

Technical Data

ALPHA ATEX APPROVED

DIESEL PUMP



Applies to the following models **only**:

-ALPHA/50A

-ALPHA/50FA

-ALPHA/50LA

-ALPHA/70A

-ALPHA/70FA

-ALPHA/70LA

-ALPHA/90A

-ALPHA/90FA

-ALPHA/90LA

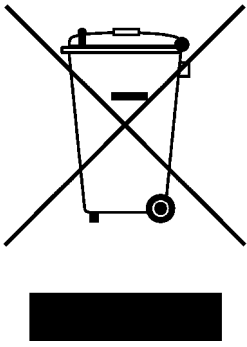
Please read carefully before commencing installation

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Web: www.hytekgb.com

ENVIRONMENTAL INFORMATION



European Directive 2012/19/EU requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product must be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities.

PRODUCT DESCRIPTION

This pump is ATEX certified to dispense diesel or other liquids classed as category 3 in accordance with European Regulation No. 1272/2008. It bears the following certification marking and number:

MANUFACTURED TO: EN13617-1
CERTIFICATE NO: CML 15ATEX9183



IMPORTANT WARNING NOTES

1. On above ground storage tanks an angle check valve fitted with the appropriate spring or pressure regulating valve must be fitted at the tank outlet to prevent loss of fuel under gravity in the event of vandalism or accidental damage.
2. This pump must only be used to dispense diesel or other liquids classed as category 3 in accordance with European Regulation No. 1272/2008. It must not be used to dispense petrol or any other liquid with a similar flash point.
3. Installation of this equipment and its associated tank, pipe work and fittings should only be carried out by qualified fuel installation engineers.

4. The installation must be carried out in accordance with the requirements of EN 60079-14 the latest relevant electrical and local authority regulations and standards.
5. It must not be used with other liquids or for other applications. We will accept no warranty claims or liability if it is used for other liquids or applications.

CALIBRATION

The meter on this pump unit must be calibrated electronically to ensure accuracy and reliability.

INSTALLATION INSTRUCTIONS

1. Check you have the following items:
 - 1 off Alpha pump
 - 1 off delivery hose
 - 1 off front door key
2. Open the front panel using the key provided.
3. Remove the rear panel, if necessary, and store safely.

MOUNTING

4. Bolt the pump to a firm level foundation by means of the four 14 mm diameter-mounting holes provided.

NB: If the optional drip tray is to be fitted to the pump it must be sealed to its foundation, with a suitable elastomeric substance, to prevent leaked fuel "wicking" back underneath the pump. To maintain the environmental integrity of the drip tray any possible leak path through the pump mounting holes must also be sealed.

PIPEWORK

5. Connect the 1 1/2" diameter pipe from the tank to the suction inlet flexible connector of the pump. The inlet thread of the flexible connector flange is 1 1/2" BSP taper female. Seal the joints with a suitable thread sealing compound. The pipe work must be sealed to the drip tray (if fitted) to ensure no leaking fuel can flow underground. An alternative pipe work entry point, for above ground pipe work, is provided at the rear of the pump base. Push out the plastic cover plate if required.

NB:On above ground tanks an angle check valve fitted with the appropriate spring or an anti-syphon valve must be fitted in the suction line to prevent spillage or leakage in the event of damage.

6. Connect the delivery hose and selected ATEX approved nozzle to the pump outlet in accordance with the instructions supplied with the individual components. Ensure the nylon hose-sealing washers are in place on the hose end. It should be hand tight plus a quarter turn.

ELECTRICAL

7. Remove the covers from the junction box.
8. Connect a constant 220/240V AC 50 Hz supply, fused at 16 amps, to the terminal block in the junction box as shown on the wiring details diagram.

NB: The Alpha pump must have a continual 220/240V AC supply, even when not in use

9. If the Alpha is to be operated in conjunction with a key/card system, remove the link in the junction box (shown on the Alpha Installation Wiring Diagram) and connect so that the control system makes and breaks the connection.

**Make connection - Pump on
Break connection - Pump off**

Alternatively remove the link and connect a switched live supply (230V AC 16A max.) to terminal 4 (shown on the Alpha Installation Wiring Diagram)

**Live supply switched on - Pump on
Live supply switched off - Pump off**

10. A pulse output for connection to key/card systems is available from the separate terminals located in the junction box. This is a passive contact giving 10 or 100 pulses per litre. Contact ratings are as follows:

**Maximum current - 0.25 amps
Maximum voltage - 50 volts
Maximum power - 5 VA**

11. Ensure all the terminal screws are tight and replace the junction box covers.

INSTRUCTIONS FOR USE

1. Remove the nozzle from the holster.
2. Place the nozzle spout in the fuel tank.
3. Squeeze the nozzle trigger to dispense fuel.

On completion of the delivery release the trigger and replace the nozzle in the holster.

MAINTENANCE

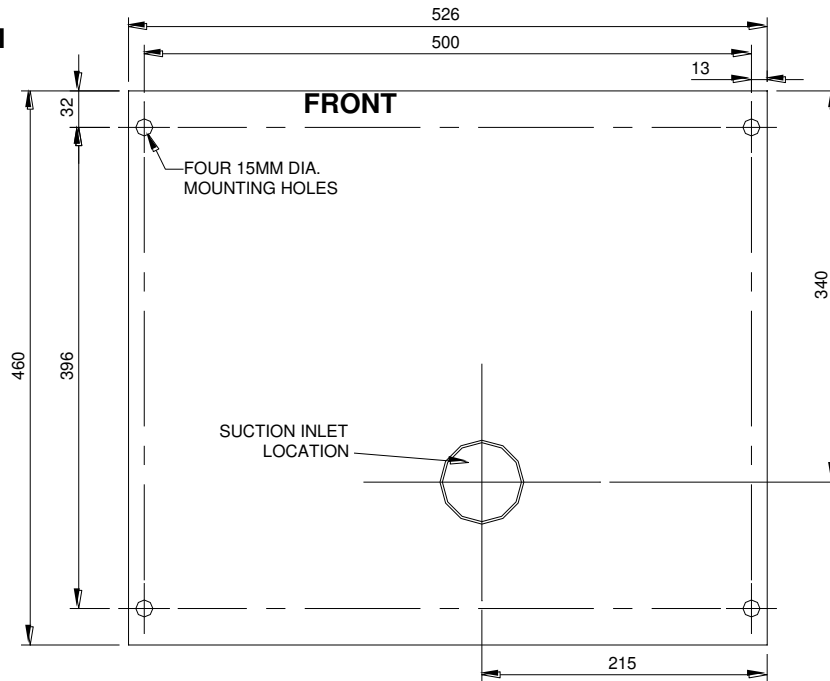
The Alpha should require minimum maintenance in normal regular use, but as with all mechanical apparatus regular servicing will prolong its life and ensure maximum efficiency & reliability.

