

HA

Type	Number of cylinders	Displacement		Electrical data						Weight	Connections ⁵⁾				Oil charge	Fre- quency range
				Voltage ¹⁾	Max. Working current ²⁾	Max. Power consumption ²⁾	Starting current (rotor locked)	Discharge line DV	Suction line SV							
	m³/h				A		kW		A		kg					
		50 Hz 1450 rpm	60 Hz 1740 rpm		Δ	Y		Δ	Y		mm	inch	mm	inch	Ltr.	Hz
HA22e/125-4	2	11.10	13.30	³⁾	8.1	4.7	2.4	69	40	75.5	12	½	16	⅝	0.9	30–70
HA22e/160-4	2	13.70	16.40	³⁾	9.6	5.5	2.9	87	50	77.5	12	½	16	⅝	0.9	30–70
HA22e/190-4	2	16.50	19.80	³⁾	10.9	6.3	3.5	87	50	76.5	12	½	16	⅝	0.9	30–70
HA34e/215-4	4	18.80	22.60	³⁾	12.1	7.0	4.0	87	50	94.0	16	⅝	22	⅞	1.2	25–70
HA34e/255-4	4	22.10	26.60	³⁾	13.8	8.0	4.7	87	50	93.5	16	⅝	22	⅞	1.2	25–70
HA34e/315-4	4	27.30	32.80	³⁾	17.1	9.9	5.8	111	64	96.5	16	⅝	22	⅞	1.2	25–70
HA34e/380-4	4	33.10	39.70	³⁾	19.4	11.2	6.4	132	76	96.0	16	⅝	22	⅞	1.2	25–70
	PW 1+2'						PW1/PW1+2'									
HA44e/475-4	4	41.30	49.60	⁴⁾	15.2		7.6	87	149	174.0	28	1⅛	35	1⅜	2.3	25–70
HA44e/565-4	4	49.20	59.00	⁴⁾	18.3		9.4	101	174	178.5	28	1⅛	35	1⅜	2.3	25–70
HA44e/665-4	4	57.70	69.30	⁴⁾	20.3		11.0	101	174	173.5	28	1⅛	35	1⅜	2.3	25–70

*PW = Part Winding, motors for part winding start 1 = first part winding 2 = second part winding

Explanations

- 1) Tolerance (± 10%) relates to the mean value of the voltage range. Other voltages and current types on request.
- 2) • The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2. The max. working current remains unchanged.
- Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses.
- Switches: Service category AC3

Oil sump heater 110-240 V - 1 - 50 / 60 Hz (option)

- HA22e, HA34e: 50-120 W
- PTC heater, self-regulating, installation in housing bore

Oil sump heater 230 V - 1 - 50 / 60 Hz (option)

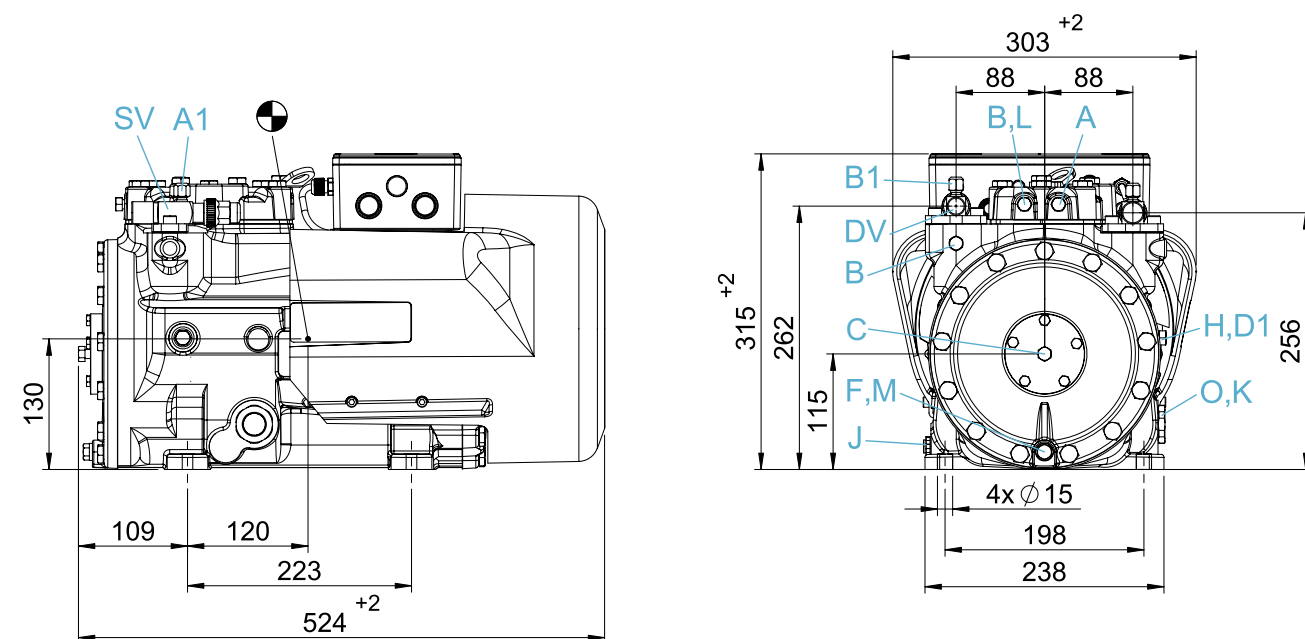
- HA44e: 160 W
- Permanently set version, installation in immersion sleeve

