

# NLV8.4F Variable Speed Drive Compressor R134a 115-127V 50-60Hz



## General

Code number compressor (without electronic unit)	105G5960
Code number electronic unit	105N4212
Approvals	UL984
Compressors on pallet	80

## Application

Application	LBP/MBP					
	50			60		
Frequency	Hz	50		60		
Evaporating temperature	°F	-31 to 45		-31 to 45		
Voltage range	V	80 - 140		80 - 140		
Max. condensing temperature continuous (short)	°F	140 (158)		140 (158)		
Max. winding temperature continuous (short)	°F	257 (275)		257 (275)		

## Cooling requirements

Frequency	Hz	50			60		
		LBP	MBP	HBP	LBP	MBP	HBP
90°F		F <sub>2</sub>	F <sub>2</sub>	-	F <sub>2</sub>	F <sub>2</sub>	-
100°F		F <sub>2</sub>	F <sub>2</sub>	-	F <sub>2</sub>	F <sub>2</sub>	-
110°F		F <sub>2</sub>	F <sub>2</sub>	-	F <sub>2</sub>	F <sub>2</sub>	-

Remarks on application:

## Features

Speed range	rpm	2000 - 4000
Control modes with integrated speed control AEO*)		- mech. thermostat 115V ON/OFF - 5V DC ON/OFF
External speed control		- 5V DC 200-400Hz
Protections		- current - speed - temperature

\*)AEO - Adaptive Energy Optimizer

## Motor

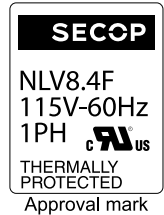
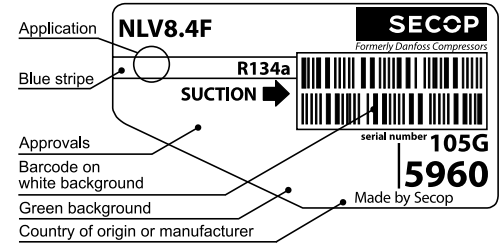
Motor type		permanent magnet
LRA (rated after 4 sec. UL984), HST	A	electronic cut-off
Cut in Current, HST	A	6
Resistance, all 3 windings (77°F)	Ω	2.0

## Design

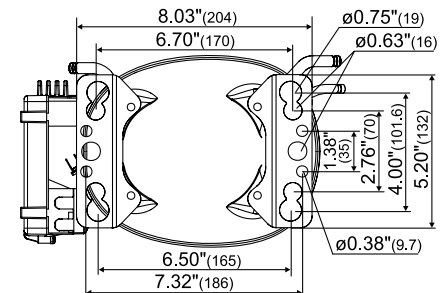
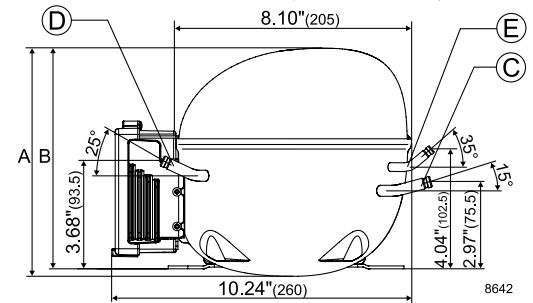
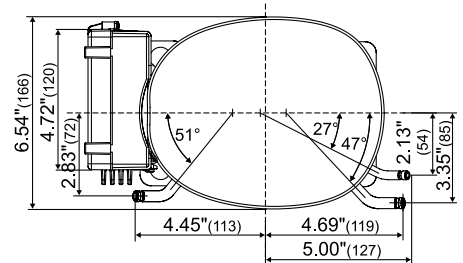
Displacement	cu.in	0.51
Oil quantity (type)	fl.oz.	10.8 (polyolester)
Maximum refrigerant charge	oz.	14.0
Free gas volume in compressor	fl.oz.	79.7
Weight: Compressor / Electronic unit	lbs.	23.8 / 1.3

## Dimensions

Height	inch	A	7.99
		B	7.76
		B1	-
		B2	-
Suction connector	location, I.D. in.   angle	C	0.320-0.327   15°
	material   comment		Copper   Rubber plug
Process connector	location, I.D. in.   angle	D	0.252-0.259   25°
	material   comment		Copper   Rubber plug
Discharge connector	location, I.D. in.   angle	E	0.252-0.259   35°
	material   comment		Copper   Rubber plug
Oil cooler connector	location, I.D. in.   angle	F	-
	material   comment		-
Remarks:			



- S = Static cooling normally sufficient
- O = Oil cooling
- F<sub>1</sub> = Fan cooling 1.5 m/s (compressor compartment temperature equal to ambient temperature)
- F<sub>2</sub> = Fan cooling 3.0 m/s necessary
- SG = Suction gas cooling normally sufficient
- = not applicable in this area



**Capacity (ASHRAE)**

**Btu/h**

rpm \ °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	50	59	68
2,000			299	431	543	597	804	1058	1174	1366	1735	2171	2219	2418			
3,000			456	658	829	911	1227	1615	1792	2085	2648	3315	3388	3691			
3,500			523	753	949	1042	1402	1844	2047	2380	3022	3783	3866	4211			
4,000			584	842	1060	1165	1567	2062	2288	2661	3379	4230	4323	4709			

