

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

COMFORT

CHILLERS

# TECS2-G05

AIR COOLED CHILLERS WITH OIL-FREE  
COMPRESSORS FROM 218 TO 1313 kW

<sup>r</sup> R513A



# TECS2-G05

## THE SILENT CHILLER OPERATING AT GREEN EFFICIENCY



### COMFORT APPLICATIONS

- ✓ Hotels
- ✓ Shopping centres
- ✓ Office buildings
- ✓ Museums
- ✓ Education centres
- ✓ Sport facilities
- ✓ Banks
- ✓ Institutions

### Air cooled chiller with oil-free compressors. From 218 to 1313 kW

Resulting from the recognised prestige of Climaveneta brand products utilising magnetic levitation technology, TECS2-G05 air cooled chillers match together the advantages of the oil-free technology with the 513A innovative green refrigerant.

Brilliantly engineered to achieve premium levels of efficiency and reliability, TECS2-G05 also feature a very compact layout and silent operation that make this unit the ideal solution for any comfort application.



### UNBEATABLE EFFICIENCY AT PART LOAD

At partial loads, TECS2-G05 units are by far more efficient than traditional scroll/screw units, with SEER values up to 60% higher.

Running cost savings are evident and consistent, especially when all year round operation is required.



### EXTREMELY SILENT OPERATION

Thanks to the oil-free compressor with magnetic levitation and the EC fans, TECS2-G05 sound power and pressure are very low, without peaks in any of the sound frequency spectrum.

Vibrations are dramatically reduced as well, with considerable advantages in terms of transmission to the building.

### ACOUSTIC VERSIONS

**SL-CA**

Low noise version,  
Class A of efficiency

**XL-CA**

Extra Low noise version,  
Class A of efficiency

**SL-CA-E**

Super Low noise version,  
Premium efficiency  
Class A enhanced

### HEAT RECOVERY CONFIGURATIONS

**-**

Basic function

**D**

Partial condensing heat recovery function

# ALL-ROUND SUSTAINABILITY



## TECS2-G05 is the result of Mitsubishi Electric Hydronics & IT Cooling Systems' extensive approach to sustainability.

Increasing concerns about the global warming impact of chillers and heat pumps is driving new regulatory policies to push towards even more efficient units with the lowest carbon footprint.

Today, an all-round approach is the only way to effectively reduce the Total Equivalent Warming Impact (TEWI).

Fully committed to support the creation of a greener tomorrow, Mitsubishi Electric Hydronics & IT Cooling Systems designed TECS2-G05, a complete chiller range with reduced environmental impact, optimized for R513A refrigerant.

Combining brilliant annual efficiency with the use of a low GWP refrigerant, TECS2-G05 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			SCREW		
Refrigerant	GWP*	Flammability**	Refrigerant	GWP*	Flammability**
R410A	2088	NON flammable	R134a	1430	NON flammable
R32	675	MILDLY flammable	R513A	631	NON flammable
R454B	466	MILDLY flammable	R1234ze	7	MILDLY flammable
R452B	698	MILDLY flammable	R1234yf	4	MILDLY flammable

\*IPCC AR4 \*\*ASHRAE 34 - ISO 817

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 TECS2-G05, 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).

## SIMPLIFIED LOGISTICS

PLUG & PLAY

Oil-free compressors feature an extremely advantageous capacity / weight ratio. The considerable weight reduction allows simplified on-site operations and a more compact layout compared to traditional screw compressor chillers.