- 3) 220 – 240 V Δ / 380 – 420 V Y - 3 - 50 Hz,
265 – 290 V Δ / 440 – 480 V Y - 3 - 60 Hz
- 4) PW = Part Winding, motors for part winding start (no start unloaders required)
- Winding ratios: HA44e = 50% / 50%
 - Designs for Y/Δ on request
- 5) For soldering connections

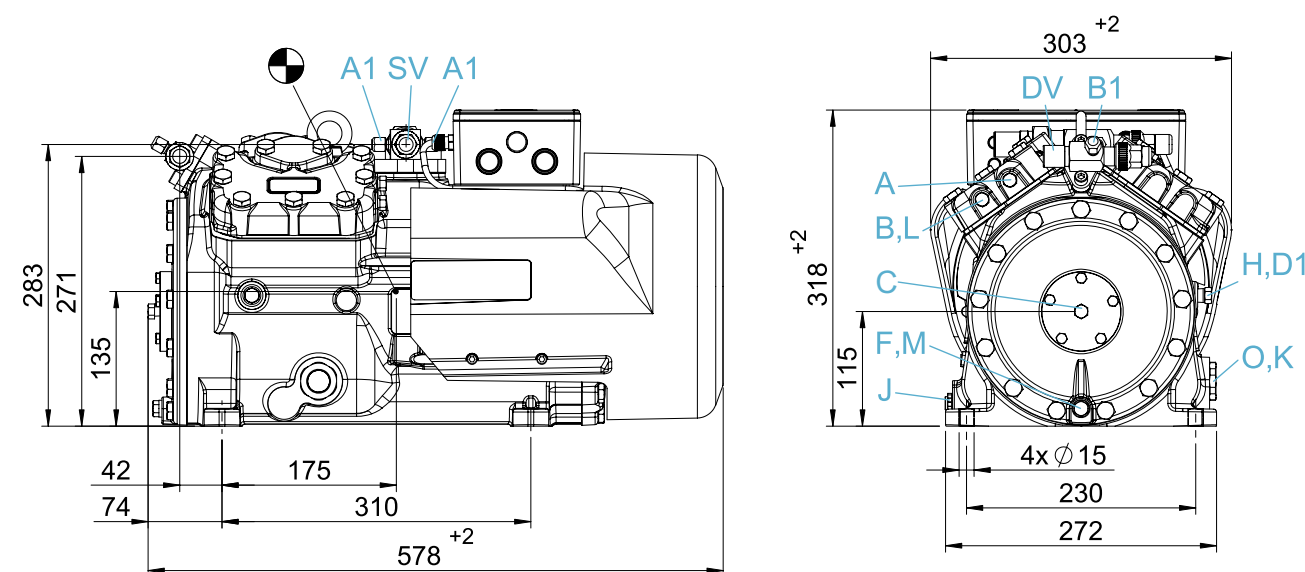
Fan motors for the HA version 230 V - 1 - 50/60 Hz

- HA22e, HA34e: 38 W / 0.17 A
- HA44e: 140 W / 0.71 A

HA22e » HA22e/125-4 » HA22e/160-4 » HA22e/190-4



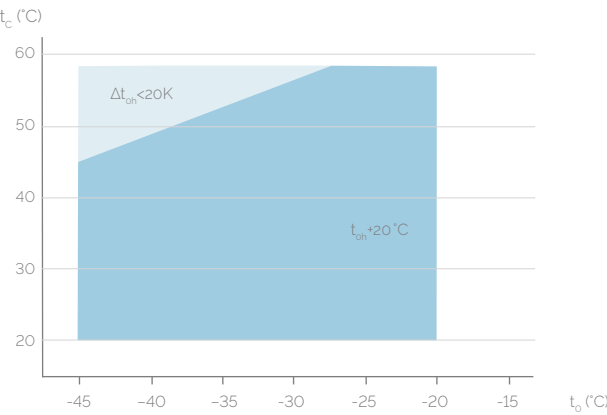
HA34e » HA34e/215-4 » HA34e/255-4 » HA34e/315-4 » HA34e/380-4



Dimensions in mm
Center of gravity

Connections see page 93
Dimensions for anti-vibration pad see page 91
Dimensions for view X see page 91

R404A/R507



t_o Evaporating temperature (°C)
t_c Condensing temperature (°C)
Δt_{oh} Suction gas superheat (K)
t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar
¹⁾ LP = low pressure, HP = high pressure

Notes

Operating limits
Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data
The performance data for R404A/R507 are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

This leads to significant differences compared to systems with liquid subcooling and/or other suction gas temperatures.