The following should be carried out every 12 months or 1 million litres whichever ever comes first.

- **Isolate power supply**
- **Inspect & clean or replace pump filter**
- **Inspect & clean or replace nozzle filter**
- **Inspect & replace if necessary the V-belt**
- **Check motor pulley grub screw is tight**
- **Re-calibrate electronic display**

ALPHA BASE AND SUCTION CONNECTION DIAGRAMS

BASE VIEW FROM ABOVE

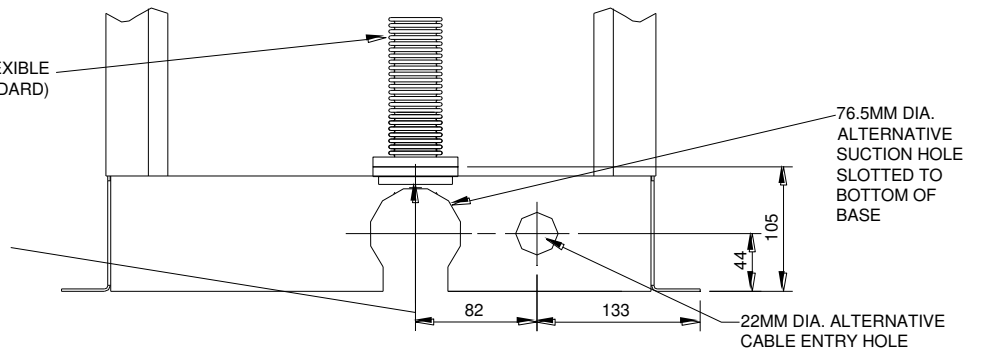


ALL DIMENSIONS IN MM

REAR VIEW

1 1/2" STAINLESS STEEL FLEXIBLE CONNECTOR (SUPPLIED AS STANDARD)

