

ENGINEERING  
TOMORROW



Quick reference

# Light commercial reciprocating compressors **for refrigeration**

R404A - R507 - R134a - R290 115V 60 Hz



Refrigerant	Application	Compressor	Code numbers	Test conditions	ASHRAE Capacity [BTU/h]											Power consumption (W)			Displacement cu. inch	Recommended compressor cooling at ambient temperatures									
					Evaporating temperature (°F)															100°F			110°F						
					-40	-30	-20	-10	0	10	20	30	40	45	50	59	-10	20		45	LBP	MBP	HBP	LBP	MBP	HBP			
R134a	LBP	TF3.5F	102G3304	a		134	207	305	429	583										93			0.22	S			S		
		TF54F	102G3431	a		156	239	356	509	699										97			0.23	S			S		
		TFS4.5FT	102G3433	a		245	340	477	654	875										127			0.29	S			S		
		TLS4.5F	102G3420	a		245	340	477	654	875	1135									129	199		0.29	S			S		
		TTE4.6FK	102G3448	a		219	344	488	664	866										105			0.28	S			S		
		TTY6F	102G3647	a		294	437	611	825	1084										133			0.35	S			S		
		NTY5.5FK	105G5620	a		390	517	698	940	1250										139			0.37	S			S		
		NTY6FK	105G5621	a		428	580	787	1056	1393										156			0.40	S			S		
		NTY9FK	105G5921	a		558	755	1018	1358	1787										196			0.51	F <sub>1</sub>			F <sub>1</sub>		
		NTX5.2FK	105G5650	a		277	424	601	814	1069										107			0.31	S			S		
		NTX5.7FK	105G5651	a		318	473	672	921	1229										118			0.34	S			S		
		NTX7.3FK	105G5750	a		444	628	872	1184	1570										151			0.44	S			S		
	LBP/MBP	PL30F	101G9100	a				103	156	221	302	399	517	584	657	804			51	66	81	0.09	S	S	S	S	S	S	S
		PL50F	101G9202	a				175	249	335	437	557							65	89		0.12	S	S		S	S		
		TFS4.5FT	102G3432	a		245	340	477	654	875	1135	1445	1793	1987					127	197	270	0.29	F <sub>1</sub>	F <sub>1</sub>		F <sub>1</sub>	F <sub>1</sub>		
		TL2.5F	102G3206	b				180	255	354	466								65	104		0.16	S	S		S	S		
		TL3F	102G3300	a				253	352	479	639								77	125		0.19	S	S		S	S		
		TL4F	102G3400	b		161	203	276	383	529	714								91	142		0.23	S	S		S	S		
		TT2.5F	102G3248	b				187	268	373	496								69	107		0.16	S	S		S	S		
		NF6FK	105G5636	b		254	411	593	811	1071	1384	1758	2202	2452					172	259	323	0.37	F <sub>1</sub>	F <sub>1</sub>		F <sub>1</sub>	F <sub>1</sub>		
		NF7FK	105G5736	b		357	533	740	988	1288	1651	2089	2611	2907					204	303	385	0.44	S	S		F <sub>1</sub>	F <sub>1</sub>		
		NF9FK	105G5928	b		421	598	820	1098	1439	1853	2348	2932	3261					233	339	447	0.51	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>		
		NF9.5FK	105G5929	b		474	667	910	1214	1587	2039	2580	3220	3580					264	379	496	0.57	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>		
		NF10FX	105G5941	b				663	930	1254	1647	2123	2693	3372	3756				261	391	512	0.62	F <sub>2</sub>	F <sub>1</sub>		F <sub>2</sub>	F <sub>1</sub>		
	NF6.1FX.2	105G5631	b		276	440	643	888	1186	1541	1959	2445	2716					178	255	327	0.37	F <sub>1</sub>	F <sub>1</sub>		F <sub>2</sub>	F <sub>2</sub>			
	NF7.3FX.2	105G5722	b		363	556	796	1085	1438	1857	2351	2925	3244					226	322	412	0.44	F <sub>1</sub>	F <sub>1</sub>		F <sub>2</sub>	F <sub>2</sub>			
	NF8.4FX.2	105G5918	b		432	651	915	1243	1637	2106	2658	3300	3658					248	361	467	0.51	F <sub>2</sub>	F <sub>1</sub>		F <sub>2</sub>	F <sub>1</sub>			
