ENGINEERING
TOMORROW

Quick reference

Light commercial reciprocating compressors **for beverage coolers**

R404A - R507 - R134a - R290 220 - 240V 50 / 60 Hz

http://cc.danfoss.com

Quick reference

R404A - R507 - R134a - R290 220 - 240V 50 / 60 Hz

Refrigerant	Frequency	Compressor	Code numbers: Compressor	Code numbers: Compressor with oil cooling	Horsepower (approx.)	Capacity (W) at test conditions: Evaporating temperature (°C): -20	-15	-10	-6.7	-5	0	5	7.2	10	Power consumption (W): -10	-5	Displacement cm3	Recommended compressor cooling at ambient temperatures: 32°C: LBP	MBP	HBP	38°C: LBP	MBP	HBP	43°C: LBP	MBP	HBP
R134a	50 Hz	PL35G	101G0250		1/16	39	53	69	82	89	112	140	153	172	67	74	2.00		F_2	F_2		F_2	F_2			
		TL2.5G	102G4251		1/16	51	69	90	106	116	145	179	196	219	84	93	2.61	S	S	S	S	S	S	S	S	F_2
		TL3G	102G4350		1/12	59	81	106	125	136	170	211	230	258	96	108	3.13	S	S	F_2	S	S	F_2	S	S	F_2
		TL4G	102G4452		1/10	80	107	140	165	180	226	280	306	342	118	130	3.86	S	S	F_2	S	S	F_2	S	S	F_2
		TL5G	102G4550		1/8	107	139	178	208	224	278	341	372	414	149	167	5.08	S	S	F_2	S	S	F_2	S	S	F_2
		NL6.1MF	105G6660		1/6	141	189	245	288	312	390	482	527	588	187	206	6.13		F_1	F_1		F_1	F_1		F_1	F_1
		NL7.3MF	105G6772		1/5	179	236	304	356	385	480	591	645	719	227	250	7.27		F_1	F_1		F_1	F_1		F_1	F_1
		NL8.4MF	105G6879		1/4	213	277	353	412	445	553	679	741	825	261	289	8.35		F_1	F_1		F_1	F_1		F_1	F_1
		NL10MF	105G6885	105G6887	1/3	266	346	441	513	554	687	843	919	1028	323	360	10.10		O/F_1	O/F_1		O/F_1	O/F_1		O/F_1	O/F_1
		NL11MF	105G6151		1/3	292	380	485	565	609	756	927	1011	1125	360	404	11.15		F_2	F_2		F_2	F_2		F_2	F_2
		NLE10MF	105G6888		1/3	262	343	440	513	554	688	845	922		308	347	10.10	F_1	F_1		F_1	F_1		F_1	F_1	
		FR6G	103G6660		1/6	124	171	226	267	290	365	452	494	552	172	194	6.23	S	F_2	F_2	S	F_2	F_2	S	F_2	F_2
		FR7.5G	103G6680	103G6690	1/5	142	193	254	299	325	408	505	553	618	194	220	6.93	S	F_2	F_2	S	F_2	F_2	O/F_1	F_2	F_2
		FR8.5G	103G6780	103G6790	1/4	171	228	298	351	381	478	592	647	722	231	261	7.95	S	F_2	F_2	S	F_2	F_2	O/F_1	F_2	F_2
		FR10G	103G6880	103G6890	1/4	188	250	324	380	412	516	638	697	779	265	296	9.05	S	F_2	F_2	S	F_2	F_2	O/F_1	F_2	F_2
		FR11G	103G6980		1/3	233	307	395	463	501	628	780			317	357	11.15	F_2	F_2	F_2	F_2	F_2	F_2	F_2	F_2	F_2
		SC10G	104G8000		5/16	183	268	369	445	486	618	764	833	925	290	322	10.29	F_1	F_2	F_2	F_1	F_2	F_2	F_1	F_2	F_2
		SC12G	104G8240	104G8250	1/3	252	348	464	553	603	768	960	1054	1182	355	400	12.87	O/F_1	F_2	F_2	O/F_1	F_2	F_2	O/F_1	F_2	F_2
		SC15G	104G8520	104G8530	3/8	290	424	568	672	728	908	1110	1207	1340	440	497	15.28	O/F_1	F_2	F_2	O/F_1	F_2	F_2	O/F_1	F_2	F_2
		SC18G	104G8820	104G8830	1/2	394	526	684	804	870	1087	1337	1459	1624	507	568	17.68	O/F_1	F_2	F_2	O/F_1	F_2	F_2	O/F_1	F_2	F_2
		SC21G	104G8140		5/8	453	606	793	934	1013	1269	1561	1700	1889	575	643	20.95	F_2	F_2	F_2	F_2	F_2	F_2	F_2	F_2	F_2
		SC21MFX	104G8120		5/8	530	682	866	1006	1085	1343	1645	1793	1996		657	20.95		F_2			F_2			F_2	
		GS26MFX	107B0700		1	754	989	1266	1476	1591	1970	2411	2626			776	26.30		F_2			F_2			F_2	
		GS34MFX	107B0701		1 1/4	998	1296	1648	1918	2063	2550	3115	3392			1008	33.80		F_2			F_2			F_2	
