

AIR-COOLED FIXED-SPEED SCREW CHILLER



Very economical operation
Low sound levels
Simple installation
Environmentally responsible
Exceptional reliability

30XB / 30XBP 250-1700



AQUAFORCE

Nominal cooling capacity 267-1682 kW - 50 Hz

The AquaForce™ 30XB and 30XBP liquid chillers are the economic solution for commercial and industrial applications where high reliability and economic operation in all climate conditions are key customer requirements.

The AquaForce™ 30XB and 30XBP liquid chillers are designed to meet current and future regulations for energy efficiency and operating sound levels. They use the latest Carrier technologies:

- Carrier 06T twin-rotor fixed-speed screw compressors.
- Low noise 6th generation of Carrier Flying Bird™ fans with AC motor (30XB) or EC motor (30XBP).
- Carrier flooded shell-and-tube evaporator with new copper tube design for low pressure drops
- 2nd generation of “V” shape Carrier Novation™ microchannel heat exchangers with optional Enviro-Shield coatings.
- Carrier Touch Pilot® control with color touch screen user interface that includes 10 languages and integrated web-server.



CARRIER participates in the ECP programme for LCP/HP
Check ongoing validity of certificate:
www.eurovent-certification.com

CUSTOMER BENEFITS

The range is available in 3 efficiency levels.

■ 30XB standard unit

The AquaForce™ 30XB is equipped with fixed-speed screw compressors and fixed-speed fans with AC motors. The 30XB offers an economical solution whilst providing high full load efficiency for process applications and operation in high ambients.

(Average SEPR of 5.2, average SEER of 4.2, average EER of 3.1)

■ 30XB with variable-speed AC fan motors (Option 17)

The 30XB with variable-speed AC fan motors offers an economical solution to enhance seasonal energy efficiency levels for comfort applications.

(Average SEPR of 5.5, average SEER of 4.3, average EER of 3.1)

■ 30XBP premium unit

The 30XBP premium unit is equipped with EC fans and additional heat exchange surface to improve both the full load and part load energy efficiency. The 30XBP provides very cost effective operation in both process and comfort applications through the use of state of the art EC fan technology.

(Average SEPR of 5.9, average SEER of 4.4, average EER of 3.2)

Very economical operation

Exceptionally high full load and part load energy efficiency:

- 30XB version with Eurovent energy efficiency class A and B, ESEER up to 4.3 and SEER 12/7°C up to 4.4 with option 17 in accordance with EN14825.
- 30XBP version with Eurovent energy efficiency class A, ESEER up to 4.4 and SEER 12/7°C up to 4.6 in accordance with EN14825.
- Twin-rotor screw compressor equipped with a high-efficiency motor and a variable capacity valve that permits exact matching of the cooling capacity to the load.
- Novation™ aluminium condenser with high-efficiency micro-channels.
- Flooded shell-and-tube evaporator with new generation of cooler tubes to reduce exchanger pressure drops, especially in applications with high percentage of glycol.
- Electronic expansion device permitting operation at a lower condensing pressure and improved utilisation of the evaporator heat exchange surface (superheat control).
- Economiser system with electronic expansion device for increased cooling capacity.

Low operating sound levels

■ Compressors

- Discharge dampers integrated in the oil separator (Carrier patent).
- Silencer on the economiser return line.
- Compressor and oil separator acoustic enclosure, reducing radiated noise (option).

■ Condenser section

- Condenser coils in wide angle V configuration, allowing quieter air flow across the coil
- Low-noise 6th generation Flying Bird fans, made of a composite material (Carrier patent), are now even quieter and do not generate intrusive low-frequency noise
- Inverter driven EC fans on 30XBP version eliminate start stop noise during part load operation.
- Rigid fan mounting preventing start-up noise (Carrier patent).