**Capacity (EN 12900 Household/CECOMAF)**

**watt**

rpm \ °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	50	59	68
2,000			71	102	129	142	191	251	278	324	411	514	525	571			
3,000			108	156	197	216	291	383	425	494	627	784	801	872			
3,500			124	179	225	247	333	437	485	564	716	895	914	995			
4,000			138	200	251	276	372	489	542	631	800	1000	1022	1113			

**Power consumption**

**watt**

rpm \ °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	50	59	68
2,000			74	95	109	115	135	156	164	177	199	223	225	235			
3,000			121	152	174	183	214	245	258	277	311	347	350	366			
3,500			142	178	204	214	251	287	302	325	365	407	411	429			
4,000			159	200	229	241	282	323	340	365	410	457	462	482			

**Current consumption**

**A**

rpm \ °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	50	59	68
2,000			1.12	1.34	1.50	1.57	1.81	2.05	2.15	2.29	2.54	2.80	2.82	2.93			
3,000			1.72	2.07	2.31	2.42	2.78	3.15	3.30	3.53	3.91	4.30	4.34	4.50			
3,500			2.01	2.41	2.69	2.82	3.24	3.67	3.84	4.11	4.56	5.01	5.06	5.25			
4,000			2.34	2.81	3.14	3.29	3.78	4.28	4.48	4.79	5.32	5.85	5.90	6.12			

**EER (ASHRAE)**

**Btu/Wh**

rpm \ °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	50	59	68
2,000			4.01	4.54	4.98	5.18	5.94	6.78	7.14	7.71	8.70	9.74	9.85	10.28			
3,000			3.78	4.33	4.78	4.99	5.74	6.59	6.96	7.52	8.52	9.56	9.67	10.10			
3,500			3.69	4.22	4.66	4.86	5.60	6.42	6.77	7.32	8.28	9.30	9.40	9.82			
4,000			3.67	4.20	4.63	4.83	5.57	6.39	6.74	7.28	8.24	9.25	9.36	9.77			

**COP (EN 12900 Household/CECOMAF)**

**W/W**

rpm \ °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	40	41	45	50	59	68
2,000			0.96	1.08	1.18	1.23	1.40	1.60	1.69	1.82	2.05	2.29	2.32	2.42			
3,000			0.90	1.03	1.13	1.18	1.36	1.56	1.64	1.78	2.01	2.25	2.27	2.37			
3,500			0.88	1.00	1.11	1.15	1.32	1.52	1.60	1.73	1.95	2.19	2.21	2.31			
4,000			0.87	1.00	1.10	1.15	1.32	1.51	1.59	1.72	1.94	2.18	2.20	2.30			

**Legend**

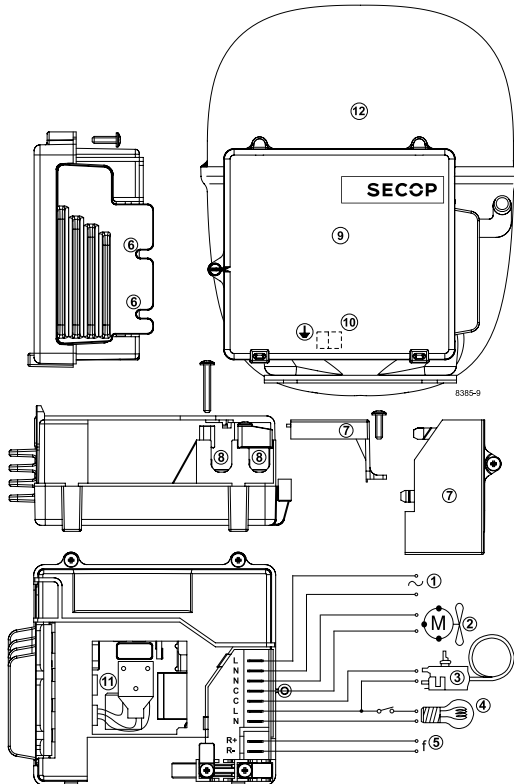
- | Number | Description                |
|--------|----------------------------|
| 1:     | Power supply               |
| 2:     | Fan connection             |
| 3:     | Thermostat connection      |
| 4:     | Light connection           |
| 5:     | Signal input               |
| 6:     | Mounting recesses          |
| 7:     | Cover                      |
| 8:     | Cord relief                |
| 9:     | Electronic unit            |
| 10:    | Earth connection           |
| 11:    | Connector                  |
| 12:    | Compressor                 |
| 13:    | Screw 3.5 x 12 mm (3 pcs.) |
| 14:    | Screw 3.5 x 25 mm (2 pcs.) |

For further descriptions on connecting the electronic unit and the compressor, refer to *Instructions* DES.I.300.B "Electronic Unit Type 105N4210 & 105N4212, 80-140V 50-60Hz for NLV Compressors".

Test conditions	ASHRAE	EN 12900/CECOMAF
Condensing temperature	130°F	131°F
Ambient temperature	90°F	90°F
Suction gas temperature	90°F	90°F
Liquid temperature	90°F	no subcooling

Accessories for	NLV6.1F	Code number
Bolt joint for one compressor	Ø: 5/8 in.	118-1917
Bolt joint in quantities	Ø: 5/8 in.	118-1918
Snap-on in quantities	Ø: 5/8 in.	118-1919



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