Performance data were compiled for R404A and R507. The base values are the data for R404A.

Conversion factor for 60 Hz = 1.2

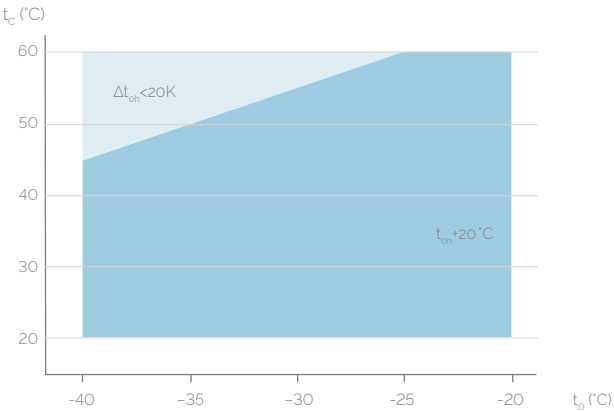
R404A/R507 | 50 Hz

Type			Cooling capacity Q _o [W]				Power consumption	
			P _e [kW]					
			Evaporating temperature °C					
Cond. temp. °C			-20	-25	-30	-35	-40	-45
HA22e/125-4	30	Q P	4730 191	3800 171	2990 151	2300 131	1720 113	1250 0.94
	40	Q P	3960 2.09	3160 184	2470 1.60	1880 1.37	1390 1.14	978 0.92
	50	Q P	3220 2.21	2540 1.92	1960 1.64	1460 1.36	1040 1.09	690 0.83
HA22e/160-4	30	Q P	5840 2.36	4690 2.11	3690 1.86	2830 1.62	2120 1.39	1540 1.16
	40	Q P	4890 2.58	3900 2.27	3050 1.97	2320 1.69	1710 1.41	1210 1.13
	50	Q P	3970 2.73	3140 2.37	2420 2.02	1800 1.68	1290 1.35	851 1.03
HA22e/190-4	30	Q P	7070 2.86	5670 2.55	4460 2.25	3430 1.96	2570 1.68	1870 1.41
	40	Q P	5920 3.12	4720 2.75	3690 2.39	2810 2.04	2070 1.70	1460 1.37
	50	Q P	4800 3.31	3800 2.87	2930 2.45	2180 2.04	1550 1.64	1030 1.24
HA34e/215-4	30	Q P	8050 3.26	6450 2.90	5080 2.57	3900 2.24	2920 1.92	2130 1.60
	40	Q P	6740 3.55	5380 3.13	4200 2.72	3200 2.33	2350 1.94	1670 1.56
	50	Q P	5470 3.77	4320 3.27	3330 2.79	2480 2.32	1770 1.86	1180 1.41
HA34e/255-4	30	Q P	9460 3.83	7590 3.42	5970 3.02	4590 2.63	3440 2.26	2500 1.88
	40	Q P	7920 4.18	6320 3.68	4940 3.20	3760 2.74	2770 2.28	1960 1.84
	50	Q P	6430 4.43	5080 3.84	3920 3.28	2920 2.73	2080 2.19	1380 1.66
HA34e/315-4	30	Q P	11700 4.73	9370 4.22	7370 3.73	5660 3.25	4240 2.79	3080 2.33
	40	Q P	9780 5.16	7800 4.54	6090 3.95	4640 3.38	3420 2.82	2420 2.27
	50	Q P	7930 5.47	6270 4.75	4830 4.05	3600 3.37	2570 2.71	1710 2.06
HA34e/380-4	30	Q P	14200 5.50	11400 4.96	8910 4.39	6850 3.81	5130 3.22	3730 2.65
	40	Q P	11900 5.95	9440 5.28	7370 4.58	5610 3.86	4130 3.16	2920 2.74
	50	Q P	9600 6.25	7590 5.43	5850 4.59	4360 3.74	3100 3.28	2060 2.07
HA44e/475-4	30	Q P	18700 6.64	15100 6.01	11900 5.35	9100 4.66	6800 3.95	4890 3.24
	40	Q P	15700 7.13	12600 6.32	9760 5.47	7430 4.62	5450 3.76	3810 2.91
	50	Q P	12900 7.44	10200 6.43	7830 5.41	5880 4.39	4230 3.38	2850 2.40
HA44e/565-4	30	Q P	21900 8.08	17600 7.36	13900 6.58	10800 5.77	8040 4.93	5800 4.09
	40	Q P	18400 8.73	14700 7.79	11500 6.82	8770 5.83	6470 4.83	4530 3.84
	50	Q P	15100 9.17	11900 8.02	9230 6.85	6950 5.68	5020 4.52	3400 3.39
HA44e/665-4	30	Q P	25000 9.33	20200 8.43	16000 7.49	12400 6.52	9310 5.53	6750 4.55
	40	Q P	21100 10.10	16900 8.97	13300 7.79	10200 6.60	7480 5.42	5270 4.27
	50	Q P	17200 10.70	13700 9.29	10600 7.87	8010 6.47	5810 5.10	3960 3.78

