



AIR-COOLED CHILLERS



APPLIED SYSTEMS

R-407C



www.daikin.eu

EWAP-AJYNN(A) COOLING ONLY

A



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

The EWAP-AJYNN is available in 2 different versions with cooling capacities ranging from 790 to 1729kW. 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 the following functionality:

- > 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.
- > Optional: Head pressure control (OPFS and OPLA): fan control for low ambient down to -18°C

	Application	Sizes	Capacity range	EERavg	Noise level
Std	Standard efficiency	12	790-1650kW	2.3	101-104dBA
/A	High efficiency	18	854-1729kW	2.6	102-105dBA

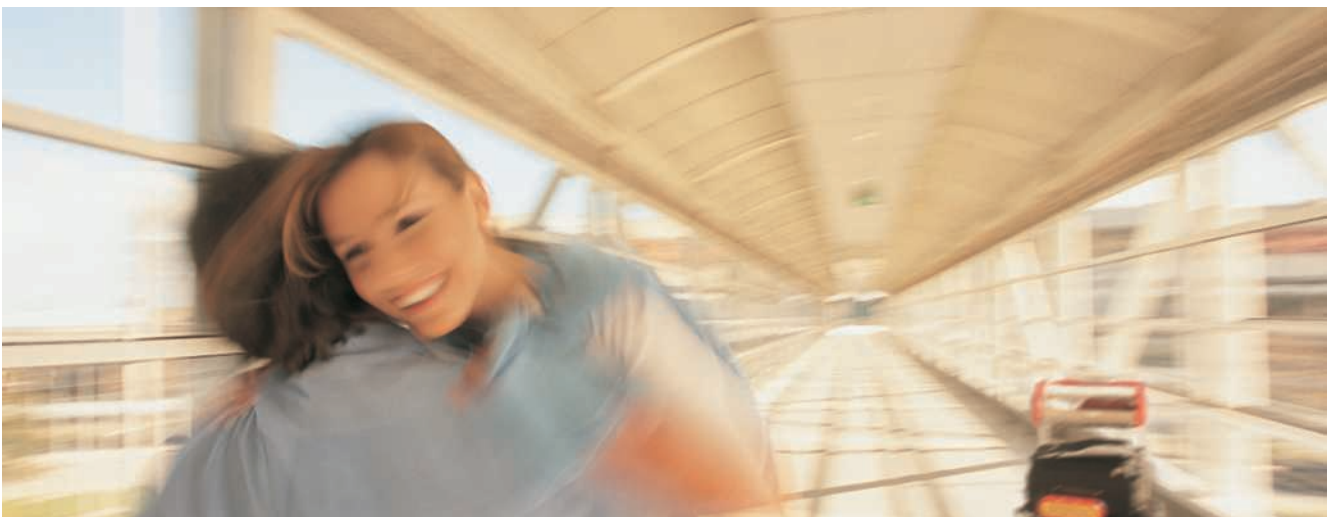
Following integrated options are available on request:

Hydronic:

- > OPSP – Single water circulation pump
- > OPTP – Twin water circulation pump
- > OPHP – High single pump
- > OPHT – High twin pump

Heat Recovery:

- > OPPR – Partial recovery
- > OPTR – Total recovery



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-407C EWAP800-C18AJYNN(A) 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.

Noise

Standard units and High efficiency units can be fitted with Option Reduced Noise (OPRN). OPRN includes lower speed condenser fans and flexible discharge pipes to reduce vibration and further minimise structural noise.

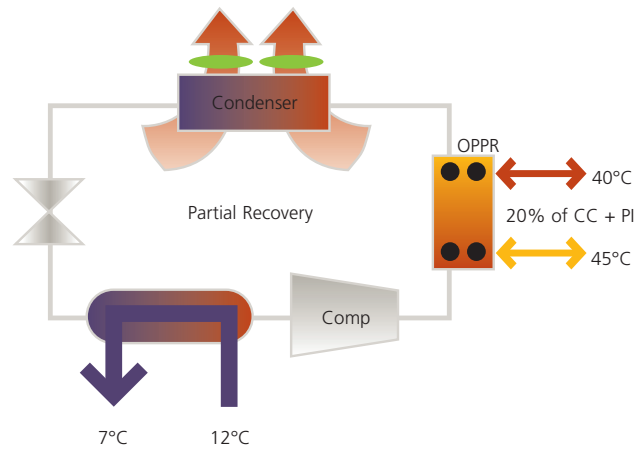
Both ranges can be fitted with Option Low Noise (OPLN). OPLN includes lower speed condenser fans, suction and discharge muffler and highly absorbent sound proof cabinets around the compressors

