Single
Packs

Single Pack NLVE13CN 115-127V 50/60Hz

Single pack code number: **195B4831**

Position	Title	Code	Amount
1	Compressor NLVE13CN	105H7374	1
2	Electronic unit NLVE	105N4101	1
3	Cover	103N2008	1
4	Bolt joint for one compressor | M6 | ø16mm	118-1917	1

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Model
NLVE13CN

Sales code:
105H7374

Compressor Data

Refrigerant(s)	**R290**
Refr. charge - tech. limit	**300g / 10.58oz**
Weight	**10.80 kg / 23.81lbs**
Displacement	**12.55 cm3 / 0.77cu.in**
Compressors on pallet	**80**

General – Configurations With NLVE13CN and Controller

–	**Conf. 1**
Sales code single pack:	105N4100
Power supply (nominal)	115–127 V,50/60 Hz
Number of phases	1~AC
Approvals	UL
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
- Semi suction intake without telescope

Model
NLVE13CN

Sales code:
105H7374

Compressor Design

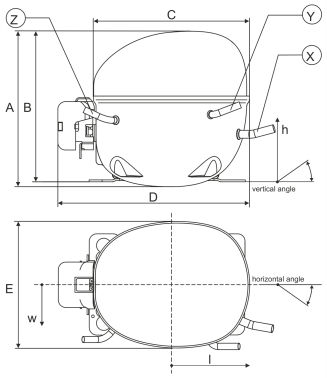
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Max. winding temp.	**125 °C**
Oil quantity	**300 / 10.14fl.oz**	Max. discharge temp.	**130°C / 266°F**
Free gas volume comp.	**2,360 cm3 / 79.80fl.oz**		

Compressor Dimensions

Housing

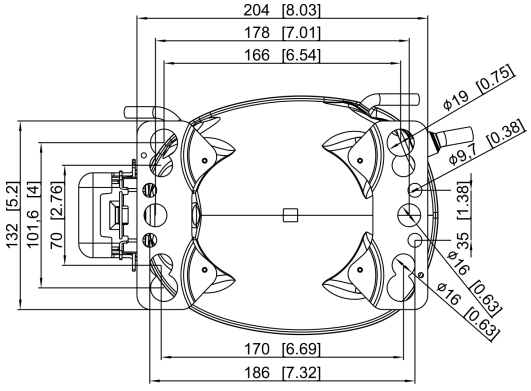
A Height	**203mm / 7.99in**
B Height	**197mm / 7.76in**
C Length shell	**205mm / 8.07in**
D Length w. cover	**252mm / 9.92in**
E Width	**166mm / 6.54in**

Find 3D Model here



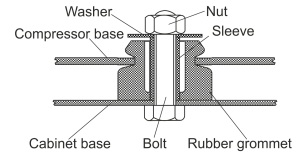
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	21°	155°
Position l/h/w [mm]	132/68.5/56.7 / 5.20/2.70/2.23in	94/101.7/81 / 3.70/4.00/3.19in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

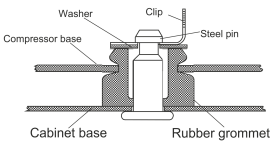


Dimensions in mm [in]

Bolt joint



Snap-on



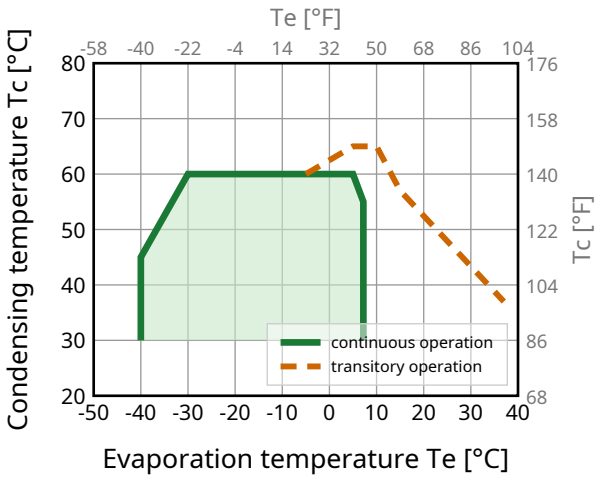
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1917	118-1918
Bolt joint | ø1/4" | ø16mm	118-1946	–
Bolt joint | ø1/4" | ø19mm	118-1949	–
Snap-on | ø7,3 | ø16mm	118-1947	118-1919