Relating to 20 °C suction gas temperature without liquid subcooling

Reduced suction gas temperature

R448A



t_o Evaporating temperature (°C)
t_c Condensing temperature (°C)
Δt_{oh} Suction gas superheat (K)
t_{oh} Suction gas temperature (°C)

● Unlimited application range
○ Reduced suction gas temperature

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar
¹⁾ LP = low pressure, HP = high pressure

Notes

Operating limits
Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data
The performance data for R448A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

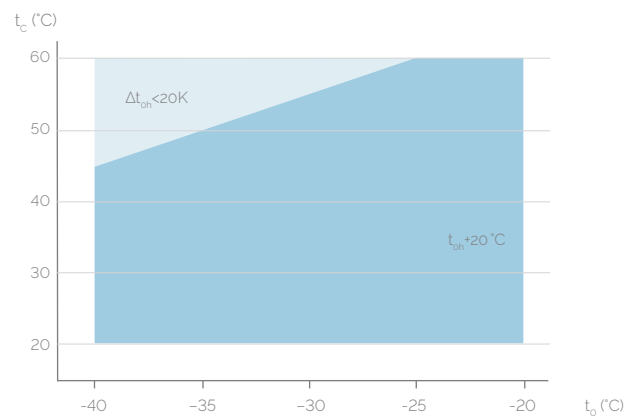
R448A | 50 Hz

Type		Cooling capacity Q _o [kW]					Power consumption	
							P _e [kW]	
		Evaporating temperature °C						
		Cond. temp. °C	-20	-25	-30	-35	-40	
HA22e/125-4	30	Q P	4190	3250	2450	1780	1230	
			170	153	136	118	100	
	40	Q P	3530	2700	2000	1410	915	
HA22e/160-4			181	159	138	116	0.96	
	50	Q P	2910	2190	1570	1060	631	
			187	162	136	112	0.88	
HA22e/190-4	30	Q P	5220	4030	3020	2170	1470	
			203	183	162	139	117	
	40	Q P	4420	3350	2450	1700	1070	
HA22e/215-4			217	190	164	137	110	
	50	Q P	3640	2700	1910	1250	691	
			225	193	161	130	100	
HA22e/255-4	30	Q P	6310	4940	3780	2810	2010	
			248	223	197	171	145	
	40	Q P	5440	4210	3170	2300	1570	
HA22e/315-4			267	235	203	171	140	
	50	Q P	4570	3470	2550	1780	1140	
			280	241	203	166	130	
HA34e/215-4	30	Q P	6790	5230	3920	2810	1900	
			259	232	203	174	144	
	40	Q P	5690	4300	3120	2130	1310	
HA34e/255-4			278	241	204	167	131	
	50	Q P	4600	3370	2330	1460	731	
			287	241	196	152	110	
HA34e/315-4	30	Q P	8250	6410	4850	3540	2460	
			316	281	245	208	172	
	40	Q P	6980	5340	3960	2800	1840	
HA34e/380-4			339	294	249	205	162	
	50	Q P	5740	4310	3100	2090	1240	
			354	299	246	194	145	
HA44e/475-4	30	Q P	10400	8020	6020	4370	3010	
			386	344	300	255	212	
	40	Q P	8790	6670	4890	3410	2220	
HA44e/565-4			416	360	305	251	199	
	50	Q P	7190	5320	3770	2490	1460	
			434	366	300	236	177	
HA44e/665-4	30	Q P	12700	9820	7430	5430	3780	
			476	423	369	314	260	
	40	Q P	10800	8220	6070	4260	2770	
HA44e/775-4			517	450	382	315	250	
	50	Q P	8860	6600	4690	3090	1760	
			544	462	380	301	226	
HA44e/875-4	30	Q P	16300	12600	9480	6890	4750	
			579	518	454	387	321	
	40	Q P	13900	10600	7750	5420	3490	
HA44e/975-4			621	541	460	378	298	
	50	Q P	11500	8500	6040	3970	2250	
			647	548	449	352	258	
HA44e/1075-4	30	Q P	20200	15700	11900	8740	6130	
			706	633	557	478	399	
	40	Q P	17400	13400	9920	7070	4710	
HA44e/1175-4			763	670	574	478	384	
	50	Q P	14600	11000	7950	5420	3310	
			802	688	574	461	353	
HA44e/1275-4	30	Q P	22800	17800	13600	9960	7030	
			806	719	627	534	442	
	40	Q P	19700	15100	11300	8100	5450	
HA44e/1375-4			876	763	649	536	426	
	50	Q P	16500	12500	9090	6270	3910	
			927	788	652	519	393	

