

WATER-COOLED/CONDENSERLESS LIQUID CHILLERS WITH INTEGRATED HYDRONIC MODULE



Air conditioning

AQUASNAP

30RW

Options

- High-pressure single or dual pump, evaporator
- Condenser hydronic module with variable-speed single or dual pump
- Heat pump (hot-water control)
- Electronic starter for reduced start-up current
- RS485 communications and "CCN Clock Board" time schedule board
- Very low temperature glycol solution down to -10°C
- Field water connections at the unit top

Features

- Ten sizes with nominal cooling capacities from 109 to 315 kW.
- Aquasnap chillers with scroll compressors, digital auto-adaptive Pro-Dialog control and ozone-friendly refrigerant HFC-407C.
- Can be supplied with integrated hydronic evaporator and condenser modules, limiting the installation to simple operations such as the entering and leaving water piping connection.
- Intelligent control of condenser water pump speed and operation of glycol cooler (30RW) or air-cooled condenser fans (30RWA) to ensure reliable and economical operation.
- Quick electrical connections.
- Units can operate down to -20°C outside temperature.
- The variable-speed condenser water pump automatically adjusts the water flow rate to maintain the ideal condensing conditions.
- High-performance plate heat exchangers maximise the thermodynamic properties of refrigerant HFC-407C. From size 30RW 160 the evaporator and the condenser have two interlaced refrigerant circuits.
- Space-saving design.
- No plant room required – unit can be installed in a place that is open to the public, if local regulations permit.
- The refrigerant circuit is completely leak-proof.
- Used with Carrier O9 series glycol coolers or air-cooled condensers, supplied ready for installation with a control box. All control components are installed and tested in the factory.



Pro-Dialog Plus operator interface

Physical data

30RW/RWA		110	120	135	150	160	185	210	245	275	300
Air conditioning application as per EN14511-3 : 2011 – 30RW											
Nominal cooling capacity	kW	110	125	142	152	165	186	219	251	288	315
EER	kW/kW	4.06	3.92	4.01	3.93	4.51	4.24	4.38	4.25	4.36	4.32
Eurovent class	D	D	D	D	D	C	D	C	C	C	C
ESEER part-load performance	kW/kW	4.79	4.56	4.74	4.66	5.36	5.06	5.17	5.01	5.27	5.15
Air conditioning application (1)											
Nominal cooling capacity 30RW	kW	110	125	142	152	165	187	220	252	289	316
EER	kW/kW	4.23	4.07	4.16	4.06	4.67	4.42	4.48	4.42	4.45	4.45
ESEER part-load performance	kW/kW	5.41	4.89	5.32	5.20	6.00	5.44	5.63	5.67	5.72	5.63
Air conditioning application as per EN14511-3 : 2011 – 30RWA											
Nominal cooling capacity	kW	109	125	142	152	160	184	212	243	282	309
EER	kW/kW	4.05	4.01	4.10	4.02	4.09	4.08	4.00	3.92	4.09	4.12
Air conditioning application (1)											
Nominal cooling capacity 30RWA	kW	110	126	143	153	161	184	213	243	283	310
EER	kW/kW	4.15	4.10	4.19	4.10	4.17	4.13	4.02	3.98	4.16	4.13
Operating weight											
30RW unit without pump	kg	864	937	956	977	1079	1144	1357	1471	1557	1557
30RWA unit without pump	kg	773	836	845	855	948	996	1159	1273	1311	1311
Extra weight											
30RW: single evaporator pump (option 116B)	kg	15	15	15	15	245	245	245	245	245	245
30RWA: single evaporator pump (option 116B)		15	15	15	15	245	245	245	285	285	285
30RW/RWA: dual evaporator pump (option 116C)	kg	130	130	130	130	300	300	358	358	358	358
30RW: single condenser pump (option 270B)	kg	80	80	80	80	250	250	265	265	265	265
30RW: dual condenser pump (option 270C)	kg	140	140	140	140	310	310	368	368	368	368
Dimensions (length x depth x height)											
Standard unit with or without hydronic module	mm	2300 x 922 x 1963									
Unit with hydronic module (options 116B, 116C, 270B, 270C)	mm	2950 x 922 x 1993									
Refrigerant 30RW		R-407C									
Compressors 30RW/30RWA		Hermetic scroll, 48.3 r/s									
Control		Pro-Dialog Plus									
Condensers (30RW)		Welded plate heat exchangers, max. water-side operating pressure with hydronic module 1000 kPa, without hydronic module 400 kPa									
Hydronic condenser module (30RW)		Removable screen filter, variable-speed water pump, expansion tank, safety valve, pressure gauge, and purge valve									
Condenser pump		Single or twin-head composite centrifugal pump, according to option used, variable speed by frequency converter (48.3 r/s)									
Evaporator (30RW/30RWA)		Welded direct-expansion plate heat exchanger, max. water-side operating pressure with hydronic module 1000 kPa, without hydronic module 400 kPa									
Hydronic evaporator module (30RW/30RWA)		Removable screen filter, water pump, expansion tank, water flow switch, safety valve, pressure gauge, purge valve and control valve									
Evaporator pump		Single or twin-head composite centrifugal pump, according to option used (48.3 r/s)									
Water connections (30RW/30RWA)		Victaulic**									
Field refrigerant connections (30RWA)		Welded copper tube									

NOTE: For the conditions please refer to page 31.

* The RWA units only have a nitrogen holding charge.

** With tubular sleeve, supplied with the unit, consisting of a Victaulic connection at one end and a plain section at the other end.

Electrical data

30RW/RWA (without hydronic module)		110	120	135	150	160	185	210	245	275	300
Power circuit											
Nominal power supply	V-ph-Hz	400-3-50 ± 10%									
Control circuit supply											
The control circuit is supplied via the unit-mounted transformer											
Maximum unit power input, 30RW + 30RWA*	kW	42.4	48.8	54.0	59.1	63.2	72.2	84.9	97.6	107.9	118.2
Nominal unit current draw 30RW**	A	48.1	54.0	61.0	68.0	71.7	84.2	96.1	108.0	122.0	136.0
Nominal unit current draw 30RWA***	A	51.4	58.0	64.7	71.4	76.3	89.6	102.8	116.0	129.4	142.8
Maximum start-up current, (standard unit without electronic starter)											
30RW + 30RWA†	A	245.2	254.0	309.0	318.0	212.6	245.7	314.5	332.0	396.0	414.0
Maximum start-up current, (electronic-starter option)											
30RW + 30RWA‡	A	159.2	168.0	201.0	210.0	158.6	183.7	228.5	246.0	288.0	306.0

* Power input of the compressor(s) at maximum unit operating conditions: entering/leaving evaporator water temp. 15°C/10°C, maximum condensing temp. 65°C, and 400 V nominal voltage.

** Nom. unit current draw at standard conditions: evaporator entering/leaving water temp. 12°C/7°C, condenser entering/leaving water temp. 30°C/35°C. The current values are given at 400 V nom. voltage.

*** Nom. unit current draw at standard conditions: evaporator entering/leaving water temp. 12°C/7°C, saturated condensing temp. (dew point) 45°C, subcooling 5 K. The current values are given at 400 V nom. voltage.

† Max. instantaneous starting current at 400 V nom. voltage and with compressor in across-the-line start (max. operating current of the smallest compressor(s) + locked rotor current of the largest compressor).

‡ Max. instantaneous starting current at 400 V nom. voltage and with compressor with electronic starter (max. operating current of the smallest compressor(s) + reduced start-up current of the largest compressor).