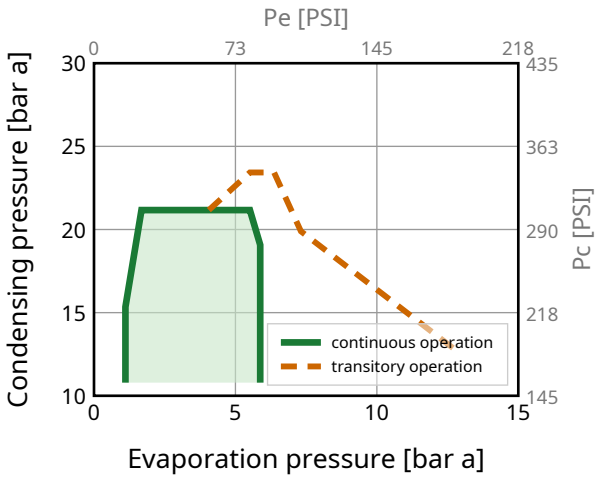
Model
NLVE13CN System Design

Sales code:
105H7374

System Design

Operation Pressure Range R290



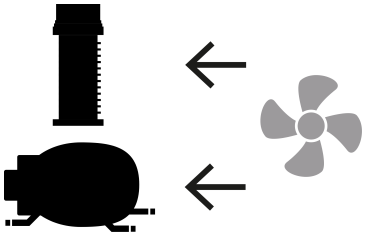


System Cooling

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:

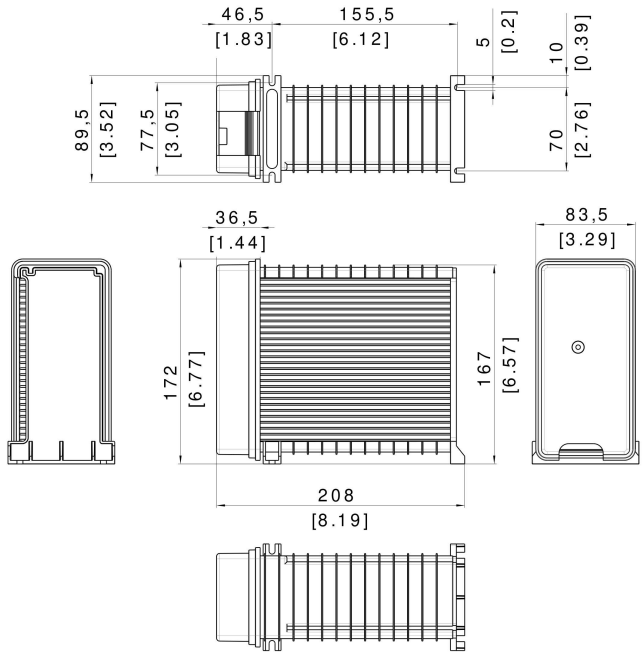
NLVE13CN Controller Overview **105H7374**

Controller Overview

–	**Conf. 1**
Sales code single pack:	105N4100
Sales code industry pack:	105N4101 (8)
Voltage nom.:	115–127 V,50/60 Hz
Voltage range	100–140 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
NLVE13CN

Sales code:
105H7374

Standard Conditions — 2000 rpm

R290, 115 V/60 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	**440**	1500	378	**1.78**	6.07	247	4.36	4.46	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**328**	1119	282	**1.38**	4.71	238	4.23	4.11	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**243**	828	209	**1.54**	5.24	158	3.10	2.78	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**768**	2619	660	**2.25**	7.68	341	5.67	8.79	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**613**	2093	527	**1.88**	6.43	326	5.46	7.80	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**667**	2275	574	**2.29**	7.81	292	4.98	8.21	**EN12900 MBP**

