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Danfoss

Quick reference

Light commercial reciprocating compressors For refrigeration

R404A - R507 - R407C 220 - 240V 50 / 60Hz



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Manufactured by Secop for Danfoss

Refrigerant Application Frequency	Compressor	Code numbers	Capacity (W) at test conditions															Power consumption (W)				Displacement cm3				
			Evaporating temperature (°C)															-35	-25	-10	5					
			-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10						15			
R404A/ R507	LBP	TL4CL	102U2071	52	65	84	110	142	155	182	230	286	328	352						105	140	198		3.86		
		TL4.5CLX	102U2111		80	106	139	181	197	232	294	366								138	181	252		4.63		
		FR6CL	103U2670	77	108	145	189	243	263	307	383	473	541	578						180	242	353		6.23		
		FR7.5CL	103U2790	86	114	154	202	262	285	333	418	515	587	630						197	267	395		6.93		
		FR8.5CL	103U2890	99	126	168	222	290	317	372	468	577								231	315	472		7.95		
		NL7CLX	105F3710	102	146	199	263	340	369	430	536	657	746	796						214	274	381		7.27		
		NL8.4CLX	105F3800	111	158	216	287	370	402	583	715	812	866							238	305	428		8.35		
		SC10L	104L2523			168	258	365	405	489	634	800	923	991						243	350	530		10.29		
		SC10CLX	104L2533			166	255	360	400	483	625	789	910	977	1190	1430				258	352	508		10.29		
		SC12CL	104L2623	58	140	237	353	490	541	650	835	1048	1205	1292						316	445	654		12.87		
		SC12CLX.2	104L2697	130	205	294	399	522	569	666	834	1026								365	475	659		12.87		
		SC15CLX.2	104L2896	159	250	358	486	637	694	813	1017	1251	1424							433	565	783		15.28		
		SC18CLX.2	104L2197	194	306	439	595	780	849	995	1245	1532								517	680	949		17.68		
		SCE18CLX.2	104L2196	194	306	439	595	780	849	995	1245	1532								459	621	888		17.68		
		SC21CL	104L2322	226	325	455	617	813	887	1042	1306	1606								534	702	989		20.95		
		GS26CLX	107B0500	325	497	703	949	1240	1348	1580	1974	2427								669	888	1285		26.30		
		GS34CLX	107N0501	729	1003	1330	1715	1857	2165	2687	3289									924	1196	1721		33.80		
SC12/12CL	104L4088	115	279	475	706	980	1083	1299	1670	2096	2411	2583						633	891	1308		2x12.87				
SC15/15CL	104L4089		302	599	905	1230	1347	1584	1976	2417	2739	2916						801	1120	1580		2x15.28				
SC18/18CL	104L4090	333	541	789	1083	1430	1562	1836	2307	2849	3249	3469						910	1230	1788		2x17.68				
SC21/21CL	104L4094	452	650	910	1235	1626	1774	2084	2613	3213								1068	1404	1978		2x20.95				
R404A/ R507	60 Hz	SC10CLX	104L2533			224	335	455	499	588	738	906							304	430	623		10.29			
		SC12CLX.2	104L2699	141	233	343	473	626	683	804	1011	1248							401	515	705		12.87			
		SC12CLX.2	104L2697	141	233	343	473	626	683	804	1011	1248							398	541	777		12.87			
		SC15CLX.2	104L2897	194	305	437	593	776	846	991	1239	1525							469	611	848		15.28			
		SC18CLX.2	104L2195	113	338	542	737	938	1010	1157	1410	1708							563	752	990		17.68			
		SC10/10CLX	104L4033			448	670	910	998	1176	1476	1812							608	860	1246		2x10.29			
		SC12/12CLX	104L4034		292	564	858	1180	1298	1540	1944	2400							752	1080	1568		2x12.87			
		SC15/15CLX	104L4097		358	702	1060	1440	1576	1856	2316	2834							828	1220	1728		2x15.28			
		R404A/ R507	50 Hz	NF7MLX	105F3720							511	635	726	777	940	1125	1215	1336				408	488		7.27
				SC10MLX	104L2506					465	546	687	855	981	1051	1278	1537	1663				518	633		10.29	
				SC12MLX	104L2606					572	669	838	1038	1188	1272	1542	1852	2001				620	762		12.87	
				SC15MLX	104L2869					710	829	1038	1285	1471	1574	1909	2293	2478				780	979		15.28	
				SC18MLX	104L2139					831	968	1210	1497	1712	1832	2220	2665	2880				860	1080		17.68	
				SC18MLX.3	104L2146					876	1018	1266	1557	1779	1898	2292	2743	2964				878	1096		17.68	
				GS21MLX	107B0502						1096	1394	1748	2018	2164	2650	3211	3483				965	1252		21.20	
				GS26MLX	107B0503						1426	1810	2254	2586	2764	3351	4022	4345				1210	1532		26.30	
				GS34MLX	107B0504						1929	2408	2953	3358	3575	4283	5088	5476				1725	2235		33.80	
R404A/ R507	60 Hz			NF7MLX	105F3720					413	489	618	768	879	940	1137	1362	1470				473	629		7.27	
				SC10MLX	104L2506					547	646	816	1015	1164	1246	1510	1812	1958				612	817		10.29	
				SC12MLX	104L2606					659	773	970	1199	1370	1465	1770	2118	2286				729	975		12.87	
				SC15MLX.2	104L2803					784	915	1145	1418	1623	1737	2107	2531	2735				860	1080		15.28	
				SC18MLX	104L2138					986	1140	1412	1732	1972	2106	2538	3034	3273				1051	1317		17.68	
				TL4DL	102U2038						196	229	281	324	349	432	527	572	631				203	256		3.86
				FR6DL	103U2680						317	385	471	538	576	698	840	907	999	1177			354	456		6.23
				SC10DL	104L2525						471	611	775	899	968	1192	1450	1576	1747	2085			479	590		10.29
		SC12DL	104L2625						609	806	1028	1190	1279	1565	1890	2046	2258	2674			624	750		12.87		
		SC15DL	104L2856						759	964	1207	1391	1493	1825	2210	2397	2652	3156			722	865		15.28		
		SC10/10DL	104L4091						943	1222	1550	1798	1935	2383	2900	3152	3494	4169			957	1180		2x10.29		
		SC12/12DL	104L4092						1217	1612	2055	2380	2559	3130	3780	4092	4516	5348			1248	1500		2x12.87		
		SC15/15DL	104L4093						1518	1928	2414	2781	2985	3651	4420	4795	5304	6311			1445	1730		2x15.28		
		R407C	MBP/HBP	SC10DL	104L2525						480	636	755	821	1039	1293	1417	1588	1927			394	510		10.29	
				SC12DL	104L2625						632	831	981	1065	1340	1660	1817	2031	2456			512	643		12.87	
				SC15DL	104L2856						777	1011	1192	1293	1629	2023	2217	2483	3014			590	726		15.28	
				SC10/10DL	104L4091						961	1272	1509	1642	2077	2586	2835	3176	3855			788	1020		2x10.29	
SC12/12DL	104L4092								1263	1662	1962	2130	2680	3321	3634	4062	4913			1025	1287		2x12.87			
SC15/15DL	104L4093						1554	2022	2383	2586	3257	4047	4434	4966	6027			1180	1452		2x15.28					

