



Comparison guide for R 134a compressors 220V – 240V, 50 Hz

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A comparison and replacement guide between Danfoss R134a compressors and others

The object of this Hermetic Note is to give a survey of competitive R134a compressors for 220V, their model designation, application, displacement, capacities, cooling, starting conditions, and finally to give information about which Danfoss compressor to choose when replacing a model of a different make.

Please note that all comparisons in this guide are only based on capacities. This means that power consumption has not been taken into consideration. Accordingly, no Danfoss energy optimized compressors have been selected.

If a greater number of compressors has to be replaced, please consult the manufacturers catalogues to confirm that design and performance characteristics meet the system requirements.

The capacities are given in Watts at CECOMAF- or ASHRAE testing conditions.

CECOMAF – conditions: without subcooling of liquid.

ASHRAE – conditions: with subcooling of liquid.

All recommendations in this comparison guide are based on published information from the following companies:

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ZEM LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
GL35AA	3.4	58	S	TL4F	61	LST
GL40AA	4.0	66	S	TL4F	61	LST
GL45AA	4.6	78	S	TL5F	82	LST
GL50AA	5.1	90	S	TLS5F	91	LST
GL60AA	6.0	108	S	TLS6F	105	LST
GL70AA	6.6	121	S	TLS7F	118	LST
GL80AA	8.1	145	S	NL9F	157	LST
GL90AA	9.1	165	S	NL9F	157	LST
GL99AA	9.9	176	S	NL11F	200	LST

ZEM LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
GL35AB	3.4	52	S	TL4F	61	LST
GL40AB	4.0	61	S	TL4F	61	LST
GL45AB	4.6	70	S	TL5F	82	LST
GL50AB	5.1	80	S	TL5F	82	LST
GL60AB	6.0	96	S	TLS5F	93	LST
GL70AB	6.6	108	S	TLS6F	105	LST
GL80AB	8.1	131	S	NL7F	134	LST
GL90AB	9.1	147	S	NL9F	157	LST
GL99AB	9.9	160	S	NL9F	157	LST

Energy optimized models

ZEM LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
GL35AH	3.4	60	S	TL4F	61	LST
GL40AH	4.0	67	S	TL4F	61	LST
GL45AH	4.6	79	S	TL5F	82	LST
GL50AH	5.1	92	S	TLS5F	91	LST
GL60AH	6.0	109	S	TLS6F	105	LST
GL70AH	6.6	121	S	TLS7F	118	LST
GL80AH	8.1	147	S	NL9F	157	LST
GL90AH	9.1	164	S	NL9F	157	LST
GL99AH	9.9	174	S	NL11F	200	LST



