

Coolselector2

Project information

Project name:
 Comments:
 Created by: Bojana Vezmar EKO ELEKTROFRIGO DOO
 Coolselector2 version: 5.0.1. Database: 88
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 Preferences used: My preferences

Compressors 1

Operating conditions

Refrigerant:	R407C		
Evaporating dew point temperature:	5.0 °C	Condensing dew point temperature:	45.0 °C
Evaporating pressure:	5.471 bar	Condensing pressure:	17.51 bar
Evaporating mid-point temperature:	2.8 °C	Subcooling:	2.0 K
Useful superheat:	8.0 K	Additional subcooling:	0 K
Additional superheat:	0 K	Total subcooling:	2.0 K
Return gas temperature:	13.0 °C	Liquid temperature:	38.1 °C
Rating conditions:	<i>Custom</i>		
Required cooling capacity:	9.514 kW		

Selection: (HHP026T5), R407C. Discontinued model

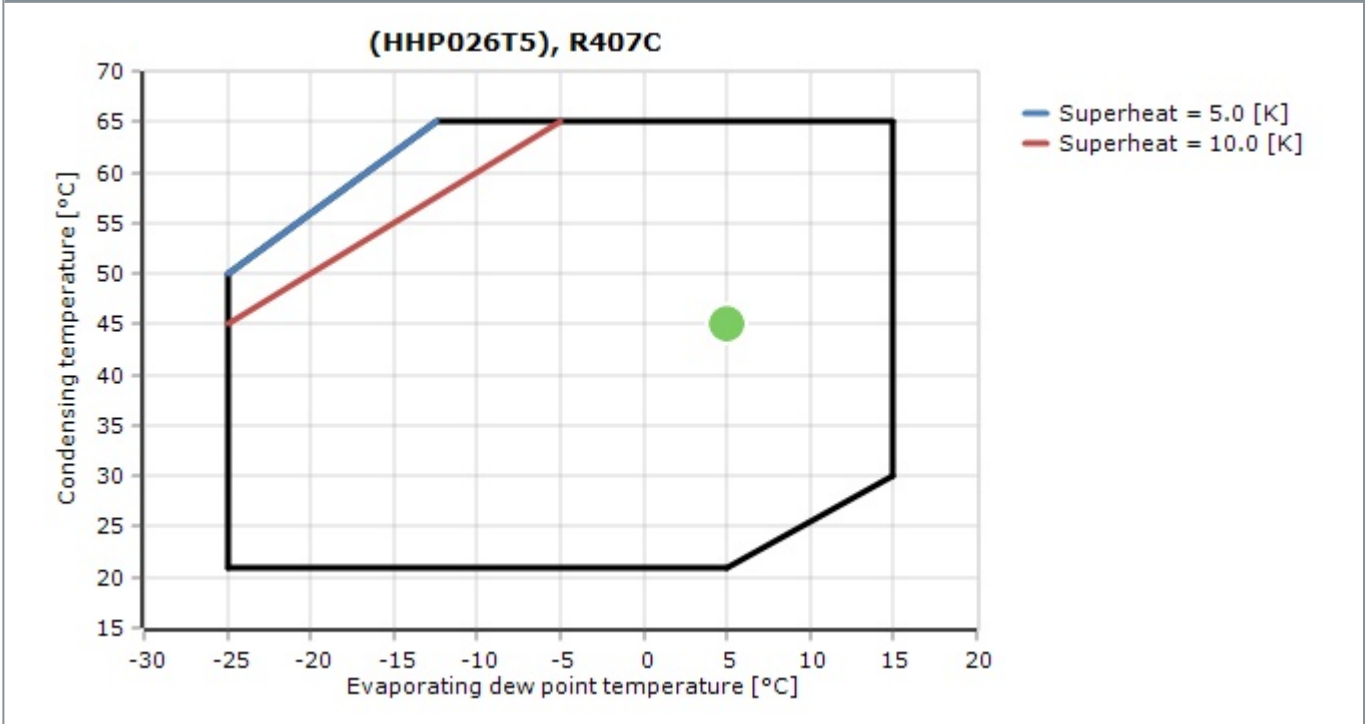
Model	(HHP026T5)
Technology	Scroll
Configuration	Single
Capacity control	Fixed speed
Refrigerant	R407C
Speed [rpm]	2900
Cooling [kW]	9.514
Heating [kW]	12.08
COP cooling [W/W]	3.71
COP heating [W/W]	4.71
Power [kW]	2.567
Current [A]	12.79
Frequency [Hz]	50
Power supply	220 - 240 V 1 ph
Mass flow [kg/h]	211.9