	NF11FX.2	105G5916	b					1573	2088	2700	3420	4259	4726					465	614	0.68				F <sub>2</sub>	F <sub>2</sub>				
	SC12FTX	104G7205	a		563	889	1280	1753	2324	3008								360	537		0.78	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>			
	SC15FTX	104G7505	a		711	1094	1550	2096	2750	3531								405	632		0.93	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>			
	LBP/HBP	TL2.5G	102G3255	b				169	249	358	496	663	860	970	1087	1312		72	101	131	0.16	S	S		S	S			
		TL4G	102G3460	b		116	180	271	391	542	729	954	1220	1369	1530	1849		96	147	197	0.23	S	S		S	S			
		FF6GK	103G6580	103G5690	b		221	368	578	850	1184	1581	2042	2296	2566			132	221	295	0.38	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>
FF7.5GK		103G5780	103G5790	b		291	458	689	984	1344	1769	2259	2529	2816			148	250	340	0.42	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	
FF8.5GX		103G5880		b		392	587	848	1176	1570	2029	2555	2842	3146			209	321	418	0.48	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>		
FF10GX		103G5980		b		420	635	923	1285	1721	2234	2823	3147	3490			232	359	468	0.55	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>	F <sub>1</sub>		
SC12G		104G7250	104G7260	b		216	488	861	1335	1911	2588	3367	4250	4730	5236		269	451	615	0.78	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	
SC15G		104G7550	104G7560	b		403	692	1100	1628	2276	3045	3934	4945	5496	6078		329	566	766	0.93	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	O/F <sub>1</sub>	
SC18G		104G7800		a				1357	2112	2952	3908	5008	6285	6999	7768	9308		404	691	912	1.08	F <sub>2</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>2</sub>	F <sub>2</sub>	
R404A/R507		LBP/MBP	TF4CLX	102U2102	c	289	419	579	773	1004	1278	1596	1965	2388	2622			175	259	374	0.23	F <sub>1</sub>	F <sub>1</sub>		F <sub>1</sub>	F <sub>1</sub>			
			TFS4.5CLX	102U2103	c	407	569	769	1010	1298	1637	2034						215	340		0.29	F <sub>1</sub>			F <sub>1</sub>				
			NF5.5CLX	105F1621	c	565	788	1056	1376	1756	2202	2723	3325	4017	4399			288	404	524	0.37	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>			
	NF7CLX		105F1721	c	672	959	1304	1716	2205	2780	3451	4226	5213	5609			356	499	649	0.44	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>				
	SC10CL		104L1503	c	344	773	1275	1863	2553	3360	4298	5384	6633	7324			435	620	782	0.63	F <sub>2</sub>	F <sub>2</sub>		F <sub>2</sub>	F <sub>2</sub>				
	SC12CLX.2		104L1696	c	894	1414	2012	2706	3512	4447	5530						618	905	0.78	F <sub>2</sub>			F <sub>2</sub>						
	SC15CLX.2		104L1853	c	1244	1828	2532	3375	4375	5551	6921						694	989	0.93	F <sub>2</sub>			F <sub>2</sub>						
	SC18CLX.2		104L2198	c	1362	2190	3002	3867	4856	6039							795		1.08	F <sub>2</sub>			F <sub>2</sub>						
	SC12MLX		104L1606	b				1987	2640	3435	4391	5527	6865	7616			581	865	1058	0.78				F <sub>2</sub>					
	SC15MLX		104L1805	b				2295	3049	3967	5070	6383	7928	8795			719	1070	1371	0.93				F <sub>2</sub>					
	SC15MLX.2		104L1807	b				2423	3156	4048	5120	6396	7897	8740			678	1010	1293	0.93				F <sub>2</sub>					
	SC18MLX		104L2105	b				2997	3894	4984	6296	7855	9691	10722			878	1266	1602	1.08				F <sub>2</sub>					
R290	LBP/MBP	SC10CNX.2	104H7070	a	204	571	1007	1523	2133	2848	3682	4649	5762	6378															