Application	Compressor	Displacement cm ³	Capacity Watt Cecomaf		Cooling	Starting torque	Code number	
			-25° C	+5° C			Compressor	Compressor with oil-cooler
L/MBP	TL2.5F	2.61	32		S	LST	102G4200	
	TL3F	3.13	42		S	L/HST	102G4300	
	TLES3F	3.13	44		S	LST	102G4310	
LBP	TL4F	3.86	61		S	L/HST	102G4400	
	TLES4F	3.86	65		S	LST	102G4410	
	TL5F	5.08	82		S	L/HST	102G4501	
	TLS5F	5.08	93		S	L/HST	102G4520	
	TLES5F	5.08	93		S	LST	102G4510	
	TLS6F	5.70	105		S	L/HST	102G4620	
	TLES6F	5.70	105		S	LST	102G4610	
	TLS7F	6.49	118		S	L/HST	102G4720	
	TLES7F	6.49	122		S	LST	102G4710	
	NL6F	6.1	109		S	L/HST	103G6606	
	NLE6F	6.1	110		S	LST	103G6607	
	NL7F	7.3	134		S	L/HST	103G6706	
	NLE7F	7.3	135		S	LST	103G6702	
	NL9F	8.35	157		S/O	L/HST	103G6802	103G6812
	NLE9F	8.35	160		S	LST	103G6803	
	NL11F	11.15	200		O/F	L/HST	103G6900	103G6910
	FR7.5F	6.93	103		S	L/HST	103G6740	
	FR8.5F	7.95	126		S	L/HST	103G6840	
	FR10F	9.05	138		S	L/HST	103G6940	
	SC 15F	15.3	230		O/F	HST	104G8500	104G8510
	SC 18F	17.7	280		O/F	HST	104G8800	104G8810
SC 21F	20.95	335		F	HST	104G8100		
HBP/LBP	TL3G	3.13	42	222	S	L/ HST	102G4350	
	TL4G	3.86	61	276	S	L/ HST	102G4452	
	TL5G	5.08	82	340	S	L/ HST	102G4550	
	FR6G	6.24	83	450	F	L/ HST	103G6660	
	FR7.5G	6.93	103	500	F	L/ HST	103G6680	
	FR8.5G	7.95	126	580	F	L/ HST	103G6780	
	FR10G	9.05	138	630	F	L/ HST	103G6880	
	FR11G	11.15	170	775	F	L/ HST	103G6980	
	SC10G	10.3	115	760	F	L/ HST	104G8000	
	SC12G	12.9	183	960	O/F	L/ HST	104G8240	104G8250
	SC15G	15.3	230	1120	O/F	HST	104G8520	104G8330
	SC18G	17.7	280	1320	F	HST	104G8820	
	SC21G	20.95	335	1570	F	HST	104G8140	
	SC12/12G	2 x 12.9	366	1920	F	HST	104G8280	
	SC15/15G	2 x 15.3	460	2240	F	HST	104G8580	
SC18/18G	2 x 17.7	560	2640	F	HST	104G8880		
SC21/21G	2 x 20.95	670	3140	F	HST	104G8180		

Testing conditions:
 Condensing temperature 55° C
 Ambient temperature 32° C
 Suction gas temperature 32° C
 Liquid temperature 55° C

Cooling:
 S = Static cooling
 O = Oil cooling
 F = Fan cooling



Aspera LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
BP1046Z	2.85	46	S	TL3F	42	LST
BP1058Z	3.44	52	S	TL4F	61	LST
BP1072Z	4.15	66	S	TL4F	61	LST
BP1084Z	4.60	77	S	TL5F	82	LST
BP1111Z	5.93	94	S	TLS5F	93	LST
B1112Z	6.27	102	S	TLS6F	105	LST
B2112Z	6.27	102	S	TLS6FX	105	HST
B1116Z	8.38	136	S	NL7F	134	LST
B2116Z	8.38	136	S	NL7FX	134	HST
B1118Z	8.07	152	S	NL9F	157	LST
B2118Z	8.07	152	S	NL9FX	157	HST
E1121Z	13.6	192	F	NL11F	200	LST
Energy optimized models						
BK1086Z	5.40	105	S	NL6F	109	LST
BK1112Z	6.27	112	S	NL6F	109	LST
BK1114Z	7.40	129	S	NL7F	134	LST
BK1116Z	8.38	154	S	NL9F	157	LST

Aspera HBP	Displacement cm ³	Capacity Watt (+5°C)	Cooling	Danfoss compressor	Capacity Watt (+5°C)	Starting torque
BP5125Z	3.15	231	S	TL3G	222	LST
BP5128Z	3.80	275	S	TL4G	276	LST
BP5132Z	4.30	296	S	TL5G	340	LST
B5125Z	3.65	237	S	TL3G	222	LST
B5128Z	4.38	280	S	TL4G	276	LST
B5132Z	4.85	325	S	TL5G	340	LST
B5144Z	5.90	431	F	FR6G	450	LST
B6144Z	5.90	431	F	FR6GX	450	HST
B5160Z	8.00	622	F	FR10G	630	LST
B6160Z	8.00	622	F	FR10GX	630	HST
B5170Z	8.85	673	F	FR10G	630	LST
B6170Z	8.85	673	F	FR10GX	630	HST
E5187Z	12.0	915	F	SC 2G	960	LST
E6187Z	12.0	915	F	SC 2GX	960	HST
T5185Z	12.58	885	F	SC12G	960	LST
T6185Z	12.58	885	F	SC12GX	960	HST
T5213Z	17.4	1235	F	SC18G	1320	LST
T6213Z	17.4	1235	F	SC18GX	1320	HST
T6215Z	20.40	1510	F	SC21GX	1570	HST
J6220Z	25.80	2050	F	SC12/12G	1920	LST
J6226Z	34.37	2770	F	SC18/18G	2640	HST

