

**MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.**

IT COOLING

CHILLERS

TR-W-Z

TR-W-G05-Z

**HIGH EFFICIENCY WATER
COOLED CHILLER, WITH
OIL-FREE CENTRIFUGAL
COMPRESSORS,
FROM 246 TO 4549 kW**



TR-W-Z

TR-W-G05-Z

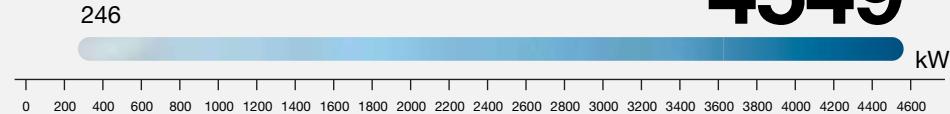
**"LOGIC WILL GET YOU FROM A TO B.
IMAGINATION WILL TAKE YOU EVERYWHERE."**

Albert Einstein

Internationally renowned physicist
(1879-1955)



CENTRIFUGAL



High efficiency water cooled chiller with oil-free compressors and innovative layout

TR-W-Z is the high efficiency oil-free compressor chiller with extremely flexible design to allow the customer to choose from 63 possible configurations.

With a capacity range that spans from 246 to 4549 kW, the TR-W-Z range can be installed in both low or high condensing applications but also in critical buildings where sound level is key aspect. Thanks to the centrifugal compressor with minimized vibrations, TR-W-Z ensures very low sound emissions, while the possibility to choose the heat exchanger in a vertical or horizontal positioning is the ideal solution for narrow size spaces.

TR-W-Z is also available in the G05 series featuring the R513A refrigerant, as a low GWP alternative to the R134a refrigerant.

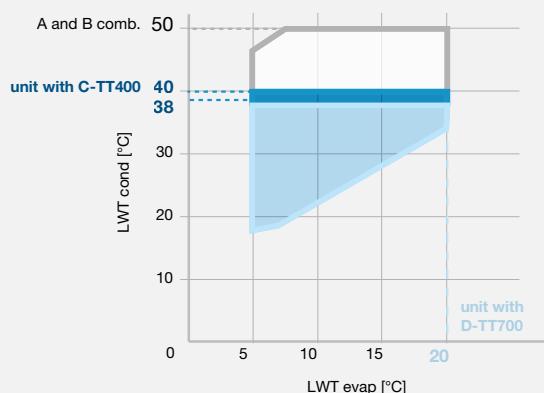
IT COOLING APPLICATIONS

- ✓ Data centers and server rooms
- ✓ Technological hubs
- ✓ Telecommunication installations
- ✓ Laboratories and technical rooms

DEDICATED OPERATING RANGE

TR-W-Z features several combinations of compressors to be installed both in applications working with a low condensing temperature (cooling towers, surface water) and in systems at the highest temperature involving the use of dry coolers.

Evaporator leaving water temperature up to 20°C makes the TR-W-Z the most suitable solution for the modern data centers with high temperatures.



**ONLY IMAGINATION COULD LEAD TO THE IMPROVEMENT OF
THE ALREADY BRILLIANT TECHNICAL FEATURES OF OIL-FREE
CENTRIFUGAL CHILLERS AND CONCEIVE:**

TR-W

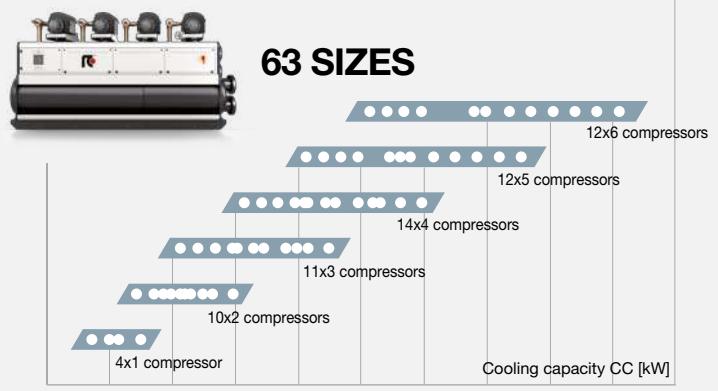
THE SOLUTION BEYOND THE LIMITS OF TRADITIONAL DESIGN

Drawing on over 10 years of experience in units with oil-free centrifugal compressors, TR-W-Z overcomes the limits of traditional design and presents itself as the right solution for any project and application requirements.

COUNTLESS DESIGN COMBINATIONS

to satisfy any specific project and application needs.

TR-W-Z is designed to host from 1 to 6 centrifugal oil-free compressors, also allowing the combination of different sizes. Each set of compressors matches one of the 6 new couples of heat exchangers (flooded evaporator and shell and tube condenser) created exclusively for TR-W-Z with the goal of reaching unequaled heat exchange performance. The result is a range of 63 possible combinations, able to meet any specific project and application needs.



Data referred to the following working conditions: Evap. 12/7°C Cond. 30/35°C (EN14511) - Max compr. Speed.

FLEXIBLE CONFIGURATION

Horizontal or diagonal layout of the exchangers.

With TR-W-Z you can choose between horizontal or diagonal layout of the heat exchangers, with dimensions that favor the overall compact size in height or in width. The water connections of both heat exchangers can be deployed either on the right or left side, to fit the most diverse HVAC system requirements.



Heat exchangers with horizontal alignment



Heat exchangers with diagonal alignment

BRILLIANT FULL LOAD AND SEASONAL EFFICIENCIES

Unparalleled efficiency at both full and partial loads.

NEW G05 VERSION WITH R513A REFRIGERANT



Combining brilliant annual efficiency with the use of a low GWP refrigerant, the TR-W-Z range of oil-free compressor chillers is now available with the new G05 series. TR-W-G05-Z adopts the low GWP R513A refrigerant, which tackles both indirect (due to primary energy consumption) and direct global warming, thus resulting in the perfect choice for any forward-looking cooling system.

BESPOKE SELECTION SOFTWARE

ELCAWorld is the dedicated product software that ensures the selection of the most competitive product size, without sacrificing any demand in terms of efficiency or initial investment.

EER

over 6,5*

SEPR HT

over 11,95**

*Average values at 12/7°C, 35°C.

** Parameter calculated according to [REGULATION (EU) N. 2016/2281]



TECHNOLOGICAL CHOICES

Negligible inrush current, quiet operation, unrivalled efficiency and extreme flexibility come out from a definite choice: only cutting-edge technologies.

Gas detector device

TR-W-Z can be equipped with a gas detector to signal the presence of refrigerant in a closed environment. The detector has a double-threshold and can deactivate the compressors and disconnect the exchangers.



Innovative exchanger couples

The expertise makes the difference

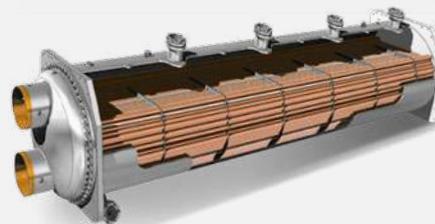
The excellent performance of oil-free centrifugal compressors are enhanced by matching them with 6 totally new heat exchanger couples (flooded evaporator and shell and tube condenser) designed to ensure the most minimal approach between the refrigerant phase changing and the water.

This provides an increased cooling capacity and the reduction of the compression work, with immediate benefits to overall efficiency.

The flooded evaporator is designed to ensure a perfect and uniform evaporation of the refrigerant, without devoting any surface to the overheating (inside the shell, the boiling refrigerant finds a great amount of free room to eliminate even the minimum liquid entrainment). Generous size connections are selected, to minimize any penalization due to pressure drops.

The complete flooding of all the pipes is guaranteed, even during partialization, by the control algorithms on the expansion valve.

Even the condenser is designed for the minimum pressure drops, both in the water and refrigerant sides. The space is so well thought out that even inclined connections have been made to limit the length of the refrigerant discharge pipes.



