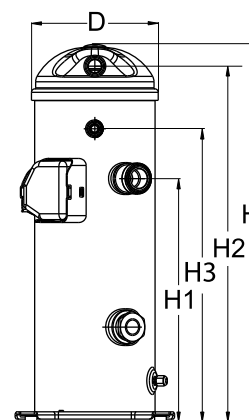


**General Characteristics**

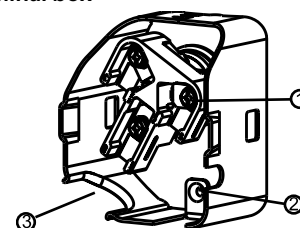
Model number (on compressor nameplate)		<b>LLZ034T4LQ9A</b>
Code number for Singlepack*		121L9543
Code number for Industrial pack**		121L9542
Drawing number		0SR7510D-3
Suction and discharge connections		Rotolock
Suction connection		1-3/4 " Rotolock
Economizer connection		1 " Rotolock
Discharge connection		1-1/4 " Rotolock
Oil sight glass		Threaded
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		None
Swept volume		168.7 cm <sup>3</sup> /rev
Displacement @ Nominal speed		29.4 m <sup>3</sup> /h @ 2900 rpm - 35.4 m <sup>3</sup> /h @ 3500 rpm
Net weight		51 kg
Oil charge		2.51 litre, POE --
Maximum system test pressure Low Side / High side		- bar(g) / - bar(g)
Maximum differential test pressure		- bar
Maximum number of starts per hour		12
Refrigerant charge limit		7.26 kg
Approved refrigerants		R404A, R507, R452A, R448A, R449A

**Dimensions**


D=184 mm  
H=564.9 mm  
H1=374.4 mm  
H2=537.7 mm  
H3=446.7 mm

**Electrical Characteristics**

Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz
Voltage range	342-457 V @ 50Hz - 414-506 V @ 60Hz
Rated Load Amps (RLA)	16.7 A
Maximum Continuous Current (MCC)	26 A
Locked Rotor Amps (LRA)	150 A
Motor protection	Internal overload protector

**Terminal box**


IP22  
1: Screw connectors 10-32 UNF x 9.5  
2: Earth connection  
3: Power cable passage

**Recommended Installation torques**

Oil sight glass	52.5 Nm
Power connections / Earth connection	3 Nm / 2 Nm

**Parts shipped with compressor**

Mounting kit with grommets and sleeves
Initial oil charge
Installation instructions

**Approvals** : CE certified, -, -

\*Singlepack: Compressor in cardboard box

\*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

**Rotolock accessories, suction side** **Code no.**

**Rotolock accessories, discharge side** **Code no.**

**Rotolock accessories, sets** **Code no.**

**Oil / lubricants** **Code no.**

POE lubricant, 215PZ(PL46HB), 1 litre can	120Z0648
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**Crankcase heaters** **Code no.**

Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W, 400/460V, CE mark, UL	120Z5041
Belt type crankcase heater, 70 W, 575V, CE mark, UL	120Z5042
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060

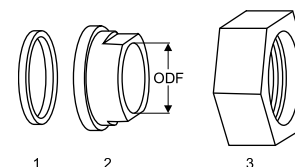
**Miscellaneous accessories** **Code no.**

Acoustic hood	120Z5055
Discharge thermostat kit	7750009
IP54 upgrade kit	118U0057
Magnetic discharge non return valve	120Z5046

**Spare parts** **Code no.**

Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers, rotolock connection kit for suction, discharge and economizer fitting for 1 scroll compressor including 3 Teflon seal, 2 nuts, 3 sleeves	120Z0663
Terminal box cover	120Z5018

**Gaskets, sleeves and nuts**

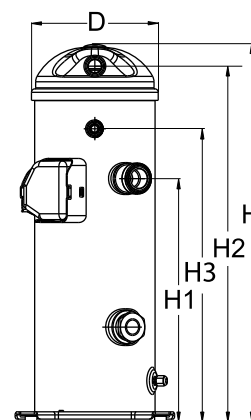


- 1: Gasket
- 2: Solder sleeve
- 3: Rotolock nut

**General Characteristics**

Model number (on compressor nameplate)		<b>LLZ034T4LQ9</b>
Code number for Singlepack*		121L9521
Code number for Industrial pack**		121L9520
Drawing number		0SR7510D-3
Suction and discharge connections		Rotolock
Suction connection		1-3/4 " Rotolock
Economizer connection		1 " Rotolock
Discharge connection		1-1/4 " Rotolock
Oil sight glass		Threaded
Oil equalisation connection		None
Oil drain connection		None
LP gauge port		None
IPR valve		None
Swept volume		168.7 cm <sup>3</sup> /rev
Displacement @ Nominal speed		29.4 m <sup>3</sup> /h @ 2900 rpm - 35.4 m <sup>3</sup> /h @ 3500 rpm
Net weight		51 kg
Oil charge		2.51 litre, PVE --
Maximum system test pressure Low Side / High side		- bar(g) / - bar(g)
Maximum differential test pressure		- bar
Maximum number of starts per hour		12
Refrigerant charge limit		7.26 kg
Approved refrigerants		R404A, R507

**Dimensions**

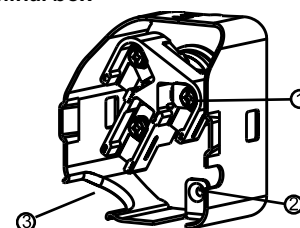


D=184 mm  
H=564.9 mm  
H1=374.4 mm  
H2=537.7 mm  
H3=446.7 mm

**Electrical Characteristics**

Nominal voltage	380-415V/3/50Hz - 460V/3/60Hz
Voltage range	340-457 V @ 50Hz - 414-506 V @ 60Hz
Rated Load Amps (RLA)	16.7 A
Maximum Continuous Current (MCC)	26 A
Locked Rotor Amps (LRA)	150 A
Motor protection	Internal overload protector

**Terminal box**



IP22

- 1: Screw connectors 10-32 UNF x 9.5
- 2: Earth connection
- 3: Power cable passage

**Recommended Installation torques**

Oil sight glass	52.5 Nm
Power connections / Earth connection	3 Nm / 2 Nm

**Parts shipped with compressor**

Mounting kit with grommets and sleeves
Rotolock connection kit for Suction, Economizer and Discharge fittings with seals, nuts and sleeves.
Initial oil charge
Installation instructions

**Approvals** : CE certified, UL certified (file SA11565), -

\*Singlepack: Compressor in cardboard box

\*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

**Rotolock accessories, suction side** **Code no.**

**Rotolock accessories, discharge side** **Code no.**

**Rotolock accessories, sets** **Code no.**

**Oil / lubricants** **Code no.**

PVE lubricant, 320HV (FVC68D), 1 litre can	120Z5034
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**Crankcase heaters** **Code no.**

Belt type crankcase heater, 70 W, 240 V, CE mark, UL	120Z5040
Belt type crankcase heater, 70 W, 400/460V, CE mark, UL	120Z5041
Belt type crankcase heater, 70 W, 575V, CE mark, UL	120Z5042
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	120Z0059
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	120Z0060

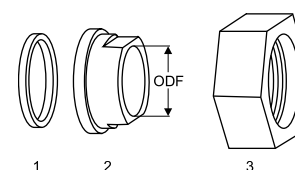
**Miscellaneous accessories** **Code no.**

Acoustic hood	120Z5055
Discharge thermostat kit	7750009
IP54 upgrade kit	118U0057
Magnetic discharge non return valve	120Z5046

**Spare parts** **Code no.**

Mounting kit for 1 scroll compressor including 4 grommets, 4 sleeves, 4 bolts, 4 washers, rotolock connection kit for suction, discharge and economizer fitting for 1 scroll compressor including 3 Teflon seal, 2 nuts, 3 sleeves	120Z5068
Terminal box cover	120Z5018

**Gaskets, sleeves and nuts**



- 1: Gasket
- 2: Solder sleeve
- 3: Rotolock nut

**Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 754	9 818	12 439	15 674	19 579	24 207	29 608	-
10	-	7 348	9 312	11 791	14 844	18 527	22 895	28 000	-
15	-	6 941	8 804	11 142	14 013	17 475	21 583	26 393	-
20	-	6 527	8 290	10 487	13 176	16 417	20 266	24 780	-
30	-	5 658	7 217	9 132	11 459	14 259	17 590	21 514	-
40	-	4 698	6 051	7 683	9 649	12 008	14 823	18 156	-
50	-	-	4 755	6 099	7 702	9 622	11 920	14 660	-
60	-	-	-	-	-	-	8 828	10 973	-

**Power input in W**

5	-	2 992	3 191	3 341	3 417	3 392	3 240	2 935	-
10	-	3 303	3 563	3 789	3 955	4 035	4 003	3 831	-
15	-	3 554	3 861	4 149	4 391	4 563	4 636	4 585	-
20	-	3 780	4 120	4 456	4 761	5 009	5 174	5 230	-
30	-	4 293	4 659	5 049	5 438	5 800	6 107	6 334	-
40	-	5 123	5 458	5 848	6 265	6 684	7 078	7 421	-
50	-	-	6 796	7 129	7 520	7 941	8 366	8 769	-
60	-	-	-	-	-	-	10 248	10 657	-

**Current consumption in A**

5	-	10.41	10.12	9.73	9.29	8.81	8.33	7.87	-
10	-	11.15	11.06	10.90	10.68	10.43	10.18	9.98	-
15	-	11.61	11.70	11.72	11.69	11.64	11.60	11.61	-
20	-	11.88	12.12	12.29	12.42	12.53	12.67	12.85	-
30	-	12.22	12.65	13.02	13.37	13.72	14.11	14.56	-
40	-	12.86	13.35	13.80	14.25	14.71	15.21	15.80	-
50	-	-	14.94	15.35	15.75	16.19	16.69	17.28	-
60	-	-	-	-	-	-	19.26	19.73	-

**Mass flow in kg/h**

5	-	192	239	296	365	448	544	656	-
10	-	191	238	294	363	444	538	648	-
15	-	191	237	293	360	440	533	640	-
20	-	191	237	292	358	436	527	632	-
30	-	189	234	288	352	427	514	614	-
40	-	185	230	282	344	415	498	594	-
50	-	-	221	272	331	400	479	570	-
60	-	-	-	-	-	-	454	540	-

**Coefficient of performance (C.O.P.)**

5	-	2.59	3.08	3.72	4.59	5.77	7.47	10.09	-
10	-	2.22	2.61	3.11	3.75	4.59	5.72	7.31	-
15	-	1.95	2.28	2.69	3.19	3.83	4.66	5.76	-
20	-	1.73	2.01	2.35	2.77	3.28	3.92	4.74	-
30	-	1.32	1.55	1.81	2.11	2.46	2.88	3.40	-
40	-	0.92	1.11	1.31	1.54	1.80	2.09	2.45	-
50	-	-	0.70	0.86	1.02	1.21	1.42	1.67	-
60	-	-	-	-	-	-	0.86	1.03	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	6 051	W
Power input	5 458	W
Current consumption	13.35	A
Mass flow	230	kg/h
C.O.P.	1.11	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level	85	dB(A)
With acoustic hood	77	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 50 Hz, Suction temp. = 18.3 °C**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	8 079	10 169	12 807	16 044	19 930	24 512	29 842	-
10	-	7 743	9 741	12 248	15 312	18 982	23 309	28 342	-
15	-	7 406	9 314	11 688	14 579	18 035	22 107	26 843	-
20	-	7 064	8 881	11 123	13 840	17 081	20 897	25 337	-
30	-	6 338	7 972	9 949	12 320	15 132	18 437	22 283	-
40	-	-	-	8 680	10 703	13 087	15 880	19 133	-
50	-	-	-	-	-	10 897	13 178	15 837	-
60	-	-	-	-	-	-	10 284	12 349	-

**Power input in W**

5	-	2 992	3 191	3 341	3 417	3 392	3 240	2 935	-
10	-	3 303	3 563	3 789	3 955	4 035	4 003	3 831	-
15	-	3 554	3 861	4 149	4 391	4 563	4 636	4 585	-
20	-	3 780	4 120	4 456	4 761	5 009	5 174	5 230	-
30	-	4 293	4 659	5 049	5 438	5 800	6 107	6 334	-
40	-	-	-	5 848	6 265	6 684	7 078	7 421	-
50	-	-	-	-	-	7 941	8 366	8 769	-
60	-	-	-	-	-	-	10 248	10 657	-

**Current consumption in A**

5	-	10.41	10.12	9.73	9.29	8.81	8.33	7.87	-
10	-	11.15	11.06	10.90	10.68	10.43	10.18	9.98	-
15	-	11.61	11.70	11.72	11.69	11.64	11.60	11.61	-
20	-	11.88	12.12	12.29	12.42	12.53	12.67	12.85	-
30	-	12.22	12.65	13.02	13.37	13.72	14.11	14.56	-
40	-	-	-	13.80	14.25	14.71	15.21	15.80	-
50	-	-	-	-	-	16.19	16.69	17.28	-
60	-	-	-	-	-	-	19.26	19.73	-

