

KC FLOWMETERING LTD

PROTECTING NATURE



Operating Manual for Krohne Flowmeter, Slurry Monitor, FiF & Optional Trimble EZ-Guide 250/750



Revised November 2024

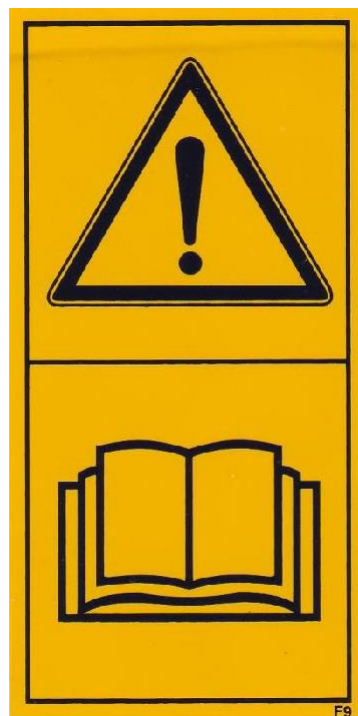
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GENERAL INFORMATION PART 1

OPERATORS MANUAL

**PLEASE READ THIS MANUAL THOROUGHLY BEFORE
OPERATING YOUR NEW FLOW METER**



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Operating and Maintenance Manual

Krohne Flowmeter, Slurry Monitor and optional Trimble EZ-Guide 250/750.

Foreword

Dear User,

We would like to thank you for choosing **KC FLOWMETERING** equipment. This product possesses a high level of technical reliability and will allow you to benefit from **KC's** vast experience in slurry spreading technology

The aim of the manual is to help you use efficiently, correctly operate and service your Flowmeter system. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your system may be available in other languages.

THIS MANUAL should be considered a PERMANENT PART of your system and should remain with your system if you sell it.

Please contact your dealer should you have any questions about your **KC FLOWMETERING** equipment.

Chris Febrey

Proper use of the Flowmetering System

The Flowmeter system is designed for use in agricultural application. If this system is used in any other application, it may be considered as contrary to the intended use. Therefore the manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user.

Compliance and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

Any person using this system should read this manual carefully and strictly abide by the legislation in terms of:

- Accident Prevention
- Work Safety

The user has to strictly respect all the warning signs affixed to the system. Any modifications done to the system without prior written agreement of the manufacturer, releases the manufacturer from responsibility for any damage which might occur from this.

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Safety Regulations

Make sure all regulations concerning Work Safety are respected before you begin to use this equipment.

- Apart from the regulations specified in this manual, you should also abide by the safety regulations and accident prevention legislations
- Carefully read all instructions and safety messages in this manual and on your Flowmeter system
- Before using the system the user should familiarize himself with the operating systems of the Flowmeter and the respective functions.
- Before using the Flowmeter check that all flange bolts are correctly tightened in compliance with the instruction given on the label or manufacturers' instruction book supplied with the Flowmeter.

Maintenance

- Periodically check that all flange bolts are tightened to comply with the instructions given on the label or manufacturers' instruction book supplied with the Flowmeter.
- Disconnect battery or plugs before carrying out any repair to the electrical system.
- Spare parts must comply with norms and characteristics stipulated by the manufacturer.
- Before storing away, thoroughly wash the Flowmeter removing all traces of slurry
- Great care must be taken when washing with high pressure hoses. Do not hold the water jet close to the paintwork or display head.
- Use steam cleaners with caution – be sure to remove all detergents to avoid any dis-colouring or damage to paint.
- It is important where possible to store undercover to protect against rain and sunlight.

Remember maintenance will greatly increase the life of the machine.

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Please note: This Instruction Manual covers multiple applications therefore the specification and descriptions may vary depending on the system ordered and supplied.

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FLOWMETER FITTING

1. The Operator should read this manual before using the equipment and before making any electrical connections.
2. The Flowmeter should be fitted in compliance with its own fitting instructions enclosed. You must ensure it is securely bolted into a rigid pipeline using the appropriate flanges and rubber gaskets supplied. Earthing tags must be connected to the Flange bolts.

NOTE: The Krohne Flowmeter will have been set up for installation after consultation with the end user. **It must always be fitted so that the cable exit is at the bottom to prevent the ingress of moisture. (see page 7).** If this Manufacturers' instruction is not adhered to, it could result in ingress of water and invalidation of Warranty. Please seek advice from your Supplier if in any doubt. Also see Manufacturers' Instruction Book supplied with the Flowmeter for more information.

If there should be a need to remove the Flowmeter or replace flanges, **DO NOT OVERTIGHTEN THE BOLTS** as the synthetic linings within the Flowmeter contain electrical circuits which can be damaged or destroyed. See Torque Charts on pages 13 and 14 of the Manufacturers' Instruction Book marked 'Optiflux 2000'

3. Gaskets are required between flanges of the Flowmeter.
4. The sensor is directional so liquid must flow in the direction of the arrow as indicated on the stem or barrel of the sensor.
5. The Flowmeter is programmed and sealed. It should not under any circumstances be opened as the seals will be broken and Warranty invalidated.
6. The unit is powered by a 12v supply through a 4 amp internal fuse. Any other connection could cause terminal damage to the unit.
7. Do not pressure wash the unit as it contains delicate electrical circuits which will be damaged by the ingress of water or moisture. Prior to any pressure washing of machinery, cover the unit and if necessary wash separately.
8. THIS UNIT IS FRAGILE - DO NOT SUBJECT IT TO SHARP BLOWS OR KNOCKS AS THIS CAN DAMAGE THE INTERNAL CIRCUITS.
9. If any **electric welding** has to take place on any metal where the Flowmeter is attached, the complete unit must be removed and isolated from the effects of the welding to prevent damage being done to the electrical circuits.
10. If you experience any problems with this unit, contact your supplier for further advice.

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Instructions for Head Turning on Krohne Flowmeter

Under normal circumstances your Krohne Flowmeter will have been set up prior to delivery.

It is essential that when installed the supply cable exits the unit at the bottom. Should it be in any other location, such as the side or the top this will allow the ingress of moisture and immediately invalidate the Warranty.

Should there be a need to relocate the Flowmeter after its initial setup, it may be necessary to rotate the display head to comply with the guidelines above. It must be borne in mind however, that there is delicate wiring between the head and the main body of the Flowmeter. In order to eliminate any chance of damage please follow the guidelines below.



Carefully remove the four stainless steel screws with a 5mm Allen Key ensuring that the head is supported and the wiring is not stretched – do not loosen or remove the Blue cover.

Rotate the head to its new location with the minimum of movement to avoid stretching or twisting the wires. When in the correct location replace the stainless steel screws ensuring the head is squarely seated on the base to prevent moisture ingress.



The photographs on the left illustrate the component parts and the make-up of the Flowmeter.



FIF MONITOR PART 2

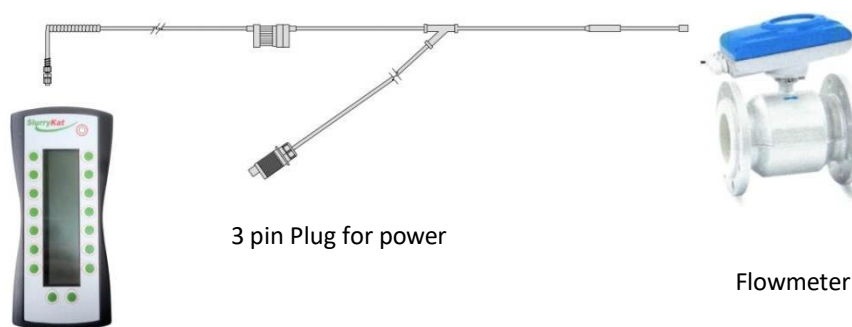
Brief Description and Wiring Diagram

The FiF Slurry Monitor is easily installed in the Tractor Cab by using the Magnetic Mount.