Relating to 20 °C suction gas temperature without liquid subcooling

Reduced suction gas temperature

R449A



t_o Evaporating temperature (°C)
t_c Condensing temperature (°C)
Δt_{oh} Suction gas superheat (K)
t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar
¹⁾ LP = low pressure, HP = high pressure

Notes

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data

The performance data for R449A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

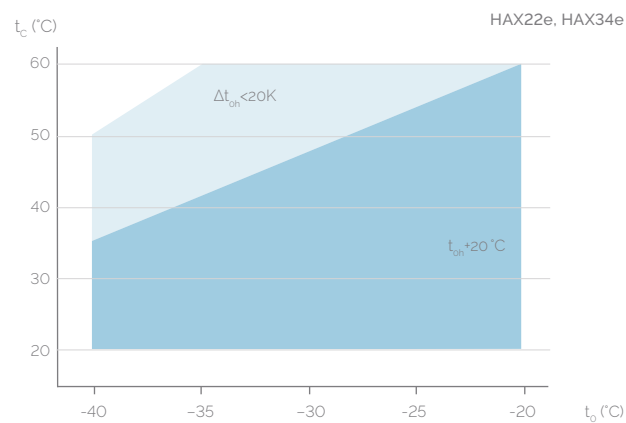
R449A | 50 Hz

Type		Cooling capacity Q _o [kW]					Power consumption	
		Evaporating temperature °C					P _e [kW]	
							P _e [kW]	
		Cond. temp. °C						
			-20	-25	-30	-35	-40	
HA22e/125-4	30	Q	4170	3240	2440	1780	1230	
		P	169	153	135	118	100	
	40	Q	3520	2690	1990	1400	912	
HA22e/160-4	30	Q	180	159	137	116	0.96	
		P	2890	2170	1570	1060	628	
	40	Q	187	161	136	111	0.88	
HA22e/190-4	30	Q	5200	4010	3010	2160	1470	
		P	203	183	161	139	117	
	40	Q	4400	3340	2440	1690	1070	
HA22e/255-4	30	Q	216	190	163	136	110	
		P	3620	2680	1900	1240	688	
	40	Q	224	192	160	129	100	
HA22e/315-4	30	Q	6280	4920	3770	2800	2010	
		P	247	222	196	170	144	
	40	Q	5420	4190	3150	2290	1570	
HA22e/475-4	30	Q	266	234	202	170	140	
		P	4540	3450	2540	1770	1130	
	40	Q	279	240	202	165	130	
HA22e/665-4	30	Q	6760	5220	3900	2810	1900	
		P	259	231	203	174	144	
	40	Q	5670	4280	3110	2130	1310	
HA22e/965-4	30	Q	276	240	203	167	131	
		P	4580	3350	2320	1450	728	
	40	Q	286	240	196	152	110	
HA22e/1250-4	30	Q	8220	6390	4830	3530	2460	
		P	315	280	244	208	172	
	40	Q	6940	5320	3940	2790	1830	
HA22e/1750-4	30	Q	337	293	248	204	162	
		P	5700	4280	3080	2080	1240	
	40	Q	352	298	245	194	145	
HA22e/2500-4	30	Q	10400	7990	6010	4360	3010	
		P	385	342	299	255	211	
	40	Q	8740	6640	4870	3400	2210	
HA22e/3500-4	30	Q	414	359	304	250	199	
		P	7150	5290	3750	2480	1450	
	40	Q	432	365	299	236	177	
HA22e/5000-4	30	Q	12600	9790	7410	5420	3770	
		P	474	422	368	314	260	
	40	Q	10800	8180	6040	4250	2760	
HA22e/7000-4	30	Q	515	448	381	314	249	
		P	8800	6560	4660	3070	1750	
	40	Q	542	460	379	300	225	
HA22e/10000-4	30	Q	16200	12600	9450	6870	4740	
		P	577	516	452	386	320	
	40	Q	13800	10500	7720	5400	3480	
HA22e/14000-4	30	Q	619	539	458	377	297	
		P	11400	8450	6000	3950	2240	
	40	Q	644	546	447	351	258	
HA22e/20000-4	30	Q	20100	15700	11900	8720	6120	
		P	703	631	555	477	398	
	40	Q	17300	13300	9880	7050	4690	
HA22e/28000-4	30	Q	760	667	572	477	383	
		P	14500	11000	7910	5390	3290	
	40	Q	799	685	572	460	352	
HA22e/40000-4	30	Q	22700	17700	13500	9940	7020	
		P	804	716	626	533	441	
	40	Q	19600	15100	11300	8070	5430	
HA22e/56000-4	30	Q	873	760	647	534	425	
		P	16400	12400	9040	6240	3890	
	40	Q	923	785	649	518	392	