Selected code number and spare parts

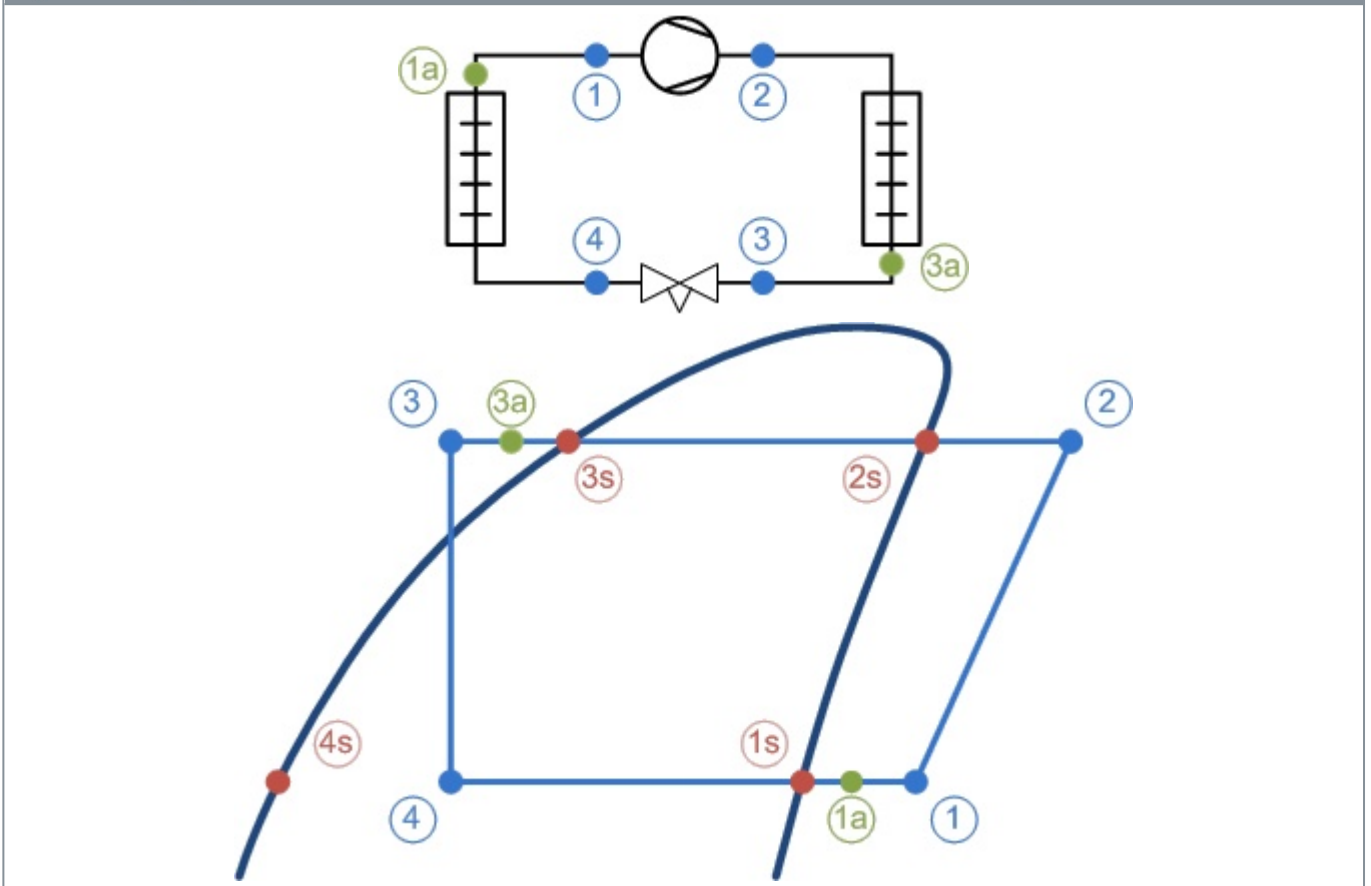
Code number: 121U9015. HHP026T5LP6. Min. order quantity: 12 pcs

