

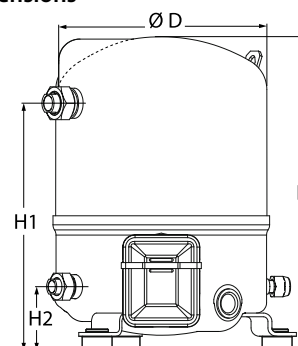
Datasheets

# Danfoss Reciprocating compressors **MT / MTZ / NTZ**



**General Characteristics**

Model number (on compressor nameplate)		<b>MTZ18JA4BVE</b>
Code number for Singlepack*		MTZ18-4VI
Code number for Industrial pack**		MTZ18-4VM
Drawing number		8501024e
Suction and discharge connections		Rotolock
Suction connection		1 " Rotolock
Discharge connection		1 " Rotolock
Suction connection with supplied sleeve		1/2 " ODF
Discharge connection with supplied sleeve		3/8 " ODF
Oil sight glass		Threaded
Oil equalisation connection		3/8" flare SAE
Oil drain connection		None
LP gauge port		Schrader
IPR valve		None
Cylinders		1
Swept volume		30.23 cm <sup>3</sup> /rev
Displacement @ Nominal speed		5.3 m <sup>3</sup> /h @ 2900 rpm - 6.3 m <sup>3</sup> /h @ 3500 rpm
Net weight		21 kg
Oil charge		0.95 litre, POE - 175PZ
Maximum system test pressure Low Side / High side		25 bar(g) / 30 bar(g)
Maximum differential test pressure		30 bar
Maximum number of starts per hour		12
Refrigerant charge limit		3 kg
Approved refrigerants		R404A,R134a,R407A/C/F,R448A,R449A,R452A,R513A

**Dimensions**


D=224 mm

H=333 mm

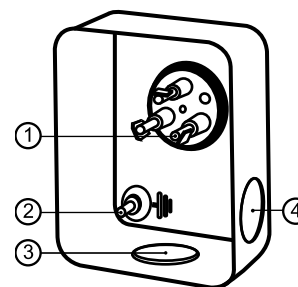
H1=263 mm

H2=68 mm

H3= mm

**Electrical Characteristics**

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25°C	9.37 Ω
Maximum Continuous Current (MCC)	5 A
Locked Rotor Amps (LRA)	20 A
Motor protection	Internal overload protector

**Terminal box**


IP55 (with cable gland)

1: Spade connectors 1/4"

2: Earth M4-12

3: Knock-out Ø 21 mm (0.83")

4: Hole Ø 21 mm (0.83")

**Recommended Installation torques**

Oil sight glass	50 Nm
Power connections / Earth connection	2 Nm / 2 Nm
Mounting bolts	15 Nm

**Parts shipped with compressor**

Mounting kit with grommets, bolts, nuts, sleeves and washers
Suction & Discharge solder sleeves, rotolock nuts and gaskets (shipped with rotolock version only)
Initial oil charge
Installation instructions

**Approvals** : CE certified, UL certified (file SA6873), CCC certified

\*Singlepack: Compressor in cardboard box

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

**Rotolock accessories, suction side**

**Code no.**

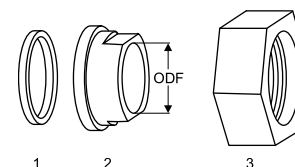
Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031
Gasket, 1"	8156130

**Gaskets, sleeves and nuts**

**Rotolock accessories, discharge side**

**Code no.**

Solder sleeve, P01 (1" Rotolock, 3/8" ODF)	8153010
Rotolock valve, V01 (1" Rotolock, 3/8" ODF)	8168027
Gasket, 1"	8156130



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

**Rotolock accessories, sets**

**Code no.**

Valve set, V06 (1"~1/2"), V01 (1"~3/8")	7703004
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

**Oil / lubricants**

**Code no.**

POE lubricant, 175PZ, 1 litre can	120Z0638
POE lubricant, 175PZ, 2.5 litre can	120Z0639

**Crankcase heaters**

**Code no.**

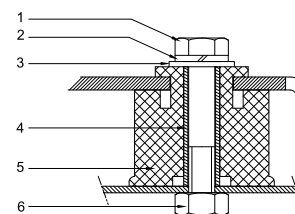
PTC heater 27W, CE mark, UL	120Z0459
Belt type crankcase heater, 54 W, 230 V, CE mark, UL	7773106
Belt type crankcase heater, 54 W, 400 V, UL	7773013

**Mounting kit**

**Miscellaneous accessories**

**Code no.**

Electronic soft start kit, MCI 15 C	7705006
Acoustic hood for 1 cylinder compressor	120Z0575
Oil equalisation nut	8153127



- 1: Bolt (3x)
- 2: Lock washer (3x)
- 3: Flat washer (3x)
- 4: Sleeve (3x)
- 5: Grommet (3x)
- 6: Nut (3x)

**Spare parts**

**Code no.**

Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (black chloroprene)	8156145
Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp	8156134

**Performance data at 50 Hz, EN 12900 rating conditions**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	1 445	2 054	2 784	3 651	4 668	5 848	7 207	-	-
40	1 255	1 824	2 503	3 306	4 249	5 344	6 607	-	-
45	1 076	1 606	2 235	2 978	3 848	4 861	6 029	-	-
50	-	1 399	1 981	2 665	3 466	4 397	5 474	-	-
55	-	-	1 739	2 367	3 100	3 953	4 939	-	-
60	-	-	-	2 082	2 750	3 526	4 424	-	-
65	-	-	-	1 811	2 415	3 116	3 929	-	-

**Power input in W**

35	794	878	948	1 005	1 050	1 084	1 109	-	-
40	812	912	996	1 066	1 123	1 167	1 201	-	-
45	820	938	1 040	1 125	1 197	1 255	1 301	-	-
50	-	957	1 078	1 182	1 271	1 345	1 406	-	-
55	-	-	1 110	1 235	1 344	1 437	1 516	-	-
60	-	-	-	1 284	1 415	1 530	1 629	-	-
65	-	-	-	1 326	1 484	1 623	1 745	-	-

**Current consumption in A**

35	2.32	2.36	2.41	2.45	2.50	2.53	2.56	-	-
40	2.32	2.39	2.45	2.51	2.57	2.62	2.65	-	-
45	2.32	2.41	2.49	2.57	2.65	2.71	2.76	-	-
50	-	2.42	2.53	2.64	2.73	2.82	2.88	-	-
55	-	-	2.56	2.70	2.82	2.93	3.02	-	-
60	-	-	-	2.76	2.91	3.05	3.16	-	-
65	-	-	-	2.81	3.00	3.17	3.32	-	-

**Mass flow in kg/h**

35	31	44	58	75	95	117	143	-	-
40	29	41	55	72	91	112	137	-	-
45	26	38	52	68	86	107	131	-	-
50	-	35	49	64	82	103	126	-	-
55	-	-	46	61	78	98	120	-	-
60	-	-	-	57	74	93	115	-	-
65	-	-	-	54	70	89	110	-	-

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

35	1.82	2.34	2.94	3.63	4.45	5.39	6.50	-	-
40	1.55	2.00	2.51	3.10	3.78	4.58	5.50	-	-
45	1.31	1.71	2.15	2.65	3.22	3.87	4.64	-	-
50	-	1.46	1.84	2.25	2.73	3.27	3.89	-	-
55	-	-	1.57	1.92	2.31	2.75	3.26	-	-
60	-	-	-	1.62	1.94	2.30	2.72	-	-
65	-	-	-	1.37	1.63	1.92	2.25	-	-

**Nominal performance at to = 5 °C, tc = 50 °C**

Cooling capacity	3 466	W
Power input	1 271	W
Current consumption	2.73	A
Mass flow	82	kg/h
C.O.P.	2.73	


**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	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, ARI rating conditions**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	1 555	2 208	2 990	3 916	5 001	6 259	7 706	-	-
40	1 359	1 971	2 701	3 564	4 574	5 747	7 098	-	-
45	1 172	1 746	2 427	3 229	4 167	5 257	6 513	-	-
50	-	1 533	2 166	2 910	3 778	4 787	5 950	-	-
55	-	-	1 918	2 606	3 407	4 337	5 411	-	-
60	-	-	-	2 316	3 052	3 906	4 893	-	-
65	-	-	-	2 040	2 714	3 495	4 397	-	-

**Power input in W**

35	794	878	948	1 005	1 050	1 084	1 109	-	-
40	812	912	996	1 066	1 123	1 167	1 201	-	-
45	820	938	1 040	1 125	1 197	1 255	1 301	-	-
50	-	957	1 078	1 182	1 271	1 345	1 406	-	-
55	-	-	1 110	1 235	1 344	1 437	1 516	-	-
60	-	-	-	1 284	1 415	1 530	1 629	-	-
65	-	-	-	1 326	1 484	1 623	1 745	-	-

**Current consumption in A**

35	2.32	2.36	2.41	2.45	2.50	2.53	2.56	-	-
40	2.32	2.39	2.45	2.51	2.57	2.62	2.65	-	-
45	2.32	2.41	2.49	2.57	2.65	2.71	2.76	-	-
50	-	2.42	2.53	2.64	2.73	2.82	2.88	-	-
55	-	-	2.56	2.70	2.82	2.93	3.02	-	-
60	-	-	-	2.76	2.91	3.05	3.16	-	-
65	-	-	-	2.81	3.00	3.17	3.32	-	-

**Mass flow in kg/h**

35	31	44	58	75	94	117	142	-	-
40	29	41	55	71	90	112	136	-	-
45	26	38	52	68	86	107	131	-	-
50	-	35	48	64	82	102	125	-	-
55	-	-	45	60	78	97	120	-	-
60	-	-	-	57	74	93	114	-	-
65	-	-	-	54	70	88	109	-	-

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

35	1.96	2.52	3.15	3.90	4.76	5.77	6.95	-	-
40	1.67	2.16	2.71	3.34	4.07	4.92	5.91	-	-
45	1.43	1.86	2.33	2.87	3.48	4.19	5.01	-	-
50	-	1.60	2.01	2.46	2.97	3.56	4.23	-	-
55	-	-	1.73	2.11	2.53	3.02	3.57	-	-
60	-	-	-	1.80	2.16	2.55	3.00	-	-
65	-	-	-	1.54	1.83	2.15	2.52	-	-

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	3 847	W
Power input	1 377	W
Current consumption	2.86	A
Mass flow	87	kg/h
C.O.P.	2.79	

**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-25	-20	-10	-5	0	5	10	15

**Cooling capacity in W**

35	404	649	1 357	1 839	2 419	3 107	3 913	4 846	5 916
40	330	560	1 217	1 662	2 199	2 837	3 586	4 455	5 454
45	255	470	1 075	1 484	1 978	2 566	3 257	4 062	4 989
50	180	380	933	1 307	1 757	2 295	2 928	3 669	4 525
55	-	-	795	1 131	1 539	2 026	2 602	3 278	4 063
60	-	-	-	961	1 324	1 761	2 280	2 891	3 605
65	-	-	-	-	1 116	1 502	1 964	2 511	3 152
75	-	-	-	-	-	-	1 359	1 776	2 275

**Power input in W**

35	448	516	643	695	736	763	773	762	728
40	459	530	668	729	780	818	841	845	827
45	460	536	688	758	820	870	907	927	926
50	452	533	701	781	855	919	971	1 008	1 026
55	-	-	706	798	885	964	1 032	1 086	1 124
60	-	-	-	807	908	1 003	1 088	1 162	1 219
65	-	-	-	-	924	1 036	1 140	1 233	1 312
75	-	-	-	-	-	-	1 223	1 359	1 485

**Current consumption in A**

35	1.81	1.84	1.90	1.94	1.97	2.00	2.04	2.08	2.12
40	1.81	1.84	1.91	1.95	1.99	2.04	2.09	2.14	2.19
45	1.80	1.84	1.92	1.97	2.02	2.08	2.14	2.20	2.27
50	1.79	1.83	1.93	1.99	2.05	2.12	2.19	2.27	2.36
55	-	-	1.94	2.01	2.08	2.16	2.25	2.34	2.44
60	-	-	-	2.02	2.11	2.20	2.30	2.41	2.53
65	-	-	-	-	2.13	2.24	2.36	2.49	2.63
75	-	-	-	-	-	-	2.48	2.64	2.82

**Mass flow in kg/h**

35	10	16	32	43	55	69	86	104	126
40	9	15	30	41	53	66	82	100	121
45	7	13	28	38	50	63	79	96	116
50	5	11	26	36	47	60	75	91	110
55	-	-	24	33	44	56	70	86	105
60	-	-	-	30	40	52	65	81	98
65	-	-	-	-	36	47	60	75	92
75	-	-	-	-	-	-	49	62	77

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

35	0.90	1.26	2.11	2.65	3.29	4.07	5.06	6.36	8.13
40	0.72	1.06	1.82	2.28	2.82	3.47	4.27	5.27	6.60
45	0.55	0.88	1.56	1.96	2.41	2.95	3.59	4.38	5.39
50	0.40	0.71	1.33	1.67	2.06	2.50	3.02	3.64	4.41
55	-	-	1.13	1.42	1.74	2.10	2.52	3.02	3.62
60	-	-	-	1.19	1.46	1.76	2.09	2.49	2.96
65	-	-	-	-	1.21	1.45	1.72	2.04	2.40
75	-	-	-	-	-	-	1.11	1.31	1.53

**Nominal performance at to = 5 °C, tc = 50 °C**

Cooling capacity	2 295	W
Power input	919	W
Current consumption	2.12	A
Mass flow	60	kg/h
C.O.P.	2.50	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	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, ARI rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-10	-5	0	5	10	15	20

**Cooling capacity in W**

35	439	705	1 467	1 985	2 607	3 344	4 205	5 201	6 341
40	361	611	1 322	1 804	2 382	3 068	3 871	4 802	5 871
45	281	516	1 175	1 620	2 154	2 789	3 535	4 400	5 397
50	-	420	1 028	1 435	1 926	2 510	3 197	3 997	4 922
55	-	-	882	1 253	1 699	2 231	2 860	3 595	4 447
60	-	-	-	1 073	1 475	1 956	2 526	3 196	3 976
65	-	-	-	-	-	1 686	2 198	2 802	3 509
75	-	-	-	-	-	-	1 564	2 036	2 597

**Power input in W**

35	448	516	643	695	736	763	773	762	728
40	459	530	668	729	780	818	841	845	827
45	460	536	688	758	820	870	907	927	926
50	-	533	701	781	855	919	971	1 008	1 026
55	-	-	706	798	885	964	1 032	1 086	1 124
60	-	-	-	807	908	1 003	1 088	1 162	1 219
65	-	-	-	-	-	1 036	1 140	1 233	1 312
75	-	-	-	-	-	-	1 223	1 359	1 485

**Current consumption in A**

35	1.81	1.84	1.90	1.94	1.97	2.00	2.04	2.08	2.12
40	1.81	1.84	1.91	1.95	1.99	2.04	2.09	2.14	2.19
45	1.80	1.84	1.92	1.97	2.02	2.08	2.14	2.20	2.27
50	-	1.83	1.93	1.99	2.05	2.12	2.19	2.27	2.36
55	-	-	1.94	2.01	2.08	2.16	2.25	2.34	2.44
60	-	-	-	2.02	2.11	2.20	2.30	2.41	2.53
65	-	-	-	-	-	2.24	2.36	2.49	2.63
75	-	-	-	-	-	-	2.48	2.64	2.82