	60 Hz	TL2.5G	102G4251		1/12	60	80	105	124	134	168	208	227	253	96	107	2.61	S	S	S	S	S	S	S	S	F_2
		TL4GH	102G4455		1/8		118	160	190	208	264	328	360	403	139	156	3.86			F_2			F_2			F_2
		NL6.1MF	105G6660		1/5	165	223	292	344	374	470	581	636		218	247	6.13	F_1	F_1		F_1	F_1		F_1	F_1	
		NL7.3MF	105G6772		1/4	216	283	363	424	458	570	700	763		275	310	7.27	F_1	F_1		F_1	F_1		F_1	F_1	
		NL8.4MF	105G6879		1/3	245	325	420	492	532	664	818	893		311	353	8.35	F_1	F_1		F_1	F_1		F_1	F_1	
		NL10MF	105G6885	105G6887	3/8	312	406	518	603	650	807	989	1079		373	421	10.10	O/F_1	O/F_1		O/F_1	O/F_1		O/F_1	O/F_1	
		SC12G	104G8245		3/8	248	370	519	632	696	907	1157	1280	1449	388	446	12.87		F_2			F_2			F_2	
		SC15G	104G8526		1/2	308	468	641	766	834	1049	1292	1409	1567	470	534	15.28		F_2			F_2			F_2	
		SC18G	104G8823		5/8	432	573	745	879	955	1207	1506	1654	1858	511	577	17.68		F_2			F_2			F_2	
R404A/ R507	50 Hz	TL4DL	102U2038		1/6	196	229	281	324	349	432	527	571	631	203	221	3.86		F_2	F_2		F_2	F_2			
		FR6DL	103U2680		1/4	317	385	471	538	576	698	840	907	999	354	388	6.23		F_2	F_2		F_2	F_2			
		NF7MLX	105F3720		1/5	543	666	756	805	964	1142	1227	1341			391	7.27		F_2			F_2			F_2	
		SC10MLX	104L2506		1/2	546	687	855	981	1051	1278	1537	1662		518	556	10.29		F_2			F_2			F_2	
		SC12MLX	104L2606		5/8	669	838	1038	1188	1272	1542	1852	2001		620	667	12.87		F_2			F_2			F_2	
		SC15MLX	104L2869		3/4	829	1038	1285	1471	1574	1909	2293			780	845	15.28		F_2			F_2				
		SC18MLX	104L2139		7/8	968	1210	1497	1712	1832	2220	2665			860	931	17.68		F_2			F_2				
		SC18MLX.3	104L2146		7/8	1018	1266	1557	1779	1898	2292	2743	2964		878	952	17.68		F_2			F_2				
		GS21MLX	107B0502		1	1096	1394	1748	2018	2164	2650	3211	3483		965	1046	21.20		F_2			F_2			F_2	
		GS26MLX	107B0503		1 1/4	1426	1810	2254	2586	2764	3351	4022	4345		1213	1319	26.30		F_2			F_2			F_2	
		GS34MLX	107B0504		1 1/2	1929	2408	2953	3358	3575	4283	5088	5476		1725	1885	33.80		F_2			F_2			F_2	
	60 Hz	NF7MLX	105F3720		1/4	489	618	768	879	940	1134	1362	1470		473	521	7.27		F_2			F_2			F_2	
		SC10MLX	104L2506		5/8	646	816	1015	1164	1246	1510	1812	1958		612	672	10.29		F_2			F_2			F_2	
		SC12MLX	104L2606		3/4	773	970	1199	1370	1465	1770	2118	2286		729	801	12.87		F_2			F_2			F_2	
		SC15MLX.2	104L2803		7/8	915	1145	1418	1623	1737	2107	2531	2735		860	931	15.28		F_2			F_2				
R290	50 Hz	TL3CN	102H4380		1/10	128	161	200	228	244	294	351			135	144	3.13	F_1	F_1		F_1	F_1		F_1	F_1	
		TL4CN	102H4490		1/8	166	205	250	283	302	360	426			162	172	3.86	F_1	F_1		F_1	F_1		F_1	F_1	
		TL5CN	102H4590		1/6	230	283	345	391	416	496	586			211	228	5.08	F_1	F_1***		F_1	F_1***		F_1	F_1***	
		NL7CN	105H6756		1/4	368	458	561	637	679	814	965			291	316	7.27	F_1	F_1		F_1	F_1		F_1	F_2	
		NL9CN	105H6856		1/3	423	526	643	730	778	930	1102			334	364	8.35	F_1	F_1		F_1	F_1		F_2	F_2***	
		SC10CNX	104H8065		1/3	420	531	660	748	809	979	1172			362	386	10.29	F_2	F_2		F_2	F_2		F_2	F_2	
		SC12CNX	104H8265		3/8	540	678	846	976	1050	1293	1582			456	494	12.87	F_2	F_2		F_2	F_2		F_2	F_2	
		SC15CNX	104H8565		1/2	707	887	1093	1245	1328	1594	1894			560	608	15.28	F_2	F_2		F_2	F_2		F_2	F_2	
		SC18CNX	104H8865		5/8	824	1033	1272	1447	1543	1849	2193			707	783	17.68	F_2	F_2		F_2	F_2		F_2	F_2	