Simple installation

■ Integrated hydraulic module (option)

- Centrifugal low or high-pressure water pump (as required), based on the pressure loss of the hydraulic installation

- Single or dual pump (as required) with run time balancing and automatic changeover to the back-up pump if a fault develops

- Water filter to protect pump against circulating debris
- High-capacity membrane expansion tank ensures pressurisation of the water circuit
- Thermal insulation and aluminium cladding (option)
- Pressure sensor to check filter condition and for direct numerical display of the water flow rate with an estimate of the instantaneous cooling capacity at the control interface
- Water flow control valve.

■ Simplified electrical connections

- Main disconnect switch with high trip capacity
- Transformer to supply the integrated control circuit (400/24 V).

■ Fast commissioning

- Systematic factory operation test before shipment
- Quick-test function for step-by-step verification of the controls, expansion devices, fans and compressors.

Environmental responsibility

■ R-134a refrigerant

- Range designed for use with R-134a refrigerant with the possibility to upgrade to ultra-low global warming potential R-1234ze refrigerant on site in the future.
- 40% reduction in the refrigerant charge through the use of micro-channel heat exchangers

■ Leak-tight refrigerant circuit

- Reduction of leaks as no capillary tubes and flare connections are used
- Verification of pressure transducers and temperature sensors without transferring refrigerant charge
- Liquid line service valve for simplified maintenance (option).

Exceptional reliability

■ Screw compressors

- Industrial-type screw compressors with oversized bearings and motor cooled by suction gas.
- All compressor components are easily accessible on site minimising down-time.
- Dedicated electronic compressor protection module.

■ Air condenser

2nd generation of "V" shape Carrier Novation™ aluminium microchannel heat exchangers (MCHE) with high corrosion resistance. The all aluminium design eliminates the formation of galvanic currents between aluminium and copper that cause coil corrosion in saline or corrosive environments.

■ Evaporator

Thermal insulation with aluminium sheet finish (option) for improved resistance to mechanical and UV damage.

■ Auto-adaptive control

- Control algorithm prevents excessive compressor cycling (Carrier patent)
- Automatic compressor unloading in case of abnormally high condensing pressure. If condenser coil fouling or fan failure occurs, the Aquaforce continues to operate, but at reduced capacity

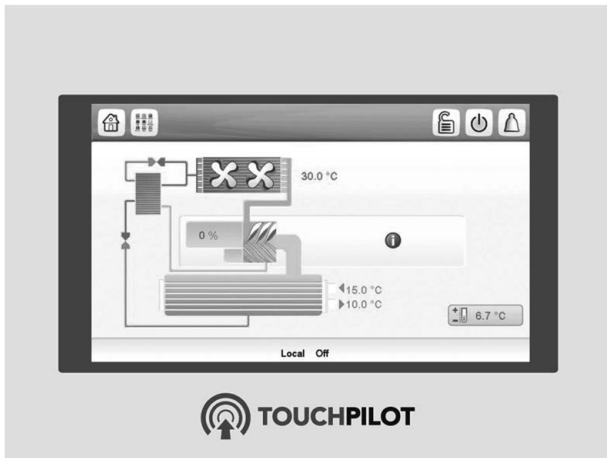
■ Exceptional endurance tests

- Partnerships with specialised laboratories and use of sophisticated finite element stress analysis for the design of critical components.
- Transport simulation test in the laboratory on a vibrating table. The test is based on a military standard and equivalent to 4000 km by truck.
- Salt mist corrosion resistance test in the laboratory for increased corrosion resistance.

TECHNICAL INSIGHTS

Touch Pilot Control

Touch Pilot, user interface



- New innovative smart control features:
 - An intuitive and user-friendly, coloured, 5" interface (7" optional)
 - Direct access to the unit's technical drawings and the main service documents
 - Screen-shots with concise and clear information in local languages
 - Complete menu, customised for different users (end user, service personnel and Carrier-factory technicians)
 - Easy access to the control panel with inclined touch screen mounting to ensure legibility under any lighting conditions
 - Safe operation and unit setting: password protection ensures that unauthorised people cannot modify any advanced parameters
 - Simple and "smart" intelligence uses data collection from the constant monitoring of all machine parameters to optimise unit operation.
- Energy management:
 - Internal time schedule clock controls chiller on/off times and operation at a second set-point
 - The DCT (Data Collection Tool) records the alarms history to simplify and facilitate service operations.

