

WATER-COOLED LIQUID CHILLERS



Air conditioning

30XW



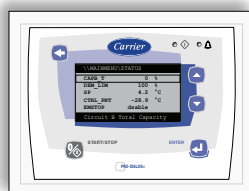
Options/accessories

- Medium and low temperature applications*
- Unit supplied in two assembled parts*
- No disconnect switch, but with short-circuit protection*
- Single power connection point
- Evaporator/condenser pump electrical power/control circuit options*
- Service valve set*
- Evaporator/condenser arrangement with one pass*
- Condenser insulation*
- 21 bar evaporator and condenser*
- Reversed evaporator and condenser water connections*
- JBus, BacNet and LON gateways*
- Various condensing temperature options*
- Energy Management Module EMM*
- Code compliance for Switzerland and Australia*
- Master/slave operation*
- Touch Screen interface*
- Low noise level (-3 dB(A) compared to standard unit)*
- Thermal compressor insulation*
- Water connection kit for welded or flanged evaporator/condenser connections*
- Very low noise level (-20 dB(A) compared to standard unit)**

* Option ** Accessory

Features

- Twenty standard-efficiency sizes with nominal cooling capacities from 273 to 1732 kW and eleven high-efficiency sizes with nominal cooling capacities from 509 to 1756 kW.
- Designed for industrial and commercial applications that require optimal performances and maximum quality.
- Two versions: 30XW for air conditioning and refrigeration applications, and 30XWH for heating applications (see separate entry).
- Two efficiency classes: the standard-efficiency 30XW offers an optimised balance of technical and economical aspects and superior energy efficiency; the high-efficiency 30XW-P offers unequalled energy efficiency at minimised operating cost.
- Exceptional full load and part load energy efficiency: Eurovent energy efficiency class "A", EER of up to 6.15 kW/kW and ESEER of up to 8.0 kW/kW (30XW-P)
- Twin-rotor screw compressors with high-efficiency motor and a variable capacity valve for exact matching of the cooling capacity to the load.
- Use of R-134a refrigerant with zero ozone depletion potential.
- Pro-Dialog control system.
- Flooded mechanically cleanable heat exchangers.
- Economizer system with electronic expansion device for increased cooling capacity (30XW-P).
- Simplified electrical connections.
- Units are run-tested before shipment and include a quick-test function for fast commissioning.
- Leak-tight refrigerant circuit; two independent refrigerant circuits from 1000 kW upwards.
- Comprehensive endurance tests.
- Aquaforce offers multiple remote control, monitoring and diagnostic possibilities.



Pro-Dialog+ operator interface



Touch-screen Pro-Dialog operator interface (option)

Physical data

Standard-efficiency units 30XW--	252	302	352	402	452	552	602	652	702	802	852	1002	1052	1152	1252	1352	1452	1552	1652	1702	
Air conditioning application as per EN14511-3 : 2011																					
Nominal cooling capacity	kW	273	307	359	459	473	532	538	677	730	792	839	1017	1060	1141	1257	1342	1453	1547	1657	1732
EER	kW/kW	5.32	5.30	5.24	5.21	5.35	5.21	5.17	5.39	5.30	5.19	5.39	5.26	5.21	5.30	5.69	5.51	5.36	5.29	5.67	5.68
Eurovent class		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
ESEER part-load performance	kW/kW	5.67	5.58	5.58	5.75	5.77	5.78	5.66	6.06	6.02	5.79	5.94	6.3	6.34	6.23	6.73	6.44	6.27	6.06	6.62	6.56
Air conditioning application (1)																					
Nominal cooling capacity	kW	273	308	360	461	474	534	539	679	733	795	843	1021	1066	1146	1262	1349	1461	1557	1664	1739
EER	kW/kW	5.54	5.52	5.48	5.42	5.57	5.46	5.43	5.65	5.58	5.50	5.66	5.56	5.53	5.64	5.97	5.82	5.71	5.67	5.96	6.00
ESEER part-load performance	kW/kW	6.18	6.09	6.14	6.28	6.29	6.46	6.33	6.75	6.79	6.63	6.65	7.35	7.56	7.49	7.69	7.46	7.42	7.29	7.58	7.59
Operating weight	kg	2017	2036	2072	2575	2575	2613	2644	3247	3266	3282	3492	5370	5408	5698	7066	7267	7305	7337	8681	8699
Dimensions																					
Depth	mm	928	928	928	936	936	936	936	1040	1040	1040	1042	1036	1036	1036	1156	1156	1156	1156	1902	1902
Length	mm	2724	2724	2724	2741	2741	2741	2741	3059	3059	3059	2780	4025	4025	4025	4730	4730	4730	4730	4790	4790
Height	mm	1567	1567	1567	1692	1692	1692	1692	1848	1848	1848	1898	1870	1870	1925	2051	2051	2051	2051	1515	1515