Applications
LBP = Low Back Pressure
MBP = Medium Back Pressure
HBP = High Back Pressure

Motor types
RSIR = Resistant Start Induction Run
RSCR = Resistant Start Capacitor Run
CSIR = Capacitor Start Induction Run
CSR = Capacitor Start Run

Voltage and frequencies
1 = 198-254V, 50Hz
2 = 187-254V, 50Hz, LBP
3 = 198-254V, 60Hz, LBP
4 = 198-254V, 60Hz, HBP
5 = 198-254V, 60Hz, MBP
6 = 207-254V, 60Hz, HBP
7 = 187-254V, 50Hz, MBP
8 = 187-254V, 60Hz, MBP

Compressor cooling
S = Static cooling normally sufficient
O = Oil cooling
F_1 = Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)
F_2 = Fan cooling 3.0 m/s necessary
*** = Run capacitor 4 µF compulsory

Starting devices
LST = Low Starting Torque
LST is used with capillary tube control and pressure equalizing. (Pressure equalizing may exceed 10 minutes). The PTC starting device requires 5 minutes cooling before each start.
HST = HST consisting of relay and starting capacitor is used for expansion valve control or for capillary tube control without pressure equalizing.

Electrical equipment GS compressors
* = Gasket/cover/clamp are parts of compressor