Compressor	Voltage & frequencies	Electrical equipment								Dimensions (inch)							
		LST (RSIR / RSCR)				HST (CSIR & CSR)				LST / HST		Height		Connectors location / I.D			
		PTC starting device		Starting relay	Protector (external)	Starting relay	Starting capacitor	Starting device	Suction					Process	Dis-charge	Oil cooler	
		Spades 1/4 inch	Spades 3/16 inch	Spades 1/4 inch	Spades 1/4 inch	Spades 1/4 inch	Spades 1/4 inch	Spades 1/4 inch	Cord relief	Cover	A	B	C	D	E	F	
TF3.5F	2			117U4122					117U0349	117U1021	6.81	6.65	0.252	0.252	0.202		
TFS4F	2			117U4122					117U0349	117U1021	6.81	6.65	0.252	0.252	0.202		
TFS4.5FT	2			117U4113					117U0349	117U1021	6.81	6.65	0.252	0.252	0.202		
TLS4.5F	1	103N0026	103N0023			117U6003	117U5023		103N1010		6.42	6.26	0.252	0.252	0.202		
TTE4.6FK	1	117U6106 <sup>1</sup>			117U3302					117U1026	6.81	6.65	0.252	0.252	0.202		
TTY6F	1	117U6106 <sup>1</sup>			117U3303					117U1026	6.81	6.65	0.252	0.252	0.202		
NTY5.5FK	1	117U6106 <sup>1</sup>			117U3306					117U1026	8.00	7.76	0.320	0.252	0.252		
NTY6FK	1	117U6106 <sup>1</sup>			117U3306					117U1026	8.00	7.76	0.320	0.252	0.252		
NTY9FK	1	117U6106 <sup>1</sup>			117U3310					117U1026	8.00	7.76	0.320	0.252	0.252		
NTX5.2FK	1	117U6106 <sup>3</sup>			117U3302					117U1026	8.00	7.76	0.320	0.252	0.252		
NTX5.7FK	1	117U6106 <sup>1</sup>			117U3312					117U1026	8.00	7.76	0.320	0.252	0.252		
NTX7.3FK	1	117U6106 <sup>1</sup>			117U3312					117U1026	8.00	7.76	0.320	0.252	0.252		
PL30F	2	103N0026	103N0023			117U6000	117U5015		103N1010	103N0492	5.28	5.20	0.252	0.252	0.202		
PL50F	1	103N0026	102N0023			117U6000	117U5015		103N1010	103N0492	5.28	5.20	0.252	0.252	0.202		
TFS4.5FT	2			117U4113		117U4126	117U5022		2x117U0349	117U1021	6.81	6.65	0.252	0.252	0.202		
TL2.5F	1	103N0026	103N0023						103N1010	103N2011	6.42	6.26	0.252	0.252	0.202		
TL3F	1	103N0026	103N0023						103N1010	102N2011	6.42	6.30	0.378	0.252	0.252		
TL4F	1	103N0026	103N0023						103N1010	103N3011	6.42	6.26	0.252	0.252	0.202		
TT2.5F	1	117U6102			117U3301					117U1026	6.22	5.98	0.252	0.252	0.189		
NF6FK	2			117U4131		117U4132 <sup>5</sup>	117U5022 <sup>5</sup>		2x117U0349	117U1021	7.72	7.52	0.242	0.242	0.202		
NF7FK	2			117U4131		117U4132 <sup>5</sup>	117U5022 <sup>5</sup>		2x117U0349	117U1021	8.00	7.76	0.242	0.242	0.202		
NF9FK	2			117U4133		117U4134 <sup>5</sup>	117U5022 <sup>5</sup>		2x117U0349	117U1021	8.00	7.76	0.320	0.252	0.252		
NF9.5FK	2			117U4141		117U4142 <sup>5</sup>	117U5028 <sup>5</sup>		2x117U0349	117U1021	8.00	7.76	0.320	0.252	0.252		
