WATER-COOLED SCREW-COMPRESSOR LIQUID CHILLERS

Air conditioning

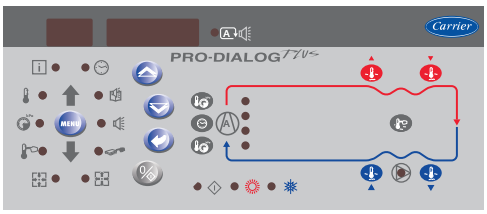
30HXC

Options

- Low-temperature brine solution
- Unit supplied in two assembled parts
- 460-3-60 and 380-3-60 power supply
- Evaporator pump and condenser pump electrical power/control circuit
- Compressor suction valve
- Evaporator or condenser with one pass less
- Evaporator or condenser maximum water-side operating pressure of 21 bar
- JBus/ModBus, BacNet, LON gateways
- Electronic compressor starter (30HXC 200-375)
- Electrical protection to IP44C
- High condensing temperature unit and non-reversible heat pump
- Reversed evaporator or condenser water inlet/ outlet
- Tropicalised control box
- Various condensing temperature options
- Dual discharge valve installed with three-way valve
- RS 485 communication interface with open protocol
- Code compliance for Switzerland and Russia
- Water connection kit for welded or screwed evaporator and/or condenser connections

Features

- Seventeen sizes with nominal cooling capacities from 287 to 1302 kW.
- Pro-Dialog Plus control to optimise the efficiency of the refrigerant circuit.
- Ozone-friendly HFC-134a refrigerant, proven, non-toxic, non-flammable.
- Equipped with screw compressors for extremely quiet operation and low vibration levels.
- Control is fully automatic and includes auto diagnostics.
- Two independent refrigerant circuits.
- Multiple compressor concept.
- Series star/delta starter, limiting the start-up current on (30HXC 080-190).
- Easy installation - compact design, fits through a standard door opening. Supplied as a complete package for easy installation. No extra controls, timers, starters or other items to install.
- Single power point (30HXC 080 to 190), and one power point per circuit (30HXC 200 to 375).
- Simple to service: mechanically cleanable evaporator and condenser, twin screw compressors with minimum routine service.
- Very low temperature option available for part of the range, allows evaporator leaving water temperatures down to -10°C.



Pro-Dialog Plus operator interface

Carrier twin-screw compressor

Physical data

30HXC		080	090	100	110	120	130	140	155	175	190	200	230	260	285	310	345	375
Air conditioning application as per EN14511-3: 2013																		
Nominal cooling capacity	kW	287	312	349	375	413	450	510	542	599	652	701	814	899	986	1109	1207	1302
EER	kW/kW	5.04	4.80	4.85	4.57	4.86	4.69	4.72	4.55	4.68	4.72	4.74	4.73	4.45	4.76	4.76	4.55	4.65
Eurovent class		B	B	B	C	B	B	B	C	B	B	B	B	C	B	B	C	B
ESEER	kW/kW	5.56	5.41	5.31	5.28	5.23	5.21	5.17	4.85	5.03	4.97	5.08	5.06	5.01	5.11	5.49	5.39	5.34
Operating weight	kg	2274	2279	2302	2343	2615	2617	2702	2712	3083	3179	3873	4602	4656	4776	5477	5553	5721
Dimensions, standard unit																		
Depth	mm	2558	2558	2558	2565	3275	3275	3275	3275	3275	3275	3903	3924	3924	3924	4533	4533	4533
Length	mm	980	980	980	980	980	980	980	980	980	980	1015	1015	1015	1015	1015	1015	1015
Height	mm	1800	1800	1800	1850	1816	1816	1816	1816	1940	1940	1980	2060	2060	2060	2112	2112	2112
Refrigerant		R-134a																
Compressors		06N semi-hermetic twin-screw compressor																
Quantity - Circuit A		1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
Quantity - Circuit B		1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
Capacity control		Pro-Dialog Plus control																
No. of control steps		6	6	6	6	6	6	6	6	6	6	8	8	8	8	10	10	10
Evaporator		Shell and tube with internally finned copper tubes																
Water connections		Victaulic																
Inlet/outlet	in	4	4	4	5	5	5	5	5	5	5	6	6	6	6	8	8	8
Condenser		Shell and tube with internally finned copper tubes																
Water connections		Victaulic																
Inlet/outlet	in	5	5	5	5	5	5	5	5	6	6	6	8	8	8	8	8	8

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

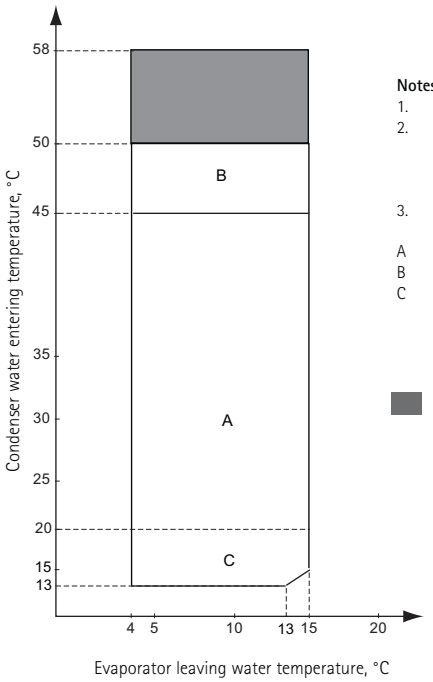
Not applicable to high condensing temperature units - please refer to electronic selection catalogue.

Electrical data

30HXC		080	090	100	110	120	130	140	155	175	190	200	230	260	285	310	345	375
Power circuit																		
Nominal power supply (Un)*	V-ph-Hz	400-3-50 ± 10%																
Control circuit supply		The control circuit is supplied via the factory-installed transformer																
Nominal current drawn*	A	101	115	127	143	149	168	190	207	226	234	255	294	337	354	399	448	477
Maximum starting current***	A	181	206	223	249	267	298	333	355	382	442	841	978	1027	1200	1129	1184	1373
Circuit A**	A	-	-	-	-	-	-	-	-	-	-	712	822	871	1028	844	871	1028
Circuit B**	A	-	-	-	-	-	-	-	-	-	-	605	715	715	856	844	871	1028

* Standard Eurovent conditions: Evaporator entering/leaving water temperature 12°C and 7°C. Condenser entering/leaving water temperature 30°C/35°C.
** Maximum unit operating current at maximum unit power input.
*** Maximum instantaneous starting current (maximum operating current of the smallest compressor(s) + locked rotor current or reduced starting current of the largest compressor).

Operating range



Notes:
1. Evaporator and condenser ΔT = 5 K
2. For start-up at full load with a condenser water entering temperature below 20°C, a three-way valve must be used to maintain the correct condensing temperature
3. Maximum condenser water leaving temperature 50°C (at full load)

A Standard unit operating at full load.
B Standard unit operating at reduced load.
C Units operating with head pressure control with analogue water control valve. For transient operating modes (start-up and part load) the unit can operate down to a condenser entering water temperature of 13°C.
Additional operating range for high condensing temperature units and non-reversible heat pumps.