

# DUCTABLE AIR-COOLED LIQUID CHILLERS



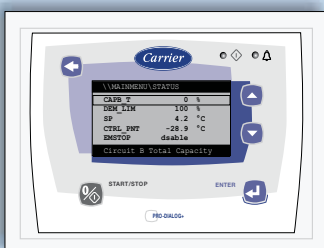
Air conditioning

**AQUASNAP**

30RBSY

## Options

- Condenser with anti-corrosion post-treatment
- Condenser with pre-treated fins
- Suction air filters mounted on rails
- Coil protection grilles
- Very low noise level
- Soft starter (30RBSY 039-080)
- Frost protection down to -20°C
- High- and low-pressure single and dual-pump hydronic modules with or without expansion tank
- High-pressure variable-speed single and dual-pump hydronic modules with or without expansion tank
- Partial heat reclaim
- Enviro-Shield or Super Enviro-Shield anti-corrosion protection for MCHE heat exchangers
- JBus, BacNet and LonTalk gateways
- Evaporator screw or welded connection sleeves
- Master/slave operation
- Remote interface



Pro-Dialog+ operator interface

## Features

- Eleven sizes with nominal cooling capacities from 40 to 153 kW.
- Ductable Aquasnap liquid chillers for commercial or industrial applications. The units include inverter fans to maximise EERs at all operating conditions.
- Latest technological innovations integrated: ozone-friendly refrigerant R-410A, scroll compressors, low-noise fans made of a composite material, auto-adaptive microprocessor control, electronic expansion valve and variable-speed pump (option).
- Exceptionally high energy efficiency at part load - Eurovent energy efficiency class A and B (in accordance with EN14511-3: 2013).
- All-aluminium micro-channel condenser (MCHE) for extra efficiency.
- Available static pressure of up to 240 Pa for sizes 039 to 060 and 090 to 120, and up to 180 Pa for sizes 070 to 080 and 140 to 160.
- Low-noise scroll compressors with low vibration level.
- Vertical condenser coils with protection grilles (option on sizes 90-160).
- Low-noise Flying Bird IV fans, made of a composite material. Rigid fan installation for reduced start-up noise.
- Small unit footprint and a low height (1330 mm), enclosed by easily removable panels.
- Simplified electrical connections.
- Systematic operation test before shipment and quick-test function for step-by-step verification of the instruments, electrical components and motors.
- Several compressors connected in parallel.
- The electronic expansion device (EXV) allows operation at a lower condensing pressure (EER optimisation), and dynamic superheat management optimises the utilisation of the evaporator heat exchange surface.
- Maintenance-free scroll compressors and fast diagnosis of possible incidents and their history via the Pro-Dialog+ control reduce maintenance costs.
- Leak-tight refrigerant circuit.
- Corrosion resistance tests, accelerated ageing test on compressor piping and fan supports and transport simulation test on a vibrating table in the laboratory.

