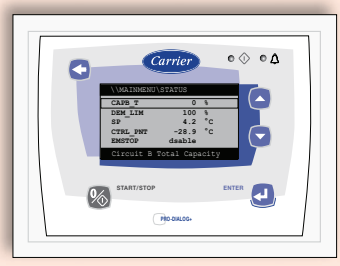
Heating

AQUASNAP® Reversible

30RQS

Options

- Air heat exchanger with pre-treated fins
- Very low noise level
- Soft starter (30RQS 039-080)
- Partial heat reclaim
- 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- or dual-pump hydronic modules with or without expansion tank
- JBus, BacNet and LonTalk gateways
- Screw or welded water heat exchanger connection sleeves
- Master/slave operation
- Remote interface



Pro-Dialog+ operator interface

Features

- Twelve sizes with nominal cooling capacities from 38 to 149 kW and nominal heating capacities from 42 to 158 kW.
- Aquasnap heat pumps for commercial or industrial applications.
- Increased energy efficiency at part load - Eurovent energy efficiency class C and D (in accordance with EN14511-3:2011) in cooling mode and B and C in heating mode.
- Integrates the latest technological innovations: 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).
- Low-noise scroll compressors with low vibration level.
- Vertical air heat exchanger 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. At part load, around 99% of the time, only the compressors that are necessary operate, ensuring increased energy efficiency.
- The electronic expansion device (EXV) allows operation at a lower condensing pressure (EER optimisation), and dynamic superheat management optimises the utilisation of the water heat exchanger 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

30RQS		039	045	050	060	070	078	080	090	100	120	140	160
Air conditioning application as per EN14511-3:2011													
Nominal cooling capacity	kW	38	43	50	59	64	74	78	86	96	113	132	149
EER	kW/kW	2.84	2.70	2.65	2.77	2.70	2.58	2.79	2.70	2.70	2.69	2.77	2.58
Eurovent class, cooling		C	C	D	C	C	D	C	C	C	D	C	D
ESEER	kW/kW	3.80	3.77	3.81	3.61	3.61	3.57	3.84	3.77	3.88	4.04	3.75	3.67
Air conditioning application (1)													
Nominal cooling capacity	kW	38	44	50	59	64	74	78	86	96	114	132	150
EER	kW/kW	2.92	2.78	2.72	2.84	2.78	2.64	2.85	2.77	2.76	2.76	2.84	2.64
ESEER	kW/kW	4.00	4.00	4.03	3.80	3.81	3.75	4.00	4.00	4.12	4.30	4.00	3.92
Heating application as per EN14511-3:2011													
Nominal heating capacity	kW	42	47	53	61	70	78	80	93	101	117	138	158
COP	kW/kW	3.08	3.05	3.03	3.03	3.06	2.87	3.08	3.02	3.09	3.06	3.07	2.97
Eurovent class, heating		B	B	B	B	B	C	B	B	B	B	B	C
Heating application (1)													
Nominal heating capacity	kW	42	46	53	61	69	77	79	92	100	116	137	157
COP	kW/kW	3.12	3.09	3.07	3.08	3.11	2.91	3.11	3.06	3.12	3.10	3.10	3.01
Operating weight*													
Standard unit without hydronic module	kg	506	513	539	552	553	560	748	895	903	959	1060	1078
Standard unit with hydronic module													
Single high-pressure pump	kg	535	543	569	582	582	590	778	927	935	995	1099	1117
Dual high-pressure pump	kg	561	569	594	608	608	616	804	972	980	1043	1136	1127
Compressors		Hermetic scroll compressors, 48.3 r/s											
Circuit A/B		2/-	2/-	2/-	2/-	2/-	2/-	2/-	3/-	3/-	3/-	2/2	2/2
Refrigerant		R-410A											
Capacity control		Pro-Dialog+											
Air heat exchangers		Grooved copper tubes and aluminium fins											
Fans		Axial Flying Bird IV with rotating shroud											
Quantity		1	1	1	1	1	1	2	2	2	2	2	2
Total air flow (at high speed)	l/s	3800	3800	3800	5300	5300	5300	7600	7600	7600	7600	10600	10600
Water heat exchanger		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	1090 x 2109 x 1330						2273 x 2136 x 1330					

NOTE: For the conditions please refer to page 69.

* Weight shown is a guideline only. To find out the unit refrigerant charge, please refer to the unit nameplate.

