

# 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: 3,865 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: 0,0 °C  
**Rating conditions:** *Custom*  
**Required cooling capacity:** 9,010 kW

### Selection: OP-MPPM044VVLP01E, R449A - 5996 rpm

Model	OP-MPPM028VVLP01E	OP-MPPM035VVLP01E	OP-MPPM044VVLP01E	OP-MPPM065VVLP01E
Code number	114X4302	114X4316	114X4334	114X4317
Compressor model	VLZ028TGA	VLZ035TGA	VLZ044TGA	VLZ065TGNE9B
Product range	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER	Optyma™ Plus INVERTER
Product version	P01	P01	P01	P01
Refrigerant	R449A	R449A	R449A	R449A
Cooling [kW]	5,906	7,242	9,010	9,010
COP cooling [W/W]	1,91	1,87	1,86	2,06
Total power [kW]	3,088	3,868	4,832	4,379
Total current [A]	4,156	5,148	6,421	7,684
Frequency [Hz]	50	50	50	50
Power supply	380 - 400 V 3 ph	380 - 400 V 3 ph	380 - 400 V 3 ph	380 - 400 V 3 ph
Tc [°C]	40,2	42,0	45,0	41,8

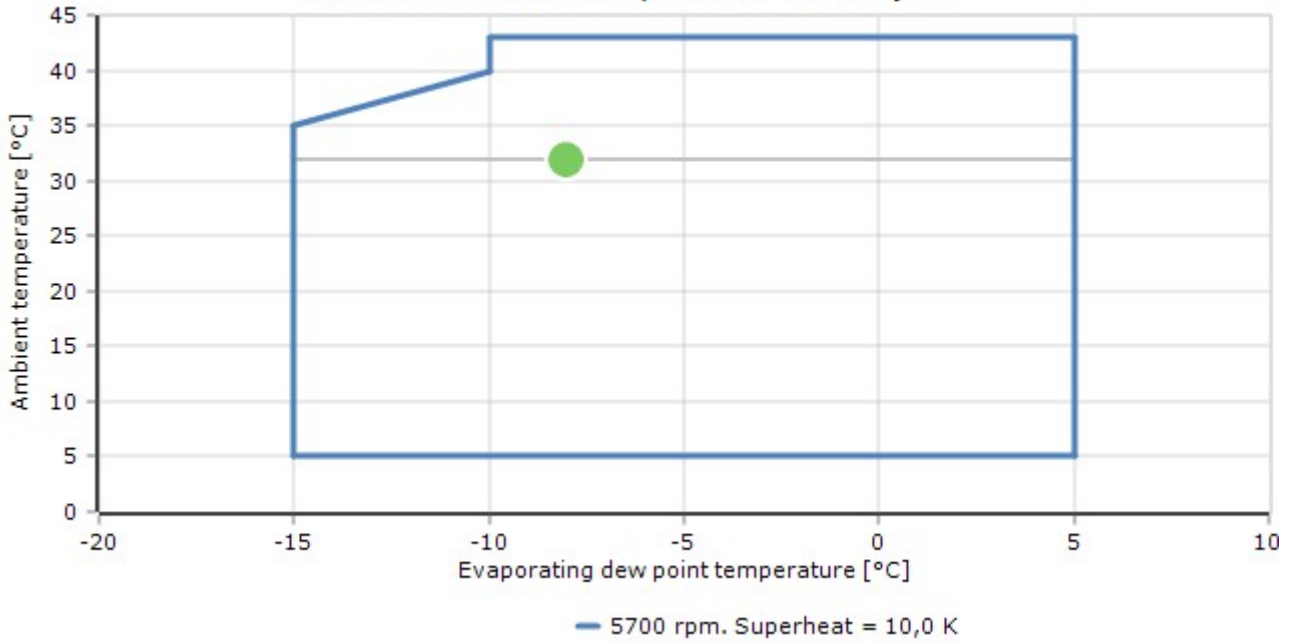
### Selected code number and spare parts

