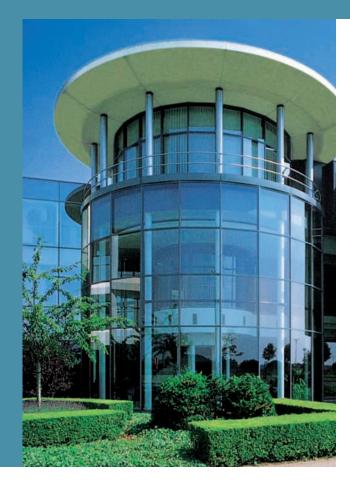


# **WATER-COOLED CHILLERS**



**R-134a** 

APPLIED SYSTEMS



## **ABOUT DAIKIN**

Daikin has a worldwide reputation based on over 80 years' experience in the successful manufacture of high quality air conditioning equipment for industrial, commercial and residential use.

Daikin Europe N.V.

## LARGER OPERATION RANGE

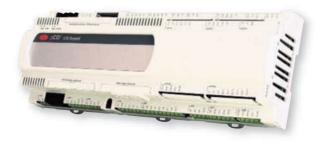
- > 19 models available with cooling capacities ranging from 334 to 1893kW
- > Ideal for use in severe weather conditions and over a wide operation range
- > 2 independent circuits from 360kW onwards
- > Remote condenser version available
- > Compact, simple and robust construction
- > Operation range in heating up to 50°C
- > Standard fitted with victaulic joints on evaporator:
  - Victualic joints absorb vibrations, reduce operating sound and thermal deflection and simplify chiller piping and installation
  - They can accommodate 8° angles and guarantee stress free, leak tight water piping connection

	Application	Sizes	Capacity range	EERavg	Noise level
Std	Standard efficiency	19	334-1893kW	4.4	75-82dBA

#### **ELECTRONIC CONTROL**



- Advanced pCO<sup>2</sup> control
- detailed information on and accurate control of all functional parameters by easy menu scrolling
- > Chilled water and brine temperatures down to -8°C on standard unit (to be set up by a certified engineer)
- Changeable digital input/output such as remote on/off, remote cooling/capacity, dual setpoint and capacity limit
- > Lead lag function is standard
- Standard equipped with night setback and peak load limitation
- Remote DDC (EKRUPCK) can be installed up to 1,000m from the unit



## Open Network Integration

Daikin has released a gateway for connection to BACnet, LonWorks and Modbus networks equipment and building control systems. BACnet, LonWorks and Modbus networks are recognised worldwide as the de facto standard within the building controls industry. BACnet, LonWorks and Modbus data communication protocols make it possible to control access, energy management, fire/life/safety, HVAC and lighting etc.

Simultaneous operation of up to 5 chillers is optional through EKCSCII sequencing panel (this function enables a Daikin 9MW chiller plant to be operated via a single controller).

SPECIFICATION	NS	EWWD340CJYNN	EWWD400CJYNN	EWWD480CJYNN	EWWD550CJYNN	EWWD700CJYNN	EWWD750CJYNN	EWWD800CJYNN	
Nominal capacity *	cooling	kW	334	399	462	510	666	735	792
Capacity steps *		%	Stepless 25-100	Stepless 25-100	Stepless 25-100	Stepless 25-100	Stepless 12.5-100	Stepless 12.5-100	Stepless 12.5-100
Nominal input	cooling	kW	81.1	90.1	102	109	160	170	180
EER			4.12	4.43	4.49	4.64	4.16	4.3	4.4
ESEER			4.57	4.86	4.91	5.08	5.26	5.43	5.56
Dimensions (HxWxD)		mm	1,970x3,310x900	1,970x3,310x900	0   1,970x3,310x900   1,970x3,310x900   2,070x4,300x1,290   2,070x4,300x1,290   2,070x4,300x1			2,070x4,300x1,290	
Machine weight	lachine weight kg			1,855	1,886	1,965	3,395	3,495	3,515
	type								
Mater Heat Evchanger	minimum water volume in the system	I	140	135	128	152	210	350	350
Water Heat Exchanger	type								
	minimum water volume in the system	TI	30	35	34	36	60	63	70
Nominal water pressure drop	heating	kPa							37
Commencer	type								
Compressor	model	Quantity	1	1	1	1	2	2	2
Sound Pressure	cooling	dBA	75.2	76.2	78.2	78.2	77.8	78.2	78.7
	refrigerant type								
Defriessent sizevit	refrigerant charge	kg	53	63	73	77	106	116	126
Refrigerant circuit	no of circuits	-	1	1	1	1	2	2	2
	Refrigerant control								
Power Supply		-							