Centrifugal oil-free compressor

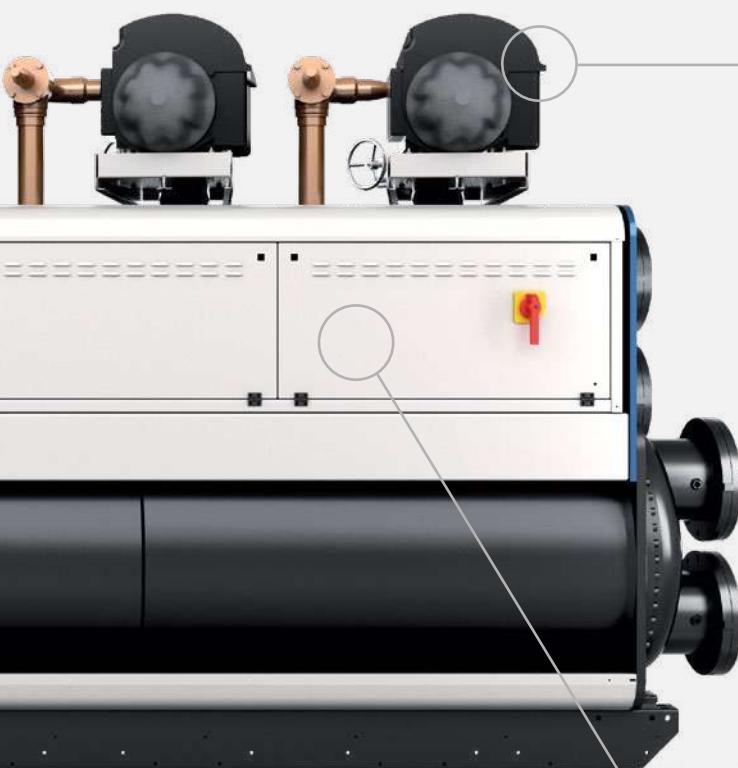


The expertise makes the difference

These top level technology compressors bring enormous benefits in terms of efficiency, adjustments, vibrations, and weight. Magnetic levitation eliminates the need for lubricant, its delicate management and its heat exchange loss.

Soft start, integrated in the compressors, lowers the inrush current to only 2 Amps, making the selection of power line systems more favourable.

Thorough knowledge is necessary to harness such a concentration of technology and here is where the RC brand really makes the difference thanks to its 10-year experience in magnetic levitation compressor units and thousands of projects all over the world.



Acoustic enclosure

The already minimal noise emissions of TR-W-Z units can be further reduced by choosing the option "acoustic enclosure", available in two variants:

Standard -14 dB(A)

Integral -18 dB(A)



THDi and Power Factor



The careful design of electrical and electronic components and the use of specific solutions, such as compressor line reactors (std) and power factor correction capacitors (opt), reduce the THDi (Total Harmonic Distortion of current) and increase the unit's Power Factor. To fit even the most demanding requirements, modular active harmonic filters can be added to cut the THDi down to values below 5%.

Fast restart

In some applications it is crucial to ensure the rapid restoration of cooling capacity after an interruption in power supply (black-out). The fast restart option provides a restart of the compressors within 26" seconds after power is restored and the rapid re-entry into full operation (e.g.: unit mod. 2D00 comes back to provide 1300 kW in just 6 minutes after voltage dip).



Immediate cooling start-up

Accelerated cooling ramp-up

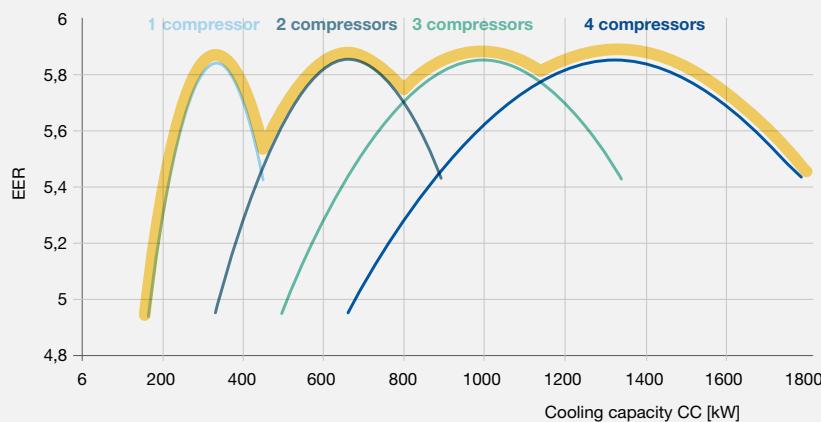
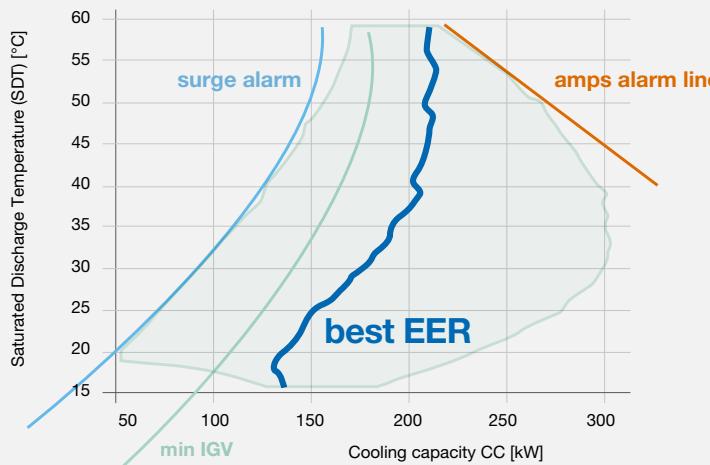
1300 kW are delivered within 6' after a voltage dip.

CX4

The evolution in the world of controls

TR-W-Z can count on the brand-new CX4 Control logic with exclusive software optimally designed to master the magnetic levitation technology.

ALWAYS THE HIGHEST EFFICIENCY



Always the best efficiency (best EER)

KIPLink The keyboard in your pocket

KIPLink allows direct access to the CX4 controller: even possible without traditional interface, thanks to the wi-fi technology, the unit can be operated directly from any mobile device (tablet, smartphone, PC) that displays the same touch interface screens.



The brand-new logic, created for CX4, optimally manages the correct compression ratio, the rotation speed, the position of IGV (Inlet Guide Vane) and the opening of the by-pass valve.

All this to ensure that the compressors are always - during start-up, in operation, in response to the thermoregulator and during shutdown - in a full safety work area (away from the limits of the "surge" and "amps").

CX4 constantly monitors the compressor: the cooling capacity required by the thermoregulator is achieved by making the compressor work only in the envelope's area with the highest efficiency (curve "best EER").

In units with multiple compressors, CX4 employs the exclusive 'jumping staging' logic, enabling, during partialization, only the most efficient combination of compressors.

CUSTOMIZED TOUCH SCREEN INTERFACE (option)

As an option the W3000 control is available with the touch screen version:

- ▶ interactive displays whose graphics have been designed exclusively for the TR-W-Z unit.
- ▶ large color 13" touch screen home page that shows the immediate labor status of the units and of its main operating parameters dedicated tooltip for describing the unit functions.





Your targeted product selection



Each project is different: some require top efficiency at full load while others the best initial investment, or an unrivaled seasonal performance.

TR-W-Z is designed to cater to any requirements: among the countless combinations it is always possible to find the most competitive product, without sacrificing any demands.

Thanks to the exclusive ELCA WORLD software, TR-W-Z can be selected according to the specific customer requirements.

Whatever the cooling capacity requested, the software proposes several design alternatives:

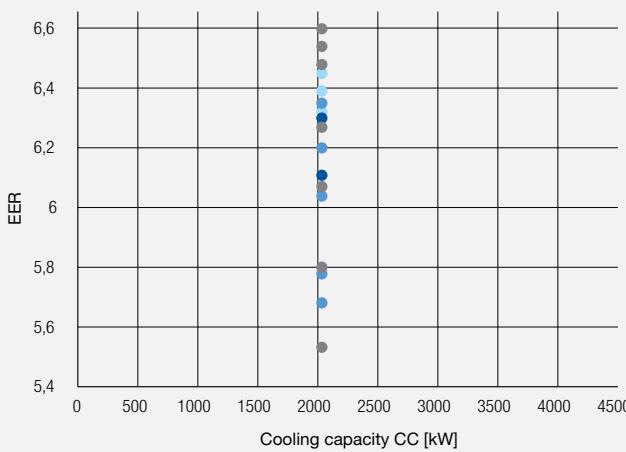
- ✓ **with a different number and type of compressor** (i.e.: units with different initial investment value, different dimensions and different noise levels)
- ✓ **with different capacities** (from 100% meant as the maximum speed of the compressors down to 70%)

- ✓ **with full load efficiency EER values greater than 6,6***
- ✓ **with seasonal efficiency ESEER values greater than 10,2 *** (IPV up to 11,2)

* gross values, @ 12/7 and 30/35°C

CHOOSE YOUR SOLUTION ACCORDING TO THE COOLING CAPACITY NEEDED

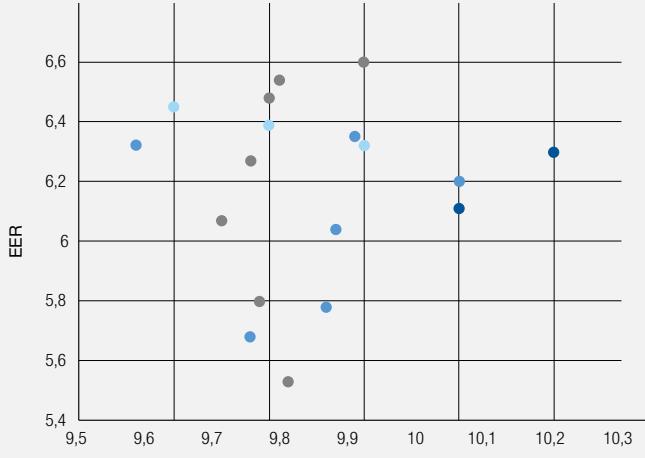
For the same CC, a wide range of choices:
3-4-5-6 compressor units with
EER from 5,53 up to 6,60



CHOOSE YOUR SOLUTION ACCORDING TO THE EFFICIENCY REQUIREMENTS OF YOUR PLANT

The 3-4-5-6 compressor units with the same CC, features full load EER between 5,51 and 6,52, and seasonal efficiencies

ESEER from 9,76 up to 10,20



● 3 compressor units

● 4 compressor units

● 5 compressor units

● 6 compressor units



TR-W-G05-Z

High efficiency water cooled chiller with R513A refrigerant



Fully committed to supporting the creation of a greener tomorrow, Mitsubishi Electric Hydronics & IT Cooling Systems designed TR-W-G05-Z, a complete large capacity chiller range with reduced environmental impact, optimized for R513A refrigerant.