1 1/2" BSP TAPER FEMALE THREADED STANDARD TRIANGULAR SUCTION FLANGE ALIGNED WITH SUCTION HOLE IN BASE

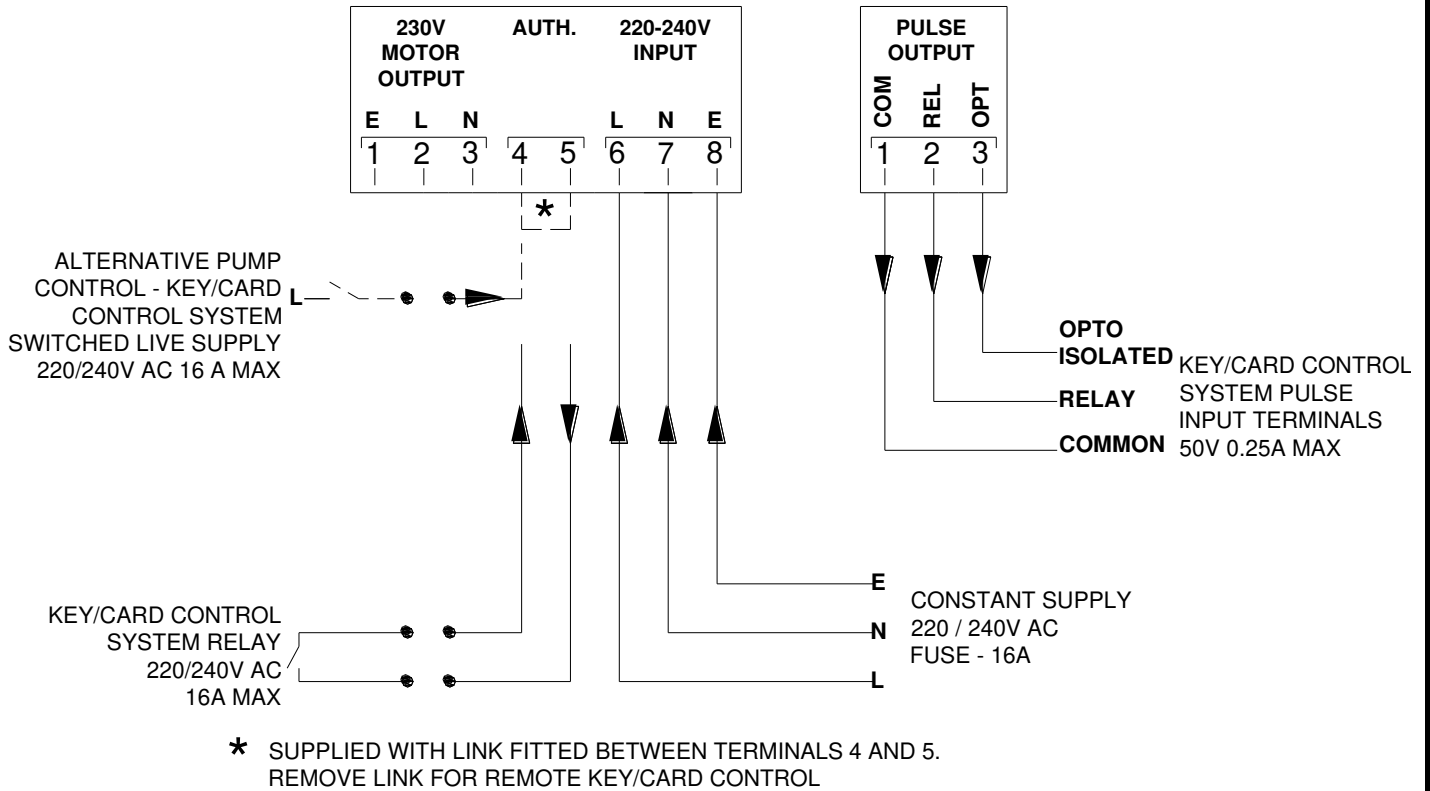


ALPHA INSTALLATION WIRING DIAGRAM

ALPHA MAIN JUNCTION BOX INSTALLATION WIRING DETAILS

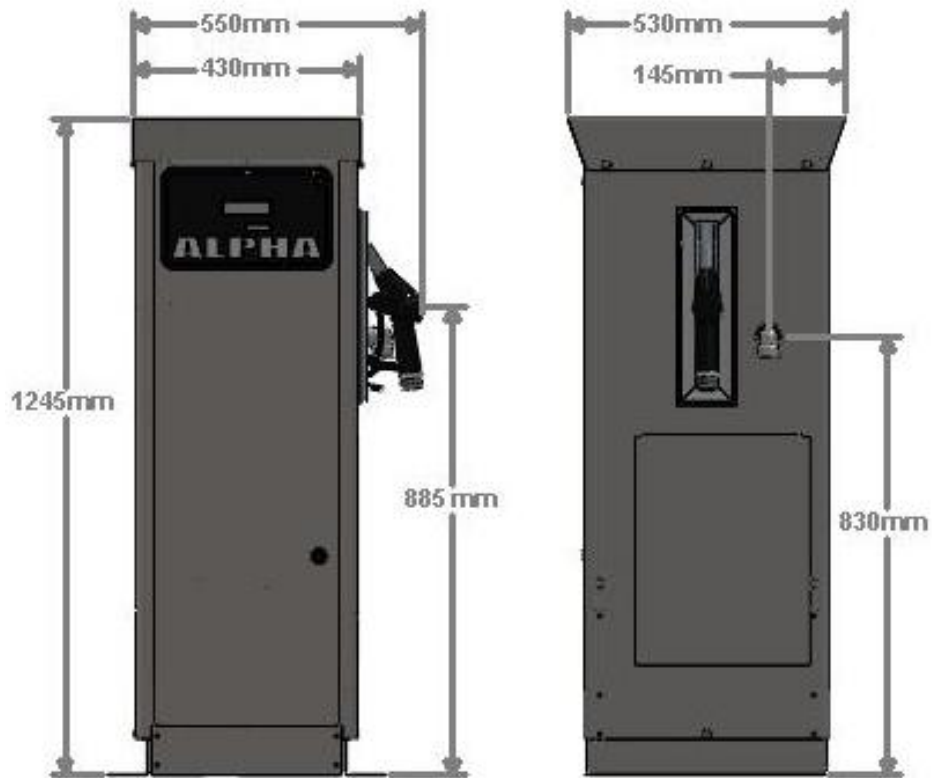
220/240V CONNECTIONS

PULSE OUTPUT CONNECTIONS



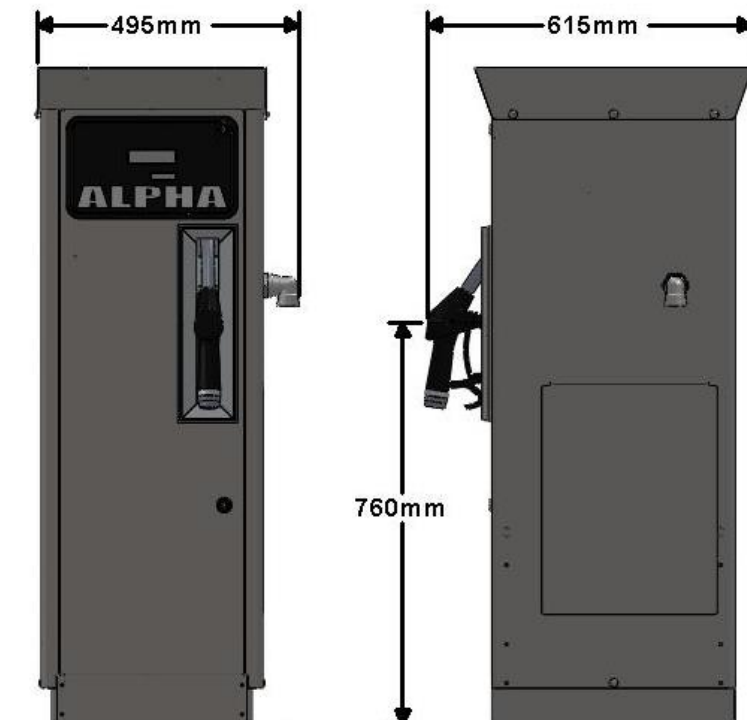
ALPHA EXTERNAL DIMENSIONS

SIDE NOZZLE HOLSTER

