Model
NLV8.0CN

Sales code:
105H7809

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:	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

Model
NLV8.0CN

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Compressor Design

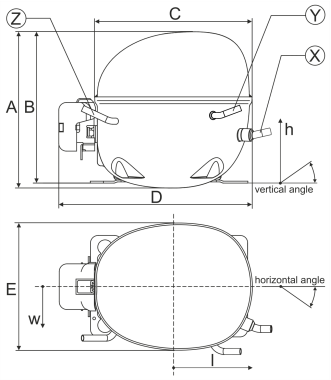
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

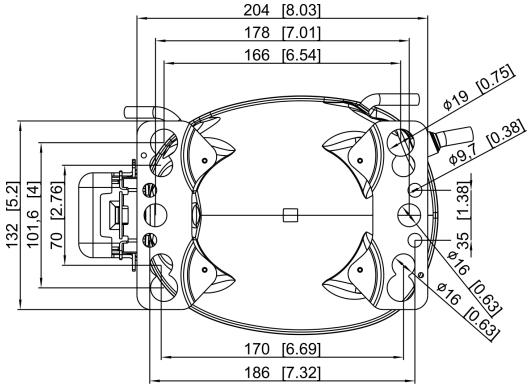
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



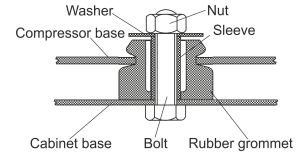
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in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

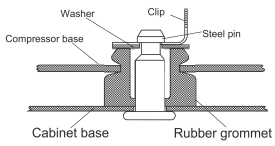


Dimensions in mm [in]

Bolt joint



Snap-on



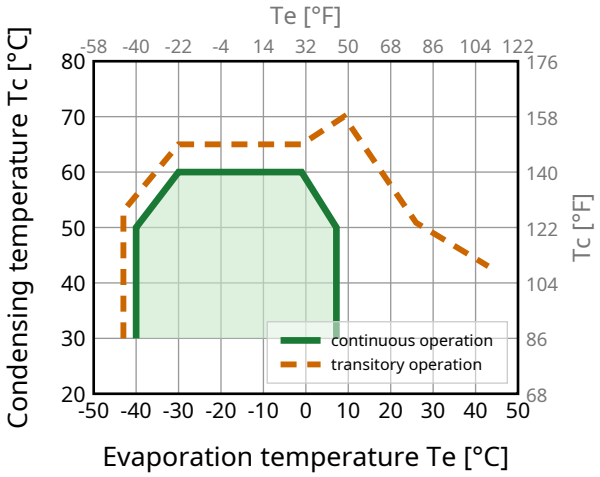
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

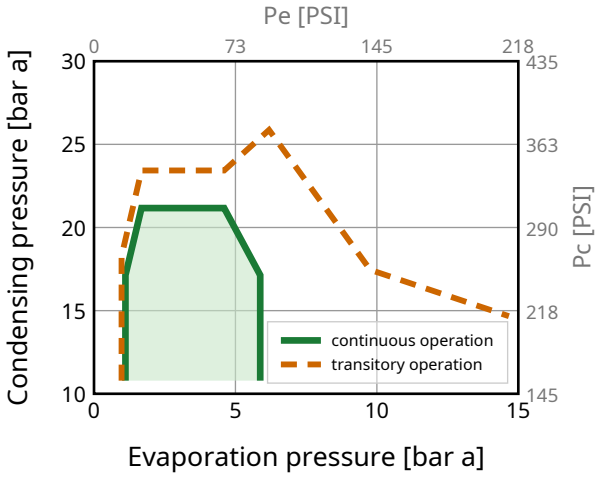
Model
NLV8.0CN System Design

Sales code:
105H7809

System Design

Operation Pressure Range R290



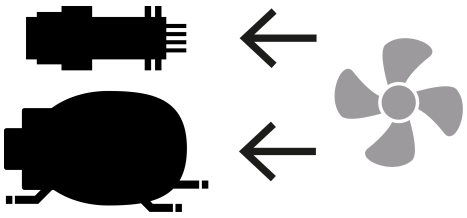


System Cooling

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

NLV8.0CN

Controller Overview

Sales code:

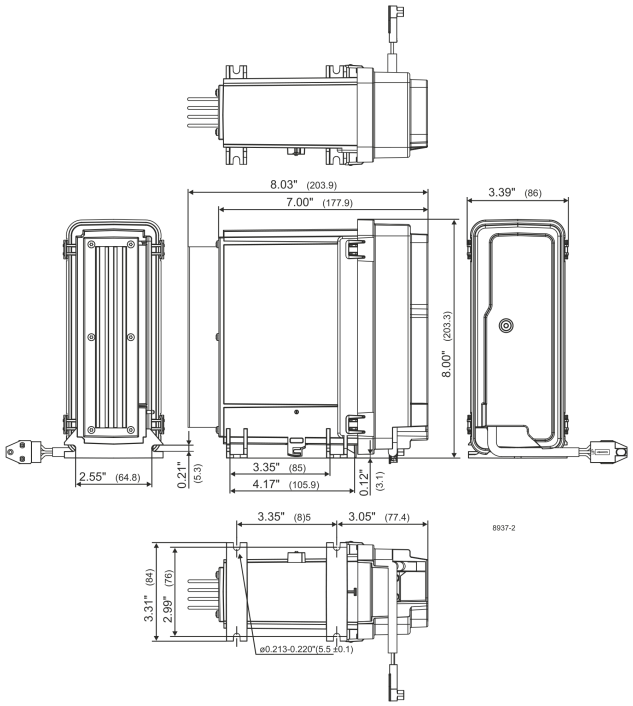
105H7809

Controller Overview

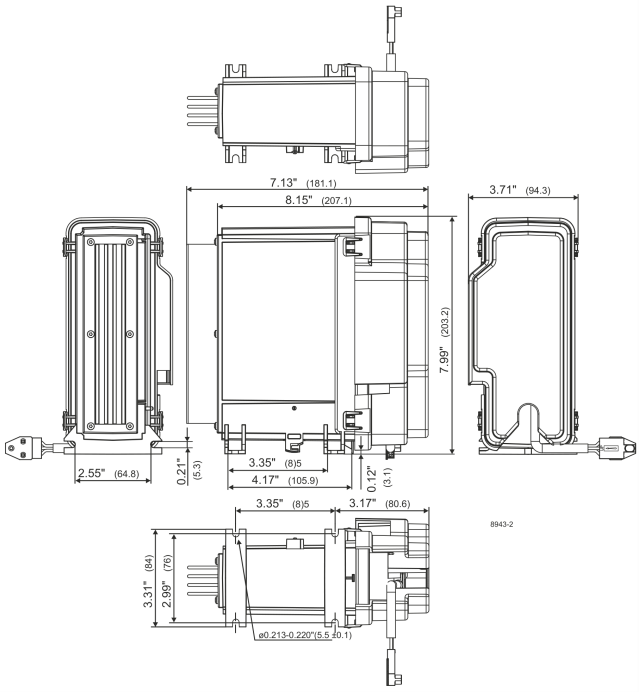
–	**Conf. 1**	**Conf. 2**	**Conf. 3**	**Conf. 4**
Sales code single pack:	105N4910	105N4960	105N4962	105N4866
Sales code industry pack:	105N4911 (8)	105N4961 (8)	105N4963 (8)	105N4867 (8)
Voltage nom.:	220-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz
Voltage range	180-270 V	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
NLV8.0CN

Sales code:
105H7809

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	**266**	909	229	**1.74**	5.92	153	0.70	2.71	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**198**	677	171	**1.34**	4.59	148	0.66	2.48	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**148**	505	127	**1.42**	4.85	104	0.45	1.70	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**490**	1671	421	**2.27**	7.74	216	1.09	5.61	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**387**	1321	333	**1.88**	6.41	206	1.03	4.92	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**432**	1473	371	**2.35**	8.01	184	0.92	5.31	**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	**112**	381	96	**1.18**	4.03	95	0.34	1.26
-30	-22	**181**	618	156	**1.49**	5.09	121	0.55	2.05
-20	-4	**293**	998	252	**1.90**	6.49	154	0.75	3.33
-10	14	**449**	1531	386	**2.44**	8.33	184	0.92	5.15
0	32	**652**	2226	561	**3.20**	10.93	204	1.03	7.59
7.2	45	**830**	2831	714	**4.00**	13.64	208	1.06	9.76

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

-40	-40	**97**	332	84	**0.97**	3.32	100	0.23	1.21
-30	-22	**155**	530	134	**1.20**	4.10	129	0.51	1.94
-20	-4	**251**	856	216	**1.50**	5.12	167	0.79	3.16
-10	14	**387**	1321	333	**1.88**	6.41	206	1.03	4.92
0	32	**566**	1932	487	**2.38**	8.13	238	1.20	7.30
7.2	45	**723**	2468	622	**2.87**	9.80	252	1.27	9.45

