

ALPHA ATEX APPROVED TWIN DIESEL PUMP WITH FUEL CONTROL SYSTEM



Applies to ATEX Certified Alpha Twin diesel / gas oil pumps only.

ALPHA/5050AFC

ALPHA/9090AFC

Please read carefully **BEFORE** commencing installation.

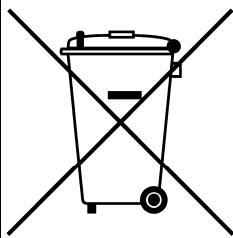
Registered Office: HYTEK (GB) LIMITED,
Delta House, Green Street, Elsenham, Bishop's Stortford,
CM22 6DS UK.

Registered in England No. 1915382

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ENVIRONMENTAL INFORMATION



UK Regulation SI 2013 3113 requires that the equipment bearing this symbol on the product an/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 and all 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.

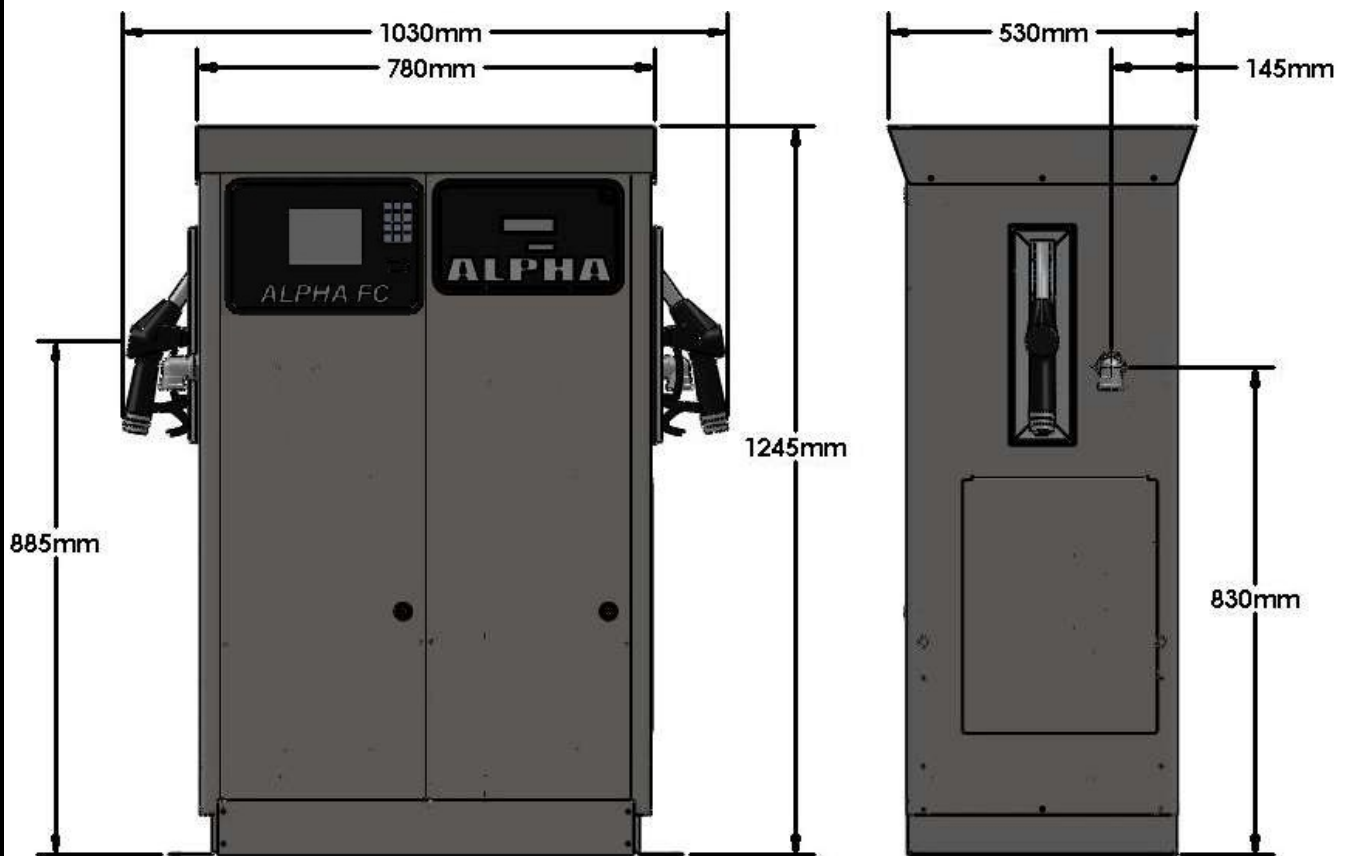
CALIBRATION

The meter on this pump unit must be calibrated electronically to ensure accuracy and reliability. Please see page 10 for further details.