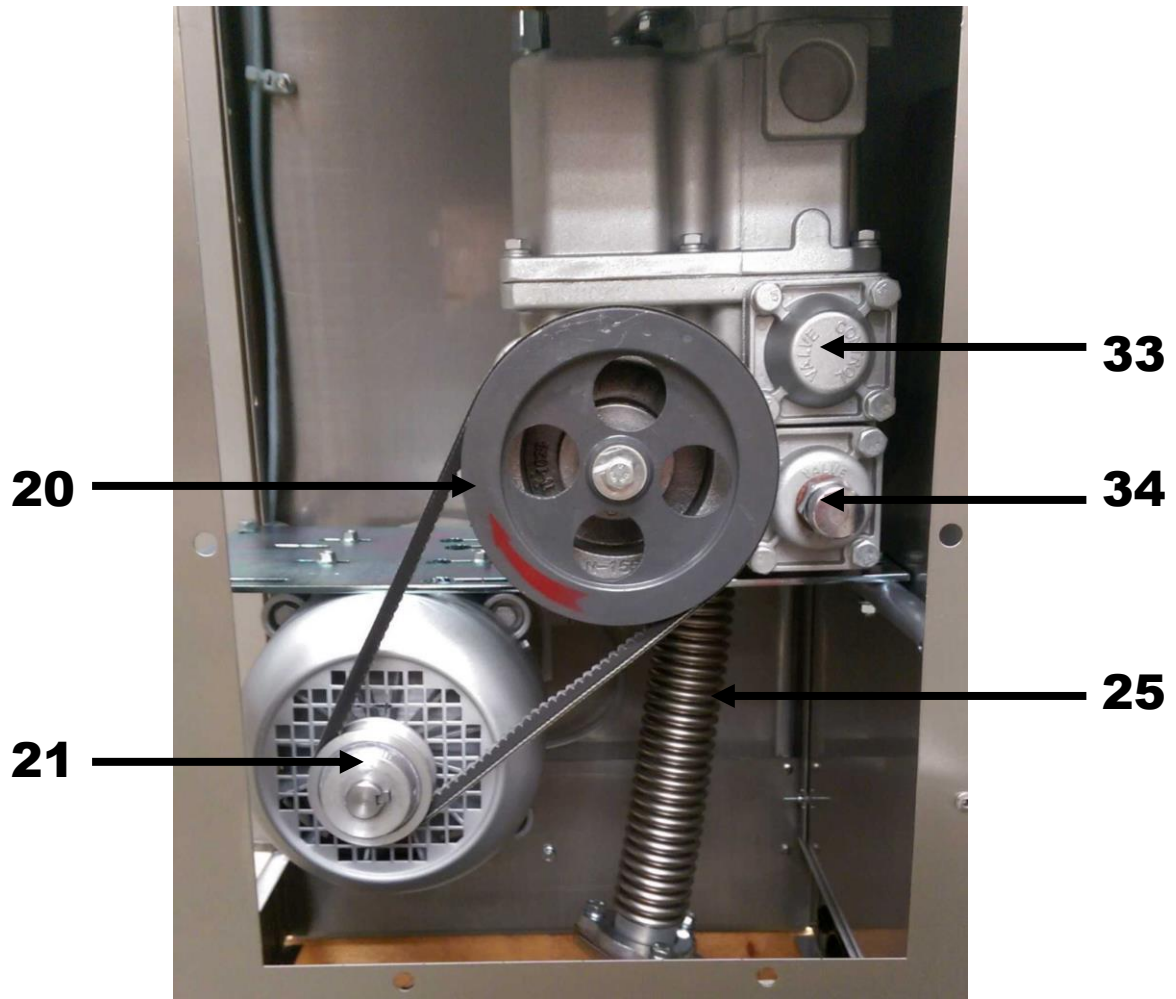


ALPHA EXTERNAL DIMENSIONS

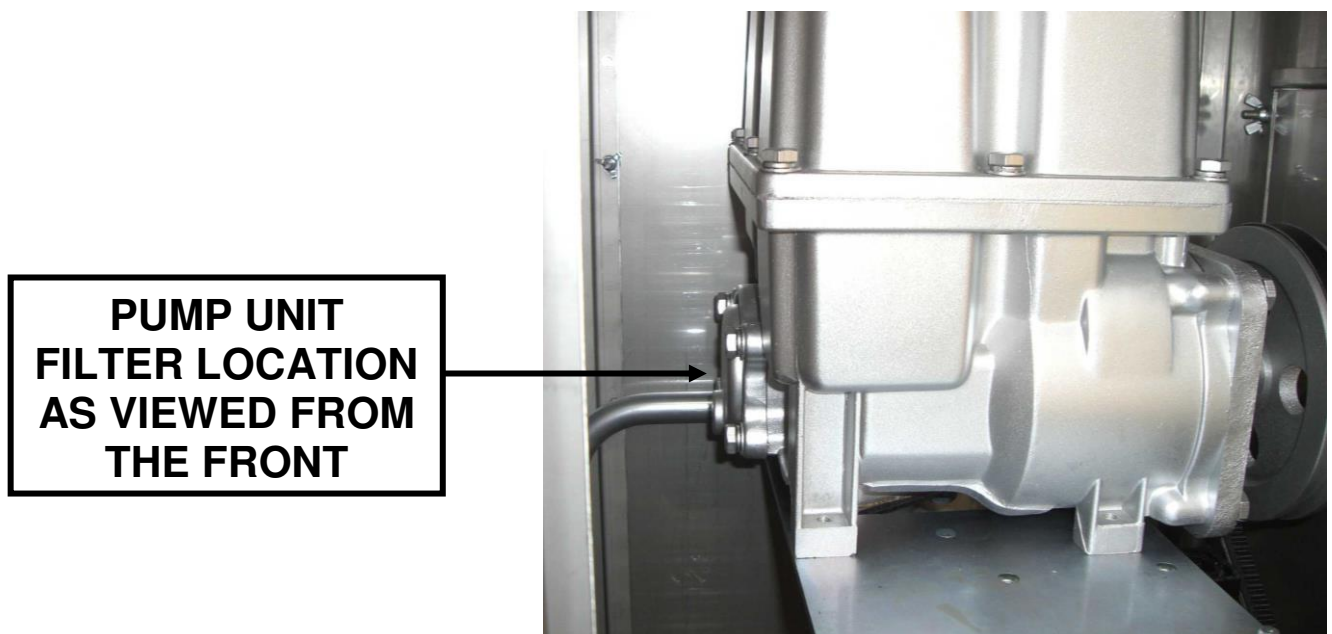
FRONT NOZZLE HOLSTER



ALPHA SIDE ACCESS PANEL VIEW



ALPHA PUMP UNIT FILTER LOCATION



ELECTRONIC DISPLAY/CALCULATOR

FEATURES

- 6-digit backlit Main LCD display: Up to 9999.99 or 99999.9 litres per delivery
- 8-digit backlit totaliser LCD display: Up to 99999999 litres
- Display retained during power failure