Remote Management (Standard)

- Units with Touch Pilot control can be easily accessed from the internet, using a PC with an Ethernet connection. This makes remote control quick and easy and offers significant advantages for service operations.
- Aquaforce is equipped with an RS485 serial port that offers multiple remote control, monitoring and diagnostic possibilities. When networked with other Carrier equipment through the CCN (Carrier Comfort Network - proprietary protocol), and in conjunction with one of Carrier's network products (Chiller System Manager or Plant system Manager) it forms part of a fully integrated and balanced HVAC system (optional).
- Aquaforce also communicates with other building management systems via optional communication gateways.
- The following commands/visualisations are possible from remote connection:
 - Start/stop of the machine
 - Dual set-point management: through a dedicated contact is possible to activate a second set-point (for example, during unoccupied mode).

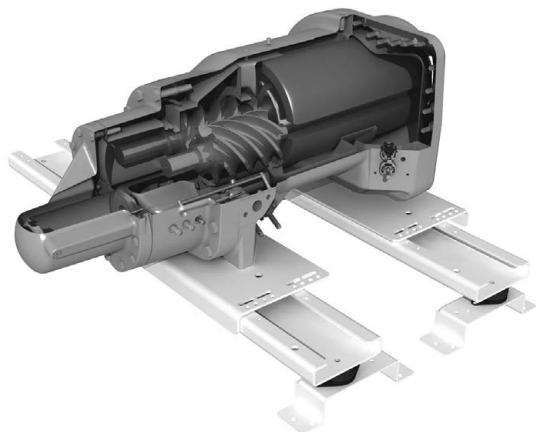
- Demand limit setting: to limit the maximum chiller capacity to a predefined value
- Water pump control: these outputs control the contactors of one/two evaporator water pumps
- Automatic changeover of pumps in the event of a fault (only with options 116C/116G).
- Operation visualisation: indication if the unit is operating or in stand-by (no cooling load), (no cooling load) - alarm visualisation.

Remote Management (EMM option)

- The Energy Management Module (EMM) offers extended remote control possibilities:
 - Room temperature: Permits set-point reset based on the building indoor air temperature (if Carrier thermostat are installed)
 - Set-point reset: Allows reset of the cooling set-point based on a 4-20 mA or 0-10 V signal
 - Demand limit: Permits limitation of the maximum chiller capacity based on 0-10 V signal
 - Demand limit 1 and 2: Closing of these contacts limits the maximum chiller capacity to two predefined values
 - User safety: This contact can be used for any customer safety loop; opening the contact generates a specific alarm
 - Ice storage end: When ice storage has finished, this input permits return to the second set-point (unoccupied mode)
 - Time schedule override: closing this contact cancels the programmed time schedule.
 - Out of service: This signal indicates that the chiller is completely out of service
 - Chiller capacity: This analogue output (0-10 V) gives an immediate indication of the chiller capacity
 - Alert indication: This volt-free contact indicates the necessity to carry out a maintenance operation or the presence of a minor fault
 - Compressors running status: Set of outputs (one for each compressor) indicating which compressors are running.

TECHNICAL INSIGHTS

06T Screw Compressor



99.7%* of units without a compressor failure

* Quality rate measured over a period of 15 years operation

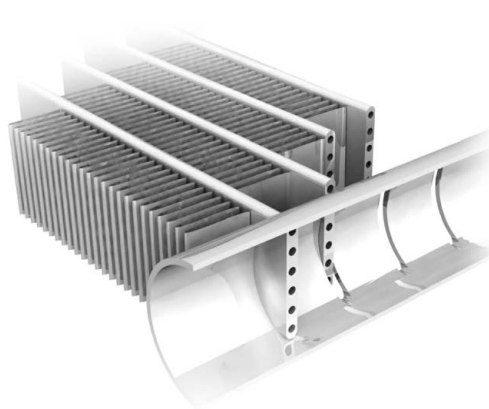
The Carrier 06T screw compressor benefits from Carrier's long experience in the development of twin-rotor screw compressors. The compressor is equipped with bearings with oversized rollers, oil pressure lubricated for reliable and durable operation, even at maximum load.

