



T-POWER range

**The evolution
of chillers**



T-POWER is the new range of water chillers in R134a with oil-free TURBOCOR compressor and innovative components to increase energy efficiency

TURBOCOR compressor

Turbocor compressors, the world's first totally oil free compressors, are specifically designed for the Air Conditioning and Refrigeration (HVACR) industry. The cooperation of aerospace and industrially proven technologies which include magnetic bearings, variable-speed centrifugal compression and digital electronic controls, enable the Turbocor compressors to achieve the highest overall efficiencies for air-cooled HVACR applications.



Condenser fan motors

New generation Rotorex Axial Fans has been specifically designed to meet and exceed the demands of the international OEM customers in terms of performance, and airflow efficiencies with low noise emissions. All Rotorex fans have been tested for airflow performance in accordance with British Standard.



Flooded evaporator

- Better performance thanks to approach (between evaporation and outlet water temperature) less than 2°C. Standard dx evaporator: 4÷6°C.
- Better efficiency thanks to superheat less than 2-3°C. Standard evaporator: 5-8°C.
- Less pressure drop on the refrigerant side. Standard evaporator has higher refrigerant speed required to ensure the return of oil, especially at part load.
- The whole surface is used for the heat exchange, even at part load. Standard dx evaporator: the surface may be partialized in part load conditions.
- Evaporator and compressor are oil free type: no issues of minimum refrigerant velocity, no issues of oil separation, simplified circuit and the thermal exchange coefficient is enhanced by the absence of oil film around the surfaces. Several studies have indicated that with 4% oil content, the efficiency is decreased up to 9%.

Microchannel condensing coils

- Lower air pressure drop and related low fan noise.
- Lower weight.
- Lower leak risk.
- Lower dust efficiency decreasing.
- Lower exchanger surface.
- Lower refrigerant charge.
- Higher corrosion resistance.



TCATBZ 1150÷62100

T-POWER range



Industrial application

Offices & Services

Shopping centres

Hotels & Resorts

Meeting & Congress

Airports

Electronic expansion valve

- Microprocessor controlled.
- Constant Superheat to optimize evaporator Temperature with Maximum E.E.R.
- Minimizes energy consumption at part load operation.
- Allows operation at lower condensing pressure.
- Provides excellent stability & control accuracy.
- Fast response.
- Energy saving more than 15% during the year.

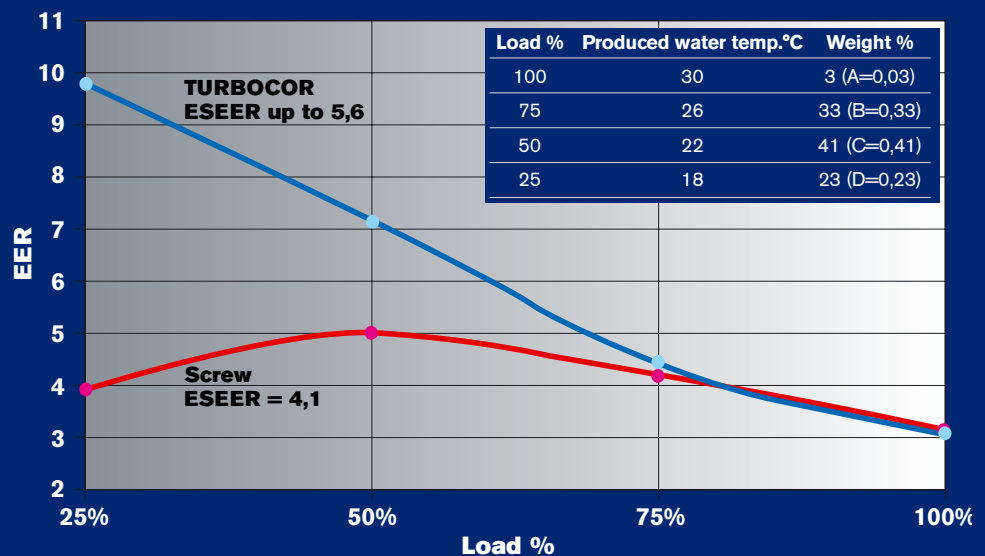


MAIN ADVANTAGES:

- **High energy efficiency (especially at part load) thanks to the use of innovative components like oil free compressor, flooded evaporator and micro channel condensing coils**
- **Silent operation and reduced vibrations thanks to the use of TURBOCOR compressor**
- **Low starting current and reduced maintenance of the TURBOCOR compressor**
- **Light and compact units**
- **Accurate temperature control**