DKK LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
KVO,52 NO5-6U	3.05	40	S	TL3F	42	LST
KVO,63 NO6-6U	3.82	58	S	TL4F	61	LST
KVO,75 NO7-6U	4.32	68	S	TL5F	82	LST



Embraco LBP	Displacement cm ³	Capacity Watt (-23.3°C)*	Cooling	Danfoss compressor	Capacity Watt (-23.3°C)*	Starting torque
EM20HNP	2.27	31	S	TL2.5F	45	LST
EM30HNP	3.01	62	S	TL3F	58	LST
EM40HNP	3.77	86	S	TL4F	84	LST
EM50HNP	4.99	120	S	TLS5F	127	LST
EM60HNP	5.54	139	S	TLS6F	144	LST
FG65HAK	6.76	164	S	TLS7F	162	LST
FG75HAK	7.95	193	S	NL7F	183	LST
FG85HAK	9.05	227	S	NL9F	215	LST
FG95HAK	10.61	262	S	NL11F	274	LST
FFII2HBK	11.15	308	F	SC15F	324	LST

Embraco HBP	Displacement cm ³	Capacity Watt (7.2°C)*	Cooling	Danfoss compressor	Capacity Watt (7.2°C)*	Starting torque
PW3.5HK9	3.46	337	S	TL4G	364	LST
PW4.5HK11	4.33	414	S	TL5G		LST
PW5.5HK14	5.54	527	S	FR6G		LST
FG65HAK	6.76	671	S	FR7.5G	680	LST
FG75HAK	7.95	785	S	FR8.5G	785	LST
FG85HAK	9.05	900	S	FR10G	850	LST
FG95HAK	10.61	1055	S	SC10G	1025	LST
FFII2HBK	11.15	1260	F	SC12G	1290	LST

L'Unité LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
AZ1320Y	2.95	37	S	TL3F	42	LST
AZ1330Y	3.6	56	S	TL4F	61	LST
AZ1335Y	4.0	63	S	TL4F	61	LST
AZ1339Y	5.0	68	S	TL5F	82	LST
AZ1348Y	5.6	88	S	TLS5F	93	LST
AEZ1358Y	6.9	103	S	NL6F	109	LST
AEZ1365Y	8.1	127	S	NL7F	134	LST
AEZ1380Y	9.4	163	F	NL9F	157	LST
AEZ2380Y	9.4	163	F	NL9FX	157	HTS

L'Unité HBP	Displacement cm ³	Capacity Watt (+5°C)	Cooling	Danfoss compressor	Capacity Watt (+5°C)	Starting torque
AZ4410Y	2.95	197	S	TL3GX	222	HTS
AZ4412Y	3.6	252	S	TL4GX	276	HTS
AZ4414Y	4.0	290	S	TL4GX	276	HTS
AZ3419Y	5.6	398	F	FR6G	450	LST
AZ4419Y	5.6	398	F	FR6GX	450	HTS
AEZ3425Y	7.55	539	F	FR7.5G	500	LST
AEZ4425Y	7.55	539	F	FR7.5GX	500	HTS
AEZ3430Y	8.85	654	F	FR10G	630	LST
AEZ4430Y	8.85	654	F	FR10GX	630	HTS
AE3440Y	12.05	859	F	SC12G	960	LST
CAE4440Y	12.05	859	F	SC12GX	960	HTS
CAJ4452Y	15.2	1131	F	SC15G	1120	HTS
CAJ4461Y	18.3	1310	F	SC18G	1320	HTS
CAJ4492Y	29	1900	F	SC12/12G	1920	HTS
CAJ4511Y	32.7	2523	F	SC18/18G	2640	HTS