High-efficiency units 30XW-P	512	562	712	812	862	1012	1162	1312	1462	1612	1762	
Air conditioning application as per EN14511-3 : 2011												
Nominal cooling capacity	kW	509	577	737	786	861	1039	1157	1323	1452	1756	
EER	kW/kW	5.71	5.64	5.83	5.62	5.65	5.73	5.78	5.80	5.58	5.79	
Eurovent class		A	A	A	A	A	A	A	A	A	A	
ESEER part-load performance	kW/kW	6.07	6.12	6.41	6.24	6.17	6.71	6.79	6.65	6.36	6.59	
Air conditioning application (1)												
Nominal cooling capacity	kW	510	578	739	788	863	1042	1161	1329	1459	1764	
EER	kW/kW	5.94	5.89	6.04	5.85	5.92	5.95	6.07	6.13	5.93	6.08	
ESEER part-load performance	kW/kW	6.61	6.77	6.94	6.83	6.84	7.47	7.89	7.7	7.48	7.52	
Operating weight*	kg	2981	3020	3912	3947	3965	6872	6950	7542	7752	10910	10946
Dimensions												
Depth	mm	936	936	1069	1069	1069	1039	1039	1162	1162	2129	2129
Length	mm	3059	3059	3290	3290	3290	4730	4730	4730	4730	4832	4832
Height	mm	1743	1743	1950	1950	1950	1997	1997	2051	2051	1562	1562

Physical data for all units	
Compressors	Semi-hermetic 06T screw compressors, 50 r/s
Refrigerant	R-134a
Capacity control	Pro-Dialog, electronic expansion valves (EXV)
Evaporator	Flooded multi-pipe type, maximum operating pressure 1000 kPa, 3/8" NPT drain and vent connections
Condenser	Flooded multi-pipe type, maximum operating pressure 1000 kPa, 3/8" NPT drain and vent connections

NOTE: For the conditions please refer to page 31.

* Weights are guidelines only. The refrigerant charge is given on the unit nameplate.