NF10FX	2					117U4129	117U5022		2x117U0349	117U1021	7.76	7.52	0.320	0.252	0.252		
NF6.1FX.2	2					117U4127	117U5025		2x117U0349	117U1021	7.76	7.52	0.320	0.252	0.252		
NF7.3FX.2	2					117U4061	117U5025		2x117U0349	117U1021	7.76	7.52	0.320	0.252	0.252		
NF8.4FX.2	2					117U4129	117U5025		2x117U0349	117U1021	7.76	7.52	0.320	0.252	0.252		
NF11FX.2	2					117U4151	117U5028		2x117U0349	117U1021	8.00	7.76	0.320	0.252	0.252		
SC12FTX	2					117U6012	117U5023		103N1004	103N2008	8.23	8.00	0.320	0.252	0.252		
SC15FTX	2/6/7					117U6020	117U5023		103N1004	103N2008	8.23	8.00	0.320	0.252	0.252		
TL2.5G	1	103N0026	103N0023						103N1010	103N2011	6.42	6.26	0.252	0.252	0.202		
TL4G	3/4/6/7	103N0026	103N0023			117U6003	117U5023		103N1010	103N2011	6.81	6.65	0.252	0.252	0.202		
FF6GK	1	117U4085 <sup>4</sup>							117U0349	117U1021	7.72	7.52	0.320	0.252	0.252	0.252	
FF7.5GK	1	117U4085 <sup>4</sup>							117U0349	117U1021	7.72	7.52	0.320	0.252	0.252		
FF8.5GX	1					117U4060	117U5041		2x117U0349	117U1021	7.72	7.52	0.320	0.252	0.252		
FF10GX	1					117U4061	117U5040		2x117U0349	117U1021	7.72	7.52	0.320	0.252	0.252		
SC12G	1					117U6020	117U5023		103N1004	103N2008	8.23	8.00	0.320	0.252	0.252	0.252	
SC15G	1					117U6020	117U5023		103N1004	103N2008	8.23	8.00	0.320	0.252	0.252	0.252	
SC18G	2				Mounted	117-7441	117U5042			mounted	8.62	8.39	0.378	0.252	0.252		
TF4CLX	2					117U4148	117U5025		2x117U0349	117U1021	6.81	6.65	0.252	0.252	0.189		
TFS4.5CLX	5					117U4148	117U5025		2x117U0349	117U1021	6.81	6.65	0.252	0.252	0.189		
NF5.5CLX	2					117U4061	117U5025		2x117U0349	117U1021	8.00	7.76	0.320	0.252	0.252		
NF7CLX	2					117U4129	117U5022		2x117U0349	117U1021	8.00	7.76	0.320	0.252	0.252		
SC10CL	1					117U6020	117U5023		103N1004	103N2008	8.23	8.00	0.320	0.252	0.252		
SC12CLX.2	2					117U6020	117U5023			117U1021	8.23	8.00	0.320	0.252	0.252		
SC15CLX.2	3				Mounted	117-7441	117U5043	117-7045		mounted	8.62	8.39	0.378	0.252	0.252		
SC18CLX.2	1				Mounted	117-7441	117U5043	117-7045		mounted	8.62	8.39	0.378	0.252	0.252		
SC12MLX	2				Mounted	117-7441	117U5042			mounted	8.62	8.39	0.320	0.252	0.252		
SC15MLX	2				Mounted	117-7441	117U5043	117-7045		mounted	8.62	8.39	0.378	0.252	0.252		
SC15MLX.2	1				Mounted	117-7441	117U5043	117-7045		mounted	8.62	8.39	0.378	0.252	0.252		
SC18MLX	1				Mounted	117-7441	117U5043	117-7045		mounted	8.62	8.39	0.378	0.252	0.252		
SC10CNX.2	2					117U7020	117U5023		103N1004	103N2008	8.23	8.00	0.378	0.252	0.252		
SC12CNX.2	2					117U7020	117U5023		103N1004	103N2008	8.23	8.00	0.378	0.252	0.252		