Heat recovery

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

OPPR – Partial recovery

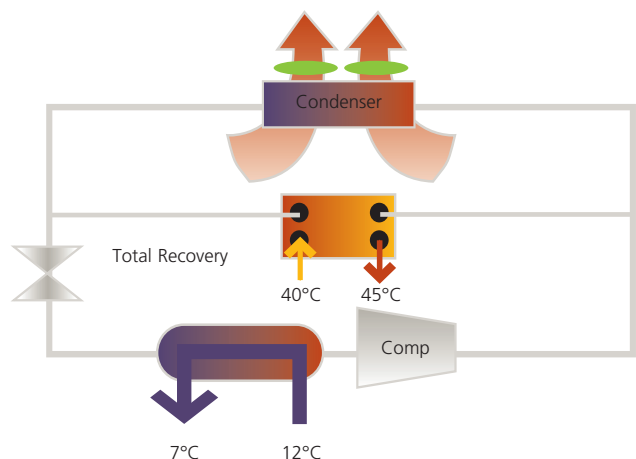
A stainless steel brazed plate heat exchanger is mounted in series between the compressor and air-cooled condenser as a desuperheater. The sensible heat from the hot discharge gas will be recovered, while the latent heat exchange will occur in the air-cooled condenser. The units efficiency is maintained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

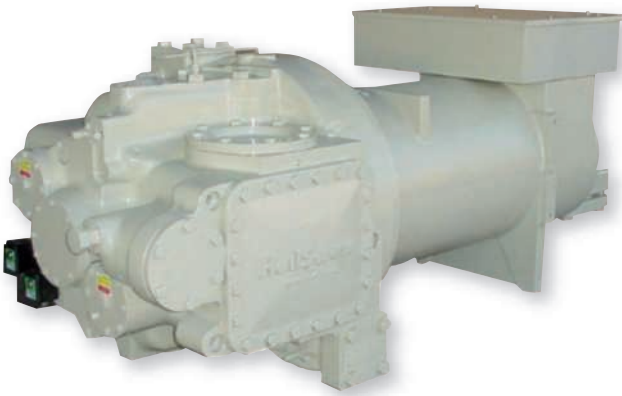


Partial heat recovery $\pm 35\%$ of CC + PI

OPTR – Total recovery

A shell & 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 55°C can be achieved.





SINGLE SCREW COMPRESSOR

The new large Daikin chillers are fitted with a single screw compressor with stepless capacity control. The 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 12.5 and 100% on dual circuit units.

Main advantages:

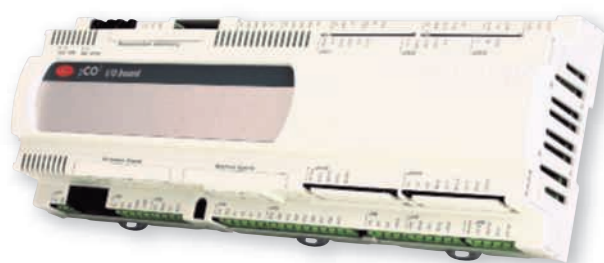
- › Better part load efficiency (ESEER)
- › More stable chilled water temperature
- › Closer control tolerance





ELECTRONIC CONTROL

- › Advanced pCO² 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, dual setpoint and capacity limit
- › Lead lag function is standard
- › Standard equipped with night setback and peak load limitation
- › Remote DDC (EKRUPCJ) can be installed up to 1.000m from the unit



HEAT EXCHANGER

Condenser

- › Constructed from specially designed header distribution pipes, combined with internally grooved Hi-X tubing and Epoxy coated fins
- › Standard anti-corrosion treated to better withstand the effects of the external environment
- › Optional: Condenser protection grilles (OPCG) are available throughout the whole range

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
- › Fitted standard with evaporator heater tape

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 9MW chiller plant to be operated via a single controller.

