Model
NLVE13CN

Sales code:
105H7374

Compressor Data

Refrigerant(s)	**R290**
Refr. charge - tech. limit	**300g / 10.58oz**
Weight	**10.80 kg / 23.81lbs**
Displacement	**12.55 cm3 / 0.77cu.in**
Compressors on pallet	**80**

General – Configurations With NLVE13CN and Controller

–	**Conf. 1**
Sales code single pack:	105N4100
Power supply (nominal)	115–127 V,50/60 Hz
Number of phases	1~AC
Approvals	UL
Starting torque	HST
Refrigerant	R290
Application	L+MBP
Hot gas defrost	OK
Long interval pull down	OK
Protection	Mechanic

Application Notes

- Provision for PE Grounding is located at the PE Stamp on the compressor
- Semi suction intake without telescope

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Compressor Design

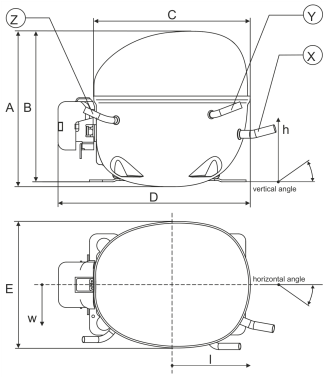
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

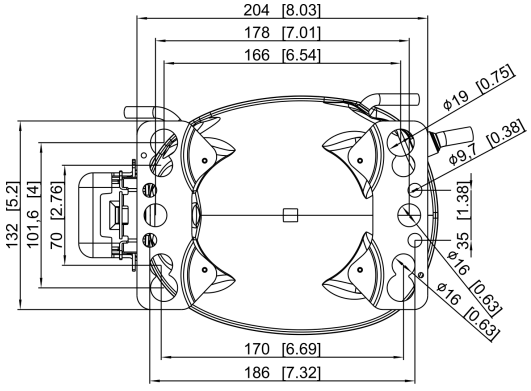
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



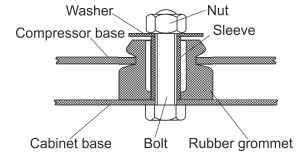
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in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

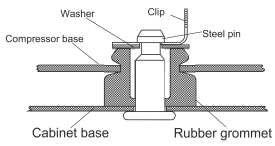


Dimensions in mm [in]

Bolt joint



Snap-on



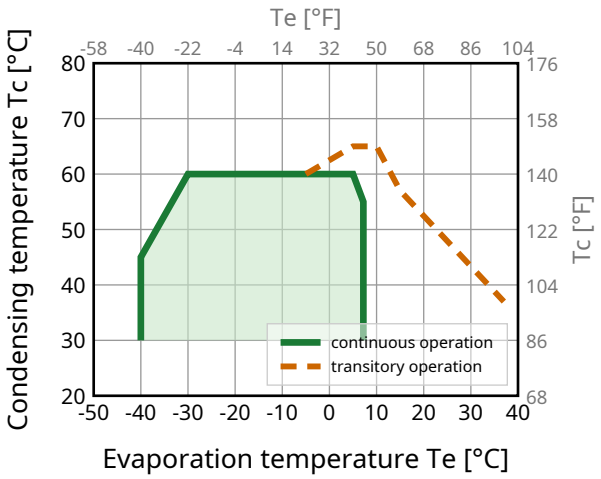
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

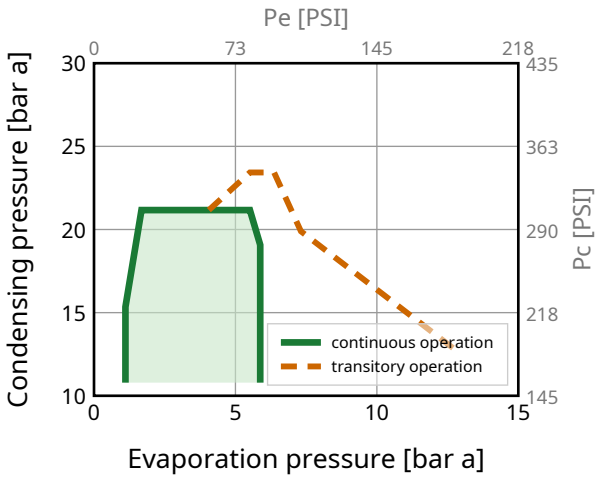
Model
NLVE13CN System Design

Sales code:
105H7374

System Design

Operation Pressure Range R290



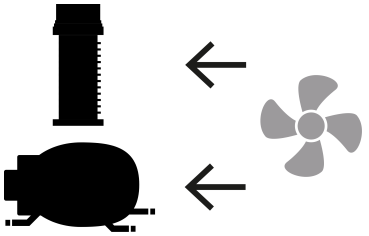


System Cooling

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 Sales code:

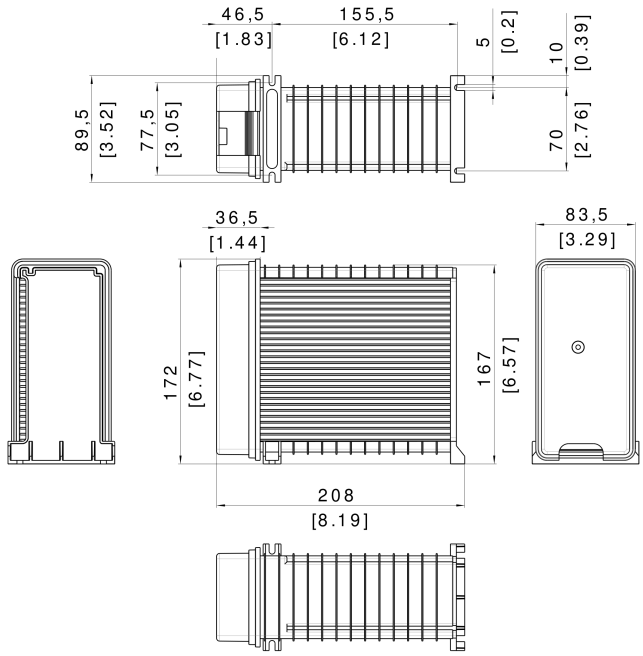
NLVE13CN Controller Overview **105H7374**

Controller Overview

–	**Conf. 1**
Sales code single pack:	105N4100
Sales code industry pack:	105N4101 (8)
Voltage nom.:	115–127 V,50/60 Hz
Voltage range	100–140 V
Max output power	1000 W
Compressor speed range:	2000-4500 rpm
Cable length:	680 mm
Protection class:	IP31
LRA (Locked Rotor Amperage):	1,3 A
AEO and Defrost pin	Yes
Frequency input	Yes
Modbus input	–
Controller Wiring	» Controller Wiring

Controller Dimensions

Conf. 1



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
NLVE13CN

Sales code:
105H7374

Standard Conditions — 2000 rpm

R290, 115 V/60 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	**440**	1500	378	**1.78**	6.07	247	4.36	4.46	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**328**	1119	282	**1.38**	4.71	238	4.23	4.11	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**243**	828	209	**1.54**	5.24	158	3.10	2.78	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**768**	2619	660	**2.25**	7.68	341	5.67	8.79	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**613**	2093	527	**1.88**	6.43	326	5.46	7.80	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**667**	2275	574	**2.29**	7.81	292	4.98	8.21	**EN12900 MBP**

Performance Tables — 2000 rpm

R290, 115 V/60 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	**173**	591	149	**1.27**	4.35	136	2.79	1.95
-30	-22	**300**	1022	258	**1.55**	5.28	194	3.61	3.38
-20	-4	**469**	1601	404	**1.90**	6.49	247	4.35	5.34
-10	14	**693**	2366	596	**2.38**	8.11	292	4.98	7.96
0	32	**983**	3355	846	**3.03**	10.33	325	5.45	11.43
10	50	**1350**	4607	1161	**3.95**	13.46	342	5.72	15.97

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

-40	-40	**139**	473	119	**0.95**	3.23	146	2.95	1.72
-30	-22	**256**	874	220	**1.24**	4.22	207	3.80	3.20
-20	-4	**411**	1401	353	**1.53**	5.23	268	4.65	5.17
-10	14	**613**	2093	527	**1.88**	6.43	326	5.46	7.80
0	32	**875**	2987	753	**2.33**	7.94	376	6.18	11.29
10	50	**1208**	4122	1039	**2.90**	9.91	416	6.80	15.87

Model
NLVE13CN

Sales code:
105H7374

Standard Conditions — 4500 rpm

R290, 115 V/60 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	**975**	3325	838	**1.70**	5.81	572	7.87	9.90	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**728**	2484	626	**1.32**	4.51	551	7.59	9.13	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**538**	1836	463	**1.41**	4.79	383	5.44	6.18	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1688**	5760	1452	**2.06**	7.01	821	11.06	19.33	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1351**	4610	1162	**1.75**	5.97	773	10.44	17.18	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1464**	4997	1259	**2.05**	7.01	713	9.67	18.02	**EN12900 MBP**

