

AIR-COOLED LIQUID CHILLERS



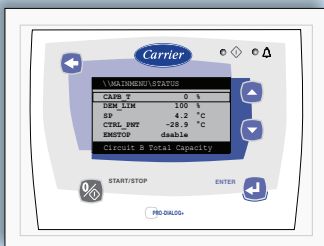
Air conditioning

AQUASNAP

30RBS "A"

Options

- Condenser with anti-corrosion post-treatment
- Condenser with pre-treated fins
- Very low noise level
- Soft starter (30RBS 039-080)
- Winter operation
- 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 39 to 157 kW.
- Aquasnap liquid chillers for commercial or industrial applications.
- 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).
- Increased energy efficiency at part load - Eurovent energy efficiency class C and D (in accordance with EN14511-3:2011).
- All-aluminium micro-channel condenser (MCHE) for extra efficiency.
- Low-noise scroll compressors with low vibration level.
- Vertical condenser coils with protection grilles on anti-vibration mountings.
- 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



30RBS		039	045	050	060	070	080	090	100	120	140	160	
Air conditioning application as per EN14511-3 : 2011													
Condition 1													
Nominal cooling capacity	kW	39	44	52	58	66	78	89	100	117	134	157	
EER	kW/kW	2.81	2.70	2.67	2.69	2.67	2.64	2.76	2.73	2.65	2.68	2.65	
Eurovent class		C	C	D	D	D	D	C	C	D	D	D	
ESEER part-load performance	kW/kW	3.83	3.85	3.82	3.82	3.77	3.82	3.98	3.97	3.90	3.88	3.85	
Condition 2													
Nominal cooling capacity	kW	52	59	72	80	91	109	120	133	154	183	204	
EER	kW/kW	3.31	3.15	3.26	3.28	3.25	3.22	3.21	3.10	3.01	3.25	2.82	
Air conditioning application (1)													
Condition 1													
Nominal cooling capacity	kW	39	45	52	59	67	79	90	100	118	135	158	
EER	kW/kW	2.88	2.78	2.76	2.77	2.75	2.72	2.82	2.79	2.71	2.74	2.72	
ESEER part-load performance	kW/kW	4.05	4.09	4.08	4.08	4.00	4.07	4.23	4.22	4.15	4.15	4.13	
Condition 2													
Nominal cooling capacity	kW	53	60	73	80	92	110	121	134	156	185	206	
EER	kW/kW	3.44	3.28	3.43	3.43	3.40	3.38	3.32	3.20	3.11	3.37	2.92	
Operating weight (with MCHE heat exchangers)*													
Standard unit without hydronic module	kg	443	451	454	463	467	482	780	791	807	912	943	
Standard unit with hydronic module													
Single high-pressure pump	kg	473	481	484	493	496	511	812	823	843	951	982	
Dual high-pressure pump	kg	499	507	510	519	522	537	857	868	891	988	1019	
Compressors													
Circuits A/B		Hermetic scroll compressors, 48.3 r/s											
		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	5300	5300	7600	7600	7600	10600	10600	
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 x depth x height													
	mm	1061 x 2050 x 1330						2258 x 2050 x 1330					

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.

Electrical data

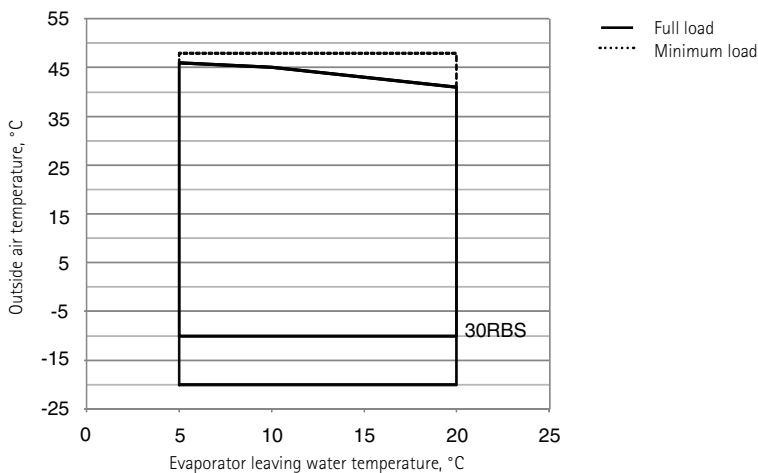
30RBS without hydronic module		039	045	050	060	070	080	090	100	120	140	160
Power circuit												
Nominal power supply	V-ph-Hz	400-3-50 ± 10%										
Control circuit supply												
		24 V via internal transformer										
Maximum start-up current (Un)*												
Standard unit	A	113.8	134.8	142.8	145.8	176.0	213.0	173.6	207.6	247.6	243.0	286.0
Unit with electronic starter option	A	74.7	86.5	93.8	96.2	114.4	139.8	-	-	-	-	-
Maximum operating power input**												
	kW	19.5	22.3	24.5	27.9	31.2	35.8	42.3	45.6	52.5	62.4	71.6
Nominal unit operating current draw***												
	A	25.6	29.0	33.0	36.0	42.4	52.8	55.4	61.7	77.3	84.8	105.6