SPECIFICATIONS

STANDARD EFFICIENCY UNIT			EWAP800AJYNN	EWAP900AJYNN	EWAP950AJYNN	EWAPC10AJYNN	EWAPC11AJYNN
Nominal capacity *	cooling	kW	790	875	944	1026	1092
Capacity steps *		%	Stepless 12.5-100				
Nominal input	cooling	kW	340	373	405	442	476
EER			2.32	2.34	2.33	2.32	2.29
ESEER			2.87	2.90	2.89	2.88	2.84
Casing	colour		RAL7032				
Dimensions (HxWxD)		mm	2520x6210x2230	2520x7110x2230		2520x8010x2230	
Machine weight		kg	5165	5425	5555	5795	5905
Water heat exchanger	type		Shell and tube				
	minimum water volume in the system	l	278	271	271	256	256
Nominal water pressure drop	heat exchanger cooling	kPa	66	53	61	46	52
Fan	type		Helical				
	nominal air flow	m ³ /min	3978	4314	4644	4974	5304
	quantity		12	13	14	15	16
	speed	rpm	860	860	860	860	860
	motor output	W	2000	2000	2000	2000	2000
Compressor	type		Semi-hermetic single screw compressor				
	quantity		2	2	2	2	2
	speed	rpm	2950	2950	2950	2950	2950
Sound power	cooling	dB(A)	101	102	102	103	103
Refrigerant circuit	refrigerant type		R-407C				
	refrigerant charge	kg	120	130	140	150	160
	no of circuits		2	2	2	2	2
	refrigerant control		Electronic expansion valve				
Power supply			400V/50Hz/3~				
HIGH EFFICIENCY UNIT (A)			EWAP850AJYNN/A	EWAP900AJYNN/A	EWAP950AJYNN/A	EWAPC10AJYNN/A	EWAPC11AJYNN/A
Nominal capacity *	cooling	kW	854	954	1028	1124	1196
Capacity steps *		%	Stepless 12.5-100				
Nominal input	cooling	kW	319	354	386	424	458
EER			2.67	2.69	2.66	2.65	2.61
ESEER			3.20	3.24	3.21	3.21	3.17
Casing	colour		RAL7032				
Dimensions (HxWxD)		mm	2520x8010x2230	2520x8910x2230		2520x9810x2230	
Machine weight		kg	5900	6170	6290	6525	6645
Water heat exchanger	type		Shell and tube				
	minimum water volume in the system	l	271	256	256	270	270
Nominal water pressure drop	heat exchanger cooling	kPa	51	41	46	76	85
Fan	type		Helical				
	nominal air flow	m ³ /min	5310	5640	5970	6300	6636
	quantity		16	17	18	19	20
	speed	rpm	860	860	860	860	860
	motor output	W	2000	2000	2000	2000	2000
Compressor	type		Semi-hermetic single screw compressor				
	quantity		2	2	2	2	2
	speed	rpm	2950	2950	2950	2950	2950
Sound power	cooling	dB(A)	102	102	103	103	103
Refrigerant circuit	refrigerant type		R-407C				
	refrigerant charge	kg	160	170	180	190	200
	no of circuits		2	2	2	2	2
	refrigerant control		Electronic expansion valve				
Power supply			400V/50Hz/3~				

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

OPTIONS & ACCESSORIES

OPTIONS		Integrated Hydronics				Noise & HP Control				
Reference		Single pump	Twin pump	High ESP pump	High ESP twin pump	Reduced Noise	Low noise	Fan Silent	Low Ambient	High ESP fans
		OPSP	OPTP	OPHP	OPHT	OPRN	OPLN	OPFS	OPLA	OPHF
		EWAP-AJYNN	800-900-950-C10-C11-C12-C13-C14 C15-C16-C17-C18	•	•			•	•	•
EWAP-AJYNN/A	260-280-320-340-360-380-420 500-550-600-650	•	•	•	•		•	•	•	