INSTALLATION INSTRUCTIONS

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

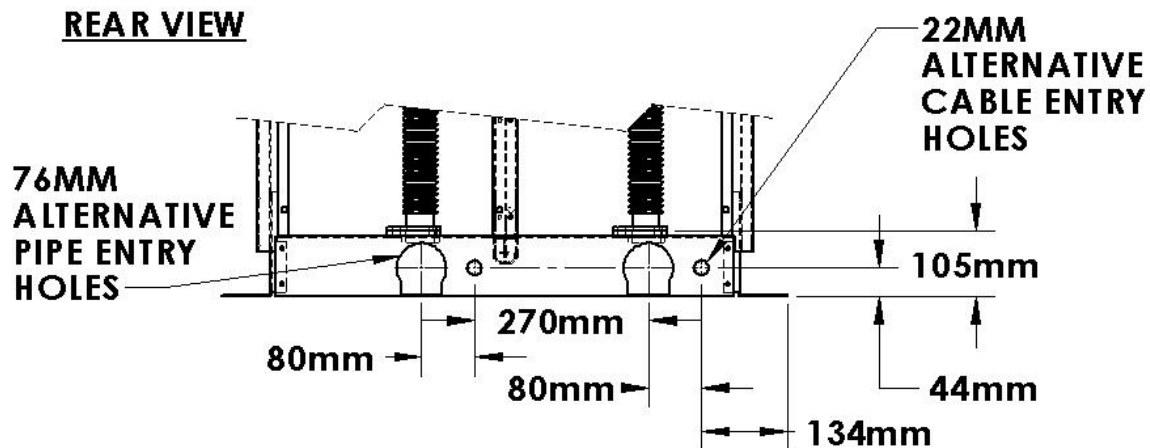
ALPHA TWIN EXTERNAL DIMENSIONS



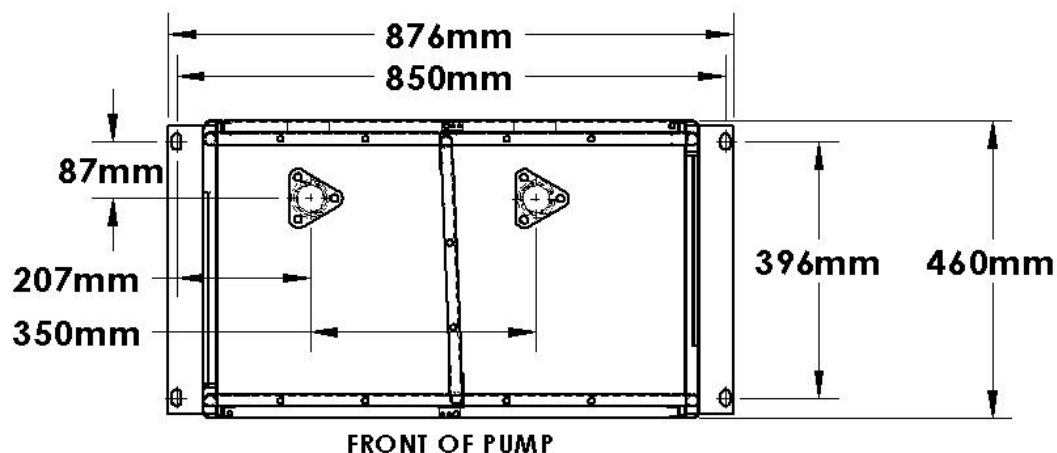
MOUNTING

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

ALPHA TWIN BASE AND SUCTION CONNECTION



BASE VIEW (FROM ABOVE)



PIPEWORK

5. Connect the 1 1/2" diameter pipe from the tank to the suction inlet flexible connectors of the pump. The inlet threads of the flexible connector flanges are 1 1/2" BSP taper female. Seal the joints with a suitable thread-sealing compound. Alternative pipe work entry points, for above ground pipe work, are provided at the rear of the pump base. Push out the plastic cover plates 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 one end of the delivery hoses into the outlet elbow. Ensure the nylon hose-sealing washers are in place on the hose end. It should be hand tight plus a quarter turn.
7. Screw the nozzles onto the other ends of the hoses, again ensuring the nylon washers are in place. No other sealing compound is necessary. Hand tight plus a quarter turn.

ELECTRICAL

8. Remove the cover from the junction box.
9. Connect two constant 220/240V AC 50 Hz supplies, fused at 16 amps, to the terminal blocks 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

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

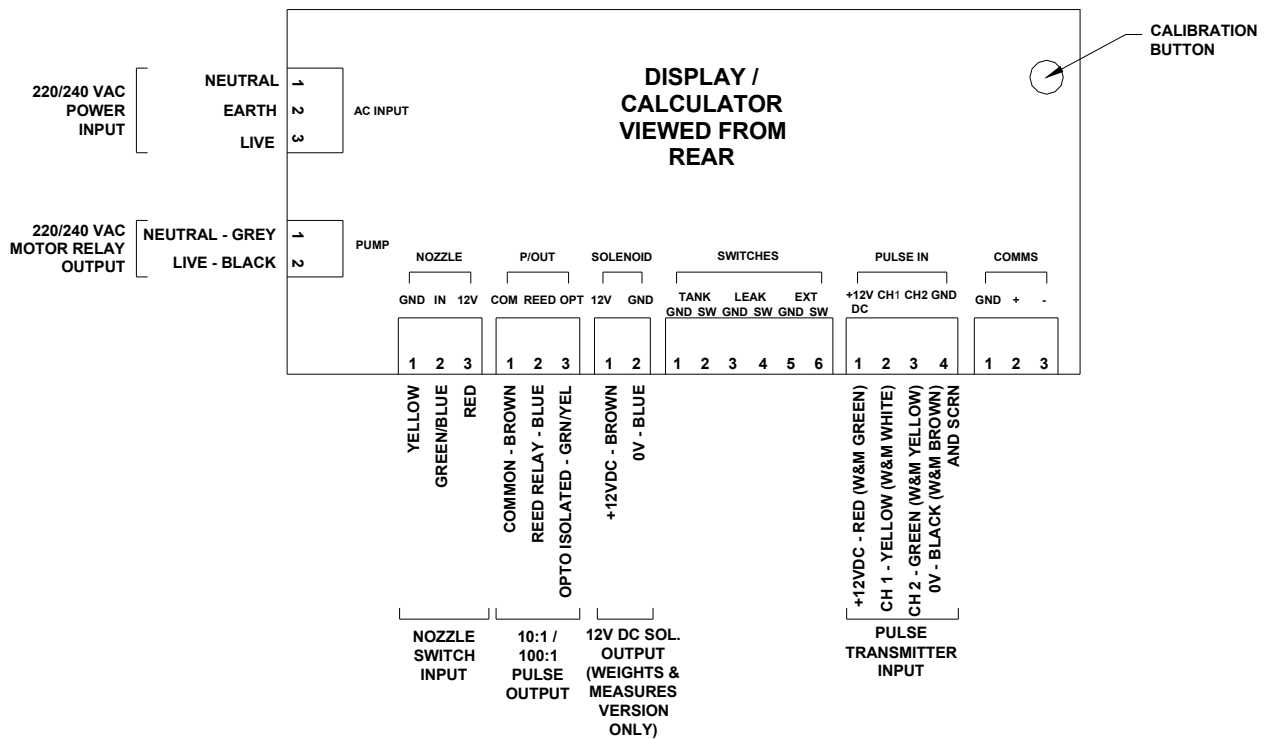
Make connection - Pump on
Break connection - Pump off