**Mass flow in kg/h**

35	10	16	32	42	55	69	85	104	125
40	9	15	30	40	52	66	82	100	120
45	7	13	28	38	50	63	78	96	115
50	-	11	26	36	47	59	74	91	110
55	-	-	24	33	43	56	70	86	104
60	-	-	-	30	40	52	65	80	98
65	-	-	-	-	-	47	60	75	91
75	-	-	-	-	-	-	49	62	77

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

35	0.98	1.36	2.28	2.86	3.54	4.38	5.44	6.83	8.71
40	0.79	1.15	1.98	2.48	3.06	3.75	4.61	5.69	7.10
45	0.61	0.96	1.71	2.14	2.63	3.20	3.90	4.75	5.83
50	-	0.79	1.47	1.84	2.25	2.73	3.29	3.97	4.80
55	-	-	1.25	1.57	1.92	2.32	2.77	3.31	3.96
60	-	-	-	1.33	1.62	1.95	2.32	2.75	3.26
65	-	-	-	-	-	1.63	1.93	2.27	2.67
75	-	-	-	-	-	-	1.28	1.50	1.75

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	2 532	W
Power input	989	W
Current consumption	2.19	A
Mass flow	62	kg/h
C.O.P.	2.56	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

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**Performance data at 50 Hz, EN 12900 rating conditions**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	642	996	1 448	2 012	2 700	3 524	4 496	5 630	6 937
35	553	876	1 288	1 801	2 429	3 182	4 074	5 118	6 324
40	468	761	1 133	1 597	2 164	2 847	3 659	4 613	5 720
45	389	652	984	1 397	1 905	2 519	3 251	4 115	5 122
50	313	546	839	1 203	1 651	2 195	2 848	3 623	4 531
55	-	444	698	1 012	1 401	1 877	2 451	3 136	3 945
60	-	345	559	825	1 156	1 562	2 058	2 654	3 365

**Power input in W**

30	702	823	931	1 024	1 102	1 163	1 205	1 228	1 229
35	695	824	942	1 046	1 137	1 212	1 271	1 311	1 331
40	690	826	953	1 068	1 171	1 260	1 334	1 392	1 431
45	687	830	965	1 090	1 205	1 308	1 397	1 471	1 529
50	686	836	979	1 114	1 240	1 355	1 459	1 549	1 625
55	-	844	995	1 139	1 276	1 404	1 522	1 628	1 720
60	-	856	1 014	1 167	1 314	1 454	1 585	1 706	1 816

**Current consumption in A**

30	2.03	2.20	2.36	2.50	2.62	2.73	2.81	2.87	2.91
35	2.08	2.24	2.39	2.53	2.65	2.75	2.84	2.91	2.95
40	2.12	2.28	2.43	2.56	2.69	2.80	2.89	2.97	3.03
45	2.16	2.31	2.46	2.60	2.73	2.85	2.96	3.05	3.13
50	2.18	2.34	2.49	2.64	2.79	2.92	3.04	3.16	3.26
55	-	2.35	2.52	2.68	2.84	2.99	3.14	3.28	3.41
60	-	2.34	2.52	2.70	2.88	3.06	3.23	3.40	3.56

**Mass flow in kg/h**

30	20	31	43	59	77	98	123	151	183
35	19	29	41	56	74	94	118	145	177
40	17	27	39	54	71	91	114	140	170
45	16	25	37	51	68	87	109	135	164
50	14	23	35	48	64	83	104	129	157
55	-	21	32	45	61	79	99	123	150
60	-	19	30	42	57	74	94	117	143

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

30	0.91	1.21	1.56	1.96	2.45	3.03	3.73	4.59	5.64
35	0.79	1.06	1.37	1.72	2.14	2.63	3.21	3.90	4.75
40	0.68	0.92	1.19	1.49	1.85	2.26	2.74	3.31	4.00
45	0.57	0.79	1.02	1.28	1.58	1.93	2.33	2.80	3.35
50	0.46	0.65	0.86	1.08	1.33	1.62	1.95	2.34	2.79
55	-	0.53	0.70	0.89	1.10	1.34	1.61	1.93	2.29
60	-	0.40	0.55	0.71	0.88	1.07	1.30	1.56	1.85

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 905	W
Power input	1 205	W
Current consumption	2.73	A
Mass flow	68	kg/h
C.O.P.	1.58	



to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	73	dB(A)
With acoustic hood	65	dB(A)

Tolerance according EN12900



**Performance data at 50 Hz, ARI rating conditions**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	715	1 105	1 604	2 223	2 975	3 875	4 934	6 166	7 583
35	622	982	1 440	2 009	2 701	3 530	4 509	5 651	6 969
40	534	865	1 283	1 801	2 433	3 192	4 091	5 144	6 362
45	451	752	1 130	1 599	2 171	2 861	3 681	4 644	5 765
50	370	643	983	1 402	1 915	2 536	3 278	4 153	5 177
55	-	538	839	1 210	1 666	2 219	2 883	3 672	4 600
60	-	436	700	1 025	1 423	1 910	2 499	3 204	4 039

**Power input in W**

30	702	823	931	1 024	1 102	1 163	1 205	1 228	1 229
35	695	824	942	1 046	1 137	1 212	1 271	1 311	1 331
40	690	826	953	1 068	1 171	1 260	1 334	1 392	1 431
45	687	830	965	1 090	1 205	1 308	1 397	1 471	1 529
50	686	836	979	1 114	1 240	1 355	1 459	1 549	1 625
55	-	844	995	1 139	1 276	1 404	1 522	1 628	1 720
60	-	856	1 014	1 167	1 314	1 454	1 585	1 706	1 816

**Current consumption in A**

30	2.03	2.20	2.36	2.50	2.62	2.73	2.81	2.87	2.91
35	2.08	2.24	2.39	2.53	2.65	2.75	2.84	2.91	2.95
40	2.12	2.28	2.43	2.56	2.69	2.80	2.89	2.97	3.03
45	2.16	2.31	2.46	2.60	2.73	2.85	2.96	3.05	3.13
50	2.18	2.34	2.49	2.64	2.79	2.92	3.04	3.16	3.26
55	-	2.35	2.52	2.68	2.84	2.99	3.14	3.28	3.41
60	-	2.34	2.52	2.70	2.88	3.06	3.23	3.40	3.56

**Mass flow in kg/h**

30	20	30	43	58	76	97	122	150	181
35	19	29	41	56	73	94	117	145	175
40	17	27	39	53	70	90	113	139	169
45	15	25	37	51	67	86	108	134	163
50	14	23	35	48	64	82	104	128	156
55	-	21	32	45	60	78	99	122	149
60	-	19	30	42	57	74	94	116	142

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

30	1.02	1.34	1.72	2.17	2.70	3.33	4.09	5.02	6.17
35	0.89	1.19	1.53	1.92	2.38	2.91	3.55	4.31	5.23
40	0.77	1.05	1.35	1.69	2.08	2.53	3.07	3.70	4.45
45	0.66	0.91	1.17	1.47	1.80	2.19	2.64	3.16	3.77
50	0.54	0.77	1.00	1.26	1.54	1.87	2.25	2.68	3.19
55	-	0.64	0.84	1.06	1.31	1.58	1.89	2.26	2.67
60	-	0.51	0.69	0.88	1.08	1.31	1.58	1.88	2.22

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 171	W
Power input	1 205	W
Current consumption	2.73	A
Mass flow	67	kg/h
C.O.P.	1.80	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	73	dB(A)
With acoustic hood	65	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions**
**R407A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	478	795	1 205	1 719	2 352	3 115	4 021	5 084	6 315
35	405	701	1 082	1 560	2 149	2 861	3 708	4 705	5 862
40	333	607	958	1 399	1 944	2 603	3 391	4 320	5 403
45	262	513	834	1 238	1 737	2 344	3 071	3 932	4 940
50	-	423	713	1 078	1 531	2 084	2 751	3 543	4 474
55	-	-	595	921	1 328	1 827	2 431	3 155	4 009
60	-	-	-	770	1 129	1 573	2 115	2 768	3 544

**Power input in W**

30	533	649	757	856	942	1 013	1 064	1 093	1 097
35	521	644	762	872	971	1 057	1 124	1 172	1 196
40	505	636	764	885	997	1 097	1 182	1 248	1 292
45	486	625	762	895	1 021	1 136	1 237	1 322	1 386
50	-	612	759	903	1 042	1 172	1 290	1 394	1 479
55	-	-	753	910	1 062	1 207	1 343	1 465	1 571
60	-	-	-	915	1 081	1 242	1 395	1 536	1 663

**Current consumption in A**

30	1.81	1.98	2.13	2.28	2.40	2.51	2.60	2.66	2.70
35	1.85	2.00	2.15	2.28	2.41	2.52	2.61	2.68	2.74
40	1.89	2.03	2.17	2.30	2.43	2.54	2.65	2.74	2.81
45	1.92	2.06	2.19	2.33	2.46	2.58	2.70	2.81	2.91
50	-	2.07	2.21	2.35	2.49	2.63	2.77	2.90	3.03
55	-	-	2.21	2.37	2.52	2.68	2.84	3.00	3.16
60	-	-	-	2.37	2.54	2.73	2.91	3.11	3.30

**Mass flow in kg/h**

30	11	19	28	39	52	68	86	107	131
35	10	17	26	37	50	65	83	104	128
40	9	16	24	35	48	63	80	100	124
45	7	14	23	33	45	60	77	97	119
50	-	13	21	31	42	57	73	92	115
55	-	-	19	28	40	53	69	88	110
60	-	-	-	25	36	50	65	83	104

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

30	0.90	1.23	1.59	2.01	2.50	3.08	3.78	4.65	5.76
35	0.78	1.09	1.42	1.79	2.21	2.71	3.30	4.01	4.90
40	0.66	0.95	1.25	1.58	1.95	2.37	2.87	3.46	4.18
45	0.54	0.82	1.09	1.38	1.70	2.06	2.48	2.98	3.56
50	-	0.69	0.94	1.19	1.47	1.78	2.13	2.54	3.03
55	-	-	0.79	1.01	1.25	1.51	1.81	2.15	2.55
60	-	-	-	0.84	1.04	1.27	1.52	1.80	2.13

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 737	W
Power input	1 021	W
Current consumption	2.46	A
Mass flow	45	kg/h
C.O.P.	1.70	

**Pressure switch settings**

Maximum HP switch setting	25.8	bar(g)
Minimum LP switch setting	0.9	bar(g)
LP pump down setting	1.2	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	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, ARI rating conditions**
**R407A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	517	859	1 299	1 852	2 530	3 346	4 315	5 449	6 761
35	441	762	1 173	1 690	2 324	3 089	3 999	5 067	6 306
40	364	663	1 046	1 525	2 114	2 828	3 678	4 679	5 844
45	289	566	918	1 359	1 903	2 564	3 354	4 287	5 377
50	-	470	791	1 194	1 692	2 299	3 028	3 894	4 908
55	-	-	669	1 032	1 483	2 036	2 704	3 501	4 440
60	-	-	-	875	1 278	1 776	2 382	3 110	3 974

**Power input in W**

30	533	649	757	856	942	1 013	1 064	1 093	1 097
35	521	644	762	872	971	1 057	1 124	1 172	1 196
40	505	636	764	885	997	1 097	1 182	1 248	1 292
45	486	625	762	895	1 021	1 136	1 237	1 322	1 386
50	-	612	759	903	1 042	1 172	1 290	1 394	1 479
55	-	-	753	910	1 062	1 207	1 343	1 465	1 571
60	-	-	-	915	1 081	1 242	1 395	1 536	1 663

**Current consumption in A**

30	1.81	1.98	2.13	2.28	2.40	2.51	2.60	2.66	2.70
35	1.85	2.00	2.15	2.28	2.41	2.52	2.61	2.68	2.74
40	1.89	2.03	2.17	2.30	2.43	2.54	2.65	2.74	2.81
45	1.92	2.06	2.19	2.33	2.46	2.58	2.70	2.81	2.91
50	-	2.07	2.21	2.35	2.49	2.63	2.77	2.90	3.03
55	-	-	2.21	2.37	2.52	2.68	2.84	3.00	3.16
60	-	-	-	2.37	2.54	2.73	2.91	3.11	3.30

**Mass flow in kg/h**

30	11	18	27	38	52	67	85	106	131
35	10	17	26	37	50	65	83	103	127
40	9	16	24	35	47	62	80	100	123
45	7	14	22	33	45	59	76	96	119
50	-	12	21	30	42	56	73	92	114
55	-	-	18	28	39	53	69	87	109
60	-	-	-	25	36	49	65	83	103

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

30	0.97	1.32	1.72	2.16	2.68	3.30	4.06	4.98	6.16
35	0.85	1.18	1.54	1.94	2.39	2.92	3.56	4.32	5.27
40	0.72	1.04	1.37	1.72	2.12	2.58	3.11	3.75	4.52
45	0.59	0.91	1.20	1.52	1.86	2.26	2.71	3.24	3.88
50	-	0.77	1.04	1.32	1.62	1.96	2.35	2.79	3.32
55	-	-	0.89	1.13	1.40	1.69	2.01	2.39	2.83
60	-	-	-	0.96	1.18	1.43	1.71	2.03	2.39

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 903	W
Power input	1 021	W
Current consumption	2.46	A
Mass flow	45	kg/h
C.O.P.	1.86	

**Pressure switch settings**

Maximum HP switch setting	25.8	bar(g)
Minimum LP switch setting	0.9	bar(g)
LP pump down setting	1.2	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions**
**R407F**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	-	855	1 314	1 886	2 586	3 425	4 417	5 576	6 914
35	-	731	1 149	1 671	2 311	3 082	3 997	5 070	6 312
40	-	627	1 007	1 482	2 066	2 772	3 613	4 602	5 753
45	-	541	886	1 317	1 848	2 492	3 262	4 172	5 233
50	-	-	784	1 175	1 656	2 242	2 944	3 776	4 752
55	-	-	-	1 053	1 488	2 018	2 655	3 414	4 307
60	-	-	-	-	-	-	-	-	-

**Power input in W**

30	-	694	803	903	988	1 053	1 092	1 098	1 067
35	-	693	810	922	1 023	1 108	1 171	1 205	1 205
40	-	694	817	939	1 054	1 156	1 241	1 300	1 330
45	-	703	828	957	1 084	1 201	1 304	1 387	1 444
50	-	-	847	981	1 116	1 246	1 366	1 469	1 550
55	-	-	-	1 012	1 153	1 294	1 428	1 549	1 653
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

30	-	1.98	2.14	2.29	2.42	2.53	2.60	2.65	2.66
35	-	2.03	2.18	2.33	2.46	2.57	2.66	2.73	2.76
40	-	2.06	2.21	2.36	2.49	2.62	2.72	2.81	2.87
45	-	2.09	2.23	2.38	2.53	2.66	2.79	2.90	2.99
50	-	-	2.26	2.42	2.57	2.72	2.87	3.01	3.13
55	-	-	-	2.47	2.64	2.81	2.98	3.15	3.31
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