Combining brilliant annual efficiency with the use of a low GWP refrigerant, TR-W-G05-Z tackles both the indirect (due to primary energy consumption) and the direct global warming, thus resulting in the perfect choice for any new, forward-looking cooling system.



LOW GWP
-56% GWP vs R134a



Non-flammable
Safety Class A1

REFRIGERANT BENCHMARK

| SCROLL | | |
|---------------|------|------------------|
| Refrigerant | GWP* | Flammability** |
| R410A | 2088 | NON flammable |
| R32 | 675 | MILDLY flammable |
| R454B | 466 | MILDLY flammable |
| R452B | 698 | MILDLY flammable |

*IPCC AR4 **ASHRAE 34 - ISO 817

| SCREW | | |
|--------------|------|------------------|
| Refrigerant | GWP* | Flammability** |
| R134a | 1430 | NON flammable |
| R513A | 631 | NON flammable |
| 1234ze | 7 | MILDLY flammable |
| 1234yf | 4 | MILDLY flammable |

New regulations like the EU F-gas and the Kigali Amendment to the Montreal Protocol, are driving the industry towards new eco-friendly refrigerants, with reduced greenhouse effect.

Unfortunately, the majority of low GWP refrigerants raises another critical issue: flammability.

The new refrigerant R513A, chosen for TR-W-G05-Z, is a brilliant exception: it offers a -56% GWP reduction compared to R134a's while ensuring complete non-toxicity and non-flammability (Class A1 of ASHRAE 34, ISO 817).



| TR-W-G05-Z | | 1A00 | 1B00 | 1B1A | 1B2A | 1B3A | 1C00 | 1C1A | 1C1B | 1C3B |
|--|---------|----------|-------------|-------------|-------------|------------|-----------|-------------|-------------|------------|
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 243,6-353,0 | 343,6-490,9 | 582,5-844,2 | 820,6-1189 | 1083-1547 | 396,2-565,9 | 642,4-917,7 | 735,4-1051 |
| EER | (1) | kW/kW | 6.150 | 6.290 | 6.230 | 6.040 | 6.200 | 6.390 | 6.290 | 6.320 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 243,7 | 364,4 | 581,9 | 818,9 | 1143 | 458,9 | 642,5 | 737,1 |
| EER | (1)(2) | kW/kW | 5.970 | 6.050 | 6.060 | 5.910 | 5.970 | 6.080 | 6.110 | 5.910 |
| Cooling energy class | A | | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | 11,62 | 11,56 | 11,64 | 11,41 | 11,57 | 11,49 | 11,75 | 11,58 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 372,5 | 513,6 | 887,4 | 1259 | 1626 | 606,9 | 978,5 | 1116 |
| Total power input | (5) | kW | 66,87 | 84,78 | 152,6 | 226,5 | 282,3 | 97,28 | 163,6 | 182,1 |
| EER | (5) | kW/kW | 5.568 | 6.057 | 5.815 | 5.558 | 5.760 | 6.237 | 5.981 | 6.206 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 383,1 | 517,4 | 904,2 | 1303 | 1656 | 651,0 | 1034 | 1168 |
| Total power input | (6) | kW | 58,82 | 70,54 | 130,5 | 199,6 | 242,6 | 88,94 | 147,0 | 159,6 |
| EER | (6) | kW/kW | 6.515 | 7.339 | 6.929 | 6.528 | 6.826 | 7.323 | 7.034 | 7.527 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 11,68 | 17,46 | 27,89 | 39,23 | 54,81 | 21,99 | 30,79 | 35,32 |
| Pressure drop | (1)(2) | kPa | 18,8 | 21,8 | 25,7 | 21,1 | 34,3 | 24,1 | 25,7 | 25,7 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 13,55 | 20,22 | 32,29 | 45,60 | 63,56 | 25,44 | 35,61 | 40,85 |
| Pressure drop | (1)(2) | kPa | 17,5 | 20,5 | 20,7 | 19,4 | 26,2 | 23,5 | 20,4 | 20,1 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 1 | 1 | 2 | 3 | 4 | 1 | 2 | 4 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 215 | 220 | 390 | 495 | 747 | 262 | 436 | 416 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 75 | 76 | 76 | 78 | 78 | 77 | 77 | 79 |
| Sound power level in cooling | (8)(9) | dB(A) | 93 | 94 | 95 | 97 | 98 | 95 | 96 | 99 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 2910 | 2910 | 3050 | 3710 | 4690 | 2910 | 3050 | 3050 |
| B | (10) | mm | 1000 | 1000 | 1620 | 1710 | 1890 | 1000 | 1620 | 1890 |
| H | (10) | mm | 1950 | 1950 | 2190 | 2260 | 2400 | 1950 | 2190 | 2400 |
| Operating weight | (10) | kg | 2690 | 2800 | 5200 | 7590 | 9320 | 2880 | 5280 | 5410 |
| TR-W-G05-Z | | | | | | | | | | |
| | | 1D00 | 1D1A | 1D1B | 1D1C | 1D2C | 1D3C | 1D4C | 1D5C | 2A00 |
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 587,8-734,7 | 736,8-1084 | 833,4-1226 | 1043-1303 | 1241-1880 | 1964-2455 | 2441-3051 | 2918-3648 |
| EER | (1) | kW/kW | 6.130 | 6.100 | 6.210 | 6.250 | 6.300 | 6.420 | 6.480 | 6.120 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 658,5 | 748,2 | 857,2 | 1067 | 1271 | 2143 | 2637 | 3128 |
| EER | (1)(2) | kW/kW | 5.890 | 5.910 | 6.020 | 5.990 | 6.100 | 5.940 | 6.040 | 5.900 |
| Cooling energy class | A | | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | 11,55 | 11,60 | 11,58 | 11,51 | 11,88 | - | - | 11,55 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 782,1 | 1154 | 1299 | 1393 | 2004 | 2619 | 3243 | 3868 |
| Total power input | (5) | kW | 117,3 | 183,7 | 202,2 | 216,2 | 313,2 | 411,1 | 499,5 | 590,2 |
| EER | (5) | kW/kW | 6.668 | 6.282 | 6.424 | 6.443 | 6.398 | 6.371 | 6.492 | 6.554 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 792,9 | 1178 | 1319 | 1451 | 2093 | 2750 | 3386 | 4021 |
| Total power input | (6) | kW | 98,56 | 157,0 | 169,3 | 189,5 | 274,9 | 364,0 | 437,5 | 512,8 |
| EER | (6) | kW/kW | 8.042 | 7.503 | 7.791 | 7.657 | 7.614 | 7.555 | 7.739 | 7.841 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 31,59 | 35,86 | 41,09 | 51,19 | 60,91 | 102,9 | 126,6 | 150,1 |
| Pressure drop | (1)(2) | kPa | 38,8 | 28,8 | 30,6 | 40,8 | 30,3 | 60,3 | 68,6 | 61,4 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 36,64 | 41,65 | 47,60 | 59,28 | 70,44 | 119,1 | 146,3 | 173,2 |
| Pressure drop | (1)(2) | kPa | 38,3 | 23,6 | 24,4 | 32,3 | 25,1 | 38,6 | 44,4 | 50,5 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 2 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 253 | 422 | 400 | 450 | 814 | 1017 | 1319 | 1696 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 78 | 78 | 78 | 78 | 79 | 79 | 80 | 76 |
| Sound power level in cooling | (8)(9) | dB(A) | 96 | 97 | 97 | 97 | 99 | 99 | 100 | 95 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 2910 | 3050 | 3050 | 3050 | 4690 | 4720 | 5700 | 6610 |
| B | (10) | mm | 1000 | 1620 | 1620 | 1620 | 1660 | 1890 | 2350 | 2400 |
| H | (10) | mm | 1950 | 2190 | 2190 | 2190 | 2260 | 2400 | 2400 | 2450 |
| Operating weight | (10) | kg | 2950 | 5350 | 5340 | 5420 | 8810 | 11410 | 15330 | 20580 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;

Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface;

non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

R513A [GWP₁₀₀ 631] fluorinated greenhouse gases.

