Z-POWER
Z-FLOW

Chiller technology for efficient HVAC systems

RHOSS

Z-POWER and Z-FLOW: Eurovent certified water chillers in R134a

Z-POWER
Z-FLOW

Technology and efficiency reward your choice.

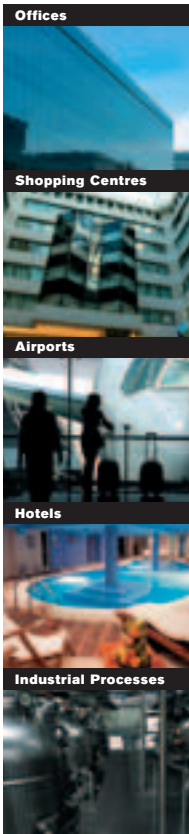
The R134a Z-POWER and Z-FLOW range of water chillers from RHOSS have been designed to offer efficient, versatile and technologically advanced solutions, in keeping with the requirements of modern HVAC and industrial cooling systems, with an increasing focus on energy saving. The ranges comprise of 192 air-cooled water chiller models and 198 water-cooled water chiller models in various construction types and versions, which can be further enhanced by a full range of accessories.

R&D Lab

Laboratory approved for testing chillers and heat pumps according to the standard ''RATING STANDARD FOR LIQUID CHILLING PACKAGES" (6/C003 - 2010) of Eurovent, which guarantees and certifies the required performances.

Z-POWER and Z-FLOW are water chillers developed in the innovative RHOSS Eurovent approved Research & Development laboratory.

R134a



Clockwise: Technical and Design Office / Climatic Chamber in the R&D Lab / Entrance to the Rhoss R&D Lab

MISSION

1 EFFICIENCY Supplying cooling with the lowest possible energy consumption has always been one of Rhoss' main objectives. Z-POWER and Z-FLOW use R134a eco-friendly refrigerant and the Z-POWER HE and Z-FLOW HE range have been awarded a class A efficiency rating by the Eurovent certification programme.

2 TECHNOLOGY Rhoss stands out for its constant research and development. This has led the company to experiment with components and solutions able to make the water chillers innovative, reliable and flexible. Thanks to expert technical staff and the Research and Development laboratory (R&D Lab), Rhoss has created the Z-POWER and Z-FLOW range of water chillers, catering for all modern air conditioning applications.

3 FLEXIBILITY With its constant focus on customer requirements, Rhoss offers an extensive catalogue of versions, accessories and arrangements for its Z-POWER and Z-FLOW ranges. It is therefore possible to select the right unit for the system, in terms of cooling capacity, energy efficiency, noise levels and accessories. Having a "plug&play" unit is not just a winning philosophy, but a reality.

4 CUSTOMISED WATER CHILLERS Rhoss is also able to offer customised solutions to clients with specific design requirements. Expert technical staff can suggest the most suitable unit for the system to be developed, evaluating any relative modifications to be made, which may be structural, technical or constructive.

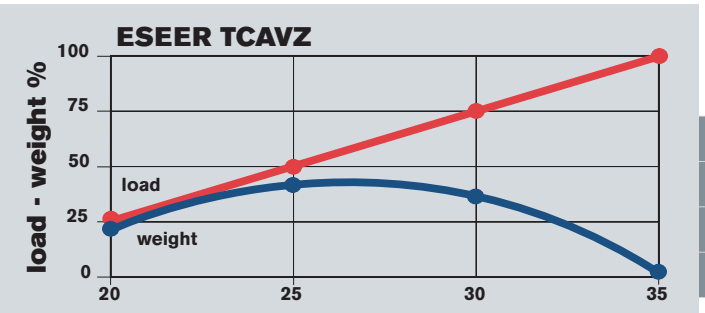
5 QUALITY If designing and constructing equipment for civil and industrial air conditioning is Rhoss' main activity, then guaranteeing reliability and optimum operation is our misson. Today, Rhoss is synonymous with quality and comfort worldwide, thanks to a wide range of products, from the heat pump systems to fan coils, to water chillers and air handling units.

Z-POWER
Z-FLOW

High energy efficiency.

In awareness of the increasing demand for energy saving systems, the range has been carefully designed to maximize its energy efficiency, with EER values of above 3,1 for the Z-POWER HE range and EER values of up to 5,05 for the Z-FLOW HE range. The chillers of both the ranges can be classified as CLASS A according to the energy label certified by Eurovent.

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com



Load %	External air temp. °C	Weight %
100	35	3
75	30	33
50	25	41
25	20	23

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

Z-FLOW HE
EER > 5,05
ESEER up to 6,06

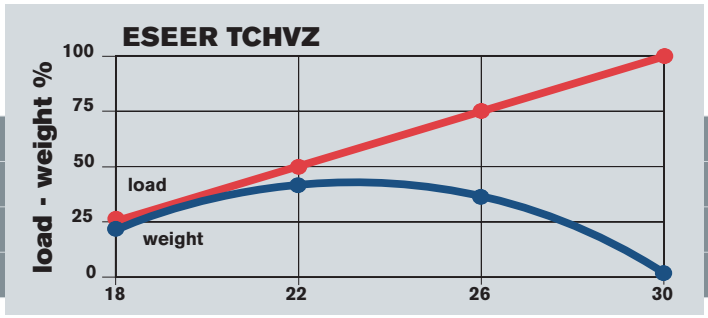
EER-ESEER

EFFICIENCY AT PARTIAL LOADS

On average during their life time, water chillers supply cooling capacities below that for which they were specified. In order to calculate the average efficiency, we use the ESEER (European Seasonal Energy Efficiency Ratio) and IPLV (Integrated Part Load Valve) indexes. The water chillers in the Z-POWER and Z-FLOW range have been designed to enable optimal efficiency at partial loads and to achieve high ESEER and IPLV values, with a consequent reduction in energy consumption. Furthermore, in order to satisfy the requests of specific chillers for Green Building we have available 15 models from the Z-FLOW EXCELLENCE range.