**Mass flow in kg/h**

5	-	156	198	250	314	393	487	599	-
10	-	156	197	249	312	389	482	592	-
15	-	156	197	248	310	386	476	584	-
20	-	155	196	247	308	382	471	577	-
30	-	154	195	244	303	374	460	561	-
40	-	-	-	239	296	364	446	542	-
50	-	-	-	-	-	351	428	520	-
60	-	-	-	-	-	-	406	493	-

**Coefficient of performance (C.O.P.)**

5	-	2.70	3.19	3.83	4.70	5.88	7.57	10.17	-
10	-	2.34	2.73	3.23	3.87	4.70	5.82	7.40	-
15	-	2.08	2.41	2.82	3.32	3.95	4.77	5.85	-
20	-	1.87	2.16	2.50	2.91	3.41	4.04	4.84	-
30	-	1.48	1.71	1.97	2.27	2.61	3.02	3.52	-
40	-	-	-	1.48	1.71	1.96	2.24	2.58	-
50	-	-	-	-	-	1.37	1.58	1.81	-
60	-	-	-	-	-	-	1.00	1.16	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	7 991	W
Power input	5 772	W
Current consumption	13.72	A
Mass flow	221	kg/h
C.O.P.	1.38	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level	85	dB(A)
With acoustic hood	77	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 18.3 °C , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 60 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	9 445	11 775	14 682	18 216	22 428	27 366	33 076	-
10	-	8 947	11 213	14 022	17 426	21 477	26 226	31 718	-
15	-	8 442	10 633	13 334	16 598	20 478	25 027	30 292	-
20	-	7 929	10 034	12 616	15 730	19 430	23 768	28 796	-
30	-	6 868	8 770	11 085	13 868	17 175	21 062	25 585	-
40	-	5 746	7 404	9 411	11 823	14 697	18 093	22 069	-
50	-	-	5 919	7 579	9 581	11 981	14 843	18 230	-
60	-	-	-	-	-	-	11 279	14 032	-

**Power input in W**

5	-	4 083	4 542	4 958	5 319	5 610	5 817	5 925	-
10	-	4 137	4 615	5 054	5 439	5 756	5 992	6 132	-
15	-	4 242	4 741	5 203	5 614	5 960	6 227	6 400	-
20	-	4 396	4 919	5 407	5 846	6 223	6 522	6 730	-
30	-	4 858	5 433	5 978	6 479	6 922	7 293	7 577	-
40	-	5 522	6 157	6 767	7 338	7 855	8 305	8 673	-
50	-	-	7 092	7 774	8 423	9 022	9 559	10 019	-
60	-	-	-	-	-	-	11 055	11 614	-

**Current consumption in A**

5	-	9.24	9.39	9.60	9.86	10.15	10.44	10.72	-
10	-	9.67	9.88	10.15	10.46	10.78	11.10	11.41	-
15	-	10.01	10.29	10.61	10.97	11.33	11.69	12.01	-
20	-	10.29	10.64	11.02	11.43	11.83	12.22	12.57	-
30	-	10.77	11.26	11.77	12.28	12.77	13.22	13.62	-
40	-	11.31	11.94	12.58	13.20	13.78	14.32	14.77	-
50	-	-	12.89	13.66	14.40	15.08	15.69	16.21	-
60	-	-	-	-	-	-	17.55	18.14	-

**Mass flow in kg/h**

5	-	231	285	348	423	511	612	727	-
10	-	231	286	350	425	513	615	731	-
15	-	231	286	351	427	515	617	733	-
20	-	231	287	351	427	516	617	733	-
30	-	229	285	350	426	514	615	730	-
40	-	226	281	346	421	508	608	722	-
50	-	-	275	338	412	498	597	709	-
60	-	-	-	-	-	-	580	690	-

**Coefficient of performance (C.O.P.)**

5	-	2.31	2.59	2.96	3.42	4.00	4.70	5.58	-
10	-	2.16	2.43	2.77	3.20	3.73	4.38	5.17	-
15	-	1.99	2.24	2.56	2.96	3.44	4.02	4.73	-
20	-	1.80	2.04	2.33	2.69	3.12	3.64	4.28	-
30	-	1.41	1.61	1.85	2.14	2.48	2.89	3.38	-
40	-	1.04	1.20	1.39	1.61	1.87	2.18	2.54	-
50	-	-	0.83	0.97	1.14	1.33	1.55	1.82	-
60	-	-	-	-	-	-	1.02	1.21	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	7 404	W
Power input	6 157	W
Current consumption	11.94	A
Mass flow	281	kg/h
C.O.P.	1.20	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level	86	dB(A)
With acoustic hood	78	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 60 Hz, Suction temp. = 18.3 °C**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	9 842	12 196	15 116	18 646	22 829	27 712	33 337	-
10	-	9 428	11 731	14 564	17 974	22 005	26 700	32 106	-
15	-	9 009	11 249	13 987	17 267	21 135	25 634	30 809	-
20	-	8 581	10 749	13 381	16 522	20 217	24 509	29 444	-
30	-	7 693	9 687	12 077	14 909	18 227	22 076	26 500	-
40	-	-	-	10 633	13 116	16 017	19 383	23 256	-
50	-	-	-	-	-	13 569	16 410	19 693	-
60	-	-	-	-	-	-	13 141	15 792	-

**Power input in W**

5	-	4 083	4 542	4 958	5 319	5 610	5 817	5 925	-
10	-	4 137	4 615	5 054	5 439	5 756	5 992	6 132	-
15	-	4 242	4 741	5 203	5 614	5 960	6 227	6 400	-
20	-	4 396	4 919	5 407	5 846	6 223	6 522	6 730	-
30	-	4 858	5 433	5 978	6 479	6 922	7 293	7 577	-
40	-	-	-	6 767	7 338	7 855	8 305	8 673	-
50	-	-	-	-	-	9 022	9 559	10 019	-
60	-	-	-	-	-	-	11 055	11 614	-

**Current consumption in A**

5	-	9.24	9.39	9.60	9.86	10.15	10.44	10.72	-
10	-	9.67	9.88	10.15	10.46	10.78	11.10	11.41	-
15	-	10.01	10.29	10.61	10.97	11.33	11.69	12.01	-
20	-	10.29	10.64	11.02	11.43	11.83	12.22	12.57	-
30	-	10.77	11.26	11.77	12.28	12.77	13.22	13.62	-
40	-	-	-	12.58	13.20	13.78	14.32	14.77	-
50	-	-	-	-	-	15.08	15.69	16.21	-
60	-	-	-	-	-	-	17.55	18.14	-

**Mass flow in kg/h**

5	-	188	236	294	364	448	547	664	-
10	-	188	237	296	366	450	550	667	-
15	-	188	238	297	367	452	552	669	-
20	-	188	238	297	368	452	552	669	-
30	-	187	236	296	367	451	550	667	-
40	-	-	-	292	362	446	544	659	-
50	-	-	-	-	-	437	534	647	-
60	-	-	-	-	-	-	519	630	-

**Coefficient of performance (C.O.P.)**

5	-	2.41	2.69	3.05	3.51	4.07	4.76	5.63	-
10	-	2.28	2.54	2.88	3.30	3.82	4.46	5.24	-
15	-	2.12	2.37	2.69	3.08	3.55	4.12	4.81	-
20	-	1.95	2.19	2.47	2.83	3.25	3.76	4.37	-
30	-	1.58	1.78	2.02	2.30	2.63	3.03	3.50	-
40	-	-	-	1.57	1.79	2.04	2.33	2.68	-
50	-	-	-	-	-	1.50	1.72	1.97	-
60	-	-	-	-	-	-	1.19	1.36	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	9 791	W
Power input	6 616	W
Current consumption	12.42	A
Mass flow	271	kg/h
C.O.P.	1.48	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level	86	dB(A)
With acoustic hood	78	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 18.3 °C , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 528	7 168	9 228	11 760	14 817	18 451	22 715	-
10	-	5 334	6 921	8 907	11 345	14 287	17 787	21 896	-
15	-	5 132	6 660	8 568	10 907	13 731	17 092	21 042	-
20	-	4 923	6 388	8 212	10 448	13 148	16 365	20 151	-
30	-	4 482	5 807	7 451	9 466	11 905	14 820	18 263	-
40	-	-	5 181	6 626	8 401	10 560	13 154	16 234	-
50	-	-	-	-	7 255	9 115	11 367	14 065	-
60	-	-	-	-	-	-	9 452	11 744	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	3 182	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	3 646	4 021	4 417	4 810	5 179	5 499	5 750	-
40	-	-	4 684	5 114	5 574	6 044	6 501	6 921	-
50	-	-	-	-	6 546	7 111	7 697	8 280	-
60	-	-	-	-	-	-	9 114	9 854	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	12.72	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	12.22	12.35	12.60	12.91	13.23	13.50	13.66	-
40	-	-	12.64	12.98	13.42	13.92	14.41	14.83	-
50	-	-	-	-	14.46	15.05	15.68	16.29	-
60	-	-	-	-	-	-	17.32	18.04	-

**Mass flow in kg/h**

5	-	106	135	171	215	266	327	398	-
10	-	106	136	172	215	267	327	398	-
15	-	106	136	172	215	266	327	397	-
20	-	107	136	172	215	266	326	396	-
30	-	107	136	171	213	264	322	391	-
40	-	-	136	170	211	260	317	385	-
50	-	-	-	-	207	255	310	376	-
60	-	-	-	-	-	-	302	365	-

**Coefficient of performance (C.O.P.)**

5	-	1.97	2.28	2.69	3.24	3.99	5.03	6.55	-
10	-	1.85	2.13	2.50	2.99	3.62	4.48	5.66	-
15	-	1.70	1.97	2.31	2.73	3.27	3.97	4.91	-
20	-	1.55	1.80	2.10	2.47	2.93	3.51	4.25	-
30	-	1.23	1.44	1.69	1.97	2.30	2.69	3.18	-
40	-	-	1.11	1.30	1.51	1.75	2.02	2.35	-
50	-	-	-	-	1.11	1.28	1.48	1.70	-
60	-	-	-	-	-	-	1.04	1.19	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	5 181	W
Power input	4 684	W
Current consumption	12.64	A
Mass flow	136	kg/h
C.O.P.	1.11	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 50 Hz, Suction temp. = 18.3 °C**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 473	7 098	9 138	11 646	14 674	18 278	22 515	-
10	-	5 317	6 895	8 868	11 288	14 207	17 680	21 762	-
15	-	5 154	6 680	8 582	10 909	13 715	17 051	20 974	-
20	-	-	6 454	8 279	10 510	13 197	16 393	20 151	-
30	-	-	-	-	9 650	12 086	14 986	18 401	-
40	-	-	-	-	-	10 876	13 461	16 512	-
50	-	-	-	-	-	-	-	14 486	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	-	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	-	-	-	4 810	5 179	5 499	5 750	-
40	-	-	-	-	-	6 044	6 501	6 921	-
50	-	-	-	-	-	-	-	8 280	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	-	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	-	-	-	12.91	13.23	13.50	13.66	-
40	-	-	-	-	-	13.92	14.41	14.83	-
50	-	-	-	-	-	-	-	16.29	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	87	113	146	186	235	294	365	-
10	-	87	113	146	186	235	294	365	-
15	-	87	114	146	186	235	294	364	-
20	-	-	114	146	186	235	293	363	-
30	-	-	-	-	185	233	290	359	-
40	-	-	-	-	-	229	286	353	-
50	-	-	-	-	-	-	-	345	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	1.95	2.25	2.66	3.21	3.95	4.98	6.49	-
10	-	1.84	2.12	2.49	2.97	3.60	4.45	5.63	-
15	-	1.71	1.98	2.31	2.73	3.27	3.96	4.89	-
20	-	-	1.82	2.12	2.49	2.94	3.51	4.25	-
30	-	-	-	-	2.01	2.33	2.73	3.20	-
40	-	-	-	-	-	1.80	2.07	2.39	-
50	-	-	-	-	-	-	-	1.75	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	-	W
Power input	-	W
Current consumption	-	A
Mass flow	-	kg/h
C.O.P.	-	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 18.3 °C , Subcooling = 0 K

Tolerance according EN12900

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Performance data at 60 Hz, EN 12900 rating conditions, Superheat = 10 K

**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 069	8 966	11 309	14 148	17 531	21 503	26 102	-
10	-	6 862	8 729	11 021	13 791	17 086	20 954	25 434	-
15	-	6 634	8 461	10 694	13 385	16 585	20 341	24 694	-
20	-	6 386	8 164	10 329	12 934	16 029	19 664	23 882	-
30	-	5 831	7 487	9 490	11 896	14 757	18 125	22 048	-
40	-	-	6 707	8 515	10 688	13 281	16 348	19 942	-
50	-	-	-	-	9 318	11 607	14 339	17 568	-
60	-	-	-	-	-	-	12 093	14 918	-