(4) High pressure side gauge
(5) Not available with Option OPLN - OPRN

EWAPC12AJYNN	EWAPC13AJYNN	EWAPC14AJYNN	EWAPC15AJYNN	EWAPC16AJYNN	EWAPC17AJYNN	EWAPC18AJYNN
1158	1284	1354	1426	1516	1583	1650
Stepless 8.3-100						
507	546	578	609	647	682	717
2.28	2.35	2.34	2.34	2.34	2.32	2.30
2.90	2.98	2.98	2.97	2.98	2.95	2.93
RAL7032						
2520x9170x2230	2520x10070x2230		2520x10970x2230		2520x11870x2230	
7990	8305	8435	8890	8905	9155	9265
Shell and tube						
263	432	432	432	419	419	419
75	52	57	62	34	37	40
Helical						
5970	6300	6636	7440	7296	7632	7962
18	19	20	22	22	23	24
860	860	860	860	860	860	860
2000	2000	2000	2000	2000	2000	2000
Semi-hermetic single screw compressor						
3	3	3	3	3	3	3
2950	2950	2950	2950	2950	2950	2950
103	104	104	104	104	104	104
R-407C						
180	190	200	210	220	230	240
3	3	3	3	3	3	3
Electronic expansion valve 400V/50Hz/3~						
EWAPC12AJYNN/A	EWAPC13AJYNN/A	EWAPC14AJYNN/A	EWAPC15AJYNN/A	EWAPC16AJYNN/A	EWAPC17AJYNN/A	EWAPC18AJYNN/A
1253	1357	1427	1497	1595	1644	1729
Stepless 8.3-100						
476	512	542	575	611	654	678
2.63	2.65	2.63	2.60	2.61	2.51	2.55
3.24	3.28	3.26	3.22	3.24	3.12	3.18
RAL7032						
2520x11870x2230	2520x12770x2230		2520x13670x2230		2520x14570x2230	
9050	9505	9625	10060	10075	10410	10470
Shell and tube						
278	432	432	432	419	419	419
53	57	62	69	38	40	43
Helical						
7962	8292	8622	9468	9288	9618	9948
24	25	26	28	28	29	30
860	860	860	860	860	860	860
2000	2000	2000	2000	2000	2000	2000
Semi-hermetic single screw compressor						
3	3	3	3	3	3	3
2950	2950	2950	2950	2950	2950	2950
104	104	104	105	105	105	105
R-407C						
240	250	260	270	280	290	300
3	3	3	3	3	3	3
Electronic expansion valve 400V/50Hz/3~						

Heat Recovery		LWE		Electrical					Refrigerant				Condenser				Misc
Total Heat Recovery	Partial Heat Recovery	High Glyco	Low Glycol	Evaporator heater	Main switch	Soft starter	Power factor 0,9	A/V meter	Electronic Expansion Valve	Pressure relief valve	Suction stop valve	Gauges	Coil guards	Blank Cu/Al coils	Cu/ Sn coils	Cu/ Cu coils	Electronic Expansion Valve
OPTR	OPPR	OPZH	OPZL	OPZH	OP52	OPSS	OPPF	OP57	OPEX	OP03	OP12	OPGA	OPCG	OPAL	OPSN	OPCU	OPSVM
•	•	STD	STD	STD	STD	•	•		•	•	•	•(4)	•	•	•	•	•
•	•	STD	STD	STD	STD	•	•		•	•	•	•(4)	•	•	•	•	•
•	•	STD	STD	STD	STD		•		•	•	STD	•(4)	•	•	•	•	•
•	•	STD	STD	STD	STD	•	•		•	•	STD	•(4)	•	•	•	•	•

OPTIONS & ACCESSORIES

ACCESSORIES						
Reference	Communication cards		Modbus gateway Bacnet gateway	Remote user interface	Buffer tanks	
	EKAC200I	EKACLON	EKBMSBNJ	EKRUPCK	EKBT500N	EKBTC10N
EWAP800-C18AJYNN	•	•	•	•	•	•
EWAP800-C18AJYNN/A	•	•	•	•	•	•

Reference	Buffer tanks		Sequencing Panel	Plant Visor	Modem		Converter RS485 to RS232
	EKBT500C	EKBTC10C	EKSCII	EKPZJ	EKMODEM	EKSMOD	EKCON
EWAP800-C18AJYNN	•	•	•	•	•	•	•
EWAP800-C18AJYNN/A	•	•	•	•	•	•	•

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.



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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