The 3 pin plug should be connected to an appropriate power outlet and the unit switched on as shown in the diagram on Page 8.

The Flowmeter should be connected behind the tractor seat so that the plug remains dry and clean.

Fuse – A 4 amp fuse is fitted within the 3 pin plug to protect the circuit of the Flowmeter and FiF Device.



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FiF Monitor

A useful add-on to the standard Flowmeter is to provide in-cab information. This is achieved with the FiF Monitor in-cab display shown below.



This unit will duplicate the information displayed on the Flowmeter itself which is often not readily accessible or easy to read.

This soft screen display will clearly show the actual Flowrate in M^3/hr and also provide a actual totaliser again shown in M^3 . The totaliser is easily reset as indicated on the unit itself.

The Tanlake FiF Monitor is supplied with its own suction pad and swivel arm allowing it to be attached to the windscreen or side window. There is minimal wiring connecting the unit and Flowmeter and the only electrical requirement is a 3 pin 12v outlet in the tractor cab.

Additional information is stored on the Flowmeter itself although access to the information is more difficult to source. With the use of the magnet pen supplied, and contained within the Manufacturers' Instruction package, the readings can be checked by scrolling downwards until the display window shows M^3 totals. This meter can be reset by following the procedure outlined on the following page, again with the use of the magnet pen. (On some models a keypad is available to achieve the same result). Full details of this and other operations are detailed on the supplied CD identified as **IFC 050 – CD Product Information**.

This Flowmeter is designed to be upgraded if required and a fully computerised In-Cab Unit can be supplied and linked to GPS to assist with forward speed and field mapping. Consult your supplier/dealer for more information.

Description of functions

6.5.1 Reset counter in the menu "quick setup"



INFORMATION!

It may be necessary to activate resetting of the counter in the menu "quick setup".

Key	Display	Description and setting
>	quick setup	Press and hold for 2.5 s, then release the key.
>	language	-
3 x .L	reset	-
>	reset errors	-
.L	counter 1	Select desired counter.
.L	counter 2	
>	reset counter no	-
.L or I'	reset counter Yes	-
	counter 1, 2	Counter has been reset.
3 x	Measuring mode	-

6.5.2 Deleting error messages in the menu "quick setup"



INFORMATION!

For the detailed list of the possible error messages refer to Status messages and diagnostic information on page 65.

Key	Display	Description and setting
>	quick setup	Press and hold for 2.5 s, then release the key.
>	language	-
3 x .L	reset	-
>	reset errors	-
>	reset? no	-
.L or I'	reset? yes	-
	reset errors	Error has been reset.
3 x	Measuring mode	-

Slurry Monitor PART 3

Brief Description and Speed Sensors

The Slurry Monitor is a purpose made unit that when installed and connected to a speed source (see later) and a Flowmeter will provide comprehensive information in a clear format. It will display to the Operator an actual Application Rate in M3/Ha which can be varied by changing the speed of the tractor, or the rate of flow through the Flowmeter... See the attached pages for more detail on operation.

Forward Speed

The forward speed can be sourced in several ways, for instance,

- From Trimble 250/750 GPS System
- From a purpose made GPS Module
- From Ground Radar on the Spreading Tractor (if fitted)
- From a dedicated Speed Plug, fitted into most tractors (there are exceptions and the plug may be fitted but not connected).
- From any other sensor on the Tractor that gives a pulse output in relation to speed.

Speak to your Supplier for further information and options.

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1.Data Management in General

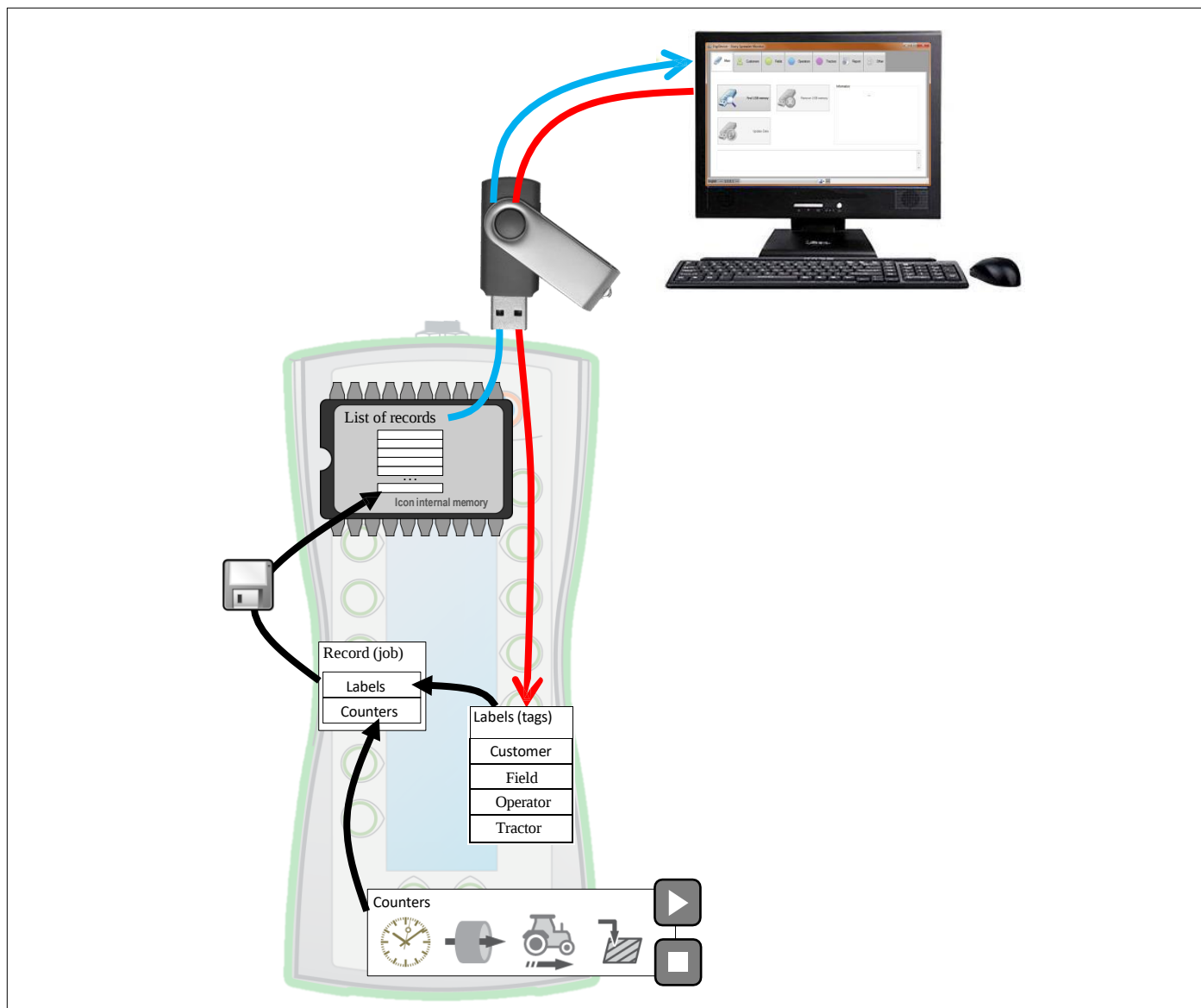


Fig. 1

Referring to Fig. 1: the Icon controller displays some counters which collect the quantities detailing the ongoing spreading. These counters are increased when Play button is pressed, whilst the Stop button deactivates the counting (see Fig. 3). Current recording can be saved using the floppy-disk icon on the Icon memory or they can be reset without saving with the Reset (Zero icon). Further details in the description of Fig. 5.

A single record of the spreading data contains the counter values and the set of labels (also called tags) which defines Customer, Field, Operator and Tractor for the current spreading session.

