

## DLV4.0CN Variable Speed Drive Compressor R290, 100-127V 50/60Hz - with 105N4460 Controller



### General

Code number (without electronic unit)	102H3486
Electronic unit	105N4460
Approvals: UL 60335-2-34 with Annex AA, CCC	
Compressors on pallet	100

### Application

Application	LBP/MBP			
Frequency	Hz	50	60	
Evaporating temperature	°F	-31 to 45	-31 to 45	
Voltage range	V	90 - 140	90 - 140	
Max. condensing temperature continuous (short)	°F	140 (149)	140 (149)	
Max. winding temperature continuous (short)	°F	257 (275)	257 (275)	

### Cooling requirements

Frequency	Hz	50			60		
Application		LBP	MBP	HBP	LBP	MBP	HBP
32°C		F <sub>2</sub>	F <sub>2</sub>	-	F <sub>2</sub>	F <sub>2</sub>	-
38°C		F <sub>2</sub>	F <sub>2</sub>	-	F <sub>2</sub>	F <sub>2</sub>	-
43°C		F <sub>2</sub>	F <sub>2</sub>	-	F <sub>2</sub>	F <sub>2</sub>	-

Remarks on application:

### Features

Speed range	rpm	2000 - 4500
Speed control		AEO, frequency, serial com.
Thermostat		integrated, electronic
Protections		current, speed, temperature
Protection class (electronic unit)		IP54

### Motor

Motor type		permanent magnet
LRA (rated after 4 sec. UL984)	A	electronic cut off
Maximum current	A	6.5
Resistance, all 3 windings (25°C)	Ω	1.2

### Design

Displacement	cu.in	0.24
Oil quantity (type)	fl.oz.	7.8 (polyolester)
Maximum refrigerant charge	oz.	5.3
Free gas volume in compressor	fl.oz.	49.5
Weight - Compressor/Electronic unit	lbs.	17.2 / 1.15

### Dimensions

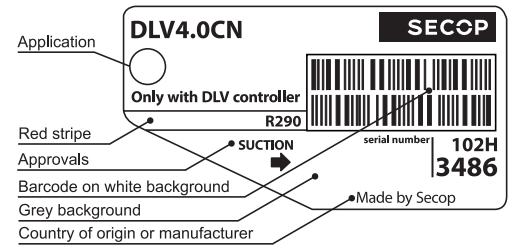
Height	inch	A	6.89
		B	6.65
Suction connector	location/l.D. mm   angle	C	0.320-0.327   18°
	material   comment		Copper   Rubber plug
Process connector	location/O.D. mm   angle	D	0.252-0.259   61°
	material   comment		Copper   Rubber plug
Discharge connector	location/O.D. mm   angle	E	0.252-0.259   25°
	material   comment		Copper   Rubber plug

### Accessories

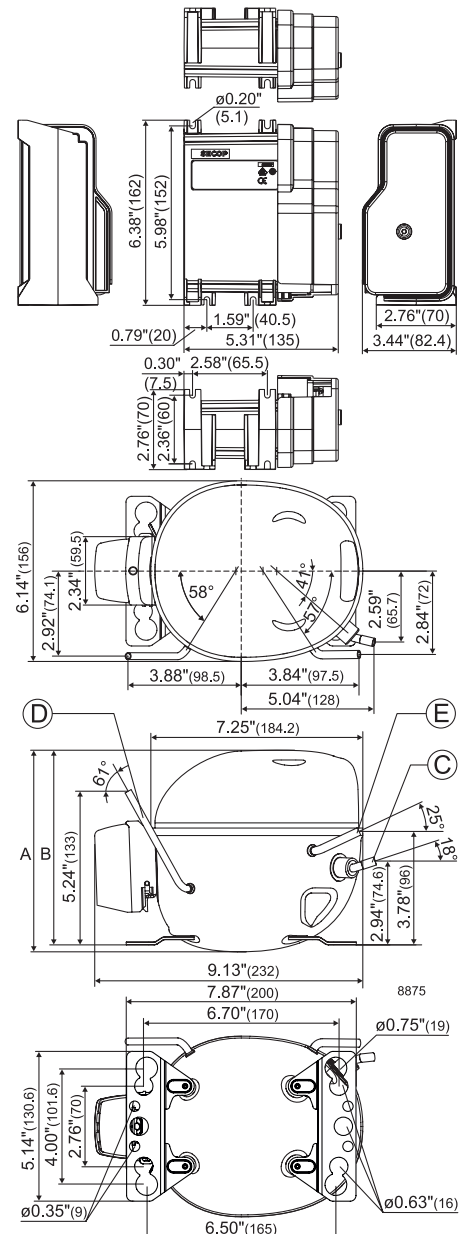
	Code number
Cover	103N0492
Cord relief	103N1010
Motor cable 35.4 in. cable length	105B4477