**Power input in W**

5	-	3 129	3 445	3 780	4 094	4 352	4 515	4 546	-
10	-	3 369	3 703	4 076	4 449	4 786	5 048	5 199	-
15	-	3 612	3 955	4 357	4 780	5 187	5 539	5 800	-
20	-	3 873	4 215	4 637	5 100	5 568	6 002	6 364	-
30	-	4 501	4 815	5 249	5 766	6 327	6 895	7 433	-
40	-	-	5 611	6 021	6 554	7 172	7 839	8 515	-
50	-	-	-	-	7 575	8 214	8 941	9 720	-
60	-	-	-	-	-	-	10 313	11 157	-

**Current consumption in A**

5	-	10.87	11.09	11.31	11.53	11.74	11.91	12.04	-
10	-	10.67	10.90	11.15	11.42	11.68	11.92	12.13	-
15	-	10.55	10.80	11.08	11.39	11.70	12.01	12.31	-
20	-	10.53	10.79	11.10	11.44	11.81	12.19	12.56	-
30	-	10.74	11.03	11.39	11.81	12.28	12.78	13.31	-
40	-	-	11.60	12.01	12.49	13.06	13.68	14.35	-
50	-	-	-	-	13.48	14.13	14.87	15.68	-
60	-	-	-	-	-	-	16.32	17.27	-

**Mass flow in kg/h**

5	-	135	169	210	258	315	381	457	-
10	-	136	171	213	261	319	385	462	-
15	-	137	173	215	264	322	389	466	-
20	-	138	174	216	266	324	391	469	-
30	-	139	176	218	268	327	394	472	-
40	-	-	176	218	268	327	395	472	-
50	-	-	-	-	266	324	392	469	-
60	-	-	-	-	-	-	386	463	-

**Coefficient of performance (C.O.P.)**

5	-	2.26	2.60	2.99	3.46	4.03	4.76	5.74	-
10	-	2.04	2.36	2.70	3.10	3.57	4.15	4.89	-
15	-	1.84	2.14	2.45	2.80	3.20	3.67	4.26	-
20	-	1.65	1.94	2.23	2.54	2.88	3.28	3.75	-
30	-	1.30	1.55	1.81	2.06	2.33	2.63	2.97	-
40	-	-	1.20	1.41	1.63	1.85	2.09	2.34	-
50	-	-	-	-	1.23	1.41	1.60	1.81	-
60	-	-	-	-	-	-	1.17	1.34	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	6 707	W
Power input	5 611	W
Current consumption	11.60	A
Mass flow	176	kg/h
C.O.P.	1.20	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 60 Hz, Suction temp. = 18.3 °C**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	6 998	8 878	11 199	14 011	17 362	21 301	25 872	-
10	-	6 841	8 697	10 974	13 722	16 991	20 828	25 278	-
15	-	6 663	8 487	10 712	13 388	16 566	20 293	24 614	-
20	-	-	8 249	10 414	13 010	16 088	19 697	23 882	-
30	-	-	-	-	12 127	14 981	18 328	22 214	-
40	-	-	-	-	-	13 678	16 729	20 283	-
50	-	-	-	-	-	-	-	18 094	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	3 129	3 445	3 780	4 094	4 352	4 515	4 546	-
10	-	3 369	3 703	4 076	4 449	4 786	5 048	5 199	-
15	-	3 612	3 955	4 357	4 780	5 187	5 539	5 800	-
20	-	-	4 215	4 637	5 100	5 568	6 002	6 364	-
30	-	-	-	-	5 766	6 327	6 895	7 433	-
40	-	-	-	-	-	7 172	7 839	8 515	-
50	-	-	-	-	-	-	-	9 720	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	10.87	11.09	11.31	11.53	11.74	11.91	12.04	-
10	-	10.67	10.90	11.15	11.42	11.68	11.92	12.13	-
15	-	10.55	10.80	11.08	11.39	11.70	12.01	12.31	-
20	-	-	10.79	11.10	11.44	11.81	12.19	12.56	-
30	-	-	-	-	11.81	12.28	12.78	13.31	-
40	-	-	-	-	-	13.06	13.68	14.35	-
50	-	-	-	-	-	-	-	15.68	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	111	141	179	224	278	343	419	-
10	-	112	143	181	226	281	347	424	-
15	-	113	144	182	229	284	350	427	-
20	-	-	145	184	230	286	352	430	-
30	-	-	-	-	232	288	355	433	-
40	-	-	-	-	-	288	355	433	-
50	-	-	-	-	-	-	-	431	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	2.24	2.58	2.96	3.42	3.99	4.72	5.69	-
10	-	2.03	2.35	2.69	3.08	3.55	4.13	4.86	-
15	-	1.84	2.15	2.46	2.80	3.19	3.66	4.24	-
20	-	-	1.96	2.25	2.55	2.89	3.28	3.75	-
30	-	-	-	-	2.10	2.37	2.66	2.99	-
40	-	-	-	-	-	1.91	2.13	2.38	-
50	-	-	-	-	-	-	-	1.86	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	-	W
Power input	-	W
Current consumption	-	A
Mass flow	-	kg/h
C.O.P.	-	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 18.3 °C , Subcooling = 0 K

Tolerance according EN12900

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**Performance data at 50 Hz, with Liquid Injection, Superheat = 10 K, Subcooling = 5 K**
**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 318	9 280	11 702	14 636	18 131	22 234	26 983	-
10	-	7 117	9 051	11 424	14 291	17 701	21 702	26 336	-
15	-	6 895	8 790	11 107	13 897	17 214	21 106	25 616	-
20	-	6 651	8 501	10 751	13 457	16 673	20 447	24 825	-
30	-	6 108	7 839	9 932	12 443	15 430	18 944	23 035	-
40	-	5 500	7 076	8 977	11 261	13 984	17 205	20 976	-
50	-	4 835	6 224	7 899	9 921	12 348	15 241	18 659	-
60	-	-	-	-	-	-	13 063	16 095	-

**Power input in W**

5	-	3 129	3 445	3 780	4 094	4 352	4 515	4 546	-
10	-	3 369	3 703	4 076	4 449	4 786	5 048	5 199	-
15	-	3 612	3 955	4 357	4 780	5 187	5 539	5 800	-
20	-	3 873	4 215	4 637	5 100	5 568	6 002	6 364	-
30	-	4 501	4 815	5 249	5 766	6 327	6 895	7 433	-
40	-	5 362	5 611	6 021	6 554	7 172	7 839	8 515	-
50	-	6 566	6 713	7 062	7 575	8 214	8 941	9 720	-
60	-	-	-	-	-	-	10 313	11 157	-

**Current consumption in A**

5	-	11.94	12.18	12.42	12.66	12.89	13.08	13.22	-
10	-	11.71	11.97	12.25	12.54	12.82	13.09	13.32	-
15	-	11.58	11.86	12.17	12.50	12.85	13.19	13.52	-
20	-	11.56	11.85	12.19	12.57	12.97	13.38	13.80	-
30	-	11.80	12.11	12.51	12.97	13.48	14.03	14.61	-
40	-	12.41	12.74	13.18	13.72	14.34	15.02	15.76	-
50	-	13.37	13.72	14.20	14.80	15.52	16.32	17.21	-
60	-	-	-	-	-	-	17.92	18.96	-

**Mass flow in kg/h**

5	-	137	172	213	262	319	386	463	-
10	-	139	174	216	265	323	391	468	-
15	-	140	176	218	268	327	395	473	-
20	-	141	177	220	270	329	398	476	-
30	-	142	179	222	273	333	402	481	-
40	-	143	179	223	274	333	402	482	-
50	-	143	179	221	272	331	400	479	-
60	-	-	-	-	-	-	395	474	-

**Coefficient of performance (C.O.P.)**

5	-	2.34	2.69	3.10	3.57	4.17	4.92	5.94	-
10	-	2.11	2.44	2.80	3.21	3.70	4.30	5.07	-
15	-	1.91	2.22	2.55	2.91	3.32	3.81	4.42	-
20	-	1.72	2.02	2.32	2.64	2.99	3.41	3.90	-
30	-	1.36	1.63	1.89	2.16	2.44	2.75	3.10	-
40	-	1.03	1.26	1.49	1.72	1.95	2.19	2.46	-
50	-	0.74	0.93	1.12	1.31	1.50	1.70	1.92	-
60	-	-	-	-	-	-	1.27	1.44	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	7 076	W
Power input	5 611	W
Current consumption	12.74	A
Mass flow	179	kg/h
C.O.P.	1.26	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 50 Hz, with Liquid Injection, Suction temp. = 18.3 °C,  
Subcooling = 5 K**
**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 218	9 158	11 552	14 454	17 913	21 980	26 700	-
10	-	7 066	8 984	11 336	14 176	17 555	21 523	26 126	-
15	-	6 893	8 781	11 083	13 854	17 144	21 004	25 482	-
20	-	6 702	8 550	10 795	13 487	16 681	20 426	24 770	-
30	-	6 267	8 013	10 115	12 627	15 602	19 091	23 145	-
40	-	5 772	7 381	9 308	11 606	14 329	17 530	21 260	-
50	-	-	-	-	-	12 871	15 751	19 126	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	3 129	3 445	3 780	4 094	4 352	4 515	4 546	-
10	-	3 369	3 703	4 076	4 449	4 786	5 048	5 199	-
15	-	3 612	3 955	4 357	4 780	5 187	5 539	5 800	-
20	-	3 873	4 215	4 637	5 100	5 568	6 002	6 364	-
30	-	4 501	4 815	5 249	5 766	6 327	6 895	7 433	-
40	-	5 362	5 611	6 021	6 554	7 172	7 839	8 515	-
50	-	-	-	-	-	8 214	8 941	9 720	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	11.94	12.18	12.42	12.66	12.89	13.08	13.22	-
10	-	11.71	11.97	12.25	12.54	12.82	13.09	13.32	-
15	-	11.58	11.86	12.17	12.50	12.85	13.19	13.52	-
20	-	11.56	11.85	12.19	12.57	12.97	13.38	13.80	-
30	-	11.80	12.11	12.51	12.97	13.48	14.03	14.61	-
40	-	12.41	12.74	13.18	13.72	14.34	15.02	15.76	-
50	-	-	-	-	-	15.52	16.32	17.21	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	113	144	181	227	282	347	425	-
10	-	114	146	184	230	285	352	430	-
15	-	115	147	186	232	288	355	434	-
20	-	115	148	187	234	291	358	437	-
30	-	116	149	189	237	294	361	441	-
40	-	117	150	189	237	294	362	442	-
50	-	-	-	-	-	292	360	440	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	2.31	2.66	3.06	3.53	4.12	4.87	5.87	-
10	-	2.10	2.43	2.78	3.19	3.67	4.26	5.03	-
15	-	1.91	2.22	2.54	2.90	3.31	3.79	4.39	-
20	-	1.73	2.03	2.33	2.64	3.00	3.40	3.89	-
30	-	1.39	1.66	1.93	2.19	2.47	2.77	3.11	-
40	-	1.08	1.32	1.55	1.77	2.00	2.24	2.50	-
50	-	-	-	-	-	1.57	1.76	1.97	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	8 566	W
Power input	5 920	W
Current consumption	13.07	A
Mass flow	175	kg/h
C.O.P.	1.45	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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Performance data at 60 Hz, EN 12900 rating conditions, Superheat = 10 K

**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 525	7 164	9 223	11 754	14 809	18 441	22 704	-
10	-	5 331	6 916	8 901	11 338	14 279	17 777	21 885	-
15	-	5 129	6 656	8 562	10 900	13 722	17 081	21 029	-
20	-	4 919	6 383	8 206	10 440	13 139	16 354	20 138	-
30	-	4 478	5 801	7 444	9 458	11 895	14 808	18 249	-
40	-	-	5 175	6 618	8 393	10 550	13 142	16 220	-
50	-	-	-	-	7 247	9 105	11 355	14 051	-
60	-	-	-	-	-	-	9 442	11 732	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	3 182	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	3 646	4 021	4 417	4 810	5 179	5 499	5 750	-
40	-	-	4 684	5 114	5 574	6 044	6 501	6 921	-
50	-	-	-	-	6 546	7 111	7 697	8 280	-
60	-	-	-	-	-	-	9 114	9 854	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	12.72	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	12.22	12.35	12.60	12.91	13.23	13.50	13.66	-
40	-	-	12.64	12.98	13.42	13.92	14.41	14.83	-
50	-	-	-	-	14.46	15.05	15.68	16.29	-
60	-	-	-	-	-	-	17.32	18.04	-

**Mass flow in kg/h**

5	-	108	138	174	218	270	331	402	-
10	-	108	138	175	219	270	332	403	-
15	-	109	139	175	219	271	332	403	-
20	-	109	139	175	219	270	331	402	-
30	-	109	139	175	218	269	329	398	-
40	-	-	139	174	215	265	324	392	-
50	-	-	-	-	212	260	317	384	-
60	-	-	-	-	-	-	309	373	-