Certified data in EUROVENT





TR-W-G05-Z

High efficiency water cooled chiller with R513A refrigerant

| TR-W-G05-Z | | 2D1C | 2D2B | 2D2C | 2D3C | 2D4C | 3A00 | 3B00 | 3B1A | 3B2A | |
|--|---------|----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
| Power 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 | |
| PERFORMANCE | | | | | | | | | | | |
| Cooling capacity | (1) | kW | 1636-2045 | 1968-2460 | 2092-2614 | 2568-3210 | 3054-3817 | 724,3-1050 | 1009-1462 | 1273-1819 | 1522-2174 |
| EER | (1) | kW/kW | 6.300 | 6.270 | 6.320 | 6.400 | 6.510 | 5.970 | 6.070 | 6.220 | 6.250 |
| ESEER (up to) | (1) | kW/kW | | | | | | | | | |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 1848 | 2185 | 2332 | 2823 | 3320 | 723,3 | 1078 | 1344 | 1790 |
| EER | (1)(2) | kW/kW | 5.920 | 5.890 | 5.950 | 6.010 | 6.130 | 5.830 | 5.850 | 5.970 | 5.830 |
| Cooling energy class | | A | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | 11,25 | - | - | - | - | 11,33 | 11,24 | 11,42 | 11,42 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | | |
| Cooling capacity | (5) | kW | 2175 | 2596 | 2782 | 3403 | 4032 | 1115 | 1538 | 1904 | 2268 |
| Total power input | (5) | kW | 329,6 | 399,2 | 426,4 | 517,4 | 603,6 | 207,7 | 267,6 | 320,8 | 378,4 |
| EER | (5) | kW/kW | 6.599 | 6.503 | 6.524 | 6.577 | 6.680 | 5.368 | 5.747 | 5.935 | 5.994 |
| 23°C/15°C | | | | | | | | | | | |
| Cooling capacity | (6) | kW | 2229 | 2616 | 2878 | 3505 | 4140 | 1164 | 1572 | 1921 | 2274 |
| Total power input | (6) | kW | 281,8 | 330,5 | 369,4 | 444,9 | 515,6 | 187,0 | 227,9 | 268,5 | 313,8 |
| EER | (6) | kW/kW | 7.910 | 7.915 | 7.791 | 7.878 | 8.029 | 6.225 | 6.898 | 7.155 | 7.247 |
| EXCHANGERS | | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | | |
| Water flow | (1) | l/s | 88,69 | 104,9 | 112,0 | 135,6 | 159,4 | 34,65 | 51,64 | 64,46 | 85,92 |
| Pressure drop | (1)(2) | kPa | 61,2 | 65,6 | 65,0 | 73,8 | 65,9 | 21,0 | 23,2 | 39,8 | 60,3 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | | |
| Water flow | (1) | l/s | 102,7 | 121,6 | 129,6 | 156,7 | 183,7 | 40,35 | 60,10 | 74,72 | 99,77 |
| Pressure drop | (1)(2) | kPa | 47,9 | 44,1 | 41,4 | 47,7 | 52,5 | 19,2 | 22,0 | 26,1 | 38,7 |
| REFRIGERANT CIRCUIT | | | | | | | | | | | |
| Compressors nr. | | N° | 3 | 4 | 4 | 5 | 6 | 3 | 3 | 4 | 5 |
| No. Circuits | | N° | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | | kg | 812 | 1013 | 1094 | 1299 | 1667 | 501 | 598 | 985 | 1269 |
| NOISE LEVEL | | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 79 | 79 | 80 | 79 | 80 | 77 | 78 | 78 | 78 |
| Sound power level in cooling | (8)(9) | dB(A) | 99 | 99 | 100 | 100 | 101 | 96 | 97 | 98 | 99 |
| SIZE AND WEIGHT | | | | | | | | | | | |
| A | (10) | mm | 4690 | 4720 | 4720 | 5700 | 6610 | 3710 | 3710 | 4720 | 5700 |
| B | (10) | mm | 1660 | 1890 | 1890 | 2350 | 2400 | 1710 | 1710 | 1890 | 2350 |
| H | (10) | mm | 2260 | 2400 | 2400 | 2400 | 2450 | 2260 | 2260 | 2400 | 2400 |
| Operating weight | (10) | kg | 8890 | 11250 | 11450 | 15420 | 20750 | 7440 | 7270 | 10740 | 14050 |

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;
Source (side) heat exchanger water (in/out) 30°C/35°C.

Source (side) heat exchanger water
2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;
source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source-side heat exchanger water temperature (in/out) 30°C/35°C

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

3 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

R513A [GWP₁₀₀ 631] fluorinated greenhouse gases.

Certified data in EUROVENT



| TR-W-G05-Z | | 3B3A | 3C00 | 3C1A | 3C1B | 3C2B | 3D00 | 3D1A | 3D1C | 3D2C |
|--|---------|----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 1636-2045 | 1968-2460 | 2092-2614 | 2568-3210 | 3054-3817 | 724,3-1050 | 1009-1462 | 1273-1819 |
| EER | (1) | kW/kW | 6.320 | 6.430 | 6.360 | 6.390 | 6.470 | 6.240 | 6.220 | 6.350 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 1522-2174 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 2070 | 1301 | 1738 | 1854 | 2277 | 2043 | 2326 | 2536 |
| EER | (1)(2) | kW/kW | 5.920 | 6.170 | 5.940 | 5.970 | 6.030 | 5.870 | 5.840 | 5.960 |
| Cooling energy class | A | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | - | 11,71 | 11,02 | 11,11 | - | - | - | - | - |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 2634 | 1831 | 2199 | 2331 | 2865 | 2349 | 2719 | 2965 |
| Total power input | (5) | kW | 433,8 | 291,8 | 357,8 | 372,9 | 450,7 | 349,4 | 415,5 | 442,8 |
| EER | (5) | kW/kW | 6.072 | 6.275 | 6.146 | 6.251 | 6.357 | 6.723 | 6.544 | 6.696 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 2628 | 1961 | 2336 | 2462 | 2979 | 2369 | 2749 | 3025 |
| Total power input | (6) | kW | 357,3 | 265,9 | 322,7 | 331,9 | 390,6 | 291,2 | 348,6 | 375,9 |
| EER | (6) | kW/kW | 7.355 | 7.375 | 7.239 | 7.418 | 7.627 | 8.135 | 7.886 | 8.047 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 99,31 | 62,37 | 83,42 | 88,96 | 109,3 | 98,15 | 111,8 | 121,8 |
| Pressure drop | (1)(2) | kPa | 55,0 | 35,3 | 51,4 | 51,3 | 58,8 | 67,4 | 74,5 | 79,5 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 115,1 | 71,99 | 96,69 | 103,0 | 126,3 | 113,7 | 129,6 | 140,9 |
| Pressure drop | (1)(2) | kPa | 42,9 | 28,2 | 33,9 | 33,0 | 41,4 | 55,3 | 47,9 | 46,3 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 6 | 3 | 4 | 4 | 5 | 3 | 4 | 5 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 1677 | 795 | 1078 | 1013 | 1252 | 850 | 1059 | 1072 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 79 | 78 | 79 | 79 | 79 | 79 | 80 | 80 |
| Sound power level in cooling | (8)(9) | dB(A) | 100 | 98 | 99 | 99 | 100 | 99 | 100 | 101 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 6610 | 4690 | 4720 | 4720 | 5700 | 4690 | 4720 | 5700 |
| B | (10) | mm | 2400 | 1660 | 1890 | 1890 | 2350 | 1660 | 1890 | 2350 |
| H | (10) | mm | 2450 | 2260 | 2400 | 2400 | 2400 | 2260 | 2400 | 2400 |
| Operating weight | (10) | kg | 18670 | 8700 | 11010 | 11210 | 14910 | 9010 | 11250 | 11580 |