Model
NLV8.0CN

Sales code:
105H7809

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	**560**	1910	481	**1.73**	5.89	324	1.72	5.69	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**415**	1415	357	**1.33**	4.54	311	1.65	5.20	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**316**	1080	272	**1.40**	4.78	226	0.96	3.63	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1050**	3582	903	**2.29**	7.82	458	2.41	12.02	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**827**	2821	711	**1.91**	6.51	434	2.27	10.52	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**942**	3214	810	**2.29**	7.83	411	2.11	11.59	**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	**232**	792	200	**1.17**	3.98	199	0.79	2.61
-30	-22	**388**	1324	334	**1.47**	5.00	265	1.28	4.38
-20	-4	**636**	2169	547	**1.88**	6.41	338	1.72	7.23
-10	14	**979**	3341	842	**2.38**	8.14	411	2.11	11.24
0	32	**1423**	4856	1224	**3.01**	10.28	472	2.44	16.55
7.2	45	**1807**	6166	1554	**3.58**	12.20	505	2.64	21.26

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

-40	-40	**196**	668	168	**0.95**	3.25	205	1.03	2.43
-30	-22	**321**	1095	276	**1.18**	4.02	273	1.44	4.01
-20	-4	**530**	1808	456	**1.51**	5.14	352	1.86	6.67
-10	14	**827**	2821	711	**1.91**	6.51	434	2.27	10.52
0	32	**1216**	4149	1046	**2.39**	8.15	509	2.69	15.68
7.2	45	**1556**	5308	1338	**2.81**	9.58	554	2.98	20.32

Model
NLV8.0CN

Sales code:
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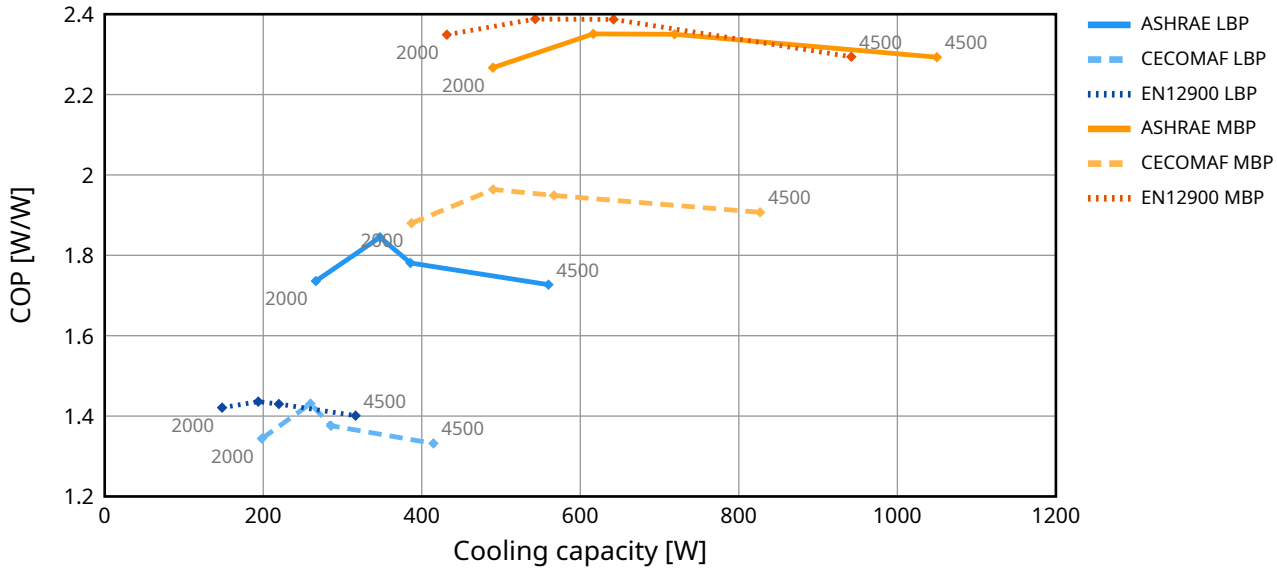
Optimal Performance

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	**347**	1185	299	**1.84**	6.30	188	**2500**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**260**	886	223	**1.43**	4.88	181	**2500**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**194**	661	167	**1.44**	4.90	135	**2500**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**616**	2103	530	**2.35**	8.02	262	**2500**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**490**	1672	421	**1.96**	6.70	249	**2500**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**543**	1853	467	**2.39**	8.15	227	**2500**	**EN12900 MBP**

Cooling Capacity vs. COP

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