Coolselector2

Project information

Project name:
Comments:
Created by:
Coolselector2 version: 5.6.13. Database: 133
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Preferences used: All applications

Condensing unit 1

Operating conditions

Refrigerant:	R449A				
Evaporating dew point temperature:	-8,2	°C	Ambient temperature:	32,0	°C
Evaporating pressure:	3,860	bar	Subcooling:	0	K
Evaporating mid-point temperature:	-10,0	°C	Additional subcooling:	0	K
Useful superheat:	8,0	K	Altitude:	0	m
Additional superheat:	0	K			
Return gas temperature:	-0,1	°C			

Rating conditions: *Custom*
Required cooling capacity: *12,34 kW*

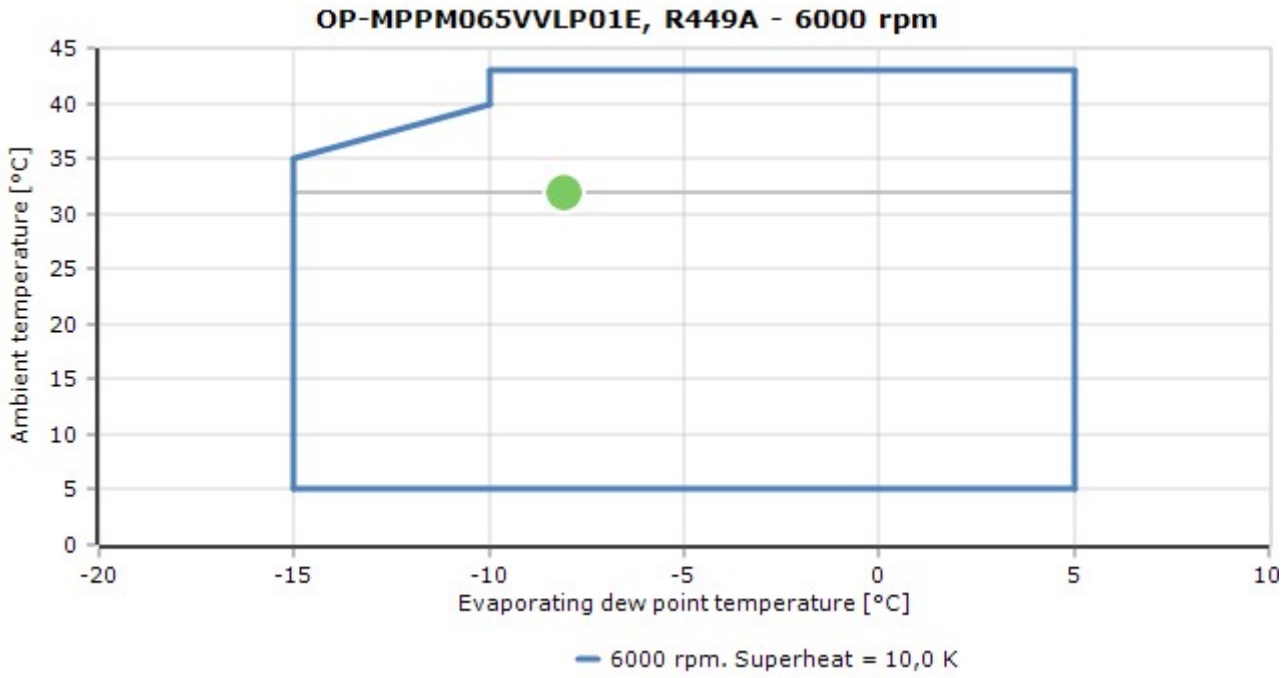
Selection: OP-MPPM065VVLP01E, R449A - 6000 rpm

Model	OP-MPPM035VVLP01E	OP-MPPM044VVLP01E	OP-MPPM065VVLP01E
Code number	114X4316	114X4334	114X4317
Compressor model	VLZ035TGA	VLZ044TGA	VLZ065TGNE9B
Product range	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER
Product version	P01	P01	P01
Refrigerant	R449A	R449A	R449A
Cooling [kW]	7,242	9,015	12,34
COP cooling [W/W]	1,87	1,86	1,70
Total power [kW]	3,868	4,837	7,242
Total current [A]	5,148	6,426	11,79
Frequency [Hz]	50	50	50
Power supply	380 - 400 V 3 ph	380 - 400 V 3 ph	380 - 400 V 3 ph
Tc [°C]	42,0	45,0	46,3