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
5 = 198-254V, 60Hz, MBP
6 = 207-254V, 60Hz, HBP
7 = 187-254V, 50Hz
8 = 187-254V, 60Hz

Compressor cooling

S = Static cooling normally sufficient
O = Oil cooling
F₁ = Fan cooling 1.5 m/s
 (compressor compartment temp. equal to ambient temperature)
F₂ = Fan cooling 3.0 m/s necessary

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.

Test conditions

Test Conditions	EN 12900 CECOMAF (220 V / 50 Hz)	EN 12900 MBP (220 V / 50 Hz)	EN 12900 LBP (220 V / 50 Hz)	EN 12900 CECOMAF (220 V / 50 Hz)
Compressors	TL / NL / NF / FR / SC	GS	GS	SC
Application	R404A / R507	R404A / R507	R404A / R507	R407C
Condensing temperature	45°C	45°C	40°C	45°C
Ambient temperature	32°C	32°C	32°C	32°C
Suction gas temperature	32°C	20°C	20°C	32°C
Liquid temperature	no sub cooling	no sub cooling	no sub cooling	no sub cooling

Compressor	Recommended compressor cooling at ambient temperatures									Voltage and frequency	Electrical equipment					Dimensions (mm)							
	32°C			38°C			43°C				LST (RSIR)		HST (CSIR)		HST(CSR)	LST / HST		Height		Connectors location / I.D			
	LBP	MBP	HBP	LBP	MBP	HBP	LBP	MBP	HBP		PTC starting device		Starting relay	Starting capacitor	Starting device			A	B	Suction	Process	Dis-charge	
	Spades 6.3 mm		Spades 4.8 mm		Spades 6.3 mm		Spades 6.3 mm		Spades 6.3 mm		Cord relief		Cover										
TL4CL	F ₂	F ₂		F ₂	F ₂					1		117U6000	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
TL4.5CLX	F ₂	F ₂		F ₂	F ₂			F ₂		7		117U6001	117U5014			117U1022	173	169	6.2	6.2	5.0		
FR6CL	F ₂	F ₂		F ₂	F ₂					1		117U6015	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
FR7.5CL	F ₂	F ₂		F ₂	F ₂					1		117U6016	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
FR8.5CL	F ₂	F ₂		F ₂	F ₂					1		117U6010	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
NL7CLX	F ₁	F ₁		F ₁	F ₁			F ₂	F ₂	1	103N0011	103N0018	117U6002	117U5015			103N1010	103N2010	203	197	8.2	6.2	6.2
NL8.4CLX	F ₂	F ₂		F ₂	F ₂			F ₂	F ₂	7	103N0011	103N0018	117U6003	117U5015			103M1010	103N2010	203	197	8.2	6.2	6.2
SC10L	F ₂	F ₂		F ₂	F ₂					1		117U6003	117U5017			103N1004	103N2009	209	203	8.2	6.2	6.2	
SC10CLX	F ₂	F ₂		F ₂	F ₂					1/3		117U6005	117U5017			103N1004	103N2008	209	203	8.2	6.2	6.2	
SC12CL	F ₂	F ₂		F ₂	F ₂					1		117U6005	117U5017			103N1004	103N2009	209	203	8.2	6.2	6.2	
SC12CLX.2	F ₂	F ₂		F ₂	F ₂					1/4		117U6019	117U5017			103N1004	103N2008	219	213	8.2	6.2	6.2	
SC15CLX.2	F ₂	F ₂		F ₂	F ₂			F ₂		1		117U6019	117U5017			103N1004	103N2009	219	213	8.2	6.2	6.2	
SC18CLX.2	F ₂	F ₂		F ₂	F ₂			F ₂		1		117U6013	117U5012			103N1004	103N2009	219	213	10.2	6.2	6.2	
SCE18CLX.2	F ₂	F ₂		F ₂	F ₂			F ₂		1				117-7027		103N1004	103N2009	219	213	10.2	6.2	6.2	
SC21CL	F ₂	F ₂		F ₂	F ₂					1				117-7027		103N1004	103N2009	219	213	10.2	6.2	6.2	
GS26CLX	F ₂	F ₂		F ₂	F ₂			F ₂		1	Starting device (start. Relay, start & run capacitor): 117-7056				107B9100/ 9101/ 9104	259	247	12.9	6.5	8.2			
GS34CLX	F ₂	F ₂		F ₂	F ₂					1	Starting device (start. Relay, start & run capacitor): 117-7074				107B9100/ 9101/ 9104	279	267	12.9	6.5	8.2			
SC12/12CL	F ₂	F ₂		F ₂	F ₂					1		117U6005	117U5017			103N1004	103N2009	249	244	12	6.2	6.2	
SC15/15CL	F ₂	F ₂		F ₂	F ₂					1		117U6019	117U5017			103N1004	103N2009	259	254	16	6.2	6.2	
SC18/18CL	F ₂	F ₂		F ₂	F ₂					1				117-7027		103N1004	103N2009	259	254	16	6.2	6.2	
