Model
NLV10CN

Sales code:
105H7003

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**	**Conf. 2**	**Conf. 3**	**Conf. 4**
Sales code single pack:	105N4910	105N4960	105N4962	105N4866
Power supply (nominal)	220-240 V,50/60 Hz	100-240 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, CCC	VDE, UL, CCC, CB	VDE, UL, CCC, CB	CCC, VDE, UL, 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

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Compressor Design

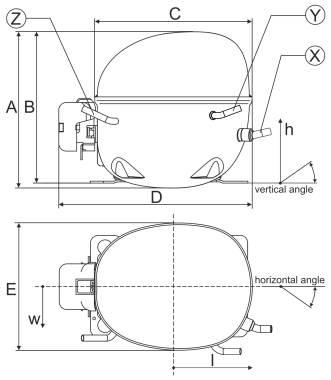
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

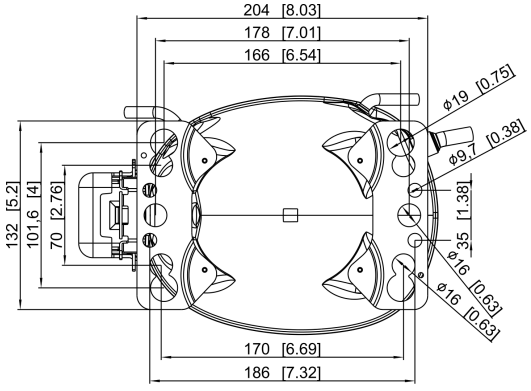
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



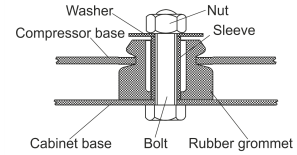
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.11–6.29 / 0.24–0.25in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in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

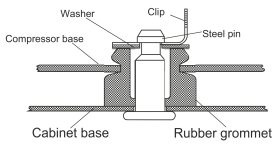


Dimensions in mm [in]

Bolt joint



Snap-on



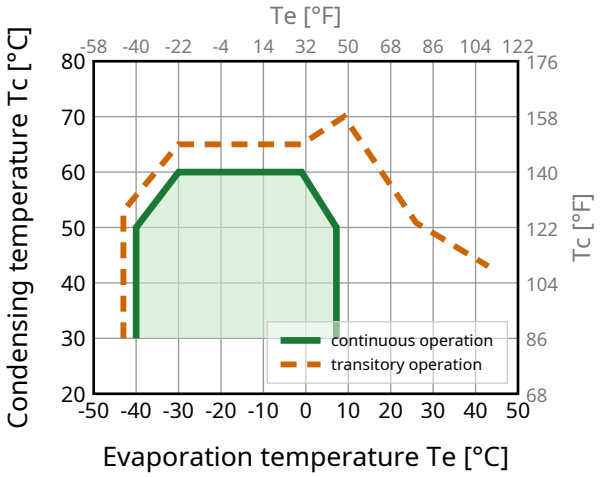
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

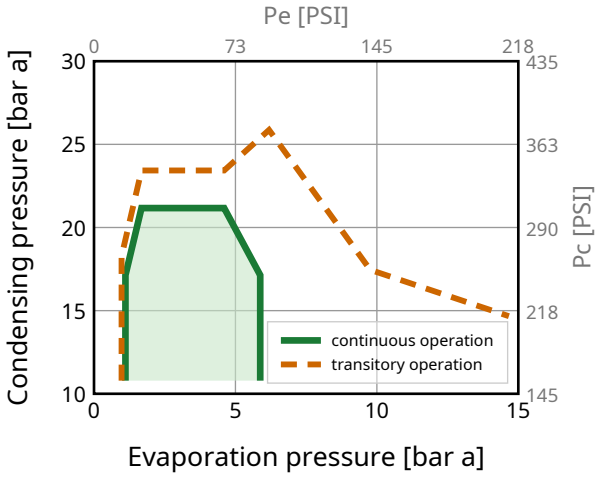
Model
NLV10CN System Design

Sales code:
105H7003

System Design

Operation Pressure Range R290



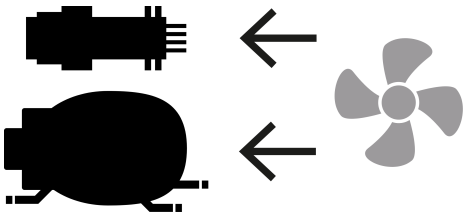


System Cooling

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

Operation Limits

Suctiongas temperature < +20 °C (contininous operation)

Model

NLV10CN Controller Overview

Sales code:

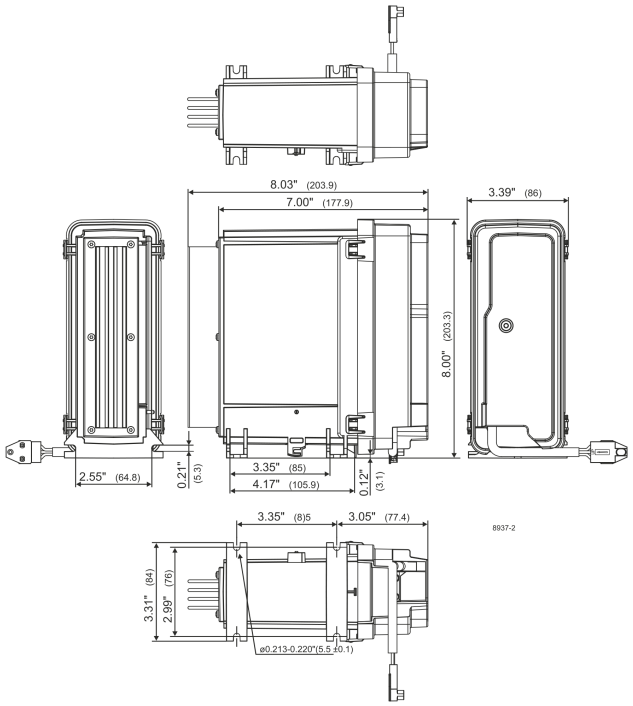
105H7003

Controller Overview

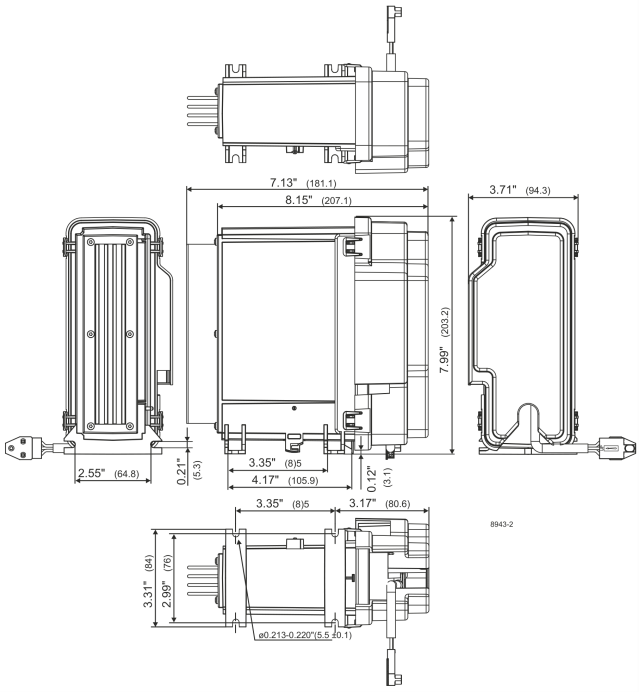
–	**Conf. 1**	**Conf. 2**	**Conf. 3**	**Conf. 4**
Sales code single pack:	105N4910	105N4960	105N4962	105N4866
Sales code industry pack:	105N4911 (8)	105N4961 (8)	105N4963 (8)	105N4867 (8)
Voltage nom.:	220-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz
Voltage range	180-270 V	90-150/180-270 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	915 mm	680 mm
Protection class:	IP54	IP54	IP54	IP43
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	SWI	SWI	SWI	RS485
Controller Wiring	» Controller Wiring	» Controller Wiring	» Controller Wiring	» Controller Wiring

Controller Dimensions

Conf. 1, 2, 3



Conf. 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
NLV10CN

Sales code:
105H7003

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	**353**	1205	304	**1.74**	5.94	203	1.08	3.59	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**264**	899	227	**1.35**	4.61	195	1.03	3.31	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**195**	665	168	**1.42**	4.85	137	0.62	2.24	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**637**	2173	548	**2.21**	7.53	288	1.51	7.29	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**505**	1724	434	**1.84**	6.27	275	1.44	6.42	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**555**	1895	478	**2.29**	7.83	242	1.25	6.83	**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	**150**	512	129	**1.19**	4.05	126	0.50	1.69
-30	-22	**239**	817	206	**1.50**	5.13	159	0.82	2.71
-20	-4	**381**	1300	328	**1.89**	6.45	202	1.07	4.34
-10	14	**577**	1970	496	**2.39**	8.14	242	1.25	6.63
0	32	**830**	2832	714	**3.08**	10.51	269	1.37	9.65
7.2	45	**1048**	3577	902	**3.81**	13.01	275	1.42	12.33