| TR-W-G05-Z | | 3D3C | 4B00 | 4B1A | 4B2A | 4C00 | 4C1B | 4D00 | 4D1C | 4D2C |
|--|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 3192-3990 | 1366-1952 | 1620-2314 | 1875-2679 | 1344-2277 | 1947-2781 | 2369-2961 | 2857-3571 |
| EER | (1) | kW/kW | 6.570 | 6.260 | 6.310 | 6.410 | 6.400 | 6.530 | 6.280 | 6.450 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 3337-4171 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 3518 | 1443 | 1918 | 2200 | 1488 | 2349 | 2733 | 3233 |
| EER | (1)(2) | kW/kW | 6.170 | 6.020 | 5.880 | 6.000 | 6.190 | 6.080 | 5.890 | 6.020 |
| Cooling energy class | A | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | - | 11,47 | 11,53 | - | 11,95 | - | - | - | - |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 4200 | 2039 | 2409 | 2783 | 2439 | 2959 | 3143 | 3767 |
| Total power input | (5) | kW | 615,1 | 337,3 | 394,5 | 446,9 | 388,2 | 462,3 | 464,8 | 549,7 |
| EER | (5) | kW/kW | 6.828 | 6.045 | 6.106 | 6.227 | 6.283 | 6.401 | 6.762 | 6.853 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 4261 | 2047 | 2406 | 2767 | 2610 | 3113 | 3172 | 3787 |
| Total power input | (6) | kW | 516,6 | 278,7 | 323,7 | 365,6 | 353,5 | 408,7 | 388,0 | 456,2 |
| EER | (6) | kW/kW | 8.248 | 7.345 | 7.433 | 7.568 | 7.383 | 7.617 | 8.175 | 8.388 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 168,9 | 69,20 | 92,05 | 105,6 | 71,29 | 112,7 | 131,3 | 155,4 |
| Pressure drop | (1)(2) | kPa | 70,2 | 39,1 | 59,3 | 56,3 | 30,3 | 60,9 | 80,4 | 87,6 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 194,5 | 80,15 | 106,8 | 122,1 | 82,33 | 130,2 | 152,0 | 179,3 |
| Pressure drop | (1)(2) | kPa | 53,9 | 25,8 | 38,4 | 44,5 | 20,2 | 41,7 | 53,9 | 54,2 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 6 | 4 | 5 | 6 | 4 | 5 | 4 | 6 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 1626 | 1078 | 1233 | 1638 | 1050 | 1239 | 1072 | 1380 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 80 | 78 | 78 | 79 | 79 | 79 | 80 | 80 |
| Sound power level in cooling | (8)(9) | dB(A) | 101 | 98 | 99 | 100 | 99 | 100 | 100 | 101 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 6610 | 4720 | 5700 | 6610 | 4720 | 5700 | 4720 | 5700 |
| B | (10) | mm | 2400 | 1890 | 2350 | 2400 | 1890 | 2350 | 1890 | 2350 |
| H | (10) | mm | 2450 | 2400 | 2450 | 2450 | 2400 | 2400 | 2400 | 2450 |
| Operating weight | (10) | kg | 21010 | 10920 | 14300 | 18880 | 11250 | 15000 | 11580 | 21180 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;

Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling

[REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface;

non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

R513A [GWP₁₀₀ 631] fluorinated greenhouse gases.

Certified data in EUROVENT





TR-W-G05-Z

High efficiency water cooled chiller with R513A refrigerant

| TR-W-G05-Z | V/ph/Hz | 5B00 | 5B1A | 5C00 | 5C1B | 5D00 | 5D1C | 6B00 | 6C00 | 6D00 |
|--|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Power supply | 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity (1) | kW | 1718-2454 | 1966-2809 | 1999-2856 | 2357-3367 | 2991-3739 | 3458-4322 | 2055-2935 | 2420-3458 | 3592-4490 |
| EER (1) | kW/kW | 6.340 | 6.430 | 6.540 | 6.580 | 6.450 | 6.540 | 6.430 | 6.580 | 6.520 |
| ESSEER (up to) (1) | kW/kW | | | | | | | | | |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity (1)(2) | kW | 2046 | 2319 | 2421 | 2835 | 3426 | 3901 | 2434 | 2919 | 4092 |
| EER (1)(2) | kW/kW | 5.900 | 6.020 | 6.080 | 6.150 | 6.020 | 6.130 | 6.020 | 6.150 | 6.110 |
| Cooling energy class | A | A | A | A | A | A | A | A | A | A |
| SEPR (3)(4) | - | - | - | - | - | - | - | - | - | - |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity (5) | kW | 2551 | 2914 | 3051 | 3575 | 3937 | 4522 | 3041 | 3685 | 4684 |
| Total power input (5) | kW | 412,2 | 462,2 | 477,3 | 550,8 | 564,4 | 646,5 | 478,5 | 569,0 | 661,7 |
| EER (5) | kW/kW | 6.189 | 6.305 | 6.392 | 6.491 | 6.976 | 6.995 | 6.355 | 6.476 | 7.079 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity (6) | kW | 2539 | 2888 | 3244 | 3742 | 3915 | 4491 | 3007 | 3892 | 4607 |
| Total power input (6) | kW | 334,9 | 374,9 | 429,4 | 482,5 | 460,7 | 526,0 | 385,2 | 505,8 | 530,2 |
| EER (6) | kW/kW | 7.581 | 7.703 | 7.555 | 7.755 | 8.498 | 8.538 | 7.806 | 7.695 | 8.689 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow (1) | l/s | 98,21 | 111,3 | 116,2 | 136,0 | 164,7 | 187,4 | 116,8 | 140,1 | 196,6 |
| Pressure drop (1)(2) | kPa | 60,0 | 56,2 | 61,2 | 57,6 | 91,4 | 77,4 | 56,6 | 58,5 | 80,2 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow (1) | l/s | 113,9 | 128,7 | 134,2 | 156,9 | 190,0 | 215,8 | 135,1 | 161,5 | 226,4 |
| Pressure drop (1)(2) | kPa | 38,6 | 45,1 | 39,7 | 44,7 | 60,8 | 60,4 | 44,9 | 43,9 | 66,5 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | 5 | 6 | 5 | 6 | 5 | 6 | 6 | 6 | 6 |
| No. Circuits | N° | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | 1317 | 1594 | 1343 | 1583 | 1355 | 1739 | 1722 | 1555 | 1699 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure (7) | dB(A) | 78 | 79 | 79 | 80 | 80 | 81 | 79 | 80 | 81 |
| Sound power level in cooling (8)(9) | dB(A) | 99 | 100 | 100 | 101 | 101 | 102 | 100 | 101 | 102 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 5700 | 6610 | 5700 | 6610 | 5700 | 6610 | 6610 | 6610 |
| B | (10) | mm | 2350 | 2400 | 2350 | 2400 | 2350 | 2400 | 2400 | 2400 |
| H | (10) | mm | 2400 | 2450 | 2400 | 2450 | 2400 | 2450 | 2450 | 2450 |
| Operating weight | (10) | kg | 14550 | 19150 | 15180 | 20240 | 15890 | 21350 | 19400 | 20410 |
| | | | | | | | | | | 21560 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;
Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling
[REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;
source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface;
non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

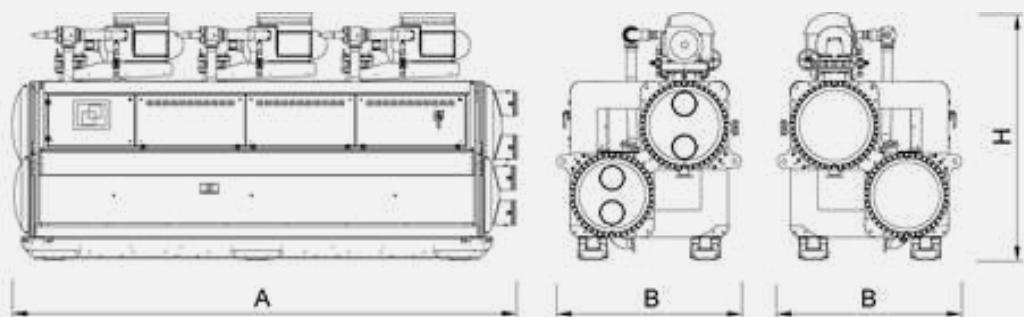
9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

R513A [GWP₁₀₀ 631] fluorinated greenhouse gases.

