

# WATER-COOLED CHILLERS

and condenserless chillers



EWWD170-600DJYNN  
EWWD190-650DJYNN/A  
EWLD160-550DJYNN

APPLIED SYSTEMS

**R-134a**



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

COOLING ONLY    HEATING ONLY





# 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

- > 10 models available with cooling capacities ranging from 165 to 604kW and heating 184 to 745 kW
- > Ideal for use in severe weather conditions and over a wide operation range
- > 2 independent circuits from 320kW onwards
- > Condenserless version available
- > Compact, simple and robust construction
- > Operation range in heating up to 50°

Heat recovery options available on request:

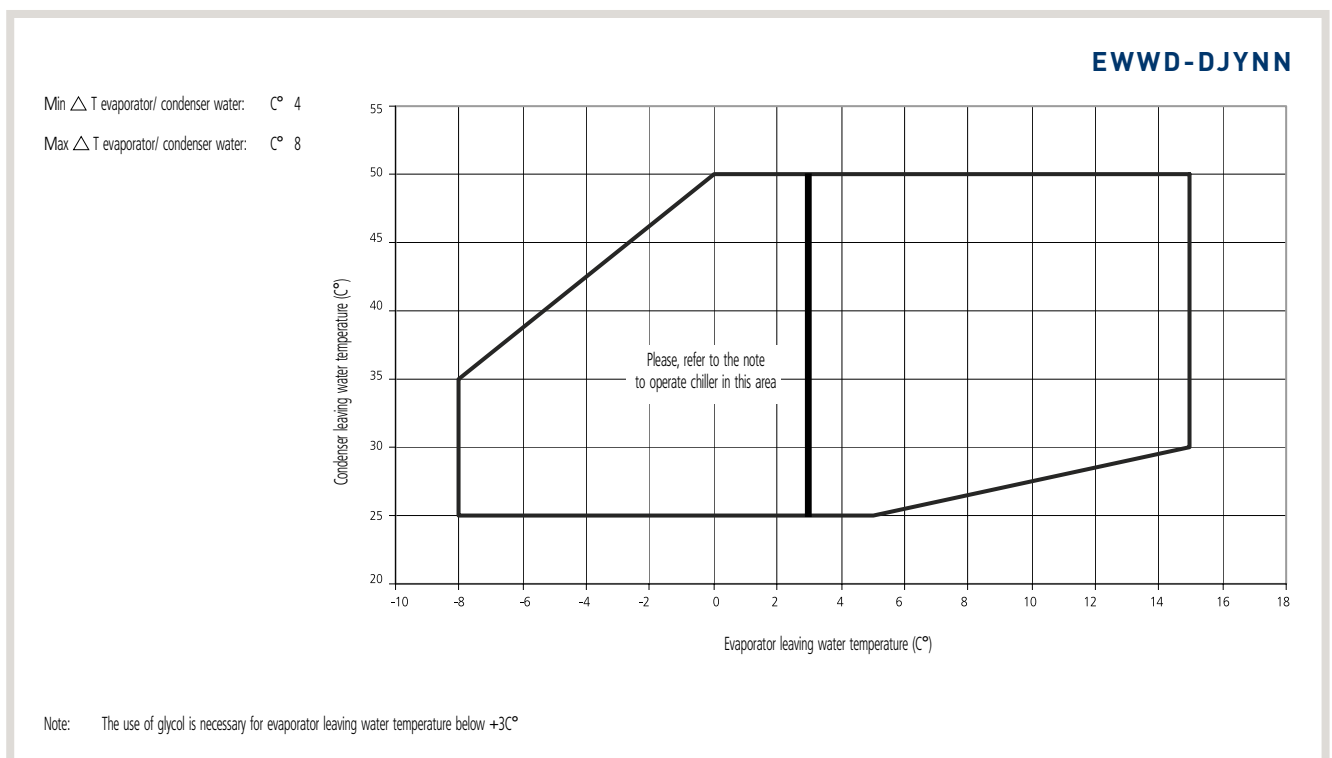
- > OPFR – Partial recovery
- > OPTR – Total recovery

LARGER OPERATION RANGE

02

	Application	Sizes	Capacity range	EERavg	Sound level
EWWD-DJYNN	Standard efficiency	10	165-555 kW	3.9	70-71.5 dBA
EWWD-DJYNN/A	High efficiency	10	186-604 kW	4.6	70-71.5 dBA
EWLD-DJYNN	Condenserless	10	161-526 kW	3.6	70-71.5 dBA

EWWD-DJYNN(A)





## 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-DJYNN(A) and EWLD-DJYNN 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.

### Flexibility

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.

### Sound

Standard units and High efficiency units can be fitted with Option Low Noise. OPLN includes highly absorbent sound proof cabinets around the compressors.