**Coefficient of performance (C.O.P.)**

5	-	1.97	2.28	2.69	3.24	3.99	5.02	6.54	-
10	-	1.84	2.13	2.50	2.99	3.62	4.47	5.66	-
15	-	1.70	1.97	2.31	2.73	3.27	3.97	4.90	-
20	-	1.55	1.80	2.10	2.47	2.93	3.51	4.25	-
30	-	1.23	1.44	1.69	1.97	2.30	2.69	3.17	-
40	-	-	1.10	1.29	1.51	1.75	2.02	2.34	-
50	-	-	-	-	1.11	1.28	1.48	1.70	-
60	-	-	-	-	-	-	1.04	1.19	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	5 175	W
Power input	4 684	W
Current consumption	12.64	A
Mass flow	139	kg/h
C.O.P.	1.10	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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Performance data at 60 Hz, Suction temp. = 18.3 °C

R449A

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

Cooling capacity in W

5	-	5 484	7 111	9 151	11 659	14 686	18 288	22 522	-
10	-	5 329	6 908	8 881	11 301	14 220	17 690	21 769	-
15	-	5 167	6 694	8 595	10 923	13 728	17 062	20 981	-
20	-	-	6 468	8 293	10 524	13 210	16 404	20 159	-
30	-	-	-	-	9 665	12 101	14 998	18 409	-
40	-	-	-	-	-	10 893	13 475	16 523	-
50	-	-	-	-	-	-	-	14 498	-
60	-	-	-	-	-	-	-	-	-

Power input in W

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	-	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	-	-	-	4 810	5 179	5 499	5 750	-
40	-	-	-	-	-	6 044	6 501	6 921	-
50	-	-	-	-	-	-	-	8 280	-
60	-	-	-	-	-	-	-	-	-

Current consumption in A

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	-	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	-	-	-	12.91	13.23	13.50	13.66	-
40	-	-	-	-	-	13.92	14.41	14.83	-
50	-	-	-	-	-	-	-	16.29	-
60	-	-	-	-	-	-	-	-	-

Mass flow in kg/h

5	-	88	115	148	189	238	298	369	-
10	-	89	115	149	189	239	298	370	-
15	-	89	116	149	190	239	298	370	-
20	-	-	116	149	189	239	298	369	-
30	-	-	-	-	189	237	296	366	-
40	-	-	-	-	-	234	291	360	-
50	-	-	-	-	-	-	-	352	-
60	-	-	-	-	-	-	-	-	-

Coefficient of performance (C.O.P.)

5	-	1.96	2.26	2.67	3.21	3.95	4.98	6.49	-
10	-	1.84	2.13	2.50	2.98	3.61	4.45	5.63	-
15	-	1.71	1.98	2.31	2.74	3.27	3.96	4.89	-
20	-	-	1.82	2.12	2.49	2.94	3.52	4.25	-
30	-	-	-	-	2.01	2.34	2.73	3.20	-
40	-	-	-	-	-	1.80	2.07	2.39	-
50	-	-	-	-	-	-	-	1.75	-
60	-	-	-	-	-	-	-	-	-

Nominal performance at to = -31.7 °C, tc = 40.6 °C

Cooling capacity	-	W
Power input	-	W
Current consumption	-	A
Mass flow	-	kg/h
C.O.P.	-	

Pressure switch settings

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

Sound power data

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 18.3 °C , Subcooling = 0 K

Tolerance according EN12900

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Performance data at 50 Hz, EN 12900 rating conditions, Suction temp. = 20 °C

**R452A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-45	-40	-35	-30	-25	-20	-15	-10

**Cooling capacity in W**

30	-	5 934	7 542	9 463	11 743	14 427	17 559	21 186	-
35	-	-	7 106	8 924	11 080	13 618	16 586	20 027	-
40	-	-	-	8 352	10 375	12 761	15 554	18 801	-
45	-	-	-	-	9 628	11 853	14 464	17 508	-
50	-	-	-	-	-	10 895	13 316	16 149	-
55	-	-	-	-	-	9 886	12 109	14 723	-
60	-	-	-	-	-	-	10 843	13 229	-

**Power input in W**

30	-	4 109	4 587	4 971	5 295	5 597	5 913	6 278	-
35	-	-	4 848	5 323	5 720	6 073	6 420	6 797	-
40	-	-	-	5 669	6 157	6 582	6 981	7 389	-
45	-	-	-	-	6 595	7 112	7 582	8 042	-
50	-	-	-	-	-	7 652	8 213	8 744	-
55	-	-	-	-	-	8 189	8 862	9 484	-
60	-	-	-	-	-	-	9 516	10 250	-

**Current consumption in A**

30	-	12.36	12.62	12.90	13.19	13.49	13.79	14.08	-
35	-	-	12.84	13.18	13.53	13.89	14.23	14.57	-
40	-	-	-	13.51	13.93	14.36	14.77	15.16	-
45	-	-	-	-	14.40	14.90	15.39	15.86	-
50	-	-	-	-	-	15.53	16.12	16.67	-
55	-	-	-	-	-	16.25	16.95	17.60	-
60	-	-	-	-	-	-	17.89	18.66	-

**Mass flow in kg/h**

30	-	142	181	228	284	351	430	523	-
35	-	-	180	226	282	349	428	521	-
40	-	-	-	224	280	346	425	518	-
45	-	-	-	-	276	342	421	514	-
50	-	-	-	-	-	338	416	508	-
55	-	-	-	-	-	332	410	502	-
60	-	-	-	-	-	-	403	494	-

**Coefficient of performance (C.O.P.)**

30	-	1.44	1.64	1.90	2.22	2.58	2.97	3.37	-
35	-	-	1.47	1.68	1.94	2.24	2.58	2.95	-
40	-	-	-	1.47	1.69	1.94	2.23	2.54	-
45	-	-	-	-	1.46	1.67	1.91	2.18	-
50	-	-	-	-	-	1.42	1.62	1.85	-
55	-	-	-	-	-	1.21	1.37	1.55	-
60	-	-	-	-	-	-	1.14	1.29	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	-	W
Power input	-	W
Current consumption	-	A
Mass flow	-	kg/h
C.O.P.	-	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 20 °C , Subcooling = 0 K

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R452A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-45	-40	-35	-30	-25	-20	-15	-10

**Cooling capacity in W**

30	-	5 364	6 902	8 764	11 002	13 670	16 820	20 507	-
35	-	4 949	6 393	8 141	10 246	12 761	15 741	19 241	-
40	-	4 518	5 861	7 487	9 450	11 804	14 605	17 908	-
45	-	4 072	5 305	6 801	8 614	10 798	13 410	16 509	-
50	-	-	4 725	6 084	7 738	9 743	12 157	15 041	-
55	-	-	-	5 333	6 819	8 636	10 843	13 502	-
60	-	-	-	-	-	7 472	9 460	11 885	-

**Power input in W**

30	-	4 109	4 587	4 971	5 295	5 597	5 913	6 278	-
35	-	4 258	4 848	5 323	5 720	6 073	6 420	6 797	-
40	-	4 359	5 082	5 669	6 157	6 582	6 981	7 389	-
45	-	4 401	5 276	5 995	6 595	7 112	7 582	8 042	-
50	-	-	5 420	6 291	7 023	7 652	8 213	8 744	-
55	-	-	-	6 545	7 428	8 189	8 862	9 484	-
60	-	-	-	-	-	8 711	9 516	10 250	-

**Current consumption in A**

30	-	12.36	12.62	12.90	13.19	13.49	13.79	14.08	-
35	-	12.51	12.84	13.18	13.53	13.89	14.23	14.57	-
40	-	12.66	13.08	13.51	13.93	14.36	14.77	15.16	-
45	-	12.83	13.35	13.88	14.40	14.90	15.39	15.86	-
50	-	-	13.66	14.30	14.92	15.53	16.12	16.67	-
55	-	-	-	14.77	15.53	16.25	16.95	17.60	-
60	-	-	-	-	-	17.06	17.89	18.66	-

**Mass flow in kg/h**

30	-	175	219	271	331	402	483	576	-
35	-	174	217	269	329	399	481	573	-
40	-	171	215	266	326	396	477	570	-
45	-	168	211	262	322	392	473	565	-
50	-	-	207	258	317	386	467	559	-
55	-	-	-	252	311	380	460	552	-
60	-	-	-	-	-	373	452	543	-

**Coefficient of performance (C.O.P.)**

30	-	1.31	1.50	1.76	2.08	2.44	2.84	3.27	-
35	-	1.16	1.32	1.53	1.79	2.10	2.45	2.83	-
40	-	1.04	1.15	1.32	1.53	1.79	2.09	2.42	-
45	-	0.93	1.01	1.13	1.31	1.52	1.77	2.05	-
50	-	-	0.87	0.97	1.10	1.27	1.48	1.72	-
55	-	-	-	0.81	0.92	1.05	1.22	1.42	-
60	-	-	-	-	-	0.86	0.99	1.16	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	5 861	W
Power input	5 082	W
Current consumption	13.08	A
Mass flow	215	kg/h
C.O.P.	1.15	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions, Suction temp. = 20 °C**
**R452A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-45	-40	-35	-30	-25	-20	-15	-10

**Cooling capacity in W**

30	-	6 451	8 347	10 647	13 402	16 659	20 465	24 867	-
35	-	-	7 951	10 109	12 687	15 734	19 300	23 430	-
40	-	-	-	9 559	11 953	14 784	18 101	21 952	-
45	-	-	-	-	11 200	13 806	16 867	20 432	-
50	-	-	-	-	-	12 800	15 598	18 869	-
55	-	-	-	-	-	11 767	14 294	17 267	-
60	-	-	-	-	-	-	12 962	15 631	-

**Power input in W**

30	-	4 794	5 309	5 803	6 281	6 745	7 201	7 653	-
35	-	-	5 693	6 245	6 776	7 292	7 795	8 292	-
40	-	-	-	6 729	7 322	7 896	8 455	9 003	-
45	-	-	-	-	7 922	8 562	9 183	9 790	-
50	-	-	-	-	-	9 294	9 985	10 659	-
55	-	-	-	-	-	10 096	10 864	11 612	-
60	-	-	-	-	-	-	11 825	12 654	-

**Current consumption in A**

30	-	10.97	11.35	11.75	12.19	12.66	13.17	13.73	-
35	-	-	11.63	12.10	12.59	13.12	13.67	14.27	-
40	-	-	-	12.55	13.10	13.67	14.26	14.88	-
45	-	-	-	-	13.75	14.35	14.97	15.61	-
50	-	-	-	-	-	15.22	15.86	16.51	-
55	-	-	-	-	-	16.31	16.97	17.62	-
60	-	-	-	-	-	-	18.33	18.98	-

**Mass flow in kg/h**

30	-	155	201	257	324	405	501	614	-
35	-	-	201	256	323	403	498	609	-
40	-	-	-	256	322	401	495	605	-
45	-	-	-	-	321	399	491	600	-
50	-	-	-	-	-	397	488	595	-
55	-	-	-	-	-	395	485	590	-
60	-	-	-	-	-	-	482	585	-

**Coefficient of performance (C.O.P.)**

30	-	1.35	1.57	1.83	2.13	2.47	2.84	3.25	-
35	-	-	1.40	1.62	1.87	2.16	2.48	2.83	-
40	-	-	-	1.42	1.63	1.87	2.14	2.44	-
45	-	-	-	-	1.41	1.61	1.84	2.09	-
50	-	-	-	-	-	1.38	1.56	1.77	-
55	-	-	-	-	-	1.17	1.32	1.49	-
60	-	-	-	-	-	-	1.10	1.24	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	-	W
Power input	-	W
Current consumption	-	A
Mass flow	-	kg/h
C.O.P.	-	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 20 °C , Subcooling = 0 K

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R452A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-45	-40	-35	-30	-25	-20	-15	-10

**Cooling capacity in W**

30	-	5 832	7 638	9 860	12 556	15 785	19 604	24 069	-
35	-	5 467	7 153	9 222	11 732	14 744	18 318	22 510	-
40	-	5 100	6 660	8 570	10 888	13 676	16 996	20 910	-
45	-	4 729	6 157	7 900	10 020	12 578	15 638	19 265	-
50	-	-	5 639	7 211	9 126	11 447	14 240	17 574	-
55	-	-	-	6 496	8 201	10 279	12 800	15 835	-
60	-	-	-	-	-	9 067	11 310	14 043	-

**Power input in W**

30	-	4 794	5 309	5 803	6 281	6 745	7 201	7 653	-
35	-	5 116	5 693	6 245	6 776	7 292	7 795	8 292	-
40	-	5 466	6 111	6 729	7 322	7 896	8 455	9 003	-
45	-	5 849	6 570	7 259	7 922	8 562	9 183	9 790	-
50	-	-	7 072	7 841	8 581	9 294	9 985	10 659	-
55	-	-	-	8 479	9 302	10 096	10 864	11 612	-
60	-	-	-	-	-	10 972	11 825	12 654	-