**Test conditions**

Test Conditions	a ASHRAE LBP (115V / 60 Hz)	b ASHRAE MBP/HBP (115V / 60 Hz)	c ASHRAE LBP (115V / 60 Hz)
Refrigerant	R134a & R290	R134a & R404A/R507	R404A/R507
Condensing temperature	130°F	130°F	110°F
Ambient temperature	90°F	95°F	90°F
Suction gas temperature	90°F	95°F	90°F
Liquid temperature	90°F	115°F	90°F

**Electrical equipment**

- <sup>1</sup> = Run capacitor 15 µF compulsory 1/4 inch spade connectors (Code number: 117-7118)
- <sup>2</sup> = Run capacitor 15 µF compulsory 3/16 inch spade connectors (Code number: 117-7120)
- <sup>3</sup> = Run capacitor 10 µF compulsory 1/4 inch spade connectors (Code number: 117-7121)
- <sup>4</sup> = 117U4085: for fan-cooled FF-GK compressors, 117U4086: for oil-cooled FF-GK compressors
- <sup>5</sup> = In capillary tube systems where non-equalized pressures may occur at compressor start, or in areas with short power supply drop-outs, a starting capacitor can be used for ensuring a successful start (CSIR). Please refer to the individual compressor data sheets.

**Model designation**

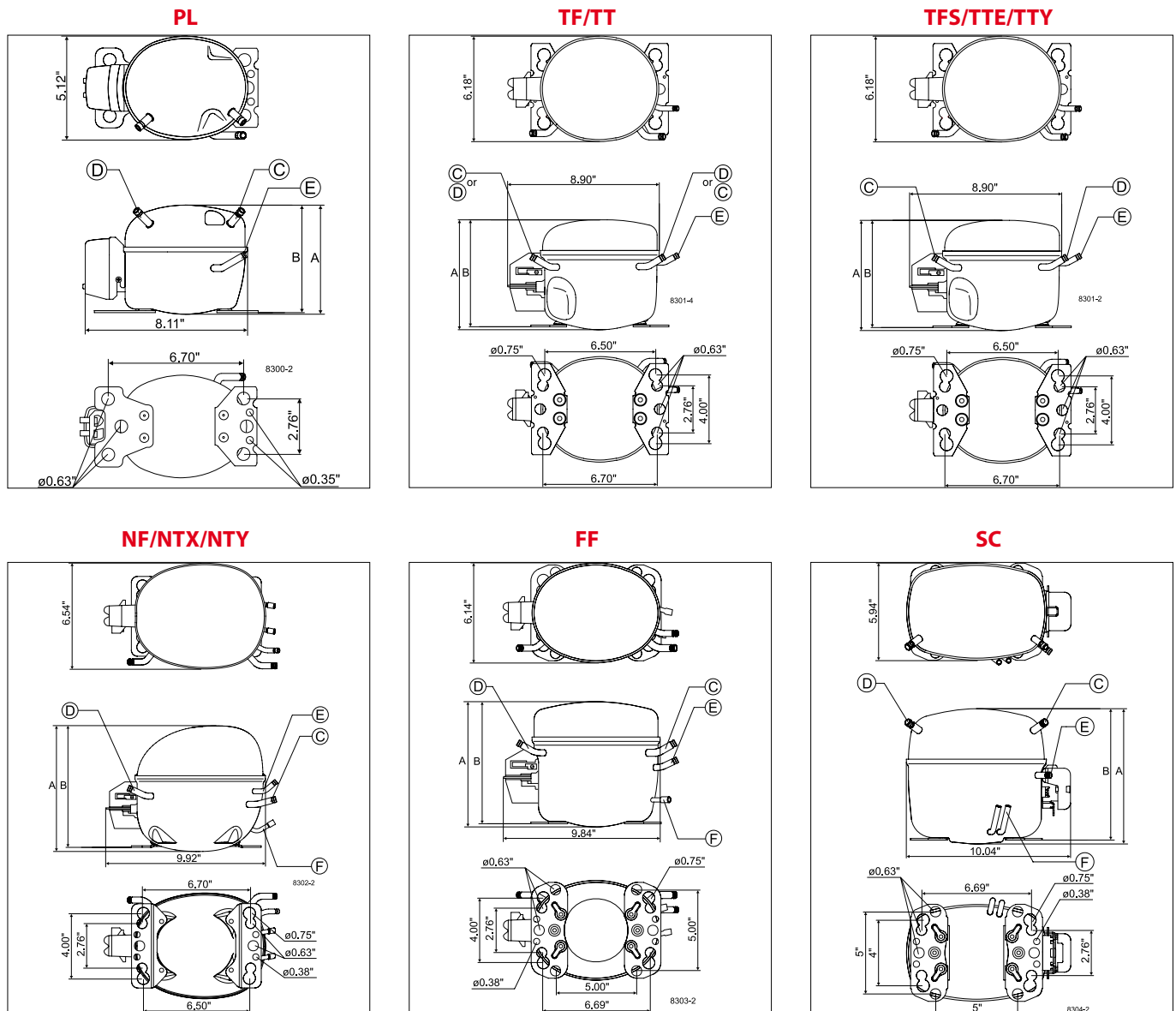
Compressor design	Optimization level	Compressor size	Application range	Start characteristics	Generation
PL	<b>Blank</b> : Standard energy level <b>S</b> : Semi direct intake <b>E</b> : Energy optimized (optimized motor) <b>Y,X</b> : High energy optimized (high optimization level)	Nominal displacement in cm <sup>3</sup> <b>Exception:</b> For PL compressors the capacity at rating point is stated	<b>F</b> : R134a LBP / (MBP) <b>FT</b> : R134a LBP / (MBP) Tropical <b>G</b> : R134a LBP / MBP / HBP <b>CL</b> : R404A/R507 LBP <b>ML</b> : R404A/R507 MBP <b>CN</b> : R290 LBP	<b>Blank</b> : Universal (principal rule) <b>K = LST</b> Characteristics (capillary tube) <b>X = HST</b> Characteristics (expansion valve)	<b>Blank</b> > first generation <b>.2</b> > Second generation <b>.3</b> > third generation etc...
TF, TL, TT					
NF, NL					
FF					
SC					