A variable control valve controlled by the oil pressure permits infinitely variable cooling capacity. This system allows optimal adjustment of the compressor cooling capacity and ensures exceptionally high stability of the chilled water leaving temperature.

Among the other advantages: if a fault occurs e.g. if the condenser is fouled or at very high outside temperature, the compressor does not switch off, but continues operation with a reduced capacity (unloaded mode).

The compressor is equipped with a separate oil separator that minimises the amount of oil in circulation in the refrigerant circuit and, with its integrated silencer, considerably reduces discharge gas pulsations for much quieter operation.

Novation® Heat Exchangers with Micro-Channel coil Technology



Already utilised in the automobile and aeronautical industries for many years, the Novation™ MCHE micro-channel heat exchanger used in the Aquaforce is entirely made of aluminium. This one-piece concept significantly increases its corrosion resistance by eliminating the galvanic currents that are created when two different metals (copper and aluminium) come into contact in traditional heat exchangers. Unlike traditional heat exchangers the Novation™ MCHE heat exchanger can be used in moderate marine and urban environments (Carrier recommendation).

From an energy efficiency point-of-view the Novation™ MCHE heat exchanger is approximately 10% more efficient than a traditional coil and allows a 40% reduction in the amount of refrigerant used in the chiller. The low thickness of the Novation™ MCHE reduces air pressure losses by 50% and makes it susceptible to very little fouling (e.g. by sand). Cleaning of the Novation™ MCHE heat exchanger is very fast using a high-pressure washer.

Carrier Novation® MCHE with Super Enviro-shield® coating, the ideal customer choice

To further enhance long-term performance, and to protect coils from early deterioration, Carrier offers (as options) dedicated treatments for installations in corrosive environments.

The Novation™ MCHE with Enviro-Shield protection (option 262) are recommended for installations in moderately corrosive environments. The Enviro-Shield protection utilises corrosion inhibitors which actively arrest oxidation in case of mechanical damage.

The Novation™ MCHE with the exclusive Super Enviro-Shield protection (option 263) are recommended for installations in corrosive environments. The Super Enviro-Shield protection consist in an extremely durable and flexible epoxy coating uniformly applied over all coil surfaces for complete isolation from the contaminated environment.

