Model
NLV10CN

Sales code:
105H7013

Compressor Data

Refrigerant(s)	**R290**
Refr. charge - tech. limit	**300g / 10.58oz**
Weight	**10.80 kg / 23.81lbs**
Displacement	**10.09 cm3 / 0.62cu.in**
Compressors on pallet	**80**

General – Configurations With NLV10CN and Controller

–	**Conf. 1**
Sales code single pack:	105N4120
Power supply (nominal)	220–240 V,50/60 Hz
Number of phases	1~AC
Approvals	CCC
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

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Compressor Design

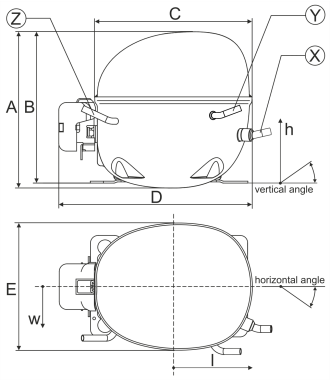
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

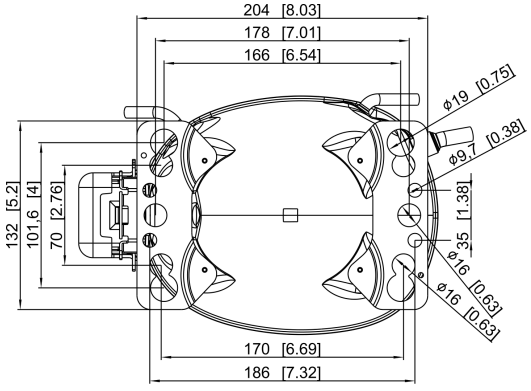
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



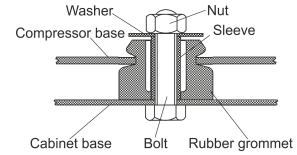
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.11–6.29 / 0.24–0.25in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in	-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

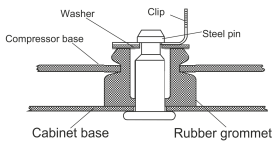


Dimensions in mm [in]

Bolt joint



Snap-on



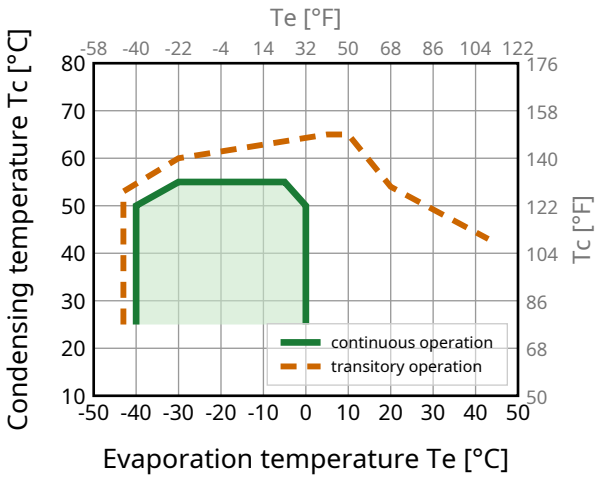
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

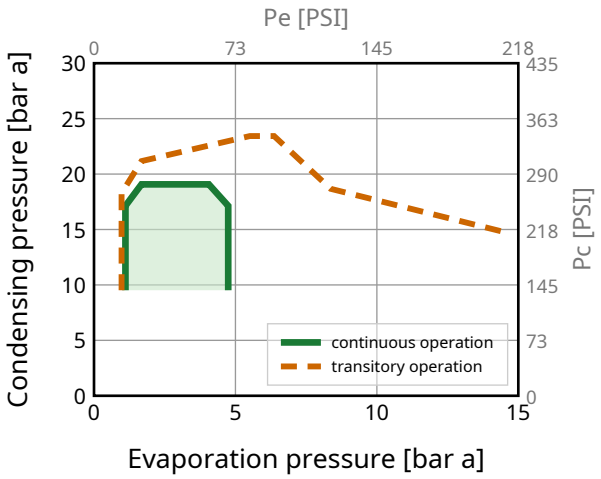
Model
NLV10CN System Design

Sales code:
105H7013

System Design

Operation Pressure Range R290



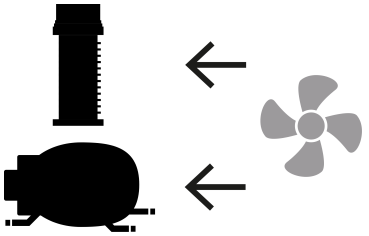


System Cooling

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:

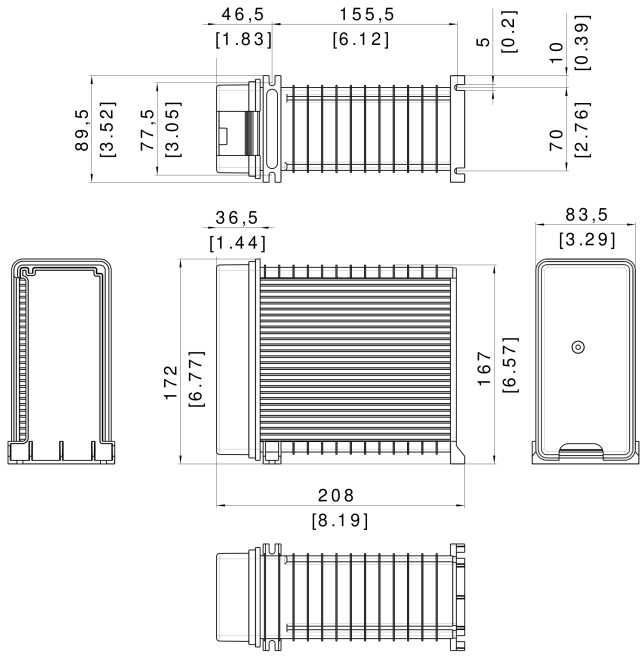
NLV10CN Controller Overview **105H7013**

Controller Overview

–	**Conf. 1**
Sales code single pack:	105N4120
Sales code industry pack:	105N4121 (8)
Voltage nom.:	220–240 V,50/60 Hz
Voltage range	198–264 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
NLV10CN

Sales code:
105H7013

Standard Conditions — 2000 rpm

R290, 220 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	**342**	1165	294	**1.84**	6.26	186	1.26	3.47	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**255**	869	219	**1.43**	4.86	179	1.22	3.19	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**193**	658	166	**1.54**	5.24	126	0.88	2.21	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**607**	2070	522	**2.33**	7.94	261	1.74	6.95	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**482**	1644	414	**1.95**	6.66	247	1.65	6.13	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**544**	1856	468	**2.40**	8.19	227	1.52	6.70	**EN12900 MBP**

Performance Tables — 2000 rpm

R290, 220 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	**140**	476	120	**1.27**	4.34	110	0.78	1.57
-30	-22	**237**	809	204	**1.58**	5.38	150	1.04	2.68
-20	-4	**376**	1283	323	**1.99**	6.78	189	1.28	4.28
-10	14	**566**	1930	487	**2.49**	8.51	227	1.52	6.50
0	32	**814**	2779	700	**3.10**	10.56	263	1.75	9.47
10	50	**1131**	3859	973	**3.79**	12.94	298	1.98	13.38
15	59	**1318**	4495	1133	**4.18**	14.26	315	2.09	15.75

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

-40	-40	**113**	386	97	**1.00**	3.42	113	0.80	1.40
-30	-22	**199**	680	171	**1.27**	4.35	156	1.08	2.49
-20	-4	**319**	1089	275	**1.59**	5.42	201	1.36	4.02
-10	14	**482**	1644	414	**1.95**	6.66	247	1.65	6.13
0	32	**695**	2372	598	**2.37**	8.08	293	1.95	8.96
10	50	**968**	3304	833	**2.84**	9.68	341	2.26	12.72
15	59	**1130**	3856	972	**3.09**	10.55	366	2.42	15.03

Model
NLV10CN

Sales code:
105H7013

Standard Conditions — 4500 rpm

R290, 220 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	**752**	2565	647	**1.80**	6.15	417	2.71	7.64	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**560**	1912	482	**1.40**	4.78	400	2.61	7.03	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**412**	1407	355	**1.41**	4.80	293	1.98	4.73	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1359**	4636	1168	**2.25**	7.68	604	3.80	15.56	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1077**	3676	927	**1.90**	6.47	568	3.59	13.70	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1190**	4059	1023	**2.23**	7.62	532	3.38	14.64	**EN12900 MBP**

