Code		
Version		B
Size		0182
UNIT DESCRIPTION		Air cooled chiller with free-cooling
Power supply	V/ph/Hz	400/3/50

PERFORMANCE AT DESIGNED CONDITIONS

RUNNING CONDITIONS

HEAT EXCHANGER USER SIDE

Fluid inlet temperature (cooling mode)	°C	12,0
Fluid outlet temperature (cooling mode)	°C	7,0
Fluid type		ETHYLENE GLYCOL
Glycol	%	35
Fouling factor	m²K/W	0,000000

OUTDOOR CONDITION

Air temperature (cooling mode)	°C	35,0

COOLING (Gross value) - MECHANICAL

Cooling capacity	kW	44,1
Compressors power input	kW	14,9
Fans power input (cooling mode)	kW	1,50
Total power input	kW	16,4
EER	kW/kW	2,69

PART LOAD DATA

COOLING PARTIAL LOAD - MECHANICAL

Load	%	100,0	90,0	80,0	70,0	60,0	50,0	40,0	30,0	20,0	10,0
Outdoor air temperature	°C	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0
Cooling load	kWh	44	40	35	31	27	22	18	13	9	4
Fans power input (cooling mode)	kW	1,50	1,50	1,50	1,50	1,50	1,32	1,09	0,85	0,62	0,38
Total power input	kW	16,4	14,4	12,4	10,3	8,30	6,90	5,68	4,44	3,23	2,00
Temp. evaporator inlet	°C	12,0	11,5	11,0	10,5	10,0	9,9	9,9	9,9	9,9	9,9
Temp. evaporator outlet	°C	7,0	7,0	7,0	7,0	7,0	7,0	7,0	7,0	7,0	7,0
Evaporator water flow	m³/h	8,61	8,61	8,61	8,61	8,61	8,61	8,61	8,61	8,61	8,61
EER	kW/kW	2,69	2,76	2,86	2,99	3,19	3,20	3,12	2,98	2,74	2,20

FREECOOLING

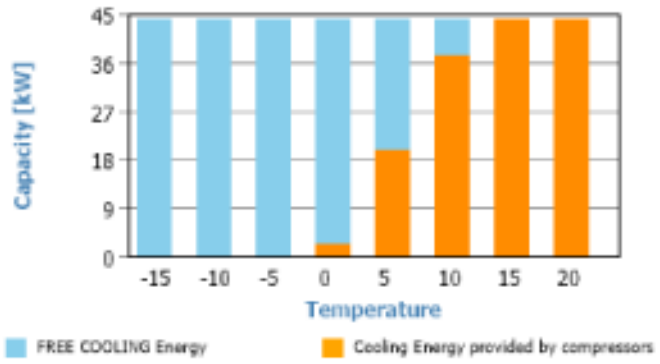
NOMINAL FREECOOLING

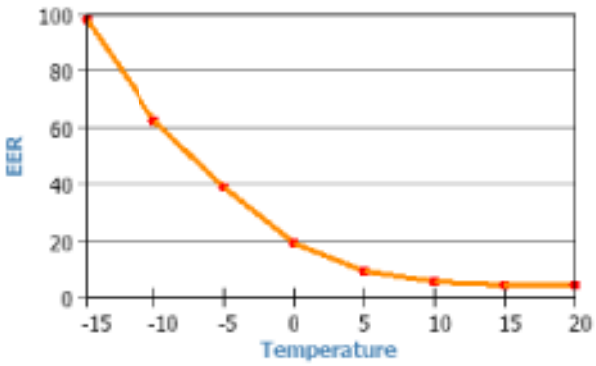
Outdoor air temperature	°C	10,0
Free cooling capacity	kW	6,95
% Free cooling	%	16
Total free-cooling temperature	°C	-0,7
Pressure drop FC	kPa	0,00

The performance shown are obtained from theoretical calculations and tolerances will apply.

