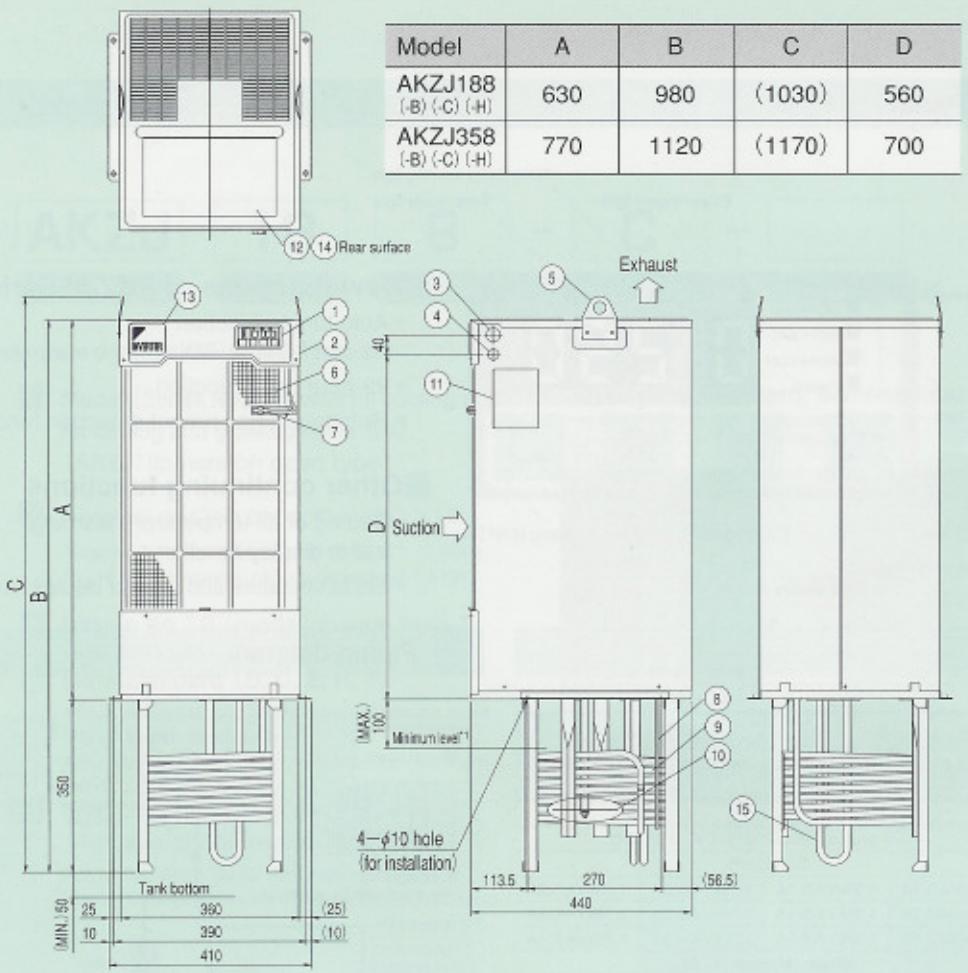
Note) 1. Supply pump and tank are locally procured (outside of our scope).
2. Heater is applied to semi-standard model (-H) machine.
3. High-pressure pressure switch is applied to semi-standard model (-C) only.

Operating range



Note) 1. Mark ● means the standard point.
2. Operate in the range of the above graph.
(The use outside of the usable range causes failure.)

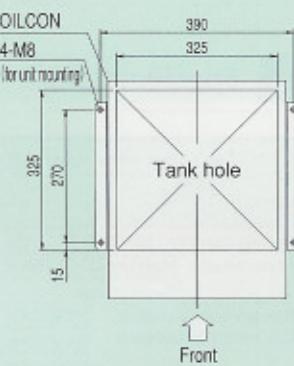
Dimensional Outline Drawing



Part No.	Name	Remarks
1	Control panel	
2	Top plate	
3	Power inlet (left/right)	Φ28 hole
4	Signal line inlet (left/right)	Φ22 hole
5	Eye-plate	2-Φ25 hole
6	Air filter	
7	Room temperature thermistor	
8	Oil temperature thermistor	
9	Cooling coil	
10	Agitation plate	
11	Machine nameplate	
12	Caution label	
13	Brand name plate	
14	Electric diagram nameplate	
15	Heater ²	

Note *1. Take utmost care to design partitions, etc.
Inside the tank so that the oil level range
in the tank does not reach the minimum oil level.
*2. Heater is available with (-H) only.

Installation tank (locally procured) machining size drawing

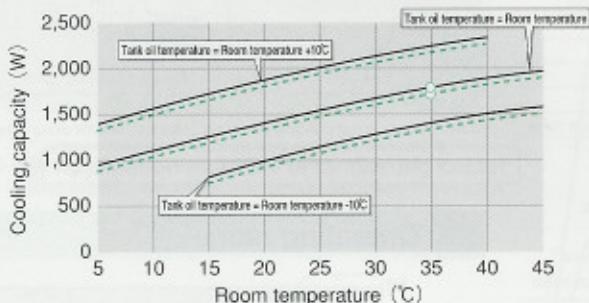


OILCON AKZJ "8" Series Performance curve

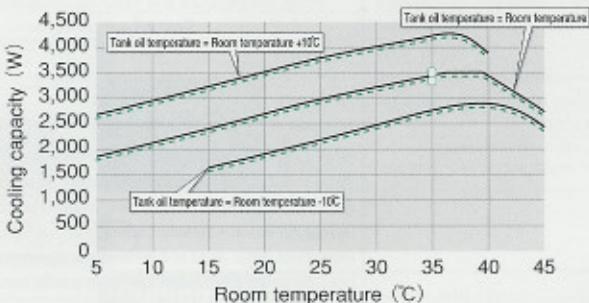
Solid line — : 60 Hz Broken line - - - : 50 Hz

1. Mark ● is the standard point. (Room temperature : 35°C; Tank oil temperature : 35°C; Oil used: ISO VG32)

AKZJ188



AKZJ358



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