Quick reference **R404A - R507 - R134a - R290 220 - 240V 50 / 60 Hz**

Compressor	Voltage & frequencies	Electrical equipment								Dimensions (mm)					
		LST (RSIR)		HST (CSIR)		HST (CSR)		LST / HST		Height		Connectors location / I.D			
		PTC starting device		Starting relay	Starting capacitor	Starting device	Starting kit					Suc-tion	Pro-cess	Dis-charge	Oil cooler
		Spades 6.3 mm	Spades 4.8 mm	Spades 6.3 mm	Spades 6.3 mm	Spades 6.3 mm	Spades 6.3 mm	Cord relief	Cover	A	B	C	D	E	F
PL35G	1/5	103N0011	103N0018	117U6021	117U5014			103N1010	103N0491	137	135	6.2	6.2	5.0	
TL2.5G	1/2/3/4	103N0011	103N0018	117U6007	117U5014			103N1010	103N2011	163	159	6.2	6.2	5.0	
TL3G	1/2/3	103N0011	103N0018	117U6009	117U5014			103N1010	103N2010	163	159	6.2	6.2	5.0	
TL4G	1/2/3	103N0011	103N0018	117U6004	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
TL5G	1/2/3	103N0011	103N0018	117U6000	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
NL6.1MF	7/5	103N0011	103N0018	117U6015	117U5015			103N1010	103N2011	190	184	8.2	6.2	6.2	
NL7.3MF	7/5	103N0011	103N0018	117U6016	117U5015			103N1010	103N2011	197	191	8.2	6.2	6.2	
NL8.4MF	7/5	103N0011	103N0018	117U6016	117U5015			103N1010	103N2011	197	191	8.2	6.2	6.2	
NL10MF	7/5	103N0011	103N0018	117U6022	117U5018			103N1010	103N2011	203	197	8.2	6.2	6.2	6.2
NL11MF	7	103N0011	103N0018	117U6022	117U5018			103N1010	103N2011	203	197	8.2	6.2	6.2	
NLE10MF	1	103N0011	103N0018	117U6003	117U5015			103N1010	103N2011	203	197	8.2	6.2	6.2	
FR6G	1/2/3	103N0011	103N0018	117U6000	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
FR7.5G	1/2/3	103N0011	103N0018	117U6001	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	6.2
FR8.5G	1/2/3	103N0011	103N0018	117U6015	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	6.2
FR10G	1/2/3	103N0011	103N0018	117U6010	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	6.2
FR11G	1/2	103N0011	103N0018	117U6010	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
SC10G	1/2/3	103N0011		117U6002	117U5017			103N1004	103N2009	199	193	8.2	8.2	6.2	
SC12G	1/2/3	103N0011		117U6003	117U5017			103N1004	103N2009	209	203	10.2	6.2	6.2	6.2
SC15G	1/2/3			117U6005	117U5017			103N1004	103N2009	209	203	10.2	6.2	6.2	6.2
SC18G	2/3			117U6019	117U5017			103N1004	103N2009	219	213	10.2	6.2	6.2	6.2
SC21G	1/2/3					117-7029		103N1004	103N2009	219	213	10.2	6.2	6.2	
SC21MFX	7			117U6019	117U5017	117-7039		103N1004	103N2009	219	213	10.2	6.2	6.2	
GS26MFX	1					117-7055		107B9100/ 9101/ 9104*		259	247	12.9	6.5	8.2	
GS34MFX	1					117-7056		107B9100/ 9101/ 9104*		259	247	12.9	6.5	8.2	
TL2.5G	1/2/3/4	103N0011	103N0018	117U6007	117U5014			103N1010	103N2010	163	159	6.2	6.2	5.0	
TL4GH	1/4			117U6000	117U5014			103N1010	1032011	173	169	6.2	6.2	5.0	
NL6.1MF	7/8	103N0011	103N0018	117U6015	117U5015			103N1010	103N2011	190	184	8.2	6.2	6.2	
NL7.3MF	7/8	103N0011	103N0018	117U6016	117U5015			103N1010	103N2011	197	191	8.2	6.2	6.2	
NL8.4MF	7/8	103N0011	103N0018	117U6016	117U5015			103N1010	103N2011	197	191	8.2	6.2	6.2	
NL10MF	7/8	103N0011	103N0018	117U6022	117U5018			103N1010	103N2011	203	197	8.2	6.2	6.2	6.2
SC12G	8			117U6011	117U5017			103N1004	103N2008	209	203	10.2	6.5	6.5	
SC15G	8			117U6011	117U5017			103N1004	103N2008	209	203	10.2	6.5	6.5	
SC18G	8					117-7039		103N1004	103N2008	219	213	10.2	6.5	6.5	
TL4DL	1			117U6011	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
FR6DL	1			117U6010	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
NF7MLX	7/8			117U4139	117U5018			2x117U0349	117U1021	203	197	9.7	6.5	6.5	
SC10MLX	7/8			117U6011	117U5017			103N1004	103N2008	209	203	8.2	6.5	6.5	
SC12MLX	7/8			117U6011	117U5017			103N1004	103N2008	219	213	8.2	6.5	6.5	
SC15MLX	1			117U6013	117U5012			103N1004	103N2009	219	213	10.2	6.2	6.2	
SC18MLX	1					117-7027		103N1004	103N2009	219	213	10.2	6.2	6.2	
SC18MLX.3	1					117-7027		103N1004	103N2009	219	213	10.2	6.2	6.2	
GS21MLX	1					117-7070		107B9100/ 9101/ 9104*		259	247	12.9	6.5	8.2	
GS26MLX	1					117-7072		107B9100/ 9101/ 9104*		279	267	16.1	6.5	9.7	
GS34MLX	1					117-7056		107B9100/ 9101/ 9104*		279	267	16.1	6.5	9.7	
NF7MLX	7/8			117U4139	117U5018			2x117U0349	117U1021	203	197	9.7	6.5	6.5	
SC10MLX	7/8			117U6011	117U5017			103N1004	103N2008	209	203	8.2	6.5	6.5	
SC12MLX	7/8			117U6011	117U5017			103N1004	103N2008	219	213	8.2	6.5	6.5	
SC15MLX.2	8					117-7058		103N1004	103N2008	219	213	9.7	6.5	6.5	
TL3CN	1	103N0011	103N0018	117U7004	117U5014			103N1010	103N2010	163	159	6.2	6.2	5.0	
TL4CN	1	103N0011	103N0018	117U7004	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
TL5CN	1	103N0011	103N0018	117U7000	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
NL7CN	1	103N0011	103N0018	117U7002	117U5014			103N1010	103N2010	203	197	8.2	6.2	6.2	
NL9CN	1	103N0011	103N0018	117U7002	117U5014			103N1010	103N2010	203	197	8.2	6.2	6.2	
SC10CNX	1					117-7025	117-9719	103N1004	103N2009	209	203	8.2	6.2	6.2	
SC12CNX	1					117-7025	117-9719	103N1004	103N2009	209	203	8.2	6.2	6.2	
SC15CNX	1					117-7031	117-9711	103N1004	103N2009	209	203	10.2	6.2	6.2	
SC18CNX	1					117-7052	117-9718	103N1004	103N2009	209	203	10.2	6.2	6.2	