Certified data in EUROVENT





TR-W-Z

High efficiency water cooled chiller with R134a refrigerant

| TR-W-Z | | V/ph/Hz | 1A00 | 1B00 | 1B1A | 1B2A | 1B3A | 1C00 | 1C1A | 1C1B | 1C3B |
|--|--------|---------|-------------|-------------|-------------|------------|-----------|-------------|-------------|------------|-----------|
| | | | 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 |
| PERFORMANCE | | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | | |
| Cooling capacity | (1) | kW | 246,1-356,6 | 346,0-494,3 | 586,6-850,1 | 828,9-1201 | 1096-1566 | 400,6-572,2 | 648,9-927,0 | 744,4-1063 | 1438-2054 |
| EER | (1) | kW/kW | 6.250 | 6.310 | 6.250 | 6.080 | 6.260 | 6.460 | 6.340 | 6.360 | 6.380 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | | |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 246,1 | 366,9 | 586,0 | 827,1 | 1157 | 464,0 | 649,0 | 746,0 | 1723 |
| EER | (1)(2) | kW/kW | 6.060 | 6.060 | 6.070 | 5.940 | 6.020 | 6.140 | 6.160 | 6.180 | 5.970 |
| Cooling energy class | | A | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | 11,77 | 11,60 | 11,67 | 11,45 | 11,66 | 11,59 | 11,81 | 11,68 | 11,05 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | | |
| Cooling capacity | (5) | kW | 376,3 | 517,3 | 893,7 | 1271 | 1646 | 613,7 | 988,4 | 1130 | 2165 |
| Total power input | (5) | kW | 66,54 | 85,12 | 153,2 | 227,6 | 282,9 | 97,38 | 163,9 | 182,3 | 345,4 |
| EER | (5) | kW/kW | 5.659 | 6.079 | 5.834 | 5.584 | 5.818 | 6.301 | 6.031 | 6.199 | 6.268 |
| 23°C/15°C | | | | | | | | | | | |
| Cooling capacity | (6) | kW | 387,0 | 521,1 | 910,6 | 1316 | 1676 | 658,2 | 1045 | 1182 | 2220 |
| Total power input | (6) | kW | 58,52 | 70,83 | 131,1 | 200,6 | 243,1 | 89,03 | 147,3 | 159,7 | 292,0 |
| EER | (6) | kW/kW | 6.615 | 7.360 | 6.946 | 6.560 | 6.894 | 7.396 | 7.094 | 7.401 | 7.603 |
| EXCHANGERS | | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | | |
| Water flow | (1) | l/s | 11,80 | 17,59 | 28,09 | 39,62 | 55,47 | 22,24 | 31,10 | 35,75 | 82,69 |
| Pressure drop | (1)(2) | kPa | 19,2 | 22,1 | 26,1 | 21,6 | 35,1 | 24,6 | 26,2 | 26,3 | 53,2 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | | |
| Water flow | (1) | l/s | 13,66 | 20,35 | 32,51 | 46,03 | 64,24 | 25,69 | 35,93 | 41,29 | 95,77 |
| Pressure drop | (1)(2) | kPa | 17,7 | 20,8 | 21,0 | 19,8 | 26,7 | 24,0 | 20,8 | 20,5 | 34,5 |
| REFRIGERANT CIRCUIT | | | | | | | | | | | |
| Compressors nr. | N° | 1 | 1 | 2 | 3 | 4 | 1 | 2 | 2 | 4 | |
| No. Circuits | N° | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Refrigerant charge | kg | 215 | 220 | 390 | 495 | 747 | 262 | 436 | 416 | 1078 | |
| NOISE LEVEL | | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 75 | 76 | 76 | 78 | 78 | 77 | 77 | 77 | 79 |
| Sound power level in cooling | (8)(9) | dB(A) | 93 | 94 | 95 | 97 | 98 | 95 | 96 | 96 | 99 |
| SIZE AND WEIGHT | | | | | | | | | | | |
| A | (10) | mm | 2910 | 2910 | 3050 | 3710 | 4690 | 2910 | 3050 | 3050 | 4720 |
| B | (10) | mm | 1000 | 1000 | 1620 | 1710 | 1890 | 1000 | 1620 | 1620 | 1890 |
| H | (10) | mm | 1950 | 1950 | 2190 | 2260 | 2400 | 1950 | 2190 | 2190 | 2400 |
| Operating weight | (10) | kg | 2690 | 2800 | 5200 | 7590 | 9320 | 2880 | 5280 | 5410 | 11010 |

| TR-W-Z | | V/ph/Hz | 1D00 | 1D1A | 1D1B | 1D1C | 1D2C | 1D3C | 1D4C | 1D5C | 2A00 |
|--|--------|---------|-------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-------------|
| | | | 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 |
| PERFORMANCE | | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | | |
| Cooling capacity | (1) | kW | 595,5-744,4 | 757,5-1098 | 852,5-1235 | 1052-1315 | 1274-1901 | 1980-2475 | 2461-3076 | 2942-3677 | 499,4-713,5 |
| EER | (1) | kW/kW | 6.220 | 6.160 | 6.240 | 6.300 | 6.390 | 6.370 | 6.480 | 6.560 | 6.160 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | | |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 667,1 | 758,0 | 864,0 | 1077 | 1285 | 2160 | 2659 | 3153 | 526,0 |
| EER | (1)(2) | kW/kW | 5.970 | 5.970 | 6.040 | 6.040 | 6.200 | 6.010 | 6.090 | 6.190 | 5.940 |
| Cooling energy class | | A | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | 11,70 | 11,68 | 11,61 | 11,59 | 12,04 | - | - | - | 11,62 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | | |
| Cooling capacity | (5) | kW | 792,4 | 1169 | 1309 | 1405 | 2027 | 2640 | 3269 | 3899 | 753,4 |
| Total power input | (5) | kW | 117,0 | 184,2 | 202,8 | 216,4 | 311,6 | 409,5 | 499,0 | 587,3 | 134,1 |
| EER | (5) | kW/kW | 6.773 | 6.346 | 6.455 | 6.493 | 6.505 | 6.447 | 6.551 | 6.639 | 5.618 |
| 23°C/15°C | | | | | | | | | | | |
| Cooling capacity | (6) | kW | 803,4 | 1194 | 1330 | 1464 | 2116 | 2772 | 3413 | 4054 | 776,3 |
| Total power input | (6) | kW | 98,27 | 157,5 | 169,8 | 189,7 | 273,6 | 362,5 | 437,0 | 510,3 | 118,3 |
| EER | (6) | kW/kW | 8.173 | 7.581 | 7.833 | 7.717 | 7.734 | 7.647 | 7.810 | 7.944 | 6.562 |
| EXCHANGERS | | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | | |
| Water flow | (1) | l/s | 32,00 | 36,34 | 41,42 | 51,66 | 61,59 | 103,7 | 127,7 | 151,4 | 25,21 |
| Pressure drop | (1)(2) | kPa | 39,8 | 29,6 | 31,1 | 41,5 | 31,0 | 61,3 | 69,7 | 62,3 | 24,3 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | | |
| Water flow | (1) | l/s | 37,05 | 42,14 | 47,96 | 59,75 | 71,08 | 119,9 | 147,3 | 174,3 | 29,25 |
| Pressure drop | (1)(2) | kPa | 39,1 | 24,2 | 24,7 | 32,9 | 25,5 | 39,1 | 45,0 | 51,2 | 24,9 |
| REFRIGERANT CIRCUIT | | | | | | | | | | | |
| Compressors nr. | N° | 1 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 2 | |
| No. Circuits | N° | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Refrigerant charge | kg | 253 | 422 | 400 | 450 | 814 | 1017 | 1319 | 1696 | 273 | |
| NOISE LEVEL | | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 78 | 78 | 78 | 78 | 79 | 79 | 79 | 80 | 76 |
| Sound power level in cooling | (8)(9) | dB(A) | 96 | 97 | 97 | 97 | 99 | 99 | 100 | 101 | 95 |
| SIZE AND WEIGHT | | | | | | | | | | | |
| A | (10) | mm | 2910 | 3050 | 3050 | 3050 | 4690 | 4720 | 5700 | 6610 | 2910 |
| B | (10) | mm | 1000 | 1620 | 1620 | 1620 | 1660 | 1890 | 2350 | 2400 | 1560 |
| H | (10) | mm | 1950 | 2190 | 2190 | 2190 | 2260 | 2400 | 2400 | 2450 | 2190 |
| Operating weight | (10) | kg | 2950 | 5350 | 5340 | 5420 | 8810 | 11410 | 15330 | 20580 | 4070 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;

Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling

[REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

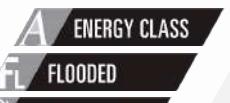
9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT



| TR-W-Z | | 2B00 | 2B1A | 2B2A | 2B3A | 2C00 | 2C1A | 2C1B | 2D00 | 2D1B |
|--|---------|----------|-------------|------------|-----------|-----------|------------|------------|-----------|------------|
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 681,1-987,1 | 938,5-1341 | 1191-1702 | 1444-2063 | 798,7-1141 | 1054-1506 | 1150-1642 | 994,7-1485 |
| EER | (1) | kW/kW | 6.290 | 6.100 | 6.300 | 6.330 | 6.430 | 6.440 | 6.460 | 6.060 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 6.330 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 685,1 | 987,1 | 1257 | 1685 | 925,1 | 1135 | 1237 | 993,1 |
| EER | (1)(2) | kW/kW | 6.100 | 5.900 | 6.030 | 5.900 | 6.090 | 6.180 | 6.200 | 5.890 |
| Cooling energy class | | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | 11,60 | 11,34 | 11,56 | 11,51 | 11,42 | 11,68 | 11,69 | 11,67 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 1034 | 1414 | 1784 | 2157 | 1224 | 1606 | 1747 | 1584 |
| Total power input | (5) | kW | 171,5 | 247,5 | 300,2 | 359,4 | 195,6 | 259,0 | 276,1 | 235,9 |
| EER | (5) | kW/kW | 6.029 | 5.713 | 5.943 | 6.002 | 6.258 | 6.201 | 6.327 | 6.715 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 1045 | 1453 | 1806 | 2172 | 1315 | 1700 | 1836 | 1613 |
| Total power input | (6) | kW | 143,4 | 213,9 | 254,0 | 301,4 | 179,4 | 232,5 | 243,7 | 199,6 |
| EER | (6) | kW/kW | 7.287 | 6.793 | 7.110 | 7.206 | 7.330 | 7.312 | 7.534 | 8.081 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 32,83 | 47,29 | 60,29 | 80,94 | 44,35 | 54,42 | 59,31 | 47,60 |
| Pressure drop | (1)(2) | kPa | 26,4 | 23,5 | 41,5 | 62,0 | 34,4 | 36,1 | 35,6 | 30,5 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 37,98 | 54,97 | 69,78 | 93,81 | 51,28 | 62,81 | 68,41 | 55,31 |
| Pressure drop | (1)(2) | kPa | 20,8 | 21,9 | 27,1 | 38,8 | 26,9 | 28,1 | 27,3 | 25,4 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 2 | 3 | 4 | 5 | 2 | 3 | 3 | 2 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 433 | 640 | 1015 | 1303 | 411 | 751 | 795 | 429 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 77 | 78 | 78 | 78 | 78 | 78 | 78 | 79 |
| Sound power level in cooling | (8)(9) | dB(A) | 96 | 97 | 98 | 99 | 97 | 98 | 98 | 99 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 3050 | 3710 | 4720 | 5700 | 3050 | 4690 | 4690 | 3050 |
| B | (10) | mm | 1620 | 1710 | 1890 | 2350 | 1620 | 1660 | 1660 | 1660 |
| H | (10) | mm | 2190 | 2260 | 2400 | 2400 | 2190 | 2260 | 2190 | 2260 |
| Operating weight | (10) | kg | 5340 | 7750 | 10610 | 13850 | 5330 | 8470 | 8700 | 5310 |
| TR-W-Z | | | | | | | | | | |
| TR-W-Z | | 2D1C | 2D2B | 2D2C | 2D3C | 2D4C | 3A00 | 3B00 | 3B1A | 3B2A |
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 1656-2070 | 1984-2479 | 2117-2646 | 2599-3249 | 3081-3852 | 733,1-1062 | 1036-1480 | 1288-1839 |
| EER | (1) | kW/kW | 6.370 | 6.330 | 6.390 | 6.490 | 6.580 | 6.060 | 6.130 | 6.320 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 6.360 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 1870 | 2203 | 2360 | 2856 | 3350 | 732,1 | 1091 | 1359 |
| EER | (1)(2) | kW/kW | 5.990 | 5.950 | 6.000 | 6.080 | 6.190 | 5.910 | 5.920 | 6.060 |
| Cooling energy class | | A | A | A | A | A | A | A | A | 5.930 |
| SEPR | (3)(4) | | 11,34 | - | - | - | - | 11,48 | 11,35 | 11,57 |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 2201 | 2617 | 2816 | 3444 | 4068 | 1129 | 1557 | 1925 |
| Total power input | (5) | kW | 329,6 | 398,4 | 427,2 | 516,4 | 603,0 | 207,1 | 267,6 | 319,2 |
| EER | (5) | kW/kW | 6.678 | 6.569 | 6.592 | 6.699 | 6.746 | 5.451 | 5.818 | 6.031 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 2256 | 2638 | 2913 | 3548 | 4178 | 1178 | 1591 | 1942 |
| Total power input | (6) | kW | 281,8 | 329,8 | 370,2 | 444,0 | 515,0 | 186,4 | 227,9 | 267,2 |
| EER | (6) | kW/kW | 8.006 | 7.999 | 7.869 | 7.991 | 8.113 | 6.320 | 6.981 | 7.268 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 89,77 | 105,8 | 113,3 | 137,2 | 160,8 | 35,07 | 52,27 | 65,17 |
| Pressure drop | (1)(2) | kPa | 62,7 | 66,7 | 66,6 | 75,6 | 67,1 | 21,5 | 23,7 | 40,7 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 103,8 | 122,4 | 131,0 | 158,3 | 185,2 | 40,76 | 60,73 | 75,40 |
| Pressure drop | (1)(2) | kPa | 48,9 | 44,7 | 42,3 | 48,7 | 53,3 | 19,6 | 22,5 | 26,5 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 3 | 4 | 4 | 5 | 6 | 3 | 3 | 4 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 812 | 1013 | 1094 | 1299 | 1667 | 501 | 598 | 985 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 79 | 79 | 80 | 79 | 80 | 77 | 78 | 78 |
| Sound power level in cooling | (8)(9) | dB(A) | 99 | 99 | 100 | 100 | 101 | 96 | 97 | 98 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 4690 | 4720 | 4720 | 5700 | 6610 | 3710 | 3710 | 4720 |
| B | (10) | mm | 1660 | 1890 | 1890 | 2350 | 2400 | 1710 | 1710 | 1890 |
| H | (10) | mm | 2260 | 2400 | 2400 | 2450 | 2450 | 2260 | 2260 | 2400 |
| Operating weight | (10) | kg | 8880 | 11250 | 11450 | 15420 | 20750 | 7440 | 7370 | 10740 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;

Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling
[REGULATION (EU) N. 2016/2281]5 User side heat exchanger water temperature (in/out) 16°C/10°C;
source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface;
non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT





TR-W-Z

High efficiency water cooled chiller with R134a refrigerant

| TR-W-Z | | 3B3A | 3C00 | 3C1A | 3C1B | 3C2B | 3D00 | 3D1A | 3D1C | 3D2C |
|--|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 1793-2562 | 1205-1721 | 1453-2076 | 1550-2214 | 1907-2724 | 1792-2240 | 2076-2594 | 2254-2817 |
| EER | (1) | kW/kW | 6.420 | 6.490 | 6.450 | 6.470 | 6.540 | 6.340 | 6.330 | 6.370 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 6.490 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 2095 | 1310 | 1753 | 1877 | 2292 | 2068 | 2354 | 2559 |
| EER | (1)(2) | kW/kW | 6.010 | 6.230 | 6.010 | 6.040 | 6.080 | 5.960 | 5.930 | 5.980 |
| Cooling energy class | | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | - | 11,81 | 11,13 | 11,21 | - | - | - | - | - |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 2666 | 1844 | 2217 | 2359 | 2885 | 2377 | 2752 | 2992 |
| Total power input | (5) | kW | 432,0 | 290,9 | 356,0 | 372,9 | 449,4 | 347,7 | 413,4 | 445,0 |
| EER | (5) | kW/kW | 6.171 | 6.339 | 6.228 | 6.326 | 6.420 | 6.836 | 6.657 | 6.724 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 2660 | 1974 | 2355 | 2492 | 3000 | 2398 | 2782 | 3053 |
| Total power input | (6) | kW | 355,9 | 265,1 | 321,1 | 331,9 | 389,4 | 289,8 | 346,9 | 377,8 |
| EER | (6) | kW/kW | 7.474 | 7.446 | 7.334 | 7.508 | 7.704 | 8.275 | 8.020 | 8.081 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 100,5 | 62,81 | 84,10 | 90,04 | 110,1 | 99,34 | 113,1 | 122,9 |
| Pressure drop | (1)(2) | kPa | 56,3 | 35,8 | 52,2 | 52,5 | 59,6 | 69,1 | 76,3 | 72,4 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 116,2 | 72,40 | 97,31 | 104,1 | 127,1 | 114,9 | 130,9 | 142,1 |
| Pressure drop | (1)(2) | kPa | 43,8 | 28,5 | 34,4 | 33,7 | 41,8 | 56,4 | 48,8 | 47,1 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 6 | 3 | 4 | 4 | 5 | 3 | 4 | 5 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 1677 | 795 | 1078 | 1013 | 1252 | 850 | 1059 | 1072 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 79 | 78 | 79 | 79 | 79 | 79 | 80 | 80 |
| Sound power level in cooling | (8)(9) | dB(A) | 100 | 98 | 99 | 99 | 100 | 99 | 100 | 101 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 6610 | 4690 | 4720 | 4720 | 5700 | 4690 | 4720 | 4720 |
| B | (10) | mm | 2400 | 1660 | 1890 | 1890 | 2350 | 1660 | 1890 | 2350 |
| H | (10) | mm | 2450 | 2260 | 2400 | 2400 | 2260 | 2400 | 2400 | 2400 |
| Operating weight | (10) | kg | 18670 | 8700 | 11010 | 11210 | 14910 | 9010 | 11250 | 11580 |
| TR-W-Z | | | | | | | | | | |
| TR-W-Z | | 3D3C | 4B00 | 4B1A | 4B2A | 4C00 | 4C1B | 4D00 | 4D1C | 4D2C |
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| Cooling capacity | (1) | kW | 3221-4026 | 1384-1978 | 1636-2337 | 1890-2700 | 1376-2294 | 1964-2806 | 2388-2985 | 2877-3596 |
| EER | (1) | kW/kW | 6.590 | 6.350 | 6.390 | 6.450 | 6.440 | 6.560 | 6.330 | 6.480 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 6.600 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 3549 | 1462 | 1937 | 2218 | 1498 | 2370 | 2755 | 3255 |
| EER | (1)(2) | kW/kW | 6.190 | 6.090 | 5.950 | 6.030 | 6.240 | 6.100 | 5.940 | 6.050 |
| Cooling energy class | | A | A | A | A | A | A | A | A | A |
| SEPR | (3)(4) | - | 11,59 | 11,64 | - | 12,05 | - | - | - | - |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 4238 | 2066 | 2433 | 2806 | 2456 | 2985 | 3169 | 3793 |
| Total power input | (5) | kW | 618,2 | 337,3 | 393,4 | 447,8 | 387,5 | 464,1 | 464,3 | 550,3 |
| EER | (5) | kW/kW | 6.855 | 6.125 | 6.185 | 6.266 | 6.338 | 6.432 | 6.825 | 6.893 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 4300 | 2074 | 2431 | 2790 | 2628 | 3141 | 3198 | 3813 |
| Total power input | (6) | kW | 519,2 | 278,7 | 322,7 | 366,3 | 352,8 | 410,3 | 387,6 | 456,6 |
| EER | (6) | kW/kW | 8.282 | 7.442 | 7.533 | 7.617 | 7.449 | 7.655 | 8.251 | 8.351 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 170,4 | 70,11 | 92,98 | 106,4 | 71,80 | 113,8 | 132,4 | 156,5 |
| Pressure drop | (1)(2) | kPa | 71,5 | 40,1 | 60,5 | 57,3 | 30,7 | 62,1 | 81,7 | 88,9 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 196,1 | 81,06 | 107,7 | 123,0 | 82,82 | 131,3 | 153,1 | 180,4 |
| Pressure drop | (1)(2) | kPa | 54,8 | 26,4 | 39,1 | 45,1 | 20,4 | 42,4 | 54,7 | 61,2 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 6 | 4 | 5 | 6 | 4 | 5 | 4 | 5 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 1626 | 1078 | 1233 | 1638 | 1050 | 1239 | 1072 | 1380 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 80 | 78 | 78 | 79 | 79 | 79 | 80 | 80 |
| Sound power level in cooling | (8)(9) | dB(A) | 101 | 98 | 99 | 100 | 99 | 100 | 101 | 101 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 6610 | 4720 | 5700 | 6610 | 4720 | 5700 | 4720 | 5700 |
| B | (10) | mm | 2400 | 1890 | 2350 | 2400 | 1890 | 2350 | 1890 | 2350 |
| H | (10) | mm | 2450 | 2400 | 2450 | 2450 | 2400 | 2400 | 2400 | 2450 |
| Operating weight | (10) | kg | 21010 | 10920 | 14300 | 18880 | 11250 | 15000 | 11580 | 15730 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;

Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling

[REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

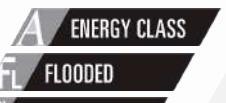
9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT



| TR-W-Z | | 5B00 | 5B1A | 5C00 | 5C1B | 5D00 | 5D1C | 6B00 | 6C00 | 6D00 |
|--|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Power 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 |
| PERFORMANCE | | | | | | | | | | |
| Cooling capacity | (1) | kW | 1732-2474 | 1986-2837 | 2021-2888 | 2381-3401 | 3016-3770 | 3500-4374 | 2082-2974 | 2440-3486 |
| EER | (1) | kW/kW | 6.420 | 6.470 | 6.600 | 6.640 | 6.470 | 6.590 | 6.490 | 6.660 |
| ESSEER (up to) | (1) | kW/kW | | | | | | | | 6.580 |
| COOLING ONLY (EN14511 VALUE) | | | | | | | | | | |
| Cooling capacity | (1)(2) | kW | 2062 | 2342 | 2448 | 2864 | 3453 | 3948 | 2466 | 2942 |
| EER | (1)(2) | kW/kW | 5.970 | 6.050 | 6.130 | 6.200 | 6.040 | 6.170 | 6.070 | 6.220 |
| Cooling energy class | | A | | A | A | A | A | A | A | A |
| SEPR | (3)(4) | | - | - | - | - | - | - | - | - |
| COOLING ONLY (GROSS VALUE) | | | | | | | | | | |
| 16°C/10°C | | | | | | | | | | |
| Cooling capacity | (5) | kW | 2571 | 2943 | 3085 | 3611 | 3968 | 4577 | 3081 | 3715 |
| Total power input | (5) | kW | 410,2 | 464,0 | 478,3 | 551,4 | 567,3 | 649,1 | 480,4 | 566,7 |
| EER | (5) | kW/kW | 6.268 | 6.343 | 6.450 | 6.549 | 6.995 | 7.051 | 6.413 | 6.555 |
| 23°C/15°C | | | | | | | | | | |
| Cooling capacity | (6) | kW | 2560 | 2918 | 3280 | 3780 | 3947 | 4546 | 3046 | 3923 |
| Total power input | (6) | kW | 333,2 | 376,4 | 430,3 | 483,0 | 463,1 | 528,1 | 386,8 | 503,8 |
| EER | (6) | kW/kW | 7.683 | 7.752 | 7.623 | 7.826 | 8.523 | 8.608 | 7.875 | 8.768 |
| EXCHANGERS | | | | | | | | | | |
| HEAT EXCHANGER USER SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 99,01 | 112,4 | 117,5 | 137,4 | 166,0 | 189,7 | 118,4 | 141,2 |
| Pressure drop | (1)(2) | kPa | 61,0 | 57,3 | 62,6 | 58,7 | 92,9 | 79,2 | 58,1 | 59,4 |
| HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION | | | | | | | | | | |
| Water flow | (1) | l/s | 114,6 | 129,9 | 135,5 | 158,3 | 191,4 | 218,2 | 136,7 | 162,6 |
| Pressure drop | (1)(2) | kPa | 39,1 | 45,9 | 40,4 | 45,5 | 61,7 | 61,7 | 46,0 | 44,5 |
| REFRIGERANT CIRCUIT | | | | | | | | | | |
| Compressors nr. | N° | | 5 | 6 | 5 | 6 | 5 | 6 | 6 | 6 |
| No. Circuits | N° | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Refrigerant charge | kg | | 1317 | 1594 | 1343 | 1583 | 1355 | 1739 | 1722 | 1555 |
| NOISE LEVEL | | | | | | | | | | |
| Sound Pressure | (7) | dB(A) | 78 | 79 | 79 | 80 | 80 | 81 | 79 | 80 |
| Sound power level in cooling | (8)(9) | dB(A) | 99 | 100 | 100 | 101 | 101 | 102 | 100 | 101 |
| SIZE AND WEIGHT | | | | | | | | | | |
| A | (10) | mm | 5700 | 6610 | 5700 | 6610 | 5700 | 6610 | 6610 | 6610 |
| B | (10) | mm | 2350 | 2400 | 2350 | 2400 | 2350 | 2400 | 2400 | 2400 |
| H | (10) | mm | 2400 | 2450 | 2400 | 2450 | 2400 | 2450 | 2450 | 2450 |
| Operating weight | (10) | kg | 14550 | 19150 | 15180 | 20240 | 15890 | 21350 | 19400 | 20410 |
| | | | | | | | | | | 21560 |

Notes:

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C;

Source (side) heat exchanger water (in/out) 30°C/35°C.

2 Values in compliance with EN14511

3 Seasonal energy efficiency ratio

4 Seasonal energy efficiency of high temperature process cooling

[REGULATION (EU) N. 2016/2281]

5 User side heat exchanger water temperature (in/out) 16°C/10°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

6 User side heat exchanger water temperature (in/out) 23°C/15°C;

source side heat exchanger water temperature (in/out) 30°C/35°C.

7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, indoors.

10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain

HFC R134a [GWP₁₀₀ 1430] fluorinated greenhouse gases.

Certified data in EUROVENT



MORE THAN 1000 PROJECTS ALL OVER THE WORLD

NATIONAL GRID

2007 - Warwick - Great Britain

Application: Data Center
Plant type: Hydronic System
Cooling capacity: 4200 kW
Installed machines: 4x high efficiency water cooled chillers



VODAFONE MSC MILANO 3

2015-2016 - Milan - Italy

Application: Data Center
Plant type: Hydronic System
Cooling capacity: 1700 kW
Installed machines: 2x high efficiency water cooled chillers



Every project is characterised by different conditions and system specifications for many different climates. All of them share high energy efficiency, reduced noise emissions, and the reliability standards of the RC brand.

ASTRO HOUSE DATA CENTER

2012- Fareham - Great Britain

Application: Data Center

Plant type: Hydronic System

Cooling capacity: 1650 kW

Installed machines: 3x high efficiency low condensing water cooled chillers



IIT - INDIAN INSTITUTE OF TECHNOLOGY

2012 - Kanpur - India

Application: Data Center - School / University

Plant type: Hydronic System

Cooling capacity: 341 kW

Installed machines: 3x high efficiency high condensing water cooled chillers





for a greener tomorrow



Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

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