A single record is also called a "job", all the controls and the indicator for the job management, are grouped and identified by the label "job" on the Icon screen (see Fig. 2, Fig. 3 and Fig. 5).

Optional Extra

All the recordings saved in the Icon memory can be moved to an USB drive to be transferred to a PC, as shown by the blue arrow and described in Fig. 9 and Fig. 10. The labels/tags for Customer, Field, Operator and Tractor, on the second programme, as shown by the red arrow, can be edited with the Spreader Monitor Application (see chapter 3), and then loaded into the Icon controller by the USB drive, as shown in Fig. 9 and Fig. 11.

1. Icon controller

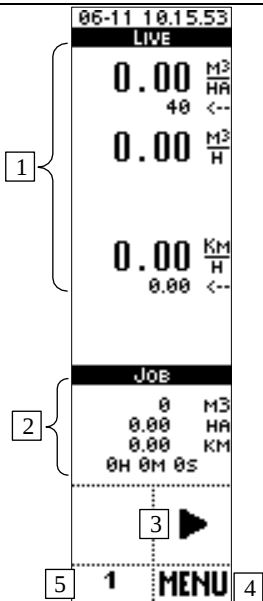


Fig. 2

- Fig. 2 shows the main working page:
- 1) "Live" section of the screen contains the current (bigger) and target ("<--") values for speed and outflow.
 - 2) "Job" section contains the totalizers of the current working session. Numerical values are explained in Fig. 3.
 - 3) Job control buttons, see the description in Fig. 3.
 - 4) Menu button: all the functions available here are shown and described from Fig. 8.
 - 5) Page button, (with the "1" label) allows the user to switch between the two pages of the main working menu. The second page is described in Fig. 5.

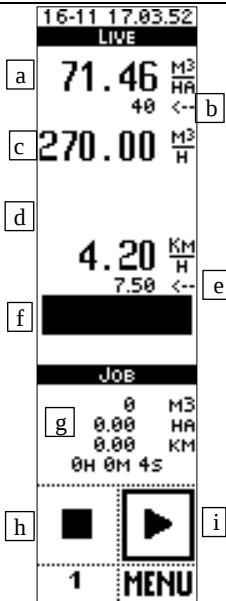


Fig. 3

- Numeric values on the main working page:
- a) Actual spreading rate.
 - b) Target spreading rate (see also Fig. 5).
 - c) Actual output flux, measured by the flowmeter.
 - d) Actual driving speed, measured by the guidance system (Trimble).
 - e) Target speed: given the actual outflow, this speed value allows to obtain the target spreading rate.
 - f) Speed error bar: visual feedback of the speed error. If the actual ground speed is lower than the target speed, the bar is black filled under the speed values. Otherwise is black filled above the speed values (see also).
 - g) Counters for the current job: total spread volume (m³), total area (ha) total distance (km) and job duration time (hh mm ss).
 - h) Play button: activates the job counters (if ground speed is more than 0.2 km/h or an output flow is detected).
 - i) Stop button: stops the counters.

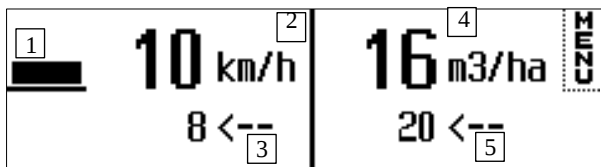


Fig. 4

- From the main working menu, pressing the first button upper left, the screen switches to horizontal layout shown in Fig. 4. The horizontal layout includes a simplified set of information:
- 1) Speed error bar as described before.
 - 2) Actual driving speed, measured by the guidance system (Trimble).
 - 3) Target speed: determines the desired spreading rate, since the actual outflow.
 - 4) Actual spreading rate.
 - 5) Target spreading rate.

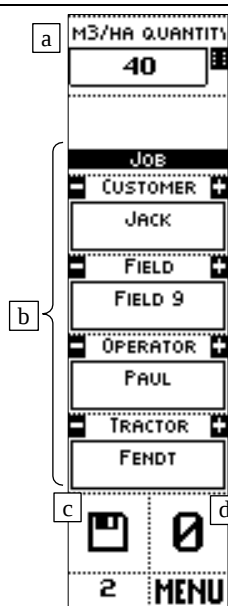


Fig. 5

The second page of the working menu has these functions:

- this controller allows the operator to set the target spreading rate in the range 20 - 300 m³/ha
- The controllers after the "Job" label are for the current session information. Before a "Save" command (see next point), the user can set here the data of a job. (only available with software package).
- the "Floppy-disk" icon saves the current recording on the Icon memory. A confirmation request is issued as in Fig. 6
- the "Zero" icon resets the current recording. A conformation request is issued as in Fig. 7.

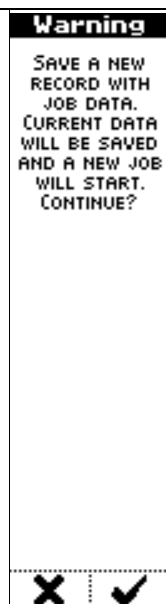


Fig. 6

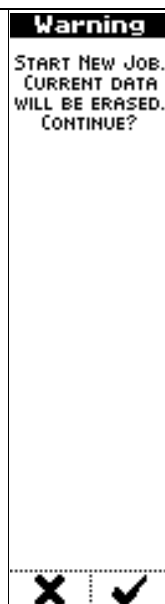


Fig. 7

Press the "V" sign on the bottom right to confirm.
Press the "X" sign on the bottom left to exit without changes.

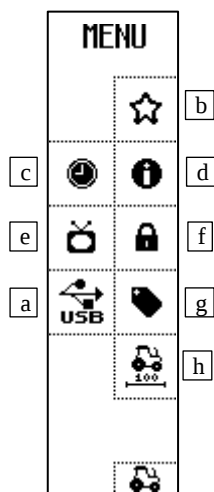


Fig. 8

The menu screen contains various functions, among which the main ones are the management of data through USB and the page for system settings.

- a) the USB utility for the data exchange with the PC: the user will follow the sequence shown from Fig. 10. (only available with the software package)
- b) System parameters page, described in Fig. 13.
- c) System date – time settings. See Fig. 14.
- d) System information, not described in this document.
- e) Screen setup, see Fig. 15
- f) Reserved area, not described in this document.
In this area it is possible to change advanced parameters such as measure units display (International System or Imperial)
- g) Recorded information, see Fig. 16
- h) Speed calibration procedure
During the tractor speed calibration procedure, the system automatically records the pulses detected by the speed sensor. (The speed sensor can be one of a number of options which you will have already discussed with your supplier). The recording distance is over 100 mtrs in a straight line.

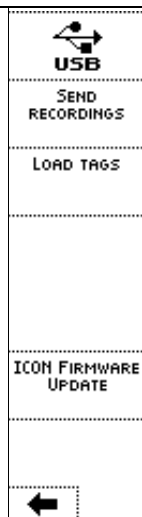


Fig. 9

Fig 9* (*only available with software package)

The USB utility allows the operator to manage the data exchange between the PC and the Icon controller.

SEND RECORDINGS: transfers data from the Icon memory to the USB drive, as the blue arrow shown in Fig.1. By selecting this function, the user is driven through the steps shown in Fig. 10. Data transferred to the USB drive will not be deleted from the Icon memory. The Icon can store up to 1320 records in a circular buffer, new records overwrite the oldest records.

LOAD TAGS: this function permits the operator to overwrite the selectable labels for Customer, Field, Operator and Tractor, as the red arrow shows in Fig.1. By selecting this function, the user is driven through the steps shown in Fig. 11.

The maximum number of customer, tractors, operators and fields is 50 each.