## Physical data



30RBSY		039	045	050	060	070	080	090	100	120	140	160
Air conditioning application as per EN14511-3 : 2013												
Condition 1												
Nominal cooling capacity	kW	39.6	44.0	51.2	58.1	66.2	77.7	86.7	97.1	114.4	132.8	153.4
EER	kW/kW	2.93	2.81	2.66	2.7	2.68	2.65	2.71	2.72	2.68	2.66	2.6
Eurovent class		A	A	B	A	B	B	A	A	B	B	B
ESEER	kW/kW	3.93	4.04	3.98	3.9	3.72	3.75	3.86	3.89	3.87	4.12	4.28
Condition 2												
Nominal cooling capacity	kW	53.0	58.9	68.5	80.9	83.6	97.0	114.4	126.5	150.9	168.9	191.7
EER	kW/kW	3.50	3.38	3.14	3.36	2.91	2.99	3.16	3.08	3.11	2.93	2.94
Operating weight (with MCHE heat exchangers)*												
Standard unit without hydronic module	kg	450	458	461	473	473	491	785	795	811	917	947
Standard unit with hydronic module												
Single high-pressure pump	kg	480	488	491	503	503	521	817	827	847	956	986
Dual high-pressure pump	kg	506	513	516	528	529	547	862	872	896	993	1023
Compressors												
		Hermetic scroll compressors, 48.3 r/s										
Circuits A/B		2/-	2/-	2/-	2/-	2/-	2/-	3/-	3/-	3/-	2/2	2/2
Refrigerant*												
		R-410A										
Capacity control												
		Pro-Dialog+										
Condensers												
		All aluminium micro-channel heat exchanger (MCHE)										
Fans												
		Axial Flying Bird IV with rotating shroud										
Quantity		1	1	1	1	1	1	2	2	2	2	2
Total air flow (at high speed)	l/s	3800	3800	3800	3800	4600	4600	7600	7600	7600	9200	9200
Evaporator												
		Direct expansion plate heat exchanger										
Hydronic module (option)												
		Single or dual pump, Victaulic screen filter, safety valve, expansion tank, purge valves (water and air), pressure sensors										
Dimensions**												
Length	mm	2109	2109	2109	2142/2307	2109	2142/2307	2273	2273	2273	2273	2273
Depth x height	mm	1132/1297 x 1371						2122 x 1371				

NOTE: For the conditions, please refer to page 31.

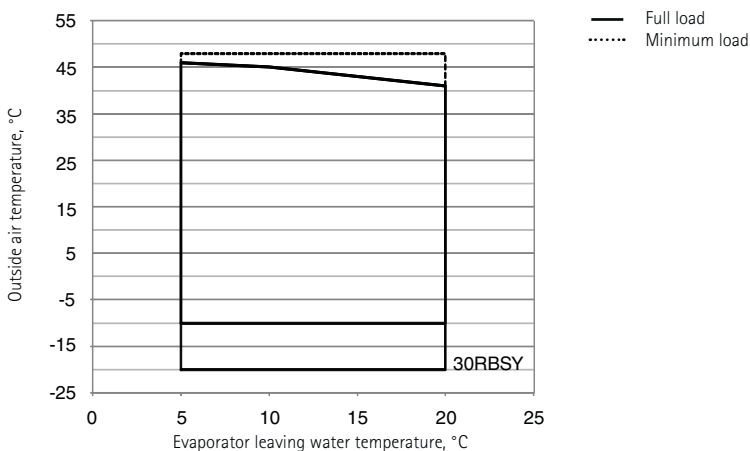
- \* Weight shown is a guideline only. To find out the unit refrigerant charge, please refer to the unit nameplate.
- \*\* The first value is for units without filter frame, and the second value is for units with option 23B and filter frame.

## Electrical data

30RBSY without hydronic module		039	045	050	060	070	080	090	100	120	140	160
Power circuit												
Nominal power supply	V-ph-Hz	400-3-50 ± 10%										
Control circuit supply												
		24 V via internal transformer										
Maximum start-up current (Un)*												
Standard unit	A	116.4	137.4	145.4	148.4	176.4	213.4	178.8	212.8	252.8	243.8	286.8
Unit with electronic starter option	A	74.7	86.5	93.8	96.2	114.4	139.8	-	-	-	-	-
Maximum operating power input**												
	kW	21.2	24.0	26.2	29.6	31.8	36.4	45.7	49.0	55.9	63.6	72.8
Nominal unit operating current draw***												
	A	28.2	31.6	35.6	38.6	42.8	53.2	60.6	66.9	82.5	85.6	106.4

- \* Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + fan current + locked rotor current of the largest compressor).
- \*\* Power input, compressors and fans, at the unit operating limits (saturated suction temperature 10°C, saturated condensing temperature 65°C) and nominal voltage of 400 V (data given on the unit nameplate).
- \*\*\* Standardised Eurovent conditions: evaporator entering/leaving water temperature 12°C/7°C, outside air temperature 35°C.

## Operating limits



NOTE: This operating range applies up to 130 Pa static pressure without suction duct for sizes 070-080 and 140-160, and up to 240 Pa for all other sizes.