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

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

11. A pulse output for connection to key/card systems is available from the separate terminals located in the junction box. This is

PUMP 2 DISPLAY CONNECTION DIAGRAM



INSTRUCTIONS FOR USE

1. See additional document for using the FC10 fuel control unit.
2. Remove the nozzle from the holster.
3. Place the nozzle spout in the fuel tank.
4. Squeeze the nozzle trigger to dispense fuel.
5. On completion of the delivery release the trigger and replace the nozzle in the holster.

MAINTENANCE

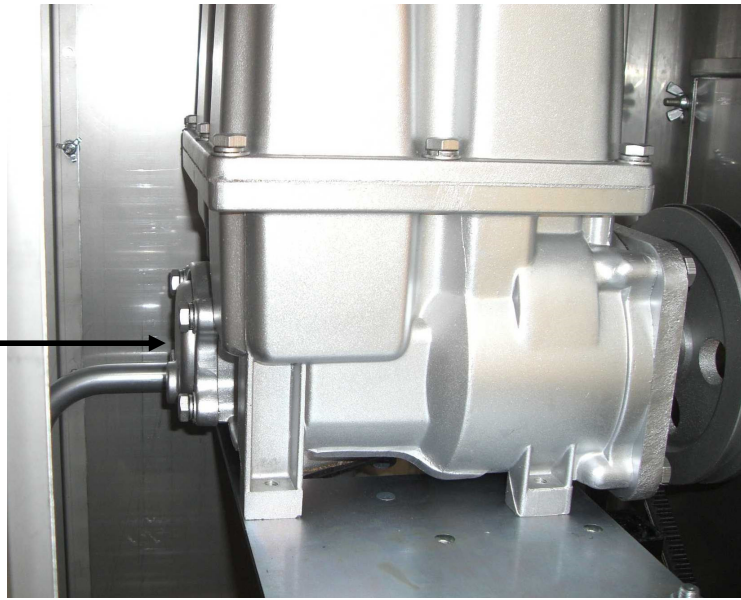
The Alpha should require minimum maintenance in normal regular use, but as with all mechanical apparatus regular servicing will prolong its life and ensure maximum efficiency & reliability.