<sup>\*</sup> Nominal cooling capacity and power input are based on 12/7% entering/leaving water temperature and 35 C° ambient temperature. Power input is for the whole unit.

OPTIONS							
		Heat Re	ecovery		LWE		
Reference	Products		Partial Heat Recovery	High Glycol	Low Glycol	Power factor 0,9	
		OPTR	OPPR	OPZH	OPZL	OPPF	
EWWD-CJYNN	340-400-480-550-700-750-800-900-950-C10-C11-C12-C13-C14-C15-C16-C17-C18-C19	•	•	STD	STD	•	

#### ACCESSORIES

Reference	Communic	ation cards	Modbus gateway Bacnet gateway	Remote us	er interface
	EKAC200J	EKACLON	EKBMSBNJ	EKRUPCK	EKBT500N
EWWD340-C19CJYNN	•	•	•	•	•

# SINGLE SCREW COMPRESSOR

The new large Daikin chillers are fitted with a single screw compressor with stepless capacity control. The stepless capacity control enables the requirements to be closely matched by modulating the sliding valve position according to the chilled water control condition. Capacity control is infinitely variable between 25 and 100 % on single circuit units and between 12.5 and 100 % on dual circuit units.

Main advantages of continuous modulation are better part load efficiency and more stable chilled water temperatures with closer control tolerance.



#### **HEAT EXCHANGER**

#### Shell & tube condenser

- > Special header distribution system and design of water systemresults in high efficiency and reduced heat transfer surface
- Compact dimensions and lower weight result in a smaller refrigerant volume

### Shell & tube evaporator

- > Special high efficiency tubes with grooves on the insidel
- Special header distribution system and design of water system results in high efficiency and reduced heat transfer surface
- Compact dimensions and lower wight result in a smaller refrigerant volume

EWWD900CJYNN	EWWD950CJYNN	EWWDC10CJYNN	EWWDC11CJYNN	EWWDC12CJYNN	EWWDC13CJYNN	EWWDC14CJYNN	EWWDC15CJYNN	EWWDC16CJYNN	EWWDC17CJYNN	EWWDC18CJYNN	EWWDC19CJYNN	
871	934	1,074	1,139	1,205	1,268	1,331	1,394	1,525	1,629	1,761	1,893	
Stepless 12.5-100	Stepless 12.5-100	Stepless 8.3-100	stepless 8.3-100	stepless 8.3-100	stepless 8.3-100	stepless 8.3-100	stepless 8.3-100	stepless 6.25-100	stepless 6.25-100	stepless 6.25-100	stepless 6.25-100	
194	207	250	261	273	284	297	309	344	366	391	416	
4.47	4.51	4.28	4.35	4.41	4.45	4.47	4.51	4.43	4.45	4.5	4.55	
5.64	5.70	5.42	5.51	5.59	5.64	5.66	5.72	5.62	5.65	5.72	5.77	
2,070x4,300x1,290	2,070x4,300x1,290	2,320x3,770x2,160	2,320x3,770x2,160	2,320x3,770x2,160	2,320x3,770x2,160	2,320x3,770x2,160	2,320x3,770x2,160	2,320x5,151x2,240	2,320x5,151x2,240	2,320x5,151x2,240	2,320x5,151x2,240	
3,560	3,590	4,960	4,980	5,110	5,135	5,175	5,205	6,790	6,830	6,890	6,940	
	Shel	l and tube										
350	350	350	350	415	415	415	415	400	400	400	400	
	Shel	l and tube										
75	80	95	100	105	110	115	120	135	140	150	160	
40	40	37	38	38	38	39	39	38	39	38	41	
	Semi-hermetic si	ngle screw comp	ressor									
2	2	3	3	3	3	3	3	4	4	4	4	
79.8	80.7	79.2	79.5	79.8	80.6	81.2	81.8	80.3	80.3	81.9	82.8	
	F	R-134a										
136	146	169	179	189	199	209	219	232	252	272	292	
2	2	3	3	3	3	3	3	4	4	4	4	
	Electronic	expansion valve	Electronic expansion valve									