Matsushita LBP	Displacement cm ³	Capacity Watt (-23.3°C)*	Cooling	Danfoss compressor	Capacity Watt (-23.3°C)*	Starting torque
S43C80KA	4.33	95	S	TL5F	113	LST
S48C95KA	4.85	110	S	TL5F	113	LST
D66C13RA	6.58	151	S/O/F	NL6F	152	LST
D77C15RA	7.69	186	S/O/F	NL7F	186	LST
D91C18RA	9.07	215	S/O/F	NL11F	256	LST

Necchi LBP	Displacement cm ³	Capacity Watt (-23.3°C)*	Cooling	Danfoss compressor	Capacity Watt (-23.3°C)*	Starting torque
ETR3		60		TL3F	58	LST
ETR3.5		75		TL4F	84	LST
ETR4		87		TL4F	84	LST
ETR5		117		TL5F	113	LST
ETR5.5		130		TLS5F	127	LST
ESC5		107		TL5F	113	LST
ESC7		147		TLS6F	144	LST
ESC8		172		NL7F	183	LST
ESC8.5		186		NL7F	183	LST
ESC9		205		NL9F	215	LST
ESC11		246		NL11F	274	LST

Türk LBP	Displacement cm ³	Capacity kcal/h (-23.3°C)*	Cooling	Danfoss compressor	Capacity kcal/h (-23.3°C)*	Starting torque
AZ47Y	2.86	47	S	TL3F	50	LST
AZ82Y	4.00	82	S	TL5F	97	LST
AZ107Y	5.59	107	S	TLS5F	106	LST
AE120Y	6.64	120	S	NL6F	130	LST
AE146Y	7.94	146	O	NL7F	157	LST
AE175Y	8.99	175	O	NL9F	185	LST

Unidad LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
GL35AH	3.4	60	S	TL4F	61	LST
GL40AH	4.0	67	S	TL4F	61	LST
GL45AH	4.6	79	S	TL5F	82	LST
GL50AH	5.1	92	S	TLS5F	93	LST
GL60AH	6.0	109	S	TLS6F	105	LST
GL70AH	6.6	121	S	TLS7F	118	LST
GL80AH	8.1	147	S	NL9F	157	LST
GL90AH	9.1	164	S	NL9F	157	LST
GL99AH	9.9	174	S	NL11F	200	LST

Unidad HBP	Displacement cm ³	Capacity Watt (+5°C)	Cooling	Danfoss compressor	Capacity Watt (+5°C)	Starting torque
GP12PB	12	985	F	SC12G	960	LST
GP12PT	12	985	F	SC12GX	960	HST
GP14PB	14.2	1092	F	SC15G	1120	LST
GP14PT	14.2	1092	F	SC15G	1120	HST

VOE LBP	Displacement cm ³	Capacity Watt (-25°C)	Cooling	Danfoss compressor	Capacity Watt (-25°C)	Starting torque
OF605	3.4	50	S	TL4F	61	LST
OF789	4.4	70	S	TL5F	82	LST
OF1033A	5.7	96	S	TLS5F	93	LST
OF1350A	7.5	130	S	NL7F	134	LST



Compressor		TL		NL				FR	SC					SC-Twin
		TL2.5F TL3F TL4F TL3G	TLES3F TLES4F TLS5F TLES5F TLES6F TLES6F TLS7F TLES7F TL4G TL5G	NL6F	NL7F	NLE6F NLE7F	NL9F NLE9F NL11F	FR7.5F FR8.5F FR10F FR6G FR7.5G FR8.5G FR10G FR11G	SC10G	SC12G SC15F	SC15G SC18F	SC18G SC21G SC21F	SC12/12G SC15/15G	SC18/18G SC21/21G
Heigh	A	156	166	175	178	185	185	191	193	203	203	213	244	254
Suction	B	6.2	6.2	6.2	6.2	6.2	8.2	8.2	8.2	8.2	10.2	10.2	12	16
Discharge	C	5.0	5.0	5.0	5.0	5.0	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Oil-cooler	D						6.2	6.2	6.2	6.2	6.2	6.2		
Process	E	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2

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