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

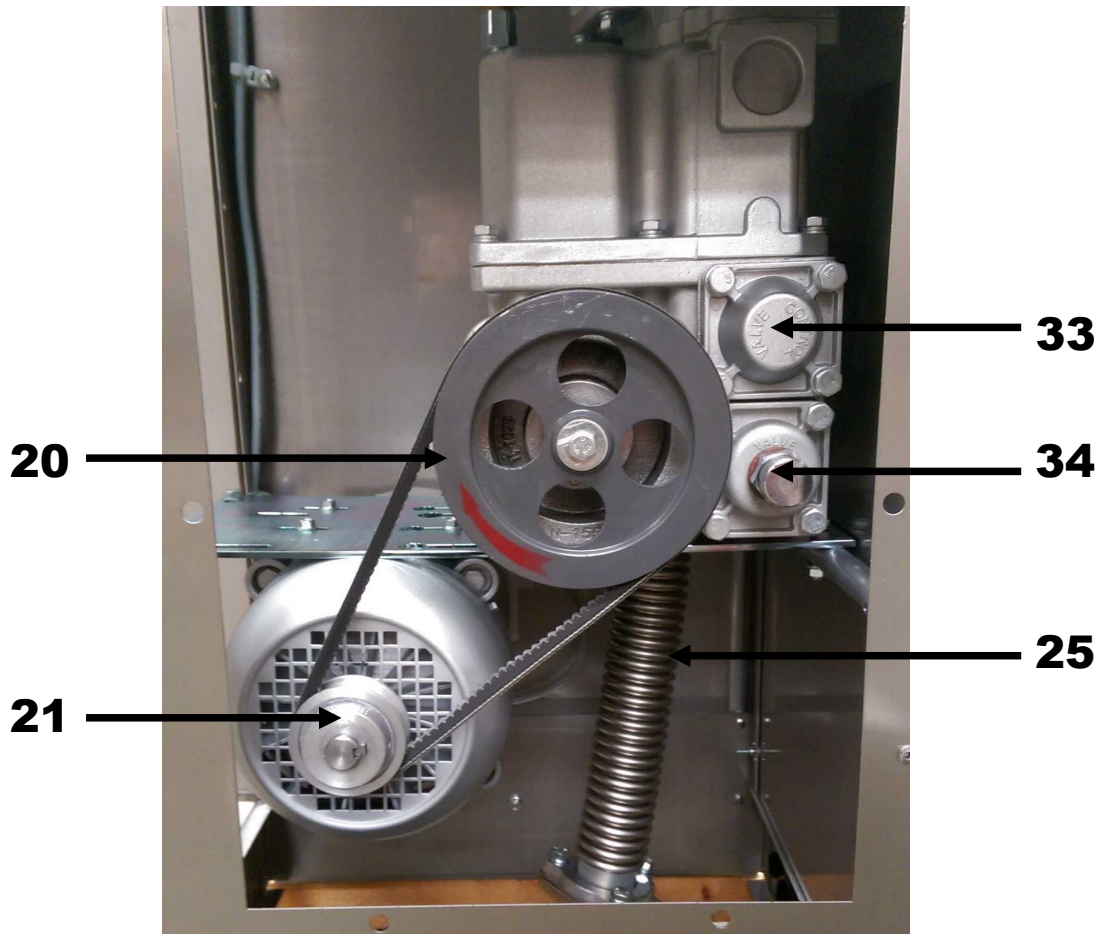
- **Isolate power supply**
- **Inspect & clean or replace pump filters**
- **Inspect & clean or replace nozzle filters**
- **Inspect & replace if necessary the V-belts**
- **Check motor pulley grub screws are tight**
- **Re-calibrate electronic displays**

ALPHA PUMP UNIT FILTER LOCATION

**PUMP UNIT
FILTER LOCATION
AS VIEWED FROM
THE FRONT**



ALPHA SIDE ACCESS PANEL VIEW



PUMP 1 – FC10 FUEL CONTROL CALIBRATION

Please use the GREEN engineer's calibration tag to calibrate Pump 1 – FC10 Fuel Control Unit. (Stock code **FC.TAGC**)

PUMP 2 – ALPHA DISPLAY CALIBRATION

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"

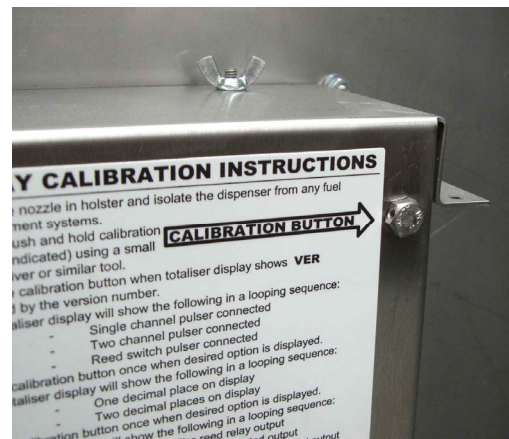
Nozzle Returned: Pump stops
Upper line of LCD display shows previous delivery
Lower line of LCD display shows ongoing total

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).



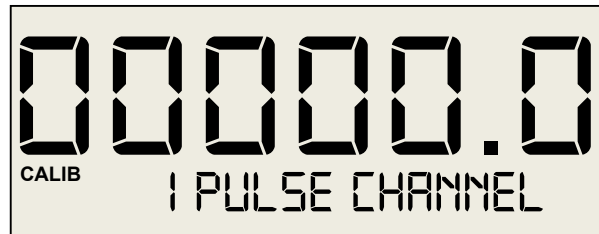
3. Gently push and hold the calibration button using a small screwdriver or similar tool.



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

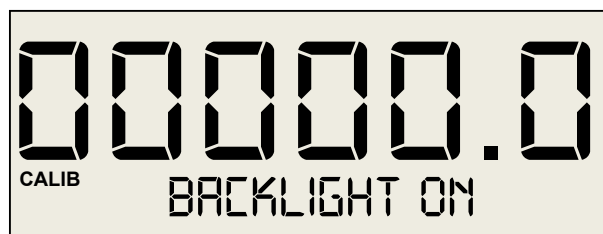


Press calibration button once when desired option is displayed.
Select **2 PULSE CHANNEL** for Weights & Measures Alpha, **REED PULSER** for Alpha fitted with PULS.E18 reed switch pulser (pre August 2003) or Adblue™ Alpha and **1 PULSE CHANNEL** for all other Alpha versions.

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.

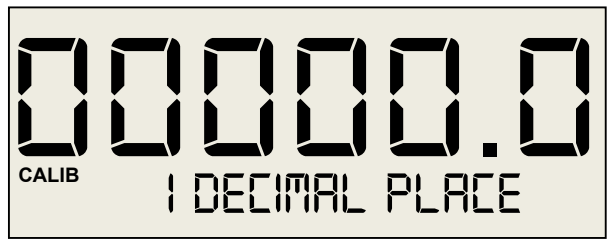


8. The lower line will show the following in a looping sequence:

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.



