Electrical data

30RBS without hydronic module		039	045	050	060	070	080	090	100	120	140	160
Power circuit												
Nominal power supply	V-ph-Hz	400-3-50										
Voltage range	V	360-440										
Control circuit supply		24 V via internal transformer										
Maximum start-up current (Un)*												
Standard unit	A	112.7	130.9	141.0	143.4	170.4	209.4	168.8	195.8	239.8	226.2	275.2
Unit with electronic starter option	A	74.7	86.5	93.8	96.2	114.4	139.8	-	-	-	-	-
Unit power factor at maximum capacity**		0.83	0.81	0.81	0.83	0.81	0.78	0.83	0.81	0.79	0.81	0.78
Maximum operating power input**	kW	18.8	20.8	24.4	27.8	31.2	35.8	42.2	45.5	52.4	62.3	71.5
Nominal unit operating current draw***	A	25.7	30.6	34.9	38.3	45.6	55.8	57.8	67.1	82.7	91.2	112.2
Maximum operating current draw (Un)****	A	32.9	37.3	43.5	48.3	55.8	65.8	73.7	81.2	96.2	111.6	131.6
Maximum operating current draw (Un-10%)†	A	38.1	49.1	51.3	57.9	74.6	81.2	88.3	108.1	118.0	149.2	162.4
Customer-side unit power reserve	kW	Customer reserve at the 24 V control power circuit										
Short-circuit stability and protection		See table below										

* 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 temperature 10°C, saturated condensing temperature 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.
**** Maximum unit operating current at maximum unit power input and 400 V (values given on the unit nameplate).
† Maximum unit operating current at maximum unit power input and 360 V.

Short-circuit stability current (TN system*) - standard unit (with main disconnect without fuse)

30RBS	039	045	050	060	070	080	090	100	120	140	160
Value without upstream protection											
Short-term current at 1s - Icw – kA rms	3.36	3.36	3.36	3.36	3.36	3.36	5.62	5.62	5.62	5.62	5.62
Admissible peak current - Ipk - kA pk	20	20	20	20	20	15	20	20	15	20	15
Value with upstream protection by circuit breaker											
Conditional short-circuit current Icc - kA rms	40	40	40	40	40	40	40	40	40	30	30
Schneider circuit breaker - Compact series	NS100H	NS100H	NS100H	NS100H	NS100H	NS100H	NS100H	NS160H	NS160H	NS250H	NS250H
Reference No.**	29670	29670	29670	29670	29670	29670	29670	30670	30670	31671	31671

* Earthing system type
** If another current limitation protection system is used, its time-current and thermal constraint (I^2t) trip characteristics must be at least equivalent to those of the recommended Schneider circuit breaker. Contact your nearest Carrier office.
The short-circuit stability current values above are in accordance with the TN system.

Electrical data and operating conditions notes:

- 30RB 039-160 units have a single power connection point located immediately upstream of the main disconnect switch.
- The control box includes the following standard features:
  - a main disconnect switch,
  - starter and motor protection devices for each compressor, the fans and the pump,
  - the control devices.
- Field connections:
  All connections to the system and the electrical installations must be in full accordance with all applicable local codes.
- The Carrier 30RB units are designed and built to ensure conformance with these codes. The recommendations of European standard EN 60204-1 (machine safety - electrical machine components - part 1: general regulations - corresponds to IEC 60204-1) are specifically taken into account, when designing the electrical equipment.

NOTES:

- Generally the recommendations of IEC 60364 are accepted as compliance with the requirements of the installation directives. Conformance with EN 60204-1 is the best means of ensuring compliance with the Machines Directive § 1.5.1.
- Annex B of EN 60204-1 describes the electrical characteristics used for the operation of the machines.
- The operating environment for the 30RB units is specified below:

1. Environment* - Environment as classified in EN 60721 (corresponds to IEC 60721):
   - outdoor installation*
   - ambient temperature range: -20°C to +48°C, class 4K4H
   - altitude: ≤ 2000 m
   - presence of hard solids, class 4S2 (no significant dust present)
   - presence of corrosive and polluting substances, class 4C2 (negligible)
2. Power supply frequency variation: ± 2 Hz.
3. The neutral (N) conductor must not be connected directly to the unit (if necessary use a transformer).
4. Overcurrent protection of the power supply conductors is not provided with the unit.
5. The factory-installed disconnect switch is of a type suitable for power interruption in accordance with EN 60947.
6. The units are designed for connection to TN networks (IEC 60364). For IT networks the earth connection must not be at the network earth. Provide a local earth, consult competent local organisations to complete the electrical installation.

Caution: If particular aspects of an actual installation do not conform to the conditions described above, or if there are other conditions which should be considered, always contact your local Carrier representative.

* The required protection level for this class is IP43BW (according to reference document IEC 60529). All 30RB units are protected to IP44CW and fulfil this protection condition.