

Digital Inflation Equipment



89XDA



89XDD



89XDB



89XDE

S P E C I F I C A T I O N S

I N S T A L L A T I O N

O P E R A T I O N

S E R V I C E

Please read this manual before carrying out any installation or service procedures.

Upon Installation pass this manual to the equipment owner.

Contents

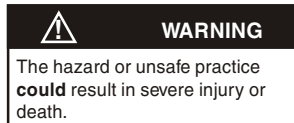
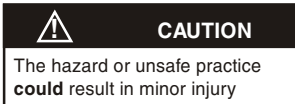
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1.0 Introduction

1.1 This Manual

Congratulations on selection a Haltec Digital Tire Inflator. This equipment has a number of unique features that are explained in this manual.

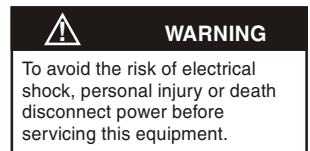
Throughout the manual the following symbols will be used, this information is for your safety and to prevent damage to this product.



1.2 Digital Inflation Overview

Your Haltec Digital Tire Inflator has a dual pneumatic valve controlled by an digital circuit that controls the inflation and deflation process.

The process will only commence when there is more than 3psi, 20 kPa or 0.2bar in the Tire when the hose is connected.



1.3 General Specifications

WARNING

To avoid the risk of personal injury, especially to the eyes, face or skin DO NOT direct the air stream at any person/s.

WARNING

This equipment is not intended for use by children without adult supervision.

CAUTION

To avoid equipment damage, never exceed the manufactures maximum inlet pressure of 150 psi, 1035 kPa or 10.3 bar.

CAUTION

This equipment has NO user serviceable parts. Only trained, experienced repair personnel employed by an authorised service agent should perform service to this equipment.

Operating Temperature (without heater)	0°C to +60°C 32°F to +140°F
Relative Humidity	100%
Supply Voltage	11-18Vdc, 8-16Vac 110-120V 50/60Hz 220-240V 50/60Hz
Current	1A Max
Fuse	Auto Reset 1.1A Nominal
Max Inlet Air Supply	150 psi, 1035 kPa, 10.3 bar
Recommended Inlet Air Supply	10 psi, 70 kPa or 0.7 bar above the maximum set pressure of the unit.
Operating Pressure Maximum	145 psi, 1000 kPa, 10.0 bar
Minimum	5 psi, 35 kPa, 0.3 bar
Accuracy	+/- 0.3 psi, 2 kPa, 0.02 bar
Display Increments	1 psi, 5 kPa, 0.1 bar
Units of Measurement	psi, kPa, bar, kg/cm ²
Default to Safe Setting (DTSS) (Retail Petroleum Equipment ONLY)	1 minute

2.0 89XDA Model

Specifications

Construction	Diecast Aluminium Enclosure
Degree of Protection	IP66
Unit Dimensions (excluding packaging)	269 x 285 x 106mm
Shipping Weight	5.4kg



Refer to General Specifications for further information.

89XDA


Installation

External Mounting


1. Unpack the unit.
2. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
3. Secure the unit using suitable fasteners.
4. Connect the air supply to the unit.
5. Connect the power supply, refer to the rating label for the correct power requirements.

Internal Mounting

1. Unpack the unit and remove the front panel
2. Drill the four (4) Mounting locations in the backbox to suit up to M6 or 1/4" fasteners.
3. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
4. Secure the unit using suitable fasteners.
5. Seal these fasteners to maintain the IP rating of the unit.
6. Connect the air supply to the unit.
7. Connect the power supply, refer to the rating label for the correct power requirements.

 **WARNING**

Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.

 **CAUTION**

If this equipment is being installed on a retail petroleum site consideration must be given to the requirements of **German Standard DIN EN 837-1 (Druckmeßgeräte mit Rohrfedern), Ausgabe Februar 1997** or the relevant Hazardous Area standard for your region.



89XDD



WARNING

Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.



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3.0 89XDD Model

Specifications

Construction	Diecast Aluminium Enclosure
Degree of Protection	IP66
Unit Dimensions (excluding packaging)	269 x 285 x 106mm
Shipping Weight	5.4kg

Refer to General Specifications for further information.

