PART NUMBER	
SERIAL NUMBER	

QUBE Inflator Quick Start Manual

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Safety Guidelines

This manual contains information that is very important to know and understand. This information is provided for safety and to prevent equipment problems. To help recognise this information, observe the following symbols.

DANGER Danger indicates an imminently hazardous situation which if not avoided WILL result in death or serious injury.

WARNING Warning indicates a potentially hazardous situation which if not avoided, COULD result in death or serious injury.

CAUTION Caution indicates a potentially minor or moderate injury.

NOTICE Notice indicates important information, that if not followed, may cause damage to equipment.

Unpacking

After unpacking the unit, inspect carefully for any damage that may have occurred during transit.

WARNING Do not operate unit if damaged during shipping, handling or use.

General Safety Information

The operator of this product must take the necessary precautions to prevent the level of danger indicated by these symbols. The operator is required to read and understand this instruction manual and all safety warnings, labels etc.

Any employer allowing the use of this product in their field of work must distribute this instruction manual to all users. The employer must also ensure all users read, understand and follow the instructions as described in the manual, safety warnings, labels, etc.

WARNING Read and understand all safety warnings and instructions before operating this product. Failure to read and follow all safety warnings may result in serious personnel injury or death. Property damage and/or product damage may also occur if all warnings are not followed.

1. Do not expose the product to flammable gases, vapours or fumes
2. Do not store flammable gases in or near this product
3. Never use flammable or toxic solvents to clean the product or any of the unit's parts
4. Never remove or alter any safety warning labels, tags, etc. located or provided with product.
5. Follow all directions for maintenance.

CAUTION The use of other than genuine PCL replacement parts may result in reduced equipment performance. Repairs must be performed by authorised repair personnel, otherwise the warranty will be void.

LGeneral Specifications

Max inlet supply: 218 psi / 15 bar / 1500 kPa
Recommended supply: 10 psi / 0.7 bar / 70 kPa
above the max set pressure of Inflator
Max operating pressure: 145 psi / 10 bar / 1000 kPa
Min operating pressure: 4 psi / 0.3 bar / 30 kPa
Display resolution: 1 psi / 0.1 bar / 10 kPa
Units of measurement: psi / bar / kPa / kg/cm
Voltage Range: North America 110VAC—120VAC 50/60Hz
Current: 0.2A
Voltage Variations: 115VAC+/- 10%

Voltage Range: 220VAC—240VAC 50/60Hz
Current: 0.1A
Voltage Variations: 230VAC +/- 10%
Temperature Range : -10° C to + 40° C
Relative Humidity : 0 to 95% Non-condensing
Intended Environment: Pollution Class 2
Mounting Orientation: Vertical
Altitude: Sea Level to 3,000m (8,203 feet)

This Equipment also complies with the EC directives:

- Electromagnetic Compatibility (EMC) - 2014/30/EU
- Low Voltage Directive (LVD) - 2014/35/EU

Installation

The inflator is designed for **indoor** use only.

The compressor producing the air should have the necessary water and dirt filtration, to minimise accumulation of debris at the inflator line filter strainer.

Installation:
Qube is design to be mounted to a wall/support in a vertical position or 90°.
Affix the 2 metal brackets to the rear of Qube, place the assembly to the wall. Mark the holes, mount the Qube using adequate screwed support.
Ensure the Mains plug can be easily accessed at all times.

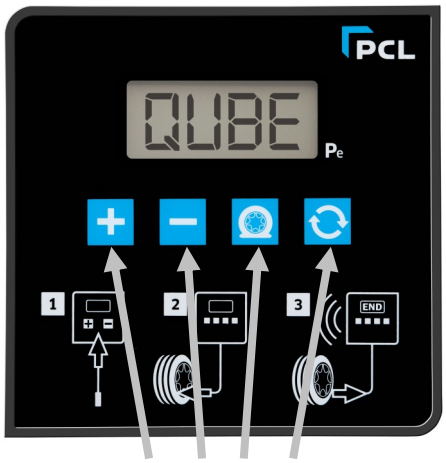
Calibration & Accuracy

The accuracy of our digital units when released from our factory is that:-

The maximum permissible error (MPE) = 0.08 bar

Each unit, before release, is checked and calibrated on test equipment that has accuracy traceable to a UKAS Laboratory No. 0221 referenced to certificate 0029346.