PHYSICAL DATA, SIZES 30XB-250 TO 800

30XB		250	300	350	400	450	500	600	700	750	800			
Cooling														
Standard unit		Nominal capacity	kW		274	299	327	393	444	496	615	682	726	788
Full load performances*	CA1	EER	kW/kW		3,14	3,11	3,11	3,22	3,11	3,1	3,15	3,34	3,11	3,14
		Eurovent class		A	A	A	A	A	A	A	A	A	A	A
Seasonal energy efficiency	SEER_{12/7°C} Comfort low temp. kWh/kWh				4,05	4,10	4,16	3,96	NA	NA	NA	4,21	NA	4,15
	η_{s cool}_{12/7°C} %				159	161	163	155	NA	NA	NA	166	NA	163
	SEPR_{12/7°C} Process high temp. kWh/kWh				4,74	5,15	5,51	4,95	5,33	4,98	5,20	5,50	5,06	5,09
	SEPR _{-2/-8°C} Process medium temp.**		kWh/kWh		3,02	3,27	3,41	3,13	3,33	2,97	3,40	3,64	3,31	3,29
	ESEER		kW/kW		3,87	3,93	4,00	3,85	3,93	3,77	3,83	4,10	3,88	3,95
Unit with option 15LS (+)		Nominal capacity	kW		270	294	321	382	430	485	606,9	660,9	698	767
Full load performances*	CA1	EER	kW/kW		3,1	3,05	3,07	3,17	2,98	2,93	3,12	3,2	3	2,97
		Eurovent class		A	B	B	A	B	B	A	A	B	B	
Seasonal energy efficiency	SEER_{12/7°C} Comfort low temp. kWh/kWh				4,18	4,22	4,42	4,22	4,14	NA	NA	4,29	NA	NA
	η_{s cool}_{12/7°C} %				164	166	174	166	163	NA	NA	169	NA	NA
	SEPR_{12/7°C} Process high temp. kWh/kWh				5,03	5,24	5,98	5,17	5,50	5,13	5,66	5,69	5,40	5,52
	SEPR _{-2/-8°C} Process medium temp.**		kWh/kWh		3,09	3,51	3,75	3,36	3,48	3,06	3,74	3,88	3,59	3,67
	ESEER		kW/kW		4,00	4,24	4,22	4,14	4,17	3,92	4,12	4,13	4,05	4,10
Sound levels														
Standard unit														
Sound power ⁽¹⁾		dB(A)		99	99	99	99	101	99	101	99	103	103	
Sound pressure at 10 m ⁽²⁾		dB(A)		67	67	67	67	69	67	68	67	70	70	
Unit + option 15⁽³⁾														
Sound power ⁽¹⁾		dB(A)		93	93	94	95	95	95	97	96	97	98	
Sound pressure at 10 m ⁽²⁾		dB(A)		61	61	62	63	63	63	65	63	64	65	
Unit + option 15LS⁽³⁾														
Sound power ⁽¹⁾		dB(A)		87	87	87	90	91	91	93	92	94	94	
Sound pressure at 10 m ⁽²⁾		dB(A)		54	54	54	57	58	58	59	58	60	60	
Unit + option 15LS+⁽³⁾														
Sound power ⁽¹⁾		dB(A)		-	-	-	-	89	89	91	90	91	92	
Sound pressure at 10 m ⁽²⁾		dB(A)		-	-	-	-	56	56	57	56	58	58	
Dimensions														
Standard unit														
Length		mm		3604	3604	3604	4798	4798	4798	7186	7186	7186	7186	
Width		mm		2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	
Height		mm		2297	2297	2297	2297	2297	2297	2297	2297	2297	2297	
Operating weight⁽⁴⁾														
Standard unit		kg		3025	3059	3080	3669	3734	3802	4797	4928	5211	5522	
Unit + option 15 ⁽³⁾		kg		3293	3327	3348	3968	4033	4101	5128	5259	5542	5853	
Unit + option 118a ⁽³⁾		kg		3109	3143	3164	3773	3838	4186	4929	5060	5358	5669	
Unit + option 50 ⁽³⁾		kg		3370	3404	3425	4102	4245	4601	5551	5782	6065	6382	

* In accordance with standard EN14511-3:2013.

** With option_6 Low temperature brine solution

CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator frosting factor 0 m².K/W

η_{s cool}_{12/7°C} & SEPR Réglementation Ecodesign applicable (UE) No 2016/2281

(1) In dB ref=10⁻¹² W, 'A' weighted. Declared dual-number noise emission values in accordance with ISO 4871 with an associated uncertainty of +/-3dB(A).

Measured in accordance with ISO 9614-1 and certified by Eurovent.

(2) In dB ref 20μPa, 'A' weighted. Declared dual-number noise emission values in accordance with ISO 4871 with an associated uncertainty of +/-3dB(A).

For information, calculated from the sound power Lw(A).

(3) Options : 15 = Low noise, 15LS = Very Low noise, 118a = Dx freecooling option, 50= heat recovery.

(4) Values are guidelines only. Refer to the unit name plate.