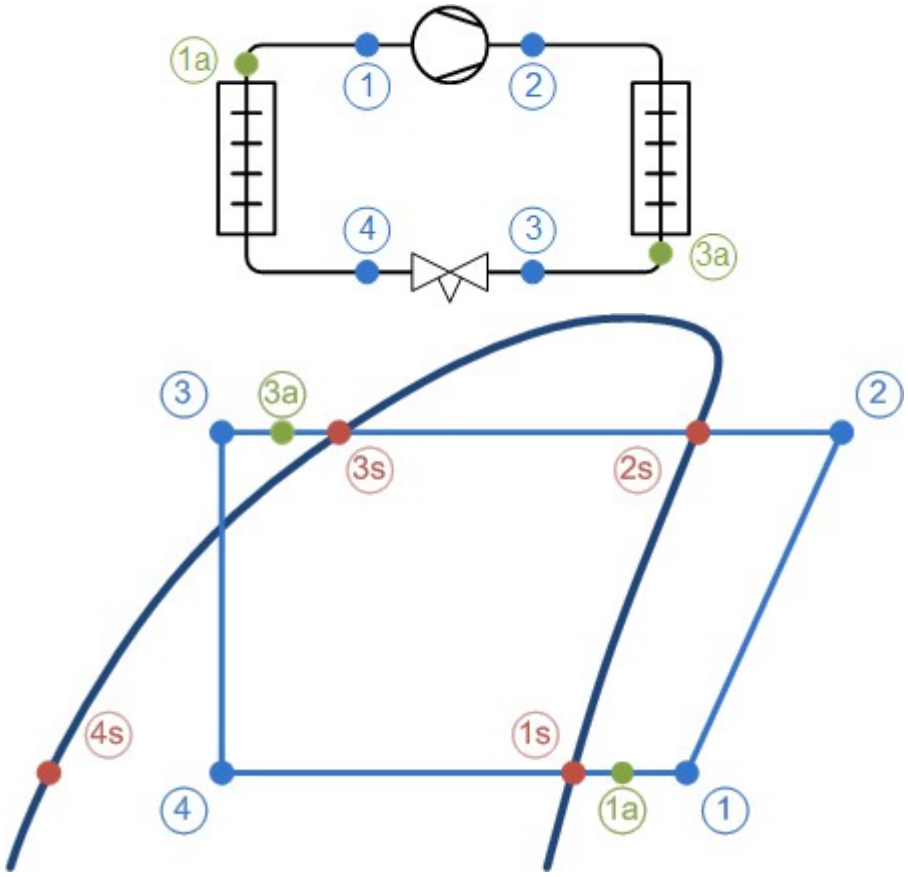
Selected code number and spare parts

Code number: *114X4317. OP-MPPM065VVLP01E*

Envelope



System diagrams



Mass flows

Mass flow in evaporator: 322,7 kg/h

State points

		Temperature	Pressure (a)	Density	Enthalpy	Entropy
Point	Description	[°C]	[bar]	[kg/m^3]	[kJ/kg]	[kJ/(kg·K)]
1	Compressor suction	-0,2	3,860	16,3	402	1,772
2	Compressor discharge (estimated)	93,7	19,49	66,15	472,2	1,857
2s	Condensation dew point	46,3	19,49	92,06	414,4	1,687
3s	Condensation bubble point	42,1	19,49	1014	264,3	1,214
3a	Condenser out	42,1	19,49	1014	264,3	1,214
3	Including additional subcooling	42,1	19,49	1014	264,3	1,214
4	After expansion valve	-11,7	3,860	42,78	264,3	1,249
4s	Evaporation bubble point	-13,6	3,860	1246	181	0,9295
1s	Evaporation dew point	-8,2	3,860	17,02	394,6	1,744
1a	Evaporator out	-0,2	3,860	16,3	402	1,772

Technical Data

Version	P01
Applications	MBP
Capacity Control	Inverter
Number of fans	1
Condenser type	L3
Air flow @ 50Hz [m³/h]	6500
Receiver volume [L]	10.0
Condenser Coil Internal Volume [L]	1.10
Approval	CE
Segment usage	Medium Back Pressure

Dimensions

Fan diameter [mm]	560
Fan blade size [mm]	560.000

Electrical Specifications

Electrical code	E
Phase	3
Compressor power supply [V]	400/3/50
Frequency [Hz]	50 Hz

Fan power supply [V/Ph/Hz]	230/1/50
Low value of nominal voltage at 50Hz [V]	360
Fan power consumption @ 50Hz [W]	250
High value of nominal voltage at 50Hz [V]	440
Fan power output @ 50Hz [W]	125
Fan current @ 50Hz [A]	1.60
Min fuse rating [A]	10

Mechanical Connections

Connection type	Solder
Liquid line connection [in]	5/8
Suction connection size [in]	7/8

PED

Max pressure (PS) - low side	21.50
Max pressure (PS) - high side	32.00
TS min	-15
TS max	60

Acoustic power

Sound power @ 50Hz [db(A)]	76
Sound pressure level 50Hz (@1 m distance) [db(A)]	65
Sound pressure level 50Hz (@10 m distance) [db(A)]	45

Ecodesign

Model: OP-MPPM065VVLP01E. Compliant with Ecodesign 2018		
Refrigerant: R449A		
Item	Value	Unit
Evaporating mean temperature	-10,0	°C
Return gas temperature	20,0	°C
Seasonal Energy Performance Ratio	**4,14**	
Annual electricity consumption	18 764	kWh
Parameters at full load and ambient temperature 32,0 °C		
Rated cooling capacity	12,64	kW
Rated power input	7,284	kW
Rated COP	1,74	
Parameters at part load and ambient temperature 25,0 °C		
Declared cooling capacity	11,33	kW
Declared power input	4,458	kW
Declared COP	2,54	
Parameters at part load and ambient temperature 15,0 °C		
Declared cooling capacity	9,460	kW
Declared power input	2,359	kW
Declared COP	4,01	
Parameters at part load and ambient temperature 5,0 °C		
Declared cooling capacity	7,586	kW
Declared power input	1,299	kW
Declared COP	5,84	
Parameters at full load and ambient temperature 43,0 °C		
Cooling capacity	10,52	kW
Power input	9,149	kW
COP	1,15	