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Envelope



System diagrams



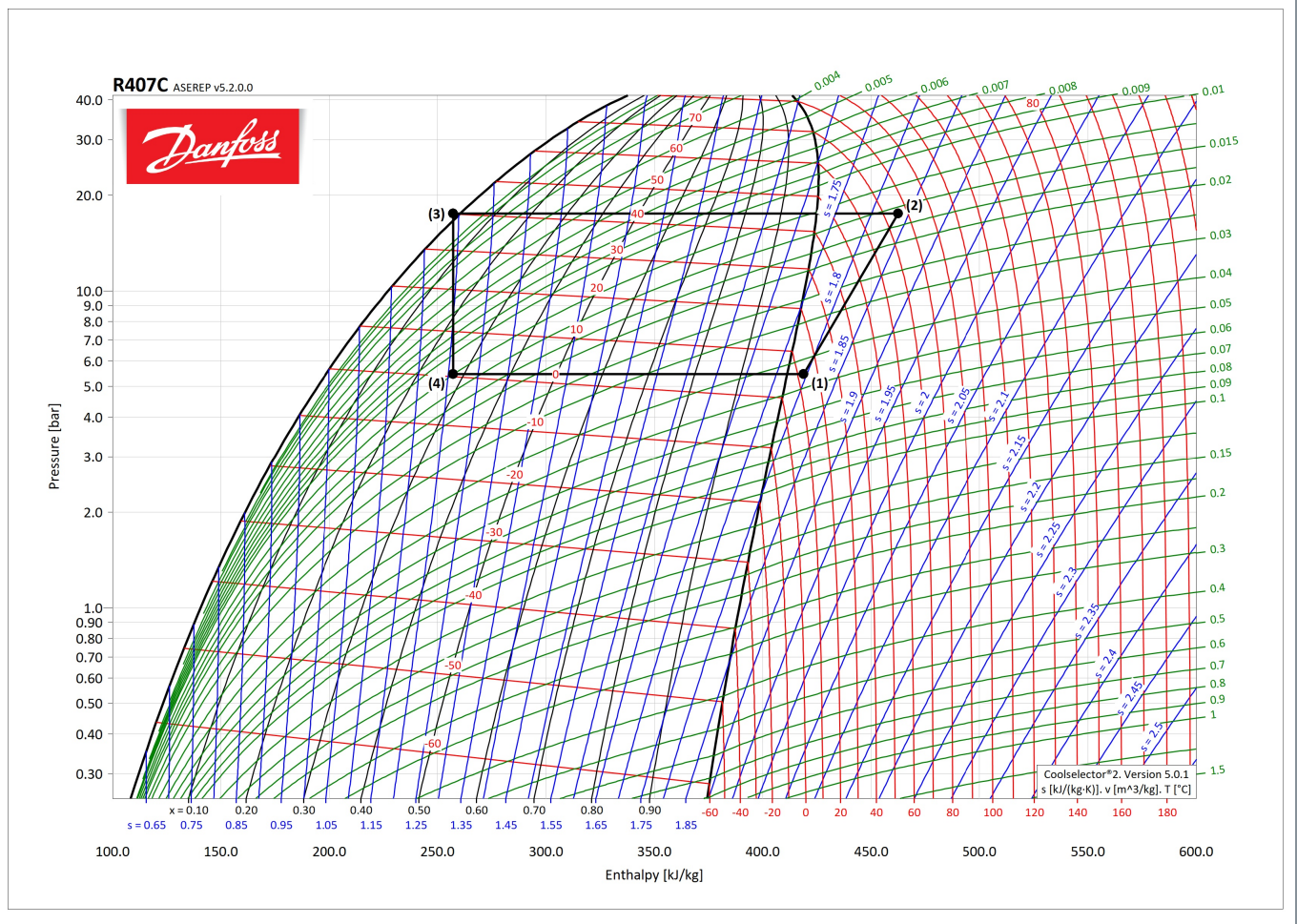
Mass flows

Mass flow in evaporator: 211.9 kg/h Mass flow in compressor: 211.9 kg/h

State points

Point	Description	Temperature [°C]	Pressure (a) [bar]	Density [kg/m ³]	Enthalpy [kJ/kg]	Entropy [kJ/(kg·K)]
1	Compressor suction	13.0	5.471	22.3	418.8	1.795
2	Compressor discharge (estimated)	76.1	17.51	63.03	462.4	1.836
2s	Condensation dew point	45.0	17.51	78.76	424.7	1.723
3s	Condensation bubble point	40.1	17.51	1067	260.4	1.202
3a	Condenser out	38.1	17.51	1077	257.1	1.192
3	Including additional subcooling	38.1	17.51	1077	257.1	1.192
4	After expansion valve	0.6	5.471	80.49	257.1	1.208
4s	Evaporation bubble point	-1.1	5.471	1241	198.4	0.9945
1s	Evaporation dew point	5.0	5.471	23.32	411.2	1.768
1a	Evaporator out	13.0	5.471	22.3	418.8	1.795

Detailed log(p)-h diagram



Technical Data

Capacity control	Fixed speed
Economizer	No
Configuration code	Single
Swept volume [cm ³]	57 cm ³
Motor protection	Internal overload protector
Refrigerant charge [kg] [Max]	3.63 kg
Number of starts per hour [Max]	12
Rotational speed at 50Hz [rpm]	2900 rpm
Brand technique	Scroll compressor
Colour	Black
Rotational speed at 60Hz [rpm]	0 rpm
IP protection class	IP22
Glass mounting	None
Gauge port LP	None
Gauge port HP	None
Oil equalization	None
Relief valve	Yes

Approval standard	CE;UL
Net weight	33 kg

Dimensions

Length [mm]	239 mm
Drawing number	0XC6301B-2
Diameter [mm]	165 mm
Width [mm]	239 mm
Total height [mm]	413 mm
Suction connection height [mm]	250 mm
Discharge connection height [mm]	379 mm

Electrical Specifications

Phase	1
Compressor power supply [V/Ph/Hz]	220-240/1/50
Frequency [Hz]	50
Low value of nominal voltage at 50Hz [V]	220 V
High value of nominal voltage at 50Hz [V]	240 V
Low value of nominal voltage at 60Hz [V]	0 V
High value of nominal voltage at 60Hz [V]	0 V
Low value of voltage range at 50Hz [V]	198 V
High value of voltage range at 50Hz [V]	264 V
Low value of voltage range at 60Hz [V]	0 V
High value of voltage range at 60Hz [V]	0 V
Main winding resistance for single-phase compressors [Ohm]	0.69 Ohm
Auxiliary winding resistance (start winding) for single-phase compressors [Ohm]	1.51 Ohm
MCC	27 A
RLA	19.3 A
LRA	97 A
Capacity of capacitor A	70 µF
Capacity of capacitor B	145-175 µF
Voltage of capacitor A [V]	370 V
Voltage of capacitor B [V]	250 V
Power connections	Spade

Mechanical Connections

Connection type	Brazed
Suction connection pipe size [in]	3/4 in
Discharge connection size [in]	1/2 in
Suction connection size [in]	3/4 in

Fitting standard	ODF
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Oil Data

Oil reference	160HV
Oil type	PVE
Oil charge [L]	1.06 L
Viscosity [cP]	32 cP
Shipped oil	Initial oil charge

Packaging

Packing quantity	12
Shipped instructions	Installation instructions
Shipped mounting	Mounting kit with grommets and sleeves

Acoustic power

Sound 1	71 db(A)
Sound 2	63 db(A)

Spare parts

Type	Description	Code number
Acoustic hood 1	Acoustic hood	120Z5083
Belt 01	Belt type crankcase heater, 40 W, 230 V, CE mark, UL	120Z0055
Capacitor A	Run capacitor 70 µF	120Z0051
Discharge gasket	Gasket, 1"	8156130
Discharge sleeve	Solder sleeve, P06 (1" rotolock, 1/2" ODF)	8153007
Discharge temperature protection	Discharge thermostat kit	7750009
Discharge valve	Rotolock valve, V06 (1" rotolock, 1/2" ODF)	8168031
Ebox	Terminal box	120Z5015
Ebox cover	IP54 upgrade kit	118U0056
Gasket set	Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black and white	8156009
Mounting kit 1	Mounting kit for one-scroll compressor, including 4 grommets, 4 sleeves, 4 bolts, 4 washers	120Z5064
Oil 1	PVE lubricant, 320HV (FVC68D), 1-litre can	120Z5034
Solder sleeve set	Solder sleeve adaptor set (1-1/4" rotolock, 3/4" ODF), (1" rotolock, 1/2" ODF)	120Z0126
Suction gasket	Gasket, 1-1/4"	8156131
Suction sleeve	Solder sleeve, P04 (1-1/4" rotolock, 3/4" ODF)	8153008
Suction valve	Rotolock valve, V04 (1-1/4" rotolock, 3/4" ODF)	8168029

