TECHNICAL SELECTION

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HEATING

TECHNICAL SELECTION

EW-HT-G05 /0302

Water to water heat pumps, heating only, very high temperature water production

R513A

SCROLL



Code		EW-HT-G05 /0302
Version		-
Size		0302
Power supply	V/ph/Hz	400/3/50
Project - Selection Code		P5CE4DA5-S01

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1.1 SUMMARY

SUMMARY		
UNIT DESCRIPTION		
Code		EW-HT-G05 /0302
Version		
Size		0302
UNIT DESCRIPTION [General descriptions and images of the range, not specific to the choice of model]		Water to water heat pumps, heating only, very high temperature water production
Power supply	V/ph/Hz	400/3/50
Production Plant		EUROPE

1.2 PERFORMANCE

HEATING		
HEAT EXCHANGER USER SIDE		
Fluid type		WATER
Fouling factor	m²K/kW	0.0000
Fluid inlet temperature (heating mode)	°C	60.00
Fluid outlet temperature (heating mode)	°C	70.00
Water flow user side heat ex (heating mode)	l/s	3.377
Pressure drop at the heat ex 1 (heating mode)	kPa	11.5
Available unit head	kPa	0.00
HEAT EXCHANGER SOURCE SIDE		
Fluid		WATER
Fouling factor	m²K/kW	0.0180
Fluid inlet temperature (heating mode)	°C	45.00
Fluid outlet temperature (heating mode)	°C	40.00
Water flow source side heat ex (heating mode)	l/s	5.371
Pressure drop at the heat ex 2 (heating mode)	kPa	27.5
Available unit head	kPa	0.00
HEATING (Gross value)		
Total heating capacity	kW	138.7
Compressors power input (heating mode)	kW	29.15
Total power input (heating mode)	kW	29.15
COP	kW/kW	4.766
Note		Efficiency parameter available on request (For any further information please contact our Sales department)
HEATING (EN14511)		
Total heating capacity	kW	138.7
Effective power input	kW	29.60
COP	kW/kW	4.690

1.3 PART LOAD DATA

The performance shown are obtained from theoretical calculations and tolerances will apply.Rpt.version:2.0.0.0

HEATING PART LOAD											
INPUT											
Load	%	100.0	90.0	80.0	70.0	60.0	50.0	40.0	30.0	20.0	10.0
Temp evaporator outlet	°C	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Evaporator fluid flow	l/s	5.371	5.371	5.371	5.371	5.371	5.371	5.371	5.371	5.371	5.371
OUTPUT											
Load	%	100.0	90.0	80.0	70.0	60.0	50.0	*40.0*	*30.0*	*20.0*	*10.0*
Condenser input temperature	°C	60.00	61.00	62.00	62.99	63.99	64.99	*64.99*	*64.99*	*64.99*	*64.99*
Condenser output temperature	°C	70.00	70.00	70.00	70.00	70.00	70.00	*70.00*	*70.00*	*70.00*	*70.00*
Condenser fluid flow	l/s	3.376	3.376	3.376	3.376	3.376	3.376	*3.376*	*3.376*	*3.376*	*3.376*
Pressure drop	kPa	11.5	11.5	11.5	11.5	11.5	11.5	*11.5*	*11.5*	*11.5*	*11.5*
Temp. evaporator inlet	°C	45.00	44.50	44.00	43.51	43.01	42.51	*42.51*	*42.51*	*42.51*	*42.51*
Temp evaporator outlet	°C	40.00	40.00	40.00	40.00	40.00	40.00	*40.00*	*40.00*	*40.00*	*40.00*
Evaporator fluid flow	l/s	5.372	5.371	5.371	5.371	5.371	5.371	*5.371*	*5.371*	*5.371*	*5.371*
Pressure drop	kPa	27.5	27.5	27.5	27.5	27.5	27.5	*27.5*	*27.5*	*27.5*	*27.5*
Heating load	kW	139	125	111	97	83	69	*56*	*42*	*28*	*14*
Total power input	kW	29.10	26.10	23.20	20.20	17.30	14.30	*11.70*	*9.160*	*6.570*	*4.010*
COP	kW/kW	4.766	4.775	4.786	4.800	4.819	4.846	*4.729*	*4.544*	*4.213*	*3.465*