### Efficiency

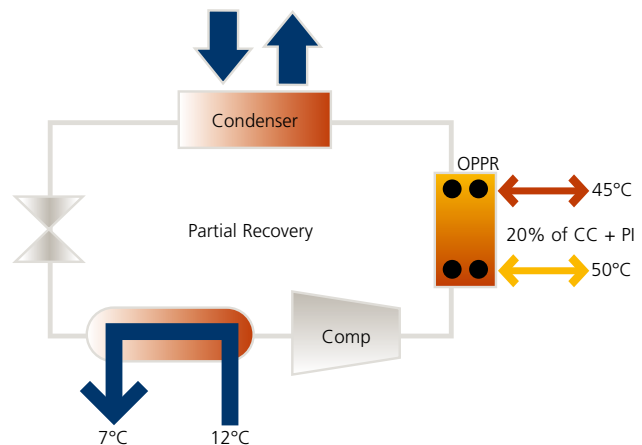
High efficiency units are equipped with oversized evaporators and condensers to achieve +/- 17% increased EER.

## Heat recovery

Depending on the heating requirement either partial heat recovery (OPPR) or full heat recovery (OPTR) may be selected full heat recovery.

### OPPR – Partial recovery

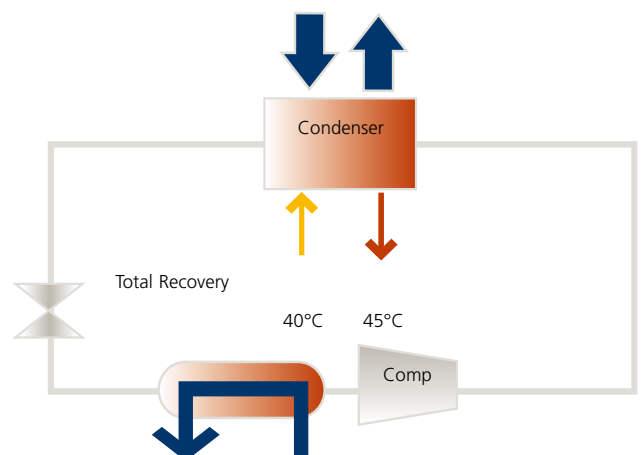
A stainless steel brazed plate heat exchanger is mounted in series between the compressor and water-cooled condenser as a desuperheater. The sensible heat from the hot discharge gas will be recovered, while the latent heat exchange will occur in the water-cooled condenser. The units' efficiency is maintained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

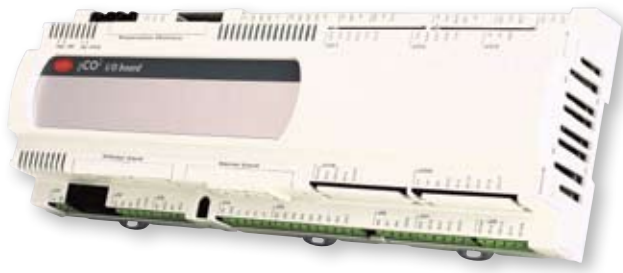


### OPTR – Total recovery \*

A single, tailored Shell and Tube heat exchanger is mounted for full heat recovery of both sensible and latent heat. It is equipped with 2 independent water circuits with separate connections for condensate and heat recovery. Temperatures up to 55°C can be achieved.

\* Not available for EWWD-DJYNN





## 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 cooling/heating, 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 EKCSII sequencing panel (this function enables a Daikin 3MW chiller plant to be operated via a single controller).



Frame3200

## SINGLE SCREW COMPRESSOR

The 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:

- › Better partload efficiency (ESEER)
- › More stable chilled water temperature
- › Closer control tolerance