30	-	18	27	38	51	67	85	106	130
35	-	16	25	35	48	63	80	101	124
40	-	14	23	33	45	59	76	96	118
45	-	13	21	31	42	56	72	91	113
50	-	-	20	29	40	54	69	87	108
55	-	-	-	28	39	51	66	84	104
60	-	-	-	-	-	-	-	-	-

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

30	-	1.23	1.64	2.09	2.62	3.25	4.05	5.08	6.48
35	-	1.06	1.42	1.81	2.26	2.78	3.41	4.21	5.24
40	-	0.90	1.23	1.58	1.96	2.40	2.91	3.54	4.32
45	-	0.77	1.07	1.38	1.71	2.07	2.50	3.01	3.62
50	-	-	0.93	1.20	1.48	1.80	2.16	2.57	3.06
55	-	-	-	1.04	1.29	1.56	1.86	2.20	2.61
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 848	W
Power input	1 084	W
Current consumption	2.53	A
Mass flow	42	kg/h
C.O.P.	1.71	

**Pressure switch settings**

Maximum HP switch setting	24	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.26	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	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, ARI rating conditions**
**R407F**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	-	917	1 407	2 018	2 763	3 656	4 712	5 942	7 362
35	-	787	1 235	1 795	2 480	3 304	4 281	5 425	6 748
40	-	679	1 088	1 600	2 228	2 986	3 888	4 948	6 178
45	-	590	964	1 431	2 005	2 701	3 531	4 510	5 651
50	-	-	860	1 286	1 810	2 446	3 208	4 110	5 165
55	-	-	-	1 164	1 641	2 221	2 919	3 747	4 720
60	-	-	-	-	-	-	-	-	-

**Power input in W**

30	-	694	803	903	988	1 053	1 092	1 098	1 067
35	-	693	810	922	1 023	1 108	1 171	1 205	1 205
40	-	694	817	939	1 054	1 156	1 241	1 300	1 330
45	-	703	828	957	1 084	1 201	1 304	1 387	1 444
50	-	-	847	981	1 116	1 246	1 366	1 469	1 550
55	-	-	-	1 012	1 153	1 294	1 428	1 549	1 653
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

30	-	1.98	2.14	2.29	2.42	2.53	2.60	2.65	2.66
35	-	2.03	2.18	2.33	2.46	2.57	2.66	2.73	2.76
40	-	2.06	2.21	2.36	2.49	2.62	2.72	2.81	2.87
45	-	2.09	2.23	2.38	2.53	2.66	2.79	2.90	2.99
50	-	-	2.26	2.42	2.57	2.72	2.87	3.01	3.13
55	-	-	-	2.47	2.64	2.81	2.98	3.15	3.31
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

30	-	18	27	38	51	66	84	105	129
35	-	16	24	35	48	62	80	100	123
40	-	14	22	33	45	59	76	95	117
45	-	13	21	31	42	56	72	91	112
50	-	-	20	29	40	53	69	87	108
55	-	-	-	28	38	51	66	83	103
60	-	-	-	-	-	-	-	-	-

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

30	-	1.32	1.75	2.23	2.80	3.47	4.31	5.41	6.90
35	-	1.14	1.53	1.95	2.42	2.98	3.66	4.50	5.60
40	-	0.98	1.33	1.70	2.11	2.58	3.13	3.80	4.65
45	-	0.84	1.16	1.49	1.85	2.25	2.71	3.25	3.91
50	-	-	1.02	1.31	1.62	1.96	2.35	2.80	3.33
55	-	-	-	1.15	1.42	1.72	2.04	2.42	2.86
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 005	W
Power input	1 084	W
Current consumption	2.53	A
Mass flow	42	kg/h
C.O.P.	1.85	

**Pressure switch settings**

Maximum HP switch setting	24	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.26	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-25	-20	-10	-5	0	5	10	15

**Cooling capacity in W**

35	404	649	1 357	1 839	2 419	3 107	3 913	4 846	5 916
40	330	560	1 217	1 662	2 199	2 837	3 586	4 455	5 454
45	255	470	1 075	1 484	1 978	2 566	3 257	4 062	4 989
50	180	380	933	1 307	1 757	2 295	2 928	3 669	4 525
55	-	-	795	1 131	1 539	2 026	2 602	3 278	4 063
60	-	-	-	961	1 324	1 761	2 280	2 891	3 605
65	-	-	-	-	1 116	1 502	1 964	2 511	3 152
75	-	-	-	-	-	-	1 359	1 776	2 275

**Power input in W**

35	448	516	643	695	736	763	773	762	728
40	459	530	668	729	780	818	841	845	827
45	460	536	688	758	820	870	907	927	926
50	452	533	701	781	855	919	971	1 008	1 026
55	-	-	706	798	885	964	1 032	1 086	1 124
60	-	-	-	807	908	1 003	1 088	1 162	1 219
65	-	-	-	-	924	1 036	1 140	1 233	1 312
75	-	-	-	-	-	-	1 223	1 359	1 485

**Current consumption in A**

35	1.81	1.84	1.90	1.94	1.97	2.00	2.04	2.08	2.12
40	1.81	1.84	1.91	1.95	1.99	2.04	2.09	2.14	2.19
45	1.80	1.84	1.92	1.97	2.02	2.08	2.14	2.20	2.27
50	1.79	1.83	1.93	1.99	2.05	2.12	2.19	2.27	2.36
55	-	-	1.94	2.01	2.08	2.16	2.25	2.34	2.44
60	-	-	-	2.02	2.11	2.20	2.30	2.41	2.53
65	-	-	-	-	2.13	2.24	2.36	2.49	2.63
75	-	-	-	-	-	-	2.48	2.64	2.82

**Mass flow in kg/h**

35	10	16	32	43	55	69	86	104	126
40	9	15	30	41	53	66	82	100	121
45	7	13	28	38	50	63	79	96	116
50	5	11	26	36	47	60	75	91	110
55	-	-	24	33	44	56	70	86	105
60	-	-	-	30	40	52	65	81	98
65	-	-	-	-	36	47	60	75	92
75	-	-	-	-	-	-	49	62	77

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

35	0.90	1.26	2.11	2.65	3.29	4.07	5.06	6.36	8.13
40	0.72	1.06	1.82	2.28	2.82	3.47	4.27	5.27	6.60
45	0.55	0.88	1.56	1.96	2.41	2.95	3.59	4.38	5.39
50	0.40	0.71	1.33	1.67	2.06	2.50	3.02	3.64	4.41
55	-	-	1.13	1.42	1.74	2.10	2.52	3.02	3.62
60	-	-	-	1.19	1.46	1.76	2.09	2.49	2.96
65	-	-	-	-	1.21	1.45	1.72	2.04	2.40
75	-	-	-	-	-	-	1.11	1.31	1.53

**Nominal performance at to = 5 °C, tc = 50 °C**

Cooling capacity	2 295	W
Power input	919	W
Current consumption	2.12	A
Mass flow	60	kg/h
C.O.P.	2.50	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	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, ARI rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-10	-5	0	5	10	15	20

**Cooling capacity in W**

35	439	705	1 467	1 985	2 607	3 344	4 205	5 201	6 341
40	361	611	1 322	1 804	2 382	3 068	3 871	4 802	5 871
45	281	516	1 175	1 620	2 154	2 789	3 535	4 400	5 397
50	-	420	1 028	1 435	1 926	2 510	3 197	3 997	4 922
55	-	-	882	1 253	1 699	2 231	2 860	3 595	4 447
60	-	-	-	1 073	1 475	1 956	2 526	3 196	3 976
65	-	-	-	-	-	1 686	2 198	2 802	3 509
75	-	-	-	-	-	-	1 564	2 036	2 597

**Power input in W**

35	448	516	643	695	736	763	773	762	728
40	459	530	668	729	780	818	841	845	827
45	460	536	688	758	820	870	907	927	926
50	-	533	701	781	855	919	971	1 008	1 026
55	-	-	706	798	885	964	1 032	1 086	1 124
60	-	-	-	807	908	1 003	1 088	1 162	1 219
65	-	-	-	-	-	1 036	1 140	1 233	1 312
75	-	-	-	-	-	-	1 223	1 359	1 485

**Current consumption in A**

35	1.81	1.84	1.90	1.94	1.97	2.00	2.04	2.08	2.12
40	1.81	1.84	1.91	1.95	1.99	2.04	2.09	2.14	2.19
45	1.80	1.84	1.92	1.97	2.02	2.08	2.14	2.20	2.27
50	-	1.83	1.93	1.99	2.05	2.12	2.19	2.27	2.36
55	-	-	1.94	2.01	2.08	2.16	2.25	2.34	2.44
60	-	-	-	2.02	2.11	2.20	2.30	2.41	2.53
65	-	-	-	-	-	2.24	2.36	2.49	2.63
75	-	-	-	-	-	-	2.48	2.64	2.82

**Mass flow in kg/h**

35	10	16	32	42	55	69	85	104	125
40	9	15	30	40	52	66	82	100	120
45	7	13	28	38	50	63	78	96	115
50	-	11	26	36	47	59	74	91	110
55	-	-	24	33	43	56	70	86	104
60	-	-	-	30	40	52	65	80	98
65	-	-	-	-	-	47	60	75	91
75	-	-	-	-	-	-	49	62	77

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

35	0.98	1.36	2.28	2.86	3.54	4.38	5.44	6.83	8.71
40	0.79	1.15	1.98	2.48	3.06	3.75	4.61	5.69	7.10
45	0.61	0.96	1.71	2.14	2.63	3.20	3.90	4.75	5.83
50	-	0.79	1.47	1.84	2.25	2.73	3.29	3.97	4.80
55	-	-	1.25	1.57	1.92	2.32	2.77	3.31	3.96
60	-	-	-	1.33	1.62	1.95	2.32	2.75	3.26
65	-	-	-	-	-	1.63	1.93	2.27	2.67
75	-	-	-	-	-	-	1.28	1.50	1.75

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	2 532	W
Power input	989	W
Current consumption	2.19	A
Mass flow	62	kg/h
C.O.P.	2.56	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

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Performance data at 50 Hz, EN 12900 rating conditions

R407C

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

Cooling capacity in W

35	1 445	2 054	2 784	3 651	4 668	5 848	7 207	-	-
40	1 255	1 824	2 503	3 306	4 249	5 344	6 607	-	-
45	1 076	1 606	2 235	2 978	3 848	4 861	6 029	-	-
50	-	1 399	1 981	2 665	3 466	4 397	5 474	-	-
55	-	-	1 739	2 367	3 100	3 953	4 939	-	-
60	-	-	-	2 082	2 750	3 526	4 424	-	-
65	-	-	-	1 811	2 415	3 116	3 929	-	-

Power input in W

35	794	878	948	1 005	1 050	1 084	1 109	-	-
40	812	912	996	1 066	1 123	1 167	1 201	-	-
45	820	938	1 040	1 125	1 197	1 255	1 301	-	-
50	-	957	1 078	1 182	1 271	1 345	1 406	-	-
55	-	-	1 110	1 235	1 344	1 437	1 516	-	-
60	-	-	-	1 284	1 415	1 530	1 629	-	-
65	-	-	-	1 326	1 484	1 623	1 745	-	-

Current consumption in A

35	2.32	2.36	2.41	2.45	2.50	2.53	2.56	-	-
40	2.32	2.39	2.45	2.51	2.57	2.62	2.65	-	-
45	2.32	2.41	2.49	2.57	2.65	2.71	2.76	-	-
50	-	2.42	2.53	2.64	2.73	2.82	2.88	-	-
55	-	-	2.56	2.70	2.82	2.93	3.02	-	-
60	-	-	-	2.76	2.91	3.05	3.16	-	-
65	-	-	-	2.81	3.00	3.17	3.32	-	-

Mass flow in kg/h

35	31	44	58	75	95	117	143	-	-
40	29	41	55	72	91	112	137	-	-
45	26	38	52	68	86	107	131	-	-
50	-	35	49	64	82	103	126	-	-
55	-	-	46	61	78	98	120	-	-
60	-	-	-	57	74	93	115	-	-
65	-	-	-	54	70	89	110	-	-

Coefficient of performance (C.O.P.)

35	1.82	2.34	2.94	3.63	4.45	5.39	6.50	-	-
40	1.55	2.00	2.51	3.10	3.78	4.58	5.50	-	-
45	1.31	1.71	2.15	2.65	3.22	3.87	4.64	-	-
50	-	1.46	1.84	2.25	2.73	3.27	3.89	-	-
55	-	-	1.57	1.92	2.31	2.75	3.26	-	-
60	-	-	-	1.62	1.94	2.30	2.72	-	-
65	-	-	-	1.37	1.63	1.92	2.25	-	-

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	3 466	W
Power input	1 271	W
Current consumption	2.73	A
Mass flow	82	kg/h
C.O.P.	2.73	



Pressure switch settings

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

Sound power data

Sound power level	72	dB(A)
With acoustic hood	64	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, ARI rating conditions**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	1 555	2 208	2 990	3 916	5 001	6 259	7 706	-	-
40	1 359	1 971	2 701	3 564	4 574	5 747	7 098	-	-
45	1 172	1 746	2 427	3 229	4 167	5 257	6 513	-	-
50	-	1 533	2 166	2 910	3 778	4 787	5 950	-	-
55	-	-	1 918	2 606	3 407	4 337	5 411	-	-
60	-	-	-	2 316	3 052	3 906	4 893	-	-
65	-	-	-	2 040	2 714	3 495	4 397	-	-

**Power input in W**

35	794	878	948	1 005	1 050	1 084	1 109	-	-
40	812	912	996	1 066	1 123	1 167	1 201	-	-
45	820	938	1 040	1 125	1 197	1 255	1 301	-	-
50	-	957	1 078	1 182	1 271	1 345	1 406	-	-
55	-	-	1 110	1 235	1 344	1 437	1 516	-	-
60	-	-	-	1 284	1 415	1 530	1 629	-	-
65	-	-	-	1 326	1 484	1 623	1 745	-	-

**Current consumption in A**

35	2.32	2.36	2.41	2.45	2.50	2.53	2.56	-	-
40	2.32	2.39	2.45	2.51	2.57	2.62	2.65	-	-
45	2.32	2.41	2.49	2.57	2.65	2.71	2.76	-	-
50	-	2.42	2.53	2.64	2.73	2.82	2.88	-	-
55	-	-	2.56	2.70	2.82	2.93	3.02	-	-
60	-	-	-	2.76	2.91	3.05	3.16	-	-
65	-	-	-	2.81	3.00	3.17	3.32	-	-

**Mass flow in kg/h**

35	31	44	58	75	94	117	142	-	-
40	29	41	55	71	90	112	136	-	-
45	26	38	52	68	86	107	131	-	-
50	-	35	48	64	82	102	125	-	-
55	-	-	45	60	78	97	120	-	-
60	-	-	-	57	74	93	114	-	-
65	-	-	-	54	70	88	109	-	-

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

35	1.96	2.52	3.15	3.90	4.76	5.77	6.95	-	-
40	1.67	2.16	2.71	3.34	4.07	4.92	5.91	-	-
45	1.43	1.86	2.33	2.87	3.48	4.19	5.01	-	-
50	-	1.60	2.01	2.46	2.97	3.56	4.23	-	-
55	-	-	1.73	2.11	2.53	3.02	3.57	-	-
60	-	-	-	1.80	2.16	2.55	3.00	-	-
65	-	-	-	1.54	1.83	2.15	2.52	-	-