Performance Tables — 4500 rpm

R290, 115 V/60 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	**382**	1304	329	**1.13**	3.87	337	4.85	4.30
-30	-22	**664**	2267	571	**1.47**	5.00	453	6.34	7.51
-20	-4	**1036**	3534	891	**1.79**	6.12	578	7.93	11.78
-10	14	**1522**	5194	1309	**2.14**	7.29	713	9.67	17.48
0	32	**2150**	7336	1849	**2.49**	8.51	862	11.60	25.00
10	50	**2946**	10050	2533	**2.86**	9.77	1029	13.77	34.84

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

-40	-40	**301**	1026	259	**0.87**	2.95	347	4.99	3.74
-30	-22	**568**	1938	489	**1.18**	4.03	481	6.70	7.10
-20	-4	**910**	3104	782	**1.46**	4.99	622	8.50	11.45
-10	14	**1351**	4610	1162	**1.75**	5.97	773	10.44	17.18
0	32	**1919**	6548	1651	**2.05**	6.99	936	12.56	24.75
10	50	**2640**	9006	2270	**2.36**	8.07	1116	14.92	34.69

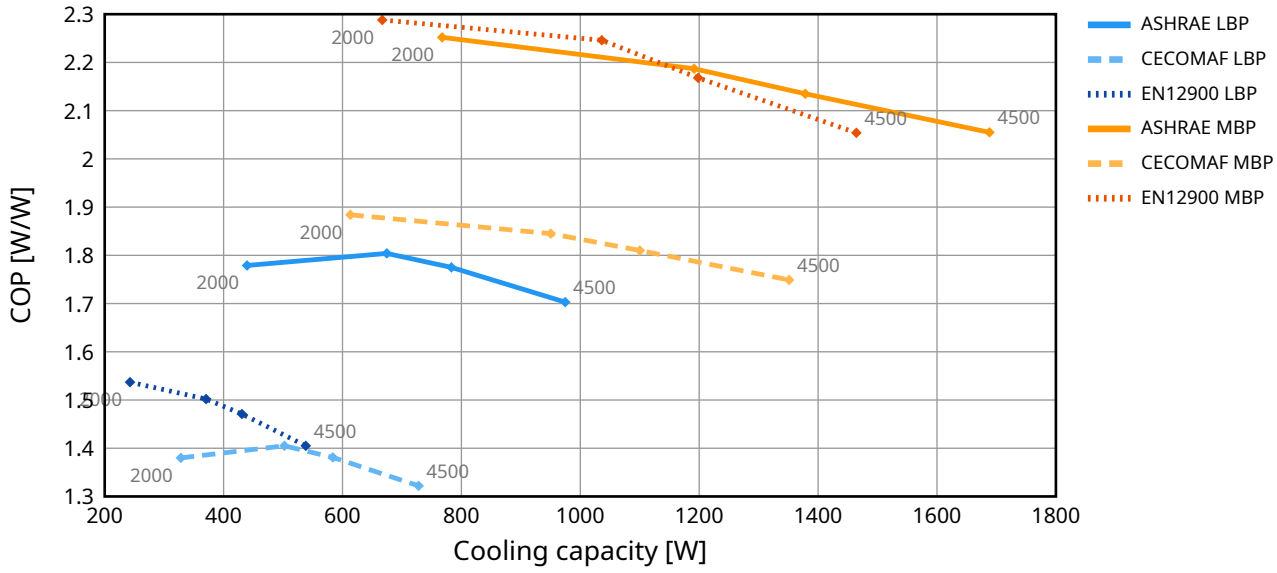
Model
NLVE13CN

Sales code:
105H7374

Optimal Performance

R290, 115 V/60 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	**674**	2301	580	**1.80**	6.16	374	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**502**	1714	432	**1.41**	4.79	358	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**243**	828	209	**1.54**	5.24	158	**2000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**768**	2619	660	**2.25**	7.68	341	**2000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**613**	2093	527	**1.88**	6.43	326	**2000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**667**	2275	574	**2.29**	7.81	292	**2000**	**EN12900 MBP**

Cooling Capacity vs. COP

R290, 115 V/60 Hz, fan 3m/s