ICON FIRMWARE UPDATE: described in Fig. 12

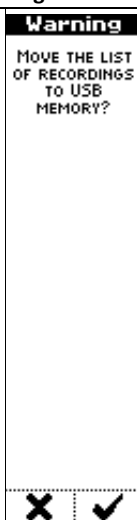


Fig. 10

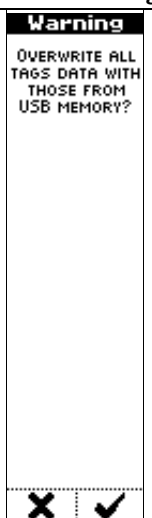


Fig. 11

The "V" sign on the bottom right confirms the step.
The "X" sign on the bottom exits from the procedure without changes.



Fig. 12

The user can update the firmware of the Icon controller and of the other devices included in the system.
If a firmware installer is detected in the USB drive, the system advises, near the device name, that the update procedure can be started by pressing one of the buttons beside the label. Otherwise, near the device name, it is specified that no updates are available. For example, in Fig. 12, the USB drive contains an update for the Icon controller itself.
No updates are available for the H-Block unit.

N.B. once the updates have been started, do not disconnect the system from the power source, until it has automatically restarted.

This procedures should only be performed under the supervision of Tanlake Flowmetering staff.

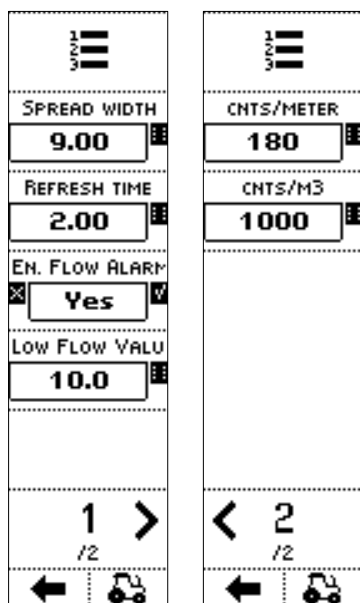


Fig. 13

FIG.13

SPREAD WIDTH: dribble bar width, default value is 9,00 m.

REFRESH TIME: the refreshing period for the numeric values on the main working page.

EN. FLOW ALARM: activates/deactivates the acoustic signal when the measured flow goes under the limit defined by "Low Flow Value" parameter.

LOW FLOW VALUE: the lower limit at which the alarm starts.

CNTS/METER: conversion factor for the GPS signal.
If the GPS output is 50 Hz/(Km/h), then counts per meter are $3.6 * 50 = 180$ cnts/meter.(basically this value is 3.6 times the value set on the Trimble guidance system).

CNTS/M3: conversion factor for the flowmeter signal.
If the flowmeter output is 1 pulse/litre, then counts per cubic meter are $1000 * 1 = 1000$ cnts/m³.(basically this value is 1000 times the value set on the Krohne flowmeter).

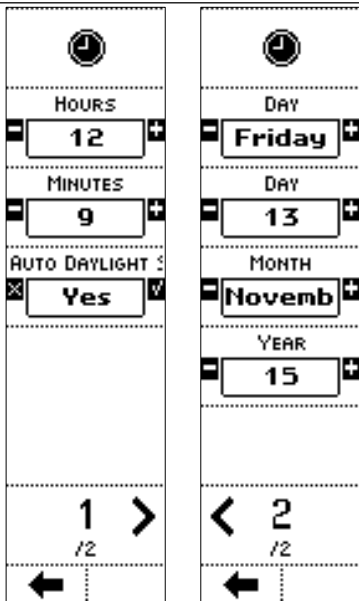


Fig. 14

Fig 14
These pages are used to set date and time of the Icon unit.



Fig. 15

Fig 15
This page can be used to customize the screen and keypad features.

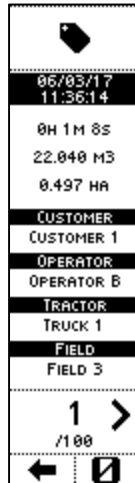


Fig. 16

Fig 16

This page displays:

- Date and time of saved records;
- Working time;
- Worked area;
- Total amount of product spread
- Customer;
- Operator;
- Tractor;
- Field;

If all records have been transferred to the database on the PC, by clicking "0" button it is possible to delete permanently all the saved records from the Icon device.

In this page it is possible to see the last 100 records, but on the icon can store up to 1320 records.

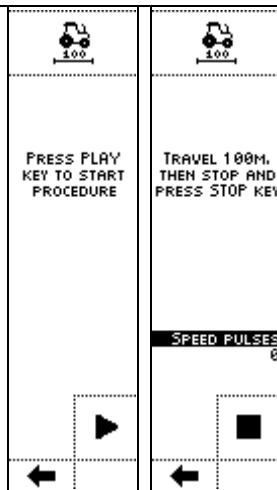


Fig. 17

In this page, the operator can:

- Press the side key near to the icon "PLAY" to start the calibration procedure. Then move the tractor forward in a straight line for 100 meters
- Having attained 100 mtrs, stop the tractor and press the side key near to the icon "STOP" to end the calibration procedure. Where the 100 mtr run is interrupted, no calibration will be saved and a message informs the operator of this.
- Press the key below the icon "arrow" to go back to previous menu.

3. Slurry Spreader Monitor Software Application

General description

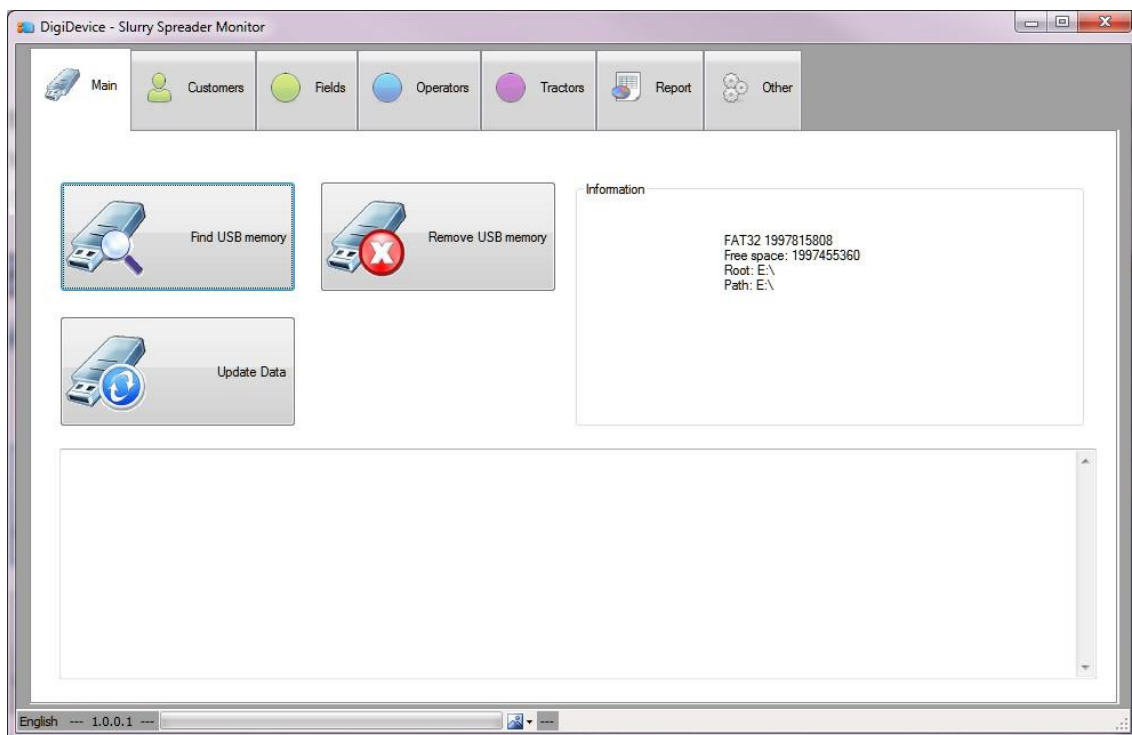
The management of software is controlled from a laptop computer using USB sticks to transfer data to and from the slurry monitor. Firstly the software contained on the USB stick and marked 'Digi Device Software' should be downloaded onto the laptop.