* 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 range



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.

DUCTABLE AIR-COOLED LIQUID CHILLERS



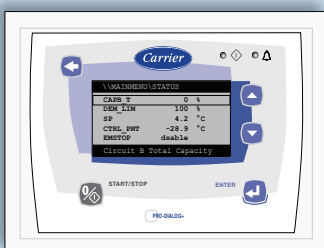
Air conditioning

AQUASNAP

30RBSY "A"

Options

- Condenser with anti-corrosion post-treatment
- Condenser with pre-treated fins
- Suction air filters mounted on rails
- 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 38 to 154 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 EN14511-3:2011).
- 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 on anti-vibration mountings.
- 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 : 2011												
Condition 1												
Nominal cooling capacity	kW	38	43	52	57	65	77	89	100	117	132	154
EER	kW/kW	3.01	2.83	2.76	2.85	2.71	2.67	2.86	2.83	2.78	2.75	2.72
Eurovent class		A	A	A	A	A	B	A	A	A	A	A
ESEER part-load performance	kW/kW	4.39	4.32	4.10	4.25	4.12	4.20	4.22	4.22	4.28	4.88	4.80
Condition 2												
Nominal cooling capacity	kW	51	57	72	78	89	107	120	133	154	181	214
EER	kW/kW	3.52	3.29	3.36	3.46	3.28	3.24	3.32	3.21	3.14	3.31	3.29
Air conditioning application (1)												
Condition 1												
Nominal cooling capacity	kW	38	43	52	57	65	78	90	100	118	133	155
EER	kW/kW	3.10	2.92	2.85	2.94	2.79	2.75	2.93	2.90	2.84	2.81	2.78
ESEER part-load performance	kW/kW	3.36	3.42	3.47	3.62	3.43	3.54	3.33	3.41	3.53	3.60	3.66
Condition 2												
Nominal cooling capacity	kW	51	58	73	79	89	108	121	134	156	182	216
EER	kW/kW	3.68	3.44	3.53	3.63	3.43	3.39	3.44	3.32	3.25	3.44	3.44
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 (MCHEx)										
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.

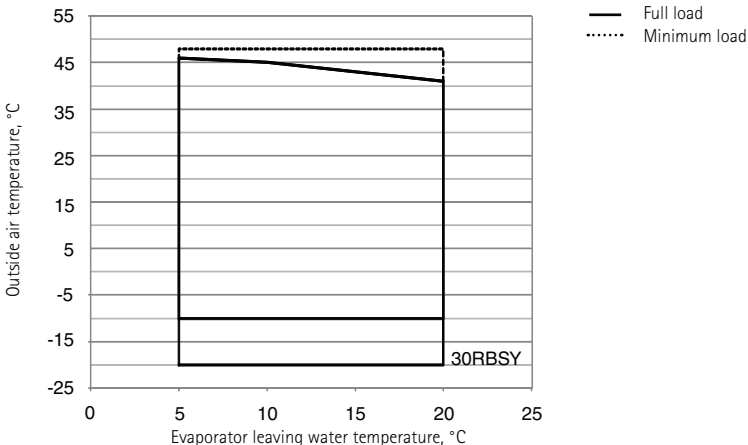
- * Weight shown is a guideline only. To find out the unit refrigerant charge, please refer to the unit nameplate.
- ** The first value is for units without filter frame, and the second value is for units with option 23B and filter frame.

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.