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:	-8,1	°C	Ambient temperature:	32,0	°C
Evaporating pressure:	3,880	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: *5,900 kW*

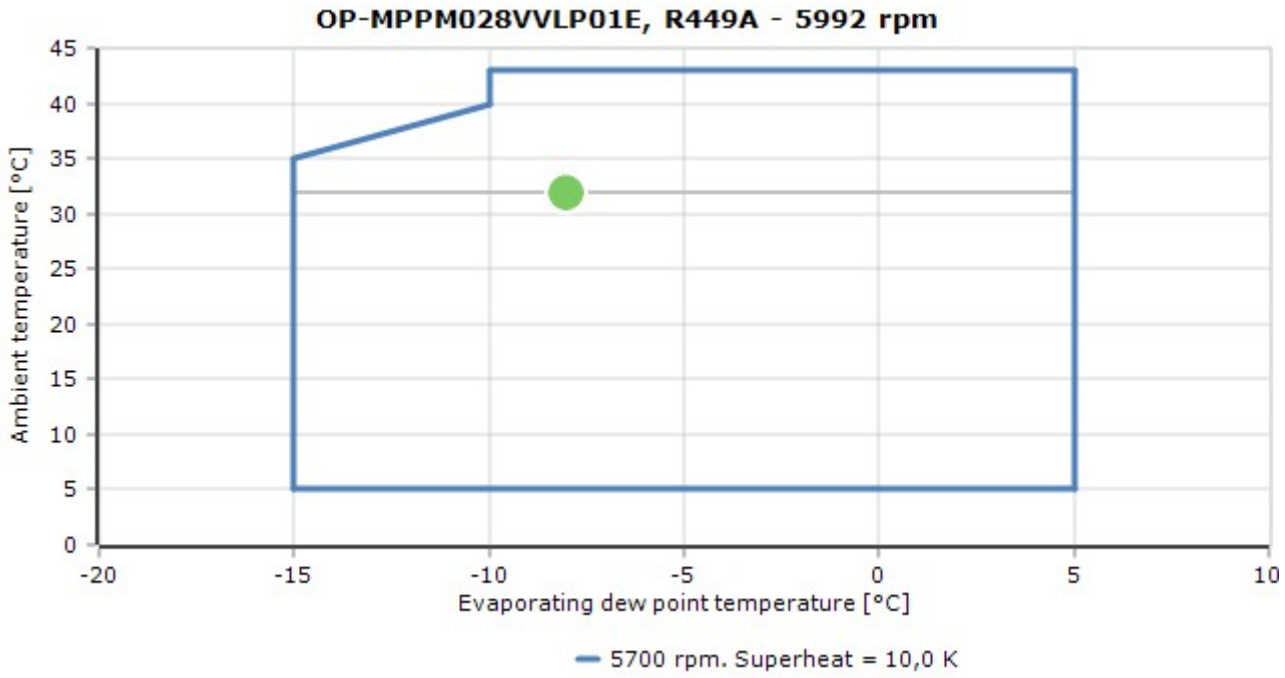
Selection: OP-MPPM028VVLP01E, R449A - 5992 rpm

Model	OP-MPPM028VVLP01E	OP-MPPM035VVLP01E	OP-MPPM044VVLP01E
Code number	114X4302	114X4316	114X4334
Compressor model	VLZ028TGA	VLZ035TGA	VLZ044TGA
Product range	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER
Product version	P01	P01	P01
Refrigerant	R449A	R449A	R449A
Cooling [kW]	5,900	5,900	5,900
COP cooling [W/W]	1,91	2,05	2,30
Total power [kW]	3,083	2,880	2,571
Total current [A]	4,150	4,001	3,640
Frequency [Hz]	50	50	50
Power supply	380 - 400 V 3 ph	380 - 400 V 3 ph	380 - 400 V 3 ph
Tc [°C]	40,2	39,9	40,0

