Model
NLV10CN

Sales code:
105H7066

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:	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

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Compressor Design

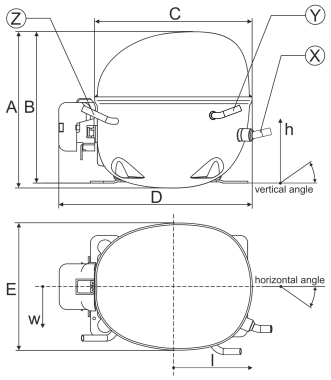
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

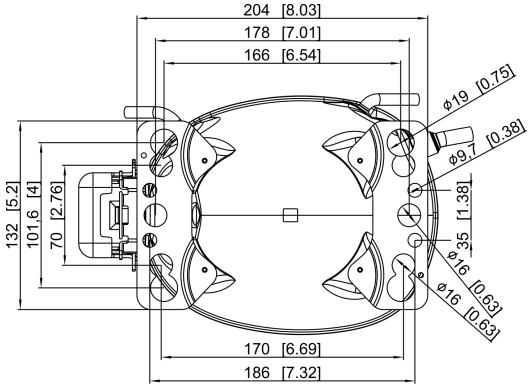
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



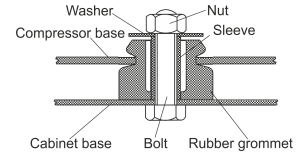
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in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

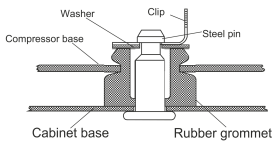


Dimensions in mm [in]

Bolt joint



Snap-on



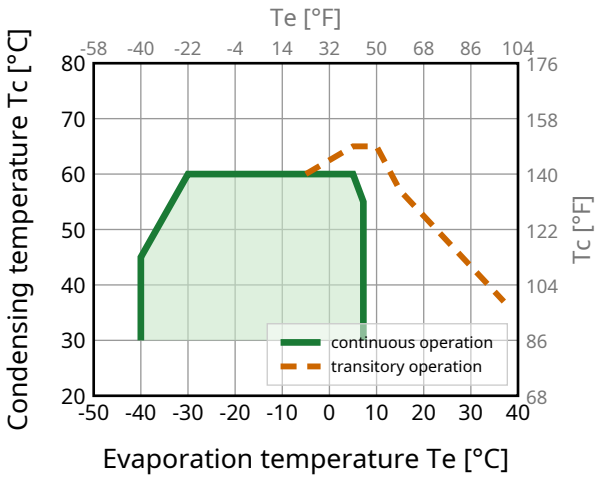
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

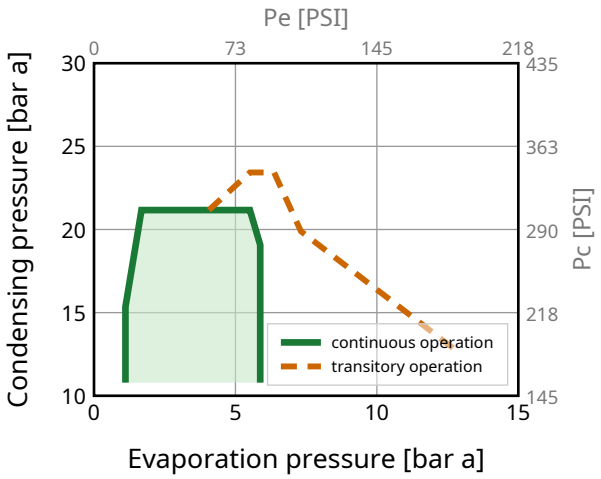
Model
NLV10CN System Design

Sales code:
105H7066

System Design

Operation Pressure Range R290



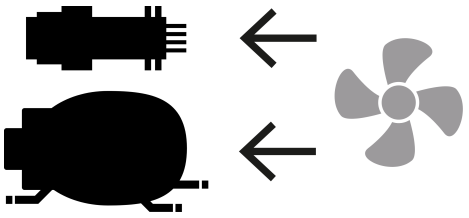


System Cooling

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

NLV10CN Controller Overview

Sales code:

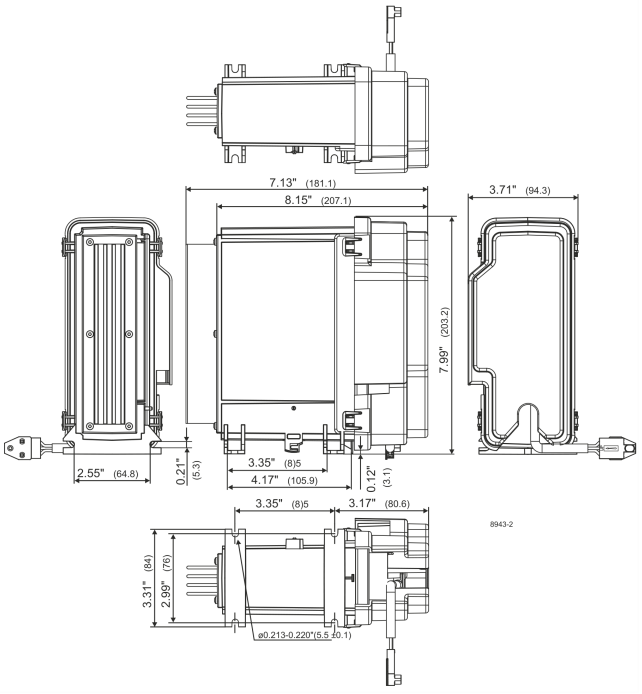
105H7066

Controller Overview

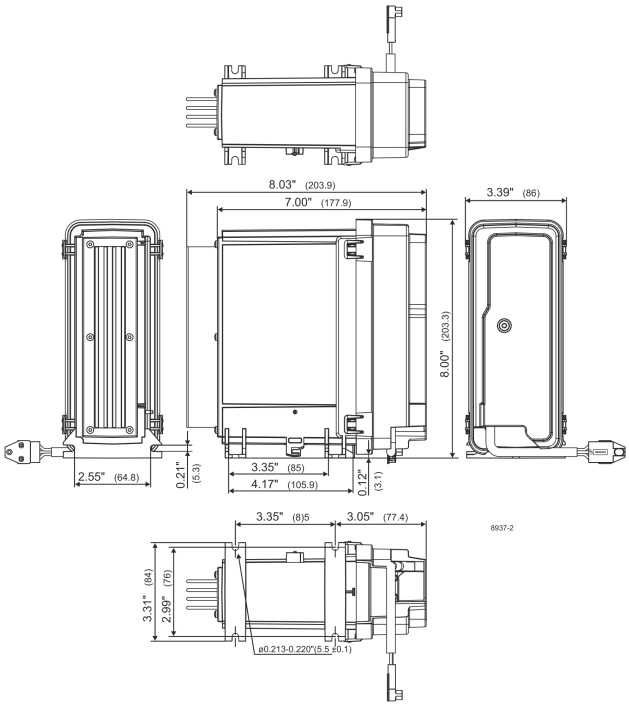
–	**Conf. 1**	**Conf. 2**	**Conf. 3**	**Conf. 4**
Sales code single pack:	105N4866	105N4910	105N4960	105N4962
Sales code industry pack:	105N4867 (8)	105N4911 (8)	105N4961 (8)	105N4963 (8)
Voltage nom.:	100-240 V,50/60 Hz	220-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz
Voltage range	90-150/180-270 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
NLV10CN

Sales code:
105H7066

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	**341**	1165	294	**1.76**	6.02	194	0.87	3.47	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**254**	867	219	**1.36**	4.64	187	0.85	3.19	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**187**	639	161	**1.44**	4.90	131	0.67	2.15	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**608**	2074	523	**2.26**	7.70	269	1.17	6.96	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**484**	1651	416	**1.89**	6.44	257	1.12	6.16	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**529**	1806	455	**2.31**	7.89	229	1.01	6.51	**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	**132**	450	114	**1.09**	3.74	120	0.65	1.48
-30	-22	**232**	792	200	**1.51**	5.15	154	0.73	2.62
-20	-4	**369**	1258	317	**1.91**	6.53	193	0.87	4.20
-10	14	**550**	1877	473	**2.40**	8.21	229	1.01	6.32
0	32	**785**	2677	675	**3.11**	10.60	253	1.10	9.12
10	50	**1081**	3688	929	**4.23**	14.44	255	1.12	12.78

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

-40	-40	**105**	358	90	**0.80**	2.72	132	0.69	1.30
-30	-22	**197**	671	169	**1.19**	4.06	165	0.77	2.46
-20	-4	**320**	1093	276	**1.53**	5.21	210	0.93	4.03
-10	14	**484**	1651	416	**1.89**	6.44	257	1.12	6.16
0	32	**696**	2375	599	**2.35**	8.00	297	1.29	8.98
10	50	**965**	3293	830	**3.00**	10.25	321	1.40	12.68