Performance Tables — 2000 rpm

R290, 115 V/60 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	**173**	591	149	**1.27**	4.35	136	2.79	1.95
-30	-22	**300**	1022	258	**1.55**	5.28	194	3.61	3.38
-20	-4	**469**	1601	404	**1.90**	6.49	247	4.35	5.34
-10	14	**693**	2366	596	**2.38**	8.11	292	4.98	7.96
0	32	**983**	3355	846	**3.03**	10.33	325	5.45	11.43
10	50	**1350**	4607	1161	**3.95**	13.46	342	5.72	15.97

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

-40	-40	**139**	473	119	**0.95**	3.23	146	2.95	1.72
-30	-22	**256**	874	220	**1.24**	4.22	207	3.80	3.20
-20	-4	**411**	1401	353	**1.53**	5.23	268	4.65	5.17
-10	14	**613**	2093	527	**1.88**	6.43	326	5.46	7.80
0	32	**875**	2987	753	**2.33**	7.94	376	6.18	11.29
10	50	**1208**	4122	1039	**2.90**	9.91	416	6.80	15.87

Model
NLVE13CN

Sales code:
105H7374

Standard Conditions — 4500 rpm

R290, 115 V/60 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	**975**	3325	838	**1.70**	5.81	572	7.87	9.90	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**728**	2484	626	**1.32**	4.51	551	7.59	9.13	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**538**	1836	463	**1.41**	4.79	383	5.44	6.18	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1688**	5760	1452	**2.06**	7.01	821	11.06	19.33	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1351**	4610	1162	**1.75**	5.97	773	10.44	17.18	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1464**	4997	1259	**2.05**	7.01	713	9.67	18.02	**EN12900 MBP**

Performance Tables — 4500 rpm

R290, 115 V/60 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	**382**	1304	329	**1.13**	3.87	337	4.85	4.30
-30	-22	**664**	2267	571	**1.47**	5.00	453	6.34	7.51
-20	-4	**1036**	3534	891	**1.79**	6.12	578	7.93	11.78
-10	14	**1522**	5194	1309	**2.14**	7.29	713	9.67	17.48
0	32	**2150**	7336	1849	**2.49**	8.51	862	11.60	25.00
10	50	**2946**	10050	2533	**2.86**	9.77	1029	13.77	34.84

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

-40	-40	**301**	1026	259	**0.87**	2.95	347	4.99	3.74
-30	-22	**568**	1938	489	**1.18**	4.03	481	6.70	7.10
-20	-4	**910**	3104	782	**1.46**	4.99	622	8.50	11.45
-10	14	**1351**	4610	1162	**1.75**	5.97	773	10.44	17.18
0	32	**1919**	6548	1651	**2.05**	6.99	936	12.56	24.75
10	50	**2640**	9006	2270	**2.36**	8.07	1116	14.92	34.69