Performance Tables — 4500 rpm

R290, 220 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	**307**	1048	264	**1.20**	4.10	255	1.75	3.45
-30	-22	**509**	1736	438	**1.50**	5.14	338	2.24	5.75
-20	-4	**814**	2778	700	**1.88**	6.40	434	2.81	9.26
-10	14	**1237**	4219	1063	**2.32**	7.92	532	3.38	14.20
0	32	**1789**	6103	1538	**2.87**	9.81	622	3.91	20.80
10	50	**2483**	8473	2136	**3.58**	12.23	693	4.33	29.37
15	59	**2888**	9855	2484	**4.03**	13.74	717	4.47	34.52

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

-40	-40	**262**	893	225	**0.99**	3.39	263	1.80	3.25
-30	-22	**439**	1497	377	**1.26**	4.29	349	2.31	5.48
-20	-4	**706**	2410	608	**1.55**	5.30	455	2.92	8.89
-10	14	**1077**	3676	927	**1.90**	6.47	568	3.59	13.70
0	32	**1565**	5339	1346	**2.30**	7.86	680	4.24	20.18
10	50	**2181**	7443	1876	**2.81**	9.58	777	4.82	28.66
15	59	**2542**	8674	2186	**3.11**	10.61	817	5.06	33.80

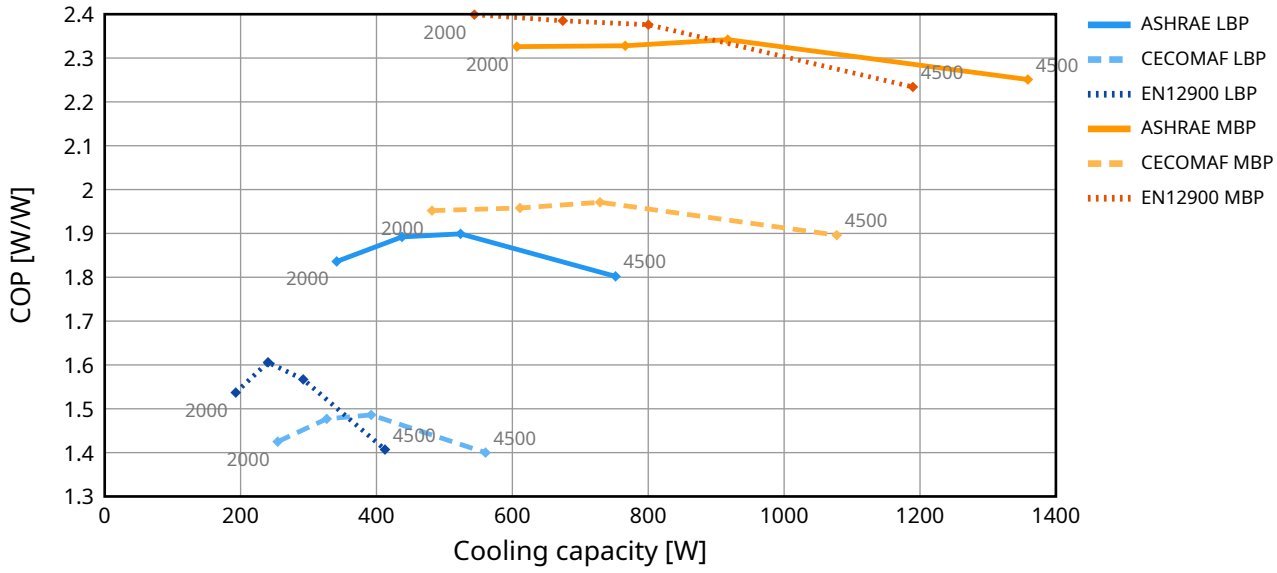
Model
NLV10CN

Sales code:
105H7013

Optimal Performance

R290, 220 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	**524**	1787	450	**1.90**	6.48	276	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**392**	1338	337	**1.49**	5.07	264	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**240**	820	207	**1.61**	5.48	150	**2500**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**917**	3129	789	**2.34**	7.99	392	**3000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**729**	2487	627	**1.97**	6.73	370	**3000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**544**	1856	468	**2.40**	8.19	227	**2000**	**EN12900 MBP**

Cooling Capacity vs. COP

R290, 220 V/50 Hz, fan 3m/s