Installation

External Mounting

1. Unpack the unit.
2. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
3. Secure the unit using suitable fasteners.
4. Connect the air supply to the unit.
5. Connect the power supply, refer to the rating label for the correct power requirements.

Internal Mounting

1. Unpack the unit and remove the front panel
2. Drill the four (4) Mounting locations in the backbox to suit up to M6 or 1/4" fasteners.
3. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
4. Secure the unit using suitable fasteners.
5. Seal these fasteners to maintain the IP rating of the unit.
6. Connect the air supply to the unit.
7. Connect the power supply, refer to the rating label for the correct power requirements.

4.0 89XDB Model

Specifications

Construction	Diecast Aluminium Enclosure
Degree of Protection	IP66
Unit Dimensions (excluding packaging)	269 x 285 x 106mm
Shipping Weight	4.1kg



89XDB

Refer to General Specifications for further information.

Installation

External Mounting

1. Unpack the unit.
2. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
3. Secure the unit using suitable fasteners.
4. Connect the air supply to the unit.
5. Connect the power supply, refer to the rating label for the correct power requirements.

WARNING

Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.

Internal Mounting

1. Unpack the unit and remove the front panel
2. Drill the four (4) Mounting locations in the backbox to suit up to M6 or 1/4" fasteners.
3. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
4. Secure the unit using suitable fasteners.
5. Seal these fasteners to maintain the IP rating of the unit.
6. Connect the air supply to the unit.
7. Connect the power supply, refer to the rating label for the correct power requirements.

CAUTION

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89XDE



WARNING

Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.



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5.0 89XDE Model

Specifications

Construction	Diecast Aluminium Enclosure
Degree of Protection	IP66
Unit Dimensions (excluding packaging)	269 x 285 x 106mm
Shipping Weight	4.1kg

Refer to General Specifications for further information.

Installation

External Mounting

1. Unpack the unit.
2. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
3. Secure the unit using suitable fasteners.
4. Connect the air supply to the unit.
5. Connect the power supply, refer to the rating label for the correct power requirements.

Internal Mounting

1. Unpack the unit and remove the front panel
2. Drill the four (4) Mounting locations in the backbox to suit up to M6 or 1/4" fasteners.
3. Hold the unit up on the wall and mark where the four (4) holes are to be drilled.
4. Secure the unit using suitable fasteners.
5. Seal these fasteners to maintain the IP rating of the unit.
6. Connect the air supply to the unit.
7. Connect the power supply, refer to the rating label for the correct power requirements.

6.0 Operation

6.1 Switch Functions



Reduces the set pressure.



Increases the set pressure.



Displays an alternative unit of measurement.*

This switch can be programmed to operate in one (1) of the following modes:

Default Unit Mode

Pressing and holding the switch will momentarily display an alternative unit of measurement. When you release the key the display will immediately revert back to the default unit of measurement. The pressure can only be set in the default unit of measurement.

Selectable Unit Mode

Pressing and releasing the switch will display an alternative unit of measurement. The pressure can be set in any of the units of measurement.

* The units displayed on each machine will vary depending on the software that has been requested.



The 'Flat Tire only' switch discharges up to five (5) bursts of air. Used to start the inflation process when the pressure in the Tire is less than 3 psi, 20 kPa or 0.2 bar.



WARNING

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WARNING

This equipment is not intended for use by children without adult supervision.

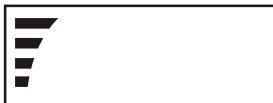
6.2 Inflation & Deflation (Single Display Unit)

- 6.2.1 Set the desired pressure, refer to Section 6.1 for the function of each switch.
- 6.2.2 Connect the hose to the Tire, ensure the hose is connected securely. Air leaks will cause an error message to be displayed, refer to Section 7.0.
- 6.2.3 The pressure in the Tire will be displayed.
- 6.2.4 The unit will inflate or deflate the Tire to the set pressure. Periodically the process will stop and display the pressure in the Tire.
- 6.2.5 If the pressure in the Tire is less than 3 psi, 20 kPa or 0.2 bar the process will not commence until the 'Flat Tire only' switch is pressed, refer Section 6.1.
- 6.2.6 The scroll bar will indicate that the unit is inflating or deflating, see below.