**Current consumption in A**

30	-	10.97	11.35	11.75	12.19	12.66	13.17	13.73	-
35	-	11.17	11.63	12.10	12.59	13.12	13.67	14.27	-
40	-	11.49	12.01	12.55	13.10	13.67	14.26	14.88	-
45	-	11.97	12.56	13.15	13.75	14.35	14.97	15.61	-
50	-	-	13.30	13.95	14.58	15.22	15.86	16.51	-
55	-	-	-	14.98	15.65	16.31	16.97	17.62	-
60	-	-	-	-	-	17.66	18.33	18.98	-

**Mass flow in kg/h**

30	-	190	243	305	378	463	562	675	-
35	-	192	243	304	376	461	559	670	-
40	-	193	244	304	375	459	555	665	-
45	-	196	246	304	374	456	551	660	-
50	-	-	248	305	374	454	548	655	-
55	-	-	-	307	374	452	544	649	-
60	-	-	-	-	-	451	541	644	-

**Coefficient of performance (C.O.P.)**

30	-	1.22	1.44	1.70	2.00	2.34	2.72	3.14	-
35	-	1.07	1.26	1.48	1.73	2.02	2.35	2.71	-
40	-	0.93	1.09	1.27	1.49	1.73	2.01	2.32	-
45	-	0.81	0.94	1.09	1.26	1.47	1.70	1.97	-
50	-	-	0.80	0.92	1.06	1.23	1.43	1.65	-
55	-	-	-	0.77	0.88	1.02	1.18	1.36	-
60	-	-	-	-	-	0.83	0.96	1.11	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	6 660	W
Power input	6 111	W
Current consumption	12.01	A
Mass flow	244	kg/h
C.O.P.	1.09	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

Performance data at 50 Hz, with Economizer cycle, Superheat = 10 K, Subcooling = 5 K

R404A

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

Cooling capacity in W

5	-	10 700	12 704	-	-	-	-	-	-
10	-	10 158	12 133	14 527	17 368	-	-	-	-
15	-	9 716	11 664	14 005	16 765	19 966	-	-	-
20	-	9 338	11 254	13 539	16 221	19 321	22 860	26 849	-
30	-	8 712	10 543	12 701	15 210	18 095	21 379	25 080	-
40	-	8 188	9 907	11 907	14 216	16 858	19 855	23 231	-
50	-	-	9 264	11 076	13 151	15 516	18 193	21 207	-
60	-	-	-	-	-	-	16 298	18 911	-

Power input in W

5	-	1 588	2 154	-	-	-	-	-	-
10	-	4 292	4 654	5 044	5 446	-	-	-	-
15	-	4 322	4 627	4 951	5 276	5 584	-	-	-
20	-	4 500	4 772	5 055	5 332	5 585	5 794	5 940	-
30	-	5 192	5 473	5 752	6 010	6 229	6 391	6 476	-
40	-	6 207	6 597	6 970	7 309	7 594	7 806	7 927	-
50	-	-	7 994	8 565	9 085	9 534	9 894	10 145	-
60	-	-	-	-	-	-	12 502	12 979	-

Current consumption in A

5	-	12.08	12.44	-	-	-	-	-	-
10	-	12.12	12.40	12.72	13.06	-	-	-	-
15	-	12.24	12.46	12.72	12.99	13.27	-	-	-
20	-	12.43	12.63	12.86	13.10	13.32	13.52	13.67	-
30	-	13.03	13.28	13.55	13.80	14.03	14.21	14.32	-
40	-	13.87	14.31	14.74	15.14	15.50	15.79	16.00	-
50	-	-	15.68	16.40	17.08	17.70	18.23	18.66	-
60	-	-	-	-	-	-	21.49	22.28	-

Mass flow in kg/h

5	-	192	239	-	-	-	-	-	-
10	-	191	238	294	363	-	-	-	-
15	-	191	237	293	360	440	-	-	-
20	-	191	237	292	358	436	527	632	-
30	-	189	234	288	352	427	514	614	-
40	-	185	230	282	344	415	498	594	-
50	-	-	221	272	331	400	479	570	-
60	-	-	-	-	-	-	454	540	-

Coefficient of performance (C.O.P.)

5	-	6.74	5.90	-	-	-	-	-	-
10	-	2.37	2.61	2.88	3.19	-	-	-	-
15	-	2.25	2.52	2.83	3.18	3.58	-	-	-
20	-	2.07	2.36	2.68	3.04	3.46	3.95	4.52	-
30	-	1.68	1.93	2.21	2.53	2.90	3.35	3.87	-
40	-	1.32	1.50	1.71	1.94	2.22	2.54	2.93	-
50	-	-	1.16	1.29	1.45	1.63	1.84	2.09	-
60	-	-	-	-	-	-	1.30	1.46	-

Nominal performance at to = -35 °C, tc = 40 °C

Cooling capacity	9 907	W
Power input	6 597	W
Current consumption	14.31	A
Mass flow	230	kg/h
C.O.P.	1.50	

Pressure switch settings

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

Sound power data

Sound power level	85	dB(A)
With acoustic hood	77	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 50 Hz, with Economizer cycle, Suction temp. = 18.3 °C, Subcooling = 5 K**

**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	10 570	12 612	-	-	-	-	-	-
10	-	10 178	12 210	14 643	17 503	-	-	-	-
15	-	9 830	11 845	14 238	17 032	20 253	-	-	-
20	-	9 519	11 509	13 855	16 580	19 707	23 257	27 242	-
30	-	8 978	10 897	13 127	15 692	18 614	21 915	25 614	-
40	-	8 505	10 321	12 404	14 778	17 464	20 486	23 863	-
50	-	-	9 733	11 637	13 786	16 204	18 913	21 934	-
60	-	-	-	-	-	-	17 147	19 776	-

**Power input in W**

5	-	3 967	4 376	-	-	-	-	-	-
10	-	4 180	4 568	4 975	5 388	-	-	-	-
15	-	4 233	4 564	4 906	5 244	5 564	-	-	-
20	-	4 413	4 712	5 016	5 308	5 573	5 795	5 955	-
30	-	5 077	5 391	5 694	5 971	6 206	6 383	6 485	-
40	-	6 023	6 454	6 860	7 225	7 533	7 768	7 914	-
50	-	-	7 756	8 367	8 922	9 406	9 802	10 094	-
60	-	-	-	-	-	-	12 340	12 880	-

**Current consumption in A**

5	-	12.08	12.44	-	-	-	-	-	-
10	-	12.12	12.40	12.72	13.06	-	-	-	-
15	-	12.24	12.46	12.72	12.99	13.27	-	-	-
20	-	12.43	12.63	12.86	13.10	13.32	13.52	13.67	-
30	-	13.03	13.28	13.55	13.80	14.03	14.21	14.32	-
40	-	13.87	14.31	14.74	15.14	15.50	15.79	16.00	-
50	-	-	15.68	16.40	17.08	17.70	18.23	18.66	-
60	-	-	-	-	-	-	21.49	22.28	-

**Mass flow in kg/h**

5	-	156	198	-	-	-	-	-	-
10	-	156	197	249	312	-	-	-	-
15	-	156	197	248	310	386	-	-	-
20	-	155	196	247	308	382	471	577	-
30	-	154	195	244	303	374	460	561	-
40	-	150	191	239	296	364	446	542	-
50	-	-	184	230	285	351	428	520	-
60	-	-	-	-	-	-	406	493	-

**Coefficient of performance (C.O.P.)**

5	-	2.66	2.88	-	-	-	-	-	-
10	-	2.43	2.67	2.94	3.25	-	-	-	-
15	-	2.32	2.60	2.90	3.25	3.64	-	-	-
20	-	2.16	2.44	2.76	3.12	3.54	4.01	4.57	-
30	-	1.77	2.02	2.31	2.63	3.00	3.43	3.95	-
40	-	1.41	1.60	1.81	2.05	2.32	2.64	3.02	-
50	-	-	1.25	1.39	1.55	1.72	1.93	2.17	-
60	-	-	-	-	-	-	1.39	1.54	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	11 624	W
Power input	6 805	W
Current consumption	14.68	A
Mass flow	221	kg/h
C.O.P.	1.71	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

**Sound power data**

Sound power level	85	dB(A)
With acoustic hood	77	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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Performance data at 60 Hz, with Economizer cycle, Superheat = 10 K, Subcooling = 5 K

R404A

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

Cooling capacity in W

5	-	9 921	13 154	-	-	-	-	-	-
10	-	10 406	13 430	16 614	20 210	-	-	-	-
15	-	10 679	13 530	16 510	19 865	23 837	-	-	-
20	-	10 759	13 460	16 261	19 407	23 136	27 684	33 279	-
30	-	10 462	12 919	15 419	18 202	21 505	25 565	30 621	-
40	-	9 760	12 041	14 304	16 787	19 728	23 362	27 930	-
50	-	-	11 054	13 136	15 377	18 012	21 276	25 410	-
60	-	-	-	-	-	-	19 501	23 251	-

Power input in W

5	-	1 269	1 784	-	-	-	-	-	-
10	-	4 141	4 571	4 950	5 315	-	-	-	-
15	-	4 680	5 070	5 398	5 700	6 010	-	-	-
20	-	5 190	5 563	5 865	6 133	6 399	6 695	7 053	-
30	-	6 175	6 590	6 917	7 191	7 444	7 709	8 018	-
40	-	7 250	7 807	8 256	8 632	8 968	9 296	9 649	-
50	-	-	9 374	10 043	10 617	11 131	11 616	12 104	-
60	-	-	-	-	-	-	14 826	15 538	-

Current consumption in A

5	-	6.24	6.47	-	-	-	-	-	-
10	-	8.29	8.49	8.78	9.13	-	-	-	-
15	-	9.80	10.00	10.27	10.58	10.91	-	-	-
20	-	10.89	11.10	11.36	11.66	11.96	12.24	12.46	-
30	-	12.22	12.49	12.80	13.12	13.41	13.65	13.82	-
40	-	13.15	13.55	13.97	14.36	14.71	14.99	15.17	-
50	-	-	15.15	15.73	16.27	16.74	17.12	17.37	-
60	-	-	-	-	-	-	20.91	21.29	-

Mass flow in kg/h

5	-	231	285	-	-	-	-	-	-
10	-	231	286	350	425	-	-	-	-
15	-	231	286	351	427	515	-	-	-
20	-	231	287	351	427	516	617	733	-
30	-	229	285	350	426	514	615	730	-
40	-	226	281	346	421	508	608	722	-
50	-	-	275	338	412	498	597	709	-
60	-	-	-	-	-	-	580	690	-

Coefficient of performance (C.O.P.)

5	-	7.82	7.37	-	-	-	-	-	-
10	-	2.51	2.94	3.36	3.80	-	-	-	-
15	-	2.28	2.67	3.06	3.49	3.97	-	-	-
20	-	2.07	2.42	2.77	3.16	3.62	4.13	4.72	-
30	-	1.69	1.96	2.23	2.53	2.89	3.32	3.82	-
40	-	1.35	1.54	1.73	1.94	2.20	2.51	2.89	-
50	-	-	1.18	1.31	1.45	1.62	1.83	2.10	-
60	-	-	-	-	-	-	1.32	1.50	-

Nominal performance at to = -35 °C, tc = 40 °C

Cooling capacity	12 041	W
Power input	7 807	W
Current consumption	13.55	A
Mass flow	281	kg/h
C.O.P.	1.54	

Pressure switch settings

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

Sound power data

Sound power level	86	dB(A)
With acoustic hood	78	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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Performance data at 60 Hz, with Economizer cycle, Suction temp. = 18.3 °C, Subcooling = 5 K

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Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

Cooling capacity in W

5	-	9 800	13 060	-	-	-	-	-	-
10	-	10 427	13 515	16 746	20 366	-	-	-	-
15	-	10 805	13 740	16 784	20 183	24 179	-	-	-
20	-	10 968	13 766	16 641	19 837	23 598	28 164	33 766	-
30	-	10 781	13 352	15 937	18 779	22 122	26 207	31 272	-
40	-	10 138	12 545	14 901	17 451	20 438	24 104	28 689	-
50	-	-	11 613	13 801	16 119	18 811	22 118	26 282	-
60	-	-	-	-	-	-	20 517	24 314	-

Power input in W

5	-	3 169	3 625	-	-	-	-	-	-
10	-	4 033	4 486	4 882	5 258	-	-	-	-
15	-	4 584	5 000	5 349	5 666	5 989	-	-	-
20	-	5 089	5 493	5 819	6 104	6 385	6 696	7 072	-
30	-	6 038	6 491	6 848	7 144	7 416	7 700	8 030	-
40	-	7 035	7 638	8 125	8 532	8 895	9 251	9 634	-
50	-	-	9 094	9 811	10 427	10 981	11 508	12 042	-
60	-	-	-	-	-	-	14 635	15 419	-

Current consumption in A

5	-	6.24	6.47	-	-	-	-	-	-
10	-	8.29	8.49	8.78	9.13	-	-	-	-
15	-	9.80	10.00	10.27	10.58	10.91	-	-	-
20	-	10.89	11.10	11.36	11.66	11.96	12.24	12.46	-
30	-	12.22	12.49	12.80	13.12	13.41	13.65	13.82	-
40	-	13.15	13.55	13.97	14.36	14.71	14.99	15.17	-
50	-	-	15.15	15.73	16.27	16.74	17.12	17.37	-
60	-	-	-	-	-	-	20.91	21.29	-

Mass flow in kg/h

5	-	188	236	-	-	-	-	-	-
10	-	188	237	296	366	-	-	-	-
15	-	188	238	297	367	452	-	-	-
20	-	188	238	297	368	452	552	669	-
30	-	187	236	296	367	451	550	667	-
40	-	184	233	292	362	446	544	659	-
50	-	-	228	286	355	437	534	647	-
60	-	-	-	-	-	-	519	630	-

Coefficient of performance (C.O.P.)

