Model
NLV8.0CN

Sales code:
105H7866

Compressor Data

Refrigerant(s)	**R290**
Refr. charge - tech. limit	**300g / 10.58oz**
Weight	**10.80 kg / 23.81lbs**
Displacement	**7.96 cm3 / 0.49cu.in**
Compressors on pallet	**80**

General – Configurations With NLV8.0CN and Controller

–	**Conf. 1**	**Conf. 2**	**Conf. 3**	**Conf. 4**
Sales code single pack:	105N4866	105N4910	105N4960	105N4962
Power supply (nominal)	100-240 V,50/60 Hz	220-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz
Number of phases	1~AC	1~AC	1~AC	1~AC
Approvals	VDE, UL, CCC, CB	VDE, CCC	VDE, UL, CCC, CB	VDE, UL, CCC, CB
Starting torque	HST	HST	HST	HST
Refrigerant	R290	R290	R290	R290
Application	L+MBP	L+MBP	L+MBP	L+MBP
Hot gas defrost	OK	OK	OK	OK
Long interval pull down	OK	OK	OK	OK
Protection	Mechanic	Mechanic	Mechanic	Mechanic

Application Notes

- Provision for PE Grounding is located at the PE Stamp on the compressor
- Direct suction intake with telescope

Model
NLV8.0CN

Sales code:
105H7866

Compressor Design

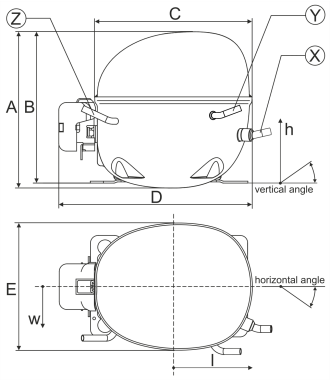
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

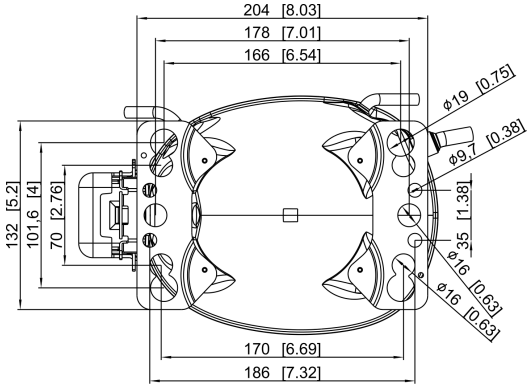
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



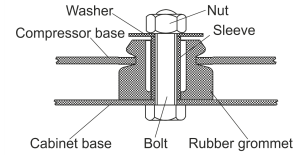
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in	-109.3/94.3/72 / -4.30/3.71/2.83in
Straight tube l. [mm]	12 / 0.47in	12 / 0.47in	12 / 0.47in

Mounting Accessories

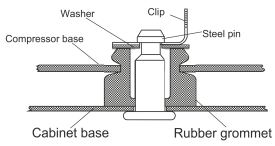


Dimensions in mm [in]

Bolt joint



Snap-on



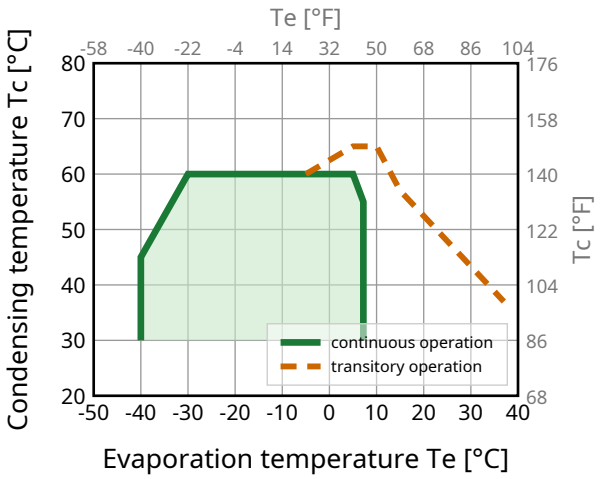
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