### Mounting accessories

	Code number
Bolt joint for one compressor	Ø: 3/4 in. 118-1949
Bolt joint in quantities	Ø: 5/8 in. 118-1946
Snap-on in quantities	Ø: 5/8 in. 118-1947



- 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
- = not applicable in this area



**LBP: ASHRAE** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	409	465	522	577	632	741	849	958
Power cons. [W]	77.6	87.6	97.5	107.1	116.7	137.0	157.3	177.5
Current cons. [A]	1.07	1.25	1.42	1.60	1.79	2.23	2.68	3.12
EER [BTU/Wh]	5.27	5.31	5.35	5.38	5.42	5.41	5.40	5.39

**Test conditions**

Evaporation pressure	-10°F	-23.3°C
Condensing pressure	130°F	54.4°C
Liquid temperature	90°F	32.2°C
Return gas temperature	90°F	32.2°C

**LBP: CECOMAF** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	302	343	385	425	466	546	626	706
Power cons. [W]	75.0	84.3	93.6	102.9	112.2	131.6	151.1	170.6
Current cons. [A]	1.03	1.19	1.35	1.52	1.70	2.12	2.54	2.95
EER [BTU/Wh]	4.02	4.07	4.11	4.13	4.16	4.15	4.14	4.14

**Test conditions**

Evaporation pressure	-13°F	-25°C
Condensing pressure	131°F	55°C
Liquid temperature	131°F	55°C
Return gas temperature	90°F	32°C

**LBP: EN12900** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	222	252	283	313	342	401	460	519
Power cons. [W]	58.1	63.0	68.0	75.2	82.4	96.6	110.8	124.9
Current cons. [A]	0.76	0.84	0.92	1.03	1.15	1.42	1.68	1.95
EER [BTU/Wh]	3.81	4.00	4.16	4.16	4.16	4.16	4.15	4.15

**Test conditions**

Evaporation pressure	-31°F	-35°C
Condensing pressure	104°F	40°C
Liquid temperature	104°F	40°C
Return gas temperature	68°F	20°C

**MBP: ASHRAE** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	783	891	999	1105	1210	1418	1626	1834
Power cons. [W]	103.1	118.3	133.5	146.4	159.3	186.9	214.6	242.2
Current cons. [A]	1.52	1.82	2.12	2.40	2.68	3.40	4.11	4.83
EER [BTU/Wh]	7.60	7.53	7.48	7.54	7.60	7.59	7.58	7.57

**Test conditions**

Evaporation pressure	20°F	-6.7°C
Condensing pressure	130°F	54.4°C
Liquid temperature	115°F	46.1°C
Return gas temperature	95°F	35°C

**MBP: CECOMAF** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	616	700	785	869	952	1115	1278	1442
Power cons. [W]	99.0	113.4	127.9	140.2	152.6	179.0	205.5	232.0
Current cons. [A]	1.45	1.73	2.01	2.27	2.54	3.20	3.87	4.54
EER [BTU/Wh]	6.22	6.18	6.14	6.19	6.24	6.23	6.22	6.21

**Test conditions**

Evaporation pressure	14°F	-10°C
Condensing pressure	131°F	55°C
Liquid temperature	131°F	55°C
Return gas temperature	90°F	32°C