Screw and TURBOCOR compressor comparison



$$ESEER = A \cdot EER_{100\%} + B \cdot EER_{75\%} + C \cdot EER_{50\%} + D \cdot EER_{25\%}$$

ESEER: European Seasonal energy efficiency ratio is a single number, part-load efficiency indicator according to Eurovent. This is the only index able to evaluate the difference between 2 technologies. On ESEER based calculation, T-POWER range with TURBOCOR compressor is 30% more efficient than a chiller with screw compressors due to the performance and efficiency increase at part load.



TECHNICAL DATA

TCATBZ		1150	1170	1190	1210	1240	1290	1340
❶ Nominal cooling capacity	kW	150	170	190	210	240	290	340
❶ E.E.R.		3,16	3,24	3,41	3,57	3,68	3,90	3,83
● E.S.E.E.R.		4,66	4,61	4,85	5,08	5,11	5,55	5,63
❶ Absorbed power	kW	47,4	52,5	55,7	58,8	65,2	74,3	88,8
❷ Sound pressure level	dB(A)	60	62	62	62	63	64	64
TURBOCOR compressor/steps	No.	1/Infinity	1/Infinity	1/Infinity	1/Infinity	1/Infinity	1/Infinity	1/Infinity
Circuits	No.	1	1	1	1	1	1	1
Main supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		1150	1170	1190	1210	1240	1290	1340
Width	mm	2530	2530	2530	2530	2530	3580	3580
Height	mm	2540	2540	2540	2540	2540	2540	2540
Depth	mm	2250	2250	2250	2250	2250	2250	2250
❸ Weight TCATBZ	kg	1342	1422	1607	1647	1752	2065	2115

TCATBZ		2410	2480	2540	2620	2700	3810	3930	31050
❶ Nominal cooling capacity	kW	410	480	540	620	700	810	930	1050
❶ E.E.R.		3,53	3,68	3,84	3,84	3,76	3,81	3,87	3,77
● E.S.E.E.R.		5,03	5,11	5,39	5,45	5,52	5,30	5,53	5,55
❶ Absorbed power	kW	116,0	130,4	140,6	161,4	186,1	212,8	240,2	278,2
❷ Sound pressure level	dB(A)	65	66	66	67	67,5	68	68,5	69
TURBOCOR compressor/steps	No.	2/Infinity	2/Infinity	2/Infinity	2/Infinity	2/Infinity	3/Infinity	3/Infinity	3/Infinity
Circuits	No.	1	1	1	1	1	1	1	1
Main supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		2410	2480	2540	2620	2700	3810	3930	31050
Width	mm	4630	4630	5680	5680	6730	7780	7780	8830
Height	mm	2540	2540	2540	2540	2540	2540	2540	2540
Depth	mm	2250	2250	2250	2250	2250	2250	2250	2250
❸ Weight TCATBZ	kg	2913	3073	3499	3669	4044	4890	5208	5566

TCATBZ		41240	41400	61620	61860	62100
❶ Nominal cooling capacity	kW	1240	1400	1620	1860	2100
❶ E.E.R.		3,84	3,76	3,81	3,87	3,77
● E.S.E.E.R.		5,45	5,52	5,30	5,53	5,55
❶ Absorbed power	kW	322,8	372,2	425,6	480,4	556,4
❷ Sound pressure level	dB(A)	70	70,5	71,2	71,8	72,5
TURBOCOR compressor/steps	No.	4/Infinity	4/Infinity	6/Infinity	6/Infinity	6/Infinity
Circuits	No.	2	2	2	2	2
Main supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		41240	41400	61620	61860	62100
Width	mm	10930	13050	15150	15150	17250
Height	mm	2540	2540	2540	2540	2540
Depth	mm	2250	2250	2250	2250	2250
❸ Weight TCATBZ	kg	6966	7687	9152	9648	10375

In the following conditions:

- ❶ Air: 35°C - Water: 6/12°C
- ❷ At 5 m from the unit in free field (Q = 2)
- ❸ Empty weight unit
- ESEER (European Seasonal EER) - European seasonal average efficiency

RHOSS SPA declines all responsibilities for possible mistakes in the catalogue and reserves the right to alter the features of its products without notice in the interests of continuous improvement.



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