1.4 SCOP

SCOP Official (Reg. 813/2013 EU)		
MEDIUM TEMPERATURE		
Type climate		Average
Temperature application	°C	55
Type flow		fixed
Type Temperature		variable
Bivalent temperature	°C	-7.0
PDesign	kW	74.0
Qhe	kWh	47871
SCOP on		3.23
SCOP net		3.24
SCOP high temperature		3.19
Performance ηs	%	120
Seasonal efficiency class (from D to A+++)		-
Note		Any SCOP values different from what is reported in commercial documentations are due to the different configuration of the unit and/or different calculation parameters input by the user.

SCOP Editable (EN 14825)	
Code	EW-HT-G05 /0302
Note	Any SCOP values different from what is reported in commercial documentations are due to the different configuration of the unit and/or different calculation parameters input by the user.

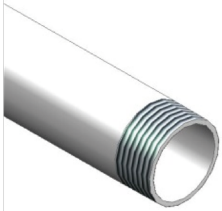
1.5 MAIN COMPONENTS

EXCHANGERS

HEAT EXCHANGER USER SIDE

Typology		PLATE
Quantity	N°	1
Type of connections		[B1] - Male threaded pipe (EN 10226 - R: external taper thread)
Diameter of connections		2"
Min flow	l/s	1.878
Max flow	l/s	7.744
Heat exchanger water content	l	8.07
Minimum water content admitted in the plant	l	480

[B1]



HEAT EXCHANGER SOURCE SIDE

Typology		PLATE
Quantity	N°	1
Type of connections		[B1] - Male threaded pipe (EN 10226 - R: external taper thread)
Diameter of connections		2"
Min flow	l/s	2.289
Max flow	l/s	7.747
Water content	l	8.49

[B1]



COMPRESSORS

COMPRESSORS

Compressor type		SCROLL
Compressors nr.	N°	2
No. Circuits	N°	2
Number of capacity steps	N°	2
Min. capacity step	%	50
Regulation		STEPS
Oil charge	kg	6.80
F.L.I. - Max absorbed power	kW	2x18.2
F.L.A. - Max absorbed current	A	2x31.8
L.R.A. - Locked rotor amperes for single compressor	A	2x174

The performance shown are obtained from theoretical calculations and tolerances will apply.Rpt.version:2.0.0.0

REFRIGERANT		
REFRIGERANT		
Refrigerant		R513A
Theoretical refrigerant charge	kg	10.9
GWP100 value (from IPCC AR5)		572
CO2 equivalent	t	6.23
ASHRAE Safety Classification		A1