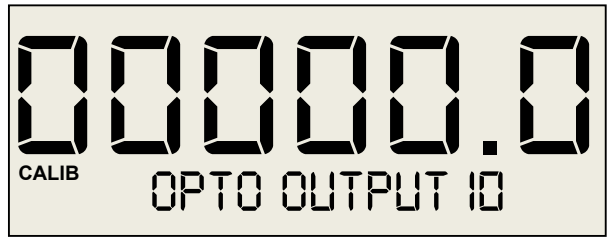
9. The lower line will show the following in a looping sequence:

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.

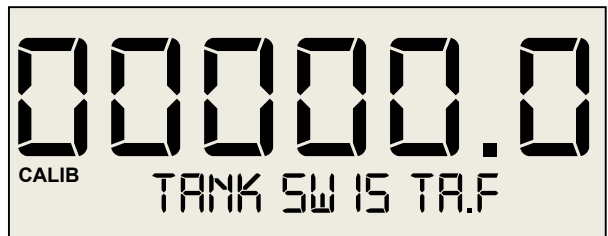


10. The lower line will show the following in a looping sequence:

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)

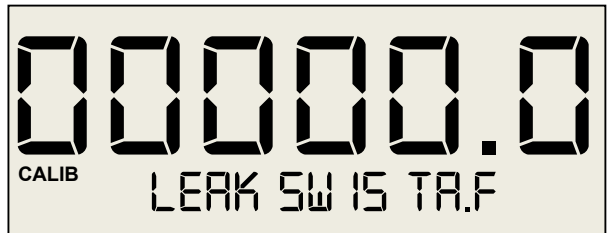


11. The lower line will show the following in a looping sequence:

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.



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**



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.



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.



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.



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

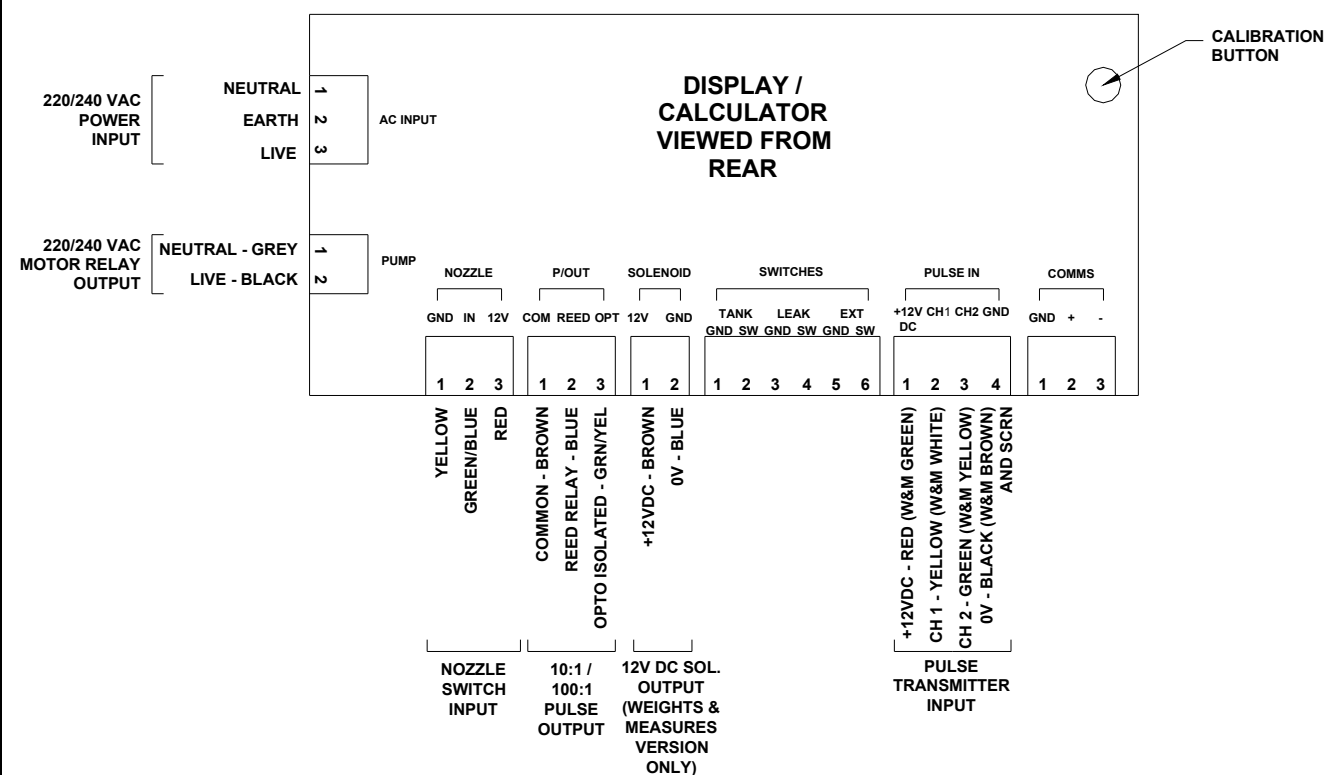
PULSER POWER The pulser has been disconnected

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



USING THE FC10 FUEL CONTROL UNIT

ALPHA PUMP TERMINAL FEATURES

The Alpha Pump Terminal, pictured below is fitted into the front of the Alpha fuel dispenser.



FEATURES:

Display: This shows pump totals as well as user information and instructions. The display is backlit to allow the pump to be used in all light conditions.

Keypad: Used to enter information such as odometer readings and PIN codes.

Data Tag Reader Slot: This is where the Data Tag is inserted by the user to initiate the dispensing of fuel.