Examples

Compressor design	Optimization level	Compressor size	Application range	Start characteristics	Generation
TF	S	4.5	FT		
NT	X	7.3	F	K	
FF		8.5	G	X	
SC		15	ML	X	.2
SC		12	CN	X	.2

**Warnings**

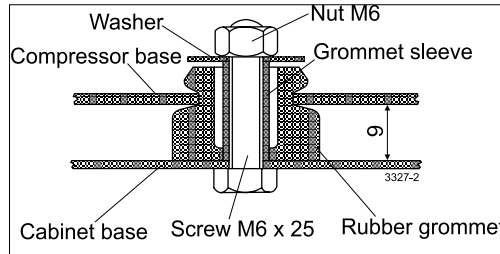
R290 is flammable in concentrations of air between approximately 2.1% and 9.5% by volume (LEL lower explosion limit and UEL upper explosion limit). An ignition source at a temperature higher than 470°C is needed for combustion to occur.



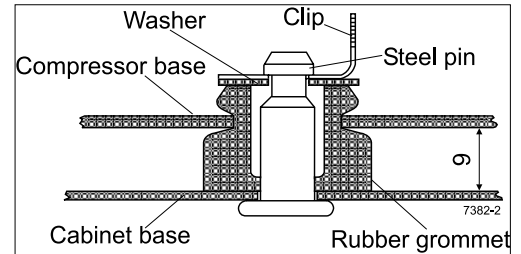
**Mounting accessories**

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.