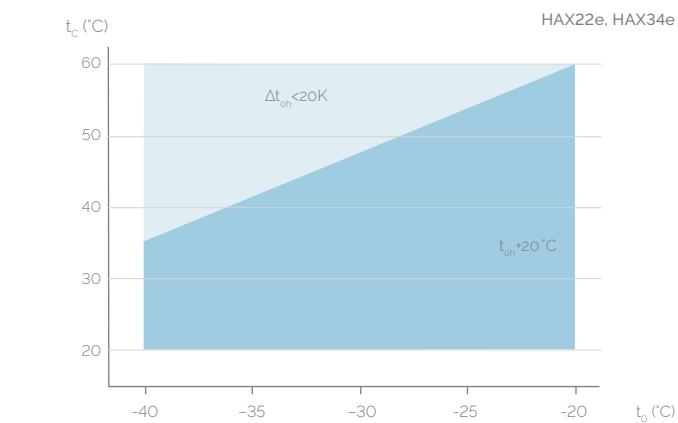
Relating to 20 °C suction gas temperature without liquid subcooling

Reduced suction gas temperature

R407A



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{sh} Suction gas superheat (K)
 t_{sh} Suction gas temperature (°C)



● Unlimited application range
● Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar
¹⁾ LP - low pressure, HP - high pressure

Notes

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data

The performance data for R407A are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

Conversion factor for 60 Hz = 1.2

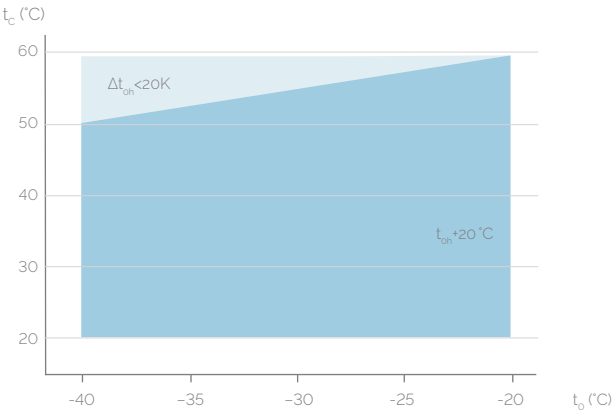
R407A | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [kW]					Power consumption P_e [kW]	
			Evaporating temperature °C						
			-20	-25	-30	-35	-40		
HA22e/125-4	30	Q	4090	3120	2330	1680	1140		
		P	165	148	130	112	0.95		
	40	Q	3460	2600	1900	1310	804		
HA22e/160-4	30	Q	5110	3890	2870	2030	1350		
		P	198	177	154	132	110		
	40	Q	4330	3230	2310	1550	920		
HA22e/190-4	30	Q	6160	4750	3610	2670	1880		
		P	241	215	188	162	136		
	40	Q	5330	4060	3020	2150	1400		
HA34e/215-4	30	Q	6700	5120	3790	2680	1770		
		P	251	225	197	168	139		
	40	Q	5630	4200	3000	2000	1170		
HA34e/255-4	30	Q	8160	6290	4710	3390	2310		
		P	305	271	237	201	166		
	40	Q	6920	5240	3820	2640	1660		
HA34e/315-4	30	Q	10300	7850	5850	4180	2810		
		P	376	333	288	242	197		
	40	Q	8630	6500	4710	3220	1990		
HA34e/380-4	30	Q	12500	9590	7220	5230	3540		
		P	464	410	355	298	242		
	40	Q	10600	8010	5870	4060	2480		
HA44e/475-4	30	Q	15800	12200	9080	6510	4400		
		P	569	508	444	378	311		
	40	Q	13400	10100	7350	5050	3160		
HA44e/565-4	30	Q	19600	15200	11400	8280	5710		
		P	694	622	545	466	388		
	40	Q	16800	12800	9430	6630	4310		
HA44e/665-4	30	Q	22200	17200	13000	9450	6560		
		P	793	705	614	521	429		
	40	Q	19000	14600	10800	7600	5000		
	30	Q	15900	11900	8570	5800	3490		
		P	903	765	629	497	372		
	40	Q	13400	10100	7350	5050	3160		

Relating to 20 °C suction gas temperature without liquid subcooling

Reduced suction gas temperature

R407F



to Evaporating temperature (°C)
tc Condensing temperature (°C)
Δt_{oh} Suction gas superheat (K)
t_{oh} Suction gas temperature (°C)

● Unlimited application range
○ Reduced suction gas temperature

Max. permissible operating pressure (LP/HP)¹⁾: 19/28 bar
¹⁾ LP = low pressure, HP = high pressure

Notes

Operating limits
Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or

Performance data
The performance data for R407F are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

Evaporation and condensing temperatures are based on the dew point values (saturated vapour conditions).