5	-	3.09	3.60	-	-	-	-	-	-
10	-	2.59	3.01	3.43	3.87	-	-	-	-
15	-	2.36	2.75	3.14	3.56	4.04	-	-	-
20	-	2.15	2.51	2.86	3.25	3.70	4.21	4.77	-
30	-	1.79	2.06	2.33	2.63	2.98	3.40	3.89	-
40	-	1.44	1.64	1.83	2.05	2.30	2.61	2.98	-
50	-	-	1.28	1.41	1.55	1.71	1.92	2.18	-
60	-	-	-	-	-	-	1.40	1.58	-

Nominal performance at to = -31.7 °C, tc = 40.6 °C

Cooling capacity	14 028	W
Power input	8 055	W
Current consumption	13.90	A
Mass flow	271	kg/h
C.O.P.	1.74	

Pressure switch settings

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	0.15	bar(g)

Sound power data

Sound power level	86	dB(A)
With acoustic hood	78	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions: Suction gas temperature = 18.3 °C, Subcooling = 5 K. Tolerance according to EN12900. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.



Performance data at 50 Hz, with Liquid Injection, Superheat = 10 K, Subcooling = 5 K

R404A

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

Cooling capacity in W

5	-	7 692	9 803	12 379	15 475	19 146	23 447	28 437	-
10	-	7 318	9 361	11 847	14 831	18 366	22 509	27 316	-
15	-	6 929	8 897	11 286	14 150	17 542	21 519	26 135	-
20	-	6 528	8 414	10 698	13 434	16 676	20 478	24 897	-
30	-	5 692	7 392	9 445	11 904	14 823	18 255	22 255	-
40	-	4 823	6 307	8 099	10 252	12 819	15 851	19 402	-
50	-	3 930	5 169	6 672	8 491	10 675	13 277	16 349	-
60	-	3 016	-	-	6 624	8 395	10 535	13 093	-

Power input in W

5	-	3 231	3 487	3 698	3 824	3 825	3 660	3 289	-
10	-	3 440	3 731	4 000	4 207	4 311	4 273	4 052	-
15	-	3 652	3 967	4 282	4 558	4 755	4 832	4 749	-
20	-	3 885	4 212	4 562	4 896	5 173	5 353	5 396	-
30	-	4 481	4 796	5 181	5 595	5 997	6 349	6 609	-
40	-	5 362	5 619	5 991	6 438	6 920	7 397	7 827	-
50	-	6 662	6 815	7 128	7 562	8 076	8 631	9 185	-
60	-	8 518	-	-	9 101	9 600	10 186	10 817	-

Current consumption in A

5	-	11.49	11.73	11.88	11.94	11.91	11.78	11.56	-
10	-	11.74	11.99	12.18	12.30	12.35	12.32	12.22	-
15	-	11.94	12.21	12.43	12.60	12.72	12.79	12.80	-
20	-	12.13	12.40	12.65	12.87	13.07	13.23	13.35	-
30	-	12.56	12.83	13.12	13.43	13.75	14.07	14.40	-
40	-	13.22	13.48	13.80	14.17	14.59	15.06	15.58	-
50	-	14.33	14.55	14.88	15.29	15.80	16.40	17.09	-
60	-	16.09	-	-	17.01	17.59	18.30	19.13	-

Mass flow in kg/h

5	-	182	228	282	346	419	504	602	-
10	-	182	228	283	346	420	506	603	-
15	-	181	228	282	346	421	506	603	-
20	-	180	227	282	346	420	505	603	-
30	-	178	224	279	343	417	502	599	-
40	-	174	220	275	338	411	495	591	-
50	-	170	215	269	331	403	486	580	-
60	-	166	-	-	322	392	473	566	-

Coefficient of performance (C.O.P.)

5	-	2.38	2.81	3.35	4.05	5.01	6.41	8.64	-
10	-	2.13	2.51	2.96	3.53	4.26	5.27	6.74	-
15	-	1.90	2.24	2.64	3.10	3.69	4.45	5.50	-
20	-	1.68	2.00	2.35	2.74	3.22	3.83	4.61	-
30	-	1.27	1.54	1.82	2.13	2.47	2.88	3.37	-
40	-	0.90	1.12	1.35	1.59	1.85	2.14	2.48	-
50	-	0.59	0.76	0.94	1.12	1.32	1.54	1.78	-
60	-	0.35	-	-	0.73	0.87	1.03	1.21	-

Nominal performance at to = -35 °C, tc = 40 °C

Cooling capacity	6 307	W
Power input	5 619	W
Current consumption	13.48	A
Mass flow	220	kg/h
C.O.P.	1.12	

Pressure switch settings

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

Sound power data

Sound power level	85	dB(A)
With acoustic hood	77	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 50 Hz, with Liquid Injection, Suction temp. = 18.3 °C, Subcooling = 5 K**

**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 935	10 062	12 644	15 731	19 374	23 627	28 550	-
10	-	7 625	9 696	12 198	15 181	18 695	22 793	27 531	-
15	-	7 302	9 308	11 724	14 596	17 974	21 909	26 455	-
20	-	6 966	8 901	11 223	13 977	17 211	20 975	25 322	-
30	-	6 261	8 033	10 144	12 640	15 566	18 968	22 894	-
40	-	5 521	7 100	8 973	11 183	13 772	16 782	20 257	-
50	-	-	6 116	7 721	9 614	11 837	14 427	17 422	-
60	-	-	-	-	-	-	11 912	14 395	-

**Power input in W**

5	-	3 231	3 487	3 698	3 824	3 825	3 660	3 289	-
10	-	3 440	3 731	4 000	4 207	4 311	4 273	4 052	-
15	-	3 652	3 967	4 282	4 558	4 755	4 832	4 749	-
20	-	3 885	4 212	4 562	4 896	5 173	5 353	5 396	-
30	-	4 481	4 796	5 181	5 595	5 997	6 349	6 609	-
40	-	5 362	5 619	5 991	6 438	6 920	7 397	7 827	-
50	-	-	6 815	7 128	7 562	8 076	8 631	9 185	-
60	-	-	-	-	-	-	10 186	10 817	-

**Current consumption in A**

5	-	11.49	11.73	11.88	11.94	11.91	11.78	11.56	-
10	-	11.74	11.99	12.18	12.30	12.35	12.32	12.22	-
15	-	11.94	12.21	12.43	12.60	12.72	12.79	12.80	-
20	-	12.13	12.40	12.65	12.87	13.07	13.23	13.35	-
30	-	12.56	12.83	13.12	13.43	13.75	14.07	14.40	-
40	-	13.22	13.48	13.80	14.17	14.59	15.06	15.58	-
50	-	-	14.55	14.88	15.29	15.80	16.40	17.09	-
60	-	-	-	-	-	-	18.30	19.13	-

**Mass flow in kg/h**

5	-	148	189	238	298	368	451	549	-
10	-	148	189	239	298	369	452	551	-
15	-	147	189	239	298	369	452	551	-
20	-	147	188	238	298	368	452	550	-
30	-	145	186	236	295	366	449	547	-
40	-	142	183	232	291	360	443	540	-
50	-	-	179	227	285	353	434	530	-
60	-	-	-	-	-	-	423	517	-

**Coefficient of performance (C.O.P.)**

5	-	2.46	2.89	3.42	4.11	5.07	6.46	8.68	-
10	-	2.22	2.60	3.05	3.61	4.34	5.33	6.79	-
15	-	2.00	2.35	2.74	3.20	3.78	4.53	5.57	-
20	-	1.79	2.11	2.46	2.85	3.33	3.92	4.69	-
30	-	1.40	1.67	1.96	2.26	2.60	2.99	3.46	-
40	-	1.03	1.26	1.50	1.74	1.99	2.27	2.59	-
50	-	-	0.90	1.08	1.27	1.47	1.67	1.90	-
60	-	-	-	-	-	-	1.17	1.33	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	8 233	W
Power input	5 912	W
Current consumption	13.73	A
Mass flow	214	kg/h
C.O.P.	1.39	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level	85	dB(A)
With acoustic hood	77	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 60 Hz, with Liquid Injection, Superheat = 10 K, Subcooling = 5 K**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	9 438	12 035	15 211	19 032	23 567	28 883	35 053	-
10	-	8 977	11 488	14 551	18 233	22 601	27 724	33 672	-
15	-	8 501	10 917	13 858	17 391	21 583	26 501	32 216	-
20	-	8 013	10 323	13 133	16 507	20 512	25 216	30 689	-
30	-	7 007	9 078	11 595	14 623	18 226	22 473	27 430	-
40	-	5 976	7 769	9 956	12 599	15 762	19 511	23 914	-
50	-	4 930	6 411	8 230	10 450	13 135	16 348	20 154	-
60	-	3 873	-	-	8 184	10 351	12 986	16 152	-

**Power input in W**

5	-	3 747	4 055	4 310	4 473	4 504	4 363	4 009	-
10	-	3 975	4 317	4 631	4 878	5 017	5 008	4 812	-
15	-	4 210	4 575	4 938	5 257	5 494	5 607	5 557	-
20	-	4 468	4 847	5 247	5 628	5 951	6 176	6 262	-
30	-	5 120	5 492	5 935	6 408	6 873	7 287	7 613	-
40	-	6 060	6 383	6 825	7 348	7 910	8 472	8 994	-
50	-	7 417	7 648	8 047	8 575	9 193	9 859	10 535	-
60	-	9 321	-	-	10 220	10 850	11 578	12 364	-

**Current consumption in A**

5	-	9.50	10.03	10.32	10.45	10.47	10.46	10.47	-
10	-	10.05	10.54	10.83	10.97	11.04	11.09	11.19	-
15	-	10.47	10.94	11.22	11.38	11.49	11.61	11.80	-
20	-	10.80	11.24	11.52	11.70	11.86	12.04	12.33	-
30	-	11.33	11.72	12.00	12.23	12.48	12.81	13.29	-
40	-	11.92	12.27	12.55	12.84	13.19	13.67	14.34	-
50	-	12.83	13.14	13.44	13.79	14.25	14.89	15.77	-
60	-	14.34	-	-	15.36	15.94	16.75	17.84	-

**Mass flow in kg/h**

5	-	223	280	347	425	516	621	741	-
10	-	223	280	347	426	517	623	743	-
15	-	222	279	347	426	517	623	744	-
20	-	221	278	346	425	517	622	743	-
30	-	219	275	343	421	513	618	738	-
40	-	216	272	338	415	505	609	729	-
50	-	213	267	331	407	495	598	716	-
60	-	211	-	-	397	483	583	698	-

**Coefficient of performance (C.O.P.)**

5	-	2.52	2.97	3.53	4.25	5.23	6.62	8.74	-
10	-	2.26	2.66	3.14	3.74	4.51	5.54	7.00	-
15	-	2.02	2.39	2.81	3.31	3.93	4.73	5.80	-
20	-	1.79	2.13	2.50	2.93	3.45	4.08	4.90	-
30	-	1.37	1.65	1.95	2.28	2.65	3.08	3.60	-
40	-	0.99	1.22	1.46	1.71	1.99	2.30	2.66	-
50	-	0.66	0.84	1.02	1.22	1.43	1.66	1.91	-
60	-	0.42	-	-	0.80	0.95	1.12	1.31	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	7 769	W
Power input	6 383	W
Current consumption	12.27	A
Mass flow	272	kg/h
C.O.P.	1.22	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level	86	dB(A)
With acoustic hood	78	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 60 Hz, with Liquid Injection, Suction temp. = 18.3 °C, Subcooling = 5 K**