SC21/21CL	F ₂	F ₂		F ₂	F ₂					1				117-7027		103N1004	103N2009	259	254	16	6.2	6.2	
SC10CLX	F ₂	F ₂		F ₂	F ₂					1/3		117U6005	117U5017			103N1004	103N2008	209	203	8.2	6.2	6.2	
SC12CLX.2	F ₂	F ₂		F ₂	F ₂			F ₂		8				117-7027		103N1004	103N2008	219	213	9.7	6.5	6.5	
SC12CLX.2	F ₂	F ₂		F ₂	F ₂			F ₂		1/4		117U6019	117U5017			103N1004	103N2008	219	213	8.2	6.2	6.2	
SC15CLX.2	F ₂	F ₂		F ₂	F ₂					8				117-7039		103N1004	103N2008	219	213	9.7	6.5	6.5	
SC18CLX.2	F ₂	F ₂		F ₂	F ₂			F ₂		8				117-7066		103N1004	103N2008	219	213	9.7	6.5	6.5	
SC10/10CLX	F ₂	F ₂		F ₂	F ₂					4		117U6005	117U5017			103N1004	103N2009	249	244	12	6.2	6.2	
SC12/12CLX	F ₂	F ₂		F ₂	F ₂					4		117U6019	117U5017			103N1004	103N2009	259	254	12	6.2	6.2	
SC15/15CLX	F ₂	F ₂		F ₂	F ₂					4				117-7029		103N1004	103N2009	259	254	12	6.2	6.2	
NF7MLX	F ₂	F ₂		F ₂	F ₂			F ₂		7		117U4139	117U5018			2x117U0349	117U1021	203	197	9.7	6.5	6.5	
SC10MLX	F ₂	F ₂		F ₂	F ₂			F ₂		7		117U6011	117U5017			103N1004	103N2008	209	203	8.2	6.5	6.5	
SC12MLX	F ₂	F ₂		F ₂	F ₂			F ₂		7		117U6011	117U5017			103N1004	103N2008	219	213	8.2	6.5	6.5	
SC15MLX	F ₂	F ₂		F ₂	F ₂					1		117U6013	117U5012			103N1004	103N2009	219	213	10.2	6.2	6.2	
SC18MLX	F ₂	F ₂		F ₂	F ₂					1				117-7027		103N1004	103N2009	219	213	10.2	6.2	6.2	
SC18MLX.3	F ₂	F ₂		F ₂	F ₂					1				117-7027		103N1004	103N2009	219	213	10.2	6.2	6.2	
GS21MLX	F ₂	F ₂		F ₂	F ₂			F ₂		1	Starting device (start. Relay, start & run capacitor): 117-7070				107B9100/ 9101/ 9104	259	247	12.9	6.5	8.2			
GS26MLX	F ₂	F ₂		F ₂	F ₂			F ₂		1	Starting device (start. Relay, start & run capacitor): 117-7072				107B9100/ 9101/ 9104	279	267	16.1	6.5	9.7			
GS34MLX	F ₂	F ₂		F ₂	F ₂			F ₂		1	Starting device (start. Relay, start & run capacitor): 117-7056				107B9100/ 9101/ 9104	279	267	16.1	6.5	9.7			
NF7MLX	F ₂	F ₂		F ₂	F ₂			F ₂		8		117U4139	117U5018			2x117U0349	117U1021	203	197	9.7	6.5	6.5	
SC10MLX	F ₂	F ₂		F ₂	F ₂			F ₂		8		117U6011	117U5017			103N1004	103N2008	209	203	8.2	6.5	6.5	
SC12MLX	F ₂	F ₂		F ₂	F ₂			F ₂		8		117U6011	117U5017			103N1004	103N2008	219	213	8.2	6.5	6.5	
SC15MLX.2	F ₂	F ₂		F ₂	F ₂					8				117-7058		103N1004	103N2008	219	213	9.7	6.5	6.5	
SC18MLX	F ₂	F ₂		F ₂	F ₂			F ₂		8				117-7066		103N1004	103N2008	219	213	9.7	6.5	6.5	
TL4DL	F ₂	F ₂		F ₂	F ₂					1		117U6001	117U5014			103N1010	103N2010	173	169	6.2	6.2	5.0	
FR6DL	F ₂	F ₂		F ₂	F ₂					1		117U6010	117U5015			103N1010	103N2010	196	191	8.2	6.2	6.2	
SC10DL	F ₂	F ₂		F ₂	F ₂					1		117U6005	117U5017			103N1004	103N2009	209	203	8.2	6.2	6.2	
SC12DL	F ₂	F ₂		F ₂	F ₂					1		117U6019	117U5017			103N1004	103N2009	219	213	10.2	6.2	6.2	
SC15DL	F ₂	F ₂		F ₂	F ₂					1				117-7029		103N1004	103N2009	219	213	10.2	6.2	6.2	
SC10/10DL	F ₂	F ₂		F ₂	F ₂					1		117U6005	117U5017			103N1004	103N2009	249	244	12	6.2	6.2	
SC12/12DL	F ₂	F ₂		F ₂	F ₂					1		117U6019	117U5017			103N1004	103N2009	249	244	12	6.2	6.2	
SC15/15DL	F ₂	F ₂		F ₂	F ₂					1				117-7029		103N1004	103N2009	259	254	16	6.2	6.2	
SC10DL	F ₂	F ₂		F ₂	F ₂					1		117U6005	117U5017			103N1004	103N2009	209	203	8.2	6.2	6.2	
SC12DL	F ₂	F ₂		F ₂	F ₂					1		117U6019	117U5017			103N1004	103N2009	219	213	10.2	6.2	6.2	
SC15DL	F ₂	F ₂		F ₂	F ₂					1				117-7029		103N1004	103N2009	219	213	10.2	6.2	6.2	
SC10/10DL	F ₂	F ₂		F ₂	F ₂					1		117U600											