**Code number:** 114X4334. OP-MPPM044VVLP01E

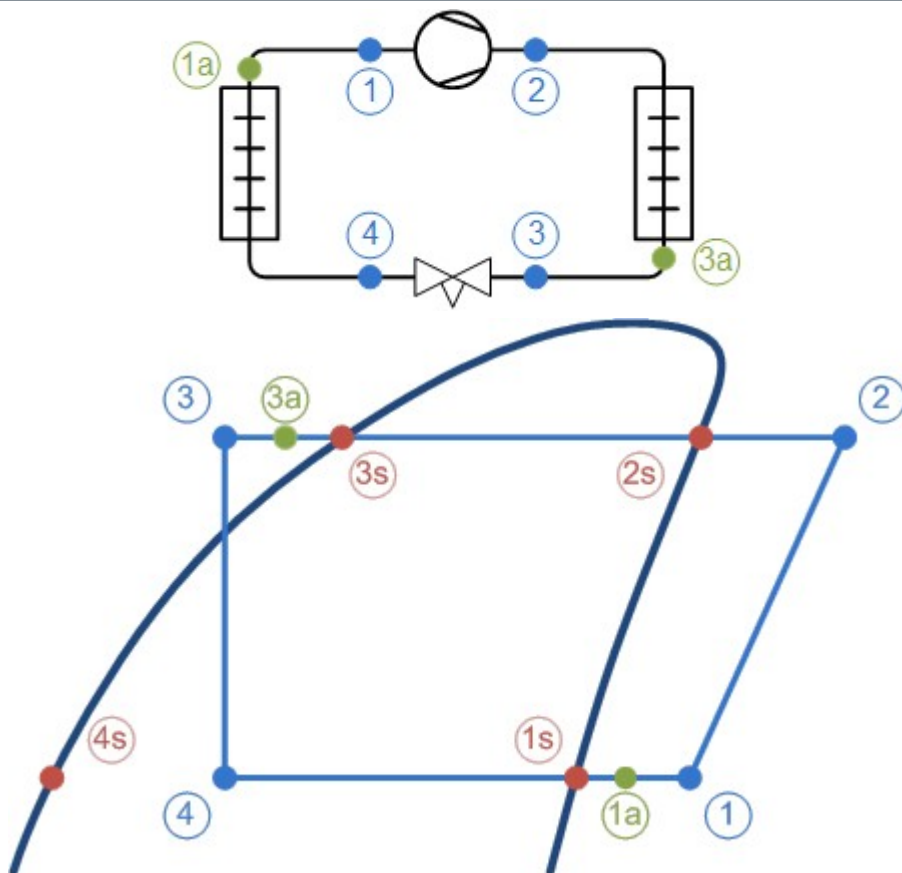
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## Envelope

OP-MPPM044VVLP01E, R449A - 5996 rpm



## System diagrams



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## Mass flows

Mass flow in evaporator: 231,7 kg/h

## State points

Point	Description	Temperature [°C]	Pressure (a) [bar]	Density [kg/m <sup>3</sup> ]	Enthalpy [kJ/kg]	Entropy [kJ/(kg·K)]
1	Compressor suction	-0,2	3,865	16,32	402	1,772
2	Compressor discharge (estimated)	91,0	18,86	64,39	470	1,853
2s	Condensation dew point	45,0	18,86	88,53	414,2	1,689
3s	Condensation bubble point	40,7	18,86	1021	262	1,207
3a	Condenser out	40,7	18,86	1021	262	1,207
3	Including additional subcooling	40,7	18,86	1021	262	1,207
4	After expansion valve	-11,8	3,865	44,03	262	1,24
4s	Evaporation bubble point	-13,6	3,865	1246	181,1	0,9296
1s	Evaporation dew point	-8,2	3,865	17,04	394,6	1,744
1a	Evaporator out	-0,2	3,865	16,32	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 [m <sup>3</sup> /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
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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	12.1 A
RLA	10.5 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

<b>Model: OP-MPPM044VVL01E. Compliant with Ecodesign 2018</b>		
Refrigerant: R449A		
Item	Value	Unit
<b>Evaporating mean temperature</b>	-10,0	°C
Return gas temperature	20,0	°C
<b>Seasonal Energy Performance Ratio</b>	<b>4,10</b>	
<b>Annual electricity consumption</b>	13 874	kWh
<b>Parameters at full load and ambient temperature 32,0 °C</b>		
Rated cooling capacity	9,247	kW
Rated power input	4,842	kW
Rated COP	1,91	
<b>Parameters at part load and ambient temperature 25,0 °C</b>		
Declared cooling capacity	8,288	kW
Declared power input	3,185	kW
Declared COP	2,60	
<b>Parameters at part load and ambient temperature 15,0 °C</b>		
Declared cooling capacity	6,918	kW
Declared power input	1,789	kW
Declared COP	3,87	
<b>Parameters at part load and ambient temperature 5,0 °C</b>		
Declared cooling capacity	5,548	kW
Declared power input	0,963	kW
Declared COP	5,76	
<b>Parameters at full load and ambient temperature 43,0 °C</b>		
Cooling capacity	7,798	kW
Power input	5,692	kW
COP	1,37	