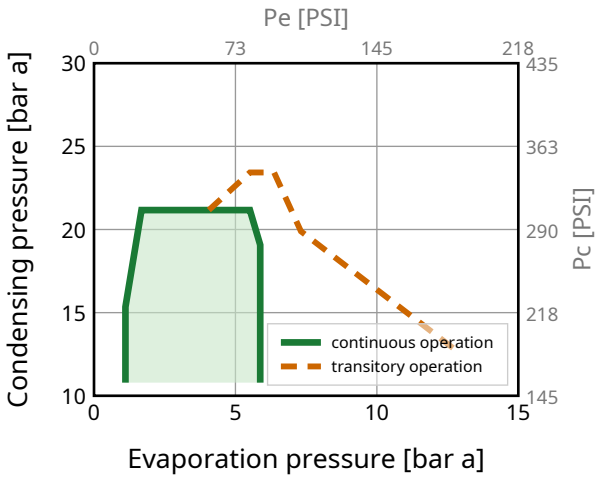
Model
NLV8.0CN System Design

Sales code:
105H7866

System Design

Operation Pressure Range R290



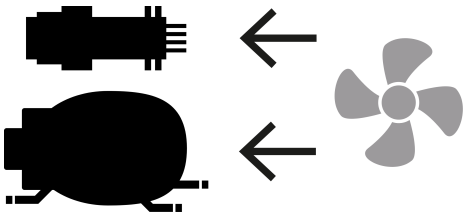


System Cooling

Compressor and Controller Cooling: fan 3m/s

Ensure proper airflow of 3 m/s at both compressor and electronic units.

The airflow for the electronics must be directed to the heat sink.



Accessories (Compressor + Controller)

103N2008	plastic cover	1 pcs

Model

NLV8.0CN

Controller Overview

Sales code:

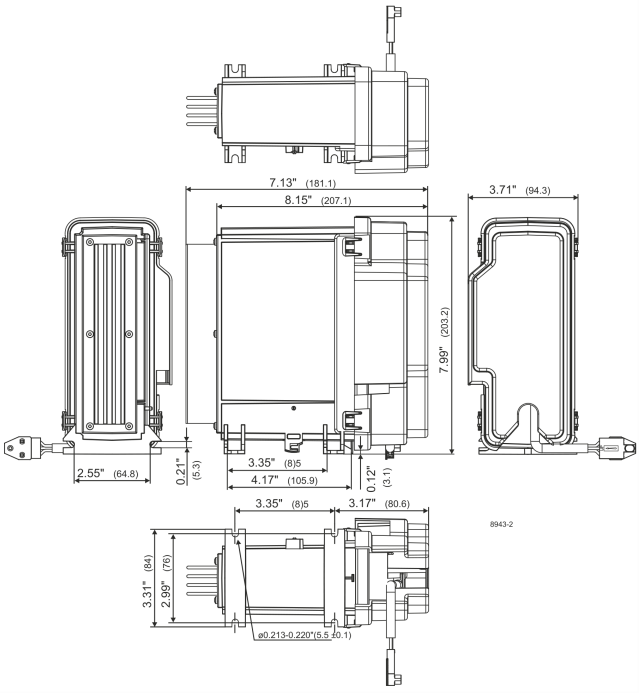
105H7866

Controller Overview

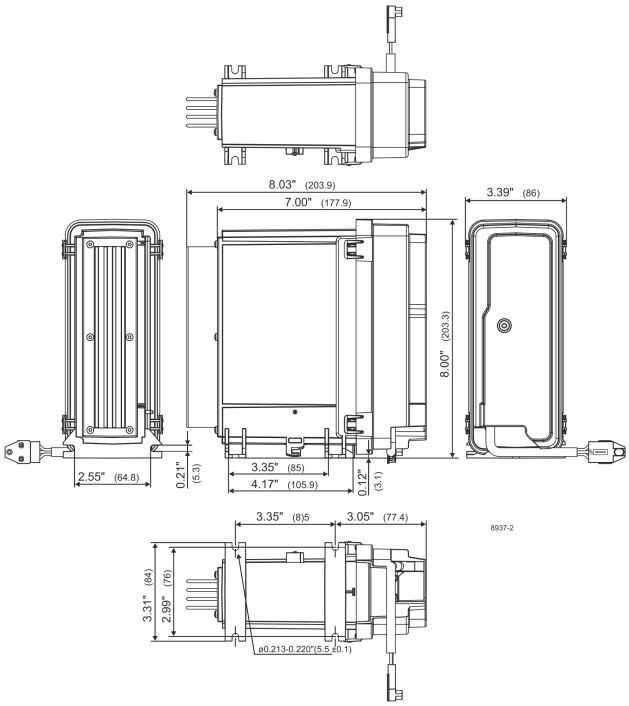
–	**Conf. 1**	**Conf. 2**	**Conf. 3**	**Conf. 4**
Sales code single pack:	105N4866	105N4910	105N4960	105N4962
Sales code industry pack:	105N4867 (8)	105N4911 (8)	105N4961 (8)	105N4963 (8)
Voltage nom.:	100-240 V,50/60 Hz	220-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz
Voltage range	90-150/180-270 V	180-270 V	90-150/180-270 V	90-150/180-270 V
Max output power	1000 W	1000 W	1000 W	1000 W
Compressor speed range:	2000-4500 rpm	2000-4500 rpm	2000-4500 rpm	2000-4500 rpm
Cable length:	680 mm	680 mm	680 mm	915 mm
Protection class:	IP43	IP54	IP54	IP54
LRA (Locked Rotor Amperage):	1,2 A	1,2 A	1,2 A	1,2 A
AEO and Defrost pin	–	Yes	Yes	Yes
Frequency input	–	Yes	Yes	Yes
Modbus input	RS485	SWI	SWI	SWI
Controller Wiring	» Controller Wiring	» Controller Wiring	» Controller Wiring	» Controller Wiring

Controller Dimensions

Conf. 1



Conf. 2, 3, 4



Operating Instructions

For proper installation and operation of variable-speed compressors and controllers, please refer to the Operating Instructions. The document covers electrical installation, speed control, and technical data for the controller.

» Download Operating Instructions

Model
NLV8.0CN

Sales code:
105H7866

Standard Conditions — 2000 rpm

R290, 240 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**260**	887	224	**1.77**	6.04	147	0.71	2.64	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**192**	654	165	**1.36**	4.64	141	0.69	2.40	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**140**	478	120	**1.42**	4.85	99	0.58	1.61	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**482**	1644	414	**2.36**	8.04	204	0.91	5.52	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**382**	1303	328	**1.95**	6.67	196	0.88	4.86	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**421**	1435	362	**2.41**	8.22	175	0.81	5.18	**EN12900 MBP**

Performance Tables — 2000 rpm

R290, 240 V/50 Hz, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-40	-40	**92**	315	79	**1.07**	3.65	86	0.56	1.04
-30	-22	**176**	599	151	**1.51**	5.14	117	0.62	1.99
-20	-4	**289**	986	249	**1.95**	6.66	148	0.72	3.29
-10	14	**437**	1492	376	**2.50**	8.54	175	0.81	5.02
0	32	**626**	2136	538	**3.27**	11.15	192	0.87	7.28
10	50	**860**	2935	740	**4.46**	15.20	193	0.87	10.17

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-40	-40	**68**	232	58	**0.77**	2.63	88	0.56	0.84
-30	-22	**144**	491	124	**1.18**	4.02	122	0.64	1.80
-20	-4	**247**	842	212	**1.54**	5.27	160	0.76	3.11
-10	14	**382**	1303	328	**1.95**	6.67	196	0.88	4.86
0	32	**554**	1892	477	**2.48**	8.45	224	0.99	7.15
10	50	**770**	2626	662	**3.21**	10.96	240	1.06	10.11

Model
NLV8.0CN

Sales code:
105H7866

Standard Conditions — 4500 rpm

R290, 240 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**622**	2124	535	**1.83**	6.23	341	1.49	6.32	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**462**	1578	398	**1.41**	4.81	328	1.43	5.80	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**340**	1160	292	**1.48**	5.06	229	1.04	3.90	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1098**	3746	944	**2.34**	7.97	470	2.02	12.57	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**878**	2994	755	**1.95**	6.66	449	1.93	11.16	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**953**	3251	819	**2.38**	8.10	401	1.73	11.73	**EN12900 MBP**