**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	9 736	12 353	15 537	19 347	23 848	29 105	35 193	-
10	-	9 354	11 899	14 982	18 664	23 007	28 074	33 938	-
15	-	8 958	11 421	14 395	17 939	22 114	26 981	32 610	-
20	-	8 551	10 921	13 776	17 173	21 170	25 828	31 213	-
30	-	7 707	9 865	12 454	15 527	19 141	23 351	28 217	-
40	-	6 840	8 747	11 030	13 742	16 934	20 658	24 968	-
50	-	-	7 585	9 522	11 833	14 565	17 765	21 478	-
60	-	-	-	-	-	-	14 684	17 759	-

**Power input in W**

5	-	3 747	4 055	4 310	4 473	4 504	4 363	4 009	-
10	-	3 975	4 317	4 631	4 878	5 017	5 008	4 812	-
15	-	4 210	4 575	4 938	5 257	5 494	5 607	5 557	-
20	-	4 468	4 847	5 247	5 628	5 951	6 176	6 262	-
30	-	5 120	5 492	5 935	6 408	6 873	7 287	7 613	-
40	-	6 060	6 383	6 825	7 348	7 910	8 472	8 994	-
50	-	-	7 648	8 047	8 575	9 193	9 859	10 535	-
60	-	-	-	-	-	-	11 578	12 364	-

**Current consumption in A**

5	-	9.50	10.03	10.32	10.45	10.47	10.46	10.47	-
10	-	10.05	10.54	10.83	10.97	11.04	11.09	11.19	-
15	-	10.47	10.94	11.22	11.38	11.49	11.61	11.80	-
20	-	10.80	11.24	11.52	11.70	11.86	12.04	12.33	-
30	-	11.33	11.72	12.00	12.23	12.48	12.81	13.29	-
40	-	11.92	12.27	12.55	12.84	13.19	13.67	14.34	-
50	-	-	13.14	13.44	13.79	14.25	14.89	15.77	-
60	-	-	-	-	-	-	16.75	17.84	-

**Mass flow in kg/h**

5	-	182	232	293	366	453	556	677	-
10	-	181	232	293	367	454	557	679	-
15	-	181	232	293	367	454	557	679	-
20	-	180	231	292	366	453	557	679	-
30	-	178	229	289	363	450	553	674	-
40	-	176	225	285	357	443	545	665	-
50	-	-	222	280	350	435	535	653	-
60	-	-	-	-	-	-	522	638	-

**Coefficient of performance (C.O.P.)**

5	-	2.60	3.05	3.60	4.33	5.29	6.67	8.78	-
10	-	2.35	2.76	3.24	3.83	4.59	5.61	7.05	-
15	-	2.13	2.50	2.92	3.41	4.03	4.81	5.87	-
20	-	1.91	2.25	2.63	3.05	3.56	4.18	4.98	-
30	-	1.51	1.80	2.10	2.42	2.79	3.20	3.71	-
40	-	1.13	1.37	1.62	1.87	2.14	2.44	2.78	-
50	-	-	0.99	1.18	1.38	1.58	1.80	2.04	-
60	-	-	-	-	-	-	1.27	1.44	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	10 127	W
Power input	6 727	W
Current consumption	12.50	A
Mass flow	263	kg/h
C.O.P.	1.51	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level	86	dB(A)
With accoustic hood	78	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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Performance data at 50 Hz, with Liquid Injection, Superheat = 10 K, Subcooling = 5 K

**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 734	7 431	9 560	12 177	15 334	19 086	23 486	-
10	-	5 543	7 187	9 244	11 768	14 812	18 430	22 677	-
15	-	5 345	6 931	8 911	11 337	14 263	17 744	21 833	-
20	-	5 139	6 664	8 560	10 884	13 688	17 026	20 952	-
30	-	4 708	6 093	7 811	9 916	12 460	15 499	19 086	-
40	-	4 252	5 480	7 000	8 867	11 133	13 854	17 082	-
50	-	3 776	4 827	6 131	7 741	9 710	12 094	14 945	-
60	-	-	-	-	-	-	10 222	12 677	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	3 182	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	3 646	4 021	4 417	4 810	5 179	5 499	5 750	-
40	-	4 309	4 684	5 114	5 574	6 044	6 501	6 921	-
50	-	5 198	5 567	6 024	6 546	7 111	7 697	8 280	-
60	-	-	-	-	-	-	9 114	9 854	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	12.72	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	12.22	12.35	12.60	12.91	13.23	13.50	13.66	-
40	-	12.47	12.64	12.98	13.42	13.92	14.41	14.83	-
50	-	13.47	13.61	13.96	14.46	15.05	15.68	16.29	-
60	-	-	-	-	-	-	17.32	18.04	-

**Mass flow in kg/h**

5	-	106	135	171	215	266	327	398	-
10	-	106	136	172	215	267	327	398	-
15	-	106	136	172	215	266	327	397	-
20	-	107	136	172	215	266	326	396	-
30	-	107	136	171	213	264	322	391	-
40	-	108	136	170	211	260	317	385	-
50	-	109	135	168	207	255	310	376	-
60	-	-	-	-	-	-	302	365	-

**Coefficient of performance (C.O.P.)**

5	-	2.05	2.36	2.79	3.36	4.13	5.20	6.77	-
10	-	1.92	2.21	2.60	3.10	3.76	4.64	5.87	-
15	-	1.77	2.05	2.40	2.84	3.40	4.12	5.09	-
20	-	1.62	1.88	2.19	2.58	3.05	3.65	4.42	-
30	-	1.29	1.52	1.77	2.06	2.41	2.82	3.32	-
40	-	0.99	1.17	1.37	1.59	1.84	2.13	2.47	-
50	-	0.73	0.87	1.02	1.18	1.37	1.57	1.80	-
60	-	-	-	-	-	-	1.12	1.29	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	5 480	W
Power input	4 684	W
Current consumption	12.64	A
Mass flow	136	kg/h
C.O.P.	1.17	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 50 Hz, with Liquid Injection, Suction temp. = 18.3 °C, Subcooling = 5 K**

**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 641	7 317	9 421	12 007	15 131	18 849	23 223	-
10	-	5 489	7 118	9 155	11 655	14 670	18 259	22 479	-
15	-	5 329	6 907	8 873	11 281	14 184	17 638	21 700	-
20	-	5 163	6 685	8 575	10 887	13 673	16 987	20 886	-
30	-	4 813	6 209	7 934	10 039	12 576	15 597	19 156	-
40	-	4 443	5 695	7 235	9 114	11 382	14 091	17 291	-
50	-	-	-	-	-	10 094	12 471	15 294	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	3 182	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	3 646	4 021	4 417	4 810	5 179	5 499	5 750	-
40	-	4 309	4 684	5 114	5 574	6 044	6 501	6 921	-
50	-	-	-	-	-	7 111	7 697	8 280	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	12.72	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	12.22	12.35	12.60	12.91	13.23	13.50	13.66	-
40	-	12.47	12.64	12.98	13.42	13.92	14.41	14.83	-
50	-	-	-	-	-	15.05	15.68	16.29	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	87	113	146	186	235	294	365	-
10	-	87	113	146	186	235	294	365	-
15	-	87	114	146	186	235	294	364	-
20	-	87	114	146	186	235	293	363	-
30	-	88	114	146	185	233	290	359	-
40	-	88	113	144	183	229	286	353	-
50	-	-	-	-	-	225	279	345	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	2.02	2.32	2.75	3.31	4.07	5.14	6.69	-
10	-	1.90	2.19	2.57	3.07	3.72	4.60	5.82	-
15	-	1.77	2.04	2.39	2.83	3.38	4.10	5.06	-
20	-	1.62	1.88	2.19	2.58	3.05	3.64	4.41	-
30	-	1.32	1.54	1.80	2.09	2.43	2.84	3.33	-
40	-	1.03	1.22	1.41	1.63	1.88	2.17	2.50	-
50	-	-	-	-	-	1.42	1.62	1.85	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	6 636	W
Power input	5 010	W
Current consumption	12.89	A
Mass flow	133	kg/h
C.O.P.	1.32	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With accoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 60 Hz, with Liquid Injection, Superheat = 10 K, Subcooling = 5 K**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 331	9 294	11 716	14 649	18 143	22 243	26 988	-
10	-	7 131	9 065	11 439	14 305	17 714	21 712	26 341	-
15	-	6 909	8 806	11 122	13 912	17 228	21 117	25 622	-
20	-	6 667	8 517	10 768	13 473	16 687	20 458	24 831	-
30	-	6 125	7 856	9 950	12 461	15 445	18 956	23 042	-
40	-	5 518	7 095	8 997	11 280	14 001	17 218	20 983	-
50	-	4 854	6 245	7 921	9 941	12 366	15 255	18 667	-
60	-	-	-	-	-	-	13 078	16 104	-

**Power input in W**

5	-	3 129	3 445	3 780	4 094	4 352	4 515	4 546	-
10	-	3 369	3 703	4 076	4 449	4 786	5 048	5 199	-
15	-	3 612	3 955	4 357	4 780	5 187	5 539	5 800	-
20	-	3 873	4 215	4 637	5 100	5 568	6 002	6 364	-
30	-	4 501	4 815	5 249	5 766	6 327	6 895	7 433	-
40	-	5 362	5 611	6 021	6 554	7 172	7 839	8 515	-
50	-	6 566	6 713	7 062	7 575	8 214	8 941	9 720	-
60	-	-	-	-	-	-	10 313	11 157	-

**Current consumption in A**

5	-	10.87	11.09	11.31	11.53	11.74	11.91	12.04	-
10	-	10.67	10.90	11.15	11.42	11.68	11.92	12.13	-
15	-	10.55	10.80	11.08	11.39	11.70	12.01	12.31	-
20	-	10.53	10.79	11.10	11.44	11.81	12.19	12.56	-
30	-	10.74	11.03	11.39	11.81	12.28	12.78	13.31	-
40	-	11.30	11.60	12.01	12.49	13.06	13.68	14.35	-
50	-	12.18	12.49	12.93	13.48	14.13	14.87	15.68	-
60	-	-	-	-	-	-	16.32	17.27	-

**Mass flow in kg/h**

5	-	135	169	210	258	315	381	457	-
10	-	136	171	213	261	319	385	462	-
15	-	137	173	215	264	322	389	466	-
20	-	138	174	216	266	324	391	469	-
30	-	139	176	218	268	327	394	472	-
40	-	140	176	218	268	327	395	472	-
50	-	140	175	217	266	324	392	469	-
60	-	-	-	-	-	-	386	463	-

**Coefficient of performance (C.O.P.)**

5	-	2.34	2.70	3.10	3.58	4.17	4.93	5.94	-
10	-	2.12	2.45	2.81	3.22	3.70	4.30	5.07	-
15	-	1.91	2.23	2.55	2.91	3.32	3.81	4.42	-
20	-	1.72	2.02	2.32	2.64	3.00	3.41	3.90	-
30	-	1.36	1.63	1.90	2.16	2.44	2.75	3.10	-
40	-	1.03	1.26	1.49	1.72	1.95	2.20	2.46	-
50	-	0.74	0.93	1.12	1.31	1.51	1.71	1.92	-
60	-	-	-	-	-	-	1.27	1.44	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	7 095	W
Power input	5 611	W
Current consumption	11.60	A
Mass flow	176	kg/h
C.O.P.	1.26	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 60 Hz, with Liquid Injection, Suction temp. = 18.3 °C, Subcooling = 5 K**

**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	7 213	9 152	11 545	14 445	17 903	21 968	26 686	-
10	-	7 061	8 978	11 329	14 167	17 545	21 510	26 111	-
15	-	6 888	8 774	11 076	13 844	17 133	20 991	25 466	-
20	-	6 697	8 544	10 786	13 477	16 669	20 411	24 753	-
30	-	6 261	8 006	10 106	12 616	15 589	19 075	23 126	-
40	-	5 766	7 373	9 298	11 594	14 314	17 512	21 239	-
50	-	-	-	-	-	12 855	15 731	19 103	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	3 129	3 445	3 780	4 094	4 352	4 515	4 546	-
10	-	3 369	3 703	4 076	4 449	4 786	5 048	5 199	-
15	-	3 612	3 955	4 357	4 780	5 187	5 539	5 800	-
20	-	3 873	4 215	4 637	5 100	5 568	6 002	6 364	-
30	-	4 501	4 815	5 249	5 766	6 327	6 895	7 433	-
40	-	5 362	5 611	6 021	6 554	7 172	7 839	8 515	-
50	-	-	-	-	-	8 214	8 941	9 720	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	10.87	11.09	11.31	11.53	11.74	11.91	12.04	-
10	-	10.67	10.90	11.15	11.42	11.68	11.92	12.13	-
15	-	10.55	10.80	11.08	11.39	11.70	12.01	12.31	-
20	-	10.53	10.79	11.10	11.44	11.81	12.19	12.56	-
30	-	10.74	11.03	11.39	11.81	12.28	12.78	13.31	-
40	-	11.30	11.60	12.01	12.49	13.06	13.68	14.35	-
50	-	-	-	-	-	14.13	14.87	15.68	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	111	141	179	224	278	343	419	-
10	-	112	143	181	226	281	347	424	-
15	-	113	144	182	229	284	350	427	-
20	-	113	145	184	230	286	352	430	-
30	-	114	147	185	232	288	355	433	-
40	-	115	147	186	232	288	355	433	-
50	-	-	-	-	-	286	353	431	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	2.31	2.66	3.05	3.53	4.11	4.87	5.87	-
10	-	2.10	2.42	2.78	3.18	3.67	4.26	5.02	-
15	-	1.91	2.22	2.54	2.90	3.30	3.79	4.39	-
20	-	1.73	2.03	2.33	2.64	2.99	3.40	3.89	-
30	-	1.39	1.66	1.93	2.19	2.46	2.77	3.11	-
40	-	1.08	1.31	1.54	1.77	2.00	2.23	2.49	-
50	-	-	-	-	-	1.57	1.76	1.97	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	8 557	W
Power input	5 920	W
Current consumption	11.90	A
Mass flow	172	kg/h
C.O.P.	1.45	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With accoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 50 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	4 892	6 316	8 134	10 398	13 161	16 468	20 363	-
10	-	4 737	6 103	7 836	9 989	12 615	15 761	19 472	-
15	-	4 584	5 895	7 546	9 590	12 082	15 070	18 601	-
20	-	4 428	5 686	7 257	9 197	11 557	14 390	17 743	-
30	-	4 082	5 243	6 665	8 402	10 509	13 040	16 046	-
40	-	-	4 732	6 014	7 559	9 425	11 665	14 334	-
50	-	-	-	-	6 626	8 259	10 219	12 562	-
60	-	-	-	-	-	-	8 648	10 672	-

