Model
NLV8.0CN

Sales code:
105H7813

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**
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

Model
NLV8.0CN

Sales code:
105H7813

Compressor Design

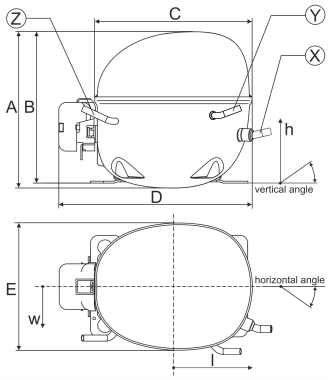
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

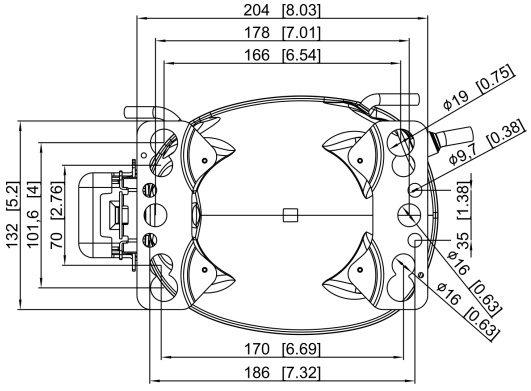
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



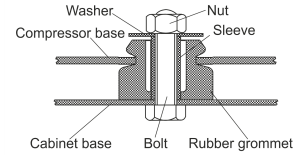
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.11–6.29 / 0.24–0.25in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in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

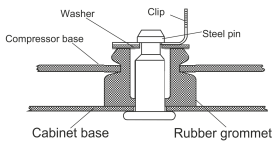


Dimensions in mm [in]

Bolt joint



Snap-on



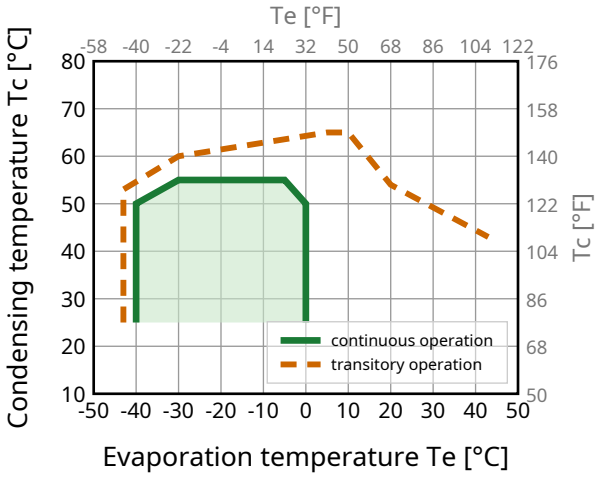
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

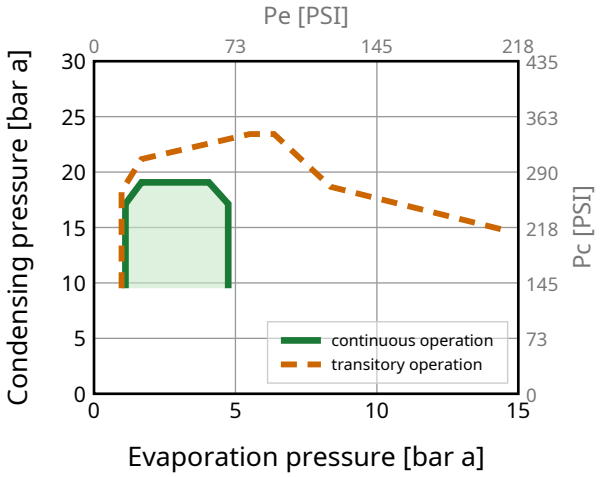
Model
NLV8.0CN System Design

Sales code:
105H7813

System Design

Operation Pressure Range R290



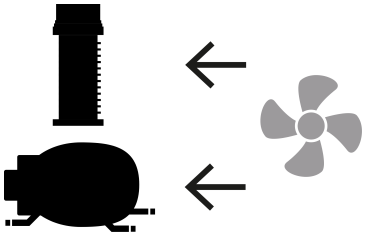


System Cooling

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:

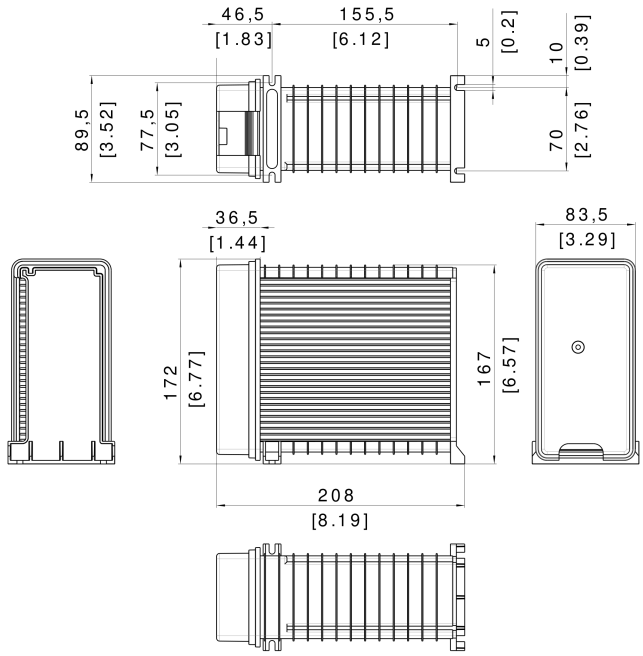
NLV8.0CN Controller Overview **105H7813**

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
NLV8.0CN

Sales code:
105H7813

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	**273**	931	235	**1.85**	6.31	148	1.02	2.77	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**203**	694	175	**1.43**	4.89	142	0.98	2.55	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**155**	527	133	**1.53**	5.23	101	0.72	1.77	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**486**	1658	418	**2.36**	8.07	206	1.39	5.56	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**386**	1315	332	**1.98**	6.76	195	1.32	4.90	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**434**	1483	374	**2.42**	8.26	179	1.22	5.35	**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**	382	96	**1.26**	4.32	89	0.64	1.26
-30	-22	**190**	648	163	**1.58**	5.40	120	0.84	2.15
-20	-4	**301**	1026	259	**2.00**	6.83	150	1.04	3.42
-10	14	**452**	1541	388	**2.52**	8.59	179	1.22	5.19
0	32	**651**	2221	560	**3.14**	10.72	207	1.40	7.57
10	50	**906**	3091	779	**3.88**	13.22	234	1.57	10.71
15	59	**1056**	3605	909	**4.29**	14.63	246	1.65	12.63

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

-40	-40	**90**	309	78	**1.00**	3.41	90	0.66	1.12
-30	-22	**159**	544	137	**1.28**	4.36	125	0.87	1.99
-20	-4	**255**	870	219	**1.60**	5.46	159	1.10	3.21
-10	14	**386**	1315	332	**1.98**	6.76	195	1.32	4.90
0	32	**558**	1904	480	**2.42**	8.26	230	1.55	7.20
10	50	**780**	2662	671	**2.93**	9.99	266	1.77	10.25
15	59	**912**	3113	785	**3.21**	10.94	285	1.89	12.13

Model
NLV8.0CN

Sales code:
105H7813

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	**1.76**	6.02	317	2.12	5.69	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**415**	1415	357	**1.36**	4.64	305	2.05	5.20	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**316**	1080	272	**1.41**	4.81	224	1.57	3.63	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1050**	3582	903	**2.33**	7.96	450	2.90	12.02	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**827**	2821	711	**1.94**	6.63	426	2.75	10.52	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**942**	3214	810	**2.34**	7.98	403	2.62	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	**1.16**	3.95	201	1.42	2.61
-30	-22	**388**	1324	334	**1.49**	5.08	260	1.78	4.38
-20	-4	**636**	2169	547	**1.92**	6.55	331	2.20	7.23
-10	14	**979**	3341	842	**2.43**	8.29	403	2.62	11.24
0	32	**1423**	4856	1224	**3.06**	10.45	465	2.98	16.55
10	50	**1972**	6727	1696	**3.89**	13.29	506	3.23	23.32
15	59	**2286**	7801	1966	**4.43**	15.11	516	3.29	27.33