Performance Tables — 4500 rpm

R290, 240 V/50 Hz, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-40	-40	**230**	785	198	**1.14**	3.89	202	0.93	2.59
-30	-22	**423**	1443	364	**1.56**	5.32	271	1.21	4.78
-20	-4	**671**	2289	577	**1.97**	6.72	341	1.49	7.63
-10	14	**990**	3380	852	**2.47**	8.42	401	1.73	11.37
0	32	**1398**	4770	1202	**3.16**	10.79	442	1.90	16.25
10	50	**1909**	6515	1642	**4.20**	14.34	454	1.95	22.58

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-40	-40	**169**	575	145	**0.81**	2.76	208	0.96	2.10
-30	-22	**354**	1207	304	**1.24**	4.22	286	1.27	4.42
-20	-4	**585**	1995	503	**1.58**	5.39	370	1.60	7.36
-10	14	**878**	2994	755	**1.95**	6.66	449	1.93	11.16
0	32	**1249**	4261	1074	**2.43**	8.28	515	2.21	16.10
10	50	**1715**	5851	1475	**3.08**	10.52	556	2.38	22.53

Model
NLV8.0CN

Sales code:
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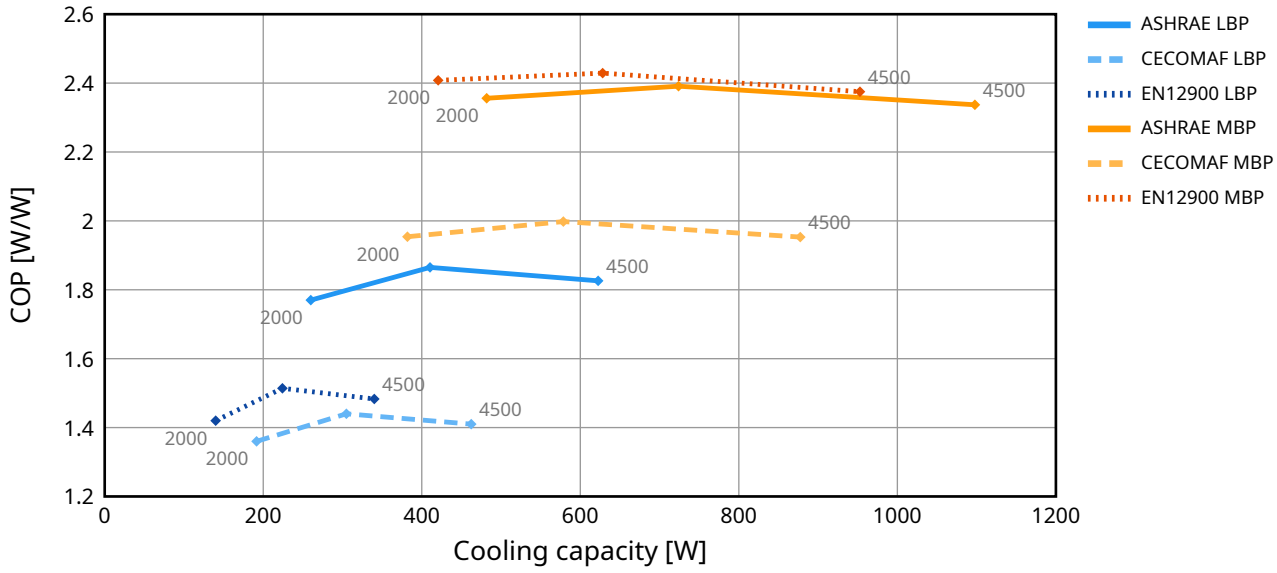
Optimal Performance

R290, 240 V/50 Hz, fan 3m/s
Shows the speed (RPM) that achieves the highest COP at each standard condition.

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	RPM	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[rpm]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**410**	1400	353	**1.86**	6.36	220	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**305**	1040	262	**1.44**	4.91	212	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**224**	765	193	**1.51**	5.17	148	**3000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**724**	2470	623	**2.39**	8.16	303	**3000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**579**	1974	498	**2.00**	6.82	290	**3000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**628**	2143	540	**2.43**	8.29	259	**3000**	**EN12900 MBP**

Cooling Capacity vs. COP

R290, 240 V/50 Hz, fan 3m/s