Control Panel



4 user touch type buttons

Key Legend

Increase or decrease to set pressure in all modes

Allow flat tyre in Standard (std) and Tyre Shop (tir) modes
Tyre top off in N2 (N2P) mode

Switch pressure unit in Standard (std) mode
Toggle OPS in Tire Shop (tir) mode
Starts tyre purging in N2 (N2P) mode

Buzzer

Air/N_2 supply port
G1/4
US Market 1/4 NPT

Tyre out port
G1/4
US Market 1/4 NPT

Deflate exhaust

NOTICE

All QUBE models have a filter housing either G1/4 or US Market 1/4 NPT inlet and outlet ports.
It is recommended that when tightening any hose connections to the QUBE the user selects two spanners. Hold the filter housing with one spanner, to ensure it does not spin, then tighten the hose connection with the other

Operation Overview

The unit has a choice of 3 different inflator applications installed.

Your QUBE can be configured into the 3 different applications but for some models only 1 mode may be present.

Application Modes:-
Standard (std)
The QUBE will inflate and deflate tyres (Default mode by PCL)
Tyre Shop (tir)
The QUBE will inflate and deflate tyres and will allow Over Pressure Setting (OPS)
N2 (N2P)
The QUBE will inflate and deflate tyres and allow tyre purging for Nitrogen rich tyre filling

During the start up procedure initiation the current application is always shown.

Start-up

On plugging in the unit for the first time, the QUBE will automatically start in Standard (Std) Operation.
However, if the Tyre Shop (tir) or N2 (N2P) Operation are required, then follow the **Application Mode Selection**.
The QUBE will reboot into the desired application and will remain in this mode until an alternative mode is selected with **Application Mode Selection**.

Standard (Std) Operation

Inflation and deflation

1. Set desired pressure, by touching either + or −
2. Connect the hose to the tyre.
3. Automatic inflation will commence to the set pressure, periodically stopping to display the pressure of the tyre.
4. If the pressure in the tyre is below 3 psi, 0.2 bar or 20 kpa, the process will not commence until ◎ is touched.
5. When the Set pressure is reached, the buzzer will sound and the display will show '**END**' with the final pressure.
6. Remove the hose from tyre.
7. For selection of alternative pressure unit touch

For adjustments to Inflators parameters please refer to your Distributor or PCL.

WARNING This unit is not suitable for the filling of bicycle tyres with a standard (Presta, Woods) bicycle valves and adapters. Over fill of the tyre is possible!

Application Mode Selection

1. Turn on power supply
2. Display will show all LCD digits check
3. Display will show the current Firmware version number e.g. '.3.2.5
4. Display will show Program model variant '300' (psi default) or '302' (bar default)
5. Display will show the current application, 'Std' , 'tir' or 'N2P' as stored.
6. After 10 seconds the display will show '**PCL**'
7. Touch ◎ to enter Application Mode
8. Display will show '**L 0**', confirm to enter by touching ◎
9. Display will show '**APP**' confirm to enter by touching ◎
10. Display will show '**Std**' if this is the required Application Use + or − to change to '**tir**' or '**N2P**' touch ◎ to save mode.
11. Touch ↻ twice to exit and allow unit to reboot with new setting.

Tyre Shop (tir) Operation

Inflation and deflation

1. Set desired pressure, by touching either + or −
2. Connect the hose to the tyre
3. Automatic inflation will commence to the set pressure, periodically stopping to display the pressure of the tyre.
4. If the pressure in the tyre is below 3 psi, 0.3 bar or 30 kpa, the process will not commence until ◎ is touched.
5. When the Set pressure is reached, the buzzer will sound and the display will show '**END**' with the final pressure.
6. Remove the hose from tyre.

To enable setting of OPS

1. Touch ↻ and display will toggle '**OPS**' and blank value
2. Increment the OPS value between 0-29 psi, 0-2 bar, 0-200 kpa, by touching + and −, to accept the value, touch ◎
3. Display will revert to the Set pressure previously selected.

Note:
The OPS value will not be applied when the tyre has a pressure of more than 3 psi, 0.2 bar, or 20 kpa.

To prevent the accidental use of OPS, the OPS setting is **not retained** after the machine is powered down.

Use of OPS:
The OPS value is added to the final target pressure setting to give the Over Pressure.
Example:
A Final Set pressure of 32 psi, 2.2 bar, 220 kpa is required with an OPS value of 15 psi, 1 bar , 100 kpa. The tyre will now inflate from flat condition only to the value of 47 psi, 3.2 bar, 320 kpa.

Once the OPS value has been achieved, the unit will deflate back to the desired set pressure.

For adjustments to Inflators parameters please refer to your Distributor or PCL.

WARNING **When using the OPS function, the sum pressure must not exceed the tyre manufactures maximum inflation pressure.**

N2 (N2P) Operation

Inflation and deflation (tyre top off)

1. Set desired pressure, by touching either + or −
2. Connect the hose to the tyre.
3. **The process will not commence until ◎ is touched.**
4. When the Set pressure is reached, the buzzer will sound and the display will show '**END**' with the final pressure.
5. Remove the hose from tyre.

