



# WATER-COOLED CHILLERS

and condenserless chillers



APPLIED SYSTEMS

**R-407C**



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

EWWP014-065KAW1N  
EWLP012-065KAW1N

COOLING ONLY    HEATING ONLY

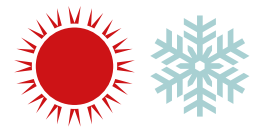


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# ENVIRONMENTAL AWARENESS

## 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

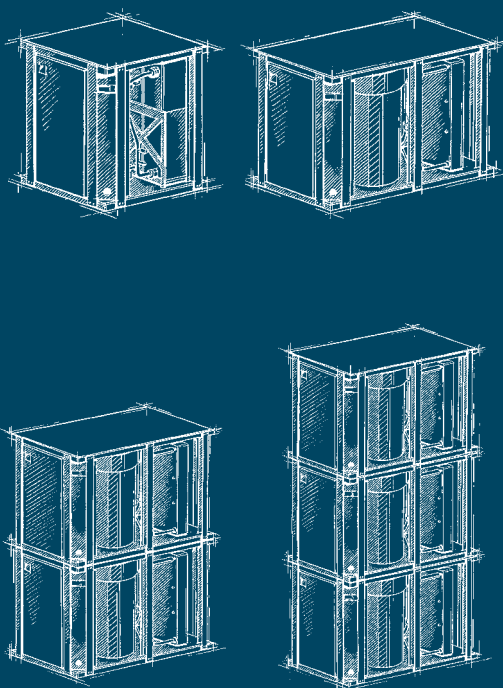
The series of small modular, water-cooled R-407C units (EWWP014-065KAW1N) with capacities from 13 to 65kW extends Daikin expertise, already acknowledged in the commercial and industrial sectors. The incorporation of reversible water to water technology plus a modularised format also enables them to be used in cooling applications up to 195kW or heating applications up to 232kW as required.

The KAW1N-series incorporate main switch, water filter + shut off valves, flow switch, air purge and pressure ports. A condenserless version can also be supplied as standard (EWLP012-065KAW1N).

## MODULAR DESIGN

The unique modular concept adopted for EWWP-KAW1N chillers allows their installation as a stand alone single circuit unit (13 to 33kW) or as a twin circuit single module (43 to 65kW). With measurements of just 600mm (width) x 600mm (length) x 600mm (height), for the stand alone unit, the footprint is some 25% less and volume occupied 50% less than those of contemporary units.

The modular concept also enables EWLP-KAW1N chillers to pass through a standard width door, thereby minimising installation time and costs. Furthermore, the wide range of sizes - 7 basic models and 18 different combinations - ensures against serious over or under capacity situations. Independent refrigeration circuits provide built in protection and can also yield cost savings by minimising floor space requirements. Particular attention has been paid to suppressing operational sound levels whilst maintenance is simplified by readily accessible water, refrigeration and electrical circuits.





scroll



## ENERGY EFFICIENT SCROLL COMPRESSOR

The heart of the unit is a Daikin hermetic scroll compressor, optimised for use with R-407C refrigerant and designed to the very highest technical standards. The presence of more than 1 million of these units in the field is testament to their low power consumption, high compression efficiency, low operational sound levels and starting torque and ability to operate in world wide environments.

## DDC CONTROL

Smaller sized chillers (up to 65kW) are fitted with standard Daikin  $\mu$  DDC self diagnostic, electronic control, offering auto restart, LED status display and total integration of all chiller functions within a single controller.

For combination of multiple units in master-slave application, a special pCO<sup>2</sup> DDC controller is included, which is able to monitor all operating parameters. The controller can be set up in 6 languages (English/German/French/Spanish/Italian/Norwegian). A multiplicity of programmable functions can be handled, such as floating setpoint, compressor lead lag, freeze up control and extended alarm history, etc. Also, a built in schedule timer enables up to 4 timer groups with 9 time-related options to be programmed.

## EFFICIENT HEAT TRANSFER



The use of a stainless plate heat exchanger for evaporator and condenser results in maximum heat transfer between refrigerant and water circuits within minimal and compact areas with high W/m<sup>2</sup> values that ensure optimum efficiency. Compared to other heat exchangers, the use of the plate heat exchangers results in a much more efficient pump selection. Also, the counter flow design utilised for refrigerant and water overcomes all problems associated with R-407C temperature glide characteristics.