THE ALPHA PUMP TERMINAL IN STANDBY MODE

This is when the Alpha Pump Terminal is powered up, with the display illuminated, but not in use.

DISPLAY INFORMATION:

Total Pump 1: This is the number shown in the top left-hand corner of the display screen. It is the total amount of fuel dispensed by pump 1 since installation.

Time and Date: This is shown in the centre at the top of the display screen. It will cycle between the Time & Date and the site name.

Total Pump 2: This is only active if an additional pump is connected to the ALPHA FC10. The pump 2 total is shown in the top right-hand corner of the display screen. It is the total amount of fuel dispensed by pump 2 since installation.

Last Transaction These are shown in the dark coloured box in the centre of the display screen. They include the Data Tag ID number of the last user, the amount of fuel delivered, the time and date the fuel was delivered and vehicle MPG.

Last Amount Dispensed: This is shown in large text at the bottom of the display.

FUELLING FROM THE ALPHA PUMP TERMINAL

THE FUELLING PROCEDURE:

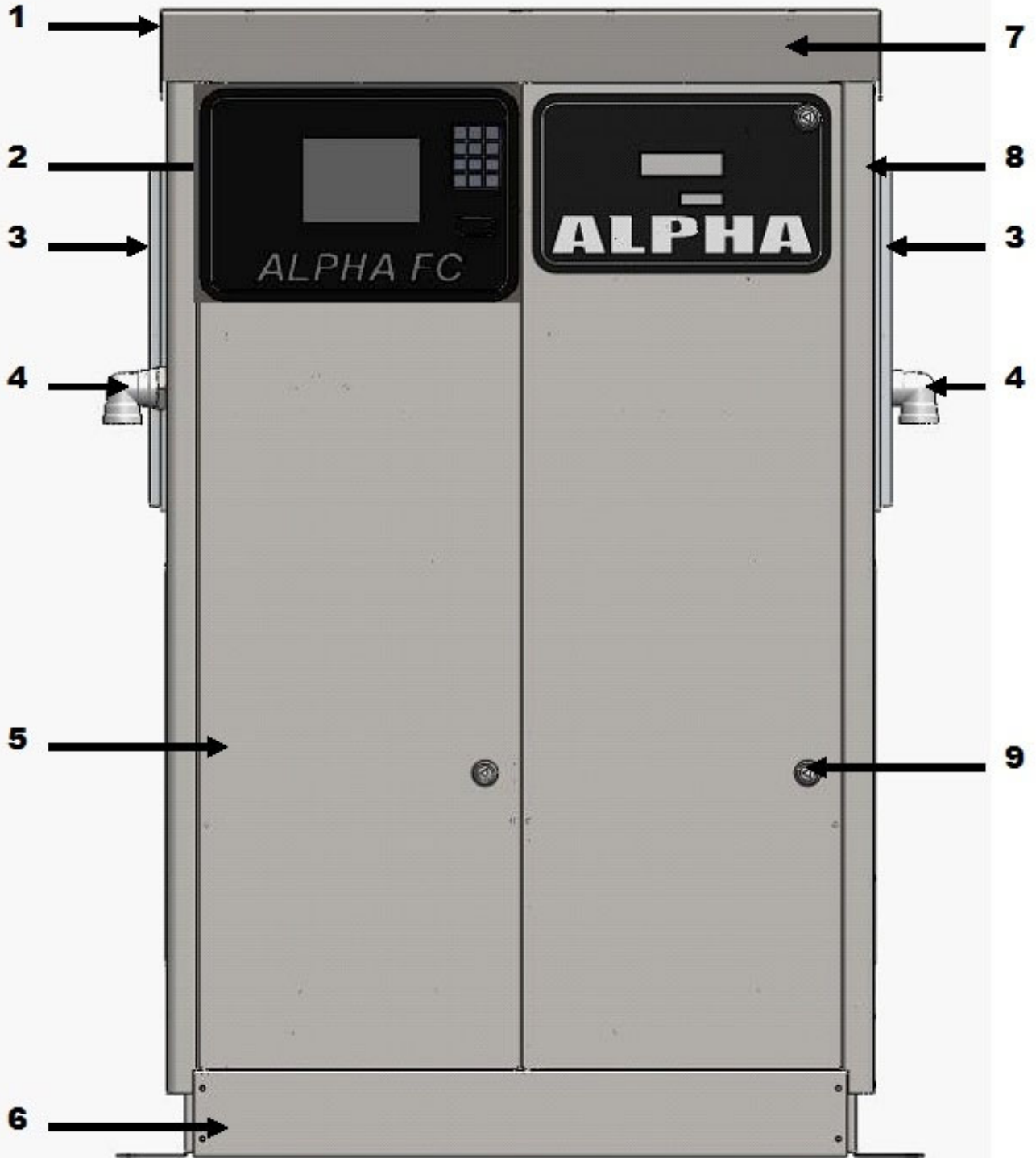
- a.) Insert Data Tag into the Data Tag Reader Slot. The display will show the Data Tag ID number and the registration number of the vehicle the Data Tag is allocated to.
- b.) If a message for the vehicle user is stored on the system it will be displayed. The "ENT" key on the keypad must be pressed, to acknowledge the message, before fuel can be drawn.
- c.) If entry of the vehicle's odometer reading is required the display will show "PLEASE ENTER CURRENT ODOMETER". The last odometer reading entered for this vehicle will also be shown if this feature has been enabled in the Fuel Manager software. Type the current vehicle odometer reading, on the keypad, followed by pressing the "ENT" key.
- d.) If entry of a driver's identity PIN number is required the display will show "PLEASE ENTER DRIVER ID". Type the identity PIN number of the driver, on the keypad, followed by pressing the "ENT" key.
- e.) If an additional pump is connected to the ALPHA FC10 and all the access protocol entered has been accepted then the display will show "PLEASE SELECT A PUMP.....". Type the number of the pump to be used (1 or 2).
- f.) "REMOVE DATA TAG" will be shown on the display.
- g.) Remove the Data Tag from the Data Tag Reader Slot. The display will now show "PLEASE FUEL AT THE PUMP".
- h.) Remove the nozzle from the pump nozzle holster, place in the vehicle fuel tank filler and draw fuel.
- i.) The amount of fuel dispensed will be shown on the display.
- j.) On completion of the fuel delivery replace the nozzle in the pump nozzle holster.
- k.) The amount of fuel taken will be retained on the display screen until a Data Tag is inserted into the Data Tag Reader Slot.