OPERATION

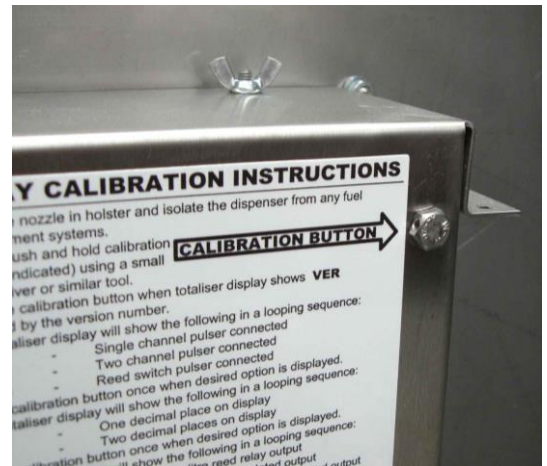
- Stand-by mode: Upper line of LCD display shows previous delivery
Lower line of LCD display shows ongoing total
- Nozzle removed: Upper line shows "all eights" then "all zeros"
Lower line shows "FUELLING"
Pump starts
- Fuel drawn: Upper line shows litres dispensed
Lower line shows "FUELLING"
- Nozzle Returned: Pump stops
Upper line of LCD display shows previous delivery
Lower line of LCD display shows ongoing total

CALIBRATION PROCEDURE - (MUST BE CARRIED OUT TO ENSURE PUMP ACCURACY)

1. Ensure the nozzle is stowed in the holster and the dispenser is isolated from any fuel management systems.



2. Remove calibration button cover bolt from rear of display / calculator housing (if fitted).



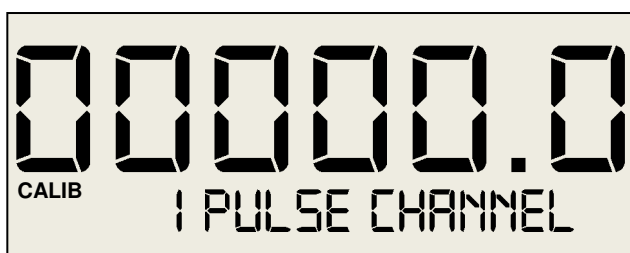
3. Gently push and hold the calibration button using a small screwdriver or similar tool.



4. Release the calibration button when the totaliser display shows **VER** followed by the version number on the lower line of the display.



5. The lower line will show the following in a looping sequence:
1 PULSE CHANNEL - Single channel pulser connected
2 PULSE CHANNEL - Two channel pulser connected
REED PULSER - Reed switch pulser connected



Press calibration button once when desired option is displayed.

Select **2 PULSE CHANNEL** for Weights & Measures Alpha, **REED PULSER** for Alpha fitted with PULS.E18 reed switch pulser (pre August 2003) or Adblue™ Alpha and **1 PULSE CHANNEL** for all other Alpha versions.

6. The lower line will show the following in a looping sequence:

LITRES – Display measures in litres.

GALLONS – Display measures in gallons (Imperial or US)

Press calibration button once when desired option is displayed.



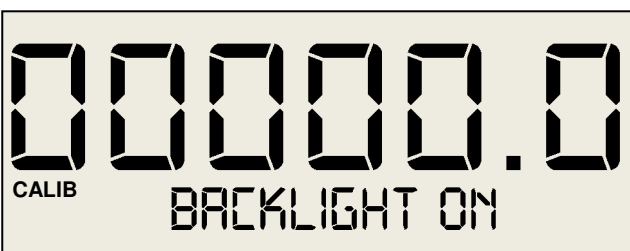
7. The lower line will show the following in a looping sequence:

BACKLIGHT ON – backlight on constantly.

BACKLIGHT OFF – backlight off.

ON FOR FUELLING – backlight only on during fuelling.

Press calibration button once when desired option is displayed.



8. The lower line will show the following in a looping sequence:

1 DECIMAL PLACE - One decimal place on display

2 DECIMAL PLACE - Two decimal places on display

Press calibration button once when desired option is displayed.



9. The lower line will show the following in a looping sequence:

REED RELAY 10 - Ten pulse per litre reed relay output.

OPTO OUTPUT 10 - Ten pulse per litre opto-isolated output.

OPTO OUTPUT 100 - One hundred pulse per litre opto-isolated output.

Press calibration button once when desired option is displayed.



10. The lower line will show the following in a looping sequence:

TANK SW UNUSED - No "tank empty" switch connected.

TANK SW IS TA.F - "Tank empty" switch connected is Hytek TA.F type* (*Feature coming soon)

TANK SW NOT TA.F - "Tank empty" switch connected is standard "normally closed" float switch* (*Feature coming soon)



11. The lower line will show the following in a looping sequence:

LEAK SW UNUSED - No "pump leak" switch connected.

LEAK SW IS TA.F - "pump leak" switch connected is Hytek TA.F type* (*Feature coming soon)

LEAK SW NOT TA.F - "pump leak" switch connected is standard "normally open" float switch* (*Feature coming soon)



12. The lower line will show the following
In a looping sequence:

NOZ 2 SW UNUSED – No additional
/remote nozzle switch connected.

2nd NOZ SW N/O– Additional nozzle
switch is normally open type.

2nd NOZ SW N/C – Additional
nozzle switch is normally closed
type.



CALIB
00000.0
NOZ 2 SW UNUSED

13. The lower line will show the following
in a looping sequence:

STAND ALONE - Pump external
serial interface not used. **SELECT
THIS OPTION**

CONFIG NETWORK – Configure
serial network. **DO NOT SELECT**



CALIB
00000.0
STAND ALONE

14. The lower line will show the following
in a looping sequence:

SAVE AND EXIT – Save all settings
entered and return to normal
operation.

CALIBRATE PUMP – Continue and
calibrate pump with 20 litre measure.

ABANDON CONFIG – Do not save
any settings entered and return to
normal operation.



CALIB
00000.0
CALIBRATE PUMP

15. If **CALIBRATE PUMP** was selected
TAKE NOZZLE will be shown.

Take the nozzle (the lower line will
show **DISPENSE 20L**) and dispense
20 litres into a calibrated test
measure.



CALIB
00000.0
DISPENSE 20L

16. Once 20 litres have been dispensed
hang up the nozzle. The lower line
should show **CALIBRATION OK**. If
there is an error in the calibration the
relevant error message will be
displayed.