1.6 OTHER DATA

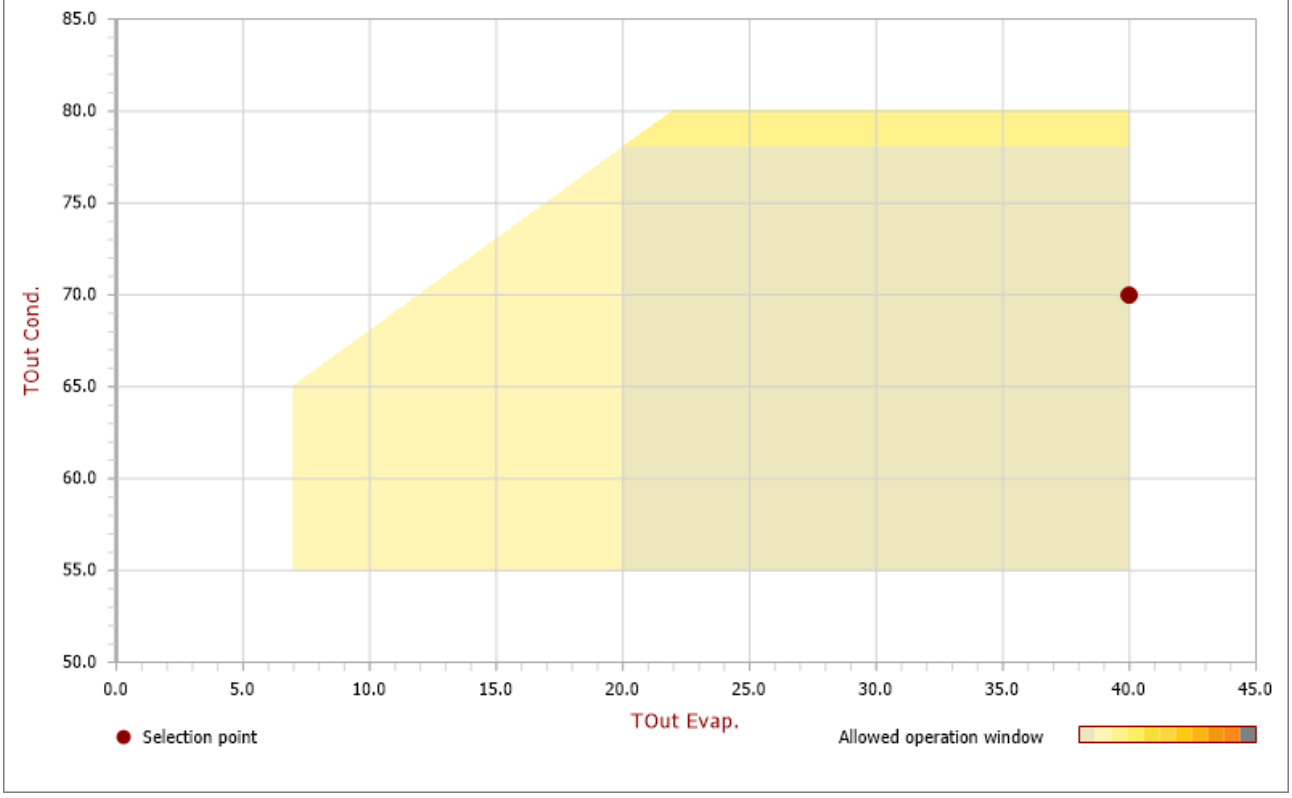
NOISE DATA									
SOUND DATA INDOOR HOT									
Frequencies	Hz	63	125	250	500	1000	2000	4000	8000
Sound power (spectrum)	dB	76	74	75	74	70	68	64	53
Sound power level in heating	dB(A)				76				
Sound pressure level (spectrum)	dB	60	58	59	58	54	52	48	37
Total sound Pressure	dB(A)				60				
Note									
Distance	m				1				
Note		Average sound pressure level at 1 m 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 taken in compliance with ISO 9614.							

ELECTRICAL DATA		
ELECTRICAL DATA		
Power supply	V/ph/Hz	400/3/50
F.L.I. - Max absorbed power	kW	36.40
F.L.A. - Max absorbed current	A	64
S.A. - Inrush current	A	206