**Power input in W**

5	-	2 118	2 234	2 377	2 532	2 688	2 830	2 945	-
10	-	2 447	2 599	2 782	2 984	3 191	3 389	3 566	-
15	-	2 724	2 904	3 122	3 363	3 615	3 863	4 096	-
20	-	2 972	3 174	3 419	3 692	3 982	4 274	4 556	-
30	-	3 470	3 696	3 975	4 294	4 640	4 999	5 357	-
40	-	-	4 346	4 633	4 971	5 346	5 744	6 153	-
50	-	-	-	-	5 904	6 281	6 693	7 126	-
60	-	-	-	-	-	-	8 027	8 457	-

**Current consumption in A**

5	-	6.39	7.03	7.49	7.70	7.57	7.04	6.03	-
10	-	7.64	8.31	8.83	9.15	9.18	8.85	8.08	-
15	-	8.53	9.19	9.77	10.18	10.34	10.19	9.64	-
20	-	9.13	9.78	10.39	10.86	11.14	11.15	10.80	-
30	-	9.89	10.44	11.03	11.59	12.03	12.29	12.29	-
40	-	-	10.99	11.49	12.05	12.58	13.01	13.27	-
50	-	-	-	-	12.97	13.50	14.02	14.45	-
60	-	-	-	-	-	-	16.04	16.57	-

**Mass flow in kg/h**

5	-	96	122	155	195	243	300	368	-
10	-	96	122	154	193	241	297	362	-
15	-	97	123	154	193	239	294	358	-
20	-	98	124	155	193	238	292	355	-
30	-	100	126	156	193	237	289	350	-
40	-	-	127	158	194	237	288	346	-
50	-	-	-	-	194	236	286	343	-
60	-	-	-	-	-	-	283	339	-

**Coefficient of performance (C.O.P.)**

5	-	2.31	2.83	3.42	4.11	4.90	5.82	6.92	-
10	-	1.94	2.35	2.82	3.35	3.95	4.65	5.46	-
15	-	1.68	2.03	2.42	2.85	3.34	3.90	4.54	-
20	-	1.49	1.79	2.12	2.49	2.90	3.37	3.89	-
30	-	1.18	1.42	1.68	1.96	2.26	2.61	3.00	-
40	-	-	1.09	1.30	1.52	1.76	2.03	2.33	-
50	-	-	-	-	1.12	1.31	1.53	1.76	-
60	-	-	-	-	-	-	1.08	1.26	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	4 732	W
Power input	4 346	W
Current consumption	10.99	A
Mass flow	127	kg/h
C.O.P.	1.09	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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Performance data at 50 Hz, Suction temp. = 18.3 °C

**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	4 856	6 269	8 071	10 314	13 051	16 331	20 200	-
10	-	4 736	6 096	7 818	9 957	12 562	15 684	19 370	-
15	-	4 618	5 928	7 575	9 611	12 087	15 053	18 558	-
20	-	-	5 762	7 335	9 270	11 620	14 434	17 761	-
30	-	-	-	-	8 586	10 690	13 207	16 186	-
40	-	-	-	-	-	9 731	11 961	14 602	-
50	-	-	-	-	-	-	-	12 962	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	2 118	2 234	2 377	2 532	2 688	2 830	2 945	-
10	-	2 447	2 599	2 782	2 984	3 191	3 389	3 566	-
15	-	2 724	2 904	3 122	3 363	3 615	3 863	4 096	-
20	-	-	3 174	3 419	3 692	3 982	4 274	4 556	-
30	-	-	-	-	4 294	4 640	4 999	5 357	-
40	-	-	-	-	-	5 346	5 744	6 153	-
50	-	-	-	-	-	-	-	7 126	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	6.39	7.03	7.49	7.70	7.57	7.04	6.03	-
10	-	7.64	8.31	8.83	9.15	9.18	8.85	8.08	-
15	-	8.53	9.19	9.77	10.18	10.34	10.19	9.64	-
20	-	-	9.78	10.39	10.86	11.14	11.15	10.80	-
30	-	-	-	-	11.59	12.03	12.29	12.29	-
40	-	-	-	-	-	12.58	13.01	13.27	-
50	-	-	-	-	-	-	-	14.45	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	78	102	132	169	214	270	337	-
10	-	79	102	131	168	212	267	333	-
15	-	79	103	131	167	211	264	329	-
20	-	-	103	132	167	210	263	326	-
30	-	-	-	-	167	209	260	321	-
40	-	-	-	-	-	209	259	318	-
50	-	-	-	-	-	-	-	315	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	2.29	2.81	3.40	4.07	4.86	5.77	6.86	-
10	-	1.94	2.35	2.81	3.34	3.94	4.63	5.43	-
15	-	1.70	2.04	2.43	2.86	3.34	3.90	4.53	-
20	-	-	1.82	2.15	2.51	2.92	3.38	3.90	-
30	-	-	-	-	2.00	2.30	2.64	3.02	-
40	-	-	-	-	-	1.82	2.08	2.37	-
50	-	-	-	-	-	-	-	1.82	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	-	W
Power input	-	W
Current consumption	-	A
Mass flow	-	kg/h
C.O.P.	-	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Suction gas temp. = 18.3 °C , Subcooling = 0 K

Tolerance according EN12900

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Performance data at 60 Hz, with Liquid Injection, Superheat = 10 K, Subcooling = 5 K

**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 734	7 431	9 560	12 177	15 334	19 086	23 486	-
10	-	5 543	7 187	9 244	11 768	14 812	18 430	22 677	-
15	-	5 345	6 931	8 911	11 337	14 263	17 744	21 833	-
20	-	5 139	6 664	8 560	10 884	13 688	17 026	20 952	-
30	-	4 708	6 093	7 811	9 916	12 460	15 499	19 086	-
40	-	4 252	5 480	7 000	8 867	11 133	13 854	17 082	-
50	-	3 776	4 827	6 131	7 741	9 710	12 094	14 945	-
60	-	-	-	-	-	-	10 222	12 677	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	3 182	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	3 646	4 021	4 417	4 810	5 179	5 499	5 750	-
40	-	4 309	4 684	5 114	5 574	6 044	6 501	6 921	-
50	-	5 198	5 567	6 024	6 546	7 111	7 697	8 280	-
60	-	-	-	-	-	-	9 114	9 854	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	12.72	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	12.22	12.35	12.60	12.91	13.23	13.50	13.66	-
40	-	12.47	12.64	12.98	13.42	13.92	14.41	14.83	-
50	-	13.47	13.61	13.96	14.46	15.05	15.68	16.29	-
60	-	-	-	-	-	-	17.32	18.04	-

**Mass flow in kg/h**

5	-	108	138	174	218	270	331	402	-
10	-	108	138	175	219	270	332	403	-
15	-	109	139	175	219	271	332	403	-
20	-	109	139	175	219	270	331	402	-
30	-	109	139	175	218	269	329	398	-
40	-	110	139	174	215	265	324	392	-
50	-	111	139	172	212	260	317	384	-
60	-	-	-	-	-	-	309	373	-

**Coefficient of performance (C.O.P.)**

5	-	2.05	2.36	2.79	3.36	4.13	5.20	6.77	-
10	-	1.92	2.21	2.60	3.10	3.76	4.64	5.87	-
15	-	1.77	2.05	2.40	2.84	3.40	4.12	5.09	-
20	-	1.62	1.88	2.19	2.58	3.05	3.65	4.42	-
30	-	1.29	1.52	1.77	2.06	2.41	2.82	3.32	-
40	-	0.99	1.17	1.37	1.59	1.84	2.13	2.47	-
50	-	0.73	0.87	1.02	1.18	1.37	1.57	1.80	-
60	-	-	-	-	-	-	1.12	1.29	-

**Nominal performance at to = -35 °C, tc = 40 °C**

Cooling capacity	5 480	W
Power input	4 684	W
Current consumption	12.64	A
Mass flow	139	kg/h
C.O.P.	1.17	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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**Performance data at 60 Hz, with Liquid Injection, Suction temp. = 18.3 °C, Subcooling = 5 K**

**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-40	-35	-30	-25	-20	-15	-10	

**Cooling capacity in W**

5	-	5 655	7 333	9 438	12 025	15 150	18 868	23 240	-
10	-	5 503	7 134	9 173	11 674	14 690	18 278	22 497	-
15	-	5 344	6 924	8 892	11 301	14 205	17 658	21 719	-
20	-	5 178	6 703	8 595	10 908	13 694	17 008	20 906	-
30	-	4 830	6 229	7 956	10 062	12 599	15 620	19 177	-
40	-	4 463	5 717	7 258	9 139	11 408	14 116	17 314	-
50	-	-	-	-	-	10 122	12 499	15 319	-
60	-	-	-	-	-	-	-	-	-

**Power input in W**

5	-	2 800	3 148	3 432	3 629	3 716	3 670	3 470	-
10	-	2 890	3 247	3 556	3 795	3 942	3 973	3 866	-
15	-	3 016	3 380	3 713	3 993	4 197	4 303	4 288	-
20	-	3 182	3 551	3 907	4 226	4 487	4 666	4 741	-
30	-	3 646	4 021	4 417	4 810	5 179	5 499	5 750	-
40	-	4 309	4 684	5 114	5 574	6 044	6 501	6 921	-
50	-	-	-	-	-	7 111	7 697	8 280	-
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

5	-	14.85	14.52	14.20	13.83	13.36	12.72	11.87	-
10	-	13.96	13.76	13.60	13.40	13.12	12.71	12.10	-
15	-	13.25	13.16	13.13	13.09	12.99	12.78	12.39	-
20	-	12.72	12.73	12.81	12.91	12.97	12.93	12.75	-
30	-	12.22	12.35	12.60	12.91	13.23	13.50	13.66	-
40	-	12.47	12.64	12.98	13.42	13.92	14.41	14.83	-
50	-	-	-	-	-	15.05	15.68	16.29	-
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

5	-	88	115	148	189	238	298	369	-
10	-	89	115	149	189	239	298	370	-
15	-	89	116	149	190	239	298	370	-
20	-	89	116	149	189	239	298	369	-
30	-	90	116	149	189	237	296	366	-
40	-	90	116	148	187	234	291	360	-
50	-	-	-	-	-	230	286	352	-
60	-	-	-	-	-	-	-	-	-

**Coefficient of performance (C.O.P.)**

5	-	2.02	2.33	2.75	3.31	4.08	5.14	6.70	-
10	-	1.90	2.20	2.58	3.08	3.73	4.60	5.82	-
15	-	1.77	2.05	2.39	2.83	3.38	4.10	5.06	-
20	-	1.63	1.89	2.20	2.58	3.05	3.65	4.41	-
30	-	1.32	1.55	1.80	2.09	2.43	2.84	3.34	-
40	-	1.04	1.22	1.42	1.64	1.89	2.17	2.50	-
50	-	-	-	-	-	1.42	1.62	1.85	-
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -31.7 °C, tc = 40.6 °C**

Cooling capacity	6 659	W
Power input	5 010	W
Current consumption	12.89	A
Mass flow	136	kg/h
C.O.P.	1.33	

**Pressure switch settings**

Maximum HP switch setting	29.7	bar(g)
Minimum LP switch setting	0.15	bar(g)
LP pump down setting	1.015	bar(g)

**Sound power data**

Sound power level		dB(A)
With acoustic hood		dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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