



# AIR-COOLED CHILLERS



APPLIED SYSTEMS

**R-407C**



[www.daikin.eu](http://www.daikin.eu)

EWAP110-540MBYN

COOLING ONLY



# ENVIRONMENTAL AWARENESS

## Daikin and the Environment

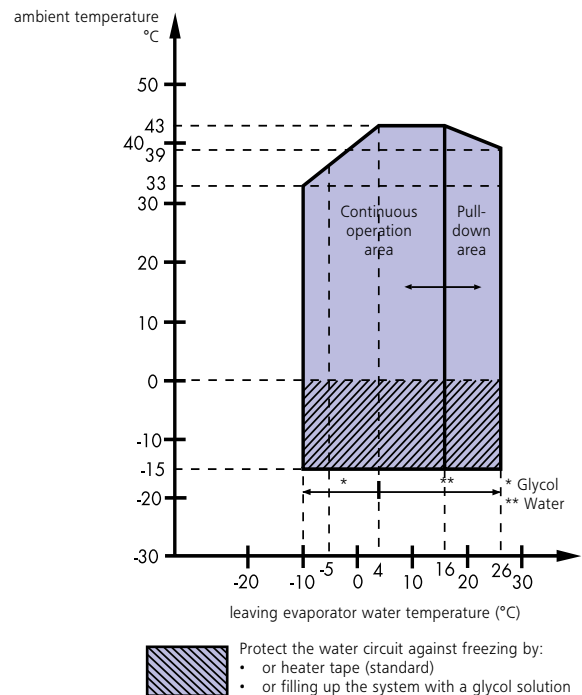
In recent years, motivated by a global awareness of the need to reduce the burdens on the environment, some manufacturers including Daikin have invested enormous efforts in limiting the negative effects associated with the production and the operation of chillers. Hence, models with energy saving features and improved eco-production techniques have seen the light of day, making a significant contribution to limiting the impact on the environment.

## FLEXIBLE APPLICATION



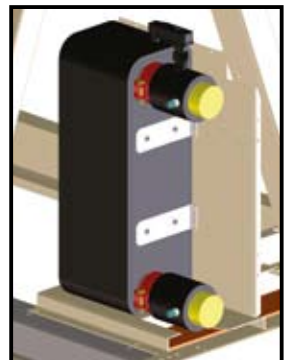
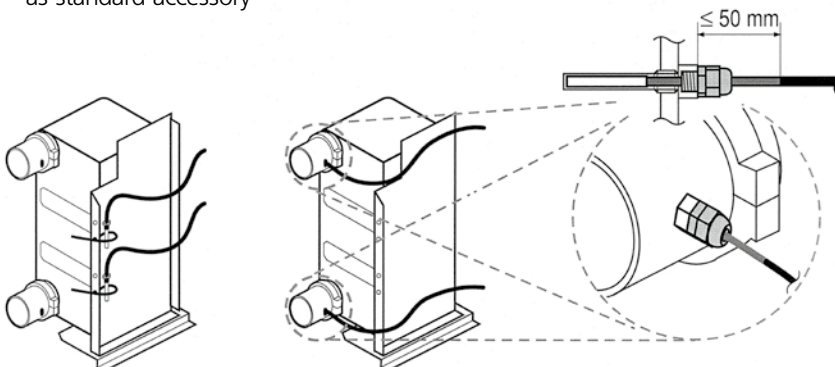
9 models are available with cooling capacities ranging from 111 to 541kW. The units are ideal for use in severe weather conditions and over a wide operation range. This major benefit results from the incorporation of an auto adaptive control system with built-in functions that include:

- › head pressure control: fan control for low ambient down to -15°C
- › head pressure setback for high ambient operation: on hot days, when cooling is most needed, Daikin chillers will stay on line by modulating the capacity control in function of the high pressure
- › full range also available with heat recovery condenser (EWTP-MBYN)



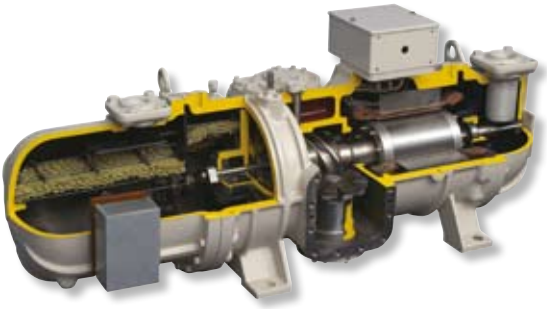
## EASY INSTALLATION

- › flow switch standard supplied with the unit
- › water filter with a perforation diameter of 1mm supplied as standard accessory



# SINGLE SCREW COMPRESSOR

The large Daikin chillers are fitted with a G-type single screw compressor with stepless capacity control. The G-type stepless single screw compressor enables capacity requirements to be closely matched by modulating the sliding valve position according to the chilled water control condition. Main advantages of continuous modulation are better part load efficiency and more stable chilled water temperatures with closer control tolerance. Capacity control is infinitely variable between 30 and 100% on single circuit units and between 15 and 100% on dual circuit units.