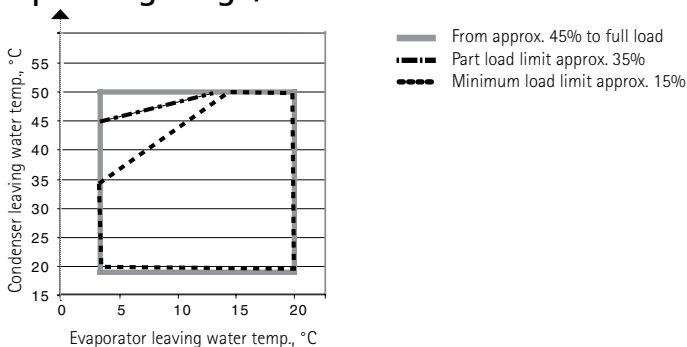
Electrical data

Standard-efficiency units 30XW--	252	302	352	402	452	552	602	652	702	802	852	1002	1052	1152	1252	1352	1452	1552	1652	1702	
Nominal power supply, all units	V-ph-Hz	400-3-50 ± 10%																			
Control circuit, all units		24 V via the built-in transformer																			
Maximum start-up current*																					
Circuit A	A	233	233	303	414	414	414	414	587	587	587	587	414	414	414	587	587	587	587	587	587
Circuit B	A	-	-	-	-	-	-	-	-	-	-	-	414	414	414	587	587	587	587	587	587
Maximum power input**																					
Circuit A	kW	76	89	97	128	135	151	151	184	200	223	223	150	151	151	184	184	200	223	223	223
Circuit B	kW	-	-	-	-	-	-	-	-	-	-	-	135	151	151	184	200	223	202	223	
Maximum current drawn (Un)**																					
Circuit A	A	123	145	160	206	217	242	242	295	317	351	351	242	242	242	295	295	317	351	351	351
Circuit B	A	-	-	-	-	-	-	-	-	-	-	-	217	242	242	295	317	351	317	351	
High-efficiency units 30XW-P	512	562	712	812	862	1012	1162	1312	1462	1612	1762										
Maximum start-up current*																					
Circuit A/B	A	414/-	414/-	587/-	587/-	587/-	414/414	414/414	587/414	587/587	587/587										
Maximum power input**																					
Circuit A/B	kW	135/-	151/-	184/-	200/-	223/-	134/134	151/151	184/151	184/184	200/200	223/223									
Maximum current drawn (Un)**																					
Circuit A/B	A	217/-	242/-	295/-	317/-	351/-	217/217	242/242	295/242	295/295	317/317	351/351									

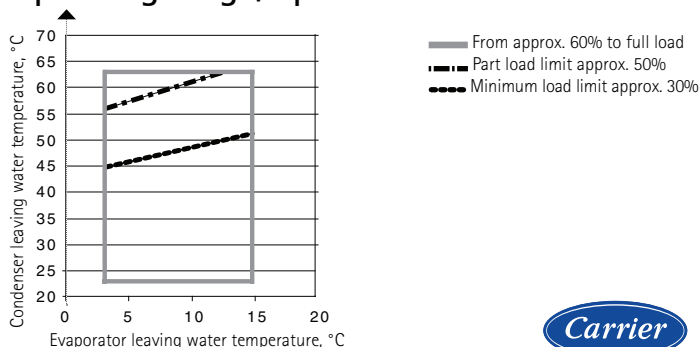
* Instantaneous start-up current (maximum operating current of the smallest compressor(s) + locked rotor current or reduced start-up current of the largest compressor). Values obtained at operation with maximum unit power input.

** Values obtained at operation with maximum unit power input. Values given on the unit name plate.

Operating range, standard units



Operating range, option 150



WATER-COOLED LIQUID CHILLERS



Air conditioning

AQUAFORCE greenspeed

30XW-V

Options

- Condenser insulation
- Service valve set
- Evaporator/condenser pump electrical power/control circuit options
- Evaporator and/or condenser with one pass
- 21 bar evaporator and/or condenser
- Reversed evaporator and/or condenser water connections
- JBus, BacNet or LON gateways
- Additional module for communication with BacNet protocol via Ethernet (IP)
- Condensing temperature limitation
- Control for low condensing temperature systems
- Energy Management Module EMM
- Leak detection
- Code compliance for Switzerland and Australia
- Low noise level (-3 dB(A) compared to standard unit)
- Welded evaporator and/or condenser water connection kit
- Flanged evaporator and/or condenser water connection kit
- Thermal compressor insulation
- EMC classification according to IEC 61800-3 - class C2
- Master/slave operation
- Single power connection point (1150-1710)

Features

- Nine sizes for commercial and industrial applications with nominal cooling capacities from 587 to 1741 kW.
- The units feature exclusive inverter-driven screw compressors - an evolution of the proven traditional Carrier twin-rotor screw compressor design.
- 30XW-V units are designed for high performance both at full load and at part load with EERs up to 5.5 and ESEERs up to 8.0 (EN14511-3:2011) and Eurovent energy class ratings A and B.
- New innovative Touch Pilot smart control for variable-drive screw-compressor units uses an intuitive, user-friendly interface with concise, clear information in a choice of languages.
- Compliance with IEC61800-3 - class C3.
- Inverter-driven twin-rotor screw compressors allow precise capacity matching of building load changes and significantly reduce unit power input, especially at part load.
- Flooded mechanically cleanable heat exchangers.
- Compact design and simplified electrical and water connections for easy installation.
- R-134a refrigerant with zero ozone depletion potential.
- Leak-tight refrigerant circuit; two independent refrigerant circuits from 1000 kW upwards.
- Minimised operating sound level at part load.
- Improved electrical performance.