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

-40	-40	**196**	668	168	**0.95**	3.23	207	1.46	2.43
-30	-22	**321**	1095	276	**1.20**	4.08	268	1.83	4.01
-20	-4	**530**	1808	456	**1.54**	5.25	344	2.28	6.67
-10	14	**827**	2821	711	**1.94**	6.63	426	2.75	10.52
0	32	**1216**	4149	1046	**2.43**	8.29	501	3.19	15.68
10	50	**1702**	5806	1463	**3.04**	10.37	560	3.54	22.36
15	59	**1982**	6762	1704	**3.42**	11.66	580	3.66	26.35

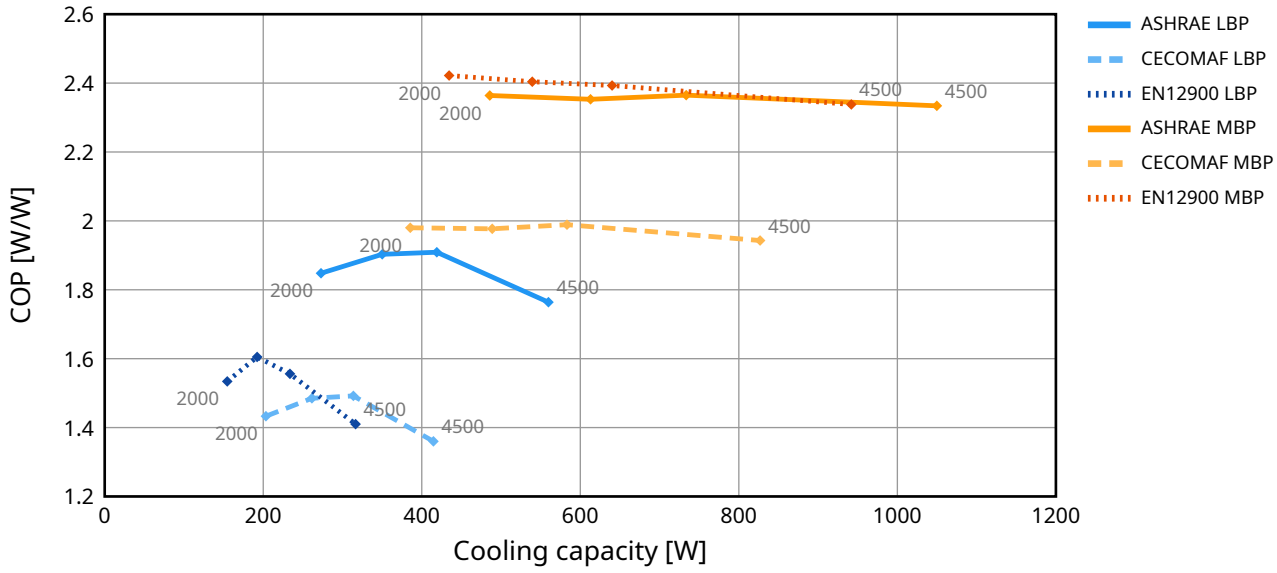
Model
NLV8.0CN

Sales code:
105H7813

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	**419**	1430	360	**1.91**	6.51	220	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**314**	1070	270	**1.49**	5.09	210	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**192**	656	165	**1.60**	5.48	120	**2500**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**734**	2503	631	**2.37**	8.07	310	**3000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**583**	1990	502	**1.99**	6.79	293	**3000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**434**	1483	374	**2.42**	8.26	179	**2000**	**EN12900 MBP**

Cooling Capacity vs. COP

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