Test conditions

Test Conditions	EN 12900 CECOMAF (220 V / 50 & 60 Hz)	EN 12900 CECOMAF (220 V / 50 & 60 Hz)	EN 12900 CECOMAF LBP (220 V / 50 & 60 Hz)	EN 12900 CECOMAF MBP (220 V / 50 & 60 Hz)
Compressors	PL/TL/NL/FR/SC	TL/NL/NF/FR/SC	GS	GS
Refrigerant	R134a	R404A/R507 - R290	LBP	MBP
Condensing temperature	55°C	45°C	40°C	45°C
Ambient temperature	32°C	32°C	32°C	32°C
Suction gas temperature	32°C	32°C	20°C	20°C
Liquid temperature	no sub cooling	no sub cooling	no sub cooling	no sub cooling

Warnings

R290 is flammable in concentrations of air between approximately 2.1% and 9.5% by volume (LEL lower explosion limit and UEL upper explosion limit). An ignition source at a temperature higher than 470°C is needed for combustion to occur.

Model designation

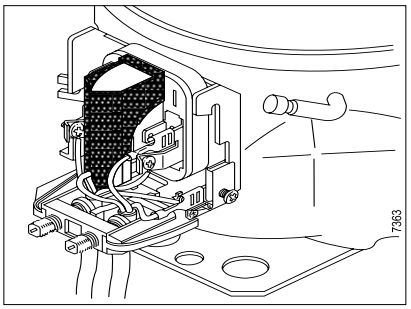
Compressor design	Optimization level	Compressor size	Application range	Start characteristics	Generation
PL	**Blank :** Standard energy level **E:** Energy optimised (optimised motor)	Nominal displacement in cm3 **Exception:** For PL compressors the capacity at rating point is stated	**CN:** R290 / LBP **DL:** R404A/R507 HBP **F:** R134a LBP / (MBP) **G:** R134a LBP / MBP / HBP **GH:** R134a Heat pumps **MF:** R134a MBP **ML:** R404A/R507 MBP	**Blank:** Universal (principal rule) **X = HST** Characteritics (expansion valve)	**Blank**> first generation **.2** > Second generation **.3**> third generation etc...
TL					
NL					
NF					
FR					
SC					
GS					

Examples

Compressor design	Optimization level	Compressor size	Application range	Start characteristics	Generation
PL		35	G		
TL		4	DL		
NL	E	10	MF		
SC		18	ML	X	.3
GS		26	CL	X	

Protection screen for PTC

Note: To fulfil the requirements of EN 60355-2-34 the protection screen 103N0476 must be applied to the PTC starting device.



Optional IP44 equipment for SC compressors

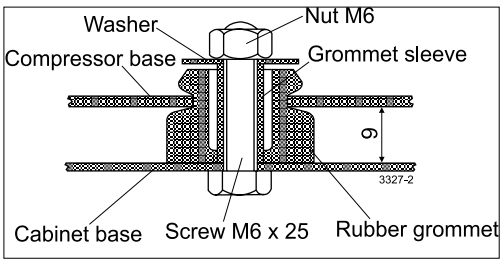
Danfoss now offers special accessories, which provide a better IP protection class for a major part of the SC compressor models. All SC models for 220-240V/50Hz or 208-230V/60Hz and CSIR motor can be IP upgraded.
The equipment consists of one additional part, the so called “back cover”, and a special starting capacitor.
Both are used instead of the normal starting capacitor.
When using this equipment, the protection class is increased to IP44, i.e. the compressor and its electrical parts are splash-proof.

Code number	Description
130N2020	Back cover
117U5117**	IP44 starting capacitor 80µF

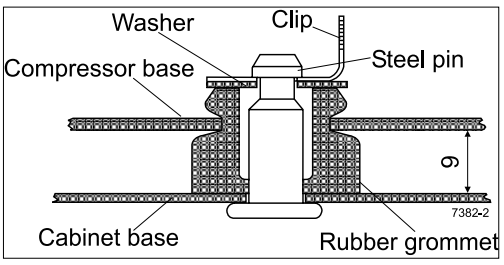
** replaces standard capacitor 117U5017

Mounting accessories

The mounting accessories for the compressors are available in two versions, with bolt joint or snap-on joint.
The rubber grommets are designed for the 16 mm holes of the baseplate.