COMPONENTS OPTIMISE THE EFFICIENCY

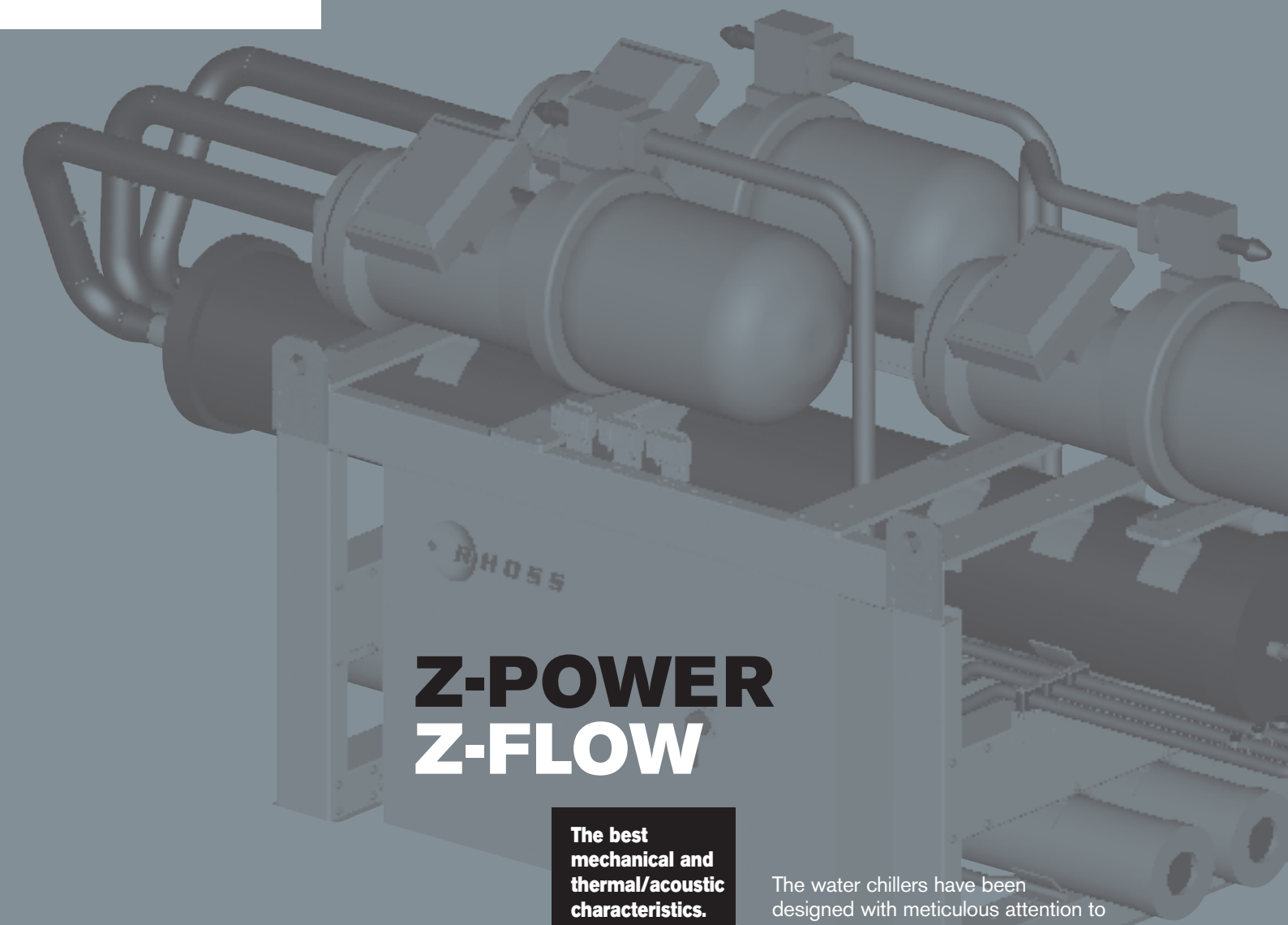
The components used in the Z-POWER and Z-FLOW ranges have been specifically developed to achieve high performance and energy efficiency with R134a gas. The new screw compressors and the countercurrent heat exchangers dedicated to this refrigerant, available in both shell and tube and brazed plate format, are the key elements in this range. The ventilating section in the Z-POWER range has been sized to permit optimal heat exchange at reduced noise levels. Moreover, the electronic expansion valve with which the water chillers are equipped, enables accurate, fast and timely regulation at different load conditions.



Load %	Produced water temp.°C	Weight %
100	30	3
75	26	33
50	22	41
25	18	23

A = 0.03(3%) B = 0.33(33%) C = 0.41(41%) D = 0.23(23%)

Design phase: CAD 3D view



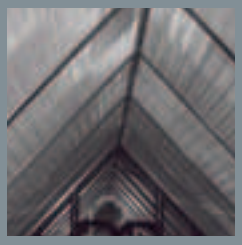
Z-POWER
Z-FLOW

The best mechanical and thermal/acoustic characteristics.

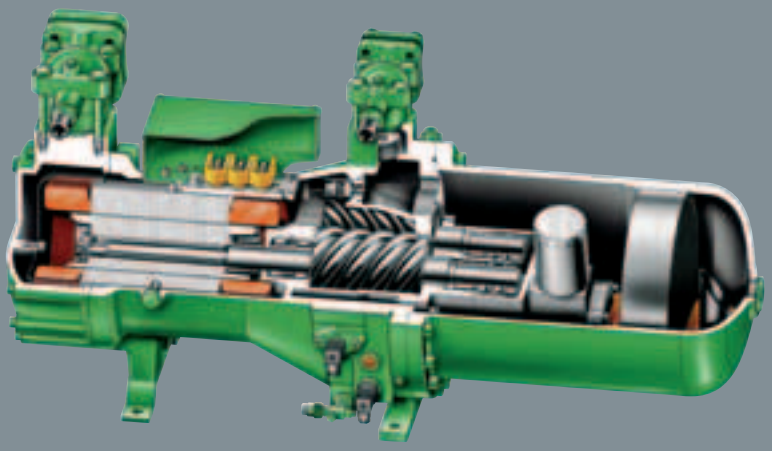
The water chillers have been designed with meticulous attention to the choice of components used and have been subjected to strict tests in the R&D Lab. The result is a modern range, able to cater for multiple client requirements.
The main components in the refrigerant circuit are optimised for R134a gas. In view of continuous product evolution, the design is targeted at obtaining a high performance water chiller with energy efficiency levels above expectations. The technology used has made it possible to have not just a unit with class A EER valves, but a plug&play system for flexible use in a range of applications.









TECHNOLOGY

EVAPORATOR Two different types may be used in water chillers, depending on the range and the cooling capacity. In the Z-POWER range, a braze-welded plate evaporator is used with perfect counterflow heat exchange (for powers up to 500 kW), while the shell and tube evaporator is optional. For powers above 500 KW and in all models in the Z-FLOW range, the evaporator is a shell and tube type with dry expansion and single pass, with perfect counterflow heat exchange. Victaulic water connections are used. CONDENSING SECTION Designed to balance the thermal exchange requirements with the need to contain pressure drops and fan noise. The unit also has condensation control as standard, guaranteeing operation down to +5°C (optional control down to –15°C with fans with EC motor - brushless). COMPRESSORS Latest generation double-screw compressors, designed/optimised to operate with R134a gas. This makes it possible to achieve higher cooling capacities with better energy efficiency compared to the previous generation, which envisaged the retrofit of a compressor used for other refrigerants. The double-screw profile guarantees reliability and duration over time. The bearings do not operate in onerous conditions which would adversly affect their operation. The built-in oil separator manages the oil efficiently, which is fundamental for the compressor refrigeration and lubrification process.
EEV The water chillers are equipped with latest generation electronic expansion valves as standard, allowing for accurate refrigerant gas control and guaranteeing precise operation, fast response and a reduction in energy consumption.
ELECTRONIC CONTROLLER The user interface is positioned in the door of the electric panel and is protected against atmospheric agents (in units for outdoor installation). The electronic control of the water chiller maximises energy saving and system reliability, such as the hourly compressor rotation (first in - first out compressor management). Optimal pump management and heat recovery management (where present), critical temperature and presure monitoring, local and remote set-point management, with the possibility to vary them via proportional analogue signals. The water chiller offers various possibilities for interfacing with BMS systems and supervision systems available on the market, thanks to the dedicated serial interfaces. OPERATING LIMITS The water chiller in the Z-POWER range has been designed to work at external air temperatures from –15°C to 50°C thanks to the high-pressure prevent function.
On request, it is possible to extend the operating limits.
Furthermore, in the H.T. version the unit can work in extreme weather with maximum outdoor temperature up to 55°C.