Model
NLVE13CN

Sales code:
105H7374

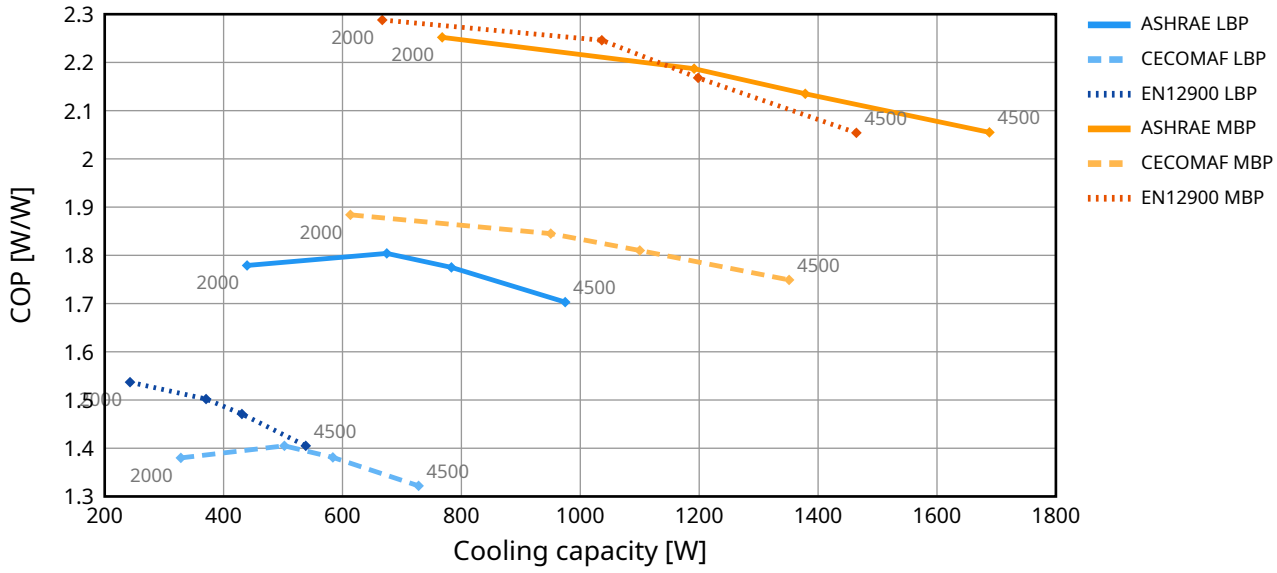
Optimal Performance

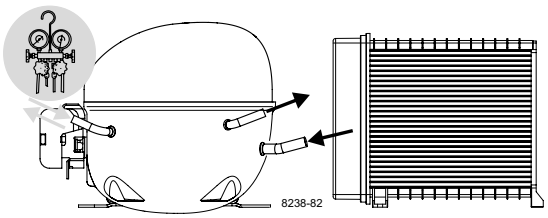
R290, 115 V/60 Hz, fan 3m/s
Shows the speed (RPM) that achieves the highest COP at each standard condition.

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	**674**	2301	580	**1.80**	6.16	374	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**502**	1714	432	**1.41**	4.79	358	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**243**	828	209	**1.54**	5.24	158	**2000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**768**	2619	660	**2.25**	7.68	341	**2000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**613**	2093	527	**1.88**	6.43	326	**2000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**667**	2275	574	**2.29**	7.81	292	**2000**	**EN12900 MBP**