FREE COOLING ENERGY ANALYSIS

Outdoor air temperature	°C	-15,0	-10,0	-5,0	0,0	5,0	10,0	15,0	20,0
Load	%	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Free cooling capacity	kW	44,1	44,1	44,1	41,7	24,3	6,95	0,00	0,00
Cooling capacity	kW	0,00	0,00	0,00	2,40	19,8	37,1	44,1	44,1
Fans power input (cooling mode)	kW	0,45	0,71	1,13	1,50	1,50	1,50	1,50	1,50
Total power input	kW	0,45	0,71	1,13	2,29	4,70	8,14	10,1	10,1
EER		98,10	62,52	38,96	19,26	9,38	5,42	4,37	4,37





EXCHANGERS

HEAT EXCHANGER USER SIDE

Typology		PLATE
Quantity	N°	1
Fluid type		ETHYLENE GLYCOL
Glycol	%	35
Fouling factor	m²K/W	0,000000
Type of connections		GAS
Diameter of connections		2"
Min flow	m³/h	5,00
Max flow	m³/h	14,0
K pressure drop		843
Water content	l	0,00

MECHANICAL REFRIGERATION

Fluid inlet temperature (cooling mode)	°C	12,0
Fluid outlet temperature (cooling mode)	°C	7,0
Water flow	m³/h	8,61
Pressure drop	kPa	76,2
Available unit's head	kPa	0,00

FANS

Fans type		AXIAL
Fans number	N°	2
Fans power input	kW	0,75
F.L.I.	kW	0,75
F.L.A.	A	2

MECHANICAL REFRIGERATION

Fans number	N°	2
Fans power input	kW	0,75
Air flow	l/s	4830,00
Available static pressure	Pa	0

The performance shown are obtained from theoretical calculations and tolerances will apply.

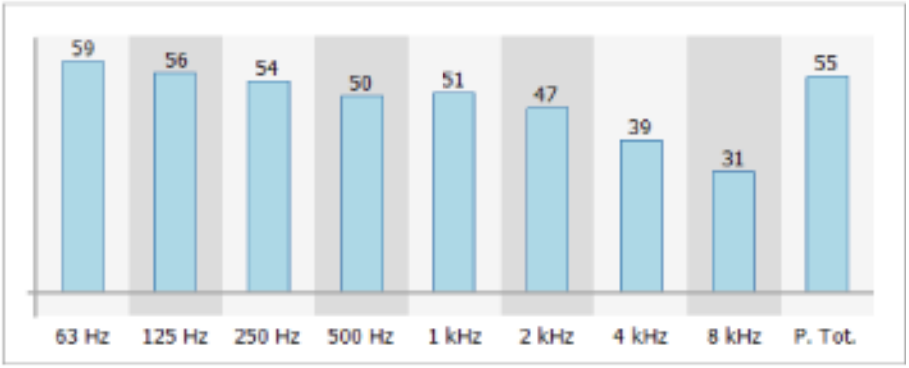
COMPRESSORS

Compressor type		SCROLL
Compressors nr.	N°	2
No. Circuits	N°	1
Refrigerant		R410A
Number of capacity steps	N°	2
Min. capacity step	%	50
Regulation		STEPS
Oil charge	kg	7,00
Refrigerant charge	kg	10,0
F.L.I. - Max absorbed power	kW	2x10,1
F.L.A. - Max absorbed current	A	2x16,4
L.R.A. - Locked rotor amperes for single compressor	A	2x111

NOISE DATA

SOUND DATA COLD

Frequencies	Hz	63	125	250	500	1000	2000	4000	8000	Tot (A)
Sound power (spectrum)	dB	91	88	86	82	83	79	71	63	87
Sound pressure level (spectrum)	dB	59	56	54	50	51	47	39	31	55



Note

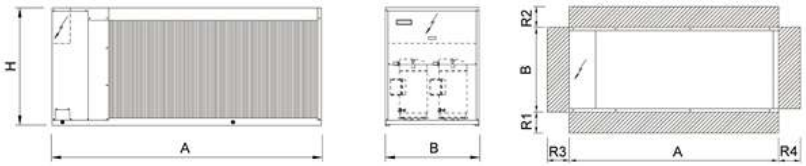
Distance	m	10
Note		Average sound pressure level at 10 m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level. Sound power on the basis of measurements made in compliance with ISO 9614.

ELECTRICAL DATA

Power supply	V/ph/Hz	400/3/50
F.L.I. - Max absorbed power	kW	21,7
F.L.A. - Max absorbed current	A	36
S.A. - Inrush current	A	130

WEIGHT & DIMENSIONS

A	mm	2200
B	mm	920
H	mm	1780
Operating weight	kg	710
R1	mm	1500
R2	mm	800
R3	mm	800
R4	mm	800



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