## HEAT EXCHANGER

### Shell & tube condenser \*

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

\* Not applicable for EWW-DJYNN

### Shell & tube evaporator

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

# SPECIFICATIONS

STANDARD UNIT			170	210	260	300	320	380	420	460	500	600	
Capacity (Eurovent)	Cooling	kW	165.5	201.2	252.8	280.4	333.9	372.2	402.5	448.3	493.7	555.7	
	Heating	kW	207.6	251.9	317.7	355.7	418.2	465.3	503.9	563.4	622.7	705.5	
Nominal input (Eurovent)	Cooling	kW	42.1	50.7	64.9	75.4	84.3	93.1	101.4	115.1	129.0	150.2	
Capacity Steps		%	stepless 25-100										
EER			3.93	3.97	3.9	3.72	3.96	4	3.97	3.89	3.83	3.7	
ESEER			5.00	5.04	4.95	4.72	5.28	5.33	5.29	5.19	5.10	4.93	
Dimensions	Height x Width x Depth	mm	1,860x3,435x920						1,880x4,305x860				
Weight	Machine weight	kg	1,393	1,410	1,503		2,687	2,697	2,702		2,757	2,762	
	Operating Weight	kg	1,470	1,480	1,650		2,840	2,850	2,860		2,970		
Water Heat Exchanger Evaporator	Type		Shell and tube										
	Water volume	l	60	56	123		118	113		173	168		
	Water flow rate	Min	l/min	218	220	349		380	425	430	553	612	613
		Nominal	l/min	474	577	725	804	957	1,067	1,154	1,285	1,415	1,593
		Max	l/min	688	694	1,105	1,104	1,201	1,344	1,360	1,749	1,935	1,939
Nominal water pressure drop	Cooling	kPa	47.5	69	43	53	63.5	63	72	54	53.5	67.5	
Water Heat Exchanger Condenser	Type		Shell and tube										
	Water volume	l	13	15				26	28		30		
	Water flow rate	Min	l/min	303	357	363	368	603	659	718	726	729	741
		Nominal	l/min	595	722	911	1020	1199	1334	1445	1615	1785	2024
		Max	l/min	959	1128	1147	1162	1908	2083	2270	2296	2305	2344
Nominal water pressure drop	Heating	kPa	38.5	41	63	77	39.5	41	40.5	49.5	60	74.5	
Compressor	Type		Semi-hermetic single screw compressor										
Sound Pressure	Model	Quantity	1				2						
	Cooling	dB(A)	69.7				71.7						
Operation Range	Evaporator	Min ~ Max	°C				-8 ~ 15						
	Condenser	Min ~ Max	°C				25 ~ 40						
Refrigerant circuit	Refrigerant type		R-134a										
	Refrigerant charge	kg	50				100						
	No of circuits		1				2						
	Refrigerant control		Electronic expansion valve										
Power Supply			3 ~ /400V/50Hz										
Piping connections	Evaporator water drain		1/2" gas										

HIGH EFFICIENCY (A)			190	230	280	320	380	400	460	500	550	650	
Capacity (Eurovent)	Cooling	kW	186.4	223.3	276.5	306.7	366.3	408.2	443.6	496	540.5	603.9	
	Heating	kW	226.1	271.4	335.8	378.1	445.6	495.4	538.6	600.8	654.9	741.6	
Nominal input (Eurovent)	Cooling	kW	39.7	48.1	59.3	71.4	79.3	87.2	95	104.8	114.4	137.7	
Capacity Steps		%	stepless 25-100					stepless 12.5-100					
EER			4.7	4.64	4.66	4.3	4.62	4.68	4.67	4.73	4.72	4.39	
ESEER			5.97	5.90	5.92	5.46	6.15	6.24	6.23	6.31	6.30	5.85	
Dimensions	Height x Width x Depth	mm	1,860x3,435x920						1,880x4,305x860				
Weight	Machine weight	kg	1,650	1,665	1,680		2,800	2,945	2,955	2,975	2,990		
	Operating Weight	kg	1,800	1,810	1,820	3,020	3,280	3,290	3,315	3,340			
Water Heat Exchanger Evaporator	Type		Shell and tube										
	Water volume	l	125	120	110		170	285		280			
	Water flow rate	Min	l/min	341	342	424	419	606	763	760	720	726	725
		Nominal	l/min	534	640	793	879	1,050	1,170	1,272	1,422	1,549	1,731
		Max	l/min	1,080	1,082	1,340	1,325	1,917	2,414	2,403	2,277	2,297	2,293
Nominal water pressure drop	Cooling	kPa	24.5	35		44	30	23.5	28	39	45.5	57	
Water Heat Exchanger Condenser	Type		Shell and tube										
	Water volume	l	22	25				44	47	50	59	68	
	Water flow rate	Min	l/min	497	550	609	648	994	1,089	1,202	1,362	1,533	1,542
		Nominal	l/min	648	778	963	1,084	1,277	1,420	1,544	1,722	1,877	2,126
		Max	l/min	1,572	1,740	1,925	2,048	3,145	3,444	3,801	4,306	4,847	4,877
Nominal water pressure drop	Heating	kPa	17	20	25	28	16.5	17	16.5	16	15	19	
Compressor	Type		Semi-hermetic single screw compressor										
Sound Pressure	Model	Quantity	1				2						
	Cooling	dB(A)	69.7				71.7						
Operation Range	Evaporator	Min ~ Max	°C				-8 ~ 15						
	Condenser	Min ~ Max	°C				25 ~ 40						
Refrigerant circuit	Refrigerant type		R-134a										
	Refrigerant charge	kg	50				100						
	No of circuits		1				2						
	Refrigerant control		Electronic expansion valve										
Power Supply			3 ~ /400V/50Hz										