**MBP: EN12900** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	694	790	885	979	1073	1257	1441	1625
Power cons. [W]	89.7	102.3	115.0	126.1	137.3	161.1	185.0	208.8
Current cons. [A]	1.28	1.51	1.75	1.97	2.20	2.77	3.33	3.90
EER [BTU/Wh]	7.74	7.72	7.70	7.76	7.82	7.80	7.79	7.78

**Test conditions**

Evaporation pressure	14°F	-10°C
Condensing pressure	113°F	45°C
Liquid temperature	113°F	45°C
Return gas temperature	68°F	20°C

**Optimization Point** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	428	487	546	604	661	775	889	1002
Power cons. [W]	67.9	75.5	83.2	91.5	99.9	117.2	134.5	151.8
Current cons. [A]	0.91	1.04	1.16	1.31	1.46	1.81	2.16	2.51
EER [BTU/Wh]	6.30	6.45	6.56	6.59	6.62	6.61	6.60	6.60

**Test conditions**

Evaporation pressure	-13°F	-25°C
Condensing pressure	95°F	35°C
Liquid temperature	95°F	35°C
Return gas temperature	90°F	32°C

**Optimization Point** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	722	822	922	1019	1117	1309	1500	1692
Power cons. [W]	89.7	102.3	115.0	126.1	137.3	161.1	185.0	208.8
Current cons. [A]	1.28	1.51	1.75	1.97	2.20	2.77	3.33	3.90
EER [BTU/Wh]	8.06	8.03	8.01	8.08	8.14	8.12	8.11	8.10