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	3 847	W
Power input	1 377	W
Current consumption	2.86	A
Mass flow	87	kg/h
C.O.P.	2.79	

**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	72	dB(A)
With acoustic hood	64	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions, Suction temp. = 20 °C**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	-	1 630	2 213	2 917	3 750	-	-	-	-
20	-	1 285	1 802	2 426	3 165	4 031	5 035	-	-
30	-	975	1 428	1 974	2 621	3 380	4 261	5 276	6 441
40	-	-	1 092	1 563	2 120	2 774	3 535	4 412	5 420
50	-	-	-	1 193	1 663	2 214	2 857	3 600	4 454
60	-	-	-	-	1 251	1 703	2 230	2 841	3 544

**Power input in W**

10	-	618	658	673	660	-	-	-	-
20	-	653	727	781	810	813	784	-	-
30	-	661	766	855	924	969	988	977	933
40	-	-	781	901	1 006	1 091	1 154	1 191	1 199
50	-	-	-	925	1 062	1 183	1 286	1 368	1 424
60	-	-	-	-	1 097	1 252	1 392	1 514	1 616

**Current consumption in A**

10	-	2.69	2.77	2.84	2.88	-	-	-	-
20	-	2.34	2.43	2.50	2.55	2.57	2.55	-	-
30	-	2.23	2.31	2.39	2.46	2.51	2.53	2.51	2.45
40	-	-	2.32	2.41	2.51	2.59	2.66	2.69	2.69
50	-	-	-	2.46	2.59	2.71	2.83	2.92	2.99
60	-	-	-	-	2.60	2.77	2.94	3.10	3.25

**Mass flow in kg/h**

10	-	26	36	48	62	-	-	-	-
20	-	23	32	43	56	72	91	-	-
30	-	19	27	38	51	66	84	105	130
40	-	-	23	33	45	59	76	96	120
50	-	-	-	28	39	53	69	88	110
60	-	-	-	-	34	46	62	79	101

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

10	-	2.64	3.37	4.34	5.69	-	-	-	-
20	-	1.97	2.48	3.11	3.91	4.96	6.42	-	-
30	-	1.47	1.86	2.31	2.84	3.49	4.31	5.40	6.90
40	-	-	1.40	1.73	2.11	2.54	3.06	3.71	4.52
50	-	-	-	1.29	1.57	1.87	2.22	2.63	3.13
60	-	-	-	-	1.14	1.36	1.60	1.88	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 886	W
Power input	1 036	W
Current consumption	2.55	A
Mass flow	42	kg/h
C.O.P.	1.82	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	74	dB(A)
With acoustic hood	66	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

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

**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	1 160	1 638	2 226	2 935	3 774	-	-	-	-
20	855	1 276	1 795	2 421	3 164	4 035	5 044	-	-
30	589	955	1 405	1 950	2 599	3 363	4 251	5 274	6 441
40	361	674	1 059	1 524	2 081	2 739	3 508	4 398	5 420
50	-	436	756	1 144	1 610	2 164	2 816	3 576	4 454
60	-	-	499	811	1 188	1 640	2 176	2 807	3 544

**Power input in W**

10	557	618	658	673	660	-	-	-	-
20	562	653	727	781	810	813	784	-	-
30	543	661	766	855	924	969	988	977	933
40	506	648	781	901	1 006	1 091	1 154	1 191	1 199
50	-	619	776	925	1 062	1 183	1 286	1 368	1 424
60	-	-	759	932	1 097	1 252	1 392	1 514	1 616

**Current consumption in A**

10	2.59	2.69	2.77	2.84	2.88	-	-	-	-
20	2.26	2.34	2.43	2.50	2.55	2.57	2.55	-	-
30	2.15	2.23	2.31	2.39	2.46	2.51	2.53	2.51	2.45
40	2.15	2.23	2.32	2.41	2.51	2.59	2.66	2.69	2.69
50	-	2.24	2.34	2.46	2.59	2.71	2.83	2.92	2.99
60	-	-	2.28	2.43	2.60	2.77	2.94	3.10	3.25

**Mass flow in kg/h**

10	22	31	41	54	68	-	-	-	-
20	18	26	36	48	62	78	96	-	-
30	14	22	31	42	55	71	88	108	130
40	9	17	26	37	49	64	80	99	120
50	-	12	21	31	43	57	72	90	110
60	-	-	16	26	37	50	65	82	101

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

10	2.08	2.65	3.38	4.36	5.72	-	-	-	-
20	1.52	1.95	2.47	3.10	3.91	4.97	6.43	-	-
30	1.09	1.44	1.83	2.28	2.81	3.47	4.30	5.40	6.90
40	0.71	1.04	1.36	1.69	2.07	2.51	3.04	3.69	4.52
50	-	0.70	0.97	1.24	1.52	1.83	2.19	2.61	3.13
60	-	-	0.66	0.87	1.08	1.31	1.56	1.85	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 839	W
Power input	1 036	W
Current consumption	2.55	A
Mass flow	46	kg/h
C.O.P.	1.77	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	74	dB(A)
With acoustic hood	66	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, EN 12900 rating conditions, Suction temp. = 20 °C

**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	-	1 633	2 217	2 920	3 754	-	-	-	-
20	-	1 287	1 806	2 429	3 168	4 034	5 038	-	-
30	-	977	1 431	1 977	2 625	3 383	4 264	5 278	6 441
40	-	-	1 095	1 566	2 123	2 777	3 537	4 414	5 420
50	-	-	-	1 196	1 666	2 218	2 860	3 602	4 454
60	-	-	-	-	1 254	1 706	2 233	2 843	3 544

**Power input in W**

10	-	618	658	673	660	-	-	-	-
20	-	653	727	781	810	813	784	-	-
30	-	661	766	855	924	969	988	977	933
40	-	-	781	901	1 006	1 091	1 154	1 191	1 199
50	-	-	-	925	1 062	1 183	1 286	1 368	1 424
60	-	-	-	-	1 097	1 252	1 392	1 514	1 616

**Current consumption in A**

10	-	2.69	2.77	2.84	2.88	-	-	-	-
20	-	2.34	2.43	2.50	2.55	2.57	2.55	-	-
30	-	2.23	2.31	2.39	2.46	2.51	2.53	2.51	2.45
40	-	-	2.32	2.41	2.51	2.59	2.66	2.69	2.69
50	-	-	-	2.46	2.59	2.71	2.83	2.92	2.99
60	-	-	-	-	2.60	2.77	2.94	3.10	3.25

**Mass flow in kg/h**

10	-	27	37	49	63	-	-	-	-
20	-	23	32	44	58	74	93	-	-
30	-	19	28	39	52	67	85	107	132
40	-	-	23	34	46	60	78	98	122
50	-	-	-	29	40	54	70	90	113
60	-	-	-	-	35	48	63	81	103

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

10	-	2.64	3.37	4.34	5.69	-	-	-	-
20	-	1.97	2.48	3.11	3.91	4.96	6.42	-	-
30	-	1.48	1.87	2.31	2.84	3.49	4.31	5.40	6.90
40	-	-	1.40	1.74	2.11	2.55	3.07	3.71	4.52
50	-	-	-	1.29	1.57	1.87	2.22	2.63	3.13
60	-	-	-	-	1.14	1.36	1.60	1.88	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 889	W
Power input	1 036	W
Current consumption	2.55	A
Mass flow	43	kg/h
C.O.P.	1.82	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	73	dB(A)
With acoustic hood	65	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

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

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	1 160	1 638	2 226	2 935	3 774	-	-	-	-
20	855	1 276	1 795	2 421	3 164	4 035	5 044	-	-
30	589	955	1 405	1 950	2 599	3 363	4 251	5 274	6 441
40	361	674	1 059	1 524	2 081	2 739	3 508	4 398	5 420
50	-	436	756	1 144	1 610	2 164	2 816	3 576	4 454
60	-	-	499	811	1 188	1 640	2 176	2 807	3 544

**Power input in W**

10	557	618	658	673	660	-	-	-	-
20	562	653	727	781	810	813	784	-	-
30	543	661	766	855	924	969	988	977	933
40	506	648	781	901	1 006	1 091	1 154	1 191	1 199
50	-	619	776	925	1 062	1 183	1 286	1 368	1 424
60	-	-	759	932	1 097	1 252	1 392	1 514	1 616

**Current consumption in A**

10	2.59	2.69	2.77	2.84	2.88	-	-	-	-
20	2.26	2.34	2.43	2.50	2.55	2.57	2.55	-	-
30	2.15	2.23	2.31	2.39	2.46	2.51	2.53	2.51	2.45
40	2.15	2.23	2.32	2.41	2.51	2.59	2.66	2.69	2.69
50	-	2.24	2.34	2.46	2.59	2.71	2.83	2.92	2.99
60	-	-	2.28	2.43	2.60	2.77	2.94	3.10	3.25

**Mass flow in kg/h**

10	22	32	42	55	70	-	-	-	-
20	18	27	37	49	63	79	98	-	-
30	14	22	32	43	57	72	90	110	132
40	9	17	27	38	50	65	82	101	122
50	-	13	22	32	44	58	74	92	113
60	-	-	17	27	38	51	66	84	103

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

10	2.08	2.65	3.38	4.36	5.72	-	-	-	-
20	1.52	1.95	2.47	3.10	3.91	4.97	6.43	-	-
30	1.09	1.44	1.83	2.28	2.81	3.47	4.30	5.40	6.90
40	0.71	1.04	1.36	1.69	2.07	2.51	3.04	3.69	4.52
50	-	0.70	0.97	1.24	1.52	1.83	2.19	2.61	3.13
60	-	-	0.66	0.87	1.08	1.31	1.56	1.85	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 839	W
Power input	1 036	W
Current consumption	2.55	A
Mass flow	47	kg/h
C.O.P.	1.77	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	73	dB(A)
With accoustic hood	65	dB(A)

Tolerance according EN12900

**Performance data at 50 Hz, EN 12900 rating conditions, Suction temp. = 20 °C**
**R452A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	-	1 842	2 424	3 136	3 990	-	-	-	-
20	-	1 546	2 068	2 703	3 462	4 355	5 397	-	-
30	-	1 243	1 705	2 263	2 926	3 705	4 613	5 661	6 865
40	-	936	1 339	1 819	2 386	3 051	3 825	4 717	5 742
50	-	-	972	1 375	1 847	2 398	3 038	3 776	4 621
60	-	-	-	933	1 312	1 750	2 258	2 842	3 509

**Power input in W**

10	-	693	724	733	718	-	-	-	-
20	-	747	811	855	875	871	841	-	-
30	-	772	872	952	1 009	1 044	1 054	1 038	994
40	-	759	896	1 014	1 112	1 187	1 239	1 266	1 267
50	-	-	873	1 032	1 172	1 290	1 387	1 459	1 506
60	-	-	-	995	1 179	1 343	1 486	1 607	1 703

**Current consumption in A**

10	-	2.24	2.26	2.27	2.25	-	-	-	-
20	-	2.27	2.32	2.36	2.38	2.37	2.34	-	-
30	-	2.30	2.38	2.44	2.50	2.53	2.55	2.53	2.48
40	-	2.30	2.41	2.51	2.61	2.69	2.75	2.79	2.79
50	-	-	2.42	2.56	2.69	2.82	2.93	3.02	3.09
60	-	-	-	2.56	2.74	2.92	3.08	3.23	3.37

**Mass flow in kg/h**

10	-	38	51	66	84	-	-	-	-
20	-	34	46	61	78	99	124	-	-
30	-	30	42	55	72	92	116	144	178
40	-	25	36	50	66	85	107	134	167
50	-	-	30	43	58	76	98	124	154
60	-	-	-	35	49	67	87	112	141

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

10	-	2.66	3.35	4.28	5.56	-	-	-	-
20	-	2.07	2.55	3.16	3.96	5.00	6.42	-	-
30	-	1.61	1.96	2.38	2.90	3.55	4.38	5.45	6.90
40	-	1.23	1.49	1.79	2.15	2.57	3.09	3.72	4.53
50	-	-	1.11	1.33	1.58	1.86	2.19	2.59	3.07
60	-	-	-	0.94	1.11	1.30	1.52	1.77	2.06

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 116	W
Power input	1 147	W
Current consumption	2.65	A
Mass flow	62	kg/h
C.O.P.	1.84	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	76	dB(A)
With acoustic hood	68	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	1 333	1 793	2 373	3 088	3 948	-	-	-	-
20	1 068	1 480	1 996	2 629	3 392	4 297	5 355	-	-
30	801	1 165	1 616	2 168	2 832	3 621	4 548	5 625	6 865
40	538	853	1 239	1 708	2 273	2 946	3 741	4 668	5 742
50	285	550	869	1 255	1 720	2 277	2 937	3 715	4 621
60	-	261	513	814	1 178	1 618	2 144	2 770	3 509

**Power input in W**

10	641	693	724	733	718	-	-	-	-
20	663	747	811	855	875	871	841	-	-
30	654	772	872	952	1 009	1 044	1 054	1 038	994
40	604	759	896	1 014	1 112	1 187	1 239	1 266	1 267
50	502	696	873	1 032	1 172	1 290	1 387	1 459	1 506
60	-	574	793	995	1 179	1 343	1 486	1 607	1 703

**Current consumption in A**

10	2.20	2.24	2.26	2.27	2.25	-	-	-	-
20	2.22	2.27	2.32	2.36	2.38	2.37	2.34	-	-
30	2.22	2.30	2.38	2.44	2.50	2.53	2.55	2.53	2.48
40	2.20	2.30	2.41	2.51	2.61	2.69	2.75	2.79	2.79
50	2.14	2.28	2.42	2.56	2.69	2.82	2.93	3.02	3.09
60	-	2.21	2.38	2.56	2.74	2.92	3.08	3.23	3.37

**Mass flow in kg/h**

10	34	45	58	74	93	-	-	-	-
20	29	40	53	68	86	107	131	-	-
30	25	35	48	62	79	99	122	149	178
40	19	29	42	56	72	91	113	138	167
50	12	22	34	48	64	82	103	127	154
60	-	14	25	39	54	72	92	115	141

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

10	2.08	2.59	3.28	4.21	5.50	-	-	-	-
20	1.61	1.98	2.46	3.08	3.88	4.93	6.37	-	-
30	1.22	1.51	1.85	2.28	2.81	3.47	4.32	5.42	6.90
40	0.89	1.12	1.38	1.68	2.04	2.48	3.02	3.69	4.53
50	0.57	0.79	1.00	1.22	1.47	1.76	2.12	2.55	3.07
60	-	0.45	0.65	0.82	1.00	1.20	1.44	1.72	2.06

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	1 995	W
Power input	1 147	W
Current consumption	2.65	A
Mass flow	68	kg/h
C.O.P.	1.74	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	76	dB(A)
With acoustic hood	68	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**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	2 010	2 742	3 603	4 611	5 781	7 130	8 674	-	-
40	1 788	2 490	3 312	4 271	5 383	6 665	8 132	-	-
45	1 556	2 225	3 006	3 915	4 967	6 179	7 567	-	-
50	-	1 952	2 690	3 546	4 536	5 676	6 982	-	-
55	-	-	2 365	3 166	4 091	5 157	6 379	-	-
60	-	-	-	2 778	3 636	4 625	5 761	-	-
65	-	-	-	2 384	3 173	4 083	5 130	-	-