# OPTIONS & ACCESSORIES

## Options

Reference	Products	Noise & Head Pressure Control		Heat Recovery		LWE					
		Low noise	OPLN	Total Heat Recovery	OPTR	Partial Heat Recovery	OPPR	High Glycol	OPZH	Low Glycol	OPZL
EWWD-DJYNN	170-210-260-300-320-380-420-460-500-600	•	•	•	•	•	•	•	•	•	•
EWWD-DJYNN/A	190-230-280-320-380-400-460-500-550-650	•	•	•	•	•	•	•	•	•	•

## Accessories

Reference	Communication cards		Modbus interface Bacnet interface	Remote user interface
	EKAC200I	EKACON	EKCM3BU	EKRUPCK
EWWD170-600DJYNN	•	•	•	•
EWWD190-650DJYNN/A	•	•	•	•

(s) OP12 & OP03 needs to be added to meet Swedish national law 1992: 16



CONDENSERLESS			160	190	240	270	320	360	400	420	480	550		
Capacity (Eurovent)	Cooling	kW	160.6	189	244	270.4	315.5	352.2	381.1	428.3	475.7	525.9		
Nominal input (Eurovent)	Cooling	kW	45.4	54.3	65.9	74.6	90.6	99.7	108.6	120	131.5	148		
Capacity Steps		%												
EER			3.54	3.48	3.7	3.62	3.48	3.53	3.51	3.57	3.62	3.55		
Dimensions	Height x Width x Depth	mm	1,860x1,000x3,700				1,942x1,100x4,400							
Weight	Machine weight	kg	1,280		1,398		2,442	2,446		2,501	2,506			
	Operating Weight	kg	1,337		1,516		2,560		2,670					
Water Heat Exchanger Evaporator	Type		Shell and tube - direct expansion											
	Water volume	l	1,151	1,354	1,749	1,938	1,130	1,262	1,365	1,535	1,704	1,884		
	Water flow rate	Min	l/min	230.20	270.90	349.74	387.58	452.22	504.83	546.25	613.90	681.84	753.80	
		Nominal	l/min	460.39	541.81	699.47	775.16	904.44	1,009.65	1,092.50	1,227.81	1,363.69	1,507.60	
		Max	l/min	649.15	763.95	986.26	1,092.97	1,275.27	1,423.61	1,540.42	1,731.21	1,922.80	2,125.71	
Nominal water pressure drop	Cooling	kPa	48	69	43	53	64	63	72	54	68			
Compressor	Type		Semi-hermetic single screw compressor											
	Model	Quantity	1				2							
Sound Power	Cooling	dB(A)	88				90.5							
Operation Range	Evaporator	Min ~ Max	°C				-8 ~ 15							
	Condensing temperature	Min ~ Max	°C				25 ~ 50							
Refrigerant circuit	Refrigerant type		R-134a											
	Refrigerant charge	kg	5				10							
	No of circuits		1				2							
	Refrigerant control		Electronic expansion valve											
Power Supply		3 ~ /400V/50Hz												
Piping connections	Evaporator water inlet/outlet		88.9				114.3				139.7			

Electrical				Refrigerant				Condenser
Main switch	Soft starter	Power factor 0,9	A/V meter	Electronic Expansion Valve	Pressure relief valve	Suction stop valve	Gauges	Cu / Ni heat exchanger
OP52	OP55	OPPF	OP57	OPEX	OP03	OP12	OPGA	OPNI
STD	•	•	•	STD	•(s)	STD	STD	•
STD	•	•	•	STD	•(s)	STD	STD	•
STD	•	•	•	STD	•(s)	STD	STD	•

Buffer tanks				Sequencing Panel	Plant Visor	Modem		Converter RS485 to RS232	Converter RS485 to USB
EB0500N	EB0500N	EB0500C	EB0500C	EK5C1	EPVZ	EKMD05M	EK5MOD	EKCON	EKCONUSB
•	•	•	•	•(5)	•	•	•	•	•
•	•	•	•	•(5)	•	•	•	•	•

# 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.



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.



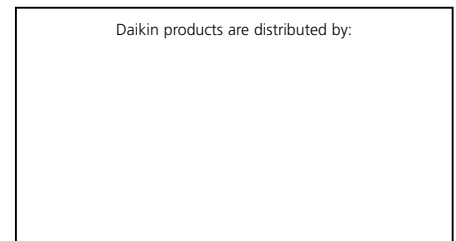
Daikin units comply with the European regulations that guarantee the safety of the product.



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.

The present leaflet is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V.. Daikin Europe N.V. has compiled the content of this leaflet to the best of its knowledge. No express or implied warranty is given 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.

Daikin products are distributed by:



### DAIKIN EUROPE N.V.

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