## LOW IN RUSH CURRENT



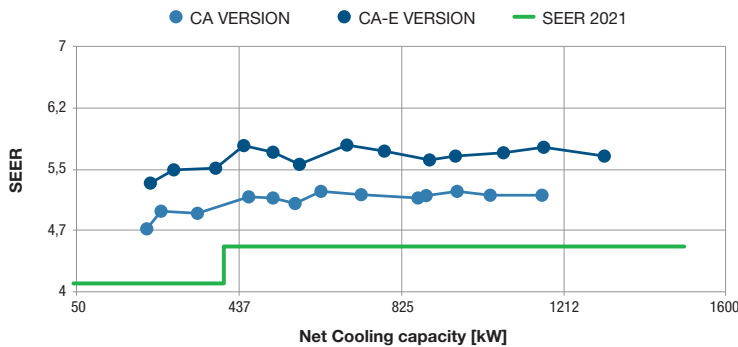
A further benefit is the very low inrush current, obtained thanks to the characteristics of the compressor and to the "inverter" starting. This is a crucial factor, as it allows a more favourable selection of the protection devices to be placed on the power supply between transformer and unit.

# TECHNOLOGICAL CHOICES

## CENTRIFUGAL COMPRESSOR WITH MAGNETIC LEVITATION

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 heat exchange penalisation. Partial load efficiency, which is crucial in all-year-round operations, is therefore strongly increased.

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



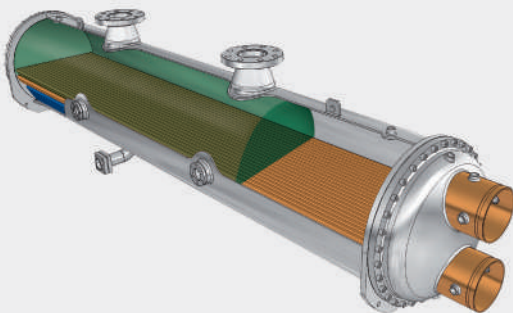
The chart shows as all TECS2-G05 versions are far above SEER 2021 limits. Right and safe solution for your building future design.



## Flooded evaporator

Designed and built internally, the geometry of the flooded evaporator grants optimum temperature distribution along the shell, hence highly efficient heat exchange and low refrigerant pressure drops.

Allowing the over-heating surface to be eliminated, the flooded evaporation delivers unbeatable heat exchange efficiency and a substantial increase of the cooling capacity.



## W3000TE CONTROL AND USER-FRIENDLY INTERFACE

The logic behind TECS2-G05 is the W3000TE control software.

Characterized by advanced functions and algorithms, **W3000TE features proprietary settings** that ensure faster adaptive responses to different dynamics, in all operating conditions:

Efficiency, silent operation and reliability. But also compact dimensions and reduced weight. These are the main features that make TECS2-G05 the ideal solution for comfort applications.

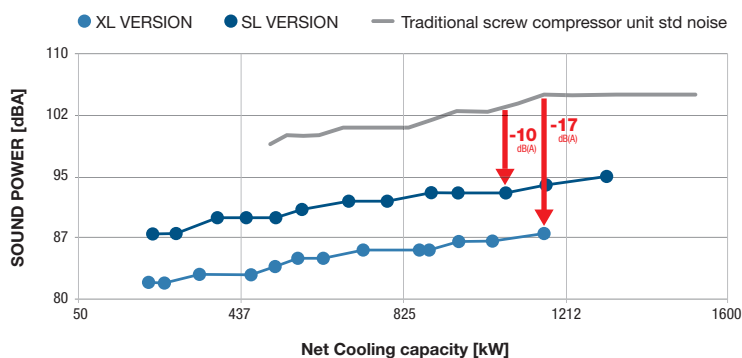
## EC FANS FOR A SUPER SILENT OPERATION

On TECS2-G05 units, the technology of EC electronic switching fans is introduced, as standard on SL-CA-E versions and optional on the other models.

The superior energy efficiency of the DC brushless motor further improves the chiller's

performance, that reaches the highest SEER level in the market.

More advantages are low inrush current and the ability to continuously modulate the rotational speed with an immediate gain in both silence and energy consumption.