ALPHA ATEX TWIN PARTS LIST

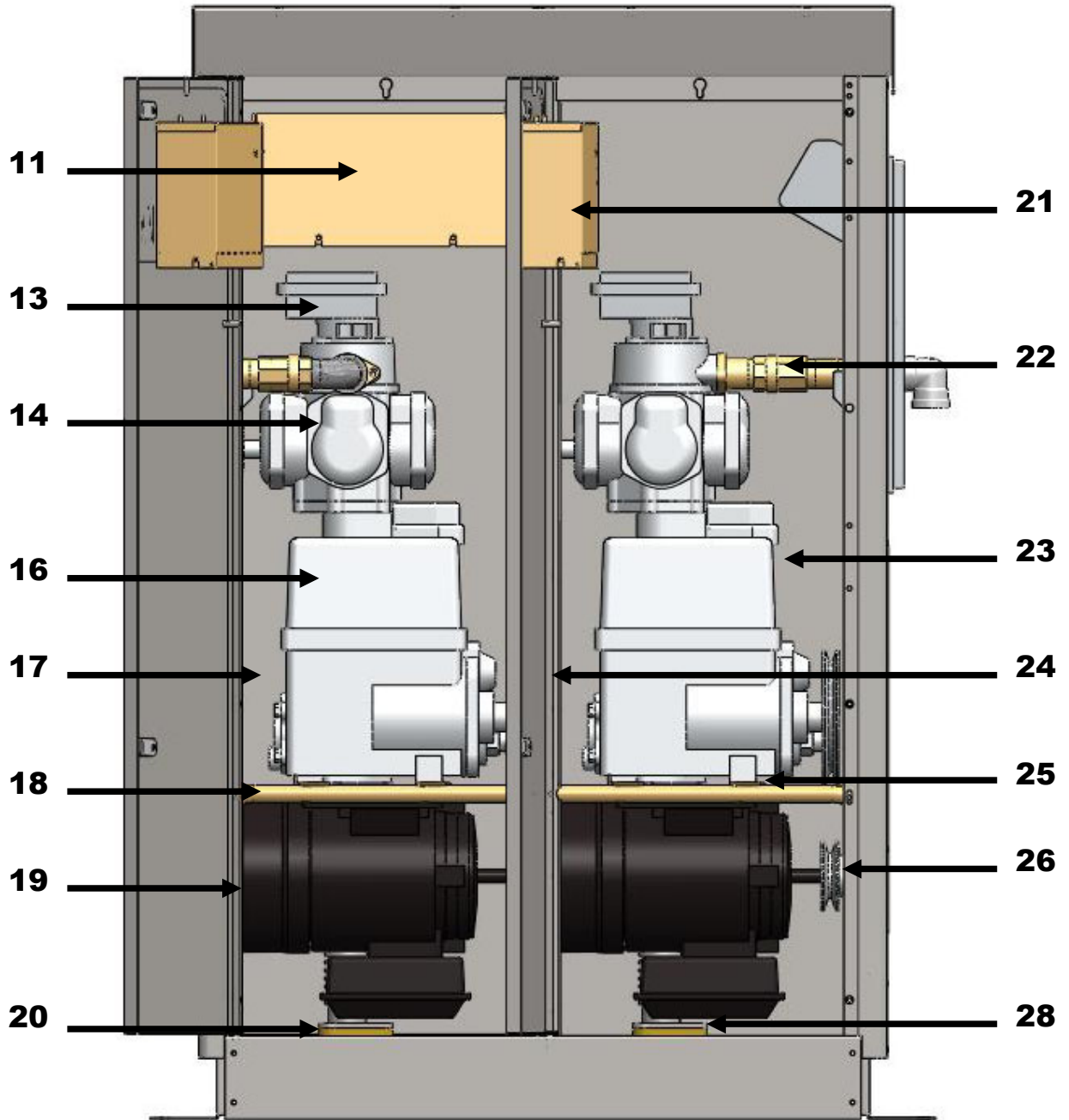
REF	PART DESCRIPTION	PART NUMBER
EXTERNAL COMPONENTS		
1	TOP CAP	ALP.CAP3T
2	FC10 OR ALPHA LCD DISPLAY UNIT	CONTACT HYTEK
3	NOZZLE HOLSTER WITH SWITCH (X2)	ALP.NOZBOOT.A OR ALP.NOZBOOT.FC10
4	OUTLET ELBOW (X2)	ELB.4FFCR
5A	DOOR (X2)	ALP.DOORASS3A OR ALP.DOOR.FC3
5B	DOOR (FRONT NOZZLE OPTION)* (X2)	ALP.DOORASS.F3A
6	MOUNTING BASE	ALP.BASE3T
7	UPPER PANEL (x 2)	ALP.UPAN3T
8A	SIDE PANEL WITH HOSE OUTLET (X2)	ALP.SPANH3
8B	SIDE PANEL WITH HOSE OUTLET* (FRONT NOZZLE OPTION) (X2)	ALP.SPANH.F3
9	LOCK (x 4)	ALP.LOCK3 OR ALP.LOCK.FC
10	DOOR KEY	209.KEY OR ALP.KEY.FC
INTERNAL COMPONENTS		
11	JUNCTION BOX	ALP.DBOX3T
12	RELAY (INSIDE JUNCTION BOX)* CHECK VOLTAGE!	ALP.RELAY (230V) OR ALP.FC10.RELAY (12V)
13	PULSER (X2)	PULS.30A
14	4 PISTON METER (2 REV PER LITRE) (X2)	209A.METER.REP
15	AIR SEPARATOR OUTLET FLOAT CHAMBER (X2)*	MINIVENT
16	PUMP UNIT (COMPLETE) (X2)	209A.PASSY
17	REAR PANEL (LEFT SIDE)	ALP.SPANR3
18	PUMP MOUNTING FRAME (x 2)	ALP.PFRAME3T
19	MOTOR	MOT.E75.ATEX
20	INLET FLANGE (X2)*	FLNG
21	DISPLAY COVER (X2)	ALP.DISPCOV3A
22	OUTLET CHECK VALVE (X2)	CHK.1A.DRILL
23	REAR PANEL (RIGHT SIDE)	ALP.SPANR3T
24	CENTRE STRUT (X2)	ALP.STRUT
25	PUMP MOUNTING PLATE (x 4)	ALP.PPLATE3
26A	PULLEY (50 LPM)	PULL.2C
26B	PULLEY (70 LPM)	PULL.25C
26C	PULLEY (90 LPM)	PULL.3C
27A	PULLEY BELT (50 LPM)*	VBLT.275
27B	PULLEY BELT (70 LPM)*	VBLT.28
27C	PULLEY BELT (90 LPM)*	VBLT.285
28	FLEXIBLE SUCTION CONNECTOR (X2)	TTLB
29	INLET GASKET (X2)*	GSK.TRI
30	DOOR STAY (X2)*	ALP.DSTAY3
31	SIDE ACCESS PANEL (X2)*	ALP.ACCPAN3
32	CHECK VALVE (1 PER PUMP UNIT)*	209EP.21
33	BYPASS VALVE (1 PER PUMP UNIT)*	209EP.29
34	PUMP UNIT VANES (6 PER PUMP UNIT)*	209EP.38
35	PUMP UNIT FILTER (1 PER PUMP UNIT)*	209EP.3