Method

Select the set-up icon and double click and this will lead you through the loading menu. An Icon will appear on the desktop for quick access into the software. Once loaded retain the USB for future downloads should the software become corrupted. Open the software by selecting the 'Slurry Spreader Monitor' icon displayed on the desk top. This will open up a screen as shown below.

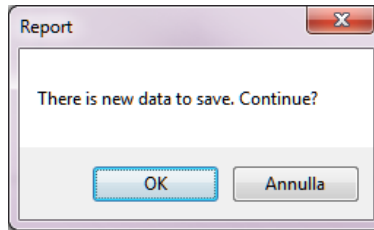
Main

The Main screen contains two buttons which allow data exchange between the Slurry Spreader Monitor software and the Icon controller through the USB memory. The **Remove USB memory** button is for secure device removal.



Data download on the PC

Insert the USB memory in the PC drive, wait a few seconds and click on **Find USB memory** in the Main tab. If there is any new data, a window will appear, containing the request to download the data. Confirm to insert that data in the PC's archive or cancel to avoid it.



Sending Data to the Slurry Monitor from the Laptop

This function allows a data base to be built with the names of customers, fields, operators and if required tractor details, to be entered on the laptop and transferred to the monitor using the “Update” icon. See below for further information on storing new tags.

Storing new tags on the Icon Controller

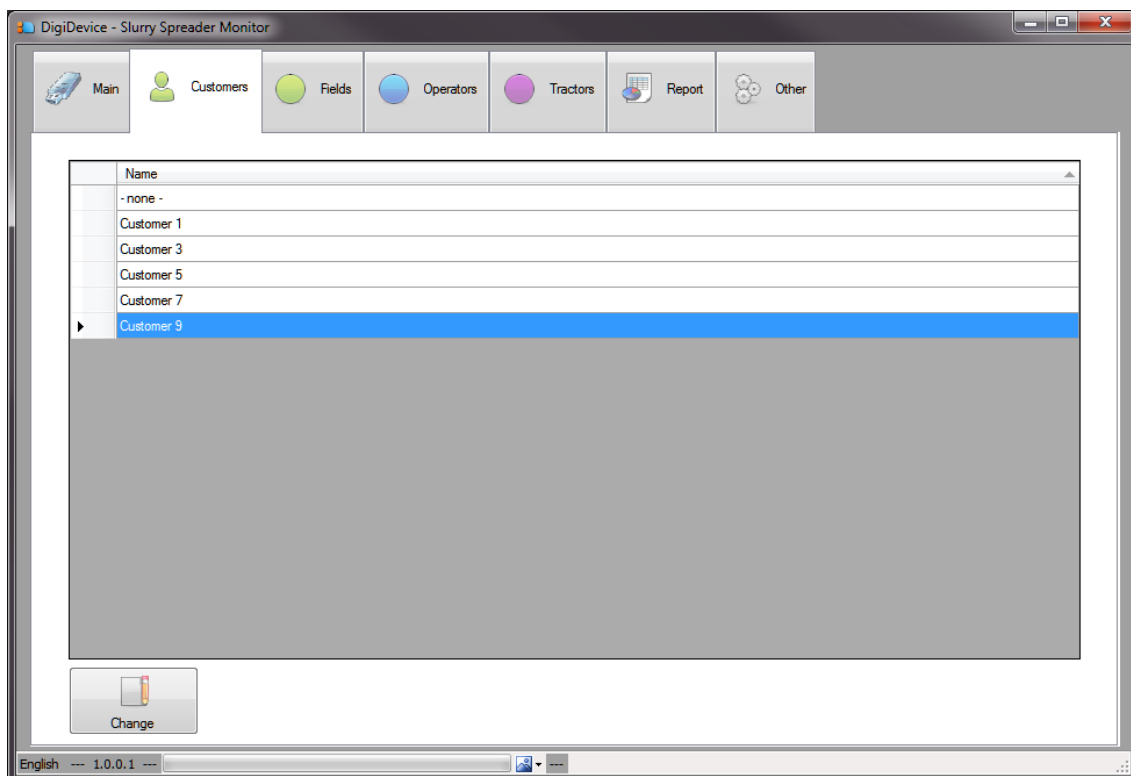
If new tags have to be transferred to the Icon controller, insert the USB memory in the PC drive, wait a few seconds and click on **Find USB memory** in the **Main tab** (in the case there is any new data, a window will appear, containing the request to download the data).

Once the USB pen has been recognized, click on **Update Data** to send to the USB memory all the tags regarding Customers, Fields, Operators and Tractors.

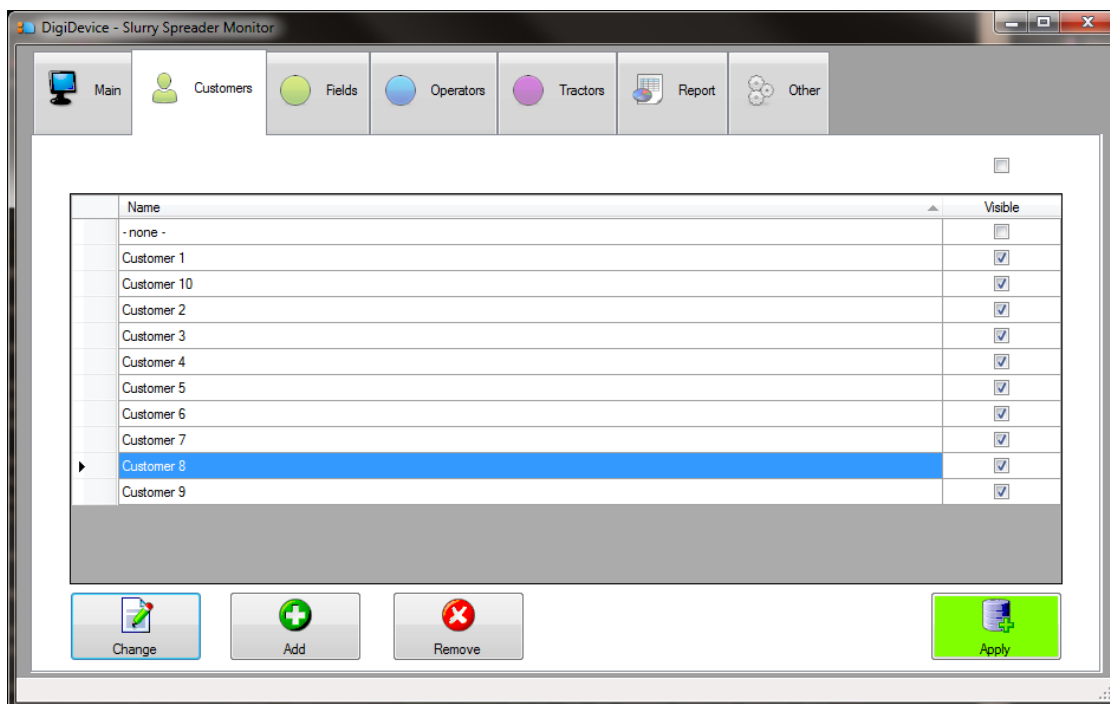
- ⚠ Before removing the USB pen from the PC drive, click on Remove USB memory
- ⚠ If a USB pen not provided by Tanlake Flowmetering is used, create a file called “DD-SPRDR.txt” in the root directory of the pen, which shall be format as FAT 32

Customers, Fields, Operators and Tractors tabs

In these tabs it is possible to display and modify the list of tags stored in the PC memory. The displayed list contains the tags which will be transferred to the Icon controller. Here an example with the Customers tab.