Valeurs certifiées Eurovent

PHYSICAL DATA, SIZES 30XB-850 TO 1700

30XB		850	900	1000	1100	1200	1300	1400	1500	1550	1700			
Cooling														
Standard unit		Nominal capacity	kW		828	890	965	1126	1244	1332	1440	1492	1532	1689
Full load performances*	CA1	EER	kW/kW		3,13	3,13	2,97	3,08	3,1	3,18	3,08	3,12	3,23	3,25
		Eurovent class			A	A	B	B	A	A	B	A	-	-
Seasonal energy efficiency		SEER_{12/7°C} Comfort low temp. kWh/kWh			NA	4,09	NA	NA	4,16	NA	NA	NA	4,15	NA
		ηs cool_{12/7°C}	%		NA	161	NA	NA	164	NA	NA	NA	163	NA
		SEPR_{12/7°C} Process high temp. kWh/kWh			5,17	5,08	5,13	5,31	5,46	5,33	5,43	5,11	5,31	5,24
		SEPR _{-2/-8°C} Process medium temp.**	kWh/kWh		3,11	3,08	3,40	3,21	3,62	3,49	3,67	3,11	3,46	3,50
		ESEER	kW/kW		3,77	3,95	3,75	3,91	4,13	3,88	3,92	3,84	4,02	3,91
Unit with option 15LS (+)		Nominal capacity	kW		775	859	929	1111	1211	1298	1391	1418	1457	1627
Full load performances*	CA1	EER	kW/kW		2,8	2,97	2,96	2,9	3,03	2,9	2,77	2,94	2,96	3,1
		Eurovent class			C	B	B	B	B	B	C	B	-	-
Seasonal energy efficiency		SEER_{12/7°C} Comfort low temp. kWh/kWh			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		ηs cool_{12/7°C}	%		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		SEPR_{12/7°C} Process high temp. kWh/kWh			5,23	5,37	5,31	5,10	5,34	4,98	4,93	4,93	5,39	5,23
		SEPR _{-2/-8°C} Process medium temp.**	kWh/kWh		3,13	3,08	3,75	3,14	3,60	3,57	3,66	3,13	3,61	3,71
		ESEER	kW/kW		3,74	3,86	3,73	3,74	3,96	3,56	3,49	3,67	3,90	3,87
Sound levels														
Standard unit														
Sound power ⁽¹⁾		dB(A)		101	104	102	103	102	104	104	104	104	104	104
Sound pressure at 10 m ⁽²⁾		dB(A)		70	71	69	70	69	71	71	71	71	71	70
Unit + option 15⁽³⁾														
Sound power ⁽¹⁾		dB(A)		97	99	98	98	98	100	99	99	100	100	
Sound pressure at 10 m ⁽²⁾		dB(A)		65	66	65	65	65	67	65	65	67	66	
Unit + option 15LS⁽³⁾														
Sound power ⁽¹⁾		dB(A)		94	95	94	94	94	99	95	96	96	96	
Sound pressure at 10 m ⁽²⁾		dB(A)		60	62	65	65	61	65	61	-1	61	61	
Unit + option 15LS+⁽³⁾														
Sound power ⁽¹⁾		dB(A)		91	93	92	93	93	97	94	95	93	93	
Sound pressure at 10 m ⁽²⁾		dB(A)		58	60	59	60	60	66	61	62	60	60	
Dimensions														
Standard unit														
Length		mm		7186	7186	8380	9574	10770	11962	11962	13157	9574/ 4798	8380/ 8380	
Width		mm		2253	2253	2253	2253	2253	2253	2253	2253	2253	2253	
Height		mm		2297	2297	2297	2297	2297	2297	2297	2297	2297	2297	
Operating weight⁽⁴⁾														
Standard unit		kg		5570	5848	6318	7292	7755	8625	8702	9016	3422/ 6714	5957/ 5957	
Unit + option 15 ⁽³⁾		kg		5901	6179	6649	7663	8126	8997	9074	9388	3588/ 7046	6288/ 6288	
Unit + option 118 ⁽³⁾		kg		6004	6302	6771	-	-	-	-	-	-	-	
Unit + option 50 ⁽³⁾		kg		6430	6805	7272	-	-	-	-	-	-	-	

* In accordance with standard EN14511-3:2013.

** With option 6 Low temperature brine solution

CA1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator frosting factor 0 m².K/W

ηs cool_{12/7°C} & SEPR Réglementation Ecodesign applicable (UE) No 2016/2281

(1) In dB ref=10⁻¹² W, 'A' weighted. Declared dual-number noise emission values in accordance with ISO 4871 with an associated uncertainty of +/-3dB(A).

Measured in accordance with ISO 9614-1 and certified by Eurovent.