Tyre Purging (N2 conversion)

1. Set desired pressure, by touching either + or −
2. Connect the hose to the tyre.
3. **The process will not commence until ◎ is touched.**
4. If the pressure in the tyre is below 3 psi, 0.3 bar or 30 kpa, the process will start but perform only one purge (since the tyre is already flat).
5. During the purging process the display will show the last pressure check point and the number of purging cycles completed when deflating.
6. When the set pressure is reached, the buzzer will sound and the display will show '**END**' with the final pressure.
7. Remove the hose from tyre.

Note:

- **In N2 (N2P) Operation the QUBE will not commence inflation until ◎ is touched for tyre top off or ↻ for N2 Conversion.**
- For N2 conversion of existing tyres the number of purge cycles is defaulted to 2.
- For flat tyre purging the number of cycles is reduced by 1, as the tyre is already empty.
- The lower purge pressure limit is defaulted to the greater of 10% of the set pressure or 3 psi, 0.2 bar, 20 kpa.

For adjustments to Inflators parameters please refer to your Distributor or PCL.

N_2 Conversion of Existing tyres

For normal use a Purity level of between 93% and 96% N_2 is sufficient for most road tyres.

If your N_2 Generation source is greater than 97% then it is sufficient to leave the default setting of 2 Purges.

For N_2 Generation sources less than 97%, then to achieve the required N_2 % Purity, consider adding additional Purge cycles.

For adjustments to Inflators parameters please refer to your Distributor or PCL.

The Final N_2% concentration can be periodically checked using a N_2% concentration meter (PCL Part Number N2A001).

User Inspection mode

It is possible to set the inflator to act as a pressure gauge.
The display resolution is changed and can be used to reference the inflator against a calibrated pressure source. The inflator automatic cycle is inhibited.

To access:-

1. Touch + and − together
2. The QUBE will beep but the display will not change
3. Touch ↻ 5 times
   (if this is not undertaken within 10 seconds, the Inflator reverts back to normal Inflator mode)
4. Display will show the pressures to the minimum resolution: psi = 0.1 / Bar = 0.01 / kpa = 1 / kg/cm = 0.01
5. Connect the hose to the tyre and the display will show the pressure in the tyre
6. When complete, touch any button to return to the last set mode.

Service/Maintenance

There is no requirement to service the following items:

1. Pressure Transducer
2. Electric Control Board

If these are faulty they can only be replaced by a competent person. Please refer to an Authorised dealer.

Periodically

- Check the hose.
- Check the tyre connector.
- Remove air input supply and tyre hose from the head. Unscrew captive sintered filters from filter housings and clean or replace.

Working safety instructions

Since the unit is not explosion-proof, the device should not be installed in areas where explosions are possible. Consideration must be given to the requirements relative to Hazardous Area Standards for your region or country.

The unit is designed and built to the relevant basic health and safety requirements of the EC.

This product can be dangerous if used improperly. Children should not be allowed to use this equipment, as incorrect setting can allow tyre to be over inflated and a subsequent tyre burst/explosion can occur!

Each person who is involved with installation, start-up, maintenance and the operation of the unit must read and understand the complete operating manual.

The PCL tyre inflators are exclusively approved for the dispensing of air/N_2. Each use which doesn't follow this purpose as well as modifications to the product will be deemed to be improper use. The manufacturer is not liable for damages caused by improper use, the risk lies solely with the user.

Proper use of the product also implies the observance of the manufacturers instructions with regard to installation, start-up, operation and maintenance.

All works concerning installation, start-up, adjustment and maintenance must be made by qualified staff. For the operation of this tyre pressure inflator the local safety and accident prevention rules must be observed in all cases.

High Pressure air is stored within the system.

When using N2P mode , locate this system in a well ventilated area. Position the system away from any heat source.

Do not exceed the maximum air input pressure.

Do not operate this product if tired or under the influence of medication, drugs or alcohol.

To avoid the risk of personal injury, especially to the eyes, face or skin DO NOT direct the air/N_2 stream at any person.