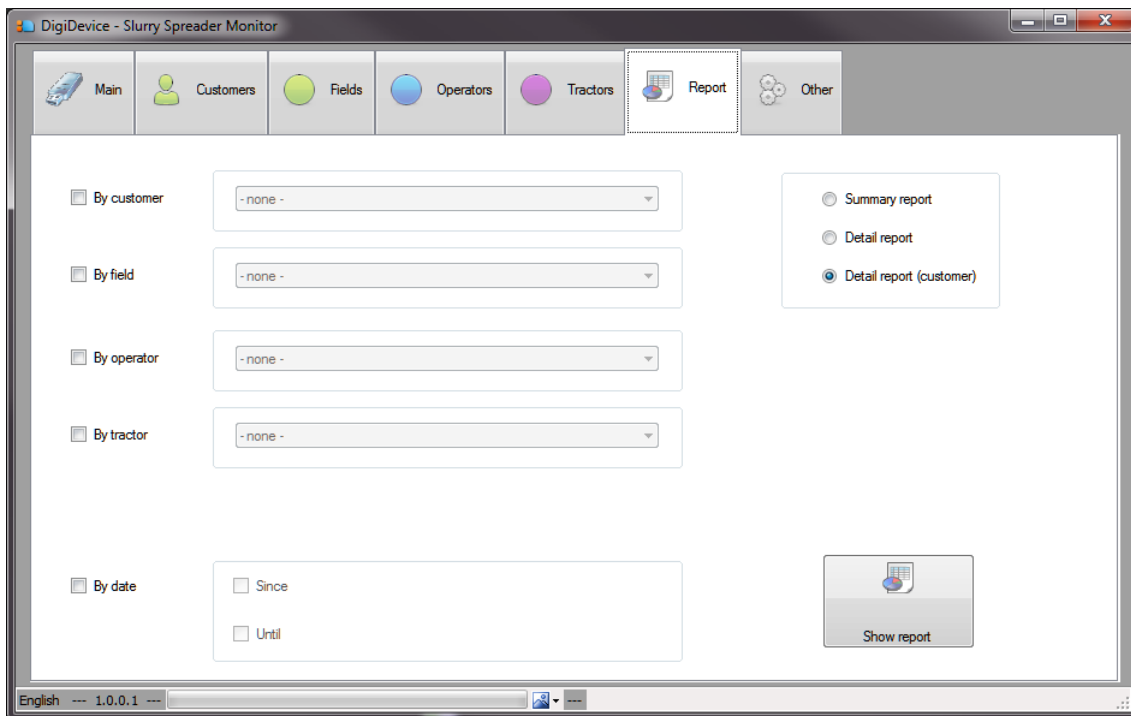


All the tags stored in memory can be displayed by clicking on **Change**. In the following screen, tags can be modified, new ones can be added and tags not to be displayed and sent to the Icon controller can be deselected by clicking the tick symbol in the column **Visible**. At the end, confirm with **Apply**, to go back to the current tab.



Report

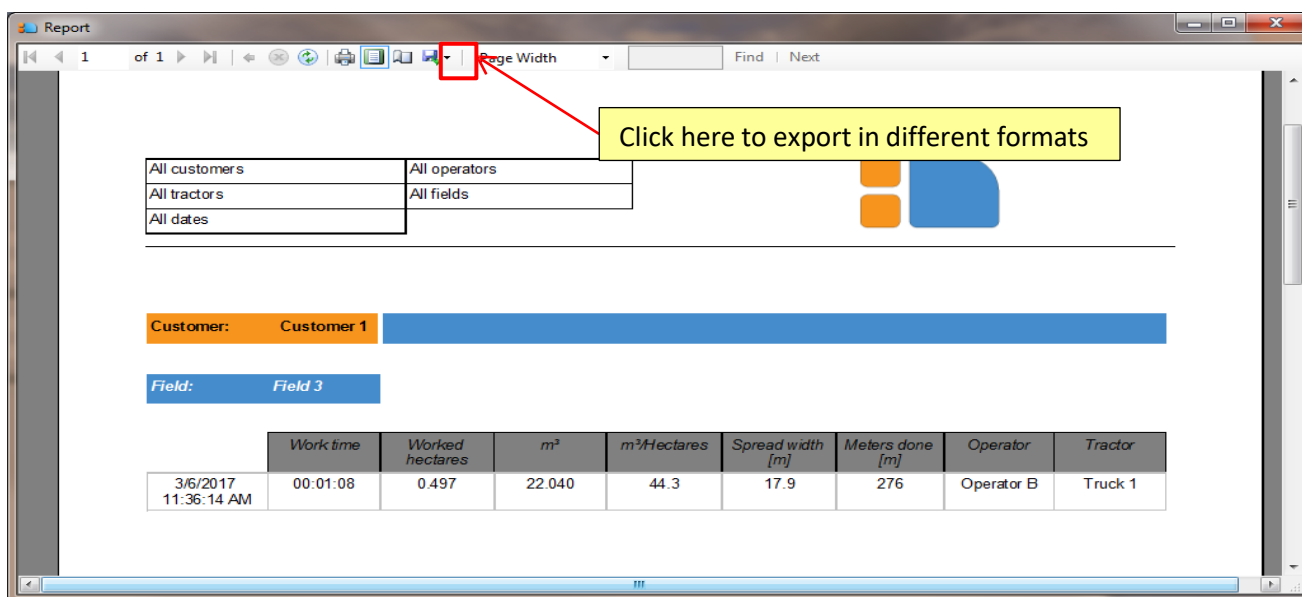
When data is stored in the PC archive, reports can be compiled, selecting the different options and combinations by customer, field, operator, tractor or date in the **Report** tab.



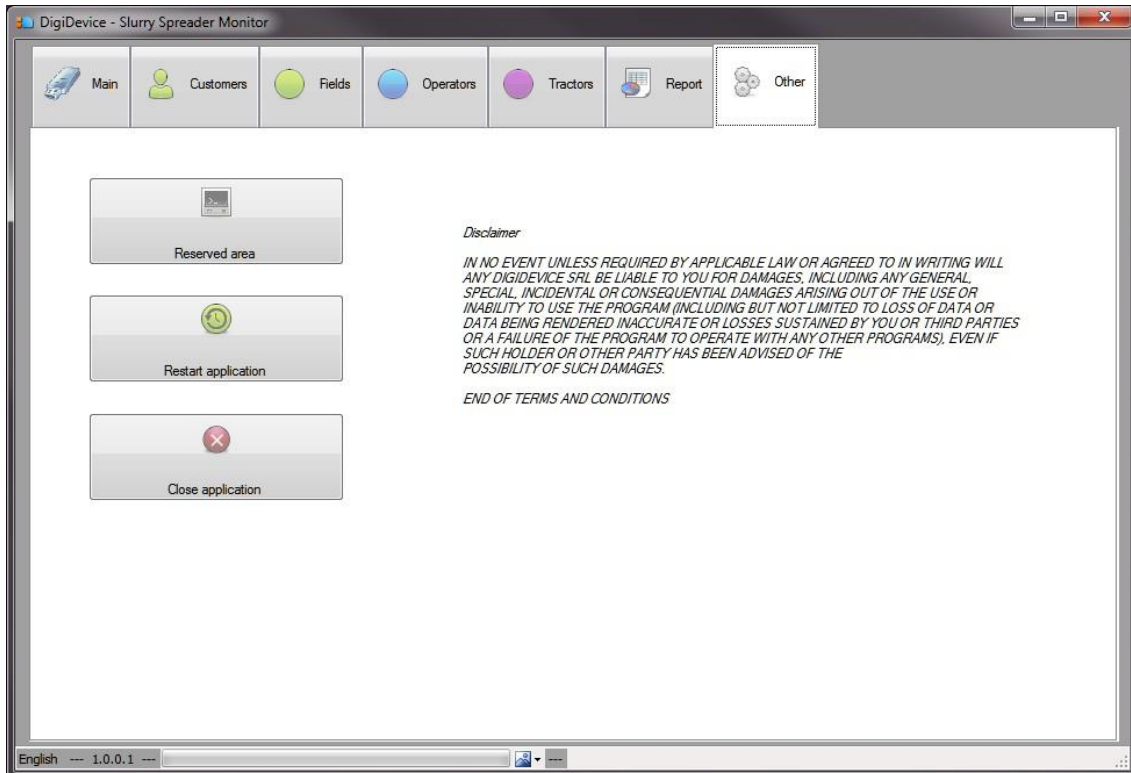
Once selected the options, clicking on the **Show report** button, a window containing the report will be displayed, as in windows below.