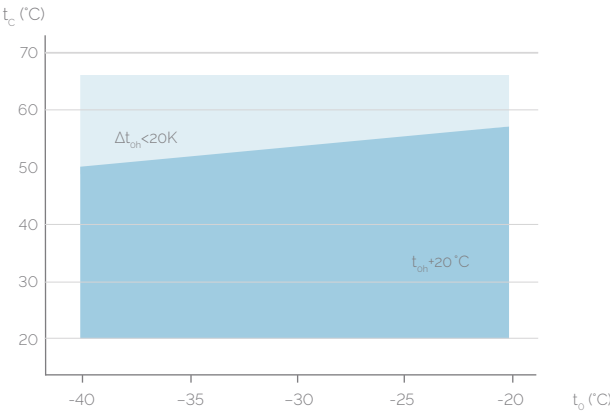
Conversion factor for 60 Hz = 1.2

R407F | 50 Hz

Type		Cooling capacity Q _o [kW]					Power consumption P _e [kW]	
		Evaporating temperature °C						
		Cond. temp. °C						
			-20	-25	-30	-35	-40	
HA22e/125-4	30	Q P	4300 172	3270 154	2420 135	1730 117	1190 100	
	40	Q P	3670 184	2740 160	1990 137	1380 115	912 0.96	
	50	Q P	3030 190	2220 162	1570 135	1060 111	669 0.90	
HA22e/160-4	30	Q P	5370 2.06	4060 1.84	2980 1.61	2110 1.38	1420 1.17	
	40	Q P	4590 2.20	3400 1.91	2440 1.62	1660 1.36	1060 1.11	
	50	Q P	3790 2.28	2750 1.93	1900 1.59	1230 1.29	722 1.02	
HA22e/190-4	30	Q P	6490 2.52	4990 2.24	3750 1.96	2740 1.70	1960 1.45	
	40	Q P	5660 2.72	4280 2.36	3160 2.02	2260 1.70	1580 1.41	
	50	Q P	4770 2.84	3540 2.41	2550 2.01	1780 1.65	1210 1.33	
HA34e/215-4	30	Q P	7030 2.67	5370 2.37	3970 2.06	2820 1.75	1910 1.45	
	40	Q P	5930 2.86	4440 2.47	3180 2.07	2150 1.68	1330 1.32	
	50	Q P	4800 2.94	3480 2.45	2360 1.97	1450 1.51	726 1.09	
HA34e/255-4	30	Q P	8540 3.25	6570 2.87	4920 2.48	3560 2.09	2480 1.73	
	40	Q P	7270 3.49	5510 3.00	4040 2.52	2840 2.06	1880 1.64	
	50	Q P	6000 3.63	4450 3.05	3170 2.48	2120 1.94	1290 1.46	
HA34e/315-4	30	Q P	10800 4.03	8160 3.53	6000 3.03	4240 2.54	2860 2.09	
	40	Q P	9110 4.33	6770 3.69	4860 3.07	3320 2.49	2120 1.97	
	50	Q P	7460 4.50	5410 3.73	3760 3.01	2450 2.35	1450 1.78	
HA34e/380-4	30	Q P	13100 4.97	9990 4.36	7400 3.74	5280 3.14	3580 2.57	
	40	Q P	11200 5.38	8350 4.61	6030 3.85	4140 3.13	2630 2.47	
	50	Q P	9190 5.64	6700 4.71	4650 3.82	3010 3.00	1720 2.25	
HA44e/475-4	30	Q P	17000 5.99	13000 5.34	9640 4.65	6910 3.95	4670 3.25	
	40	Q P	14500 6.42	11000 5.59	7980 4.75	5560 3.93	3570 3.13	
	50	Q P	11900 6.68	8800 5.67	6260 4.69	4170 3.75	2460 2.87	
HA44e/565-4	30	Q P	21100 7.30	16200 6.52	12100 5.72	8770 4.89	6050 4.05	
	40	Q P	18200 7.88	13900 6.91	10300 5.94	7270 4.99	4850 4.06	
	50	Q P	15200 8.28	11400 7.13	8270 6.01	5730 4.94	3640 3.94	
HA44e/665-4	30	Q P	23900 8.35	18300 7.42	13800 6.45	10100 5.47	6950 4.49	
	40	Q P	20600 9.07	15700 7.90	11700 6.73	8350 5.60	5620 4.53	
	50	Q P	17200 9.59	13000 8.19	9480 6.86	6650 5.60	4310 4.45	