**Power input in W**

35	1 007	1 108	1 180	1 229	1 259	1 275	1 283	-	-
40	1 031	1 161	1 259	1 329	1 376	1 406	1 424	-	-
45	1 034	1 198	1 325	1 421	1 490	1 538	1 570	-	-
50	-	1 214	1 375	1 501	1 596	1 667	1 717	-	-
55	-	-	1 406	1 567	1 693	1 790	1 862	-	-
60	-	-	-	1 614	1 775	1 903	2 003	-	-
65	-	-	-	1 640	1 841	2 004	2 135	-	-

**Current consumption in A**

35	2.13	2.21	2.27	2.31	2.34	2.37	2.40	-	-
40	2.15	2.26	2.34	2.40	2.45	2.48	2.51	-	-
45	2.16	2.30	2.41	2.50	2.56	2.61	2.65	-	-
50	-	2.32	2.47	2.58	2.68	2.75	2.81	-	-
55	-	-	2.50	2.66	2.79	2.89	2.97	-	-
60	-	-	-	2.71	2.88	3.02	3.14	-	-
65	-	-	-	2.74	2.96	3.14	3.29	-	-

**Mass flow in kg/h**

35	44	59	76	95	118	143	172	-	-
40	41	56	73	93	115	140	169	-	-
45	38	53	70	89	112	137	165	-	-
50	-	49	66	86	108	133	160	-	-
55	-	-	62	81	103	128	155	-	-
60	-	-	-	76	98	122	150	-	-
65	-	-	-	71	92	117	143	-	-

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

35	2.00	2.47	3.05	3.75	4.59	5.59	6.76	-	-
40	1.73	2.14	2.63	3.21	3.91	4.74	5.71	-	-
45	1.50	1.86	2.27	2.76	3.33	4.02	4.82	-	-
50	-	1.61	1.96	2.36	2.84	3.41	4.07	-	-
55	-	-	1.68	2.02	2.42	2.88	3.43	-	-
60	-	-	-	1.72	2.05	2.43	2.88	-	-
65	-	-	-	1.45	1.72	2.04	2.40	-	-

**Nominal performance at to = 5 °C, tc = 50 °C**

Cooling capacity	4 536	W
Power input	1 596	W
Current consumption	2.68	A
Mass flow	108	kg/h
C.O.P.	2.84	

**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	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, ARI rating conditions**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	2 164	2 947	3 869	4 945	6 193	7 631	9 274	-	-
40	1 935	2 691	3 575	4 604	5 796	7 167	8 736	-	-
45	1 695	2 420	3 265	4 245	5 379	6 682	8 173	-	-
50	-	2 139	2 942	3 871	4 944	6 178	7 590	-	-
55	-	-	2 609	3 485	4 496	5 658	6 988	-	-
60	-	-	-	3 089	4 036	5 124	6 371	-	-
65	-	-	-	2 687	3 567	4 579	5 741	-	-

**Power input in W**

35	1 007	1 108	1 180	1 229	1 259	1 275	1 283	-	-
40	1 031	1 161	1 259	1 329	1 376	1 406	1 424	-	-
45	1 034	1 198	1 325	1 421	1 490	1 538	1 570	-	-
50	-	1 214	1 375	1 501	1 596	1 667	1 717	-	-
55	-	-	1 406	1 567	1 693	1 790	1 862	-	-
60	-	-	-	1 614	1 775	1 903	2 003	-	-
65	-	-	-	1 640	1 841	2 004	2 135	-	-

**Current consumption in A**

35	2.13	2.21	2.27	2.31	2.34	2.37	2.40	-	-
40	2.15	2.26	2.34	2.40	2.45	2.48	2.51	-	-
45	2.16	2.30	2.41	2.50	2.56	2.61	2.65	-	-
50	-	2.32	2.47	2.58	2.68	2.75	2.81	-	-
55	-	-	2.50	2.66	2.79	2.89	2.97	-	-
60	-	-	-	2.71	2.88	3.02	3.14	-	-
65	-	-	-	2.74	2.96	3.14	3.29	-	-

**Mass flow in kg/h**

35	43	58	75	95	117	142	171	-	-
40	41	56	73	92	114	139	168	-	-
45	37	52	69	89	111	136	164	-	-
50	-	49	66	85	107	132	159	-	-
55	-	-	62	81	103	127	155	-	-
60	-	-	-	76	98	122	149	-	-
65	-	-	-	70	92	116	143	-	-

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

35	2.15	2.66	3.28	4.03	4.92	5.98	7.23	-	-
40	1.88	2.32	2.84	3.47	4.21	5.10	6.14	-	-
45	1.64	2.02	2.46	2.99	3.61	4.35	5.21	-	-
50	-	1.76	2.14	2.58	3.10	3.71	4.42	-	-
55	-	-	1.85	2.22	2.66	3.16	3.75	-	-
60	-	-	-	1.91	2.27	2.69	3.18	-	-
65	-	-	-	1.64	1.94	2.29	2.69	-	-

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	5 046	W
Power input	1 726	W
Current consumption	2.82	A
Mass flow	114	kg/h
C.O.P.	2.92	

**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-25	-20	-10	-5	0	5	10	15

**Cooling capacity in W**

35	485	779	1 628	2 207	2 903	3 728	4 695	5 815	7 100
40	396	672	1 460	1 995	2 639	3 405	4 303	5 346	6 545
45	306	564	1 290	1 781	2 374	3 079	3 909	4 874	5 987
50	216	456	1 120	1 568	2 109	2 753	3 514	4 403	5 430
55	-	-	953	1 358	1 846	2 431	3 123	3 934	4 875
60	-	-	-	1 153	1 589	2 113	2 736	3 470	4 325
65	-	-	-	-	1 340	1 803	2 357	3 013	3 783
75	-	-	-	-	-	-	1 631	2 132	2 730

**Power input in W**

35	538	620	771	834	884	916	927	914	873
40	550	636	802	874	936	982	1 009	1 013	992
45	552	643	825	909	983	1 044	1 089	1 112	1 112
50	542	640	841	937	1 026	1 103	1 165	1 209	1 231
55	-	-	847	957	1 062	1 156	1 238	1 303	1 348
60	-	-	-	969	1 090	1 203	1 306	1 394	1 463
65	-	-	-	-	1 109	1 243	1 367	1 479	1 575
75	-	-	-	-	-	-	1 467	1 631	1 782

**Current consumption in A**

35	1.89	1.92	1.99	2.02	2.05	2.09	2.13	2.17	2.21
40	1.89	1.92	2.00	2.04	2.08	2.13	2.18	2.23	2.29
45	1.88	1.92	2.01	2.05	2.11	2.17	2.23	2.30	2.37
50	1.87	1.91	2.01	2.07	2.14	2.21	2.29	2.37	2.46
55	-	-	2.02	2.09	2.17	2.25	2.34	2.44	2.55
60	-	-	-	2.11	2.20	2.30	2.40	2.52	2.64
65	-	-	-	-	2.23	2.34	2.46	2.60	2.74
75	-	-	-	-	-	-	2.58	2.75	2.94

**Mass flow in kg/h**

35	12	19	39	51	66	83	103	125	151
40	11	18	37	49	63	80	99	121	145
45	9	16	34	46	60	76	94	115	139
50	7	13	31	43	56	72	89	110	133
55	-	-	28	39	52	67	84	104	126
60	-	-	-	36	48	62	79	97	118
65	-	-	-	-	43	57	72	90	110
75	-	-	-	-	-	-	59	75	93

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

35	0.90	1.26	2.11	2.65	3.29	4.07	5.06	6.36	8.13
40	0.72	1.06	1.82	2.28	2.82	3.47	4.27	5.27	6.60
45	0.55	0.88	1.56	1.96	2.41	2.95	3.59	4.38	5.39
50	0.40	0.71	1.33	1.67	2.06	2.50	3.02	3.64	4.41
55	-	-	1.13	1.42	1.74	2.10	2.52	3.02	3.62
60	-	-	-	1.19	1.46	1.76	2.09	2.49	2.96
65	-	-	-	-	1.21	1.45	1.72	2.04	2.40
75	-	-	-	-	-	-	1.11	1.31	1.53

**Nominal performance at to = 5 °C, tc = 50 °C**

Cooling capacity	2 753	W
Power input	1 103	W
Current consumption	2.21	A
Mass flow	72	kg/h
C.O.P.	2.50	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	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, ARI rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-10	-5	0	5	10	15	20

**Cooling capacity in W**

35	527	845	1 761	2 382	3 129	4 013	5 046	6 241	7 609
40	433	734	1 587	2 164	2 859	3 682	4 646	5 763	7 045
45	337	619	1 410	1 944	2 585	3 347	4 241	5 280	6 476
50	-	504	1 233	1 722	2 311	3 012	3 836	4 797	5 906
55	-	-	1 058	1 503	2 039	2 678	3 432	4 314	5 337
60	-	-	-	1 288	1 770	2 348	3 032	3 835	4 771
65	-	-	-	-	-	2 024	2 637	3 362	4 211
75	-	-	-	-	-	-	1 876	2 443	3 117

**Power input in W**

35	538	620	771	834	884	916	927	914	873
40	550	636	802	874	936	982	1 009	1 013	992
45	552	643	825	909	983	1 044	1 089	1 112	1 112
50	-	640	841	937	1 026	1 103	1 165	1 209	1 231
55	-	-	847	957	1 062	1 156	1 238	1 303	1 348
60	-	-	-	969	1 090	1 203	1 306	1 394	1 463
65	-	-	-	-	-	1 243	1 367	1 479	1 575
75	-	-	-	-	-	-	1 467	1 631	1 782

**Current consumption in A**

35	1.89	1.92	1.99	2.02	2.05	2.09	2.13	2.17	2.21
40	1.89	1.92	2.00	2.04	2.08	2.13	2.18	2.23	2.29
45	1.88	1.92	2.01	2.05	2.11	2.17	2.23	2.30	2.37
50	-	1.91	2.01	2.07	2.14	2.21	2.29	2.37	2.46
55	-	-	2.02	2.09	2.17	2.25	2.34	2.44	2.55
60	-	-	-	2.11	2.20	2.30	2.40	2.52	2.64
65	-	-	-	-	-	2.34	2.46	2.60	2.74
75	-	-	-	-	-	-	2.58	2.75	2.94

**Mass flow in kg/h**

35	12	19	38	51	66	83	102	125	150
40	11	18	36	48	63	79	98	120	144
45	9	16	34	46	59	75	94	115	138
50	-	13	31	43	56	71	89	109	132
55	-	-	28	39	52	67	84	103	125
60	-	-	-	36	48	62	78	97	118
65	-	-	-	-	-	57	72	90	110
75	-	-	-	-	-	-	59	74	92

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

35	0.98	1.36	2.28	2.86	3.54	4.38	5.44	6.83	8.71
40	0.79	1.15	1.98	2.48	3.06	3.75	4.61	5.69	7.10
45	0.61	0.96	1.71	2.14	2.63	3.20	3.90	4.75	5.83
50	-	0.79	1.47	1.84	2.25	2.73	3.29	3.97	4.80
55	-	-	1.25	1.57	1.92	2.32	2.77	3.31	3.96
60	-	-	-	1.33	1.62	1.95	2.32	2.75	3.26
65	-	-	-	-	-	1.63	1.93	2.27	2.67
75	-	-	-	-	-	-	1.28	1.50	1.75

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	3 038	W
Power input	1 187	W
Current consumption	2.28	A
Mass flow	75	kg/h
C.O.P.	2.56	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

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**Performance data at 60 Hz, EN 12900 rating conditions**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	793	1 262	1 833	2 521	3 338	4 298	5 415	6 701	8 170
35	644	1 088	1 628	2 276	3 046	3 951	5 004	6 219	7 609
40	492	909	1 412	2 017	2 735	3 580	4 566	5 705	7 012
45	343	727	1 190	1 746	2 408	3 189	4 103	5 162	6 381
50	201	548	967	1 470	2 071	2 784	3 621	4 596	5 722
55	-	377	746	1 192	1 728	2 368	3 124	4 010	5 039
60	-	217	533	917	1 384	1 946	2 617	3 410	4 338

**Power input in W**

30	956	1 135	1 277	1 384	1 461	1 512	1 541	1 552	1 549
35	918	1 127	1 296	1 428	1 528	1 599	1 646	1 673	1 683
40	860	1 102	1 301	1 462	1 587	1 681	1 749	1 793	1 819
45	779	1 058	1 290	1 481	1 635	1 755	1 846	1 911	1 955
50	674	991	1 259	1 484	1 669	1 818	1 935	2 024	2 089
55	-	899	1 206	1 467	1 686	1 866	2 012	2 128	2 217
60	-	778	1 128	1 428	1 683	1 898	2 076	2 221	2 337

**Current consumption in A**

30	1.95	2.15	2.31	2.43	2.52	2.58	2.61	2.63	2.62
35	1.94	2.17	2.35	2.49	2.59	2.66	2.71	2.73	2.73
40	1.89	2.15	2.36	2.53	2.66	2.75	2.82	2.85	2.87
45	1.81	2.11	2.35	2.56	2.72	2.84	2.93	2.99	3.02
50	1.67	2.02	2.31	2.55	2.75	2.91	3.04	3.13	3.19
55	-	1.87	2.22	2.52	2.76	2.97	3.13	3.26	3.36
60	-	1.67	2.08	2.43	2.73	2.99	3.21	3.38	3.52

**Mass flow in kg/h**

30	25	39	55	74	95	120	148	179	215
35	22	36	52	71	93	117	145	177	212
40	18	32	49	68	89	114	142	173	209
45	14	28	45	64	85	110	138	169	204
50	9	24	40	59	81	105	133	164	199
55	-	18	35	54	75	99	127	158	192
60	-	12	29	47	68	92	120	150	185

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

30	0.83	1.11	1.44	1.82	2.28	2.84	3.51	4.32	5.27
35	0.70	0.97	1.26	1.59	1.99	2.47	3.04	3.72	4.52
40	0.57	0.82	1.09	1.38	1.72	2.13	2.61	3.18	3.85
45	0.44	0.69	0.92	1.18	1.47	1.82	2.22	2.70	3.26
50	0.30	0.55	0.77	0.99	1.24	1.53	1.87	2.27	2.74
55	-	0.42	0.62	0.81	1.03	1.27	1.55	1.88	2.27
60	-	0.28	0.47	0.64	0.82	1.03	1.26	1.54	1.86

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 408	W
Power input	1 635	W
Current consumption	2.72	A
Mass flow	85	kg/h
C.O.P.	1.47	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	76	dB(A)
With acoustic hood	68	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, ARI rating conditions**
**R404A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	883	1 401	2 030	2 784	3 678	4 726	5 942	7 339	8 931
35	724	1 221	1 821	2 538	3 388	4 383	5 538	6 867	8 385
40	561	1 032	1 598	2 275	3 075	4 014	5 104	6 362	7 800
45	398	839	1 367	1 998	2 745	3 623	4 645	5 827	7 182
50	238	646	1 132	1 713	2 403	3 216	4 167	5 269	6 538
55	-	456	898	1 425	2 054	2 799	3 675	4 695	5 875
60	-	275	667	1 139	1 704	2 379	3 178	4 116	5 207