Z-POWER and
Z-FLOW range

TCAVSZ 2391
• full optional
• silenced water chiller
• T&P pump assembly
• 100% heat recovery

Z-POWER
Z-FLOW

Flexible, standard or full optional range.

The Z-POWER High and Standard efficiency ranges are comprised of 192 models in 4 versions from 260 to 1600 kW, while the Z-FLOW range reaches 1630 kW, (both as chiller and condenserless) is comprised of 198 models in 2 versions. This enables accurate size selection, on the basis of the cooling capacity required.

TCHVBZ 31631
"B" standard version

TCAVIZ 21010 H.T.
Soundproofed version "I", high temperature versione "H.T.", shell and tube heat exchanger

TCHVBZ 21030
"B" standard version

TCAVSZ 21600
silenced version "S" with shell and tube heat exchanger, partial condensation heat recovery with integrated pumping group

TCHVIZ 21260
soundproofed version "I" with metal box and internal high impedance soundproofed cover

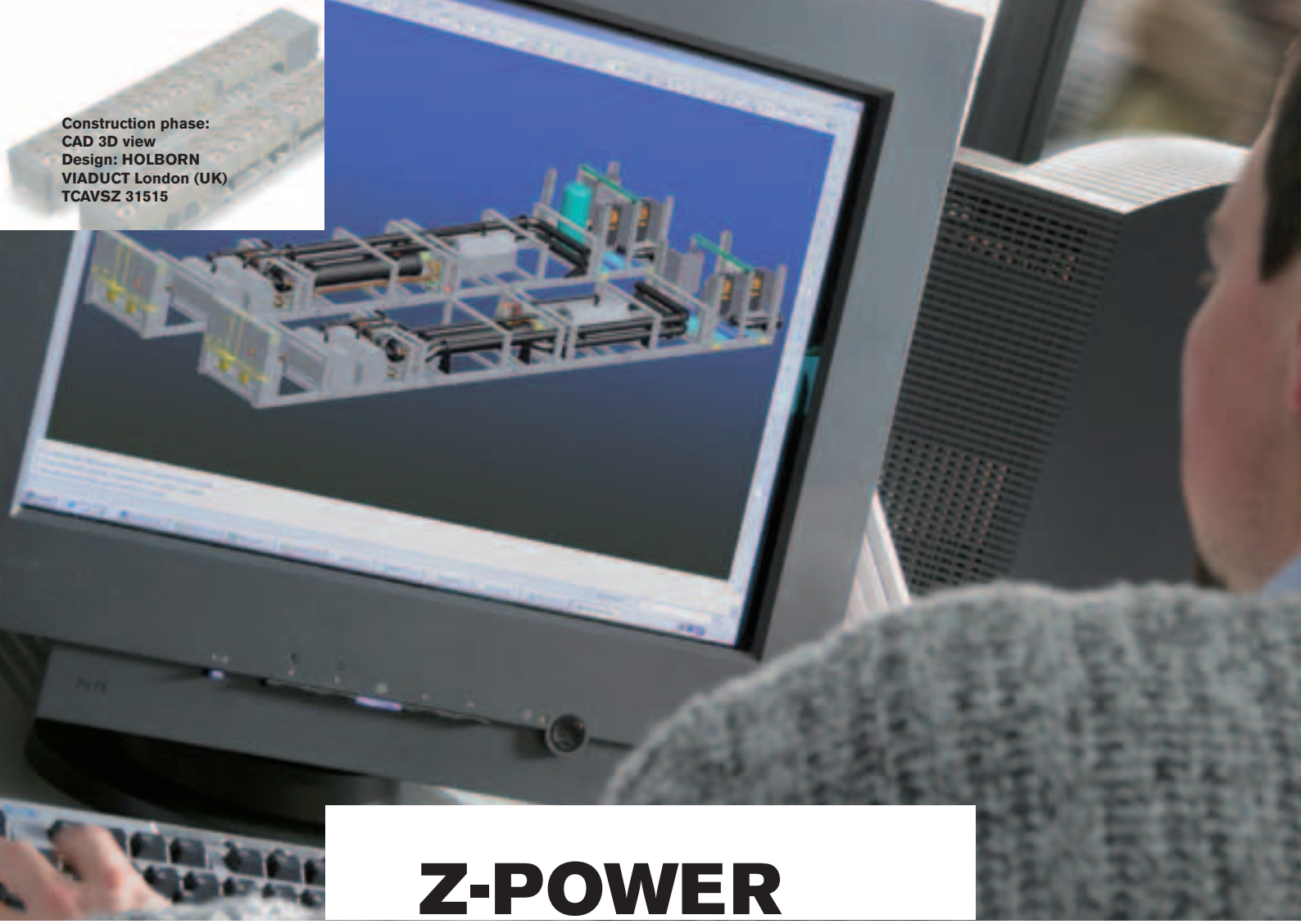
RANGE

VERSIONS

The water chillers in the Z-POWER and Z-FLOW range are available in different versions to respond to the specific silent operation requirements of the installations. The noise reduction of the soundproofed version, with acoustic insulation of the compressor compartment, can be further enhanced thanks to the reduction of the fan speed in the silenced version (Z-POWER range).
Good working order and high performance are guaranteed thanks to the optimised design of the ventilating section.
Furthermore, we can provide super-silenced chillers in line with the most demanding installation requests, thanks to fans with EC motor (Brushless) and enhanced acoustic insulation of the compressors.
If the installation take place in a geographic region with high outdoor temperatures, the range Z-POWER with H.T. setup (High Temperature) is a quality solution.

FULL OPTIONAL RANGE

In addition to the traditional accessories, the water chillers in the Z-POWER and Z-FLOW range can be equipped with total or partial condensation heat recovery exchangers for the production of hot water which, in the case of the air-cooled water chillers, reaches up to 60°C.
In the Z-POWER range fans with EC motors (Brushless) for a precise regulation of the air flow speed are available both as optional or for applications to –15°C ambient. On request, the water chillers can be equipped with a pump assembly with single or double motor-driven pump with a range of external static pressures.
Water chillers with a cooling capacity of up to 500 kW, equipped with a plate heat exchanger, can be equipped with a pump assembly and 1100-litre water buffer tank and single or double pump for a complete "plug&play" solution.
A shell and tube heat exchanger is available in the event of the unit being installed in industrial type applications or special installations.
All the water chillers can be interfaced with the main BMS systems available on the market thanks to the dedicated boards.
Moreover, the unit can be managed by remote control, including the regulation of the double set point or the regulation of the set point via proportional analogue signal.



