

## Installation & Operating Manual

# Nor-Ray-Vac Inverter

## Initial Set ATV12 On/Off Inverters

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### Warnings

Nortek Global HVAC equipment must be installed and maintained in accordance with the requirements of the Codes of Practice or rules in force.

All external wiring must comply with the codes of practice or rules in force in the country of installation. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.



## IMPORTANT NOTICE TO INSTALLERS

Installers should satisfy themselves that the gas pipework installation is carried out in accordance with all current legislation, Codes of Practice and recommendations.

Additionally it may be necessary to protect the gas valves which form part of the heater or burner assembly from potential pipe contamination particularly, but not exclusively, where copper gas pipework is used.

In instances where copper pipework is to be used for all or part of a gas pipework installation, including short length final connections then we advise that installers consult with gas supplier or provider and satisfy themselves what additional precautions may be necessary.

Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

Do not use this appliance if any part has been immersed in water. Immediately call a qualified service technician to inspect the appliance and replace any gas control that has been immersed in water.

Gas-fired appliances are not designed for use in hazardous atmospheres containing flammable vapours or combustible dust, in atmospheres containing chlorinated or halogenated hydrocarbons or in applications with airborne silicone substances.

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the appliance before shutting off the electrical supply.

This appliance is not intended for use by persons (including children) with reduced sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance. Any reference made to Laws, Standards, Directives, Codes of Practice or other recommendations governing the application and installation of heating appliances and which may be referred to in Brochures, Specifications, Quotations, and Installation, Operation and Maintenance manuals is done so for information and guidance purposes only and should only be considered valid at the time of the publication.

The manufacturer cannot be held responsible from any matters arising from the revision to or introduction of new Laws, Standards, Directives, Codes of Practice or other recommendations.

### The warranty is void if:

- Wiring is not in accordance with the diagram furnished with the heater.
- The unit is installed without proper clearances as soon as clearances are required regardless of the material being combustible.
- A fan model is connected to a duct system or if the air delivery system is modified.



**Failure to comply with the information given with these symbols will result in severe personal injury or death and/or property damage.**

### Warnings: For your safety, if you smell gas:

- Do not try to light any appliance
- Do not touch any electrical switch, do not use any phone in your building
- Evacuate all personnel & contact your gas supplier immediately
- Do not store or use petrol or other flammable vapours and liquids in the vicinity of the appliance.
- Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.
- Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.
- Do not store or use petrol or other flammable vapours and liquids in the vicinity of this or any other appliance.
- In case of persisting problems, contact your distributor

# 1. ATV12 General information

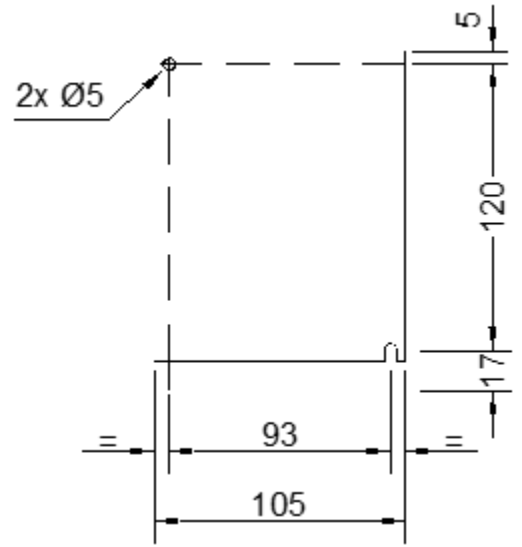
The use of an inverter on the Nor-Ray-Vac B80, B160 and B300 fan system allows the end vent suction to be adjusted by varying the fan speed.

The description for adjusting the fan speed is given in the following section. Apart from this change the commissioning instructions described in the Nor-Ray-Vac technical manual should be followed.

When supplied as part of a complete local relay unit the inverter is pre-set at the factory for on-site use.

When supplied as a new or replacement stand alone unit, this document describes in detail the initial set up procedure for the inverter.

The information contained in this technical bulletin is designed to aid a qualified or competent service technician.