| EWWP-KAW1N / EWLP-KAW1N(1)  |                                  |                 | 014 / 012  | 022 / 020   | 028 / 026   | 035 / 030   | 045 / 040         | 055 / 055  | 065 / 065   |    |
|-----------------------------|----------------------------------|-----------------|--|-------------|-------------|-------------|-------------------|------------|-------------|----|
| Nominal capacity(2)         | cooling (EWWP)                   | kW              | 13.0   | 21.5        | 28.0        | 32.5        | 43.0              | 56.0       | 65.0        |    |
|                             | cooling (EWLP)                   | kW              | 12.1   | 20.0        | 26.8        | 31.2        | 40.0              | 53.7       | 62.4        |    |
| Nominal input               | cooling (EWWP)                   | kW              | 3.61   | 5.79        | 7.48        | 8.75        | 11.8              | 15.5       | 17.6        |    |
|                             | cooling (EWLP)                   | kW              | 4.2  | 6.6         | 8.5         | 10.1        | 13.4              | 17.8       | 20.3        |    |
| EER (EWWP/EWLP)             |                                  |                 | 3.5 / 2.88   | 3.61 / 2.99 | 3.61 / 3.08 | 3.57 / 3.06 | 3.55 / 2.96       | 3.5 / 2.98 | 3.55 / 3.04 |    |
| COP                         |                                  |                 | 3.42   | 3.55        | 3.64        | 3.51        | 3.43              | 3.48       | 3.50        |    |
| Capacity steps              |                                  | %               | 1  |             |             |             | 2                 |            |             |    |
| Refrigerant circuit         | type                             |                 | R-407C   |             |             |             |                   |            |             |    |
|                             | charge (4)                       | kg              | 1.2  | 2           | 2.5         | 3.1         | 4.6               | 4.6        | 5.6         |    |
|                             | control                          |                 | Thermostatic expansion valve                                       |             |             |             |                   |            |             |    |
|                             | oil type                         |                 | FVC68D   |             |             |             |                   |            |             |    |
|                             | oil charge                       | l               | 1.5  | 2.7         | 2.7         | 2.7         | 2 x 2.7           | 2 x 2.7    | 2 x 2.7     |    |
| Compressor                  |                                  | type            | Hermetically sealed scroll compressor                              |             |             |             |                   |            |             |    |
| No. of circuits/compressors |                                  |                 | 1  |             |             |             | 2                 |            |             |    |
| Dimensions                  |                                  | HxWxD           | 600 x 600 x 600  |             |             |             | 600 x 600 x 1,200 |            |             |    |
| Machine weight (EWWP/EWLP)  |                                  | kg              | 118/108  | 155/141     | 165/147     | 172/151     | 300/252           | 320/265    | 334/274     |    |
| Sound power level (3)       |                                  | dB(A)           | 64   |             |             | 71          | 67                |            |             | 74 |
| Casing                      |                                  | material/colour | Polyester painted steel plate / Ivory white - Mursell code 5Y7.5/1 |             |             |             |                   |            |             |    |
| Piping connections          | evap./cond. water in/outlet      | mm              | FBSP 25  |             |             |             | FBSP 40           |            |             |    |
|                             | condenser/evaporator drain purge |                 | Field installation   |             |             |             |                   |            |             |    |
| Operation range             | leaving water condenser          | °C              | 20°C ~ 55°C  |             |             |             |                   |            |             |    |
|                             | condensing temperature           | °C              | 25°C ~ 60°C  |             |             |             |                   |            |             |    |
|                             | leaving water evaporator         | °C              | 5° (-10°C as option) ~ 20°C  |             |             |             |                   |            |             |    |
| Power supply                |                                  | W1              | 3N~/400V/50Hz  |             |             |             |                   |            |             |    |

Notes:

1. The water-cooled chillers are standard available from 13 to 65 kW. For combination of multiple units (up to 195 kW) in master-slave application, an optional switchbox (see option list) is required. For detailed selection, please consult the databook.
2. Nominal cooling capacities are based on: evaporator: 12°C/7°C \* condenser 30°C/35°C
3. The sound power level is an absolute value indicating the "power" which a sound source generates.
4. For refrigerant charge of EWLP-KAW1N, please consult the databook.

| Option Number                            | Option Description   | Unit size |       |       |       |       |       |       |    | Availability    |
|--|--|-----------|-------|-------|-------|-------|-------|-------|----|-----------------|
|  |  | 014WC     | 022WC | 028WC | 035WC | 045WC | 055WC | 065WC |    |                 |
|  |  | 012CC     | 020CC | 026CC | 030CC | 040CC | 055CC | 065CC |    |                 |
| <b>Not completely combinable options</b> |  |           |       |       |       |       |       |       |    |                 |
| OPZH                                     | Glycol application chilled water temperature down to -5°C  | 0         | 0     | 0     | 0     | 0     | 0     | 0     | 0  | factory mounted |
| OPZL                                     | Glycol application chilled water temperature down to -10°C | 0         | 0     | 0     | 0     | 0     | 0     | 0     | 0  | factory mounted |
| <b>Available kit</b>                     |  |           |       |       |       |       |       |       |    |                 |
| EKBMSMBA                                 | BMS gateway modbus / j-bus protocol                        | 0         | 0     | 0     | 0     | 0     | 0     | 0     | 0  | kit             |
| EKBMSBNA                                 | BMS gateway bacnet protocol                                | 0         | 0     | 0     | 0     | 0     | 0     | 0     | 0  | kit             |
| EKAC10B                                  | BMS card   | 0         | 0     | 0     | 0     | 0     | 0     | 0     | 0  | kit             |
| EKRUMC                                   | Remote controller  | 0         | 0     | 0     | 0     | 0     | 0     | 0     | 0  | kit             |
| EKLS1                                    | Low noise operation EWWP014KAW1N / EWLP012KAW1N            | 01        | -     | -     | -     | -     | -     | -     | -  | kit             |
| EKLS2                                    | Low noise operation EWWP022KAW1N / EWLP020-065KAW1N        | -         | 01    | 01    | 01    | 02    | 02    | 02    | 02 | kit             |
| EHMC10AV1010/1080                        | Hydraulic module   | 0         | 0     | -     | -     | -     | -     | -     | -  | kit             |
| EHMC15AV1010/1080                        | Hydraulic module   | -         | -     | 0     | 0     | -     | -     | -     | -  | kit             |
| EHMC30AV1010/1080                        | Hydraulic module   | -         | -     | -     | -     | 0     | 0     | 0     | 0  | kit             |

0 available | 0 x available and a quantity of x is needed for this unit size | - not available

• To install EKBMSMBA, EKBMSBNA and EKRUMC -> EKAC10B needs to be installed on the unit.



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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**DAIKIN EUROPE N.V.**

Naamloze Vennoetschap  
Zandvoordestraat 300  
B-8400 Oostende, Belgium  
www.daikin.eu  
BTW: BE 0412 120 336  
RPR Oostende