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Polynomials at standard condition. General information

Compressor performance data according to EN12900/ARI540

Superheat	10.0	K
Subcooling	2.8	K
Q	Cooling capacity	W
P	Power consumption	W
I	Current	A
Te	Evaporating temperature	°C
Tc	Condensing temperature	°C

Polynomial as function of Te and Tc:

$$Y = C0 + C1*Te + C2*Tc + C3*Te^2 + C4*Te*Tc + C5*Tc^2 + C6*Te^3 + C7*Tc*Te^2 + C8*Te*Tc^2 + C9*Tc^3$$

Polynomials at standard condition

	Q [W]	P [W]	I [A]
C0	11870.1048120793	772.4450073	3.04530826292
C1	411.846605179982	-26.06189919	-0.0846898952893
C2	0.565492971881202	32.42549896	0.302848854317
C3	5.86110171070887	-0.7989630103	-0.000765342531339
C4	-0.819529348530002	0.4934270084	0.00154653471339
C5	-1.06391564206459	0.05988869816	-0.00386067683614
C6	0.0295520772478428	-0.004644359928	-1.84499780103E-5
C7	-0.0287584451087542	0.001520349993	-4.33365308025E-5
C8	-0.01677105141275	0.00587855	2.5023129618E-5
C9	0.00657521837206666	0.002114990028	4.19940282875E-5

Polynomials at selected condition. General information

Compressor performance data according to EN12900/ARI540

Superheat	8.0	K
Subcooling	2.0	K
Q	Cooling capacity	kW
P	Power consumption	kW
I	Current	A
M	Mass flow	kg/h
Te	Evaporating temperature	°C
Tc	Condensing temperature	°C

Polynomial as function of Te and Tc:

$$Y = C0 + C1*Te + C2*Tc + C3*Te^2 + C4*Te*Tc + C5*Tc^2 + C6*Te^3 + C7*Tc*Te^2 + C8*Te*Tc^2 + C9*Tc^3$$

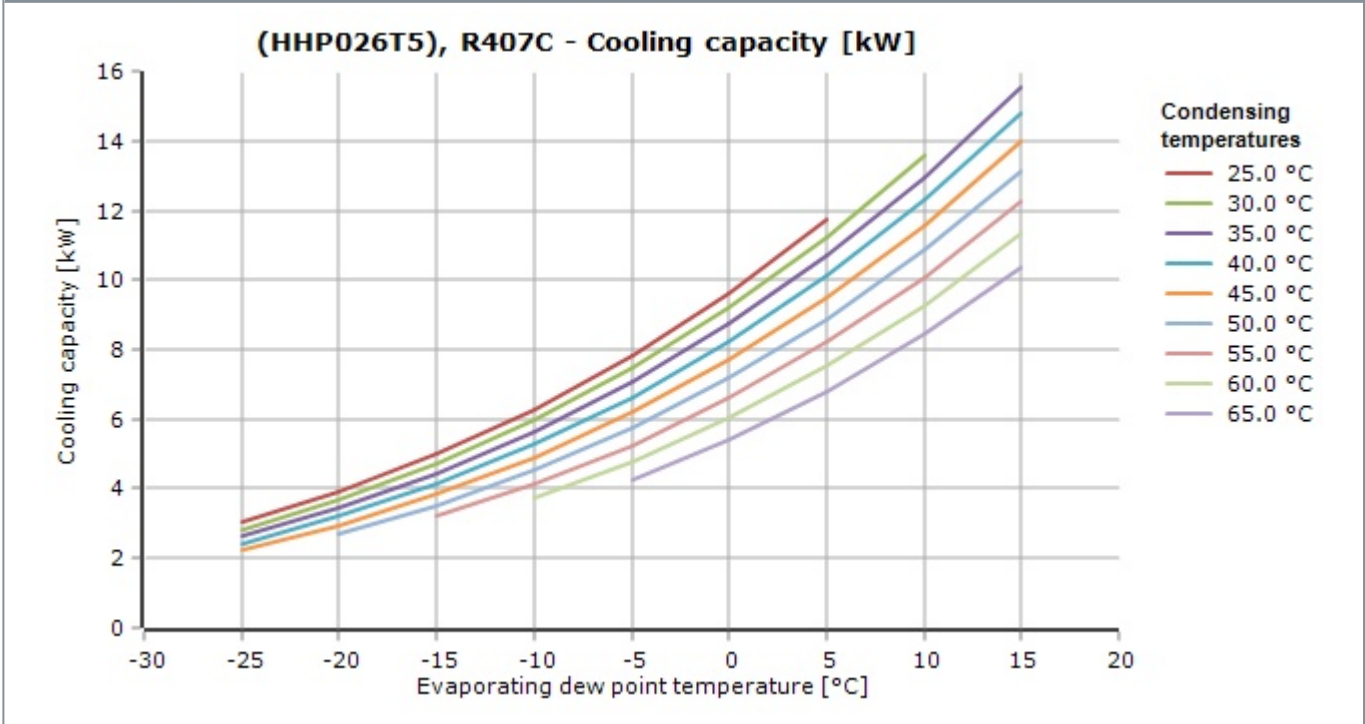
Polynomials at selected condition

Coolselector2

	Q [kW]	P [kW]	I [A]	M [kg/h]
C0	11.0717173662931	0.772445007300001	3.04530826292	175.155291002778
C1	0.437432576747519	-0.02606189919	-0.0846898952893	6.3686920086036
C2	-0.032849731089227	0.03242549896	0.302848854317	0.570660523000241
C3	0.00667373716890727	-0.0007989630103	-0.000765342531339	0.088252252568754
C4	-0.00135207904129202	0.0004934270084	0.00154653471339	0.0253847471237469
C5	-0.00112275522725115	5.98886981600013E-5	-0.00386067683614	-0.0134832606631679
C6	3.42591612740522E-5	-4.64435992799999E-6	-1.84499780103E-5	0.000544764762509429
C7	-3.11684805070407E-5	1.520349993E-6	-4.33365308025E-5	0.00024199449836644
C8	-2.27916289152744E-5	5.87855E-6	2.5023129618E-5	-0.000297046288372329
C9	4.45377404818909E-6	2.11499002799999E-6	4.19940282875E-5	1.32764283347001E-5