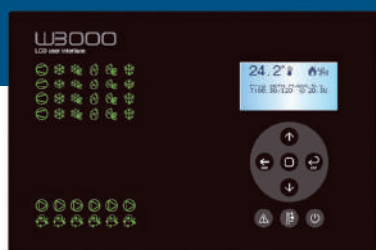
TECS2-G05 shows as the EC fans on the XL and SL versions ensure very low noise levels compared to traditional screw compressor units. These unbeatable sound power levels make this unit the perfect solution for noise critical applications.

## Electronic Expansion Valve

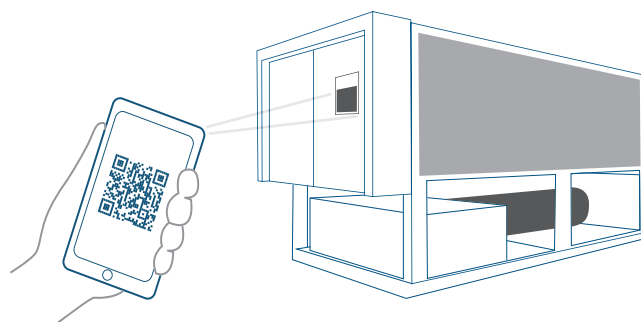


The electronic valve is adopted to grant the ideal operation of the evaporator in all conditions. In the air cooled unit the control is made with a precise measurement of the subcooling in the condenser coil.

The fast processing of the acquired data allow a quick, fluctuation-free regulation, and therefore a highly accurate adjustment to the swings of load and ambient conditions.



- ✓ Efficient and reliable operation in all conditions
- ✓ Connectivity with the most commonly used BMS protocols (Opt.)
- ✓ Demand limit option (available for double circuit units).



**Easier on-site operation**

**Real-time graphs and trends**

**Data logger function**

As an option, the direct control over the unit comes through the innovative **KIPLink interface**. Based on Wi-Fi technology, KIPLink

gets rid of the standard keyboard and **allows one to operate on the unit directly from a mobile device** (smartphone, tablet, notebook).



## TECS2-G05 0211 - 1154

Chiller, air source for outdoor installation,  
from 218 to 1313 kW.

TECS2-G05/SL-CA			0211	0251	0351	0452	0512	0552	0652
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
Cooling capacity	(1) kW		230,4	255,9	343,3	437,9	502,5	567,3	643,1
Total power input	(1) kW		70,85	80,82	110,0	137,7	160,7	173,5	207,2
EER	(1) kW/kW		3,254	3,167	3,121	3,180	3,127	3,270	3,104
ESEER	(1) kW/kW								
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2) kW		229,6	255,2	342,4	436,9	501,3	565,7	641,9
EER	(1)(2) kW/kW		3,210	3,130	3,090	3,150	3,100	3,230	3,080
ESEER	(1)(2) kW/kW		4,600	4,760	4,550	4,880	4,920	4,810	4,840
Cooling energy class			A	A	A	A	A	A	A
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
<b>Ambient refrigeration</b>									
Prated,c	(7) kW		230	255	342	437	501	566	642
SEER	(7)(8)		4,76	4,92	4,86	5,07	5,16	5,03	5,11
Performance $\eta_{15}$	(7)(9) %		188	194	192	200	203	198	201
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1) l/s		11,02	12,24	16,42	20,94	24,03	27,13	30,76
Pressure drop	(1) kPa		35,7	27,0	28,1	27,0	27,0	34,4	20,7
<b>REFRIGERANT CIRCUIT</b>									
Compressors nr.	N°		1	1	1	2	2	2	2
No. Circuits	N°		1	1	1	1	1	1	1
Refrigerant charge	kg		100	100	120	210	180	210	240
<b>NOISE LEVEL</b>									
Sound Pressure	(3) dB(A)		56	56	58	58	58	59	59
Sound power level in cooling	(4)(5) dB(A)		88	88	90	90	90	91	92
<b>SIZE AND WEIGHT</b>									
A	(6) mm		3100	3100	4000	4900	4900	5800	7000
B	(6) mm		2260	2260	2260	2260	2260	2260	2260
H	(6) mm		2430	2430	2430	2430	2430	2430	2430
Operating weight	(6) kg		2320	2370	3050	4000	4240	4530	5800