## 1.1 Tools required

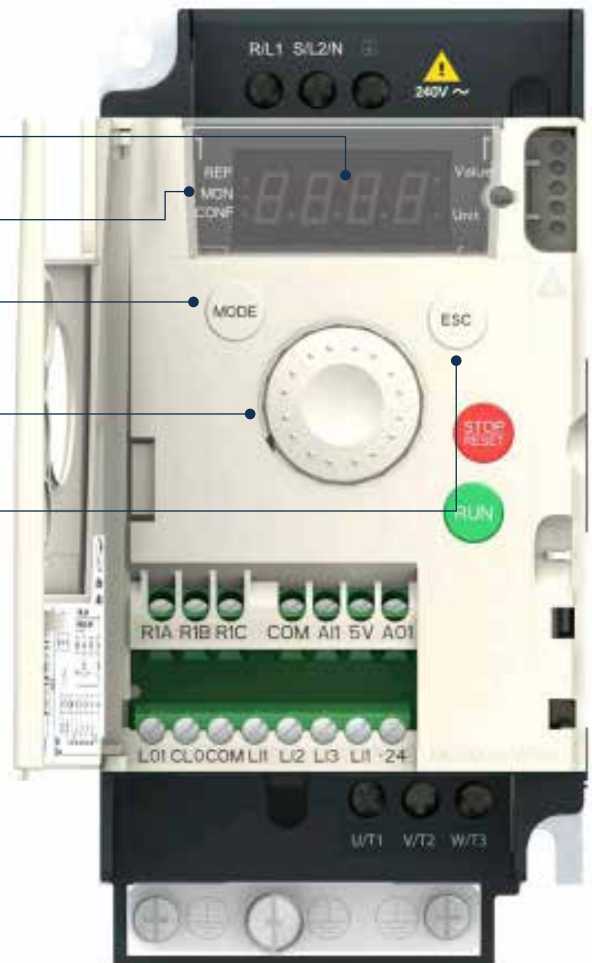
- Inverter part No's 900090 (2.2kW) or 900091 (1.5kW) Flat head screwdriver
- Electrical screwdriver
- Multi-meter.

**Where the inverter is to be fitted as a replacement for the earlier ATV 11 type, please use the following diagram as guide for the new mounting hole positions.**

Figure 1. Dimensions

# 2. Panel operations

- Seven segment display
- Mode LEDs
- Mode button: Switches between control/programming modes. (Only accessible with door open).
- Jog dial: For navigation when turned clockwise or anticlockwise, or selection/validation when pressed.
- Escape button: Exits a menu or parameter.



**Caution - inverter local relay units contain 230v single phase supply, and a three phase output. Isolate the electrical supply to the control panel before proceeding.**

Figure 2. Inverter panel (behind hinged cover)

### 3. Step by step instructions

Turn power on to the control panel. Both power on, and system healthy indicator lamps should illuminate.



Figure 3. Inverter panel (behind hinged cover)



1. On initial power up the inverter displays 'bFr'.



2. Display shows 50. Do not alter this setting, press ESC to exit.



3. 'rdy' displayed on subsequent power ups. 'Mode' press x 3



4. Rotate jog dial until 'CONf' is displayed.



5. Press the jog dial to select.



6. Rotate jog dial until ACC displayed



7. Press the jog dial to select.



8. Rotate the jog dial until '25.0' is displayed.



9. Press the jog dial to select.



10. Rotate the jog dial until 'dEC' is displayed.



11. Press jog dial to select.



12. Rotate jog dial until '25.0' is displayed.



13. Press the jog dial to select.



14. Rotate the jog dial until 'LSP' is displayed.



15. Press jog dial to select.



16. Rotate jog dial until '50.0' is displayed.



17. Press the jog dial to select.



18. Rotate the jog dial until 'nCr' is displayed.



19. Press the jog dial to select.



20. Rotate jog dial until the appropriate value from table A is reached.



21. Press the jog dial to select.



22. Rotate the jog dial until 'FULL' appears.



23. Press jog dial to select.



24. Rotate jog dial until 'drC' is displayed.



25. Press the jog dial to select.



26. Rotate the jog dial until 'nSP' is displayed.



27. Press the jog dial, to select



28. Rotate jog dial until '2900' is displayed.



29. Press the jog dial to select.



30. Press 'ESC' four times to exit.

Fan type	B80	B160	B300
Motor current set value	4.2	5.6	8.1

**Table 1 – Set values**

## 4. ABB ACS310 General information

The use of an inverter on the Nor-Ray-Vac BH300 fan system allows the end vent suction to be adjusted by varying the fan speed. The description for adjusting the fan speed is given in the following section. Apart from this change the commissioning instructions described in the Nor-Ray-Vac technical manual should be followed. When supplied as part of a complete local relay unit the inverter is pre-set at the factory for on-site use.

When supplied as a new or replacement stand-alone unit, this document describes in detail the initial set up procedure for the inverter.

The information contained in this technical bulletin is designed to aid a qualified or competent service technician.

Apart from this instructions the ABB ACS310 drive user's manual has to be read accordingly.

### 4.1 Tools required

- Inverter part No. N1886 (4.0kW) and N1886-1 (Display)
- Electrical screwdriver
- Multi-meter.

**Where the inverter is to be fitted as a replacement for the earlier ATV 11 type, please use the following diagram as guide for the new mounting hole positions.**

## Notes

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This document replaces the previous, Manual Part No: Reznor, NRV Inverter, EN, Jan, 19, D301056 Issue B  
Current full Part No **NRV Inverter, EN, Jan, 22, D301056 Issue C**

**AFFIX AGENTS DETAILS HERE**



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