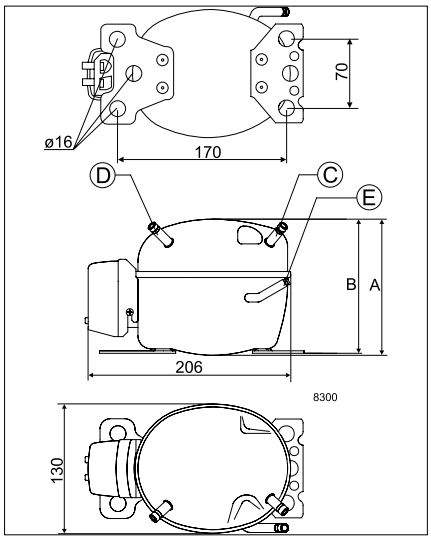


Bolt joint for
one compressor : 118-1917
in quantities : 118-1918

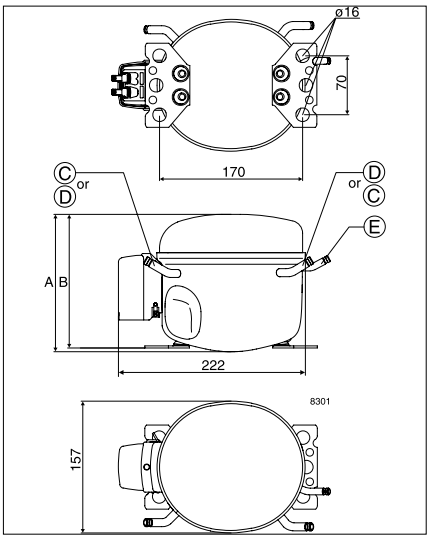


Snap-on
in quantities: 118-1919

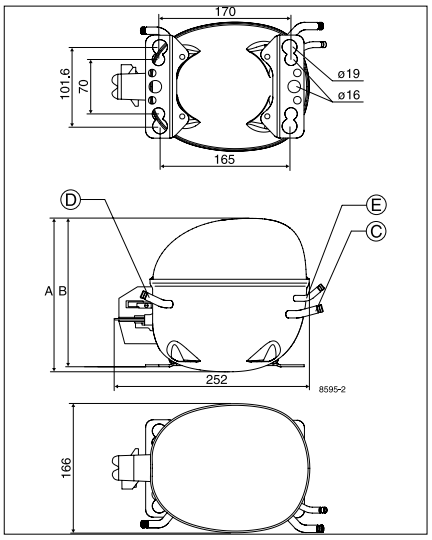
PL



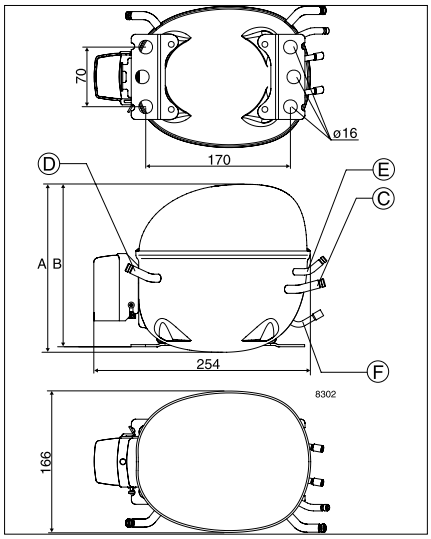
TL



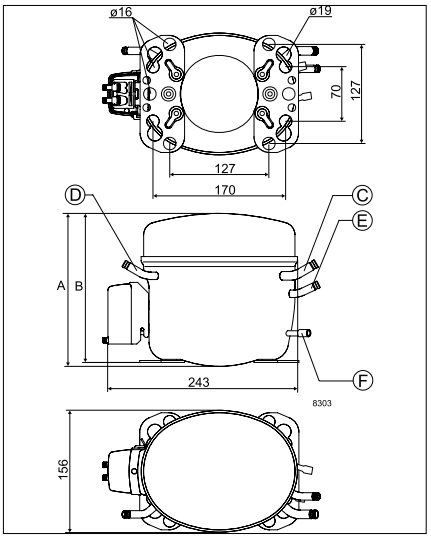
NF



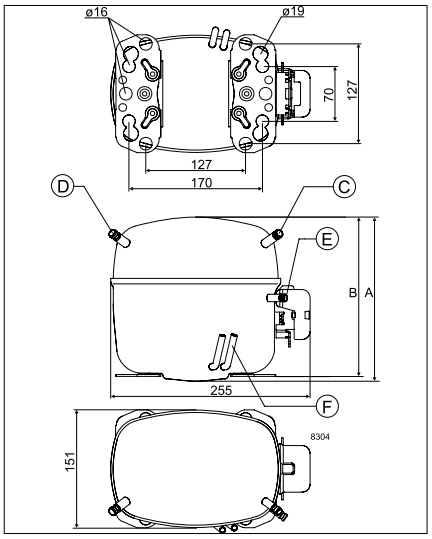
NL



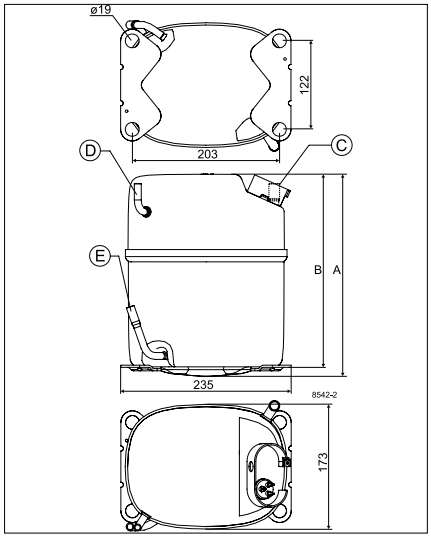
FR



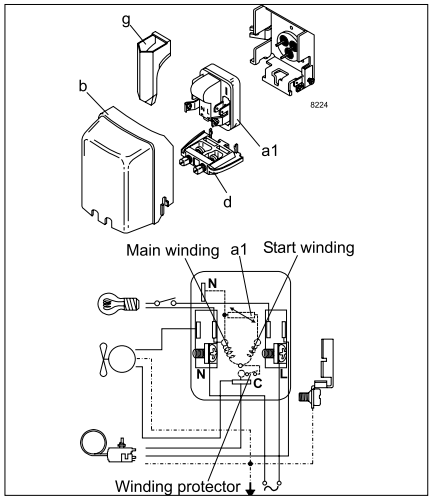
SC



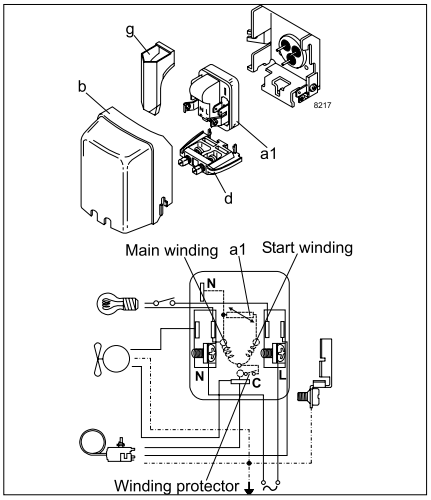
GS



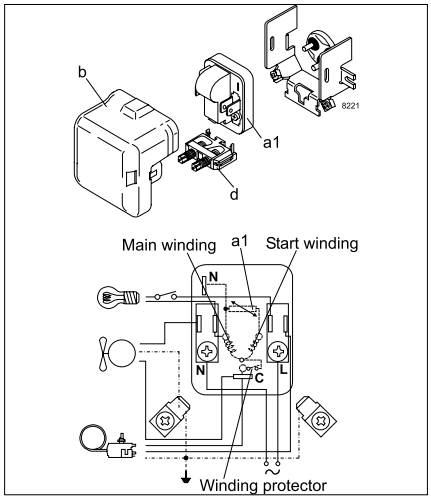
LST - RSIR



PL

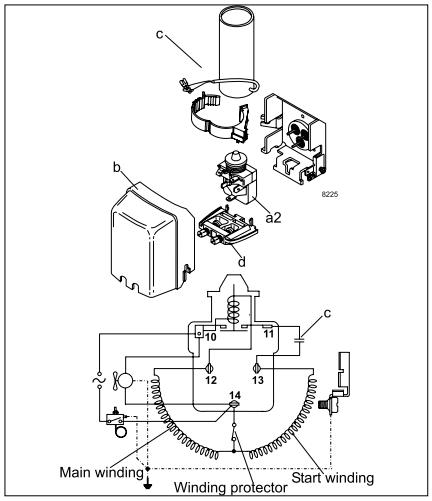


TL-NL-FR

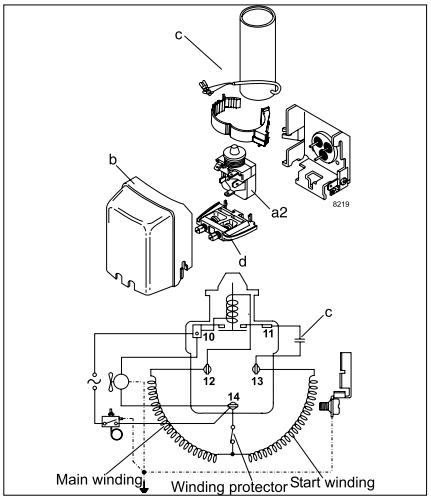


SC

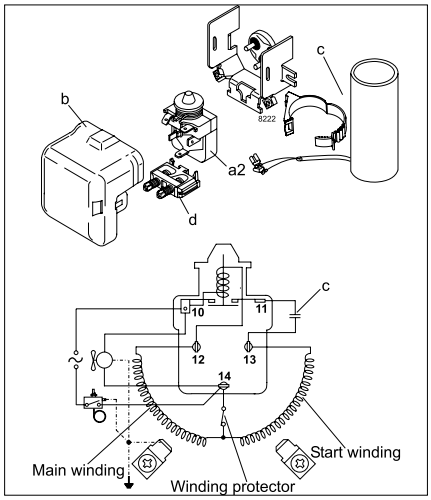
HST - CSIR



PL