400V/50Hz/3~

_			×					
	Pressure relief valve	Service valves	Main switch	A/V meter	Gauges	Soft starter	Cu/Ni heat exchanger	Electronic Expansion Valve
	OP03	OP12	OP52	OP57	OPGA	OPSS	OPNI	OPEX
_	•	•	STD	•	STD	•	•	STD
	Buffer tanks			Sequencing Panel	Plant Visor	Mod	dem	Converter RS485 to RS232
_	EKBTC10N	EKBT500C	EKBTC10C	EKCSCII	EKPV2J	EKMODEM	EKGSMOD	EKCON
_	•	•	•	•	•	•	•	•



### Heat recovery

Depending on the temperature requirement either partial heat recovery or full heat recovery may be selected.

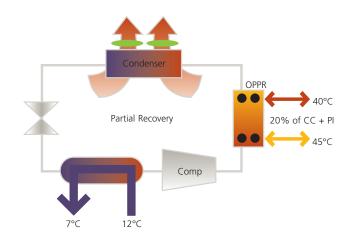
#### OPPR – Partial recovery

An stainless steel brazed plate heat exchanger is mounted in series between the compressor and air-cooled condenser as a desuperheater. The sensible heat from the hot discharge gas will be recovered, while the latent heat exchange will occur in the air-cooled condenser. The units efficiency is maintained as condensing pressure can be reduced due to air-cooled condenser becoming oversized.

### LARGE FLEXIBILITY

In many applications there often exists a simultaneous cooling and heating demand requirement alongside one another. To benefit from this Daikin offers the full range of R-134a EWWD-CJYNN chillers with the option of heat recovery. This option further increases the application flexibility and extends possibilities in the hotel and leisure industry as well as the industrial and process sectors.

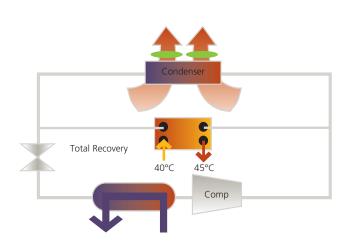
By energetically recovering useful heat from the cooling cycle that would otherwise be rejected to the outside, extremely high COPs can be realised in heat recovery mode. The heat recovery unit aims to achieve an optimum balance between cooling and heat recovery to maximize the unit efficiency and offer savings in hot water production.



#### OPTR – Total recovery

A Shell and Tube heat exchanger is mounted in parallel with the air-cooled condenser for full heat recovery of both sensible and latent heat. Hot water temperatures up to 50°C can be achieved.





# ENVIRONMENTAL AWARENESS

# Air Conditioning and the Environment

Air conditioning systems provide a significant level of indoor comfort, making possible optimum working and living conditions in the most extreme climates.

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 air conditioners.

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.





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.



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.

for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this leaflet. All content is copyrighted by Daikin Europe N.V.

The present leaflet is drawn up by way of information only and

Daikin Europe N.V. has compiled the content of this leaflet to the best of its knowledge. No express or implied warranty is given

does not constitute an offer binding upon Daikin Europe N.V.

Daikin products are distributed by:

FCEN08-420 • 250 • 02/08 • Copyright © Daikin
The present publication supersedes EPLE05-49A
Printed on non-chlorinated page. Prepared by Ia Movida. Belgium ※※
Responsible Editor: Daikin Europe N.V.. Zandvoordestraat 300. B-8400 Oostende



#### DAIKIN EUROPE N.V.

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

RPR Oostende