Cooling Capacity vs. COP

R290, 115 V/60 Hz, fan 3m/s



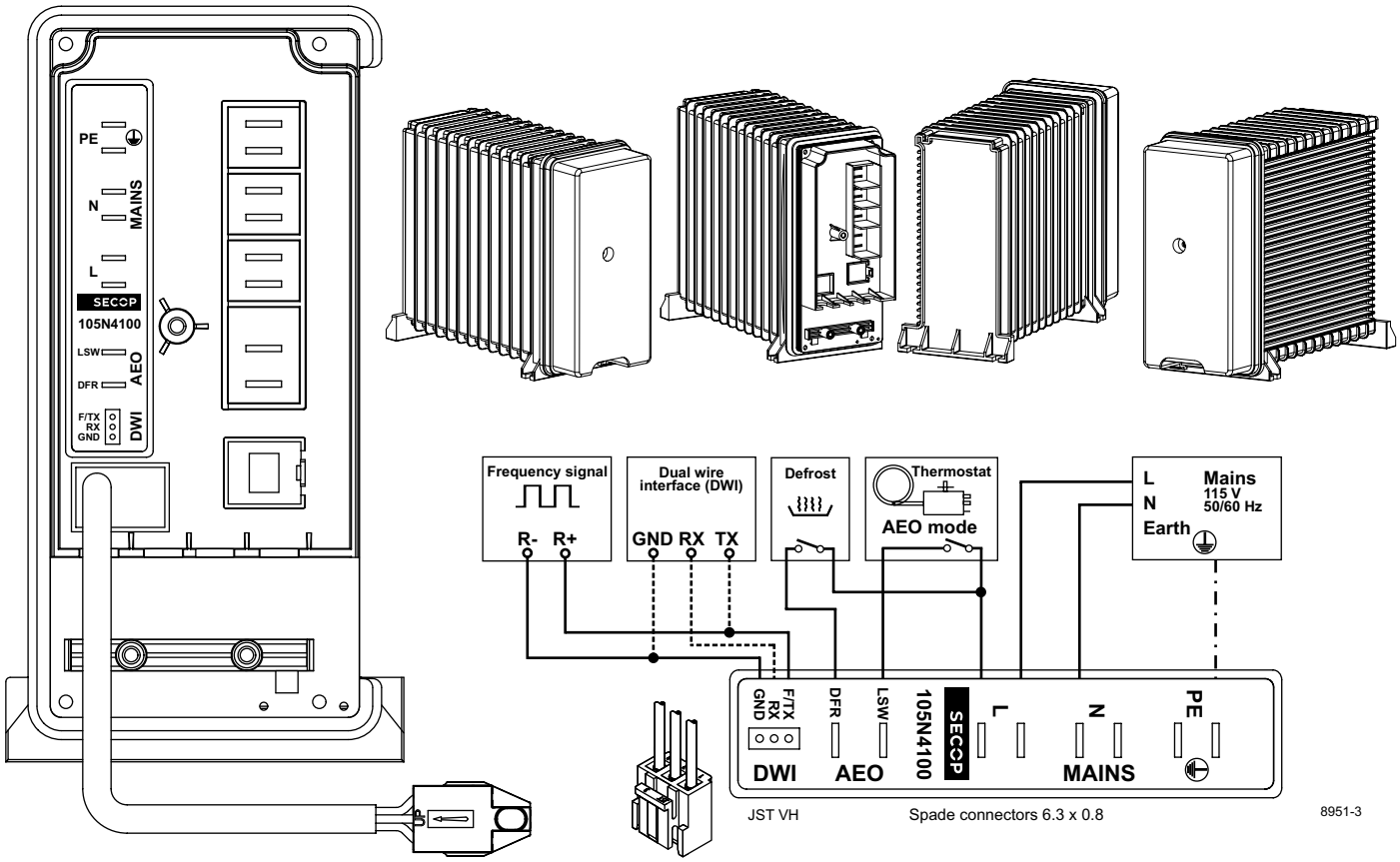


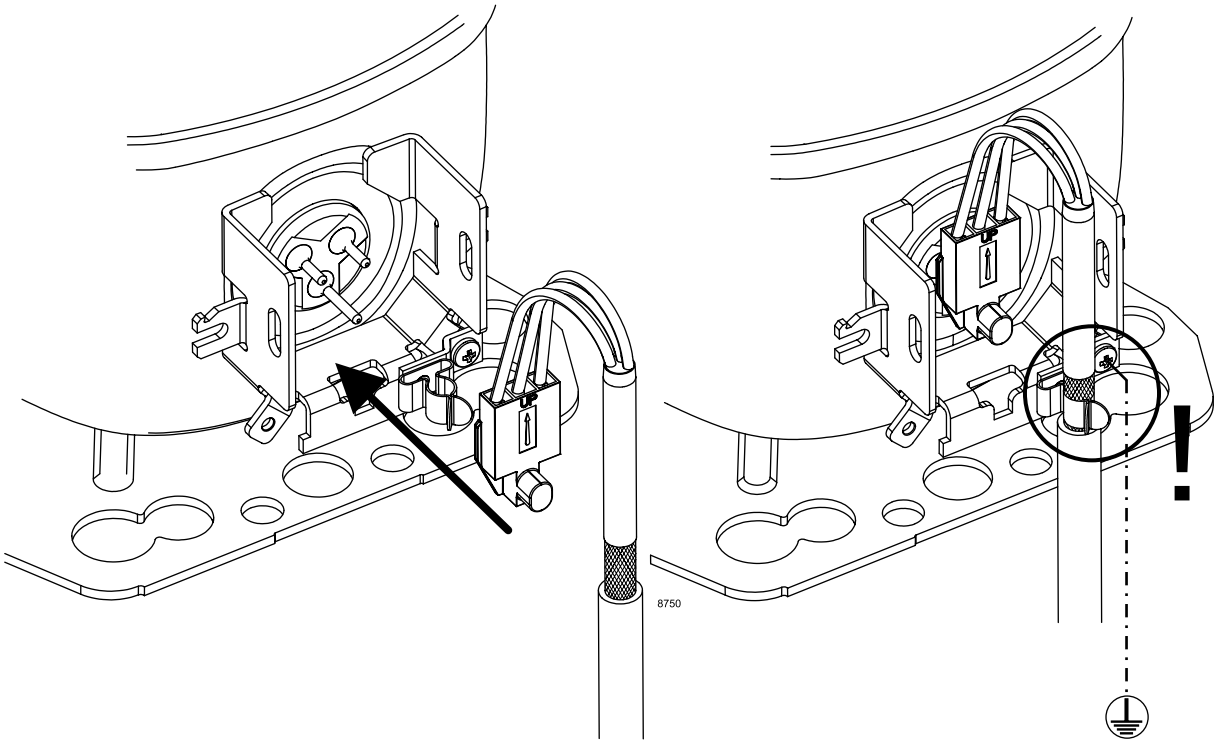
Instructions

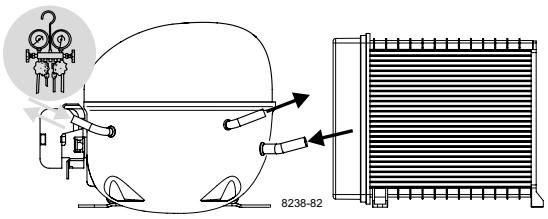
NLVE Compressors