Construction phase:
CAD 3D view
Design: HOLBORN
VIADUCT London (UK)
TCAVSZ 31515

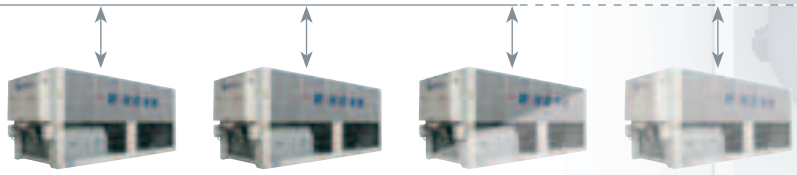
Z-POWER
Z-FLOW

Customised water chillers.

Rhoss is a flexible company when it comes to meeting requirements for customised water chillers in applications where structural and technical modifications or changes to the equipment are required. Qualified technical staff come up with solutions and develop a water chiller that is more suitable for the requirements.

RHOSS sequencer

SERIAL NETWORK



100% operation | **100%** operation | **50%** operation | Off




Clockwise: TCAVZ (Industrial Process) Alessandria - Italy / TCAVIZ HT 21010 (Hotel) Dubai
TCHVBZ 2420 (Industry) Sachseln - Switzerland / TCAVSZ 31515 with water kit (Offices) London - UK

SOLUTIONS 10_11

BUSINESS-UNIT FOR PROVIDING TECHNICAL SUPPORT TO DESIGNERS

In response to the growing number of consutancy requests during project development using water chillers, terminal units and air handling units, Rhoss pre sales department provides technical support, advice and meticulous analysis of the possible system solutions that can be used. Technical staff competent in the field and commercial staff monitor the market and its trends, offering solutions.

WITNESS TEST IN THE R&D Lab

Rhoss offers the chance to test the water chiller, conducting the test in the R&D Lab.
This makes it possible for the client to simulate and check the water chiller in the actual operating conditions for which it has been specified.

INTELLIGENT WATER CHILLER MANAGEMENT

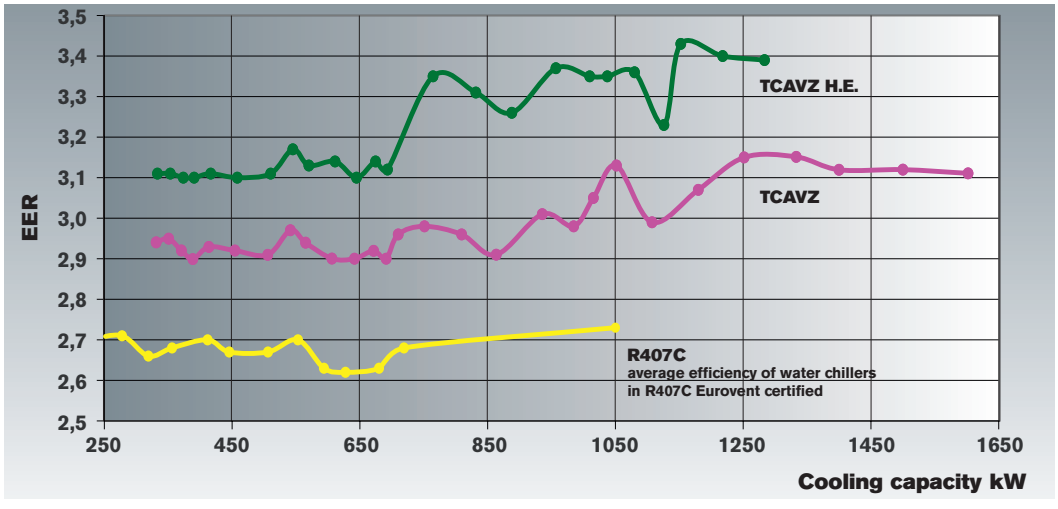
In medium/large HVAC systems, Rhoss offers the chance to manage several water chillers in parallel, thanks to the Rhoss multichiller sequencer. The optimisation of operating times and the start up of single units is managed by control logic that focuses on energy efficiency, guaranteeing reliability over time. The system also interfaces with the main BMS available on the market, making it possible to control the main chiller parameters.

TCAVZ 2330÷21290 H.E.

TCAVBZ-TCAVIZ-TCAVSZ-TCAVQZ H.E. (high efficiency)		2330	2350	2370	2390	2420	2460	2510	2550	2570	2610	2640
❶ Nominal cooling capacity	kW	333,1	353,2	373,6	390,5	416,5	458,1	510,3	545,0	570,1	611,1	644,7
❶ Nominal cooling capacity	kW	324,8	344,1	361,8	379,4	406,9	443,9	495,4	531,0	554,9	593,1	624,6
❶ Nominal cooling capacity	kW	316	336	351	370	395	431	484	516	539	576	609
❶ E.E.R.		3,11	3,11	3,10	3,10	3,11	3,10	3,11	3,17	3,13	3,14	3,10
❶ E.E.R.		3,09	3,06	3,04	2,96	3,08	3,04	3,01	3,11	3,08	3,07	3,01
❶ E.E.R.		2,95	2,95	2,90	2,85	2,95	2,91	2,90	2,98	2,95	2,94	2,90
● E.S.E.E.R.		4,04	4,06	4,08	4,06	4,04	4,06	4,08	4,13	4,17	4,17	4,17
● E.S.E.E.R.		3,97	3,98	3,99	3,99	3,99	3,96	3,93	3,93	3,92	3,97	4,01
● E.S.E.E.R.		4,09	4,10	4,12	4,11	4,10	4,09	4,09	4,11	4,13	4,15	4,17
❷ IPLV		4,20	4,22	4,24	4,22	4,20	4,22	4,24	4,29	4,34	4,34	4,34
❷ IPLV		4,13	4,14	4,15	4,15	4,15	4,12	4,09	4,08	4,08	4,12	4,17
❷ IPLV		4,25	4,26	4,28	4,27	4,26	4,26	4,25	4,27	4,30	4,31	4,34
❸ Sound pressure level	dB(A)	64	64	64	64	65	65	65	66	66	66	66
❸ Sound pressure level	dB(A)	58	58	58	58	59	59	59	60	60	60	60
❸ Sound pressure level	dB(A)	54	54	54	54	55	55	55	56	56	56	56
Screw compressor/steps	No.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	No.	2	2	2	2	2	2	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	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2330**	**2350**	**2370**	**2390**	**2420**	**2460**	**2510**	**2550**	**2570**	**2610**	**2640**
Width	mm	4.830	4.830	4.830	4.830	5.830	5.830	5.830	6.680	6.680	6.680	6.680
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹ Weight **TCAVBZ**	kg	3.780	3.870	3.960	3.970	4.420	4.530	4.740	5.070	5.090	5.110	5.210
❹ Weight **TCAVIZ - TCAVSZ**	kg	4.080	4.170	4.260	4.270	4.720	4.830	5.040	5.370	5.390	5.410	5.510