## HEAT EXCHANGER

### CONDENSER

- › condenser coils are constructed from specially designed header distribution pipes, combined with internally grooved Hi-X tubing and PE coated waffle louvre pressed fins
- › all condenser coils are standard anti-corrosion treated to better withstand the effects of the external environment
- › condenser protection grilles are available throughout the whole range

### BPHE EVAPORATOR

- › brazed plate heat exchanger made of stainless steel plate, brazed gas tight with copper
- › optimised distribution and counterflow arrangement benefits of R-407C
- › fitted standard with evaporator heater tape

## ELECTRONIC CONTROL

- › advanced pCO<sup>2</sup> control
- › detailed information on and accurate control of all functional parameters by easy menu scrolling: schedule timer, floating set point, free cooling, double evaporator pump, manual pump on, date and time information, daily pump on
- › chilled water and brine temperatures down to -10°C on standard unit (parameter in the service menu of the DDC controller must be set by the installer)
- › changeable digital input/output such as remote on/off, remote cooling/heating, dual setpoint and limit capacity
- › self diagnostic and can be set up in several languages
- › lead lag function is standard
- › standard equipped with night setback and peak load limitation



- › remote DDC (EKRUPC) can be installed up to 1,000m from the unit
- › thanks to the standard DICN, simultaneous operation of up to 4 chillers is allowed (this function enables a Daikin 2MW chiller plant to be operated via a single controller)



Cooling only			110	140	160	200	280	340	400	460	540	
Capacity	Cooling	kW	111.00	144.00	164.00	199.00	285.00	349.00	395.00	468.00	541.00	
Nominal input	Cooling	kW	41.90	51.80	64.30	78.10	108.00	140.00	156.00	189.00	222.00	
EER			2.65	2.78		2.55	2.64	2.49	2.53	2.48	2.44	
Capacity Steps		%	30-100						15-100			
Dimensions	(Height x Width x Depth)	mm	2,250x2,346x2,238			2,250x4,280x2,238			2,250x5,901x2,238			
Unit		kg	1,417	1,571	1,660	2,203	2,583	2,633	4,865	4,988	5,111	
Operating Weight		kg	1,425	1,584	1,676	2,223	2,610	2,667	4,939	5,069	5,199	
Water Heat Exchanger	Type		Brased plate, one per circuit									
	Minimum water volume in the system	l	540	700	800	970	1,390	1,710	970	1,140	1,320	
	Water flow rate	Min	l/min	160	205	235	285	410	500	565	670	775
		Max	l/min	640	825	940	1,140	1,640	2,000	2,265	2,680	3,100
Nom. Water pressure drop	Cooling	kPa	50.0	48.0	41.0	31.0	42.0	52.0	35.0	39.0	44.0	
Air heat exchanger	Type		Cross fin coil/Hi-X tubes and PE coated waffle louvre fins									
Sound Power	Cooling	dB(A)	91	96		97	99	100		101		
Compressor	Type		Semi-hermetic single screw compressor									
	Model	Quantity	1									
Refrigerant circuit	Refrigerant type		R-407C									
	Refrigerant charge	kg	27.0	39.0	42.0	58.0	84.0		128.0	129.0	130.0	
	No of circuits		1						2			
	Refrigerant control		Thermostatic expansion valve									
Operation range	Air side		-15°C ~ 43°C									
	Water side		-10°C ~ 26°C									
Power Supply			3 ~ /400V/50Hz									
Piping connections	Evaporator water in/outlet		Flexible coupling + counterpipe for welding 3" O D			Flexible coupling + counterpipe for welding 3"			Flexible coupling + counterpipe for welding 5"			
	Evaporator water drain		Field installation			1/4"G						
	Relief device outlet		Compressor: 1"npt				Compressor: 2x1"npt		Compressor: 2x(1"npt)	Compressor: 1x(1"npt) + 1x(2x1"npt)	Compressor: 2x(2x1"npt)	

Notes:

- Nominal cooling capacity at Eurovent conditions: evaporator: 12°C/7°C; ambient: 35°C.
- Nominal cooling power input at Eurovent conditions: evaporator: 12°C/7°C; ambient: 35°C.
- The sound power level is an absolute value indicating the "power" which a sound source generates.

Option Number	Option description	Unit size									Availability	
		110	140	160	200	280	340	400	460	540		
OPHR	Heat recovery	o	o	o	o	o	o	o	o	o	o	Factory mounted
OPIF	Inverter fans	o	o	o	o	o	o	o	o	o	o	Factory mounted
OPHF	High esp fans	o	o	o	o	o	o	o	o	o	o	Factory mounted
<b>Completely combinable options</b>												
op03	Dual pressure relief valve	o	o	o	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	Factory mounted
op12	Suction stop valve	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	Factory mounted
op52	Main isolator switch	o	o	o	o	o	o	o	o	o	o	Factory mounted
op57	A-meter / V-meter	o	o	o	o	o	o	o	o	o	o	Factory mounted
OPLN	Low noise operation	o	o	o	o	o	o	o	o	o	o	Factory mounted
OPCG	Condenser protection grilles	o	o	o	o	o	o	o	o	o	o	Factory mounted
<b>Available kits</b>												
EKCLWS	Leaving water controlsensor for DIGN	o	o	o	o	o	o	o	o	o	o	Kit
EKAC200A	BMS card	o	o	o	o	o	o	o	o	o	o	Kit
EKBMSMBA	BMS gateway modbus/j-bus protocol	o	o	o	o	o	o	o	o	o	o	Kit
EKBMSBNA	BMS gateway bacnet protocol	o	o	o	o	o	o	o	o	o	o	Kit
EKRUPC	Remote user interface	o	o	o	o	o	o	o	o	o	o	Kit

To install EKBMSMBA, EKBMSBNA -> EKAC200A needs to be installed on the unit

o Available  
(S) Option required for Swedish National law SNFS 1992:16



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment.

This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.



ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.



Daikin units comply with the European regulations that guarantee the safety of the product.



Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory. Certification is valid for air cooled models <600kW and water cooled models <1500kW.

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