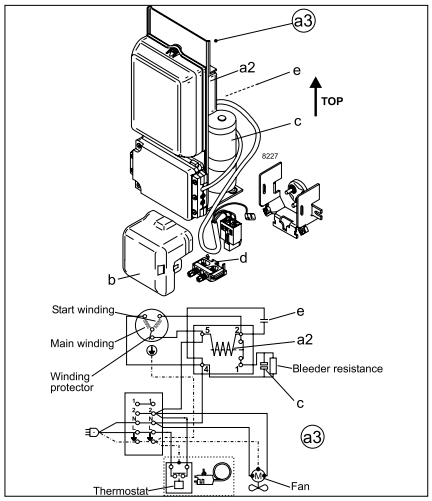


TL-NL-FR

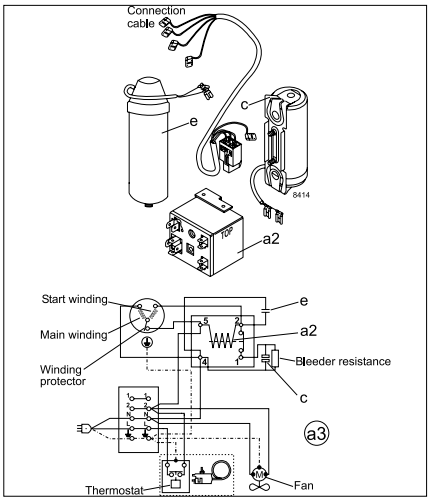


SC

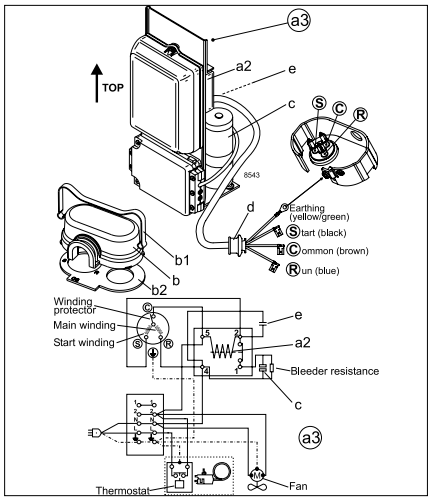
HST - CSR



SC



SC (kit)



GS

Legend :

a1: PTC starting device
a2: Starting relay
a3: Starting device
b: Cover
b1: Clamp (part of compressor)
b2: Gasket (part of compressor)
c: Starting capacitor
d: Cord relief
e: Run capacitor
g: Protection screen for PTC

ENGINEERING
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is a worldwide manufacturer of compressors and condensing units for refrigeration and HVAC applications. With a wide range of high quality and innovative products we help your company to find the best possible energy efficient solution that respects the environment and reduces total life cycle costs.

We have 40 years of experience within the development of hermetic compressors which has brought us amongst the global leaders in our business, and positioned us as distinct variable speed technology specialists. Today we operate from engineering and manufacturing facilities spread across three continents.

Danfoss Scrolls

Danfoss Inverter Scrolls

Danfoss Turbocor Compressors

Danfoss Maneurop Reciprocating Compressors

Danfoss Optyma Condensing Units

Secop Compressors for Danfoss

Our products can be found in a variety of applications such as rooftops, chillers, residential air conditioners, heatpumps, coldrooms, supermarkets, milk tank cooling and industrial cooling processes.

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