

## DLV5.7CN Variable Speed Drive Compressor R290, 220-240V 50/60Hz - with 105N4410 & 105N4510 Controllers



### General

Code number (without electronic unit)	102H3698
Electronic unit (without PFC)	105N4410
Approvals: UL 60335-2-34 with Annex AA, CCC	
Electronic unit (with PFC)	105N4510
Approvals: EN 60335-2-34 with Annex AA, CCC	
Compressors on pallet	100
Remarks: PFC = power factor correction according to EN 61000-3-2:2014	

### Application

Application	LBP/MBP			
	Hz	50	60	
Frequency	Hz	50	60	
Evaporating temperature	°C	-35 to 7.2	-35 to 7.2	
Voltage range / frequency	V/Hz	180 - 270	180 - 270	
Max. condensing temperature continuous (short)	°C	60 (65)	60 (65)	
Max. winding temperature continuous (short)	°C	125 (135)	125 (135)	

### Cooling requirements

Frequency	Hz	50			60		
		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>	-

### 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	3.1
Resistance, all 3 windings (25°C)	Ω	4.1

### Design

Displacement	cm <sup>3</sup>	5.70
Oil quantity (type)	cm <sup>3</sup>	230 (polyolester)
Maximum refrigerant charge	g	150
Free gas volume in compressor	cm <sup>3</sup>	1390
Weight - Compressor/Electronic unit	kg	7.8 / 0.5

### Dimensions

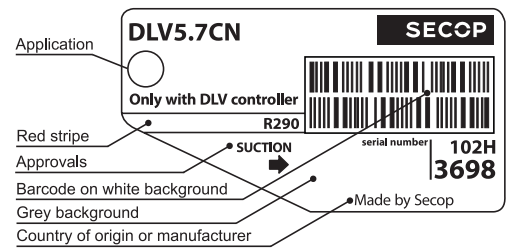
Height	mm	A	175
		B	169
Suction connector	location/I.D. mm   angle	C	8.2   18°
		material   comment	Copper   Rubber plug
Process connector	location/I.D. mm   angle	D	6.2   61°
		material   comment	Copper   Rubber plug
Discharge connector	location/I.D. mm   angle	E	6.2   25°
		material   comment	Copper   Rubber plug
Connector tolerance	I.D. mm		±0.09

### Accessories

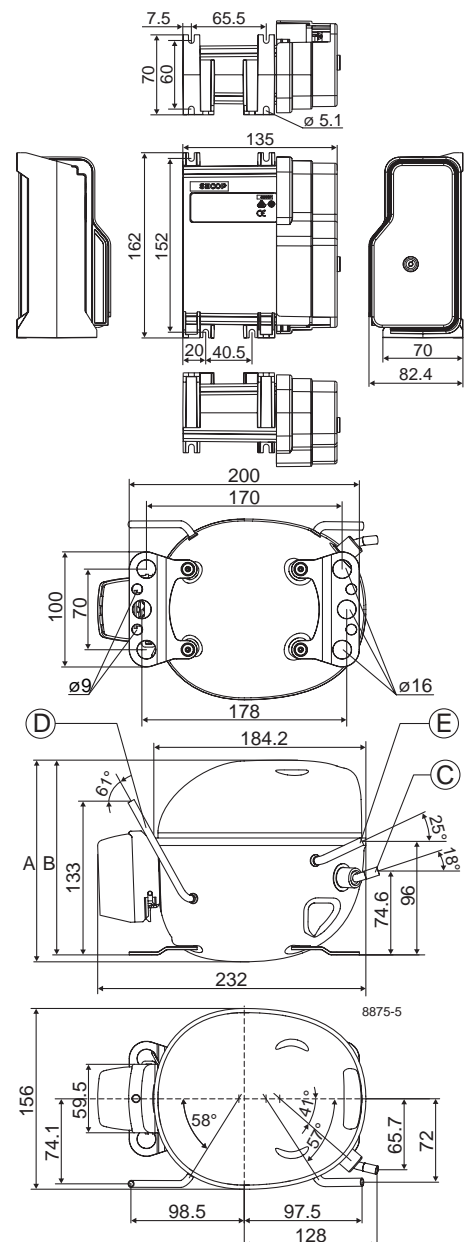
	Code number
Cover	103N0492
Cord relief	103N1010
Motor cable	900 mm cable length
	105B4477