TCAVZ 1270÷21600

TCAVBZ-TCAVIZ-TCAVSZ		1270	1310	1350	1390	2331	2351	2371	2391	2421	2461	2511	2551	2571	2611
❶ Nominal cooling capacity	kW	270	309	350	389	331,1	350,7	370,6	388,5	413,6	454,4	505,7	541,2	565,0	606,2
❶ Nominal cooling capacity	kW	260	300	340	374	320,6	338,9	359,1	373,3	401,1	439,0	486,9	524,7	546,9	585,0
❶ E.E.R.		2,70	2,81	2,70	2,70	2,94	2,95	2,92	2,90	2,93	2,92	2,91	2,97	2,94	2,90
❶ E.E.R.		2,63	2,72	2,60	2,55	2,84	2,83	2,80	2,71	2,85	2,80	2,76	2,88	2,84	2,77
● E.S.E.E.R.		3,47	3,59	3,45	3,44	3,96	3,97	3,97	3,99	3,99	3,92	3,84	3,92	3,99	3,97
● E.S.E.E.R.		3,29	3,41	3,27	3,26	3,76	3,79	3,82	3,84	3,86	3,74	3,61	3,73	3,84	3,83
❷ IPLV		3,59	3,72	3,58	3,56	4,11	4,11	4,12	4,13	4,15	4,07	3,98	4,07	4,15	4,13
❷ IPLV		3,41	3,54	3,39	3,37	3,90	3,93	3,96	3,99	4,01	3,88	3,74	3,87	3,99	3,98
❸ Sound pressure level	dB(A)	63	64	64	65	63	63	63	63	64	64	64	65	65	65
❸ Sound pressure level	dB(A)	57	58	58	59	57	57	57	57	58	58	58	59	59	59
Screw compressor/steps	No.	1/1	1/1	1/1	1/1	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	No.	1	1	1	1	2	2	2	2	2	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	400-3-50	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		**1270**	**1310**	**1350**	**1390**	**2331**	**2351**	**2371**	**2391**	**2421**	**2461**	**2511**	**2551**	**2571**	**2611**
Width	mm	3.830	3.830	3.830	3.830	3.830	3.830	3.830	3.830	4.830	4.830	4.830	5.830	5.830	5.830
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹ Weight **TCAVBZ**	kg	3.300	3.350	3.650	3.700	3.420	3.490	3.500	3.580	3.920	4.100	4.280	4.760	4.780	4.800
❹ Weight **TCAVIZ - TCAVSZ**	kg	3.450	3.500	3.800	3.850	3.720	3.790	3.800	3.880	4.220	4.400	4.580	5.060	5.080	5.100



2680	2700	2770	2830	2890	2960	21010	21040	21080	21130	21150	21220	21290
674,5	693,2	764,5	831,5	887,8	956,8	1.009,7	1.037,3	1.079,9	1.125,9	1.152,3	1.217,9	1.283,4
657,0	676,2	746,0	811,2	865,5	924,0	973,5	1.004,2	1.051,1	1.099,9	1.116,2	1.178,1	1.240,4
638	656	724	787	844	897	950	975	1.020	1.073	1.083	1.143	1.210
3,14	3,12	3,35	3,31	3,26	3,37	3,35	3,35	3,36	3,23	3,43	3,40	3,39
3,08	3,04	3,24	3,17	3,09	3,16	3,13	3,16	3,22	3,08	3,21	3,14	3,08
2,95	2,92	3,11	3,04	2,98	3,03	3,02	3,03	3,09	2,97	3,08	3,01	2,97
4,18	4,18	4,45	4,39	4,34	4,48	4,47	4,45	4,48	4,29	4,57	4,53	4,51
4,04	4,06	4,31	4,22	4,12	4,20	4,16	4,21	4,29	4,10	4,27	4,16	4,10
4,19	4,20	4,47	4,39	4,31	4,43	4,40	4,42	4,47	4,28	4,51	4,43	4,39
4,34	4,35	4,63	4,57	4,51	4,66	4,65	4,63	4,66	4,46	4,75	4,71	4,69
4,20	4,22	4,48	4,39	4,28	4,37	4,33	4,37	4,47	4,26	4,44	4,33	4,26
4,35	4,37	4,65	4,57	4,48	4,61	4,58	4,59	4,65	4,45	4,69	4,61	4,56
67	67	67	67	67	69	69	69	70	70	70	70	70
61	61	61	61	61	63	63	63	64	64	64	64	64
57	57	57	57	57	59	59	59	60	60	60	60	60
2/6	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
2	2	2	2	2	2	2	2	2	2	2	2	2
400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
2680	**2700**	**2770**	**2830**	**2890**	**2960**	**21010**	**21040**	**21080**	**21130**	**21150**	**21220**	**21290**
7.680	7.680	7.680	7.680	7.680	8.980	8.980	9.980	10.980	10.980	10.980	10.980	10.980
2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
6.140	6.190	5.950	6.360	6.760	7.900	7.920	7.990	7.960	8.720	9.160	9.200	9.240
6.440	6.490	6.290	6.700	7.100	8.250	8.260	8.340	8.300	9.070	9.510	9.560	9.590

2641	2681	2701	2710	2750	2810	2870	2940	2990	21020	21060	21110	21180	21250	21330	21400	21500	21600
641,5	671,5	691,1	710,0	751,1	809,3	863,4	935,5	984,6	1.015,5	1.051,6	1.107,3	1.179,7	1.251,5	1.333,0	1.400,0	1.500,0	1.602,0
617,3	651,9	671,6	690,0	732,0	785,9	838,0	908,6	954,0	984,6	1.019,7	1.071,8	1.142,7	1.212,2	1.288,0	1.353,0	1.446,7	1.548,0
2,90	2,92	2,90	2,96	2,98	2,96	2,91	3,01	2,98	3,05	3,13	2,99	3,07	3,15	3,15	3,12	3,12	3,11
2,75	2,82	2,78	2,82	2,85	2,82	2,77	2,86	2,81	2,87	2,95	2,78	2,85	2,90	2,91	2,92	2,88	2,80
3,96	3,96	3,96	3,96	3,72	3,69	3,53	3,76	3,74	3,80	3,93	3,74	3,84	3,93	3,96	4,01	4,06	4,08
3,83	3,81	3,80	3,80	3,56	3,53	3,35	3,57	3,50	3,59	3,69	3,47	3,54	3,63	3,65	3,82	3,81	3,72
4,11	4,11	4,12	4,10	4,12	4,09	4,03	4,17	4,14	4,21	4,34	4,14	4,25	4,35	4,36	4,30	4,33	4,29
3,97	3,96	3,95	3,92	3,94	3,91	3,83	3,95	3,89	3,97	4,09	3,85	3,93	4,02	4,02	4,01	4,00	3,87
65	66	66	66	66	67	67	68	68	68	69	69	69	69	69	70	71	71
59	60	60	60	60	61	61	62	62	62	63	63	63	63	63	64	65	65
2/6	2/6	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
2641	**2681**	**2701**	**2710**	**2750**	**2810**	**2870**	**2940**	**2990**	**21020**	**21060**	**21110**	**21180**	**21250**	**21330**	**21400**	**21500**	**21600**
5.830	6.680	6.680	6.680	6.680	7.680	7.680	7.680	7.680	7.680	7.680	8.980	8.980	8.980	9.980	10.980	12.980	12.980
2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
4.820	5.160	5.210	5.310	5.310	6.400	6.620	6.790	6.820	6.940	6.970	8.530	8.740	8.930	9.330	9.690	9.840	10.080
5.120	5.460	5.510	5.610	5.610	6.750	6.970	7.140	7.170	7.290	7.390	8.880	9.090	9.280	9.680	10.040	10.190	10.430

In the following conditions:
❶ Air: 35°C - Water: 12/7°C.
❷ IPLV (Integrated Part Load Value) - ARI standard 550/590.
❸ At 10 m from the unit in free field (Q = 2)
❹ Empty weight refers to the accessorised unit with RPE - RPB.
● ESEER (European Seasonal EER) - Average European seasonal efficiency.