115-127 V, 50/60 Hz
105N4100 Controllers

SECOP

Keep electrical equipment clear from oil, chemicals, and water







Instructions

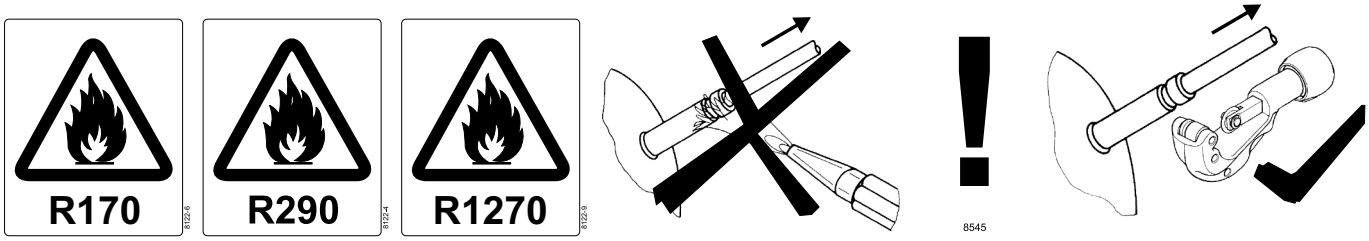
NLVE Compressors
115-127 V, 50/60 Hz
105N4100 Controllers