Coolselector2

(HHP026T5), R407C - Cooling capacity [kW]

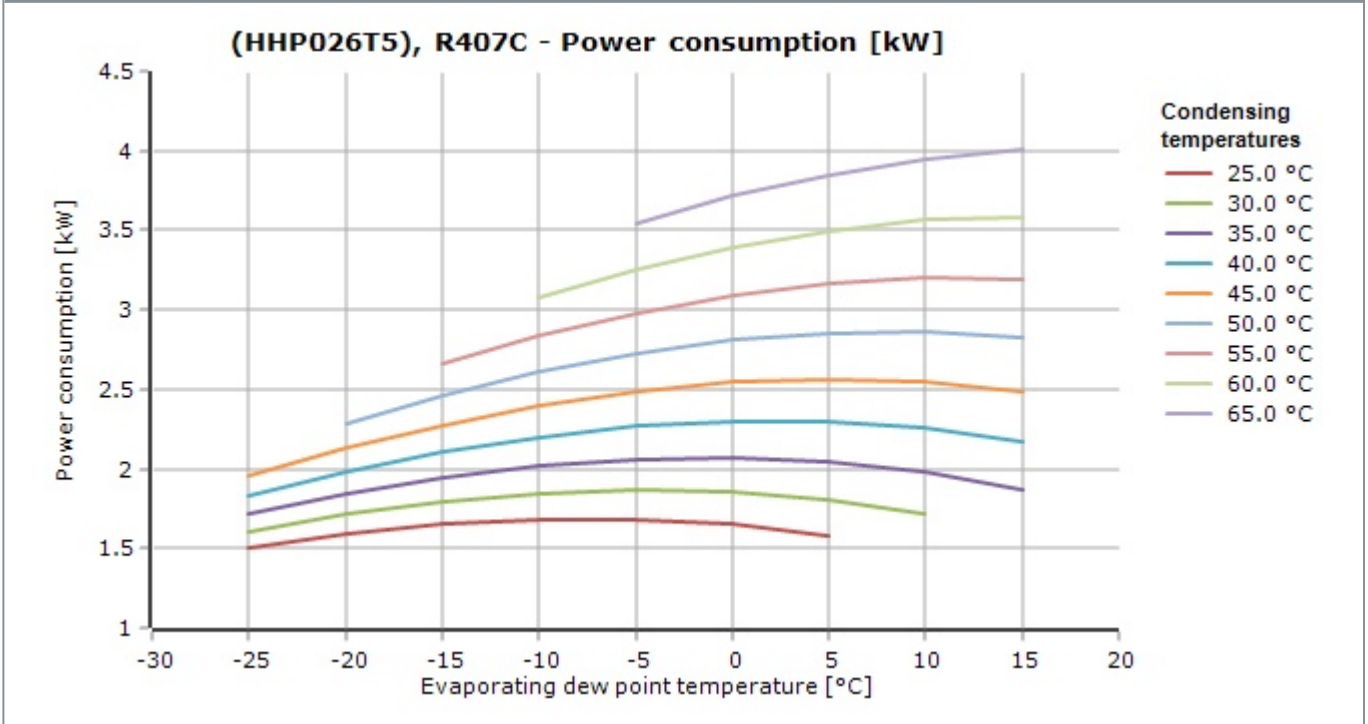


(HHP026T5), R407C - Cooling capacity [kW]

Tc\Te dew	-25.0	-20.0	-15.0	-10.0	-5.0	0	5.0	10.0	15.0
25.0	3.032	3.914	4.988	6.280	7.815	9.618	11.72	-	-
30.0	2.838	3.690	4.726	5.972	7.453	9.196	11.23	13.57	-
35.0	2.637	3.453	4.445	5.640	7.062	8.737	10.69	12.95	15.54
40.0	2.431	3.206	4.149	5.286	6.643	8.246	10.12	12.29	14.79
45.0	2.225	2.952	3.839	4.914	6.201	7.726	9.514	11.59	13.98
50.0	-	2.694	3.521	4.528	5.738	7.179	8.876	10.85	13.14
55.0	-	-	3.198	4.130	5.259	6.610	8.209	10.08	12.25
60.0	-	-	-	3.724	4.765	6.021	7.517	9.278	11.33
65.0	-	-	-	-	4.262	5.416	6.803	8.447	10.37

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(HHP026T5), R407C - Power consumption [kW]