**Power input in W**

30	956	1 135	1 277	1 384	1 461	1 512	1 541	1 552	1 549
35	918	1 127	1 296	1 428	1 528	1 599	1 646	1 673	1 683
40	860	1 102	1 301	1 462	1 587	1 681	1 749	1 793	1 819
45	779	1 058	1 290	1 481	1 635	1 755	1 846	1 911	1 955
50	674	991	1 259	1 484	1 669	1 818	1 935	2 024	2 089
55	-	899	1 206	1 467	1 686	1 866	2 012	2 128	2 217
60	-	778	1 128	1 428	1 683	1 898	2 076	2 221	2 337

**Current consumption in A**

30	1.95	2.15	2.31	2.43	2.52	2.58	2.61	2.63	2.62
35	1.94	2.17	2.35	2.49	2.59	2.66	2.71	2.73	2.73
40	1.89	2.15	2.36	2.53	2.66	2.75	2.82	2.85	2.87
45	1.81	2.11	2.35	2.56	2.72	2.84	2.93	2.99	3.02
50	1.67	2.02	2.31	2.55	2.75	2.91	3.04	3.13	3.19
55	-	1.87	2.22	2.52	2.76	2.97	3.13	3.26	3.36
60	-	1.67	2.08	2.43	2.73	2.99	3.21	3.38	3.52

**Mass flow in kg/h**

30	25	39	55	73	95	119	147	178	213
35	22	36	52	71	92	117	144	176	211
40	18	32	49	67	89	113	141	172	207
45	14	28	45	63	85	109	137	168	203
50	9	23	40	59	80	104	132	163	198
55	-	18	35	53	74	99	126	157	191
60	-	12	28	47	68	92	119	149	183

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

30	0.92	1.23	1.59	2.01	2.52	3.13	3.86	4.73	5.77
35	0.79	1.08	1.40	1.78	2.22	2.74	3.36	4.11	4.98
40	0.65	0.94	1.23	1.56	1.94	2.39	2.92	3.55	4.29
45	0.51	0.79	1.06	1.35	1.68	2.06	2.52	3.05	3.67
50	0.35	0.65	0.90	1.15	1.44	1.77	2.15	2.60	3.13
55	-	0.51	0.74	0.97	1.22	1.50	1.83	2.21	2.65
60	-	0.35	0.59	0.80	1.01	1.25	1.53	1.85	2.23

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 745	W
Power input	1 635	W
Current consumption	2.72	A
Mass flow	85	kg/h
C.O.P.	1.68	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	76	dB(A)
With acoustic hood	68	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions**
**R407A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	573	954	1 445	2 063	2 822	3 738	4 826	6 100	7 578
35	486	841	1 298	1 873	2 579	3 433	4 450	5 645	7 034
40	399	728	1 150	1 679	2 332	3 124	4 069	5 184	6 483
45	314	616	1 001	1 486	2 084	2 813	3 686	4 719	5 928
50	-	507	856	1 294	1 837	2 501	3 301	4 252	5 369
55	-	-	715	1 106	1 593	2 192	2 918	3 785	4 811
60	-	-	-	924	1 354	1 887	2 538	3 321	4 253

**Power input in W**

30	640	778	909	1 028	1 131	1 215	1 277	1 312	1 316
35	625	773	915	1 047	1 166	1 268	1 349	1 406	1 435
40	606	763	916	1 062	1 197	1 317	1 418	1 497	1 551
45	584	750	915	1 074	1 225	1 363	1 484	1 586	1 664
50	-	734	910	1 084	1 250	1 407	1 549	1 673	1 775
55	-	-	904	1 091	1 274	1 449	1 611	1 758	1 885
60	-	-	-	1 098	1 297	1 490	1 674	1 843	1 995

**Current consumption in A**

30	1.89	2.07	2.23	2.37	2.50	2.62	2.71	2.78	2.82
35	1.93	2.09	2.24	2.38	2.51	2.62	2.72	2.80	2.86
40	1.98	2.12	2.26	2.40	2.53	2.65	2.76	2.86	2.93
45	2.01	2.15	2.29	2.43	2.56	2.70	2.82	2.93	3.03
50	-	2.16	2.31	2.45	2.60	2.75	2.89	3.03	3.16
55	-	-	2.31	2.47	2.63	2.80	2.97	3.13	3.30
60	-	-	-	2.47	2.65	2.84	3.04	3.24	3.44

**Mass flow in kg/h**

30	14	22	33	46	62	81	103	128	158
35	12	21	31	44	60	78	100	125	153
40	11	19	29	42	57	75	96	121	149
45	9	17	27	39	54	72	92	116	143
50	-	15	25	37	51	68	88	111	138
55	-	-	22	34	47	64	83	106	131
60	-	-	-	31	44	60	78	100	125

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

30	0.90	1.23	1.59	2.01	2.50	3.08	3.78	4.65	5.76
35	0.78	1.09	1.42	1.79	2.21	2.71	3.30	4.01	4.90
40	0.66	0.95	1.25	1.58	1.95	2.37	2.87	3.46	4.18
45	0.54	0.82	1.09	1.38	1.70	2.06	2.48	2.98	3.56
50	-	0.69	0.94	1.19	1.47	1.78	2.13	2.54	3.03
55	-	-	0.79	1.01	1.25	1.51	1.81	2.15	2.55
60	-	-	-	0.84	1.04	1.27	1.52	1.80	2.13

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 084	W
Power input	1 225	W
Current consumption	2.56	A
Mass flow	54	kg/h
C.O.P.	1.70	

**Pressure switch settings**

Maximum HP switch setting	25.8	bar(g)
Minimum LP switch setting	0.9	bar(g)
LP pump down setting	1.2	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	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, ARI rating conditions**
**R407A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	620	1 030	1 559	2 222	3 035	4 015	5 178	6 538	8 113
35	529	914	1 408	2 028	2 788	3 707	4 799	6 080	7 567
40	437	796	1 255	1 830	2 537	3 393	4 414	5 615	7 012
45	347	679	1 101	1 631	2 284	3 076	4 025	5 145	6 453
50	-	564	950	1 433	2 031	2 759	3 634	4 672	5 890
55	-	-	802	1 238	1 780	2 443	3 245	4 201	5 328
60	-	-	-	1 050	1 534	2 132	2 859	3 732	4 768

**Power input in W**

30	640	778	909	1 028	1 131	1 215	1 277	1 312	1 316
35	625	773	915	1 047	1 166	1 268	1 349	1 406	1 435
40	606	763	916	1 062	1 197	1 317	1 418	1 497	1 551
45	584	750	915	1 074	1 225	1 363	1 484	1 586	1 664
50	-	734	910	1 084	1 250	1 407	1 549	1 673	1 775
55	-	-	904	1 091	1 274	1 449	1 611	1 758	1 885
60	-	-	-	1 098	1 297	1 490	1 674	1 843	1 995

**Current consumption in A**

30	1.89	2.07	2.23	2.37	2.50	2.62	2.71	2.78	2.82
35	1.93	2.09	2.24	2.38	2.51	2.62	2.72	2.80	2.86
40	1.98	2.12	2.26	2.40	2.53	2.65	2.76	2.86	2.93
45	2.01	2.15	2.29	2.43	2.56	2.70	2.82	2.93	3.03
50	-	2.16	2.31	2.45	2.60	2.75	2.89	3.03	3.16
55	-	-	2.31	2.47	2.63	2.80	2.97	3.13	3.30
60	-	-	-	2.47	2.65	2.84	3.04	3.24	3.44

**Mass flow in kg/h**

30	13	22	33	46	62	81	102	128	157
35	12	21	31	44	60	78	99	124	152
40	10	19	29	42	57	75	96	120	148
45	9	17	27	39	54	71	92	115	142
50	-	15	25	36	51	68	87	110	137
55	-	-	22	33	47	63	83	105	131
60	-	-	-	30	44	59	78	99	124

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

30	0.97	1.32	1.72	2.16	2.68	3.30	4.06	4.98	6.16
35	0.85	1.18	1.54	1.94	2.39	2.92	3.56	4.32	5.27
40	0.72	1.04	1.37	1.72	2.12	2.58	3.11	3.75	4.52
45	0.59	0.91	1.20	1.52	1.86	2.26	2.71	3.24	3.88
50	-	0.77	1.04	1.32	1.62	1.96	2.35	2.79	3.32
55	-	-	0.89	1.13	1.40	1.69	2.01	2.39	2.83
60	-	-	-	0.96	1.18	1.43	1.71	2.03	2.39

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 284	W
Power input	1 225	W
Current consumption	2.56	A
Mass flow	54	kg/h
C.O.P.	1.86	

**Pressure switch settings**

Maximum HP switch setting	25.8	bar(g)
Minimum LP switch setting	0.9	bar(g)
LP pump down setting	1.2	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions**
**R407F**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	-	1 026	1 577	2 264	3 103	4 110	5 301	6 691	8 296
35	-	877	1 378	2 005	2 773	3 698	4 797	6 083	7 574
40	-	753	1 208	1 778	2 479	3 326	4 335	5 523	6 903
45	-	650	1 063	1 580	2 218	2 991	3 915	5 006	6 280
50	-	-	941	1 410	1 988	2 690	3 533	4 532	5 702
55	-	-	-	1 264	1 786	2 421	3 186	4 097	5 168
60	-	-	-	-	-	-	-	-	-

**Power input in W**

30	-	833	963	1 083	1 186	1 264	1 310	1 318	1 280
35	-	831	971	1 106	1 228	1 330	1 405	1 446	1 446
40	-	833	980	1 127	1 265	1 388	1 489	1 560	1 596
45	-	843	994	1 149	1 300	1 441	1 565	1 665	1 733
50	-	-	1 017	1 177	1 339	1 495	1 639	1 763	1 861
55	-	-	-	1 215	1 384	1 553	1 713	1 859	1 983
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

30	-	2.06	2.23	2.39	2.52	2.63	2.71	2.76	2.77
35	-	2.11	2.28	2.43	2.57	2.68	2.78	2.84	2.88
40	-	2.15	2.31	2.46	2.60	2.73	2.84	2.93	2.99
45	-	2.17	2.33	2.48	2.63	2.77	2.91	3.02	3.12
50	-	-	2.36	2.52	2.68	2.84	2.99	3.14	3.27
55	-	-	-	2.57	2.75	2.93	3.11	3.28	3.45
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

30	-	21	32	45	61	80	102	127	156
35	-	19	29	42	57	75	96	121	149
40	-	17	27	39	54	71	91	115	142
45	-	15	25	37	51	67	87	110	136
50	-	-	23	35	48	64	83	105	130
55	-	-	-	33	46	62	80	101	125
60	-	-	-	-	-	-	-	-	-

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

30	-	1.23	1.64	2.09	2.62	3.25	4.05	5.08	6.48
35	-	1.06	1.42	1.81	2.26	2.78	3.41	4.21	5.24
40	-	0.90	1.23	1.58	1.96	2.40	2.91	3.54	4.32
45	-	0.77	1.07	1.38	1.71	2.07	2.50	3.01	3.62
50	-	-	0.93	1.20	1.48	1.80	2.16	2.57	3.06
55	-	-	-	1.04	1.29	1.56	1.86	2.20	2.61
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 218	W
Power input	1 300	W
Current consumption	2.63	A
Mass flow	51	kg/h
C.O.P.	1.71	

**Pressure switch settings**

Maximum HP switch setting	24	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.26	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	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, ARI rating conditions**
**R407F**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

30	-	1 100	1 688	2 421	3 315	4 388	5 654	7 131	8 834
35	-	945	1 482	2 154	2 976	3 965	5 137	6 510	8 098
40	-	815	1 306	1 920	2 674	3 584	4 666	5 937	7 414
45	-	708	1 156	1 717	2 406	3 241	4 237	5 412	6 781
50	-	-	1 032	1 543	2 172	2 935	3 850	4 932	6 198
55	-	-	-	1 396	1 969	2 666	3 503	4 497	5 664
60	-	-	-	-	-	-	-	-	-

**Power input in W**

30	-	833	963	1 083	1 186	1 264	1 310	1 318	1 280
35	-	831	971	1 106	1 228	1 330	1 405	1 446	1 446
40	-	833	980	1 127	1 265	1 388	1 489	1 560	1 596
45	-	843	994	1 149	1 300	1 441	1 565	1 665	1 733
50	-	-	1 017	1 177	1 339	1 495	1 639	1 763	1 861
55	-	-	-	1 215	1 384	1 553	1 713	1 859	1 983
60	-	-	-	-	-	-	-	-	-

**Current consumption in A**

30	-	2.06	2.23	2.39	2.52	2.63	2.71	2.76	2.77
35	-	2.11	2.28	2.43	2.57	2.68	2.78	2.84	2.88
40	-	2.15	2.31	2.46	2.60	2.73	2.84	2.93	2.99
45	-	2.17	2.33	2.48	2.63	2.77	2.91	3.02	3.12
50	-	-	2.36	2.52	2.68	2.84	2.99	3.14	3.27
55	-	-	-	2.57	2.75	2.93	3.11	3.28	3.45
60	-	-	-	-	-	-	-	-	-

**Mass flow in kg/h**

30	-	21	32	45	61	80	101	126	155
35	-	19	29	42	57	75	96	120	148
40	-	17	27	39	53	71	91	114	141
45	-	15	25	36	50	67	86	109	135
50	-	-	23	34	48	64	82	104	129
55	-	-	-	33	46	61	79	100	124
60	-	-	-	-	-	-	-	-	-

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

30	-	1.32	1.75	2.23	2.80	3.47	4.31	5.41	6.90
35	-	1.14	1.53	1.95	2.42	2.98	3.66	4.50	5.60
40	-	0.98	1.33	1.70	2.11	2.58	3.13	3.80	4.65
45	-	0.84	1.16	1.49	1.85	2.25	2.71	3.25	3.91
50	-	-	1.02	1.31	1.62	1.96	2.35	2.80	3.33
55	-	-	-	1.15	1.42	1.72	2.04	2.42	2.86
60	-	-	-	-	-	-	-	-	-

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 406	W
Power input	1 300	W
Current consumption	2.63	A
Mass flow	50	kg/h
C.O.P.	1.85	

**Pressure switch settings**

Maximum HP switch setting	24	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.26	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

Performance data at 60 Hz, EN 12900 rating conditions

R134a

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-25	-20	-10	-5	0	5	10	15

Cooling capacity in W

35	485	779	1 628	2 207	2 903	3 728	4 695	5 815	7 100
40	396	672	1 460	1 995	2 639	3 405	4 303	5 346	6 545
45	306	564	1 290	1 781	2 374	3 079	3 909	4 874	5 987
50	216	456	1 120	1 568	2 109	2 753	3 514	4 403	5 430
55	-	-	953	1 358	1 846	2 431	3 123	3 934	4 875
60	-	-	-	1 153	1 589	2 113	2 736	3 470	4 325
65	-	-	-	-	1 340	1 803	2 357	3 013	3 783
75	-	-	-	-	-	-	1 631	2 132	2 730

Power input in W

35	538	620	771	834	884	916	927	914	873
40	550	636	802	874	936	982	1 009	1 013	992
45	552	643	825	909	983	1 044	1 089	1 112	1 112
50	542	640	841	937	1 026	1 103	1 165	1 209	1 231
55	-	-	847	957	1 062	1 156	1 238	1 303	1 348
60	-	-	-	969	1 090	1 203	1 306	1 394	1 463
65	-	-	-	-	1 109	1 243	1 367	1 479	1 575
75	-	-	-	-	-	-	1 467	1 631	1 782

Current consumption in A

35	1.89	1.92	1.99	2.02	2.05	2.09	2.13	2.17	2.21
40	1.89	1.92	2.00	2.04	2.08	2.13	2.18	2.23	2.29
45	1.88	1.92	2.01	2.05	2.11	2.17	2.23	2.30	2.37
50	1.87	1.91	2.01	2.07	2.14	2.21	2.29	2.37	2.46
55	-	-	2.02	2.09	2.17	2.25	2.34	2.44	2.55
60	-	-	-	2.11	2.20	2.30	2.40	2.52	2.64
65	-	-	-	-	2.23	2.34	2.46	2.60	2.74
75	-	-	-	-	-	-	2.58	2.75	2.94

Mass flow in kg/h

35	12	19	39	51	66	83	103	125	151
40	11	18	37	49	63	80	99	121	145
45	9	16	34	46	60	76	94	115	139
50	7	13	31	43	56	72	89	110	133
55	-	-	28	39	52	67	84	104	126
60	-	-	-	36	48	62	79	97	118
65	-	-	-	-	43	57	72	90	110
75	-	-	-	-	-	-	59	75	93

Coefficient of performance (C.O.P.)