TECS2-G05/SL-CA			0712	0853	0913	1013	1054	1154
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>								
<b>COOLING ONLY (GROSS VALUE)</b>								
Cooling capacity	(1) kW		733,3	840,5	891,7	964,6	1056	1173
Total power input	(1) kW		225,0	269,6	287,3	309,1	335,2	373,3
EER	(1) kW/kW		3,259	3,118	3,104	3,121	3,150	3,142
ESEER	(1) kW/kW							
<b>COOLING ONLY (EN14511 VALUE)</b>								
Cooling capacity	(1)(2) kW		731,7	838,5	889,3	962,5	1053	1170
EER	(1)(2) kW/kW		3,230	3,090	3,070	3,090	3,120	3,110
ESEER	(1)(2) kW/kW		4,920	4,870	4,820	4,850	4,830	4,890
Cooling energy class			A	A	A	A	A	A
<b>ENERGY EFFICIENCY</b>								
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>								
<b>Ambient refrigeration</b>								
Prated,c	(7) kW		732	838	889	962	1053	1170
SEER	(7)(8)		5,17	5,08	5,04	5,10	5,08	5,11
Performance $\eta_{15}$	(7)(9) %		204	200	199	201	200	201
<b>EXCHANGERS</b>								
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>								
Water flow	(1) l/s		35,07	40,19	42,64	46,13	50,52	56,08
Pressure drop	(1) kPa		26,9	31,2	35,1	29,0	34,7	36,7
<b>REFRIGERANT CIRCUIT</b>								
Compressors nr.	N°		2	3	3	3	4	4
No. Circuits	N°		1	2	2	2	2	2
Refrigerant charge	kg		280	340	430	490	480	520
<b>NOISE LEVEL</b>								
Sound Pressure	(3) dB(A)		59	60	60	60	61	61
Sound power level in cooling	(4)(5) dB(A)		92	93	93	93	94	94
<b>SIZE AND WEIGHT</b>								
A	(6) mm		7000	8500	9700	10600	11200	11500
B	(6) mm		2260	2260	2260	2260	2260	2260
H	(6) mm		2430	2430	2430	2430	2430	2430
Operating weight	(6) kg		6150	6940	7370	8150	8700	9020

### Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511
- Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, outdoors.

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

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

8 Seasonal energy efficiency ratio

9 Seasonal space cooling energy efficiency

**The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.**

**Certified data in EUROVENT**



TECS2-G05/XL-CA		0211	0251	0351	0452	0512	0552	0652
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
<b>PERFORMANCE</b>								
<b>COOLING ONLY (GROSS VALUE)</b>								
Cooling capacity	(1) kW	217,9	252,4	338,6	431,0	519,2	573,0	634,0
Total power input	(1) kW	68,84	79,54	109,0	135,9	165,3	171,1	205,8
EER	(1) kW/kW	3,167	3,175	3,106	3,171	3,141	3,349	3,081
ESEER	(1) kW/kW							
<b>COOLING ONLY (EN14511 VALUE)</b>								
Cooling capacity	(1)(2) kW	217,2	251,7	337,7	430,0	517,9	571,4	632,9
EER	(1)(2) kW/kW	3,120	3,140	3,070	3,140	3,110	3,310	3,060
ESEER	(1)(2) kW/kW	4,610	4,860	4,670	4,990	4,980	4,900	4,990
Cooling energy class		A	A	B	A	A	A	B
<b>ENERGY EFFICIENCY</b>								
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>								
<b>Ambient refrigeration</b>								
Prated,c	(7) kW	217	252	338	430	518	571	633
SEER	(7)(8)	4,77	4,99	4,96	5,16	5,15	5,08	5,23
Performance $\eta_s$	(7)(9) %	188	197	195	203	203	200	206
<b>EXCHANGERS</b>								
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>								
Water flow	(1) l/s	10,42	12,07	16,19	20,61	24,83	27,40	30,32
Pressure drop	(1) kPa	32,0	26,3	27,3	26,2	28,8	35,1	20,1
<b>REFRIGERANT CIRCUIT</b>								
Compressors nr.	N°	1	1	1	2	2	2	2
No. Circuits	N°	1	1	1	1	1	1	1
Refrigerant charge	kg	100	100	130	220	220	240	270
<b>NOISE LEVEL</b>								
Sound Pressure	(3) dB(A)	50	50	51	51	52	52	52
Sound power level in cooling	(4)(5) dB(A)	82	82	83	83	84	85	85
<b>SIZE AND WEIGHT</b>								
A	(6) mm	3100	3100	4000	4900	5800	7000	7000
B	(6) mm	2260	2260	2260	2260	2260	2260	2260
H	(6) mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6) kg	2370	2420	3200	4240	4690	5350	6150