WARNING

Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.



- 6.2.7 When the set pressure is reached the display will flash and the unit will beep five (5) times. This will continue until the hose is disconnected, during this time the keypad will be disabled.



CAUTION

If this equipment is being installed on a retail petroleum site consideration must be given to the requirements of **German Standard DIN EN 837-1 (Druckmeßgeräte mit Rohrfedern), Ausgabe Februar 1997** or the relevant Hazardous Area standard for your region.

6.3 Keypad Selectable Settings (Dual Display Only)

The 89XDD & 89XDE can be customised for several different applications. To change or modify these settings follow the instructions.



Instructions

- 6.3.1 Turn the power on.
- 6.3.2 Press and hold the (-) decrease switch on the top LCD, when all segments are displayed for 3 seconds.
- 6.3.3 The unit will beep and flash (P.01) in the top LCD and a number in the bottom LCD.
- 6.3.4 Use the Top (-) & (+) switch to change the desired setting.
- 6.3.5 Press the (i) switch to toggle between the functions: (P.01) to (P.07).
- 6.3.6 Press the (⊞)'Flat Tire' switch to Exit and save the settings.



WARNING

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WARNING

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6.3 Keypad Selectable Settings

6.3.7 (P.01) - Number of Decimal Places

(01) - One Decimal Place

(02) - Two Decimal Places

Selects the number of decimal places displayed for Bar, atm, kg/cm²

6.3.8 (P.02) - Default to Safe Pressure Setting

(00) - Off

(01) - On

Enables this feature to be turned on or off.

Note: This feature not activated for the Overinflator products.

6.3.9 (P.03) - Auto / Manual Start

(00) - Off

(01) - On

Automatic inflation operates when back pressure is detected from a Tire. Manual start requires the operator to press the (⌂) 'Flat Tire' switch before the unit will inflate or deflate.

6.3.10 (P.04) - Purge Cycle

(00) - Off

(01) - (06) 1 to 6 cycle

This feature allows up to six purge cycles. If set to (01) the unit will initiate 1 x purge cycle. The unit will inflate or overinflate to the pressure on the top LCD, then deflate to <3psi then re-inflate to the final pressure. If more than one purge cycle is set the process is repeated. To activate this feature press and hold the (⌂) 'Flat Tire' switch for 2 seconds.



WARNING

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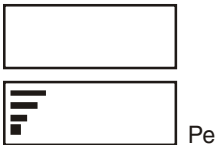


WARNING


This equipment is not intended for use by children without adult supervision.


6.4 Inflation & Deflation (Dual Display Unit)

- 6.4.1 Set the desired pressure, refer to Section 6.1 for the function of each switch.
- 6.4.2 Connect the hose to the Tire, ensure the hose is connected securely. Air leaks will cause an error message to be displayed, refer to Section 7.0.
- 6.4.3 The pressure in the Tire will be displayed on the bottom LCD (Pe).



- 6.4.4 The unit will inflate or deflate the Tire to the set pressure (Top LCD). Periodically the process will check the Tire pressure and display the pressure on the bottom LCD.
- 6.4.5 If the pressure in the Tire is less than 3 psi, 20 kPa or 0.2 bar the process will not commence until the 'Flat Tire only' switch is pressed, refer Section 6.1.
- 6.4.6 The scroll bar will indicate that the unit is inflating or deflating, bottom LCD only.
- 6.4.7 When the set pressure is reached the display will flash and the unit will beep five (5) times. This will continue until the hose is disconnected, during this time the keypad will be disabled.

	WARNING
Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.	


	CAUTION
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6.5 Volume Adjustment

- 6.5.1 Turn the unit off.
- 6.5.2 Press and hold the decrease and 'Flat Tire Only' switches, refer to Section 6.1.
- 6.5.3 Turn the unit on, VOL will be displayed.
- 6.5.4 Adjust the volume using the increase and decrease switches, refer to Section 6.1.
- 6.5.5 To store the setting press the 'Flat Tire Only' switches.
Further changes can be made by repeating the above procedure.