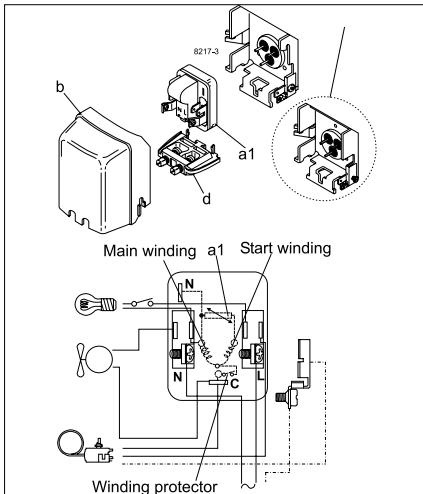


Bolt joint for  
one compressor : 118-1917  
in quantities : 118-1918

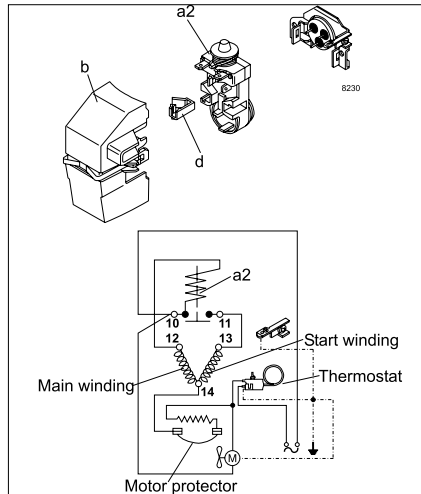


Snap-on  
in quantities: 118-1919

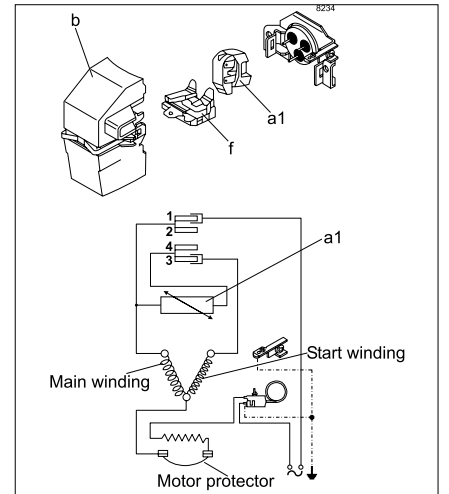
**LST - RSIR**



TL

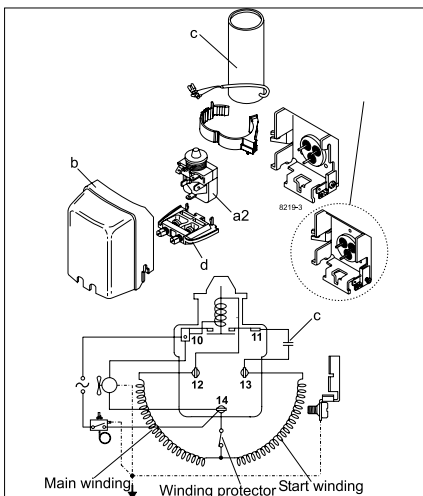


TF-TFS-NF-FF

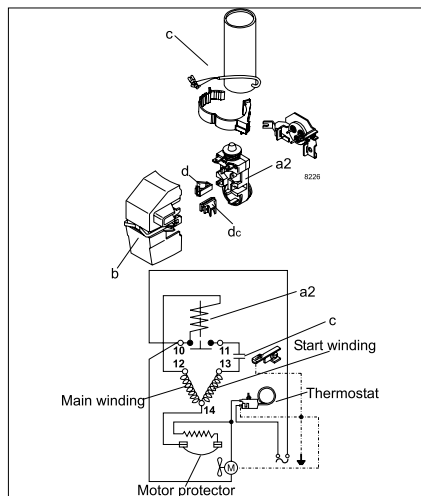


TT

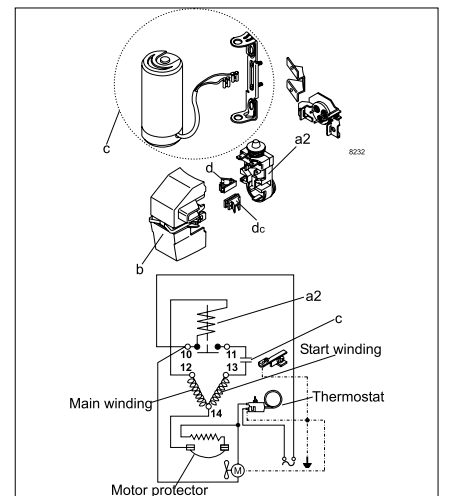
**HST - CSIR**



TL

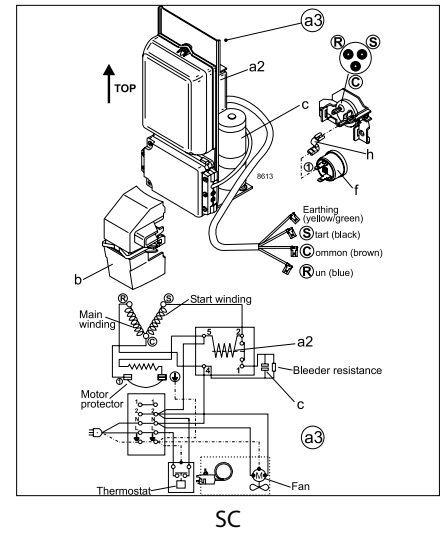
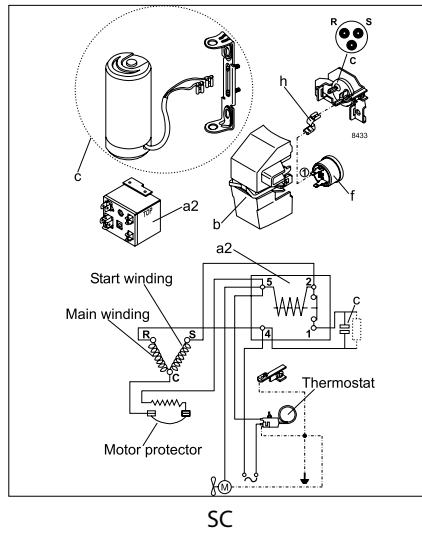
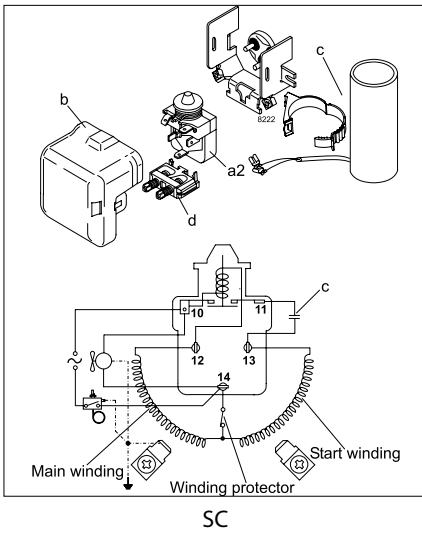


TL-TFS-NF-FF

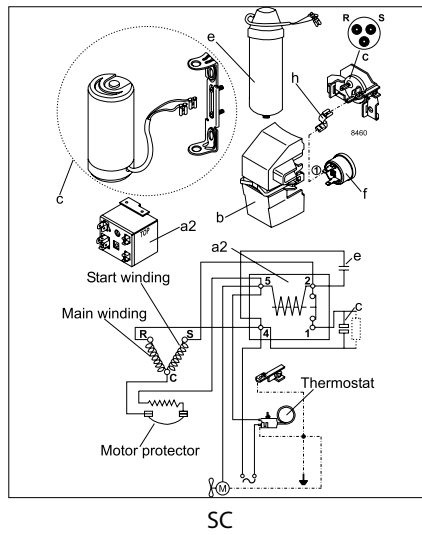