TECS2-G05/XL-CA		0712	0853	0913	1013	1054	1154
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>							
<b>COOLING ONLY (GROSS VALUE)</b>							
Cooling capacity	(1) kW	730,0	865,8	888,0	959,1	1040	1163
Total power input	(1) kW	226,0	279,0	290,4	311,0	330,3	376,9
EER	(1) kW/kW	3,230	3,103	3,058	3,084	3,149	3,086
ESEER	(1) kW/kW						
<b>COOLING ONLY (EN14511 VALUE)</b>							
Cooling capacity	(1)(2) kW	728,4	863,6	885,7	957,0	1037	1160
EER	(1)(2) kW/kW	3,200	3,070	3,030	3,060	3,120	3,050
ESEER	(1)(2) kW/kW	4,990	4,980	4,990	4,990	4,950	4,970
Cooling energy class		A	A	B	B	A	B
<b>ENERGY EFFICIENCY</b>							
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>							
<b>Ambient refrigeration</b>							
Prated,c	(7) kW	728	864	886	957	1037	1160
SEER	(7)(8)	5,19	5,15	5,17	5,23	5,18	5,18
Performance $\eta_s$	(7)(9) %	205	203	204	206	204	204
<b>EXCHANGERS</b>							
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>							
Water flow	(1) l/s	34,91	41,40	42,47	45,87	49,75	55,63
Pressure drop	(1) kPa	26,7	33,1	34,8	28,6	33,7	36,1
<b>REFRIGERANT CIRCUIT</b>							
Compressors nr.	N°	2	3	3	3	4	4
No. Circuits	N°	1	2	2	2	2	2
Refrigerant charge	kg	310	410	450	520	500	580
<b>NOISE LEVEL</b>							
Sound Pressure	(3) dB(A)	53	53	53	54	54	55
Sound power level in cooling	(4)(5) dB(A)	86	86	86	87	87	88
<b>SIZE AND WEIGHT</b>							
A	(6) mm	7900	9400	9700	10600	11200	12400
B	(6) mm	2260	2260	2260	2260	2260	2260
H	(6) mm	2430	2430	2430	2430	2430	2430
Operating weight	(6) kg	6650	7520	7770	8650	9150	9960



## TECS2-G05 0211 - 1154

Chiller, air source for outdoor installation,  
from 218 to 1313 kW.