Accessories for SC Twin

SC10/10, SC12/12 and SC15/15:

- Service valve for 12 mm tube 118-7350
- Solder connector for 12 mm tube..... 104B0584

SC18/18 and SC21/21:

- Service valve for 16mm tube 118-7351
- Solder connector for 16mm tube 118-7405

SC10/10, SC12/12, SC15/15, SC18/18 and SC21/21:

- Seal ring for service valve and solder connector 118-3638
- Time delay relay 117N0001
- Check valve (to be used with time – delay relay) 020-1014

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.

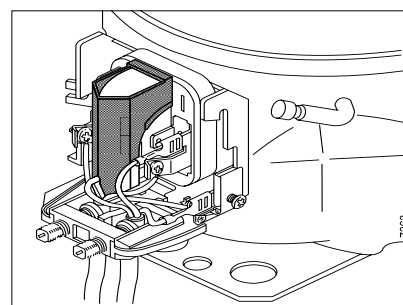


Code number	Description
130N2020	Back cover
117U5117**	IP44 starting capacitor 80µF

** replaces standard capacitor 117U5017

Protection screen for PTC

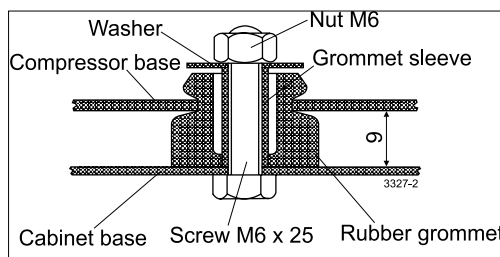
Note: To fulfil the requirements of EN 60355-2-34 the protection screen 103N0476 must be applied to the PTC starting device.