From the report window, the data can be exported in a format compatible with commercial spreadsheets (i.e.: MS Excel) or as pdf file, by clicking the button **Export** and selecting the required option.

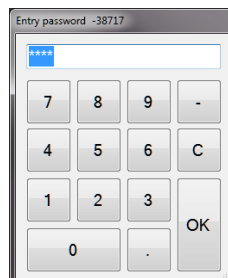
- ✓ On installation, the application's archive already contains some data, so that the user can do some trials.



Other



The application can be restarted or closed from the tab **Other**, by clicking on the relating buttons, or the reserved area can be accessed, by clicking on the button and inserting the password using the keyboard that will appear.



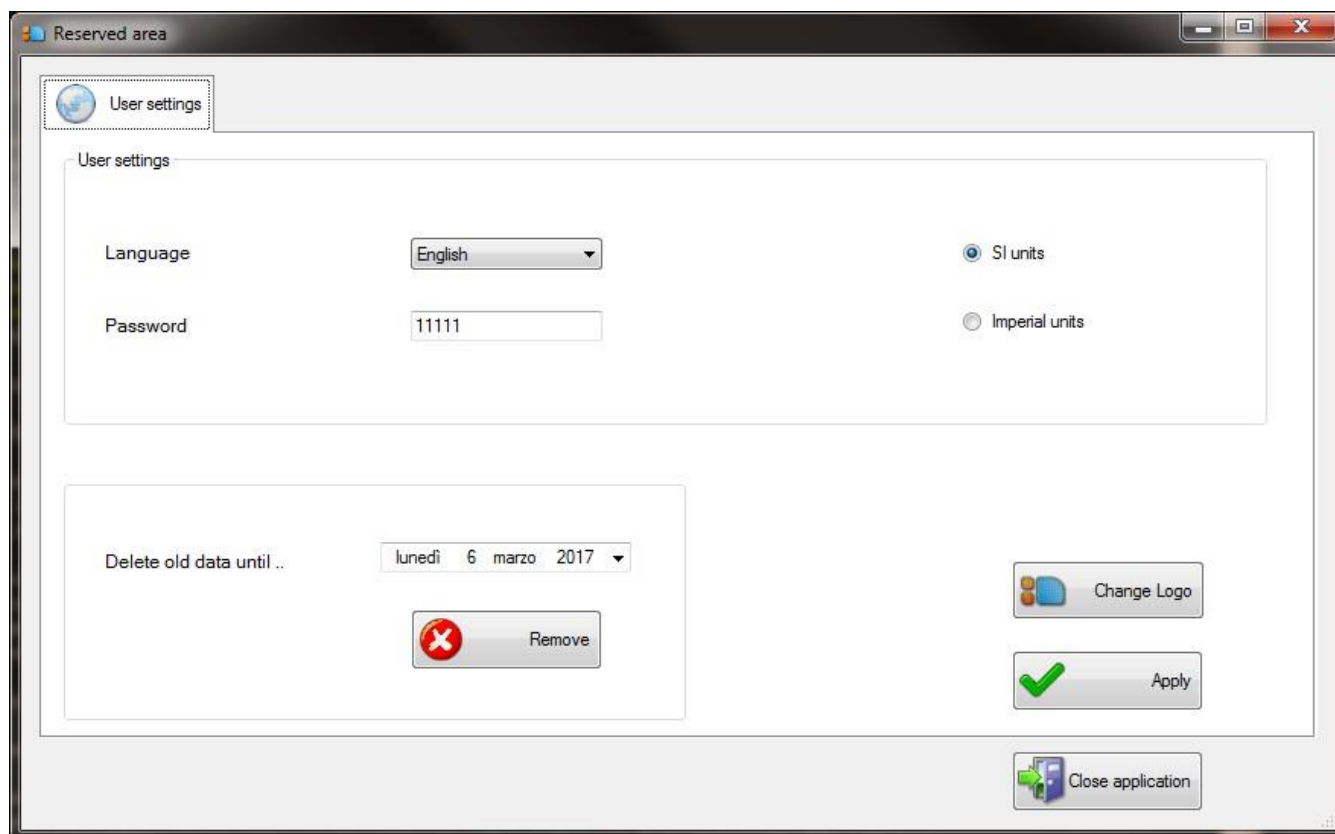
- ✓ The default password is **1111**. The password number can be changed in the User settings tab of the reserved area.

User settings

In the **User Settings** tab of the **Reserved** area window it is possible to select the language, modify the password, change the reports logo, erase the data in archive until the selected date and change measure units (International System or Imperial).

After language selection or new password setting, press **Apply** and then **Close**. The application will restart with the selected language.

Select the date and press **Remove** to erase the older data in archive.



The screenshot shows a web application window titled "Reserved area". Inside, there is a tab labeled "User settings" with a globe icon. The main content area is titled "User settings" and contains the following elements:

- Language:** A dropdown menu currently set to "English".
- Password:** A text input field containing "11111".
- Units:** Two radio buttons. "SI units" is selected, and "Imperial units" is unselected.
- Delete old data until ...:** A date selector showing "lunedì 6 marzo 2017".
- Buttons:**
 - A red "X" icon next to a "Remove" button, located below the date selector.
 - A "Change Logo" button with a logo icon.
 - An "Apply" button with a green checkmark icon.
 - A "Close application" button with a green plus icon.

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Trimble EZ-Guide 250

The Trimble EZ-Guide 250 is supplied with comprehensive user instructions, both on CD and via the Website. In addition there are a number of settings required to ensure the unit is compatible with the Tanlake Slurry Monitor in relation to GPS/Radar signal and type of aerial in use.

Method:

Switch On
Set the Curser on the Spanner and OK
User Mode – OK
Advanced – OK
OK
System - OK
Radar Output – OK
Radar Enabled – OK
Switch to on – OK
↓ Radar Frequency – OK
Set to 50 HZ/KPH – OK

Key 1 – Return to top of Menu – back to System

Note: Should the Trimble 250 need to be used separate from the Slurry Flowmeter System, the power plug can be removed from the rear and substituted with the Trimble supply cigarette lighter adapter.

Trimble EZ-Guide 750

The Trimble EZ-Guide 750 is supplied with comprehensive user instructions, both on CD and via the Website. In addition there are a number of settings required to ensure the unit is compatible with the Tanlake Slurry Monitor in relation to GPS/Radar signal and type of aerial in use.

The connecting leads supplied with the Trimble should be used as per the Manufacturer's Instructions.

In addition, there is a lead supplied with the Flowmeter kit and this should be connected to **PORT A** on the back of the Trimble. The other end connects to the wiring loom marked **Light Bar**, ensuring that the two purple wires connect

Method:

Switch On
In the Start Up Wizard, select **Metric** measurement.
Go to main screen and select **Settings**
Select **System**
Select **Advanced**
Select **Digital Output Mode**
Select **Radar**
Select **Radar Frequency and set to 50 Hz/Kph**
Return to Main Screen.