7.0 Troubleshooting

The following chart has been prepared to assist with diagnosis of faults.

PROBLEM	POSSIBLE CAUSE	SOLUTION
No display.	No power supply.	Check power supply.
The inflation process does not Commence, even when the pressure is set and the hose is connected to the Tire.	The Tire is deflated below 3 psi, 20 kPa or 0.2 bar. The hose connector is faulty.	Press  Replace the hose connector.
The display will not move or is stuck on a particular value.	The switch is damaged.	Replace the faceplate.
The unit deflates very slowly.	The silencer plug on the valve block is blocked.	Remove and clean the silencer plug.
The unit no longer beeps.	The beeper is damaged.	Replace the beeper.
The inflation process commences but does not complete.	Low or nil supply pressure.	Check the air compressor supply pressure.

7.0 Troubleshooting, cont.

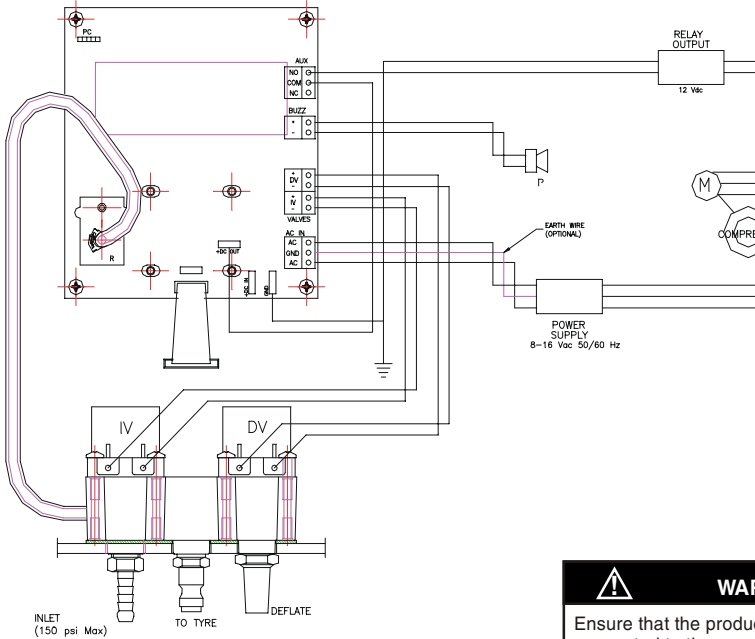
PROBLEM	POSSIBLE CAUSE	SOLUTION
ER1	Unstable pressure, faulty hose connector.	Replace the hose connector.
ER2	Unstable pressure, faulty hose connector. Incorrect supply pressure.	Replace the hose connector. Check the air compressor supply pressure.
ER3	Inflate & Deflate valve connections are reversed. Low or nil supply pressure.	Check the valve connections on the PCB. Check the air compressor supply pressure.
ER4	Initial or final pressure is too high, exceeding the maximum pressure by more than 20 psi, 140 kPa or 1.4 bar.	Disconnect hose connector, reset processor by switching off the power for a minimum of 5 seconds. If error message reappears replace PCB, refer Section 10.0.
ER5	Low supply voltage.	Check power supply. The message will clear when the correct voltage is restored.
ER6	Programme or PCB error.	Reset machine by switching off the power for a minimum of 5 seconds. If error message reappears replace PCB, refer Section 10.0.
ER8	Calibration error.	Unit requires calibration, contact your local distributor or service agent.
ER9	Calibration error.	Reset machine by switching off the power for a minimum of 5 seconds. If error message reappears replace PCB, refer Section 10.0.