SECOP

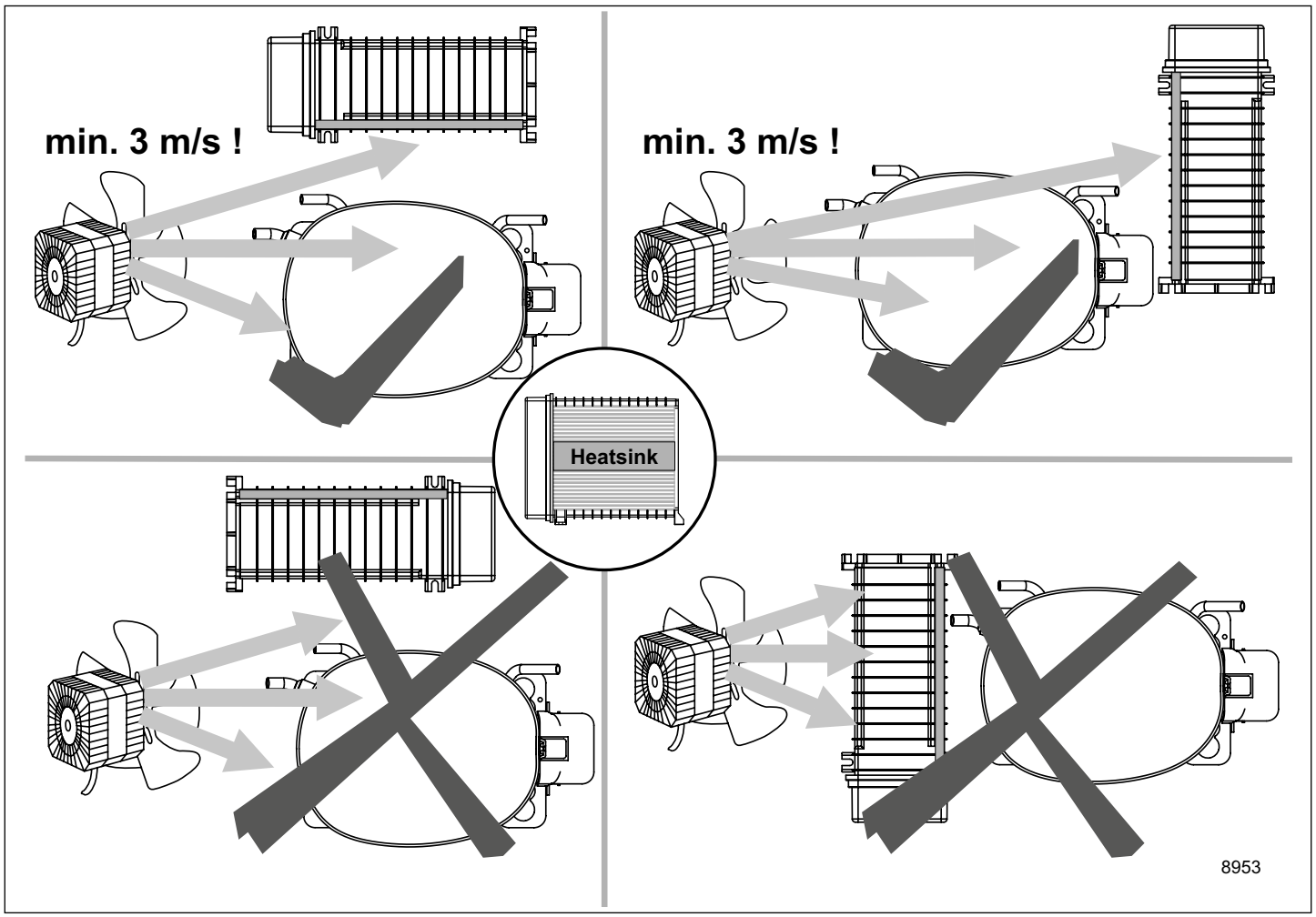
Keep electrical equipment clear from oil, chemicals, and water

Service/Repair – R170, R290, R1270

(applies to all flammable refrigerants)



Ensure Proper Airflow of 3 m/s at Both Compressor and Electronic Unit (Heatsink)



Airflow	3 m/s
Operating conditions	+ 5 °C to 43 °C - humidity < 90 % rH non condensing
Storage conditions	-25 °C to 70 °C - humidity < 90 % rH non condensing
Supply voltage	115-127 V (± 10 %)
Frequency	50/60 Hz
Input power, max.	1000 W

Dismantling, recycling, disposal: At the end of a compressor's lifecycle, proceed by separating and storing components according to their environmental impact. Parts that may cause pollution must be clearly identified and handled separately, ensuring appropriate disposal. Refrigerant gas must not be released into the environment and should be recovered by qualified operators. Compressor oil must also be collected separately. The compressor should be disposed of at specialized disposal centers in accordance with the applicable regulations. **Subject to modifications/alterations. www.secop.com**