*Not shown on illustration

ALPHA TWIN EXTERNAL VIEW



ALPHA TWIN INTERNAL VIEW



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UK/EU DECLARATION OF CONFORMITY



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

Address: **Delta House, Green Street, Elsenham
Bishop's Stortford, Hertfordshire, CM22 6DS**

Date of Issue: **21st August 2023**

Equipment Details: **Alpha ATEX Fuel Pumps with Fuel Control**
ALPHA/50AFC, ALPHA/50L AFC, ALPHA/50WAFC, ALPHA/70AFC,
ALPHA/70L AFC, ALPHA/70WAFC, ALPHA/90AFC, ALPHA/90L AFC,
ALPHA/90WAFC, ALPHA/5050AFC, ALPHA/5070AFC, ALPHA/5090AFC,
ALPHA/7070AFC, ALPHA/7090AFC, ALPHA/9090AFC

Applicable Directives:
& Standards **SI 2016 1091 Electromagnetic Compatibility Regulations
2004/108/EC EMC Directive & 2014/30/EU EMC Directive**
EN 61000-6-3:2007 (+A1)
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission
standard for residential, commercial and light-industrial environments
EN 61000-6-2:2005
Electromagnetic compatibility (EMC) Part 6-2: Generic standards - Immunity for
industrial environments

**SI 2016 1101 Electrical Equipment Safety Regulations
2014/35/EU Low Voltage Directive**

**SI 2008 1597 Supply of Machinery Safety Regulations
2006/42/EC Machinery Directive**

**SI 2016 1105 Pressure Equipment Safety Regulations
2014/68/EU Pressure Equipment Directive**

**SI 2013 3113 Waste Electrical & Electronic Equipment Regulations
2012/19/EU Waste Electrical & Electronic Equipment Regulations**

**SI 2012 3032 Restriction of Use of Certain Hazardous Substances Regulations
2011/65/EU Restriction of Hazardous Substances Directive (RoHS2)**

2014/34/EU ATEX Directive
EN 13617-1 & EN 1127-1

EU Type examination Certificate

Number: CML 15ATEX9183
Issued by Notified Body: CML Ltd. Number 2503
Unit 1 Newport Business Park, New Port Road
Ellesmere Port, CH65 4LZ UK

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

Notified Body Issuing QA: CML B.V Number 2776
Notification Certificate Chamber of Commerce No 6738671
Hoogoorddreef 15, Amsterdam, 1101 BA,
The Netherlands

Declaration Number: **UK126 Issue 7**

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, Process Co-ordinator, 21st August 2023, Bishop's Stortford, Herts

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