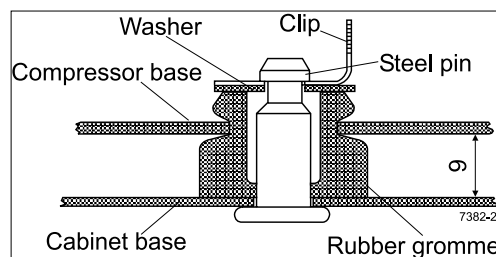
Mounting accessories

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.

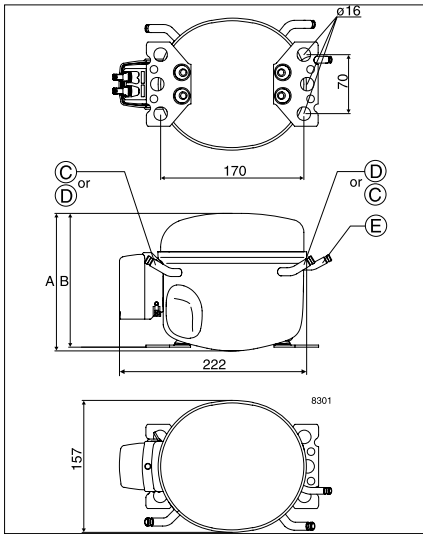


Bolt joint for
one compressor: 118-1917
in quantities: 118-1918

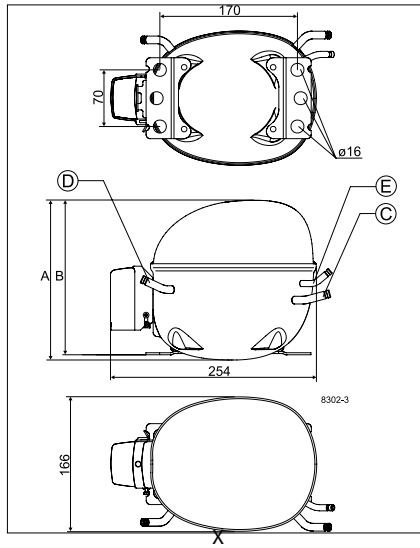


Snap-on
in quantities: 118-1919

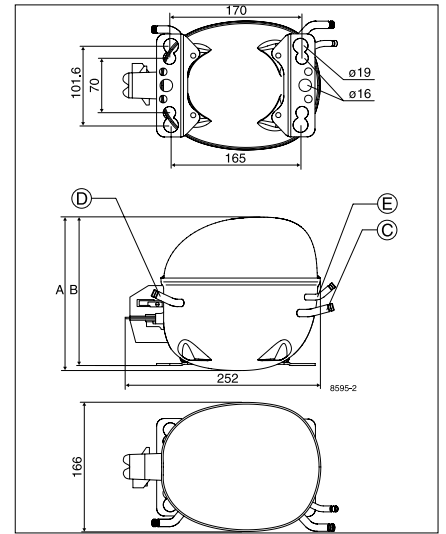
TL