TCAVSZ silenced versions.

TCAVQZ supersilenced versions.

Qualified for Energy Technology List www.eca.gov.uk
Authorised User No. 00513

Rhoss participates to the ECA certification program.
The certified products are listed in the web site
www.eca.gov.uk/etl/find

TECHNICAL DATA_
Z-POWER
AIR COOLED

COOLING ANYWHERE...

- High efficiency units in R134a
- Working limits up to 55°C (130°F)
- Latest generation screw compressors
- Air cooled IP 54 electrical box
- 60Hz version available

CLASS A Energy Efficiency

Z-POWER H.T.

TCAVZ 2420÷21290 H.T.

TCAVBZ-TCAVIZ H.T. (high temperature version)		2420	2510	2570	2640	2770	2890	21010	21130	21290
❶ Nominal cooling capacity	kW	416,5	510,3	570,1	644,7	764,5	887,8	1.009,7	1.125,9	1.283,4
❶ Nominal cooling capacity	Ton	118,4	145,1	162,1	183,3	217,4	252,4	287,1	320,1	364,9
❶ E.E.R.	kW/kW	3,11	3,11	3,13	3,10	3,35	3,26	3,35	3,23	3,39
❶ E.E.R.	Btu/hW	10,6	10,6	10,7	10,6	11,4	11,1	11,4	11,0	11,6
● E.S.E.E.R.		4,04	4,08	4,17	4,17	4,45	4,34	4,47	4,29	4,51
❺ IPLV		4,20	4,24	4,34	4,34	4,63	4,51	4,65	4,46	4,69
❷ Designed cooling capacity	kW	377,9	462,7	518,7	584,3	686,0	792,6	904,1	1.019,0	1.167,4
❷ Designed cooling capacity	Ton	107,5	131,6	147,5	166,1	195,1	225,4	257,1	289,7	331,9
❷ E.E.R.	kW/kW	2,40	2,39	2,43	2,39	2,48	2,40	2,46	2,38	2,40
❷ E.E.R.	Btu/hW	8,2	8,2	8,3	8,2	8,5	8,2	8,4	8,1	8,2
❶ Absorbed power	kW	134,0	164,3	182,4	207,7	228,0	272,0	301,0	349,0	379,0
❷ Absorbed power	kW	157,5	193,6	213,8	244,3	276,7	330,6	367,1	428,5	485,7
❸ Sound pressure level **TCAVBZ**	dB(A)	65	65	66	66	67	67	69	70	70
Screw compressor/steps	No.	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8	2/8
Circuits	No.	2	2	2	2	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	4400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2420**	**2510**	**2570**	**2640**	**2770**	**2890**	**21010**	**21130**	**21290**
Width	mm	5.930	5.930	6.780	6.780	7.780	7.780	9.080	11.080	11.080
Height	mm	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Depth	mm	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260	2.260
❹ Weight **TCAVBZ**	kg	4.420	4.740	5.090	5.210	5.950	6.760	7.920	8.720	9.240

In the following conditions:
❶ Air: 35°C (95°F) - Water: 7°C (44,6°F), delta temperature Δt = 5°K (9°F).
❷ Air: 46,1°C (115°F) - Water: 7,2°C (45°F), delta temperature Δt = 5,56°K (10°F).
❸ At 10 m from the unit in free field (Q = 2).
❹ Empty weight refers to the accessorised unit with RPE - RPB.
❺ IPLV (Integrated Part Load Value) - ARI standard 550/590.
● ESEER (European Seasonal EER) - Average European seasonal efficiency.

TCAVIZ 21010 H.T.

TECHNICAL DATA_
Z-POWER H.T.

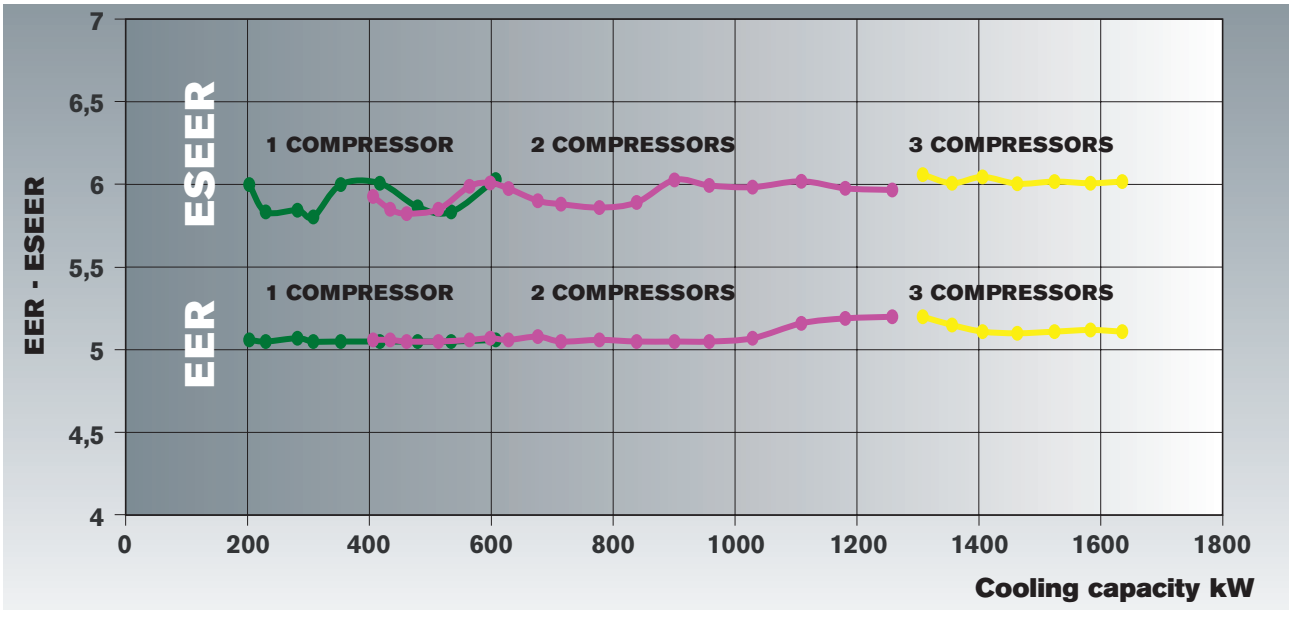
AIR COOLED
HIGH TEMPERATURE VERSION

TCHVZ 1201÷2711 H.E.