8.0 Spare Parts & Accessories

Part Number	Description
Hose Chucks - Open Type	
91.0213	Clip on Heavy Duty Hose Chuck 1/4" BSP Female
91.0211	Hold on Twin Chuck 1/4" BSP Female
Hose Chucks - Closed Type	
91.5055	Clip on Heavy Duty Hose Chuck 1/4" BSP Female
91.5056	Hold on Twin Chuck 1/4" BSP Female
22.3790	Hose Coupling Cover
Hose Kit	
61.0001	10m Grey Hose fitted with Standard JP Coupling and Heavy Duty Hose Chuck Other colours available on request
Accessory Pack	
61.0101	Includes 1 x 10m Hose Kit, 2 x Heavy Duty Hose Chucks and 1 x Hose Coupling Cover
94.3001	Transfer Valve - 3 way 1/4"
93.0800	Manifold Kit - 4 way 1/2" x 1/4"
94.5049	Vented Slide Valve 1/2"
94.0951	Non Return Valve, 1/4" BSP M/F
97.5052	Core Removal Tool - Standard
97.5053	Core Removal Tool - Super Large
41.0702	Beeper, suits 89XD Models
45.1042	Piezo Switch
45.1043	Mechanical Switch
Valves	
95.1020	Valve Assembly 1/4" Less Fittings
95.1036	Valve Assembly 1/2" Less Fittings
95.1026	Valve Diaphragm to suit 1/4" and 1/2" Valves
95.1004	Filter Washers 1/4"
95.1514	Filter Washers 1/2"

9.0 Wiring Diagrams

Control Wiring Diagram



WARNING

Ensure that the product is connected to the correct power and air supply, refer to rating label and general specifications.



CAUTION

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10.0 Component Replacement

10.1 PCB

- 10.1.1 To remove the existing PCB, open the unit.
- 10.1.2 Disconnect the switches from the connector.
- 10.1.3 Unplug all other connections on the PCB.
- 10.1.4 Remove the sample tube from the valve block.
- 10.1.5 Remove the 4 screws that retain the PCB.
- 10.1.6 To install the replacement PCB remove the clear protective film over the LCD.
- 10.1.7 Connect the sample tube to the valve block.
- 10.1.8 Replace the 4 screws that retain the PCB in position.
- 10.1.9 Reconnect the switch connector and all other connections.

**WARNING**

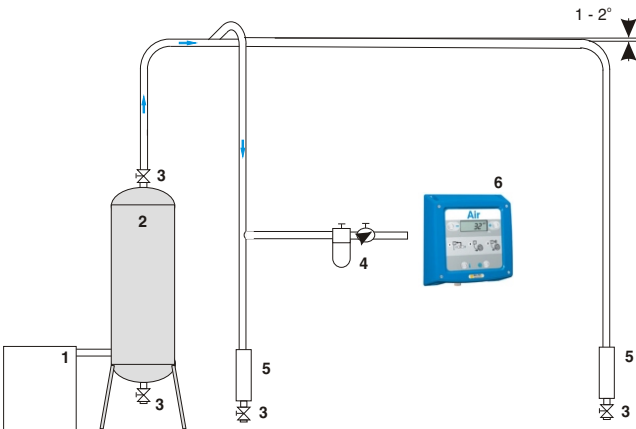
To avoid the risk of electrical shock, personal injury or death disconnect power before servicing this equipment.

11.0 Compressed Air Systems

The information in this section is designed to provide some basic information about compressed air systems and the use of digital inflation equipment.

Compressed air systems contain oil and water, it is important to filter and drain these from the system. The water is generated by condensation and oil can be carried into the line from the compressor. A basic system is illustrated below. The components of this system are as follows:

1. Air Compressor
2. Air Receiver Tank
3. Valves
4. Filter & Regulator
5. Condensate Drain (Water Tap)
6. Digital Tire Inflator



WARNING

To avoid the risk of personal injury, especially to the eyes, face or skin DO NOT direct the air stream at any person/s.



WARNING

This equipment is not intended for use by children without adult supervision.



CAUTION

To avoid equipment damage, never exceed the manufacturers maximum inlet pressure of 150 psi, 1035 kPa or 10.3 bar.



CAUTION

This equipment has NO user serviceable parts. Only trained, experienced repair personnel employed by an authorised service agent should perform service to this equipment.

Each system and installation of digital inflation equipment is different. However it is imperative with any system that the drain valves (No. 3) are opened routinely to remove water that has been collected.