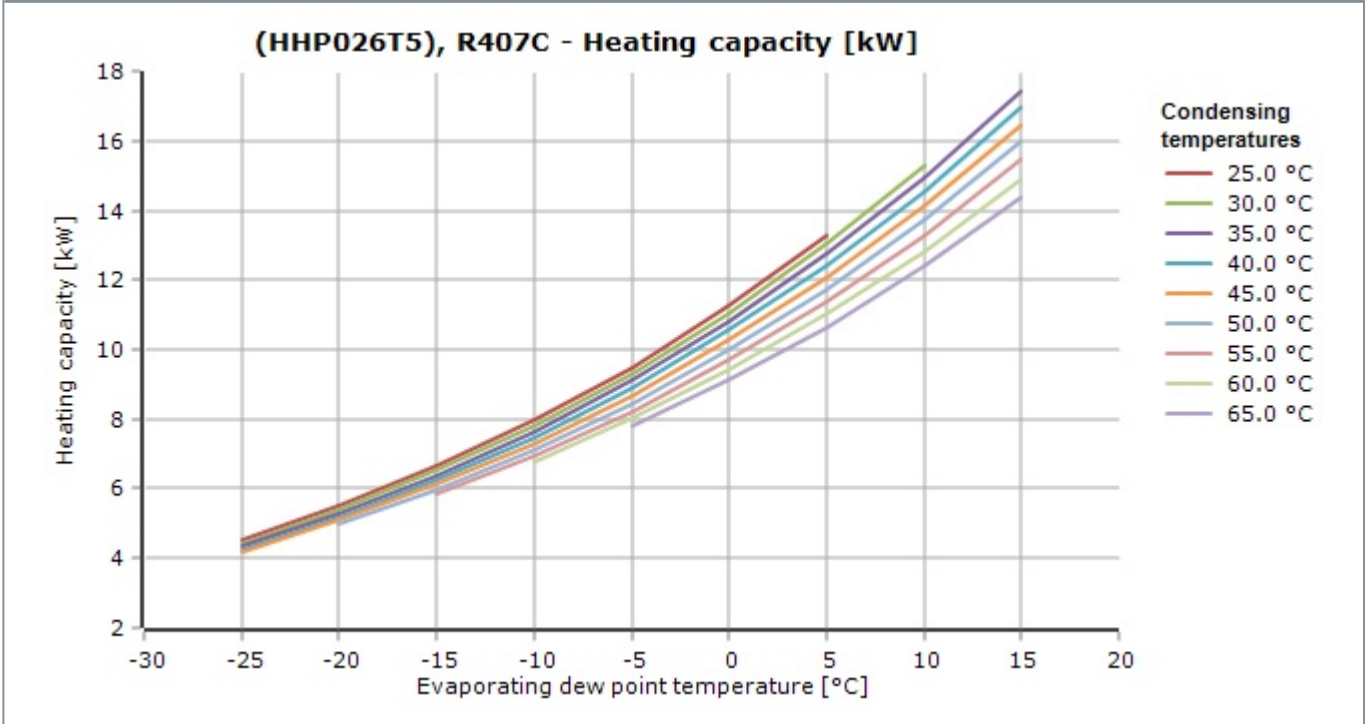


(HHP026T5), R407C - Power consumption [kW]

Tc\Te dew	-25.0	-20.0	-15.0	-10.0	-5.0	0	5.0	10.0	15.0
25.0	1.502	1.587	1.649	1.683	1.685	1.654	1.584	-	-
30.0	1.607	1.711	1.792	1.845	1.868	1.856	1.807	1.717	-
35.0	1.718	1.842	1.943	2.017	2.061	2.071	2.044	1.976	1.864
40.0	1.835	1.981	2.104	2.201	2.267	2.301	2.297	2.253	2.165
45.0	1.960	2.130	2.276	2.397	2.488	2.546	2.567	2.548	2.486
50.0	-	2.290	2.461	2.607	2.724	2.808	2.856	2.864	2.829
55.0	-	-	2.661	2.833	2.977	3.089	3.165	3.201	3.195
60.0	-	-	-	3.077	3.250	3.390	3.496	3.562	3.586
65.0	-	-	-	-	3.543	3.714	3.850	3.948	4.003

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(HHP026T5), R407C - Heating capacity [kW]