### Mounting accessories

Bolt joint for one compressor	Ø: 16 mm	118-1917
Bolt joint in quantities	Ø: 16 mm	118-1918
Snap-on in quantities	Ø: 16 mm	118-1919



- S = Static cooling normally sufficient
- O = Oil cooling
- F<sub>1</sub> = Fan cooling 1.5 m/s (compressor compartment temp. 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



**LBP: ASHRAE** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	185	212	239	266	293	346	400	448
Capacity [BTU/h]	631	724	817	909	1000	1183	1366	1530
Power cons. [W]	113	127	142	156	171	201	231	266
Current cons. [A]	0.55	0.61	0.66	0.73	0.79	0.92	1.05	1.19
COP [W/W]	1.64	1.67	1.69	1.70	1.71	1.72	1.73	1.69
EER [BTU/Wh]	5.61	5.70	5.77	5.81	5.84	5.89	5.92	5.75

**Test conditions**

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

**LBP: CECOMAF** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	138	158	178	199	219	260	301	337
Capacity [BTU/h]	470	539	608	678	748	887	1026	1150
Power cons. [W]	108	122	136	151	165	194	224	258
Current cons. [A]	0.53	0.58	0.64	0.70	0.77	0.89	1.02	1.15
COP [W/W]	1.27	1.29	1.31	1.32	1.33	1.34	1.35	1.31
EER [BTU/Wh]	4.34	4.41	4.47	4.50	4.52	4.56	4.59	4.46

**Test conditions**

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

**LBP: EN12900** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	103	118	133	148	167	194	225	252
Capacity [BTU/h]	351	403	455	507	559	664	768	861
Power cons. [W]	77	88	99	111	123	147	170	195
Current cons. [A]	0.41	0.45	0.49	0.54	0.59	0.69	0.79	0.88
COP [W/W]	1.34	1.34	1.35	1.34	1.33	1.33	1.32	1.30
EER [BTU/Wh]	4.57	4.58	4.59	4.57	4.56	4.53	4.51	4.42

**Test conditions**

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

**MBP: ASHRAE** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	339	389	439	481	523	608	692	775
Capacity [BTU/h]	1158	1329	1500	1644	1788	2075	2363	2647
Power cons. [W]	154	175	196	215	234	272	311	356
Current cons. [A]	0.71	0.81	0.91	0.99	1.07	1.24	1.40	1.58
COP [W/W]	2.20	2.23	2.25	2.24	2.24	2.23	2.23	2.18
EER [BTU/Wh]	7.51	7.60	7.67	7.65	7.64	7.62	7.60	7.44

**Test conditions**

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

**MBP: CECOMAF** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	269	308	348	382	416	484	552	619
Capacity [BTU/h]	917	1053	1188	1304	1421	1653	1886	2113
Power cons. [W]	148	167	187	205	224	260	297	341
Current cons. [A]	0.68	0.78	0.87	0.95	1.03	1.19	1.34	1.51
COP [W/W]	1.82	1.84	1.86	1.86	1.86	1.86	1.86	1.82
EER [BTU/Wh]	6.21	6.29	6.36	6.36	6.35	6.35	6.35	6.20

**Test conditions**

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

**MBP: EN12900** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	298	342	386	422	459	533	606	679
Capacity [BTU/h]	1017	1167	1317	1442	1568	1820	2071	2320
Power cons. [W]	131	149	168	185	203	238	273	311
Current cons. [A]	0.62	0.71	0.79	0.87	0.94	1.09	1.24	1.38
COP [W/W]	2.28	2.29	2.30	2.28	2.26	2.24	2.22	2.19
EER [BTU/Wh]	7.78	7.81	7.84	7.78	7.73	7.65	7.59	7.46