Touch Pilot operator interface

Physical data

30XW-V		580	630	810	880	1150	1280	1470	1570	1710
Air conditioning/cooling floor application as per EN14511-3 : 2011										
Condition 1										
Cooling capacity	kW	587	652	812	858	1140	1305	1461	1604	1741
EER*	kW/kW	5.44	5.31	5.25	5.07	5.45	5.50	5.38	5.05	4.94
Eurovent class, cooling		A	A	A	A	A	A	A	A	B
ESEER*	kW/kW	7.80	7.60	8.04	7.76	7.79	7.59	7.30	7.15	6.85
Condition 2										
Cooling capacity	kW	791	846	1023	970	1528	1688	1703	2093	2273
EER	kW/kW	6.96	6.50	6.22	5.63	6.86	6.64	5.99	6.00	6.00
Eurovent class, cooling		A	A	A	A	A	A	A	A	A
Air conditioning/cooling floor application										
Condition 1										
Cooling capacity	kW	588	655	814	861	1144	1311	1469	1614	1754
EER	kW/kW	5.67	5.56	5.46	5.29	5.68	5.80	5.74	5.41	5.34
ESEER	kW/kW	9.03	9.04	9.52	9.25	9.08	9.17	9.08	9.16	9.01
Condition 2										
Cooling capacity	kW	794	850	1026	973	1537	1700	1715	2113	2297
EER	kW/kW	7.50	7.03	6.62	5.93	7.42	7.29	6.53	6.76	6.88
Operating weight**	kg	3152	3190	4157	4161	7322	7398	7574	7770	7808
Dimensions										
Length x depth x height	mm	3059 x 1087 x 1743		3290 x 1237 x 1950		4730 x 1164 x 1997		4730 x 1255 x 2051		
Compressor										
Semi-hermetic 06T screw compressor, 60 r/s										
Quantity, circuit A/B		1/-	1/-	1/-	1/-	1/1	1/1	1/1	1/1	1/1
Capacity control										
Touch Pilot, inverter-driven compressor, electronic expansion valve (EXV)										
Minimum capacity	%	20	20	20	20	10	10	10	10	10
Refrigerant		R-134a								
Evaporator		Multi-tube type flooded								
Condenser		Multi-tube type								

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

30XW-V		580	630	810	880	1150	1280	1470	1570	1710
Power circuit										
Nominal voltage	V-ph-Hz	400-3-50 ± 10%								
Control circuit supply										
24 V, via internal transformer										
Start-up current*										
Negligible (lower than maximum current drawn)										
Maximum power factor		0.91-0.93	0.91-0.93	0.91-0.93	0.91-0.93	0.91-0.93	0.91-0.93	0.91-0.93	0.91-0.93	0.91-0.93
Maximum power input, circuit A/B***	kW	155/-	193/-	222/-	246/-	155/155	193/193	222/193	222/222	246/246
Eurovent current draw, circuit A/B**	A	175/-	200/-	240/-	265/-	175/175	200/200	240/200	240/240	265/265
Maximum current draw (Un), circuit A/B***	A	270/-	330/-	380/-	421/-	270/270	330/330	380/330	380/380	421/421

* Instantaneous start-up current

** Eurovent unit operating conditions: evaporator entering/leaving water temperature 12°C/7°C, condenser entering/leaving water temperature 30°C/35°C.

*** Values obtained at operation with maximum unit power input. Values given on the unit name plate.

Operating range