CALIB
00000.0
CALIBRATION OK

ERRORS

If an error occurs **ERROR**, followed by a brief description is shown on the lower display. The errors are classified as follows:

FLOW TOO FAST The pulser has run too fast (in excess of 300 pulses per second)

UNAUTH FLOW The meter has turned without the nozzle being removed

CALIBRATE FAIL A time delay of 2 minutes or more has occurred during the 20 litre calibration.

PULSER SIGNAL One of the pulse transmitter's pulse trains has been interrupted.

PULSE REVERSE The meter has run backwards during a delivery

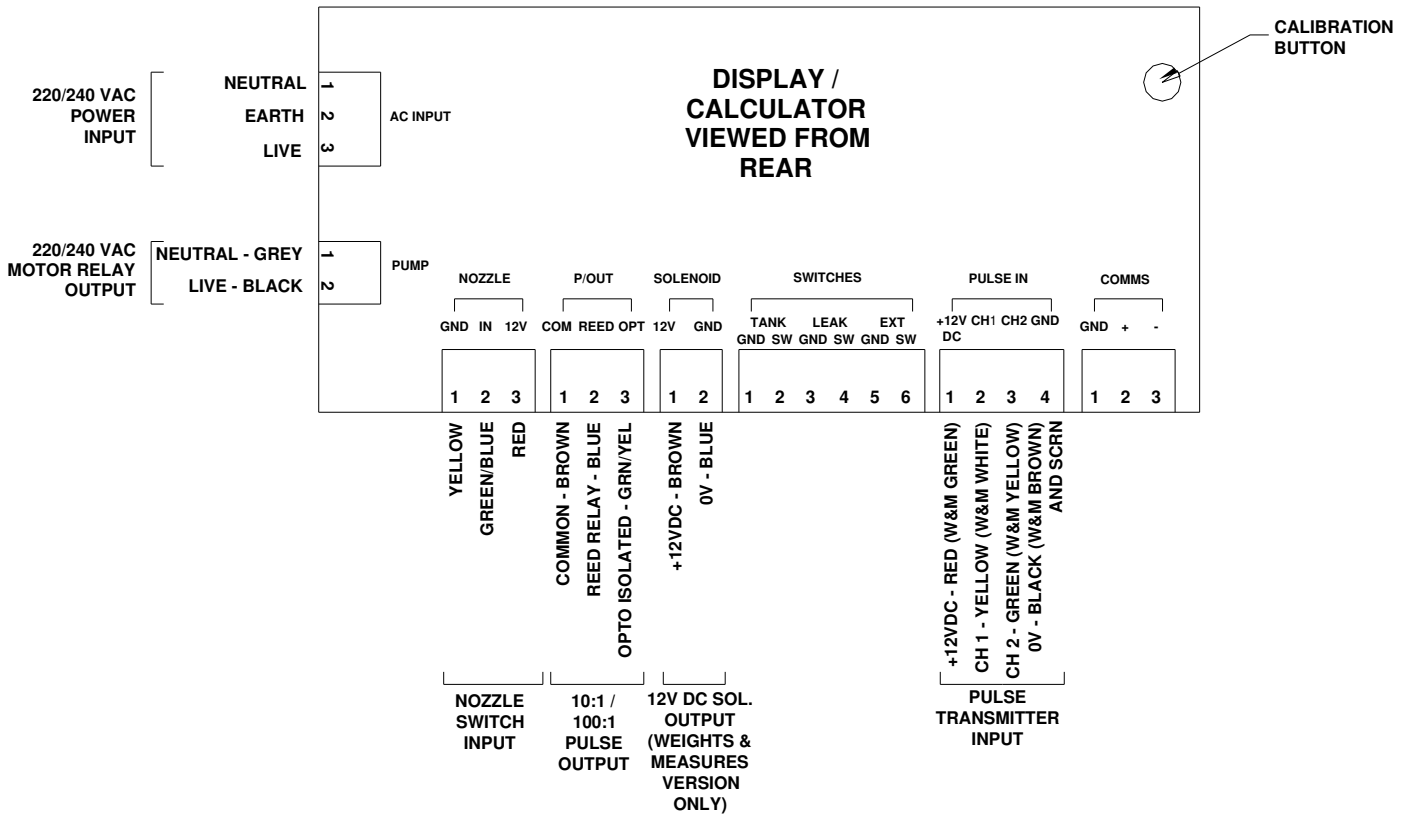
PULSER POWER The pulser has been disconnected

The error condition is maintained until the nozzle is returned to its holster, for at least 2 seconds, and then removed again to restart the fuelling sequence.