Trouble Shooting Guide/Error Messages

Problem	Possible Cause	Solution
No display	No power connected	Switch power on
No inflation process	Tyre is below 3 psi N2P mode requires confirm start Faulty connector	Press flat tyre button Press flat tyre button Replace faulty connector
Inflation process starts but does not complete	Low or no supply pressure Leaks exist	Check supply pressure Confirm leaks do not exist
Supply pressure leaks out of input	Input and tyre hoses are reversed	Reverse hose connections
Inflating or deflating is very slow	Check that mesh filters under input and output port fittings are blocked	Clean and or replace mesh filters
Connector will not seal on the tyre valves	Connector worn	Replace connector
E1	Unstable or insufficient supply pressure	Check the supply pressure
E4	Small volume, caused inflator to check pressure > 2bar / 29psi over target pressure	Check hose is not kinked or blocked, ensure a OPEN END connector is installed
E5	Inflator started under pressure i.e. is connected to tyre or a CLOSED END connector is being used	Remove hose from tyre and allow inflator to reset Change connector to OPEN END type
E6	Pressure sensor drift out	New sensor required Refer to authorised repairer
E8	Pressure sensor disconnected from PCB or faulty	New sensor required Refer to authorised repairer
E9	Pressure sensor failure - high	New sensor required Refer to authorised repairer
LO	Under voltage	Check power supply
HI	Over voltage	Refer to authorised repairer
E12	Checksum corrupted	New PCB required Refer to authorised repairer
E13	Lost or corrupted calibration settings	New PCB required Refer to authorised repairer
E17	Calibration data corrupted	Re-calibrate Refer to authorised repairer
E19	Capacitive touch interface error	Refer to authorised repairer
E18, E20, E21, E22, E23, E28	Software error	Refer to authorised repairer

PCL Limited Warranty

PCL warrants the components of each unit to which this Limited Warranty applies against defects in materials and workmanship for a period of twelve (12) months from date of sale (as evidenced by bill of sale or equivalent) or for a period of eighteen (18) months from date of shipment from PCL manufacturing facility (identifiable by the serial number and noted on original bill of lading from the manufacturing facility), whichever period is shorter. During this warranty period and subject to the conditions set forth in this statement, PCL will, at its option, repair or replace component parts that were defective at the time of shipment from PCL manufacturing facility, subject, however, to the following specific EXCLUSIONS: hoses and connections.

Repair or replacement will not extend the warranty period.

Customer must give PCL timely notice of any warranty claim by contacting an authorized PCL service centre. Claims must be accompanied by (1) evidence, by a bill of sale or equivalent, which clearly establishes date of purchase of the unit and (2) the serial number, found on the unit. Customers must properly pack parts in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk for loss or damage in shipment. Return shipment to customer will be freight collect unless otherwise agreed. For service at a customers location, customer will be charged the then prevailing service rates .

The Limited Warranty applies to PCL manufactured units only. Items listed in the applicable operators manual under routine maintenance are not covered by this or any other warranty. Failure to complete maintenance as stated in any applicable maintenance schedule will void the Limited Warranty. The Limited Warranty is expressly conditioned upon proper and normal indoor use and service of the unit and upon strict compliance by customer with all of PCL instructions and recommendations for installation, operation and maintenance. The Limited Warranty does not apply to the unit or parts that are damaged or become defective due to improper handling, maintenance, storage, use, or operation, and does not cover ordinary wear and tear, corrosion, or erosion.

THE LIMITED WARRANTY SET FORTH IN THIS STATEMENT CONSTITUTES PCL'S SOLE WARRANTY FOR THE UNIT AND THE REMEDIES SET FORTH HEREIN CONSTITUTE CUSTOMERS SOLE REMEDIES FOR BREACH OF WARRANTY. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, IN FACT OR BY LAW, INCLUDING WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Determination of the suitability of the unit for the use contemplated by the customer is the sole responsibility of the customer. PCL shall not, under any circumstances, be liable in contract, tort or otherwise (including negligence and strict liability) for indirect, special, incidental, or consequential damages, and PCL's total liability shall not exceed the net purchase price for the unit. PCL shall be excused for delay or inability to perform obligations due to events beyond its reasonable control.

CUT HERE

Warranty Registration

Please complete and mail this form to activate warranty
Or visit us at www.pclairtechnology.com

Mail to:

Warranty Department
PCL
Holbrook Rise
Holbrook Industrial Estate
Sheffield
S20 3GE
United Kingdom

Name _____ Title _____

Company Name _____

Type of Business _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Part Number _____ Serial No _____

Purchased From _____

Purchase Date _____

DRIVEN BY AIR.

Calibration Certificate

Each unit, before release, is checked and calibrated on test equipment that has accuracy traceable to Druck pressure indicator S/N2329290.

The Druck unit is referenced to Certificate 0029346 issued by UKAS Laboratory No. 0221. This accuracy exceeds EC Directive 86/217/EC and BS EN 12645:2014 (MPE = 0.08 bar).

READING	SET PRESSURE			ACTUAL PRESSURE
1	BAR	PSI	KPA	
2	BAR	PSI	KPA	

PART NUMBER	
SERIAL NUMBER	
TESTED BY	
DATE	

This Equipment also complies with the EC directives:

- Electromagnetic Compatibility (EMC) - 2014/30/EU
- Low Voltage Directive (LVD) - 2014/35/EU

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