OPERATING LIMITS

OPERATING LIMITS

HEATING LIMITS

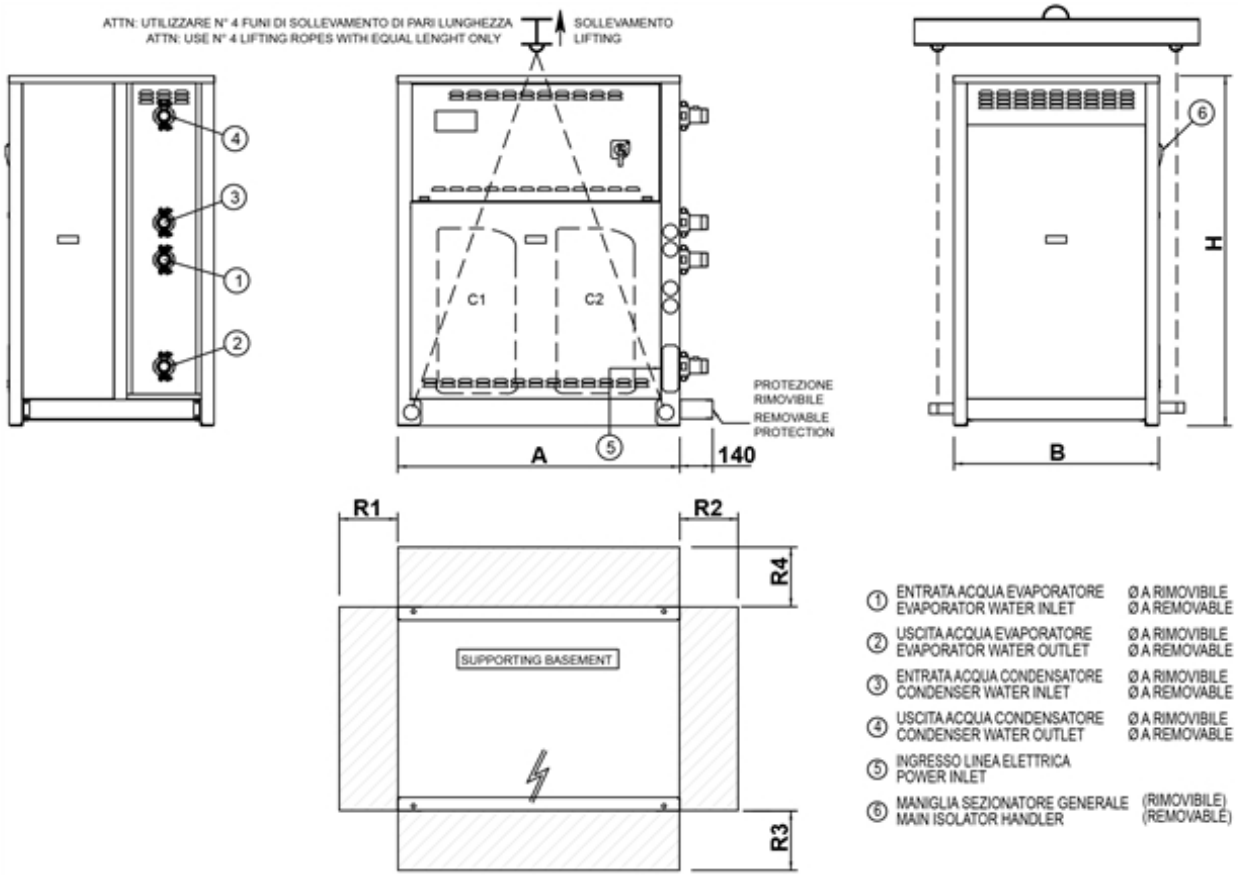


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WEIGHT & DIMENSIONS

WEIGHT & DIMENSIONS

A	mm	1203
B	mm	873
H	mm	1496
Operating weight	kg	450
R1	mm	600
R2	mm	600
R3	mm	800
R4	mm	600



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1.7 Accessory List

Accessory	Code	Description
HIGH TEMPERATURE TYPE EW-HT	9691	-
Power supply 400V/3ph/50Hz + PE	321	-
NUMBERED WIRING ON EL. BOARD	381	Facilitate maintenance interventions to the electrical board connections.
AUTOM. CIRCUIT BREAK. ON LOADS	3412	In case of overcurrent allows resetting of the switch without the replacement of relative fuses.
COMPRESSOR SUCTION VALVE	1901	Simplifies maintenance activities
ELECTRONIC EXPANSION VALVE	1941	Electronic lamination device wtih step motor. It is designed for the continuous and precise control of refrigerant flow entering in the evaporator. This solution permits extremely short times for reaction to variation in load, optimising power consumption.
WITHOT REFRIG. LEAK DETECTOR	3430	-
ITALIAN USER INTERFACE	1181	-
SUPPORTS AND NYLON	9999	-