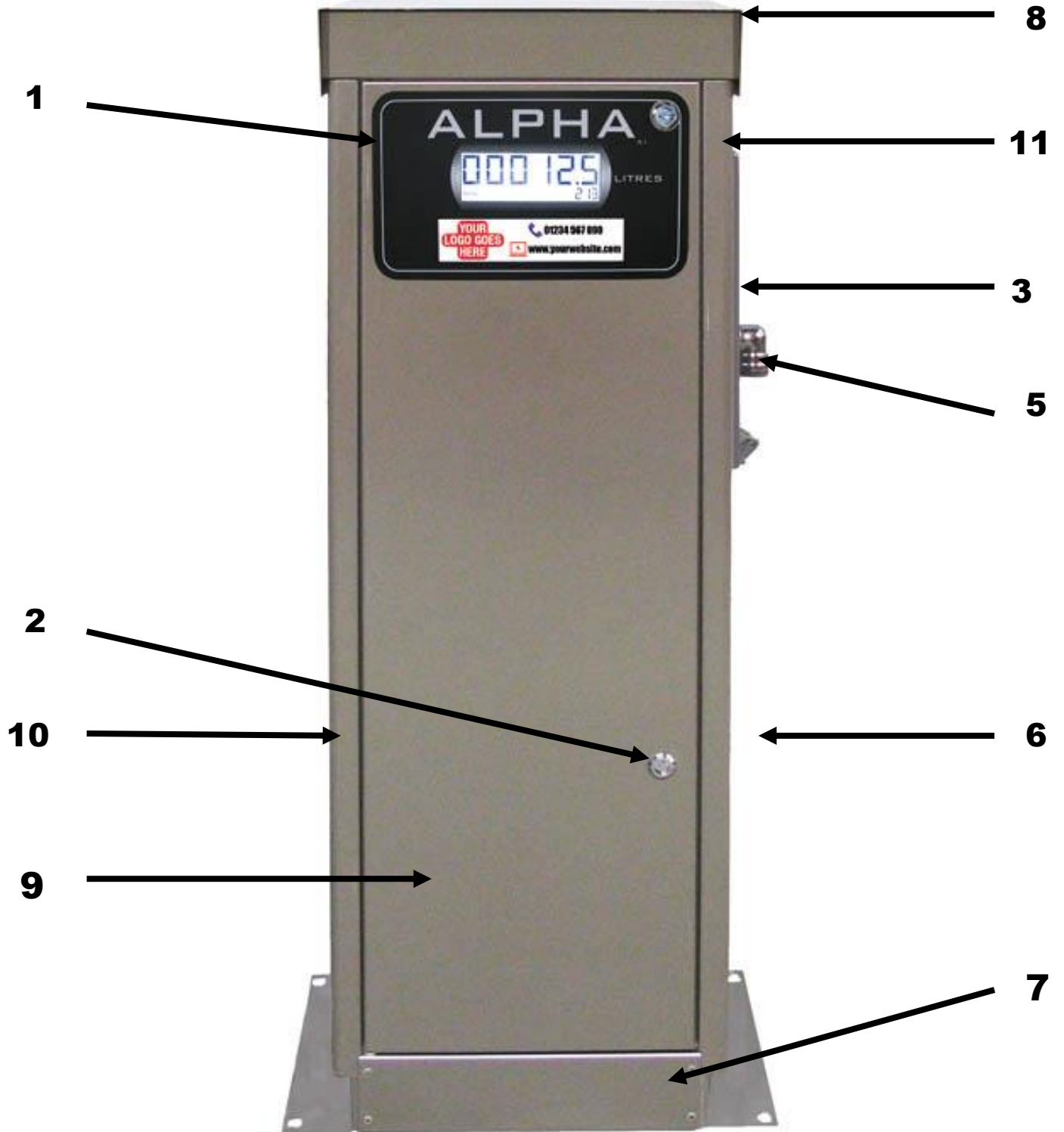
TIMEOUT

If, during a delivery, no fuel is dispensed for 2 minutes the display will show **TIMEOUT** alternating with **REPLACE NOZZLE** and the pump will stop running until the nozzle is returned to its holster, for at least 2 seconds, and then removed again to restart the fuelling sequence.