TECS2-G05/SL-CA-E			0211	0251	0351	0452	0512	0552	0652
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
<b>PERFORMANCE</b>									
<b>COOLING ONLY (GROSS VALUE)</b>									
Cooling capacity	(1)	kW	226,4	282,8	381,9	450,5	520,5	583,5	695,8
Total power input	(1)	kW	67,41	81,04	112,7	133,0	154,1	168,3	203,5
EER	(1)	kW/kW	3,359	3,491	3,389	3,387	3,378	3,467	3,419
ESEER	(1)	kW/kW							
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2)	kW	225,6	281,9	380,8	449,4	519,2	581,8	694,4
EER	(1)(2)	kW/kW	3,310	3,440	3,340	3,350	3,340	3,420	3,390
ESEER	(1)(2)	kW/kW	5,100	5,300	5,200	5,520	5,400	5,300	5,530
Cooling energy class			A	A	A	A	A	A	A
<b>ENERGY EFFICIENCY</b>									
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>									
<b>Ambient refrigeration</b>									
Prated,c	(7)	kW	226	282	381	449	519	582	694
SEER	(7)(8)		5,33	5,49	5,51	5,79	5,71	5,56	5,80
Performance $\eta_{15}$	(7)(9)	%	210	216	217	229	225	219	229
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1)	l/s	10,83	13,52	18,26	21,55	24,89	27,90	33,27
Pressure drop	(1)	kPa	34,5	33,0	34,7	28,6	29,0	36,4	24,2
<b>REFRIGERANT CIRCUIT</b>									
Compressors nr.			1	1	1	2	2	2	2
No. Circuits			1	1	1	1	1	1	1
Refrigerant charge	kg		100	100	130	220	220	240	270
<b>NOISE LEVEL</b>									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
<b>SIZE AND WEIGHT</b>									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2270	2350	3130	4070	4230	4570	6040

TECS2-G05/SL-CA-E			0712	0853	0913	1013	1054	1154
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>								
<b>COOLING ONLY (GROSS VALUE)</b>								
Cooling capacity	(1)	kW	786,2	894,0	956,7	1071	1168	1313
Total power input	(1)	kW	233,3	263,0	279,5	316,2	335,5	382,5
EER	(1)	kW/kW	3,370	3,399	3,423	3,387	3,481	3,433
ESEER	(1)	kW/kW						
<b>COOLING ONLY (EN14511 VALUE)</b>								
Cooling capacity	(1)(2)	kW	784,3	891,6	953,9	1068	1164	1309
EER	(1)(2)	kW/kW	3,330	3,360	3,380	3,350	3,430	3,380
ESEER	(1)(2)	kW/kW	5,460	5,310	5,400	5,390	5,530	5,380
Cooling energy class			A	A	A	A	A	A
<b>ENERGY EFFICIENCY</b>								
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>								
<b>Ambient refrigeration</b>								
Prated,c	(7)	kW	784	892	954	1068	1164	1309
SEER	(7)(8)		5,61	5,66	5,70	5,77	5,66	
Performance $\eta_{15}$	(7)(9)	%	226	221	224	225	228	224
<b>EXCHANGERS</b>								
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>								
Water flow	(1)	l/s	37,60	42,75	45,75	51,24	55,85	62,77
Pressure drop	(1)	kPa	31,0	35,3	40,4	35,7	42,4	46,0
<b>REFRIGERANT CIRCUIT</b>								
Compressors nr.			2	3	3	3	4	4
No. Circuits			1	2	2	2	2	2
Refrigerant charge	kg		310	410	450	520	500	580
<b>NOISE LEVEL</b>								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	95
<b>SIZE AND WEIGHT</b>								
A	(6)	mm	7900	8500	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6450	7020	7610	8510	8660	9720

### Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511
- Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, outdoors.