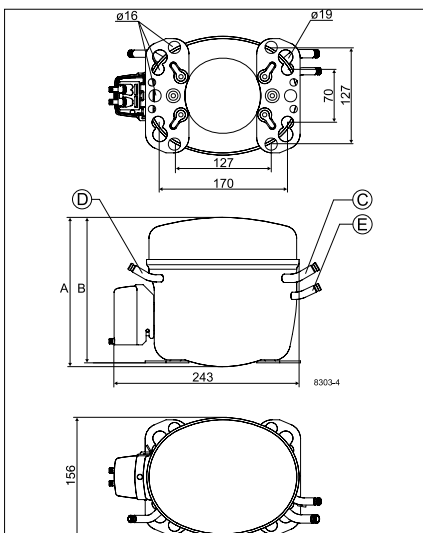
NL



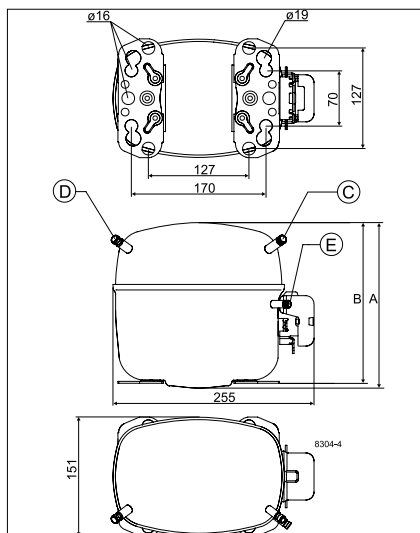
NF



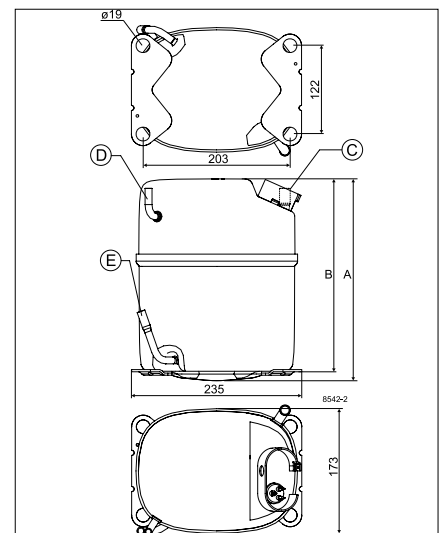
FR



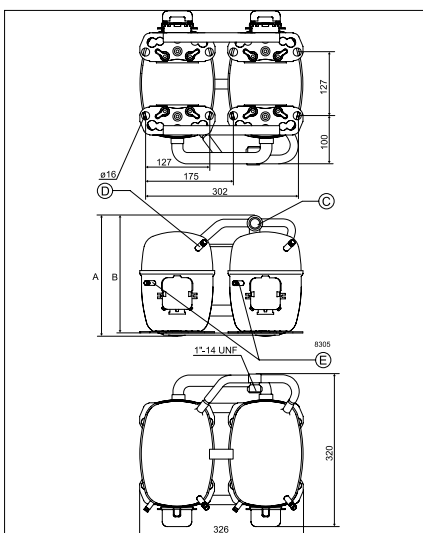
SC



GS

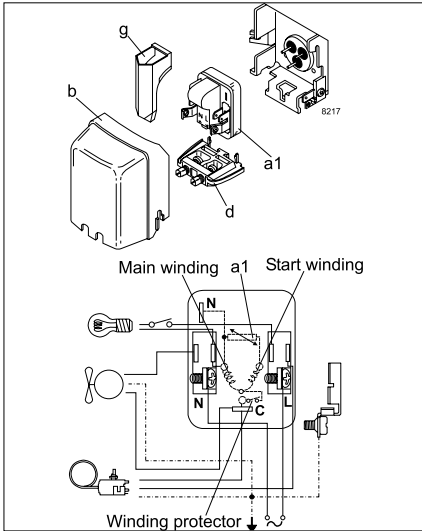


SCTwin

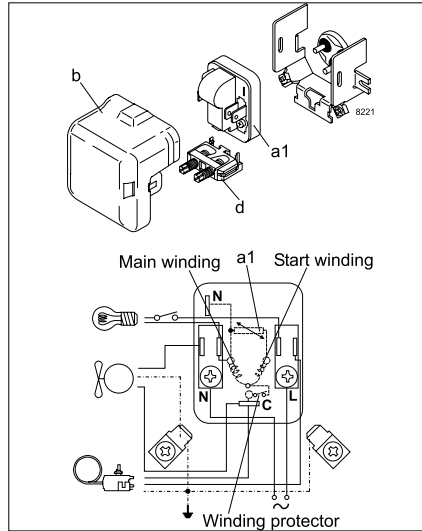


Note: On GS34CLX compressors suction and process connectors are interchanged.