TCHVBZ-TCHVIZ		1201	1231	1281	1311	1351	1421	1481	1531
❶ Nominal cooling capacity	kW	204	231	283	309	354	418	480	535
❶ E.E.R.		5,06	5,05	5,07	5,05	5,05	5,05	5,05	5,05
● E.S.E.E.R.		6,00	5,83	5,84	5,80	6,00	6,01	5,87	5,83
❶ Absorbed power	kW	40,4	45,7	55,9	61,1	70,1	82,8	95,0	105,9
❸ Sound power level	dB(A)	94	94	97	97	97	97	97	98
❸ Sound power level	dB(A)	92	92	95	95	95	95	95	96
Screw compressor/steps	No.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
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		**1201**	**1231**	**1281**	**1311**	**1351**	**1421**	**1481**	**1531**
Width	mm	3.460	3.460	3.440	3.440	3.450	3.450	3.450	3.450
Height	mm	1.460	1.460	1.460	1.460	1.640	1.640	1.640	1.740
Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
❹ Weight **TCHVBZ**	kg	1.343	1.369	1.715	1.733	1.885	2.374	2.413	2.662
❹ Weight **TCHVIZ**	kg	1.598	1.624	1.970	1.988	2.140	2.629	2.668	2.917

TCHVZ 2781÷31631 H.E.

TCHVBZ-TCHVIZ		2781	2841	2901	2961	21031	21111	21181
❶ Nominal cooling capacity	kW	778	839	901	958	1.029	1.109	1.181
❶ E.E.R.		5,06	5,05	5,05	5,05	5,07	5,16	5,19
● E.S.E.E.R.		5,86	5,89	6,03	5,99	5,98	6,02	5,98
❶ Absorbed power	kW	153,8	166,1	178,4	189,8	203	215	227,5
❸ Sound power level	dB(A)	99	99	99	99	99	99	99
❸ Sound power level	dB(A)	97	97	97	97	97	97	97
Screw compressor/steps	No.	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	No.	2	2	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	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2781**	**2841**	**2901**	**2961**	**21031**	**21111**	**21181**
Width	mm	4.120	4.000	4.000	4.000	4.000	4.000	4.000
Height	mm	1.840	1.840	1.910	1.910	1.950	1.950	1.950
Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❹ Weight **TCHVBZ**	kg	3.920	4.406	4.636	4.669	4.779	4.870	5.008
❹ Weight **TCHVIZ**	kg	4.350	4.836	5.066	5.099	5.209	5.300	5.438



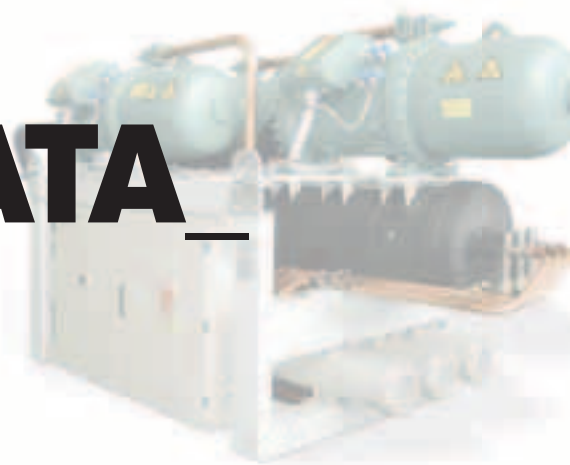
1611	2411	2431	2461	2511	2561	2601	2631	2681	2711
608	407	435	462	514	565	599	629	677	715
5,06	5,06	5,06	5,05	5,05	5,06	5,07	5,06	5,08	5,05
6,03	5,93	5,85	5,82	5,85	5,99	6,01	5,98	5,90	5,88
120,3	80,5	86,0	91,4	101,9	111,7	118,1	124,3	133,4	141,6
98	97	97	97	99	99	99	99	99	99
96	95	95	95	97	97	97	97	97	97
1/3	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
1	2	2	2	2	2	2	2	2	2
400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
1611	**2411**	**2431**	**2461**	**2511**	**2561**	**2601**	**2631**	**2681**	**2711**
3.450	3.880	3.880	4.000	4.070	4.070	4.070	4.070	4.070	4.070
1.740	1.840	1.840	1.840	1.960	1.960	1.960	1.960	1.960	1.960
1.000	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
2.697	2.386	2.413	2.458	2.953	3.297	3.320	3.337	3.404	3.447
2.952	2.816	2.843	2.888	3.383	3.727	3.750	3.767	3.834	3.877

21261	31301	31351	31401	31461	31521	31591	31631
1.258	1.308	1.356	1.406	1.463	1.524	1.583	1.635
5,20	5,20	5,15	5,11	5,10	5,11	5,12	5,11
5,97	6,06	6,01	6,05	6,00	6,02	6,01	6,02
242	251,6	263,4	275,1	286,8	298,3	309,2	320,1
99	101	101	101	102	102	102	102
97	99	99	99	100	100	100	100
2/6	3/9	3/9	3/9	3/9	3/9	3/9	3/9
2	3	3	3	3	3	3	3
400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
21261	**31301**	**31351**	**31401**	**31461**	**31521**	**31591**	**31631**
4.000	4.940	4.940	4.940	4.940	4.940	4.940	4.940
1.950	2.220	2.220	2.220	2.220	2.220	2.220	2.220
1.300	1.700	1.700	1.700	1.700	1.700	1.700	1.700
4.934	6.795	6.827	6.852	6.891	6.980	7.068	7.157
5.364	7.395	7.427	7.452	7.491	7.580	7.668	7.757

In the following conditions:
❶ Chilled water: 7/12°C - Condenser inlet water: 30/35°C.
❸ Total sound power level in dB(A) on the basis of measurements taken in accordance with UNI EN - ISO9614.
❹ Empty weight.
● ESEER (European Seasonal EER) - Average European seasonal efficiency.

TCHVIZ soundproofed version.