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

-40	-40	**133**	455	115	**1.00**	3.42	133	0.50	1.66
-30	-22	**208**	710	179	**1.22**	4.16	171	0.86	2.60
-20	-4	**331**	1131	285	**1.49**	5.10	222	1.18	4.17
-10	14	**505**	1724	434	**1.84**	6.27	275	1.44	6.42
0	32	**732**	2497	629	**2.29**	7.82	319	1.65	9.44
7.2	45	**928**	3168	799	**2.74**	9.35	339	1.78	12.13

Model
NLV10CN

Sales code:
105H7003

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	**1.77**	6.04	425	2.21	7.64	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**560**	1912	482	**1.37**	4.69	408	2.11	7.03	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**412**	1407	355	**1.38**	4.71	299	1.44	4.73	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1359**	4636	1168	**2.22**	7.57	612	3.25	15.56	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1077**	3676	927	**1.87**	6.37	577	3.06	13.70	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1190**	4059	1023	**2.20**	7.50	541	2.78	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	**1.18**	4.03	260	1.22	3.45
-30	-22	**509**	1736	438	**1.48**	5.03	345	1.68	5.75
-20	-4	**814**	2778	700	**1.84**	6.29	442	2.23	9.26
-10	14	**1237**	4219	1063	**2.29**	7.80	541	2.78	14.20
0	32	**1789**	6103	1538	**2.83**	9.67	631	3.28	20.80
7.2	45	**2274**	7758	1955	**3.32**	11.33	684	3.55	26.75

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

-40	-40	**262**	893	225	**0.97**	3.32	269	1.30	3.25
-30	-22	**439**	1497	377	**1.23**	4.20	356	1.82	5.48
-20	-4	**706**	2410	608	**1.53**	5.21	463	2.43	8.89
-10	14	**1077**	3676	927	**1.87**	6.37	577	3.06	13.70
0	32	**1565**	5339	1346	**2.27**	7.76	688	3.64	20.18
7.2	45	**1995**	6807	1716	**2.62**	8.95	761	3.98	26.06

Model
NLV10CN

Sales code:
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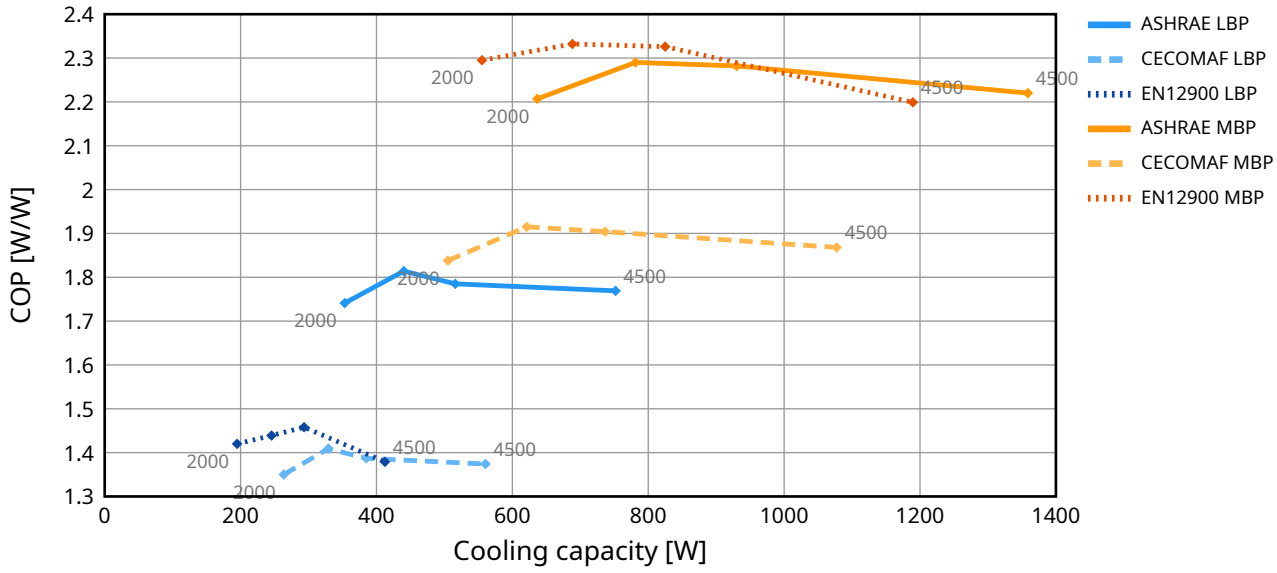
Optimal Performance

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	**440**	1502	379	**1.81**	6.19	243	**2500**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**329**	1123	283	**1.41**	4.81	234	**2500**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**293**	1001	252	**1.46**	4.97	201	**3000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**781**	2666	672	**2.29**	7.81	341	**2500**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**621**	2119	534	**1.92**	6.53	324	**2500**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**688**	2349	592	**2.33**	7.96	295	**2500**	**EN12900 MBP**

Cooling Capacity vs. COP

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