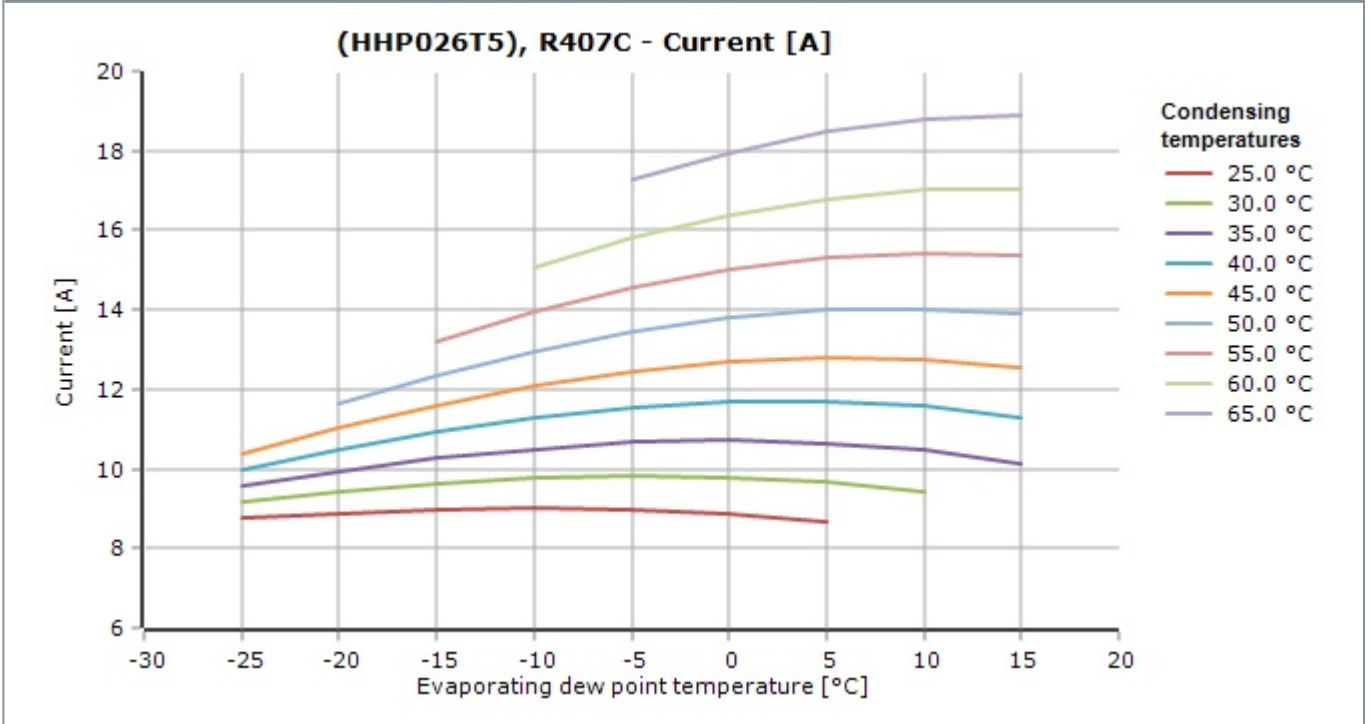


(HHP026T5), R407C - Heating capacity [kW]

Tc\Te dew	-25.0	-20.0	-15.0	-10.0	-5.0	0	5.0	10.0	15.0
25.0	4.534	5.502	6.637	7.963	9.500	11.27	13.30	-	-
30.0	4.445	5.402	6.518	7.817	9.321	11.05	13.03	15.28	-
35.0	4.355	5.295	6.388	7.657	9.123	10.81	12.74	14.93	17.41
40.0	4.266	5.186	6.253	7.487	8.911	10.55	12.42	14.55	16.95
45.0	4.185	5.081	6.116	7.311	8.689	10.27	12.08	14.14	16.47
50.0	-	4.984	5.983	7.135	8.462	9.987	11.73	13.72	15.97
55.0	-	-	5.858	6.963	8.236	9.699	11.37	13.28	15.45
60.0	-	-	-	6.801	8.015	9.412	11.01	12.84	14.92
65.0	-	-	-	-	7.805	9.130	10.65	12.39	14.38

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(HHP026T5), R407C - Current [A]

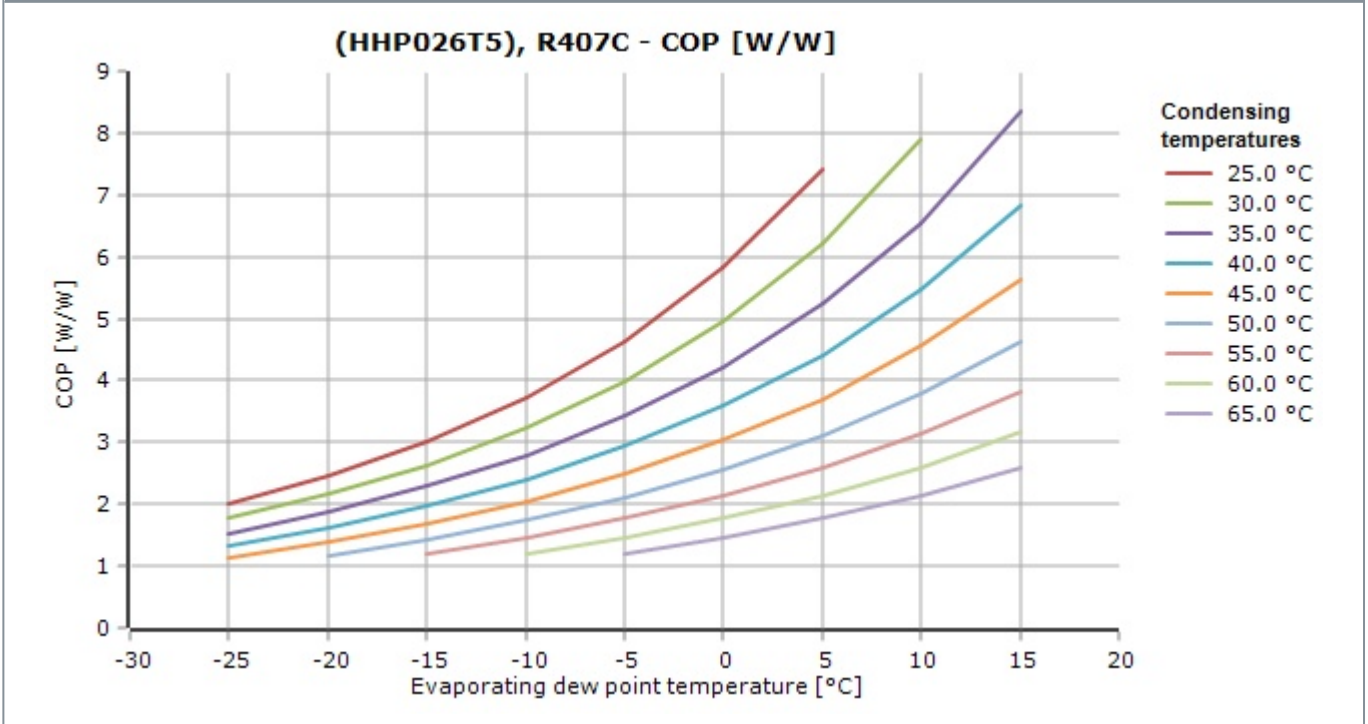


(HHP026T5), R407C - Current [A]

Tc\Te dew	-25.0	-20.0	-15.0	-10.0	-5.0	0	5.0	10.0	15.0
25.0	8.752	8.876	8.962	8.997	8.968	8.860	8.659	-	-
30.0	9.182	9.427	9.624	9.760	9.820	9.790	9.657	9.407	-
35.0	9.576	9.949	10.26	10.51	10.66	10.72	10.66	10.47	10.14
40.0	9.966	10.47	10.91	11.27	11.52	11.67	11.69	11.57	11.30
45.0	10.38	11.03	11.60	12.07	12.44	12.68	12.79	12.75	12.54
50.0	-	11.66	12.36	12.96	13.44	13.79	13.99	14.03	13.89
55.0	-	-	13.22	13.95	14.55	15.01	15.31	15.44	15.38
60.0	-	-	-	15.09	15.82	16.39	16.79	17.02	17.04
65.0	-	-	-	-	17.26	17.95	18.47	18.79	18.91

