

# 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										
<b>Condition 1</b>										
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
<b>Condition 2</b>										
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										
<b>Condition 1</b>										
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
<b>Condition 2</b>										
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
<b>Dimensions</b>										
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		
<b>Compressor</b>										
Quantity, circuit A/B		Semi-hermetic 06T screw compressor, 60 r/s								
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

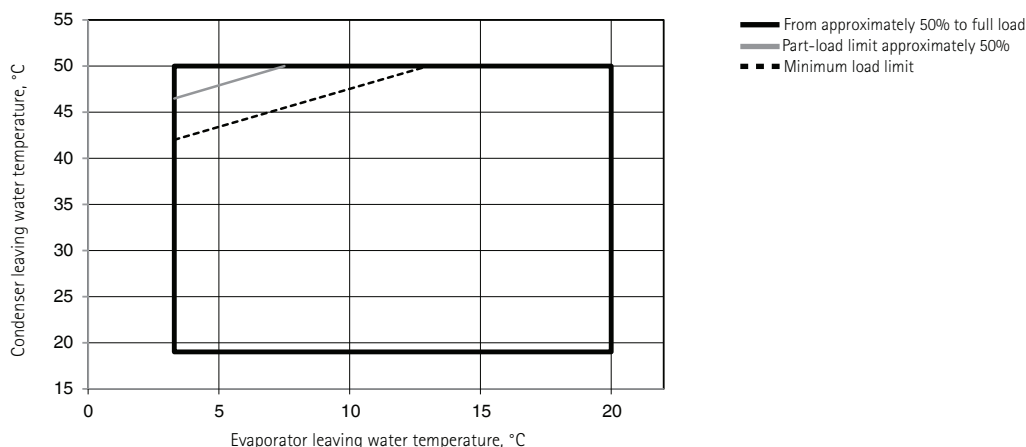
30XW-V		580	630	810	880	1150	1280	1470	1570	1710
<b>Power circuit</b>										
Nominal voltage	V-ph-Hz	400-3-50 ± 10%								
<b>Control circuit supply</b>										
		24 V, via internal transformer								
<b>Start-up current*</b>										
		Negligible (lower than maximum current drawn)								
Maximum 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



# WATER-TO-WATER HEAT PUMPS



Heating

30XWHV



## Options

- Condenser insulation
- Service valve set
- Evaporator/condenser pump electrical power/control circuit options
- Reversed evaporator and/or condenser water connections
- Evaporator and/or condenser with one pass
- 21 bar evaporator and/or condenser
- 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 in addition to PED code
- Code compliance for 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 heating capacities from 648 to 1932 kW.
- The units feature exclusive inverter-driven screw compressors - an evolution of the proven traditional Carrier twin-rotor screw compressor design.
- Units can provide up to 50°C on the condenser side.
- 30XWHV units are designed for high performance both at full load and at part load with COPs up to 4.6 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.
- Minimised operating sound level at part load.
- Improved electrical performance.



Touch Pilot operator interface

## Physical data

30XWHV		580	630	810	880	1150	1280	1470	1570	1710
Heating application – as per EN14511-3 : 2011*										
Condition 1										
Heating capacity	kW	648	719	890	974	1261	1428	1594	1761	1932
COP	kW/kW	4.64	4.53	4.56	4.43	4.62	4.61	4.55	4.33	4.16
Eurovent class, heating		A	A	A	B	A	A	A	B	B
Condition 2										
Heating capacity	kW	687	767	956	1021	1335	1524	1712	1898	2067
COP	kW/kW	6.15	5.98	5.96	5.81	6.05	6.00	5.82	5.49	5.34
Eurovent class, heating		A	A	A	A	A	A	A	A	A
Heating application (1)										
Condition 1										
Heating capacity	kW	646	716	887	970	1257	1423	1587	1753	1922
COP	kW/kW	4.84	4.75	4.75	4.63	4.87	4.93	4.92	4.70	4.56
Condition 2										
Heating capacity	kW	684	763	953	1017	1331	1519	1705	1889	2055
COP	kW/kW	6.59	6.49	6.39	6.25	6.61	6.72	6.66	6.33	6.27
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		Flooded multi-tube type, maximum operating pressure 1000 kPa, 3/8" NPT drain and vent connections								
Condenser		Flooded multi-tube type, maximum operating pressure 1000 kPa, 3/8" NPT drain and vent connections								

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

30XWHV		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