Immediately prior to the Tire inflator (No. 6) a regulator (No.4) should be fitted. This should be set to 10 psi, 70 kPa or 0.7 bar above the maximum set pressure of the unit. This will prevent excessive pressure from being supplied to the unit and the resulting error message Er4. Refer to Section 7.0 Troubleshooting.

Also prior to the Tire inflator a filter (No. 4) should be fitted. This filter should remove all solid materials such as scale caused by corrosion inside the pipe and reservoir. Contaminants may have an adverse effect on the internal components of the system due to blockage and corrosion.

**WARNING**

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**CAUTION**

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12.0 Policy / Warranty

Your Haltec Digital Inflation Equipment is covered under warranty for 12 months from the date of invoice, subject to the following conditions:

- 12.1 Products
Subject to change without notice. Haltec Corporation is not responsible for inadvertent typographical errors or omissions.
- 12.2 Returned Goods
No return goods will be accepted unless authorized in writing by Haltec Corporation. All return goods must be shipped prepaid to the factory, and are subject to a restocking charge. Special items are not returnable.
- 12.3 Warranty
Except where the product has been damaged by misuse, faulty installation, unauthorised repairs, incorrect maintenance or accidental damage, Haltec will at its own discretion repair or replace the defective product (or pay for the cost of repair or replacement).

Warranty **does not** include air hoses, hose connectors (hose chucks) or membrane keypads.

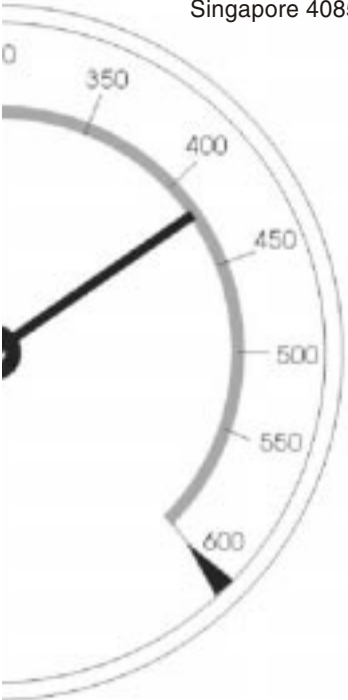
Haltec Corporation expressly excludes all other warranties expressed or implied, including without limitation the implied warranties of merchantability and fitness for any other purpose. Haltec Corporation further excludes liability for consequential and incidental losses including but not limited to the loss of profits which may arise out of the breakdown or failure of any product.

13.0 Initial Verification Certificate

PRESSURE GAUGE CALIBRATION

This equipment was calibrated to the national standard of pressure measurement and conforms to **German Standard DIN EN 837-1 (Druckmeßgeräte mit Rohrfedern), Ausgabe Februar 1997**. The calibration equipment used for the test holds a current Acceptance Test Certificate 3.1.B according to EN 10204.

Manufactured for Haltec Corporation by
Airtec Corporation (Asia) Pte Ltd
200209524N
67 Ubi Crescent #01-02
Singapore 408560

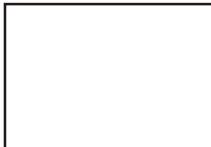


- Model
- 89XDA
 - 89XDD
 - 89XDB
 - 89XDE

Serial No.....

Date.....

Signature.....



14.0 Glossary & Conversions

Units of Measurement

Psi	Pounds per square inch
kPa	Kilopascals
bar	Barometric
atm	Atmospheres
kg/cm²	Kilograms per square centimetre
IP	International Protection Rating
CFM	Cubic Feet per minute
LPM	Litres per minute
PCB	Printed Circuit Board
Sample Tube	Connects the valve block & PCB
LCD	Liquid Crystal Display

Conversions

1 psi =	6.8947 kPa
	0.0689479 bar
	0.06890459 atm
	0.0703069 kg/cm ²

Haltec Corporation

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Haltec Corporation reserves the right to change specifications, modify designs and discontinue items without incurring obligation and whilst every effort is made to ensure descriptions, specifications and other information in this manual is correct, no warranty is given in respect thereof and the company shall not be liable for any error therein.

12/2004