35	0.90	1.26	2.11	2.65	3.29	4.07	5.06	6.36	8.13
40	0.72	1.06	1.82	2.28	2.82	3.47	4.27	5.27	6.60
45	0.55	0.88	1.56	1.96	2.41	2.95	3.59	4.38	5.39
50	0.40	0.71	1.33	1.67	2.06	2.50	3.02	3.64	4.41
55	-	-	1.13	1.42	1.74	2.10	2.52	3.02	3.62
60	-	-	-	1.19	1.46	1.76	2.09	2.49	2.96
65	-	-	-	-	1.21	1.45	1.72	2.04	2.40
75	-	-	-	-	-	-	1.11	1.31	1.53

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	2 753	W
Power input	1 103	W
Current consumption	2.21	A
Mass flow	72	kg/h
C.O.P.	2.50	

Pressure switch settings

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

Sound power data

Sound power level	0	dB(A)
With acoustic hood	0	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, ARI rating conditions**
**R134a**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-10	-5	0	5	10	15	20

**Cooling capacity in W**

35	527	845	1 761	2 382	3 129	4 013	5 046	6 241	7 609
40	433	734	1 587	2 164	2 859	3 682	4 646	5 763	7 045
45	337	619	1 410	1 944	2 585	3 347	4 241	5 280	6 476
50	-	504	1 233	1 722	2 311	3 012	3 836	4 797	5 906
55	-	-	1 058	1 503	2 039	2 678	3 432	4 314	5 337
60	-	-	-	1 288	1 770	2 348	3 032	3 835	4 771
65	-	-	-	-	-	2 024	2 637	3 362	4 211
75	-	-	-	-	-	-	1 876	2 443	3 117

**Power input in W**

35	538	620	771	834	884	916	927	914	873
40	550	636	802	874	936	982	1 009	1 013	992
45	552	643	825	909	983	1 044	1 089	1 112	1 112
50	-	640	841	937	1 026	1 103	1 165	1 209	1 231
55	-	-	847	957	1 062	1 156	1 238	1 303	1 348
60	-	-	-	969	1 090	1 203	1 306	1 394	1 463
65	-	-	-	-	-	1 243	1 367	1 479	1 575
75	-	-	-	-	-	-	1 467	1 631	1 782

**Current consumption in A**

35	1.89	1.92	1.99	2.02	2.05	2.09	2.13	2.17	2.21
40	1.89	1.92	2.00	2.04	2.08	2.13	2.18	2.23	2.29
45	1.88	1.92	2.01	2.05	2.11	2.17	2.23	2.30	2.37
50	-	1.91	2.01	2.07	2.14	2.21	2.29	2.37	2.46
55	-	-	2.02	2.09	2.17	2.25	2.34	2.44	2.55
60	-	-	-	2.11	2.20	2.30	2.40	2.52	2.64
65	-	-	-	-	-	2.34	2.46	2.60	2.74
75	-	-	-	-	-	-	2.58	2.75	2.94

**Mass flow in kg/h**

35	12	19	38	51	66	83	102	125	150
40	11	18	36	48	63	79	98	120	144
45	9	16	34	46	59	75	94	115	138
50	-	13	31	43	56	71	89	109	132
55	-	-	28	39	52	67	84	103	125
60	-	-	-	36	48	62	78	97	118
65	-	-	-	-	-	57	72	90	110
75	-	-	-	-	-	-	59	74	92

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

35	0.98	1.36	2.28	2.86	3.54	4.38	5.44	6.83	8.71
40	0.79	1.15	1.98	2.48	3.06	3.75	4.61	5.69	7.10
45	0.61	0.96	1.71	2.14	2.63	3.20	3.90	4.75	5.83
50	-	0.79	1.47	1.84	2.25	2.73	3.29	3.97	4.80
55	-	-	1.25	1.57	1.92	2.32	2.77	3.31	3.96
60	-	-	-	1.33	1.62	1.95	2.32	2.75	3.26
65	-	-	-	-	-	1.63	1.93	2.27	2.67
75	-	-	-	-	-	-	1.28	1.50	1.75

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	3 038	W
Power input	1 187	W
Current consumption	2.28	A
Mass flow	75	kg/h
C.O.P.	2.56	

**Pressure switch settings**

Maximum HP switch setting	20.2	bar(g)
Minimum LP switch setting	0.1	bar(g)
LP pump down setting	0.4	bar(g)

**Sound power data**

Sound power level	0	dB(A)
With acoustic hood	0	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

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**Performance data at 60 Hz, EN 12900 rating conditions**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	2 010	2 742	3 603	4 611	5 781	7 130	8 674	-	-
40	1 788	2 490	3 312	4 271	5 383	6 665	8 132	-	-
45	1 556	2 225	3 006	3 915	4 967	6 179	7 567	-	-
50	-	1 952	2 690	3 546	4 536	5 676	6 982	-	-
55	-	-	2 365	3 166	4 091	5 157	6 379	-	-
60	-	-	-	2 778	3 636	4 625	5 761	-	-
65	-	-	-	2 384	3 173	4 083	5 130	-	-

**Power input in W**

35	1 007	1 108	1 180	1 229	1 259	1 275	1 283	-	-
40	1 031	1 161	1 259	1 329	1 376	1 406	1 424	-	-
45	1 034	1 198	1 325	1 421	1 490	1 538	1 570	-	-
50	-	1 214	1 375	1 501	1 596	1 667	1 717	-	-
55	-	-	1 406	1 567	1 693	1 790	1 862	-	-
60	-	-	-	1 614	1 775	1 903	2 003	-	-
65	-	-	-	1 640	1 841	2 004	2 135	-	-

**Current consumption in A**

35	2.13	2.21	2.27	2.31	2.34	2.37	2.40	-	-
40	2.15	2.26	2.34	2.40	2.45	2.48	2.51	-	-
45	2.16	2.30	2.41	2.50	2.56	2.61	2.65	-	-
50	-	2.32	2.47	2.58	2.68	2.75	2.81	-	-
55	-	-	2.50	2.66	2.79	2.89	2.97	-	-
60	-	-	-	2.71	2.88	3.02	3.14	-	-
65	-	-	-	2.74	2.96	3.14	3.29	-	-

**Mass flow in kg/h**

35	44	59	76	95	118	143	172	-	-
40	41	56	73	93	115	140	169	-	-
45	38	53	70	89	112	137	165	-	-
50	-	49	66	86	108	133	160	-	-
55	-	-	62	81	103	128	155	-	-
60	-	-	-	76	98	122	150	-	-
65	-	-	-	71	92	117	143	-	-

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

35	2.00	2.47	3.05	3.75	4.59	5.59	6.76	-	-
40	1.73	2.14	2.63	3.21	3.91	4.74	5.71	-	-
45	1.50	1.86	2.27	2.76	3.33	4.02	4.82	-	-
50	-	1.61	1.96	2.36	2.84	3.41	4.07	-	-
55	-	-	1.68	2.02	2.42	2.88	3.43	-	-
60	-	-	-	1.72	2.05	2.43	2.88	-	-
65	-	-	-	1.45	1.72	2.04	2.40	-	-

**Nominal performance at to = 5 °C, tc = 50 °C**

Cooling capacity	4 536	W
Power input	1 596	W
Current consumption	2.68	A
Mass flow	108	kg/h
C.O.P.	2.84	

**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	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, ARI rating conditions**
**R407C**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)							
	-15	-10	-5	0	5	10	15	

**Cooling capacity in W**

35	2 164	2 947	3 869	4 945	6 193	7 631	9 274	-	-
40	1 935	2 691	3 575	4 604	5 796	7 167	8 736	-	-
45	1 695	2 420	3 265	4 245	5 379	6 682	8 173	-	-
50	-	2 139	2 942	3 871	4 944	6 178	7 590	-	-
55	-	-	2 609	3 485	4 496	5 658	6 988	-	-
60	-	-	-	3 089	4 036	5 124	6 371	-	-
65	-	-	-	2 687	3 567	4 579	5 741	-	-

**Power input in W**

35	1 007	1 108	1 180	1 229	1 259	1 275	1 283	-	-
40	1 031	1 161	1 259	1 329	1 376	1 406	1 424	-	-
45	1 034	1 198	1 325	1 421	1 490	1 538	1 570	-	-
50	-	1 214	1 375	1 501	1 596	1 667	1 717	-	-
55	-	-	1 406	1 567	1 693	1 790	1 862	-	-
60	-	-	-	1 614	1 775	1 903	2 003	-	-
65	-	-	-	1 640	1 841	2 004	2 135	-	-

**Current consumption in A**

35	2.13	2.21	2.27	2.31	2.34	2.37	2.40	-	-
40	2.15	2.26	2.34	2.40	2.45	2.48	2.51	-	-
45	2.16	2.30	2.41	2.50	2.56	2.61	2.65	-	-
50	-	2.32	2.47	2.58	2.68	2.75	2.81	-	-
55	-	-	2.50	2.66	2.79	2.89	2.97	-	-
60	-	-	-	2.71	2.88	3.02	3.14	-	-
65	-	-	-	2.74	2.96	3.14	3.29	-	-

**Mass flow in kg/h**

35	43	58	75	95	117	142	171	-	-
40	41	56	73	92	114	139	168	-	-
45	37	52	69	89	111	136	164	-	-
50	-	49	66	85	107	132	159	-	-
55	-	-	62	81	103	127	155	-	-
60	-	-	-	76	98	122	149	-	-
65	-	-	-	70	92	116	143	-	-

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

35	2.15	2.66	3.28	4.03	4.92	5.98	7.23	-	-
40	1.88	2.32	2.84	3.47	4.21	5.10	6.14	-	-
45	1.64	2.02	2.46	2.99	3.61	4.35	5.21	-	-
50	-	1.76	2.14	2.58	3.10	3.71	4.42	-	-
55	-	-	1.85	2.22	2.66	3.16	3.75	-	-
60	-	-	-	1.91	2.27	2.69	3.18	-	-
65	-	-	-	1.64	1.94	2.29	2.69	-	-

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

Cooling capacity	5 046	W
Power input	1 726	W
Current consumption	2.82	A
Mass flow	114	kg/h
C.O.P.	2.92	

**Pressure switch settings**

Maximum HP switch setting	29.4	bar(g)
Minimum LP switch setting	1.4	bar(g)
LP pump down setting	1.7	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions, Suction temp. = 20 °C**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	-	1 956	2 656	3 500	4 500	-	-	-	-
20	-	1 542	2 163	2 911	3 798	4 837	6 042	-	-
30	-	1 170	1 714	2 369	3 145	4 056	5 113	6 332	7 729
40	-	-	1 311	1 875	2 544	3 329	4 242	5 295	6 504
50	-	-	-	1 431	1 995	2 657	3 429	4 320	5 344
60	-	-	-	-	1 501	2 043	2 676	3 409	4 252

**Power input in W**

10	-	742	789	807	791	-	-	-	-
20	-	784	873	937	972	975	941	-	-
30	-	793	920	1 026	1 108	1 163	1 186	1 173	1 120
40	-	-	937	1 081	1 207	1 309	1 384	1 429	1 438
50	-	-	-	1 110	1 274	1 420	1 544	1 641	1 709
60	-	-	-	-	1 317	1 502	1 670	1 817	1 939

**Current consumption in A**

10	-	2.80	2.89	2.96	3.00	-	-	-	-
20	-	2.45	2.53	2.60	2.66	2.68	2.66	-	-
30	-	2.32	2.41	2.49	2.56	2.61	2.64	2.62	2.55
40	-	-	2.42	2.52	2.61	2.70	2.77	2.81	2.81
50	-	-	-	2.57	2.70	2.83	2.95	3.05	3.12
60	-	-	-	-	2.71	2.89	3.07	3.24	3.39

**Mass flow in kg/h**

10	-	32	43	57	74	-	-	-	-
20	-	27	38	51	67	87	109	-	-
30	-	22	33	45	61	79	100	126	156
40	-	-	27	39	54	71	91	116	144
50	-	-	-	33	47	63	83	105	132
60	-	-	-	-	40	56	74	95	121

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

10	-	2.64	3.37	4.34	5.69	-	-	-	-
20	-	1.97	2.48	3.11	3.91	4.96	6.42	-	-
30	-	1.47	1.86	2.31	2.84	3.49	4.31	5.40	6.90
40	-	-	1.40	1.73	2.11	2.54	3.06	3.71	4.52
50	-	-	-	1.29	1.57	1.87	2.22	2.63	3.13
60	-	-	-	-	1.14	1.36	1.60	1.88	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 263	W
Power input	1 244	W
Current consumption	2.66	A
Mass flow	50	kg/h
C.O.P.	1.82	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900

**Performance data at 60 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R448A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	1 392	1 965	2 671	3 522	4 529	-	-	-	-
20	1 027	1 532	2 154	2 905	3 797	4 842	6 053	-	-
30	706	1 146	1 686	2 340	3 119	4 035	5 101	6 328	7 729
40	433	809	1 271	1 829	2 497	3 286	4 209	5 278	6 504
50	-	523	907	1 373	1 932	2 596	3 379	4 291	5 344
60	-	-	599	973	1 425	1 967	2 611	3 369	4 252

**Power input in W**

10	668	742	789	807	791	-	-	-	-
20	674	784	873	937	972	975	941	-	-
30	651	793	920	1 026	1 108	1 163	1 186	1 173	1 120
40	607	777	937	1 081	1 207	1 309	1 384	1 429	1 438
50	-	743	932	1 110	1 274	1 420	1 544	1 641	1 709
60	-	-	910	1 118	1 317	1 502	1 670	1 817	1 939

**Current consumption in A**

10	2.70	2.80	2.89	2.96	3.00	-	-	-	-
20	2.36	2.45	2.53	2.60	2.66	2.68	2.66	-	-
30	2.24	2.32	2.41	2.49	2.56	2.61	2.64	2.62	2.55
40	2.25	2.32	2.42	2.52	2.61	2.70	2.77	2.81	2.81
50	-	2.34	2.44	2.57	2.70	2.83	2.95	3.05	3.12
60	-	-	2.38	2.53	2.71	2.89	3.07	3.24	3.39