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

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

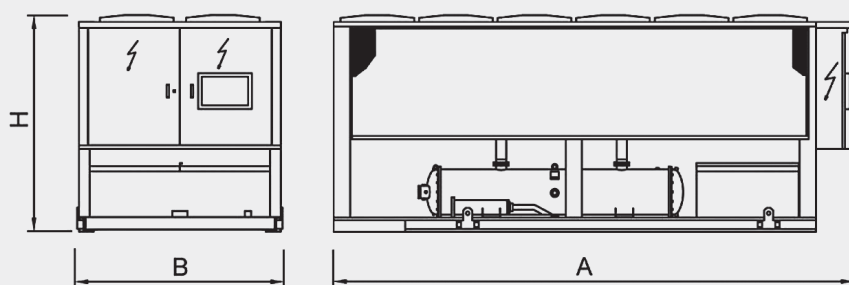
8 Seasonal energy efficiency ratio

9 Seasonal space cooling energy efficiency

**The units highlighted in this publication contain R513A [GWP<sub>100</sub> 631] fluorinated greenhouse gases.**

**Certified data in EUROVENT**





# “ EXPERIENCE IS BY FAR THE BEST PROOF ”

**Sir Francis Bacon**  
British philosopher (1561-1626)

## 350 Euston Road

London - Great Britain - 2015



**Application:**  
Office buildings  
**Plant type:**  
Hydronic System

**Cooling capacity:**  
1022 kW  
**Heating capacity:**  
541 kW  
**Installed machines:**  
1x ERACS2-Q/SL-CA/S 2222,  
1x TECS2/SL-CAE/S 0512,  
1x ClimaPRO



## PROJECT

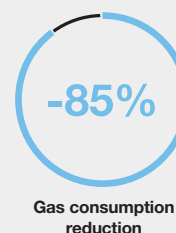
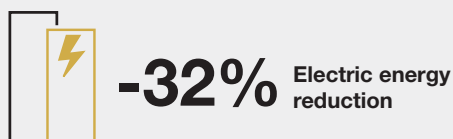
350 Euston Road is a grade A seven-storey office building that forms part of Regent's Place, a 13 acre, fully managed estate in the heart of London. Owned by British Land and managed by Broadgate Estates, the building features the latest sustainable design for a lively mix of retail, leisure and public spaces. In this high-demanding context, the replacement of the previous HVAC system was aimed to be in line with the energy targets established by the property owner.

## CASE STUDY

In order to investigate the advantages of replacing a traditional HVAC system based on existing boilers and chillers with smart heat pumps with heat recovery, an official case study was conducted. Starting from the energy analysis of the previous system, the data revealed that the building was characterized by a high cooling demand, even during the winter, together with a considerable overlap of heating and cooling requirements, as is frequently the case in office buildings.

## SOLUTION

The units selected to serve the building's requirements were: one ERACS2-Q SLCA 2722 unit, from the INTEGRA range, and one TECS2/SL-CAE/S 0512 chiller with magnetic levitation compressors. The results of the study revealed that replacing existing old chillers and boilers with heat recovery heat pumps would lead to significant enhancements in terms of environmental, economic, and energy related aspects. After one year the new system has resulted in 218 less tons of CO<sub>2</sub> emissions and a reduction of primary energy consumption of around 50%, thus leading to an annual cost savings of 56000 €.



## KAD Building European Parliament

2018 Luxembourg

Data Center - Institutions

**Plant type:** Hydronic System - HPAC System

**Cooling capacity:** 7488 kW

**Installed machines:**

1x TECS2/SL-CA-E high efficiency  
oil-free compressor chiller,  
70x ACU Indoor close control units



## Hospital de Vic

2017 Barcelona - Spain

Healthcare / Hospitals

**Plant type:** Hydronic System

**Cooling capacity:** 2510 kW

**Installed machines:**

2x i-FX (1+i)/SL screw compressor chiller with  
inverter and fixed speed compressors,  
1x TECS2/SL-CA-E oil-free compressor chiller,  
1x ClimaPRO Optimization and control system



## Baptist University

2015 Honk Kong

School / University

**Plant type:** Hydronic System

**Cooling capacity:** 2015 kW

**Installed machines:**

5x TECS2/SL-CA oil-free compressor chillers



## Convention Centre Plaza America

2017 Varadero – Cuba

Fair and Exhibition

**Plant type:** Hydronic System

**Cooling capacity:** 853 kW

**Installed machines:**

1x TECS2/SL-CA oil-free compressor chiller





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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