**Test conditions**

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

**Optimization Point** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	184	211	238	264	290	341	393	440
Capacity [BTU/h]	628	721	814	902	990	1166	1343	1504
Power cons. [W]	92	105	118	132	147	176	205	233
Current cons. [A]	0.47	0.52	0.56	0.63	0.69	0.81	0.94	1.05
COP [W/W]	1.99	2.01	2.02	2.00	1.97	1.94	1.92	1.89
EER [BTU/Wh]	6.80	6.86	6.91	6.81	6.74	6.62	6.54	6.45

**Test conditions**

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

**Optimization Point** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	310	356	401	440	478	555	631	707
Capacity [BTU/h]	1059	1215	1371	1502	1632	1894	2156	2415
Power cons. [W]	131	149	168	185	203	238	273	311
Current cons. [A]	0.62	0.71	0.79	0.87	0.94	1.09	1.24	1.38
COP [W/W]	2.37	2.38	2.39	2.37	2.36	2.33	2.32	2.27
EER [BTU/Wh]	8.1	8.13	8.16	8.1	8.05	7.96	7.9	7.77

**Test conditions**

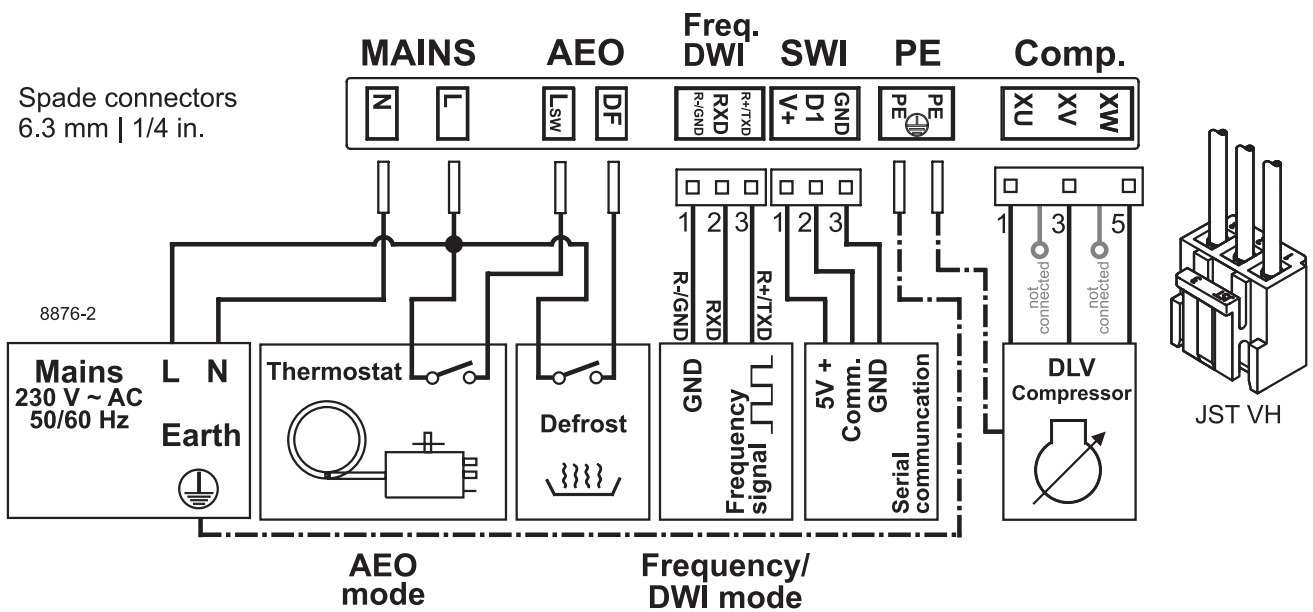
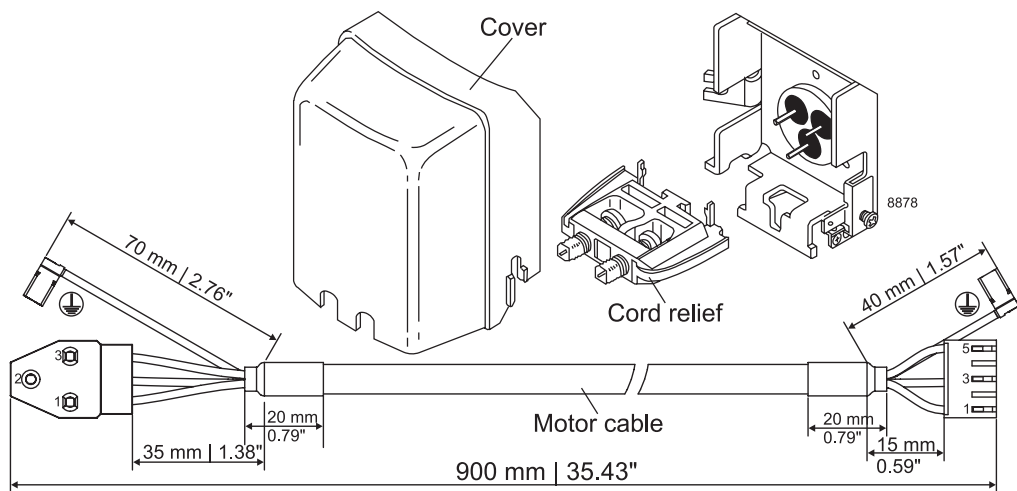
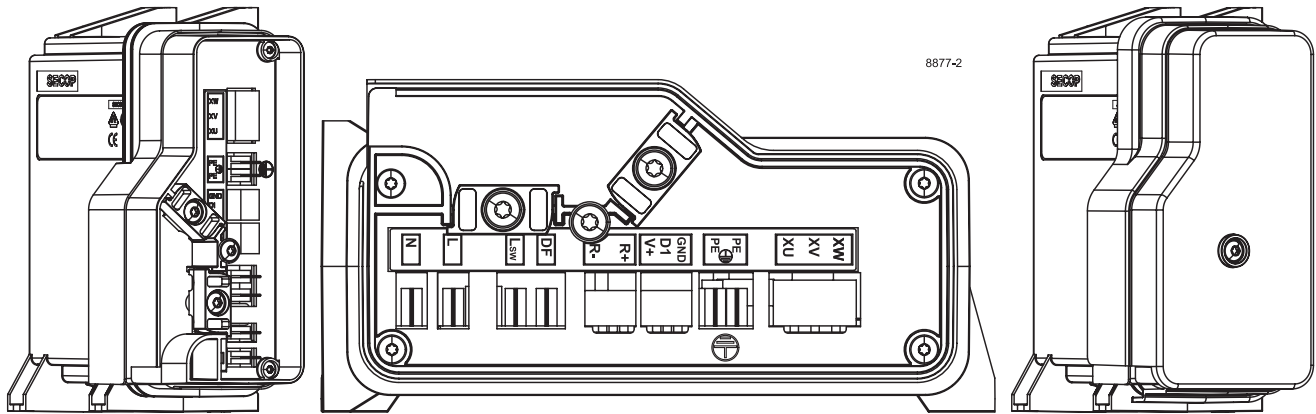
Evaporation pressure	-10°C	14°F
Condensing pressure	45°C	113°F
Liquid temperature	45°C	113°F
Return gas temperature	32°C	90°F

**Optimization Point** 230V, 50/60Hz, fan cooling F<sub>2</sub>

Speed (rpm)	2000	2250	2500	2750	3000	3500	4000	4500
Capacity [W]	533	612	690	754	818	946	1074	1203
Capacity [BTU/h]	1821	2090	2358	2576	2794	3231	3667	4107
Power cons. [W]	150	172	195	216	238	281	324	368
Current cons. [A]	0.69	0.80	0.90	1.00	1.09	1.27	1.46	1.63
COP [W/W]	3.55	3.55	3.55	3.49	3.44	3.37	3.32	3.27
EER [BTU/Wh]	12.12	12.12	12.12	11.92	11.76	11.51	11.32	11.16

**Test conditions**

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



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