Model
NLV10CN

Sales code:
105H7066

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	**799**	2728	687	**1.81**	6.19	440	1.90	8.12	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**596**	2032	512	**1.41**	4.80	423	1.82	7.46	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**439**	1499	378	**1.49**	5.09	294	1.30	5.04	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1414**	4826	1216	**2.25**	7.69	627	2.68	16.20	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1128**	3848	970	**1.90**	6.48	594	2.54	14.34	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1230**	4198	1058	**2.29**	7.80	538	2.30	15.14	**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	**310**	1056	266	**1.19**	4.06	260	1.17	3.48
-30	-22	**544**	1856	468	**1.56**	5.32	349	1.52	6.15
-20	-4	**860**	2936	740	**1.93**	6.60	445	1.91	9.79
-10	14	**1279**	4365	1100	**2.38**	8.11	538	2.30	14.69
0	32	**1820**	6211	1565	**2.95**	10.07	617	2.64	21.17
10	50	**2504**	8543	2153	**3.73**	12.73	671	2.87	29.61

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

-40	-40	**245**	837	211	**0.90**	3.06	273	1.22	3.05
-30	-22	**462**	1576	397	**1.25**	4.27	369	1.60	5.77
-20	-4	**749**	2557	644	**1.56**	5.33	480	2.06	9.43
-10	14	**1128**	3848	970	**1.90**	6.48	594	2.54	14.34
0	32	**1617**	5518	1391	**2.31**	7.86	702	3.00	20.85
10	50	**2238**	7635	1924	**2.83**	9.65	791	3.38	29.40

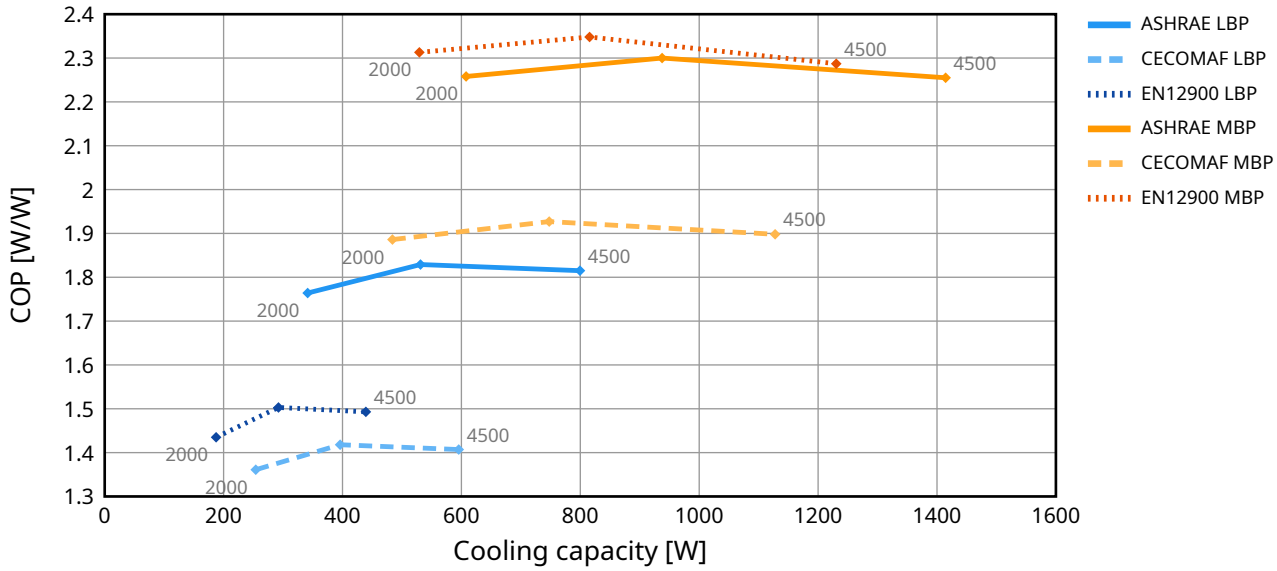
Model
NLV10CN

Sales code:
105H7066

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	**531**	1812	457	**1.83**	6.24	290	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**396**	1351	341	**1.42**	4.84	279	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**292**	997	251	**1.50**	5.13	194	**3000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**938**	3199	806	**2.30**	7.85	408	**3000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**748**	2551	643	**1.93**	6.57	388	**3000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**816**	2783	701	**2.35**	8.01	347	**3000**	**EN12900 MBP**

Cooling Capacity vs. COP

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