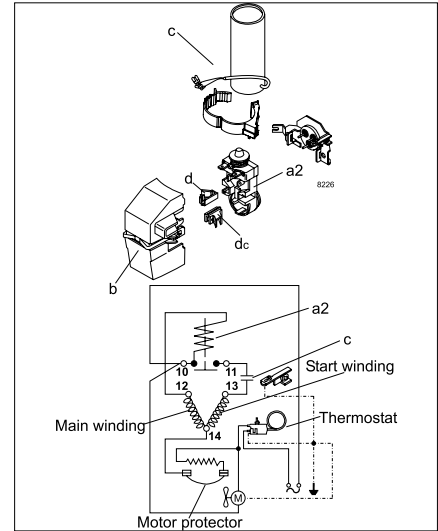
LST - RSIR



TL-NL-FR

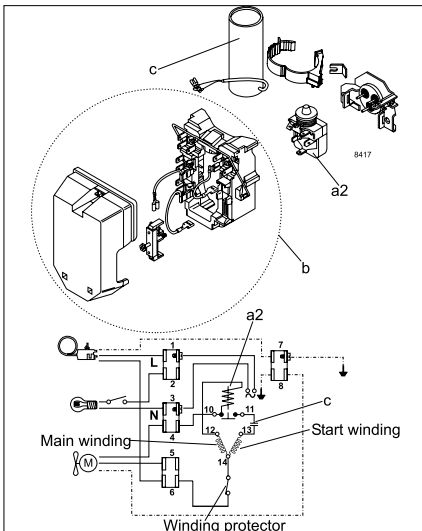


SC

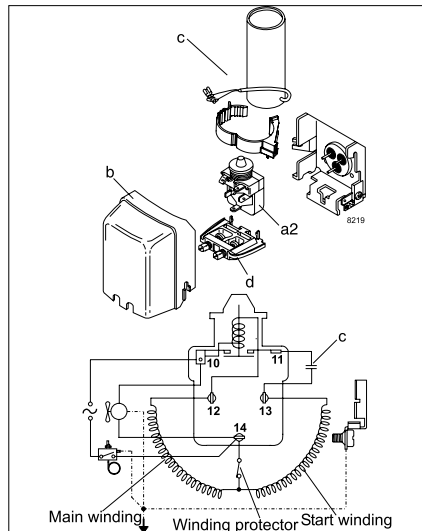


NF

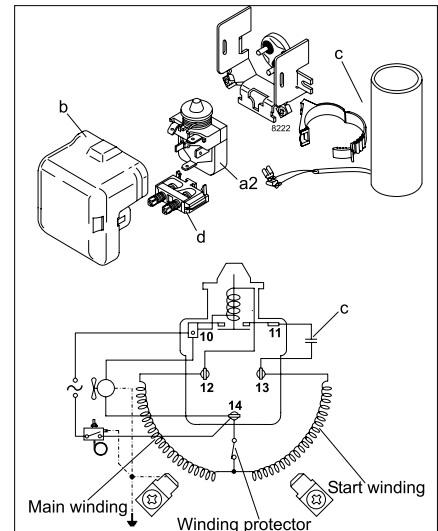
HST - CSIR



TL45CLX

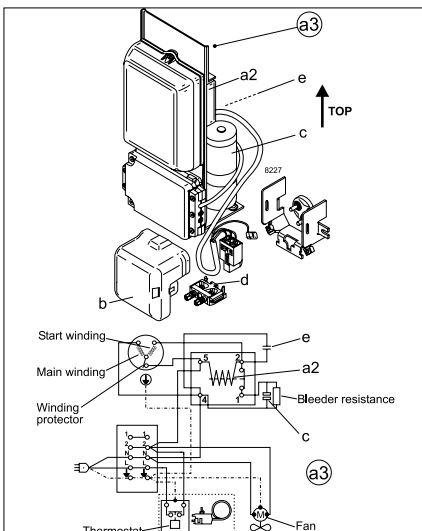


TL-NL-FR

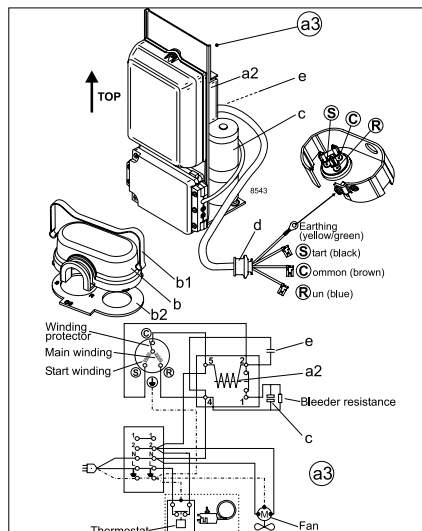


SC

HST - CSR



SC

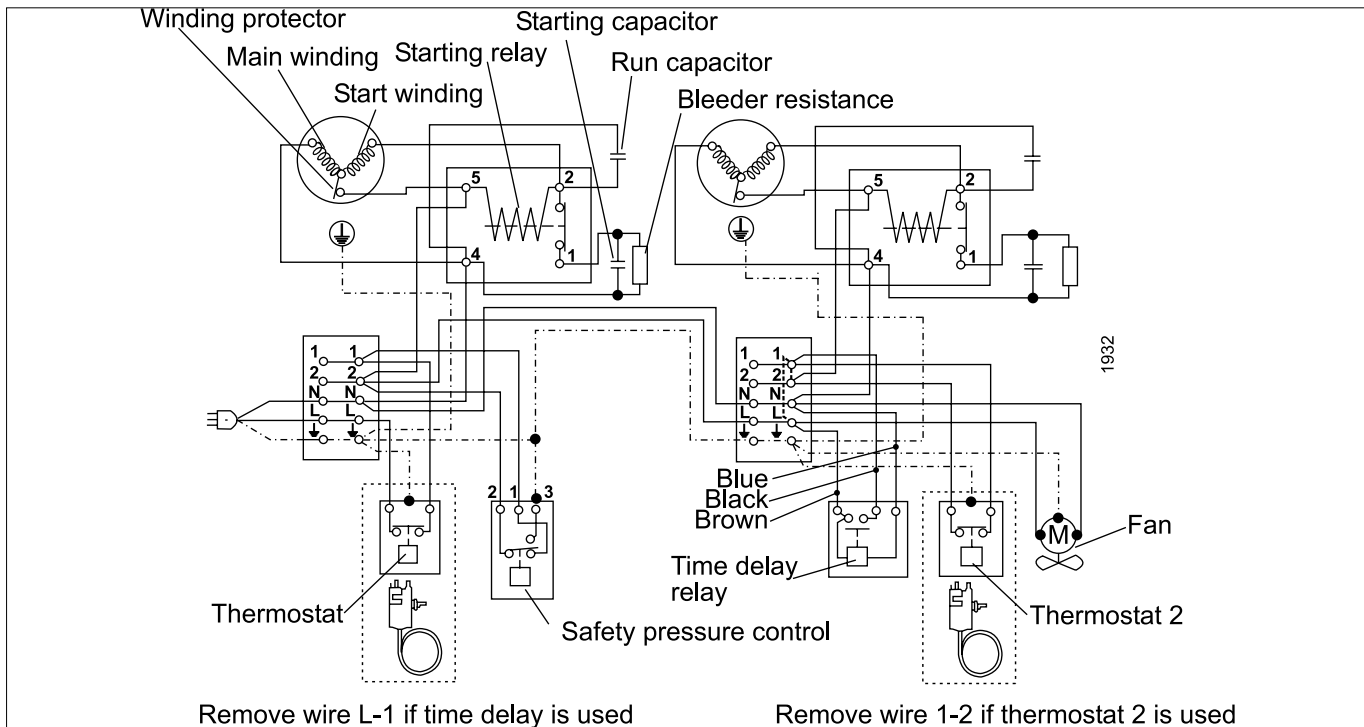


GS

Legend :

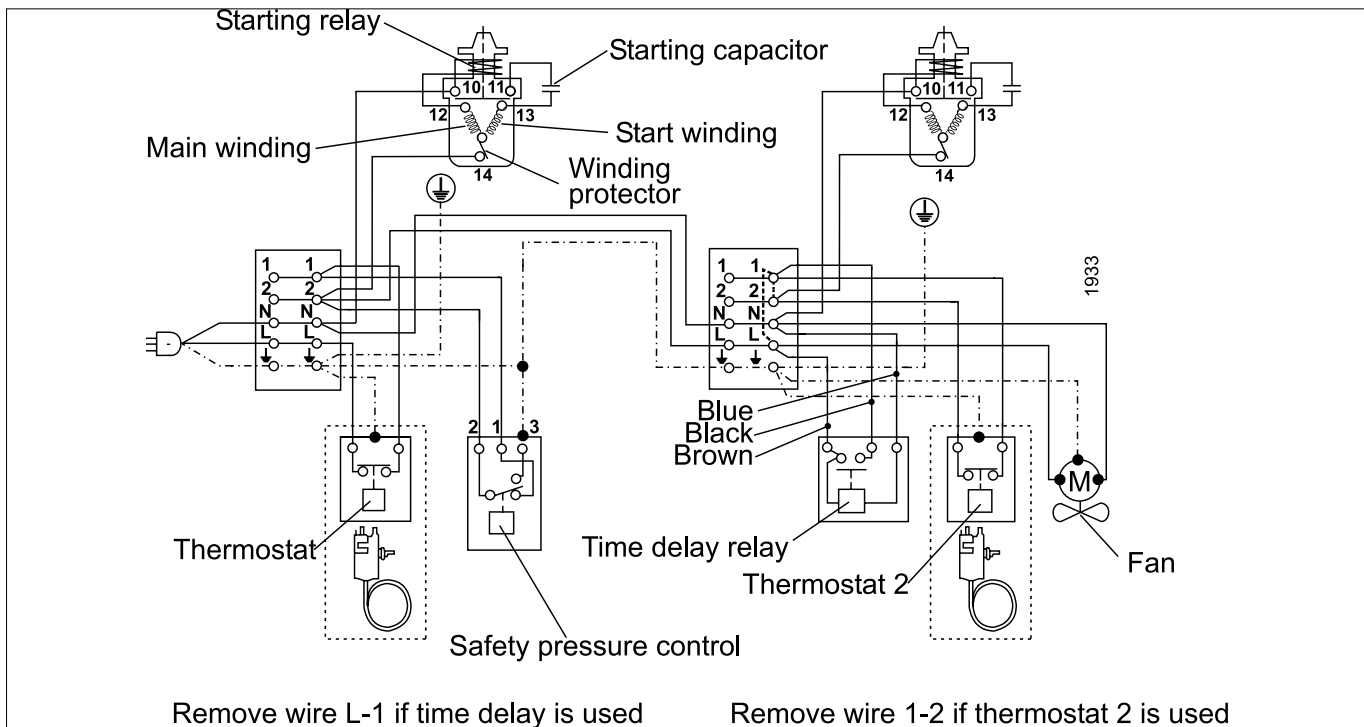
- a1:** PTC starting device
- a2:** Starting relay
- a3:** Starting device
- b:** Cover
- b1:** Clamp (part of compressor)
- b2:** Gasket (part of compressor)
- c:** Starting capacitor
- d:** Cord relief
- e:** Run capacitor
- g:** Protection screen for PTC

HST - CSR



SC Twin

HST - CSIR



SC Twin

Danfoss Commercial Compressors 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 Variable Speed scroll compressors



Danfoss Air Conditioning scroll compressors



Danfoss Heat Pump scroll compressors



Maneurop® Variable Speed reciprocating compressors



Danfoss Refrigeration scroll compressors



Maneurop® Reciprocating Compressors



Optyma™ & Optyma Plus™ Condensing Units



Light commercial reciprocating compressors (manufactured by Secop)

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.