**Mass flow in kg/h**

10	26	37	49	64	81	-	-	-	-
20	21	31	43	58	74	93	115	-	-
30	16	26	37	51	67	85	106	129	156
40	11	20	31	44	59	76	96	119	144
50	-	15	25	37	52	68	87	108	132
60	-	-	20	31	44	60	78	98	121

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

10	2.08	2.65	3.38	4.36	5.72	-	-	-	-
20	1.52	1.95	2.47	3.10	3.91	4.97	6.43	-	-
30	1.09	1.44	1.83	2.28	2.81	3.47	4.30	5.40	6.90
40	0.71	1.04	1.36	1.69	2.07	2.51	3.04	3.69	4.52
50	-	0.70	0.97	1.24	1.52	1.83	2.19	2.61	3.13
60	-	-	0.66	0.87	1.08	1.31	1.56	1.85	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 207	W
Power input	1 244	W
Current consumption	2.66	A
Mass flow	55	kg/h
C.O.P.	1.77	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	75	dB(A)
With acoustic hood	67	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**
**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	-	1 959	2 660	3 504	4 504	-	-	-	-
20	-	1 545	2 167	2 915	3 802	4 841	6 045	-	-
30	-	1 173	1 718	2 373	3 150	4 060	5 116	6 334	7 729
40	-	-	1 314	1 879	2 548	3 333	4 245	5 297	6 504
50	-	-	-	1 435	1 999	2 661	3 432	4 322	5 344
60	-	-	-	-	1 504	2 047	2 679	3 411	4 252

**Power input in W**

10	-	742	789	807	791	-	-	-	-
20	-	784	873	937	972	975	941	-	-
30	-	793	920	1 026	1 108	1 163	1 186	1 173	1 120
40	-	-	937	1 081	1 207	1 309	1 384	1 429	1 438
50	-	-	-	1 110	1 274	1 420	1 544	1 641	1 709
60	-	-	-	-	1 317	1 502	1 670	1 817	1 939

**Current consumption in A**

10	-	2.80	2.89	2.96	3.00	-	-	-	-
20	-	2.45	2.53	2.60	2.66	2.68	2.66	-	-
30	-	2.32	2.41	2.49	2.56	2.61	2.64	2.62	2.55
40	-	-	2.42	2.52	2.61	2.70	2.77	2.81	2.81
50	-	-	-	2.57	2.70	2.83	2.95	3.05	3.12
60	-	-	-	-	2.71	2.89	3.07	3.24	3.39

**Mass flow in kg/h**

10	-	33	45	59	76	-	-	-	-
20	-	28	39	53	69	88	111	-	-
30	-	23	33	46	62	80	102	128	159
40	-	-	28	40	55	72	93	118	147
50	-	-	-	34	48	65	84	108	135
60	-	-	-	-	41	57	76	98	124

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

10	-	2.64	3.37	4.34	5.69	-	-	-	-
20	-	1.97	2.48	3.11	3.91	4.96	6.42	-	-
30	-	1.48	1.87	2.31	2.84	3.49	4.31	5.40	6.90
40	-	-	1.40	1.74	2.11	2.55	3.07	3.71	4.52
50	-	-	-	1.29	1.57	1.87	2.22	2.63	3.13
60	-	-	-	-	1.14	1.36	1.60	1.88	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 267	W
Power input	1 244	W
Current consumption	2.66	A
Mass flow	52	kg/h
C.O.P.	1.82	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	73	dB(A)
With acoustic hood	65	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

Tolerance according EN12900



**Performance data at 60 Hz, EN 12900 rating conditions, Superheat = 10 K**
**R449A**

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	1 392	1 965	2 671	3 522	4 529	-	-	-	-
20	1 027	1 532	2 154	2 905	3 797	4 842	6 053	-	-
30	706	1 146	1 686	2 340	3 119	4 035	5 101	6 328	7 729
40	433	809	1 271	1 829	2 497	3 286	4 209	5 278	6 504
50	-	523	907	1 373	1 932	2 596	3 379	4 291	5 344
60	-	-	599	973	1 425	1 967	2 611	3 369	4 252

**Power input in W**

10	668	742	789	807	791	-	-	-	-
20	674	784	873	937	972	975	941	-	-
30	651	793	920	1 026	1 108	1 163	1 186	1 173	1 120
40	607	777	937	1 081	1 207	1 309	1 384	1 429	1 438
50	-	743	932	1 110	1 274	1 420	1 544	1 641	1 709
60	-	-	910	1 118	1 317	1 502	1 670	1 817	1 939

**Current consumption in A**

10	2.70	2.80	2.89	2.96	3.00	-	-	-	-
20	2.36	2.45	2.53	2.60	2.66	2.68	2.66	-	-
30	2.24	2.32	2.41	2.49	2.56	2.61	2.64	2.62	2.55
40	2.25	2.32	2.42	2.52	2.61	2.70	2.77	2.81	2.81
50	-	2.34	2.44	2.57	2.70	2.83	2.95	3.05	3.12
60	-	-	2.38	2.53	2.71	2.89	3.07	3.24	3.39

**Mass flow in kg/h**

10	27	38	51	66	84	-	-	-	-
20	22	32	44	59	76	95	117	-	-
30	16	26	38	52	68	86	108	132	159
40	11	21	32	45	60	78	98	121	147
50	-	15	26	38	53	70	89	111	135
60	-	-	20	32	45	61	79	100	124

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

10	2.08	2.65	3.38	4.36	5.72	-	-	-	-
20	1.52	1.95	2.47	3.10	3.91	4.97	6.43	-	-
30	1.09	1.44	1.83	2.28	2.81	3.47	4.30	5.40	6.90
40	0.71	1.04	1.36	1.69	2.07	2.51	3.04	3.69	4.52
50	-	0.70	0.97	1.24	1.52	1.83	2.19	2.61	3.13
60	-	-	0.66	0.87	1.08	1.31	1.56	1.85	2.19

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 207	W
Power input	1 244	W
Current consumption	2.66	A
Mass flow	57	kg/h
C.O.P.	1.77	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	73	dB(A)
With acoustic hood	65	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)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	-	2 210	2 909	3 763	4 788	-	-	-	-
20	-	1 855	2 482	3 244	4 154	5 227	6 476	-	-
30	-	1 492	2 047	2 715	3 511	4 446	5 535	6 793	8 238
40	-	1 124	1 607	2 183	2 863	3 661	4 589	5 661	6 890
50	-	-	1 166	1 649	2 216	2 878	3 645	4 531	5 546
60	-	-	-	1 120	1 574	2 101	2 710	3 410	4 211

**Power input in W**

10	-	831	869	880	862	-	-	-	-
20	-	897	974	1 025	1 050	1 045	1 009	-	-
30	-	927	1 046	1 142	1 211	1 253	1 265	1 246	1 193
40	-	910	1 075	1 217	1 334	1 425	1 487	1 520	1 520
50	-	-	1 047	1 238	1 406	1 548	1 664	1 751	1 808
60	-	-	-	1 194	1 415	1 612	1 784	1 928	2 043

**Current consumption in A**

10	-	2.33	2.36	2.36	2.35	-	-	-	-
20	-	2.37	2.42	2.46	2.48	2.47	2.44	-	-
30	-	2.40	2.48	2.55	2.61	2.64	2.66	2.64	2.59
40	-	2.40	2.52	2.62	2.72	2.80	2.87	2.90	2.91
50	-	-	2.52	2.67	2.81	2.94	3.06	3.15	3.22
60	-	-	-	2.67	2.86	3.04	3.22	3.37	3.51

**Mass flow in kg/h**

10	-	46	61	79	101	-	-	-	-
20	-	41	56	73	94	119	149	-	-
30	-	36	50	67	87	111	139	173	214
40	-	30	44	60	79	102	129	161	200
50	-	-	36	51	70	92	118	148	185
60	-	-	-	42	59	80	105	134	169

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

10	-	2.66	3.35	4.28	5.56	-	-	-	-
20	-	2.07	2.55	3.16	3.96	5.00	6.42	-	-
30	-	1.61	1.96	2.38	2.90	3.55	4.38	5.45	6.90
40	-	1.23	1.49	1.79	2.15	2.57	3.09	3.72	4.53
50	-	-	1.11	1.33	1.58	1.86	2.19	2.59	3.07
60	-	-	-	0.94	1.11	1.30	1.52	1.77	2.06

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 539	W
Power input	1 377	W
Current consumption	2.77	A
Mass flow	74	kg/h
C.O.P.	1.84	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

Sound power level	76	dB(A)
With acoustic hood	68	dB(A)

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

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

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)								
	-30	-25	-20	-15	-10	-5	0	5	10

**Cooling capacity in W**

10	1 600	2 151	2 848	3 705	4 737	-	-	-	-
20	1 281	1 776	2 395	3 155	4 070	5 156	6 426	-	-
30	961	1 397	1 939	2 601	3 398	4 346	5 458	6 750	8 238
40	646	1 024	1 486	2 049	2 727	3 536	4 489	5 602	6 890
50	342	660	1 043	1 506	2 064	2 732	3 525	4 458	5 546
60	-	313	615	977	1 414	1 941	2 573	3 325	4 211

**Power input in W**

10	769	831	869	880	862	-	-	-	-
20	796	897	974	1 025	1 050	1 045	1 009	-	-
30	785	927	1 046	1 142	1 211	1 253	1 265	1 246	1 193
40	725	910	1 075	1 217	1 334	1 425	1 487	1 520	1 520
50	603	835	1 047	1 238	1 406	1 548	1 664	1 751	1 808
60	-	689	951	1 194	1 415	1 612	1 784	1 928	2 043

**Current consumption in A**

10	2.29	2.33	2.36	2.36	2.35	-	-	-	-
20	2.31	2.37	2.42	2.46	2.48	2.47	2.44	-	-
30	2.32	2.40	2.48	2.55	2.61	2.64	2.66	2.64	2.59
40	2.29	2.40	2.52	2.62	2.72	2.80	2.87	2.90	2.91
50	2.23	2.38	2.52	2.67	2.81	2.94	3.06	3.15	3.22
60	-	2.30	2.49	2.67	2.86	3.04	3.22	3.37	3.51

**Mass flow in kg/h**

10	40	54	70	89	111	-	-	-	-
20	35	48	63	82	103	128	157	-	-
30	30	42	57	75	95	119	147	178	214
40	23	35	50	67	87	109	136	166	200
50	15	27	41	58	77	99	124	153	185
60	-	16	31	47	65	86	110	138	169

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

10	2.08	2.59	3.28	4.21	5.50	-	-	-	-
20	1.61	1.98	2.46	3.08	3.88	4.93	6.37	-	-
30	1.22	1.51	1.85	2.28	2.81	3.47	4.32	5.42	6.90
40	0.89	1.12	1.38	1.68	2.04	2.48	3.02	3.69	4.53
50	0.57	0.79	1.00	1.22	1.47	1.76	2.12	2.55	3.07
60	-	0.45	0.65	0.82	1.00	1.20	1.44	1.72	2.06

**Nominal performance at to = -10 °C, tc = 45 °C**

Cooling capacity	2 394	W
Power input	1 377	W
Current consumption	2.77	A
Mass flow	82	kg/h
C.O.P.	1.74	

**Pressure switch settings**

Maximum HP switch setting	27.7	bar(g)
Minimum LP switch setting	1	bar(g)
LP pump down setting	1.3	bar(g)

**Sound power data**

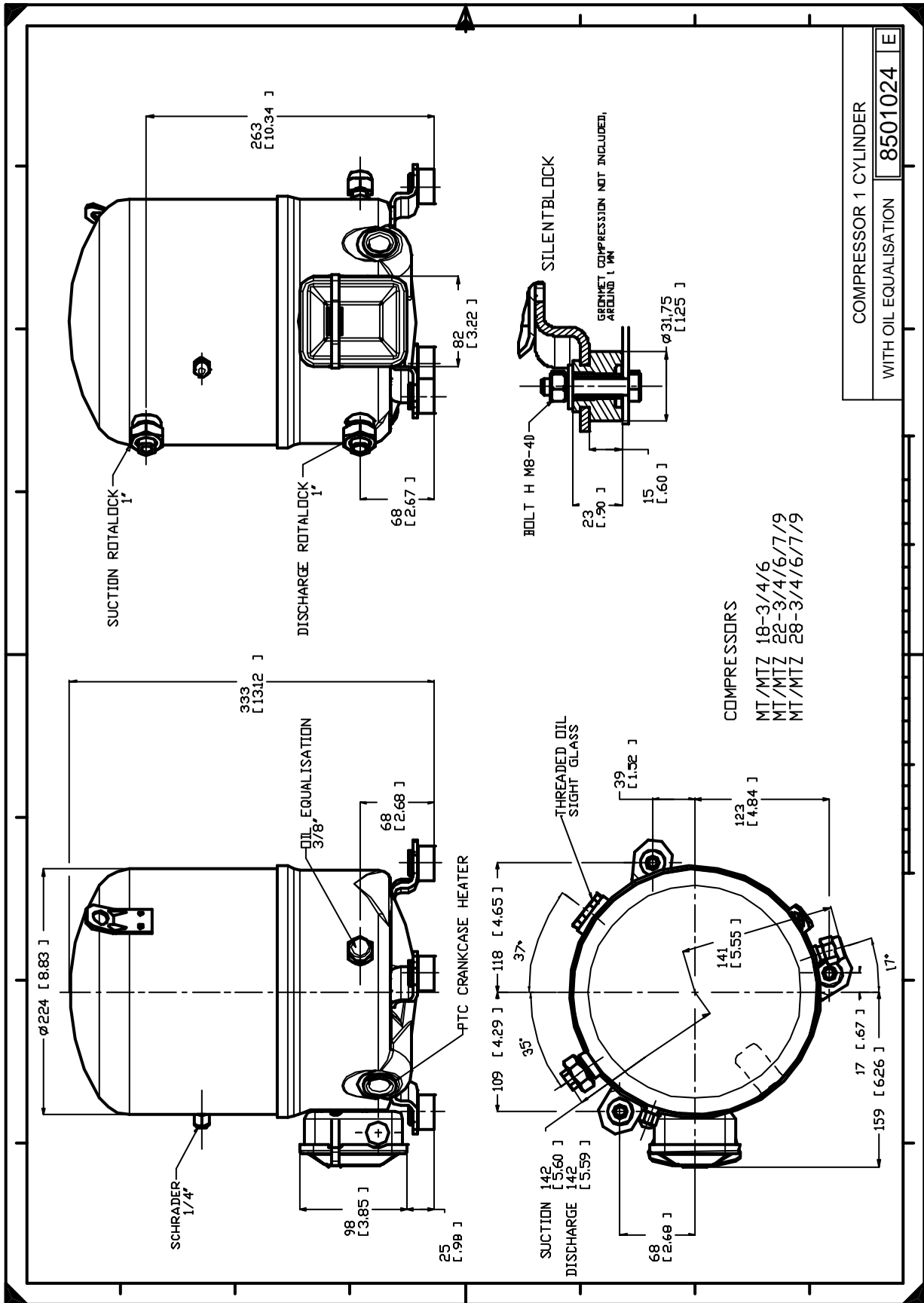
Sound power level	76	dB(A)
With acoustic hood	68	dB(A)

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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