Note: Should the Trimble 750 need to be used separate from the Slurry Flowmeter System, the plug can be removed from PORT A on the rear of the Trimble and the unit used in the normal way.

TECHNICAL UPDATES

by TeeJet Technologies

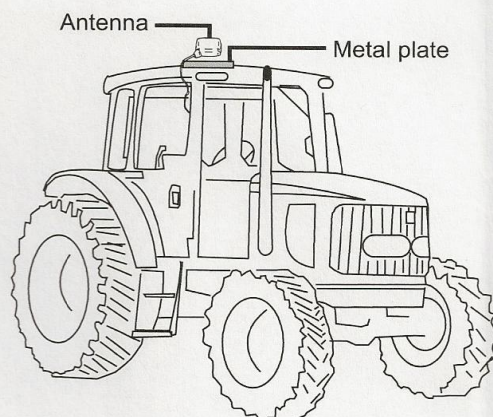
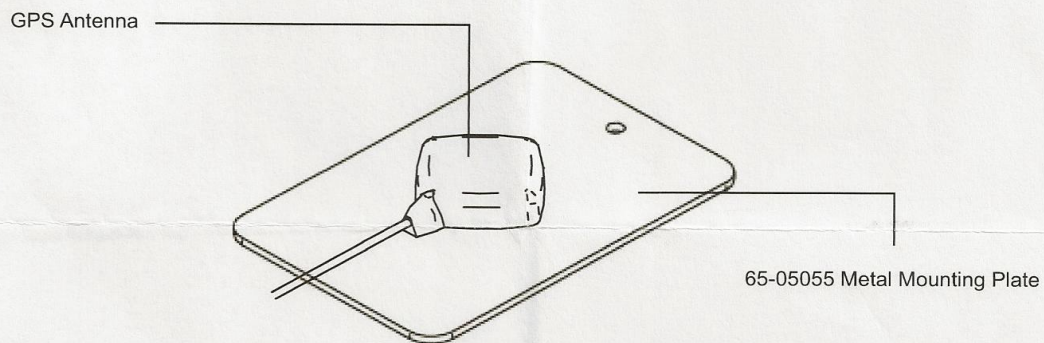
from **TeeJet**

GPS Antenna - Metal Mounting Plate

The GPS Antenna base is magnetic. On metal vehicles or cabs, position the antenna in the center of the vehicle at the highest point.

For vehicles with non-metallic mounting surfaces, a metal plate (P/N 65-05055) with adhesive strips has been included in the kit for easy mounting and installation. It is **STRONGLY** recommended to use this metal plate underneath the antenna as it will improve signal acquisition.

Once the antenna has been positioned, route the antenna cable carefully to avoid damage.



Position the GPS antenna in the center of the vehicle at the highest point with a clear view of the sky.

If the vehicle is fiberglass, mount the metal plate in the center of the vehicle at the highest point with the adhesive strips and place the antenna on the plate.

Route the antenna cable carefully to avoid damage.

ADDITIONAL INFORMATION

Part 4

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Trouble Shooting

Fault	Possible Cause	Action to be taken
Flowmeter does not illuminate	Loss of Power	Check tractor power supply/fuse or fuse in plug.
Tanlake Slurry Monitor does not illuminate	Loss of power	Check power supply, plug and fuse
Application Rate and Speed not showing on Slurry Monitor	Loss of GPS Signal	Check Trimble or Speed Sensor for signal strength
	Loss of Forward Speed	Check cables
	Settings changed	Check input settings
Application Rate showing zero Forward speed okay	Check Flowmeter to see if recording flow displayed on front screen of meter – if Yes –	Check wiring from tractor to Flowmeter
	No Flow displayed	Check for blockages Flowmeter may be defective – contact your supplier
Slurry Monitor settings lost	Operator error	Check settings in the Slurry Monitor from the Instruction Book supplied

Servicing and Repairs

The Flowmeter installation does not require any routine servicing or maintenance other than to ensure that connecting cables are kept in good condition and protected from accidental damage.

The Flowmeter is in effect a computer and should be treated as such. It should be protected from knocks, pressure washing etc, but kept clean to prevent the ingress of dirty water into the electronics.

In the event of a fault within the system, third party repairs should not be attempted, but contact your supplier for advice.

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Terms of Warranty

KC FLOWMETERING warrants the end user that the Tanlake products purchased will be free from defects in material and workmanship for a period of 12 months. The customer is responsible for maintaining proof of date of purchase.

- The **KC FLOWMETERING terms** of warranty are taken as accepted if no reservation is entered within 15 days
- This warranty covers our equipment for the period of one year, from the date of delivery to the user.
- The date of invoice to the final purchaser is considered as proof of delivery of the equipment.
- The warranty is limited to the replacement of parts recognised as being faulty either in material or manufacture by our workshops or technical department.

The following exceptions must however be taken into consideration:

- Parts that are used on the machine but are not manufactured by **KC FLOWMETERING** (electrical components etc...) are not covered by **KC FLOWMETERING** but by the warranty of their respective manufacturer.
- This warranty covers only defects which arise as a result of appropriate use of the product and **does not** apply to the following points:
 - Improper use
 - Inadequate maintenance
 - Any modifications not carried out by **KC FLOWMETERING**
 - General wear and tear of the product
 - Accidents caused by negligence
- **KC FLOWMETERING** cannot be held responsible for damages suffered to the machine or accessories during transport and handling. Machine, parts and accessories are transported at the client's own risk.
- **KC FLOWMETERING** can at no time be held liable for complaints or injuries to the owner, a third party or any other liabilities following such complaints or injuries.
- **KC FLOWMETERING** can at no time be held to the payment of any indemnity whatsoever for any reason, be it for damage caused by a malfunction, hidden defect or breakdown of the machine.

The user is responsible and must bear the costs regarding the following:

- Servicing of the equipment (minor adjustments, lubrication, maintenance checks etc....)
- Parts vulnerable to wear such as cables and aerals

This warranty is subject to the dealer and the user complying strictly with the following conditions:

- Any faulty parts must be returned to **KC FLOWMETERING** for examination. The cost to return the part is to be paid by the sender.
- Servicing and maintenance of the machine should be carried out according to the conditions set out in this operating and maintenance manual.
- Safety measures mentioned in this operating and maintenance manual as well as on the machine should be kept at all times.
- All the protective elements, whichever they are, should be checked regularly and kept in good working order.
- This warranty can at no time be transferred to a third party without prior written consent from **KC FLOWMETERING**.

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- **KC FLOWMETERING** decision is final and irrevocable, and must be accepted by the buyer, whatever the object of recourse to the warranty may be.
 - If a recourse to warranty is rejected, the dealer is given a period of 15 days following the receipt of our letter in reply which to request the faulty parts be returned. At the end of that period, the parts will be destroyed.
 - Assistance given by **KC FLOWMETERING** or its authorised dealers in repairing or adjusting equipment does not make them responsible in any way for the said equipment and at no time does it change or invalidate the conditions of warranty.
 - Our authorised dealers have neither the right nor the power to make any decisions whatsoever, be it explicit or implied in the name of **KC FLOWMETERING**
 - **KC FLOWMETERING** reserves the right to change its machine without prior notice and without being bound to carry out these or similar changes to machines already sold or being serviced.
 - Because of constant change in technology, no guarantee can be given concerning the description of the materials listed on **KC FLOWMETERING** catalogues.
 - This warranty releases **KC FLOWMETERING** of all further responsibility, be it legal or contractual, explicit or implicit. **KC FLOWMETERING** responsibility can in no way and time exceed those defined in the above paragraphs.

Contact Details

Registered Address:
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22 Labourham Way
Cheddar
BS27 3XJ

Telephone:

Mobile: 07850 091262

e-mail: sales@kcflowmetering.com

VAT No:

Company number: 16013586

Dealer Stamp