Relating to 20 °C suction gas temperature without liquid subcooling

R22



t_o Evaporating temperature (°C)
 t_c Condensing temperature (°C)
 Δt_{oh} Suction gas superheat (K)
 t_{oh} Suction gas temperature (°C)

- Unlimited application range
- Reduced suction gas temperature

Max. permissible operating pressure (LP/HP) ¹⁾: 19/28 bar
¹⁾ LP = low pressure, HP = high pressure

R22 Notes

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the colored areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Performance data

The performance data for R22 are based on European Standard EN 12900 with a 50 Hz power supply frequency. This signifies: 20 °C suction gas temperature without liquid subcooling.

This results in significant differences compared to specifications with liquid undercooling and/or suction-gas temperatures. A comprehensive modification to 20 °C suction gas temperature will follow at a later date.

Conversion factor for 60 Hz = 1.2

R22 | 50 Hz

Type	Cond. temp. °C		Cooling capacity Q_o [kW]					Power consumption P_e [kW]	
			Evaporating temperature °C						
			-20	-25	-30	-35	-40		
HA22e/125-4	30	Q	4270	3360	2590	1930	1390		
		P	173	158	142	126	109		
	40	Q	3710	2890	2190	1600	1100		
HA22e/160-4	30	Q	186	167	147	127	107		
		P	3180	2440	1820	1290	836		
	50	Q	196	173	149	125	103		
HA22e/190-4	30	Q	5330	4180	3200	2370	1680		
		P	207	189	170	150	129		
	40	Q	4650	3600	2700	1950	1310		
HA22e/215-4	30	Q	223	200	175	150	126		
		P	3980	3040	2230	1540	960		
	50	Q	235	206	177	148	119		
HA22e/255-4	30	Q	6400	5080	3960	3010	2230		
		P	252	229	206	182	157		
	40	Q	5670	4460	3430	2560	1840		
HA22e/315-4	30	Q	274	245	215	186	157		
		P	4950	3840	2910	2120	1450		
	50	Q	292	256	221	186	152		
HA34e/215-4	30	Q	6950	5450	4180	3100	2200		
		P	265	241	215	189	162		
	40	Q	6030	4660	3490	2500	1670		
HA34e/255-4	30	Q	287	255	222	188	154		
		P	5110	3870	2800	1900	1140		
	50	Q	304	263	221	180	141		
HA34e/315-4	30	Q	8420	6640	5130	3850	2780		
		P	322	290	258	224	191		
	40	Q	7340	5720	4350	3190	2220		
HA34e/380-4	30	Q	349	309	268	227	186		
		P	6290	4840	3600	2560	1680		
	50	Q	371	321	272	223	177		
HA44e/475-4	30	Q	10600	8310	6380	4750	3410		
		P	392	355	315	275	235		
	40	Q	9240	7150	5390	3910	2690		
HA44e/565-4	30	Q	429	379	328	278	229		
		P	7890	6010	4420	3090	1990		
	50	Q	456	394	332	273	216		
HA44e/665-4	30	Q	12900	10200	7830	5880	4250		
		P	482	435	386	336	285		
	40	Q	11300	8780	6650	4850	3350		
HA44e/775-4	30	Q	531	470	408	345	284		
		P	9670	7400	5460	3820	2430		
	50	Q	568	492	417	343	271		
HA44e/875-4	30	Q	16600	13100	10100	7510	5390		
		P	588	535	477	417	356		
	40	Q	14600	11300	8550	6220	4270		
HA44e/975-4	30	Q	640	569	495	419	344		
		P	12600	9580	7070	4940	3150		
	50	Q	679	589	498	408	319		
HA44e/1075-4	30	Q	20500	16200	12500	9420	6850		
		P	715	651	582	510	437		
	40	Q	18100	14200	10900	7970	5590		
HA44e/1175-4	30	Q	783	698	611	523	434		
		P	15800	12200	9120	6520	4330		
	50	Q	835	731	626	521	418		
HA44e/1275-4	30	Q	23200	18400	14300	10800	7850		
		P	817	739	657	572	486		
	40	Q	20500	16100	12300	9120	6450		
HA44e/1375-4	30	Q	899	797	692	587	484		
		P	17900	13900	10500	7520	5070		
	50	Q	965	838	712	588	468		

Relating to 20 °C suction gas temperature without liquid subcooling

Reduced suction gas temperature