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(HHP026T5), R407C - COP [W/W]

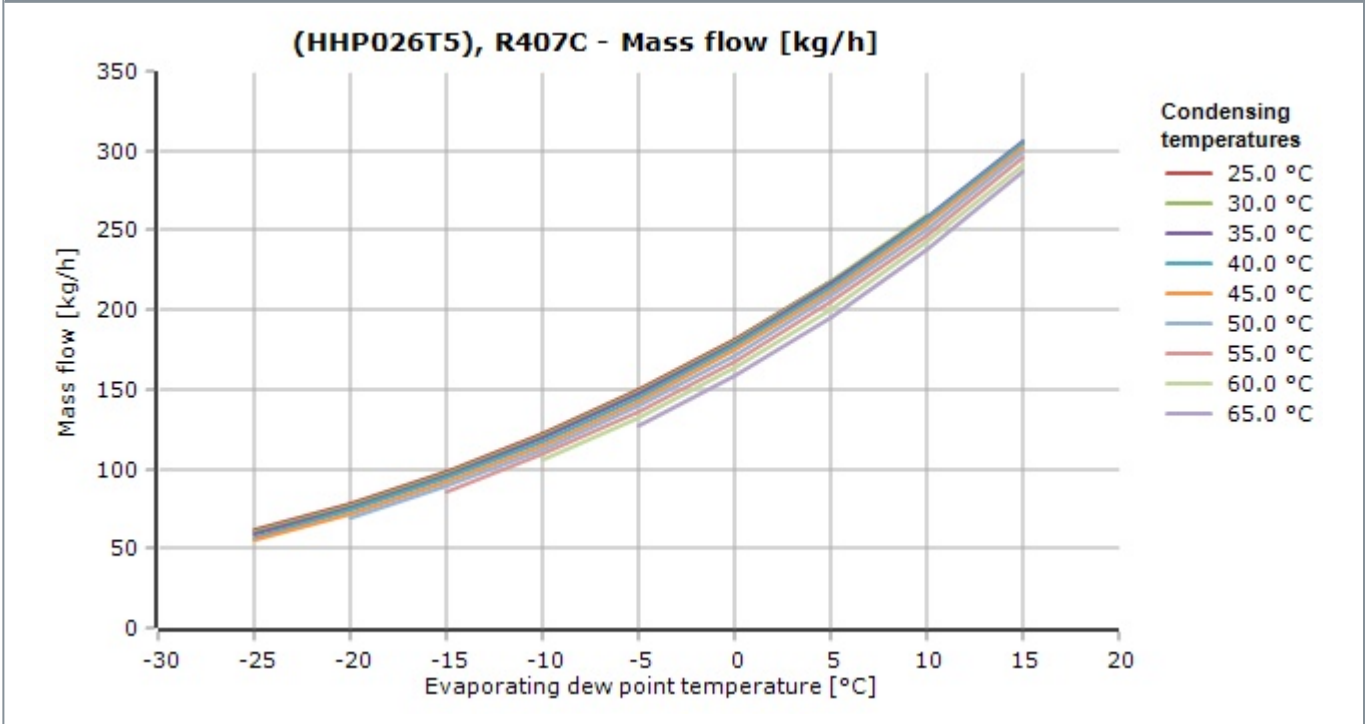


(HHP026T5), R407C - COP [W/W]

Tc\Te dew	-25.0	-20.0	-15.0	-10.0	-5.0	0	5.0	10.0	15.0
25.0	2.02	2.47	3.02	3.73	4.64	5.82	7.40	-	-
30.0	1.77	2.16	2.64	3.24	3.99	4.95	6.21	7.90	-
35.0	1.54	1.88	2.29	2.80	3.43	4.22	5.23	6.55	8.34
40.0	1.32	1.62	1.97	2.40	2.93	3.58	4.41	5.46	6.83
45.0	1.14	1.39	1.69	2.05	2.49	3.04	3.71	4.55	5.63
50.0	-	1.18	1.43	1.74	2.11	2.56	3.11	3.79	4.64
55.0	-	-	1.20	1.46	1.77	2.14	2.59	3.15	3.83
60.0	-	-	-	1.21	1.47	1.78	2.15	2.60	3.16
65.0	-	-	-	-	1.20	1.46	1.77	2.14	2.59

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(HHP026T5), R407C - Mass flow [kg/h]



(HHP026T5), R407C - Mass flow [kg/h]

Tc\Te dew	-25.0	-20.0	-15.0	-10.0	-5.0	0	5.0	10.0	15.0
25.0	61.61	78.26	98.18	121.7	149.3	181.2	217.8	-	-
30.0	60.31	77.09	97.12	120.8	148.5	180.6	217.4	259.3	-
35.0	58.76	75.59	95.66	119.4	147.1	179.3	216.2	258.3	306.0
40.0	57.03	73.80	93.80	117.5	145.2	177.4	214.4	256.6	304.5
45.0	55.16	71.75	91.58	115.1	142.7	174.8	211.9	254.2	302.3
50.0	-	69.50	89.02	112.3	139.7	171.7	208.7	251.1	299.4
55.0	-	-	86.18	109.0	136.1	167.9	204.8	247.3	295.7
60.0	-	-	-	105.4	132.1	163.5	200.3	242.8	291.4
65.0	-	-	-	-	127.6	158.6	195.2	237.6	286.5