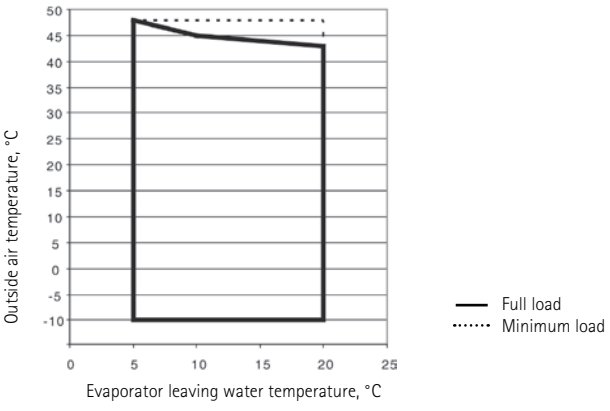
Electrical data

30RQS without hydronic module		039	045	050	060	070	078	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	213,6	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	139,8	-	-	-	-	-
Maximum operating power input**	kW	19,5	22,3	24,5	27,9	31,2	35,8	35,6	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	53,4	55,4	61,7	77,3	84,8	105,6

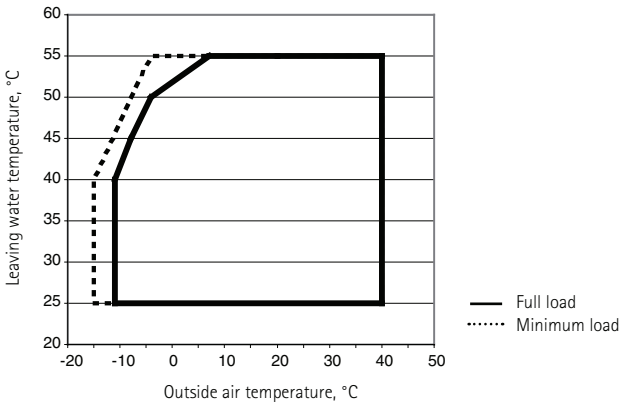
* Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + fan current + locked rotor current of the largest compressor).
** Power input, compressors and fans, at the unit operating limits (saturated suction temp. 10°C, saturated condensing temp. 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

Cooling mode



Heating mode



DUCTABLE AIR-TO-WATER HEAT PUMPS

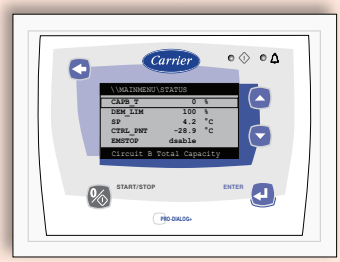
Heating

AQUASNAP® Reversible

30RQSY

Options

- Air heat exchanger with pre-treated fins
- Very low noise level
- Suction filters (30RQSY 039-078)
- Soft starter (30RQSY 039-080)
- Partial heat reclaim
- 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- or dual-pump hydronic modules with or without expansion tank
- JBus, BacNet and LonTalk gateways
- Screw or welded water heat exchanger connection sleeves
- Master/slave operation
- Remote interface



Pro-Dialog+ operator interface

Features

- Twelve sizes with nominal cooling capacities from 37 to 147 kW and nominal heating capacities from 42 to 159 kW.
- Ductable Aquasnap heat pumps for commercial or industrial applications. Units include inverter fans to maximise EERs and COPs at all operating conditions.
- Eurovent energy efficiency class A and B in cooling mode and A in heating mode (in accordance with EN14511-3:2011)
- Integrates the latest technological innovations: 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).
- Available static pressure of up to 240 Pa for sizes 039 to 050 and 080 to 120, and up to 180 Pa for sizes 060 to 078 and 140 to 160.
- Low-noise scroll compressors with low vibration level.
- Vertical air heat exchangers 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. At part load, around 99% of the time, only the compressors that are necessary operate, ensuring increased energy efficiency.
- The electronic expansion device (EXV) allows operation at a lower condensing pressure (EER and COP optimisation), and dynamic superheat management optimises the utilisation of the water heat exchanger 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