TECHNICAL DATA_
Z-FLOW
WATER COOLED

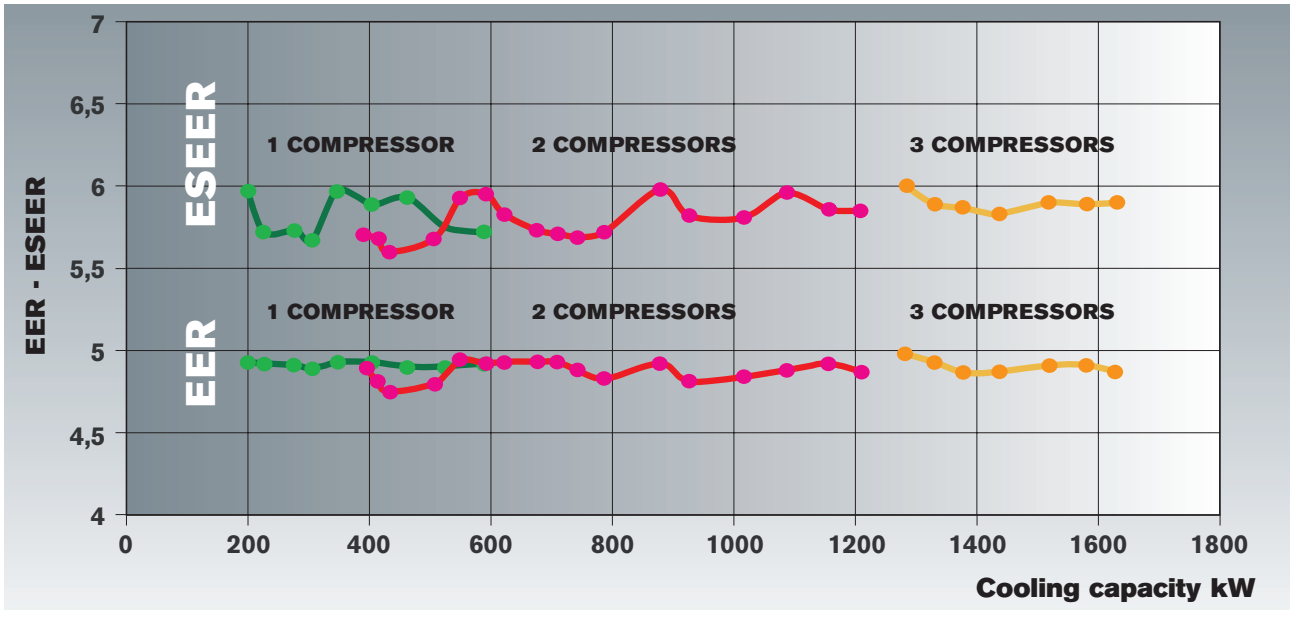


TCHVZ 1200÷2710

TCHVBZ-TCHVIZ		1200	1230	1280	1310	1350	1410	1460	1530
❶ Nominal cooling capacity	kW	199,7	226,3	277,3	306,3	347,6	404,6	462,4	524,9
❶ E.E.R.		4,93	4,92	4,91	4,89	4,93	4,93	4,90	4,90
● E.S.E.E.R.		5,97	5,72	5,73	5,69	5,97	5,89	5,75	5,72
❶ Absorbed power	kW	40,5	46,0	56,5	62,7	70,5	82,1	94,3	107,2
❸ Sound power level	dB(A)	94	94	97	97	97	97	97	98
❸ Sound power level	dB(A)	92	92	95	95	95	95	95	96
Screw compressor/steps	No.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
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		**1200**	**1230**	**1280**	**1310**	**1350**	**1410**	**1460**	**1530**
Width	mm	3.460	3.460	3.440	3.440	3.450	3.450	3.450	3.450
Height	mm	1.460	1.460	1.460	1.460	1.640	1.640	1.640	1.740
Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
❹ Weight **TCHVBZ**	kg	1.333	1.359	1.695	1.713	1.865	2.354	2.393	2.642
❹ Weight **TCHVIZ**	kg	1.588	1.614	1.950	1.968	2.120	2.609	2.648	2.897

TCHVZ 2750÷31630

TCHVBZ-TCHVIZ		2750	2790	2880	2930	21030	21110	21180
❶ Nominal cooling capacity	kW	742,0	787,0	879,1	927,2	1.016,6	1.087,3	1.155,8
❶ E.E.R.		4,88	4,83	4,92	4,81	4,84	4,88	4,92
● E.S.E.E.R.		5,69	5,72	5,98	5,82	5,81	5,96	5,86
❶ Absorbed power	kW	152,0	162,8	178,7	192,8	210,0	222,8	2,34,9
❸ Sound power level	dB(A)	99	99	99	99	99	99	99
❸ Sound power level	dB(A)	97	97	97	97	97	97	97
Screw compressor/steps	No.	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	No.	2	2	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	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**2750**	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**
Width	mm	4.120	4.000	4.000	4.000	4.000	4.000	4.000
Height	mm	1.840	1.840	1.910	1.910	1.950	1.950	1.950
Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❹ Weight **TCHVBZ**	kg	3.880	4.366	4.596	4.629	4.739	4.830	4.878
❹ Weight **TCHVIZ**	kg	4.310	4.796	5.026	5.059	5.169	5.260	5.308



1590	2400	2420	2440	2510	2560	2600	2630	2680	2710
589,3	391,7	413,0	432,0	506,8	550,8	592,0	621,6	676,8	709,8
4,92	4,90	4,81	4,75	4,80	4,94	4,92	4,93	4,93	4,93
6,00	5,70	5,68	5,60	5,68	5,93	5,95	5,83	5,73	5,71
119,8	80,0	85,8	91,0	105,6	111,5	120,3	126,1	137,3	144,1
98	97	97	97	99	99	99	99	99	99
96	95	95	95	97	97	97	97	97	97
1/3	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
1	2	2	2	2	2	2	2	2	2
400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
1590	**2400**	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
3.450	3.880	3.880	4.000	4.070	4.070	4.070	4.070	4.070	4.070
1.740	1.840	1.840	1.840	1.960	1.960	1.960	1.960	1.960	1.960
1.000	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
2.687	2.366	2.393	2.438	2.923	3.257	3.280	3.297	3.364	3.407
2.942	2.796	2.823	2.868	3.353	3.687	3.710	3.227	3.794	3.837

21260	31300	31350	31390	31460	31520	31590	31630
1.208,4	1.282,9	1.330,0	1.377,2	1.437,5	1.518,5	1.580,8	1.629,2
4,87	4,98	4,93	4,87	4,87	4,91	4,91	4,87
5,85	6,00	5,89	5,87	5,83	5,90	5,89	5,90
248,0	257,7	270,0	282,9	295,4	309,0	321,7	334,2
99	101	101	101	102	102	102	102
97	99	99	99	100	100	100	100
2/6	3/9	3/9	3/9	3/9	3/9	3/9	3/9
2	3	3	3	3	3	3	3
400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
21260	**31300**	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
4.000	4.940	4.940	4.940	4.940	4.940	4.940	4.940
1.950	2.220	2.220	2.220	2.220	2.220	2.220	2.220
1.300	1.700	1.700	1.700	1.700	1.700	1.700	1.700
4.914	6.735	6.767	6.792	6.831	6.920	7.008	7.097
5.344	7.335	7.367	7.392	7.431	7.520	7.608	7.697

In the following conditions:

❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.

❸ Total sound power level in dB(A) on the basis of measurements taken in accordance with UNI EN - ISO9614.

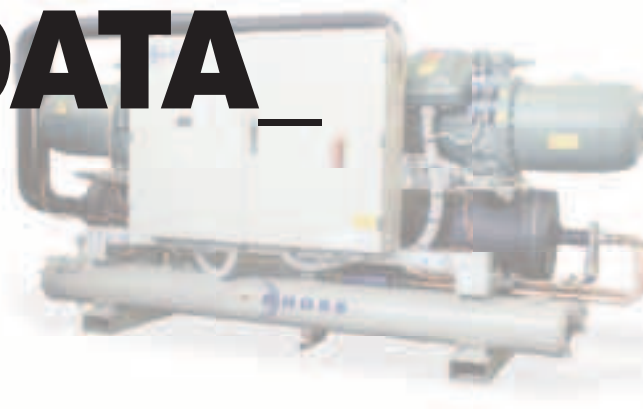
❹ Empty weight.

● ESEER (European Seasonal EER) - Average European seasonal efficiency.

TCHVIZ soundproofed version.

TECHNICAL DATA_ Z-FLOW

WATER COOLED



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