(2) In dB ref 20μPa, 'A' weighted. Declared dual-number noise emission values in accordance with ISO 4871 with an associated uncertainty of +/-3dB(A).

For information, calculated from the sound power Lw(A).

(3) Options : 15 = Low noise, 15LS = Very Low noise, 118a = Dx freecooling option, 50= heat recovery.

(4) Values are guidelines only. Refer to the unit name plate.



Valeurs certifiées Eurovent

ELECTRICAL DATA, 30XB-1100 TO 1700

30XB		1100	1200	1300	1400	1500	1550	1700
Power circuit supply								
Nominal voltage	V-ph-Hz	400-3-50						
Voltage range	V	360-440						
Control circuit supply		24 V via internal transformer						
Maximum operating input power⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	kW	196	225	267	286	309	459	366
Circuit 2 ^(a)	kW	286	312	286	307	309	230	366
Option 081	kW	483	537	553	593	619	689	
Unit + option 15LS								
Circuit 1 ^(a)	kW	190	218	258	276	299	451	354
Circuit 2 ^(a)	kW	277	301	276	297	299	222	354
Option 081	kW	467	520	534	574	598	666	
Power factor at maximum power⁽¹⁾ - 30XB								
Standard unit								
Displacement Power Factor (Cos Phi)		0,88	0,88	0,88	0,88	0,88	0,89	0,89
Unit + option 15LS								
Displacement Power Factor (Cos Phi)		0,88	0,88	0,88	0,88	0,88	0,89	0,89
Nominal operating current draw⁽²⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	258	274	341	356	390	543	446
Circuit 2 ^(a)	A	358	392	356	386	390	273	446
Option 081	A	616	666	697	742	780	820	
Unit + option 15LS								
Circuit 1 ^(a)	A	247	263	325	340	372	530	427
Circuit 2 ^(a)	A	344	374	340	370	372	260	427
Option 081	A	590	637	665	710	745	782	
Maximum operating current draw (Un)⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	320	366	440	470	509	740	593
Circuit 2 ^(a)	A	466	509	470	505	509	370	593
Option 081	A	788	877	912	977	1020	1113	
Unit + option 15LS								
Circuit 1 ^(a)	A	309	355	424	454	491	727	574
Circuit 2 ^(a)	A	452	491	454	489	491	357	574
Option 081	A	762	848	880	945	985	1074	
Maximum current (Un-10%)⁽¹⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	320	366	440	470	509	740	593
Circuit 2 ^(a)	A	466	509	470	505	509	370	593
Option 081	A	788	877	912	977	1020	1113	
Unit + option 15LS								
Circuit 1 ^(a)	A	309	355	424	454	491	727	574
Circuit 2 ^(a)	A	452	491	454	489	491	357	574
Option 081	A	762	848	880	945	985	1074	
Nominal start-up current⁽³⁾ - 30XB								
Standard unit								
Circuit 1 ^(a)	A	587	587	629	629	629	954	812
Circuit 2 ^(a)	A	629	629	629	629	629	477	812
Option 081	A	940	980	985	1015	1019	1316	
Option 081 & Opt 25c	A	802	820	844	862	862		
Unit + option 15LS								
Circuit 1 ^(a)	A	576	576	613	613	611	941	793
Circuit 2 ^(a)	A	615	611	613	613	611	464	793
Option 081	A	914	951	953	983	984	1290	
Option 081 & Opt 25c	A	776	791	812	830	826		

(1) Values obtained at unit continuous maximum operating conditions (data given on the unit nameplate)

(2) Operating current of the smallest compressor(s) + fan current + locked rotor current or reduced start-up current of the largest compressor.

(3) Standardised EUROVENT conditions, water-cooled exchanger water inlet/outlet = 12°C/7°C, outdoor air temperature = 35°C.

(a) When the machines are equipped with two power supplies, circuit 1 supplies the refrigerant circuit A and circuit 2 supplies the refrigerant circuit B or for units 30XB1550 to 1700 units: Circuit 1 supplies circuits A and B, circuit 2 supplies circuits C and D.