30RQSY		039	045	050	060	070	078	080	090	100	120	140	160
Air conditioning application as per EN14511-3:2011*													
Nominal cooling capacity	kW	37	43	50	58	63	73	78	86	96	113	130	147
EER	kW/kW	3.04	2.91	2.81	2.92	2.81	2.64	2.81	2.83	2.83	2.83	2.86	2.65
Eurovent class, cooling		A	A	A	A	A	B	A	A	A	A	A	B
ESEER	kW/kW	4.36	4.36	4.25	4.25	4.09	3.95	3.78	4.11	4.21	4.46	4.72	4.57
Air conditioning application**													
Nominal cooling capacity	kW	37	44	50	58	63	73	78	86	96	114	130	148
EER	kW/kW	3.12	2.99	2.88	2.99	2.90	2.71	2.87	2.89	2.90	2.90	2.93	2.71
ESEER	kW/kW	3.34	3.47	3.42	3.30	3.33	3.35	3.22	3.15	3.34	3.58	3.48	3.49
Heating application as per EN14511-3:2011*													
Nominal heating capacity	kW	42	47	53	62	70	78	80	93	101	117	139	159
COP	kW/kW	3.25	3.21	3.10	3.25	3.25	3.08	3.16	3.16	3.12	3.14	3.22	3.05
Eurovent class, heating		A	A	A	A	A	A	A	A	A	A	A	A
Heating application**													
Nominal heating capacity	kW	42	46	53	61	70	77	79	92	100	116	138	158
COP	kW/kW	3.30	3.26	3.15	3.30	3.30	3.12	3.19	3.20	3.16	3.18	3.26	3.09
Operating weight*													
Standard unit without hydronic module	kg	521	528	559	573	573	580	762	930	939	994	1090	1107
Standard unit with hydronic module													
Single high-pressure pump	kg	551	558	588	602	603	610	792	961	971	1030	1129	1146
Dual high-pressure pump	kg	577	584	614	628	629	636	818	1006	1016	1078	1166	1183
Compressors		Hermetic scroll compressors. 48.3 r/s											
Circuit A/B		2/-	2/-	2/-	2/-	2/-	2/-	2/-	3/-	3/-	3/-	2/2	2/2
Refrigerant		R-410A											
Capacity control		Pro-Dialog+											
Air heat exchangers		Grooved copper tubes and aluminium fins											
Fans		Axial Flying Bird IV with rotating shroud											
Quantity		1	1	1	1	1	1	2	2	2	2	2	2
Total air flow (at high speed)	l/s	3800	3800	3800	4600	4600	4600	7600	7600	7600	7600	9200	9200
Water heat exchanger		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	2109 x 1132/1297 x 1371		2142/2307 x 1132/1297 x 1371				2273 x 2122 x 1371					

NOTE: For the conditions please refer to page 69.

* 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.

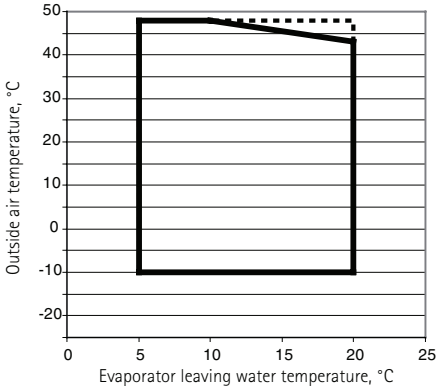
Electrical data

30RQSY without hydronic module		039	045	050	060	070	078	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	218.8	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	143.3	148.8	-	-	-	-	-
Maximum operating power input**	kW	21.2	24.0	26.2	29.6	31.8	36.4	39	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	58.6	60.6	66.9	82.5	85.6	106.4

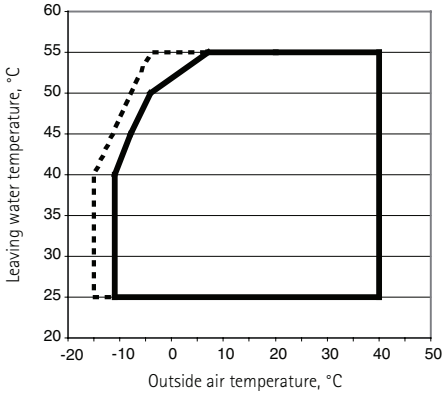
* Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + fan current + locked rotor current of the largest compressor).
** Power input, compressors and fans, at the unit operating limits (saturated suction temp. 10°C, saturated condensing temp. 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

Cooling mode



Heating mode



Full load
Minimum load