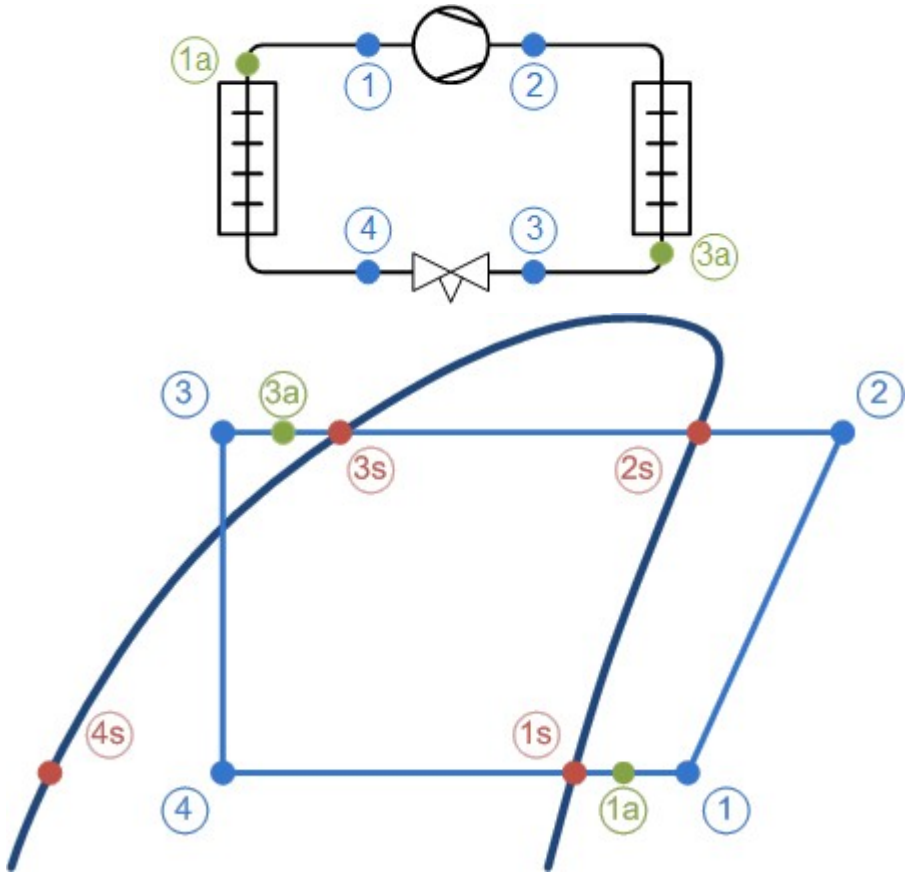
Selected code number and spare parts

Code number: *114X4302. OP-MPPM028VVLP01E*

Envelope



System diagrams



Mass flows

Mass flow in evaporator: 143,4 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	0,0	3,880	16,38	402	1,772
2	Compressor discharge (estimated)	85,7	16,73	57,22	466,7	1,854
2s	Condensation dew point	40,2	16,73	77,05	413,4	1,695
3s	Condensation bubble point	35,8	16,73	1046	253,9	1,182
3a	Condenser out	35,8	16,73	1047	253,9	1,182
3	Including additional subcooling	35,8	16,73	1047	253,9	1,182
4	After expansion valve	-11,9	3,880	48,98	253,9	1,209
4s	Evaporation bubble point	-13,5	3,880	1245	181,2	0,9302
1s	Evaporation dew point	-8,1	3,880	17,11	394,7	1,744
1a	Evaporator out	0,0	3,880	16,38	402	1,772

Technical Data

Version	P01
Applications	MBP
Capacity Control	Inverter
Number of fans	1
Fan cowl/grill type	H3
Condenser type	G7
Air flow @ 50Hz [m³/h]	5200
Receiver volume [L]	6.2
Condenser Coil Internal Volume [L]	1.62
Segment usage	Medium Back Pressure

Dimensions

Length [mm]	481.0
Width [mm]	1406.00
Total height [mm]	965.0
Fan diameter [mm]	500
Fan blade size [mm]	500.000

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]	220
High value of nominal voltage at 50Hz [V]	440
Fan power output @ 50Hz [W]	130
Fan voltage @ 50Hz (max) [V] [Min]	230
Fan current @ 50Hz [A]	0.96
No. of phases (fan)	1
No. of phases (compressor)	3
Voltage 50Hz [V] [Max]	440
Voltage 50Hz [V]	360
MCC	8.1 A
RLA	7 A
Min fuse rating [A]	20

Mechanical Connections

Connection type	Solder
Liquid line connection [in]	5/8
Suction connection size [in]	3/4

Acoustic power

Sound power @ 50Hz [db(A)]	74
Sound pressure level 50Hz (@1 m distance) [db(A)]	63
Sound pressure level 50Hz (@10 m distance) [db(A)]	43

Ecodesign

Model: OP-MPPM028VVLP01E. 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	**3,76**	
Annual electricity consumption	9 836	kWh
Parameters at full load and ambient temperature 32,0 °C		
Rated cooling capacity	6,018	kW
Rated power input	3,093	kW
Rated COP	1,95	
Parameters at part load and ambient temperature 25,0 °C		
Declared cooling capacity	5,394	kW
Declared power input	2,099	kW
Declared COP	2,57	
Parameters at part load and ambient temperature 15,0 °C		
Declared cooling capacity	4,502	kW
Declared power input	1,232	kW
Declared COP	3,65	
Parameters at part load and ambient temperature 5,0 °C		
Declared cooling capacity	3,611	kW
Declared power input	0,745	kW
Declared COP	4,85	
Parameters at full load and ambient temperature 43,0 °C		
Cooling capacity	5,232	kW
Power input	3,627	kW
COP	1,44	