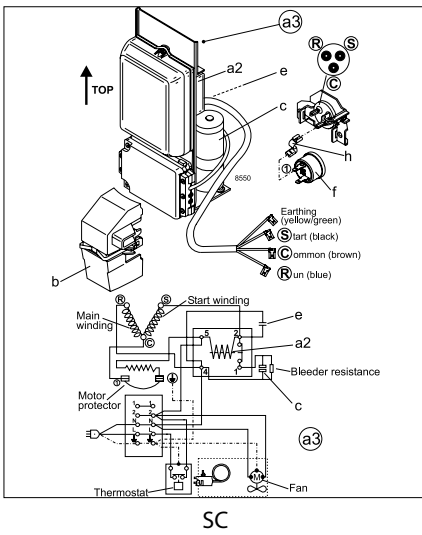


FF-X

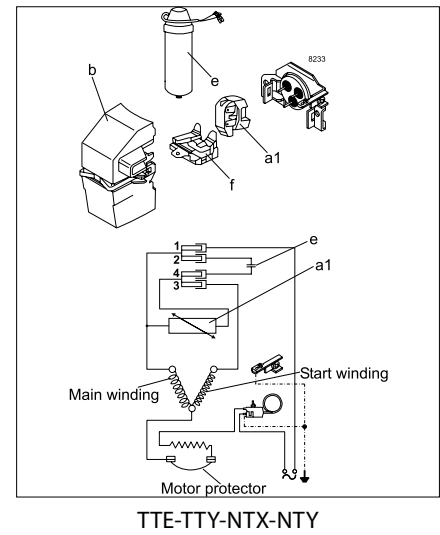
HST - CSIR



HST - CSR



LST - RSCR



Legend :

- a1:** PTC starting device
- a2:** Starting relay
- a3:** Starting device

- b:** Cover
- c:** Starting capacitor
- d:** Cord relief

- e:** Run capacitor
- f:** Protector
- h:** Holder

Quick reference

**R404A - R507 - R134a - R290 115V 60 Hz**

# 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.



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.

<http://cc.danfoss.com>

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