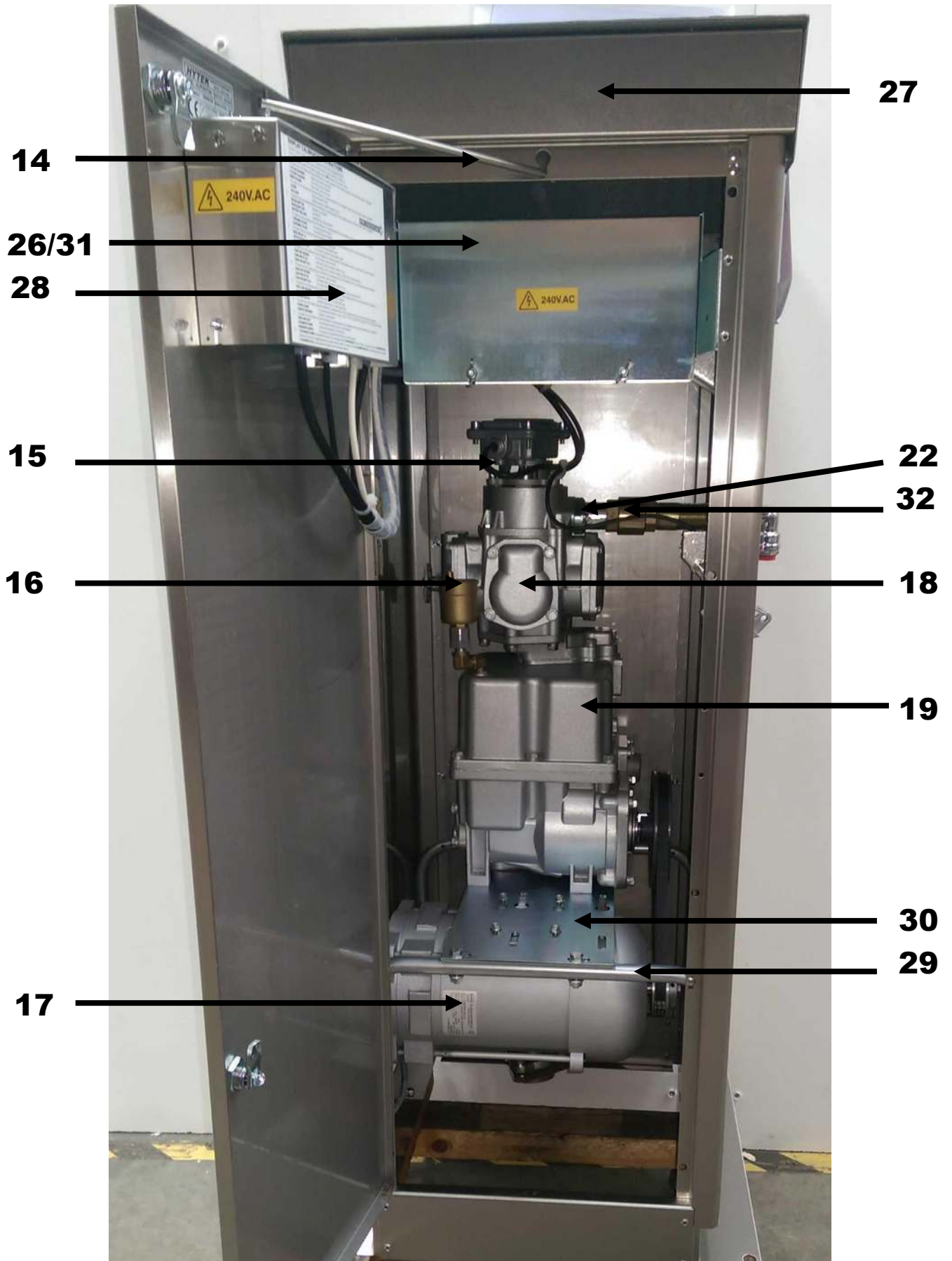
DISPLAY CONNECTION DIAGRAM



ALPHA EXTERNAL VIEW



ALPHA INTERNAL VIEW



ALPHA PARTS LIST

DRG. REF	PART DESCRIPTION	PART NO. A50/A70	PART NO. A90
	EXTERNAL COMPONENTS		
1	LCD DISPLAY UNIT (Above item includes LCD, transformer board and fitting kit)	ALP.DISP.PCB.3A	ALP.DISP.PCB.3A
2	LOCK (x 2)	ALP.LOCK3	ALP.LOCK3
3	NOZZLE HOLSTER WITH SWITCH	ALP.NOZBOOT.A	ALP.NOZBOOT.A
4	DOOR KEY	209.KEY	209.KEY
5	OUTLET ELBOW	ELB.4FFCR	ELB.4FFCR
6	SIDE ACCESS PANEL	ALP.ACCPAN3	ALP.ACCPAN3
7	MOUNTING BASE	ALP.BASE3	ALP.BASE3
8	TOP CAP	ALP.CAP3	ALP.CAP3
9	DOOR	ALP.DOORASS3	ALP.DOORASS3A
	DOOR (FRONT NOZZLE OPTION)*	ALP.DOORASS.F3	ALP.DOORASS.F3A
10	SIDE PANEL	ALP.SPAN.BL3	ALP.SPAN.BL3
11	SIDE PANEL WITH HOSE OUTLET	ALP.SPANH3	ALP.SPANH3
	SIDE PANEL WITH HOSE OUTLET (FRONT NOZZLE OPTION)	ALP.SPANH.F3	ALP.SPANH.F3
	INTERNAL COMPONENTS		
14	DOOR STAY	ALP.DSTAY3	ALP.DSTAY3
15	PULSER	PULS.30A	PULS.30A
16	AIR SEPARATOR OUTLET FLOAT CHAMBER	MINIVENT	MINIVENT
17	MOTOR	MOT.E75.ATEX	MOT.E75.ATEX
18	4 PISTON METER (2 REV PER LITRE)	209A.METER.REP	209A.METER.REP
19	PUMP UNIT (COMPLETE)	209A.PASSY	209A.PASSY
20	PULLEY BELT	VBLT.28	VBLT.285
21	PULLEY	PULL.25C	PULL.3C
22	METER OUTLET PIPE	ALP.OUTPIPE.W	ALP.OUTPIPE.W
23	INLET FLANGE*	FLNG	FLNG
24	INLET GASKET*	GSK.TRI	GSK.TRI
25	FLEXIBLE SUCTION CONNECTOR	TTLB	TTLB
26	RELAY (INSIDE JUNCTION BOX)	ALP.RELAY	ALP.RELAY
27	UPPER PANEL (x 2)	ALP.UPAN3	ALP.UPAN3
28	DISPLAY COVER	ALP.DISPCOV3	ALP.DISPCOV3A
29	PUMP MOUNTING FRAME (x 2)	ALP.PFRAME3	ALP.PFRAME3
30	PUMP MOUNTING PLATE (x 2)	ALP.PPLATE3	ALP.PPLATE3
31	JUNCTION BOX	ALP.DBOX3	ALP.DBOX3
32	OUTLET CHECK VALVE	CHK.1A.DRILL	CHK.1A.DRILL
33	CHECK VALVE*	209EP.21	209EP.21
34	BYPASS VALVE*	209EP.29	209EP.29
35	PUMP UNIT VANES* (X 6)	209EP.38	209EP.38
36	PUMP UNIT FILTER*	209EP.3	209EP.3

*Not shown on illustration

E.U. DECLARATION OF CONFORMITY



HYTEK
FUEL & LUBRICATION
EQUIPMENT

Company Name: **Hytek (GB) Ltd**

Address: **Delta House, Green Street. Elsenham,
Bishops Stortford, Hertfordshire, CM22 6DS, UK**

Date of Issue: **20th April 2016**

Equipment Details: **Alpha ATEX Fuel Pumps with Fuel Control**
ALPHA/50A, ALPHA/50LA, ALPHA/50FA, ALPHA/70A, ALPHA/70LA,
ALPHA/70FA, ALPHA/90A, ALPHA/90LA, ALPHA/90FA, ALPHA/5050A,
ALPHA/5070A, ALPHA/5090A, ALPHA/7070A, ALPHA/7090A,
ALPHA/9090A

Applicable Directives:
& Standards **2004/108/EC EMC Directive &
2014/30/EU EMC Directive** (effective date 20th April 2016)
EN 61000-6-3:2007 (+A1)
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards -
Emission std. for residential, commercial & light-industrial environments
EN 61000-6-2:2005
Electromagnetic compatibility (EMC) Part 6-2: Generic standards -
Immunity for industrial environments

2014/35/EU Low Voltage Directive

2006/42/EC Machinery Directive

**97/23/EC Pressure Equipment Directive &
2014/68/EU Pressure Equipment Directive** (effective 19th July 2016)

2012/19/EU Waste Electrical & Electronic Equipment Regulations

2011/65/EU Restriction of Hazardous Substances Directive (RoHS2)

**94/9/EC ATEX Directive
& 2014/34/EU ATEX Directive** (effective date 20th April 2016)
EN 13617-1:2012 & EN 1127-1:2011
EC Type examination Certificate No.: CML 15ATEX9183

Marking: Ex II 2 G
EN 13617-1:2012
Ta= -20°C to + 40°C

Notified Body: CML Ltd. Number 2503
Unit 1 Newport Business Park, New Port Road
Ellesmere Port, CH65 4LZ UK

Declaration Number: **EU124/5**

On behalf of the above named company, I declare under our sole responsibility that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.



Clive Wellings, Technical Manager

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