**Test conditions**

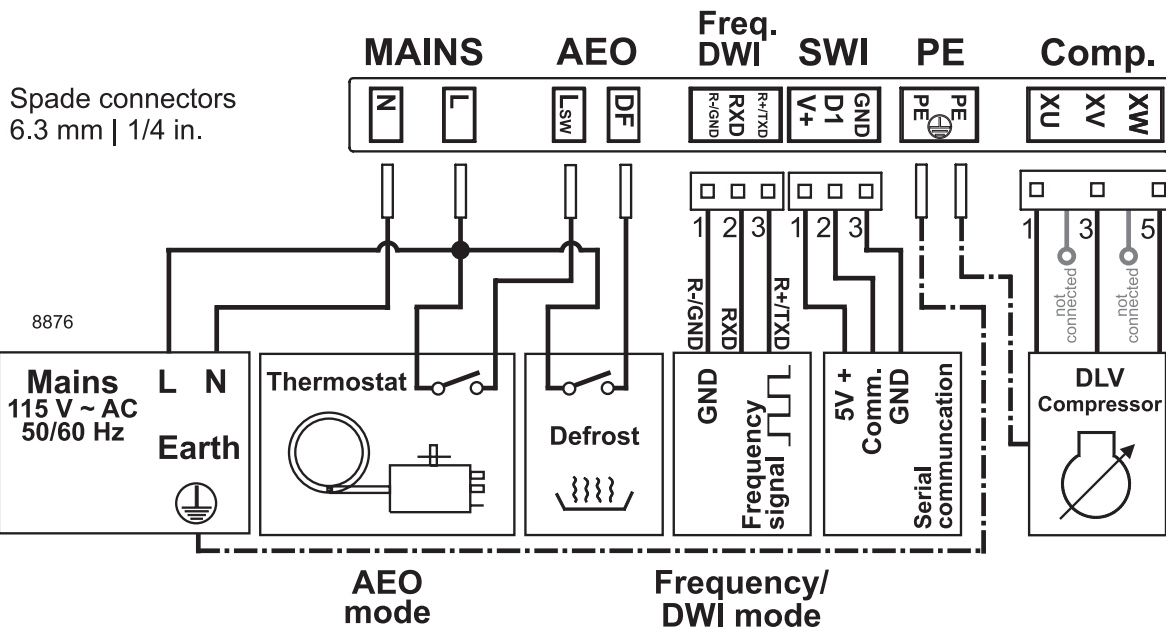
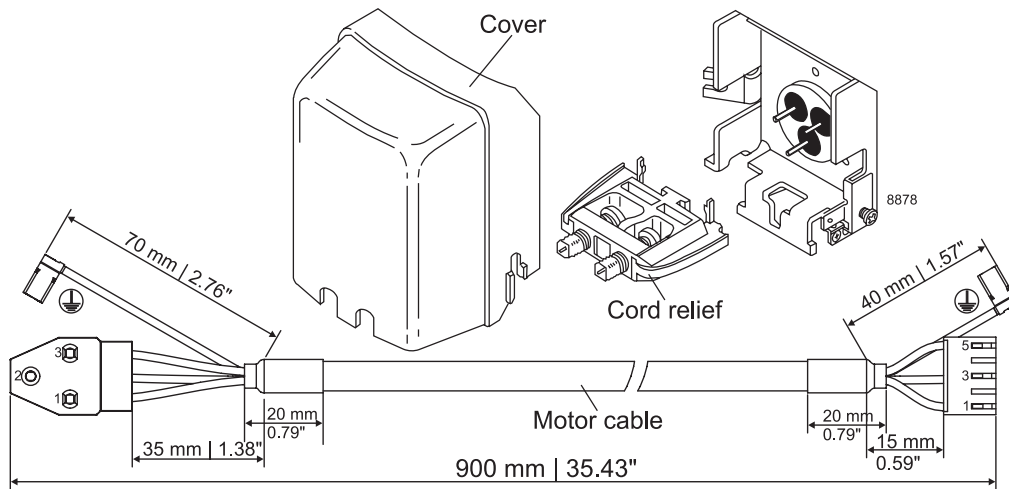
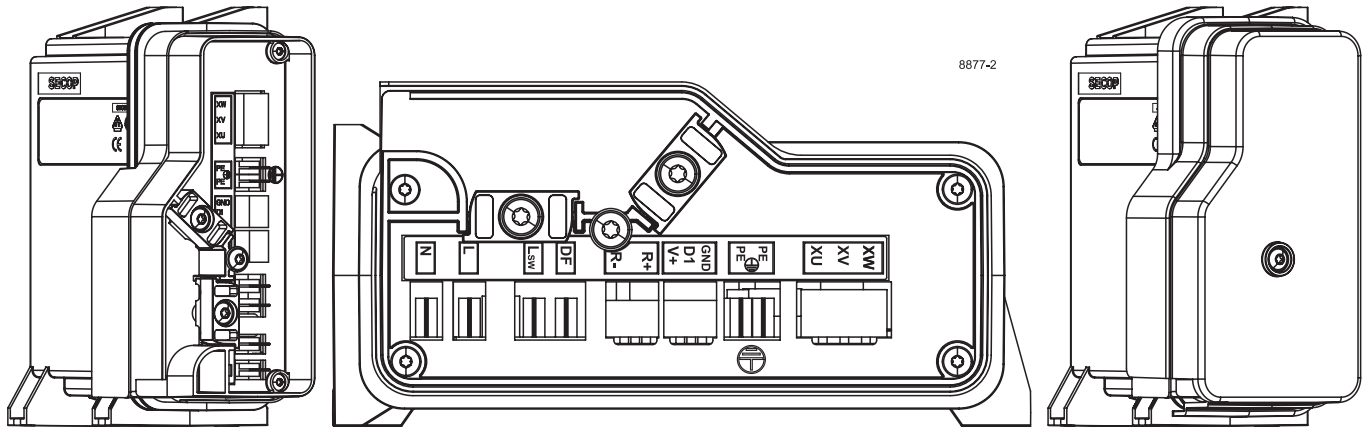
Evaporation pressure	14°F	-10°C
Condensing pressure	113°F	45°C
Liquid temperature	113°F	45°C
Return gas temperature	90°F	32°C

**Optimization Point** 115V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [BTU/h]	1267	1441	1616	1787	1958	2294	2630	2966
Power cons. [W]	100.6	115.4	130.1	142.7	155.3	182.2	209.2	236.1
Current cons. [A]	1.48	1.76	2.05	2.32	2.60	3.28	3.97	4.66
EER [BTU/Wh]	12.59	12.49	12.42	12.52	12.61	12.59	12.58	12.56

**Test conditions**

Evaporation pressure	41°F	5°C
Condensing pressure	113°F	45°C
Liquid temperature	113°F	45°C
Return gas temperature	90°F	32°C



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