

DESIGN

The flow indicator totaliser compactly combines a flow sensor and an electronic board with display in a splash-proof plastic IP65 enclosure.

The sensor part consists of a transducer and an open-cell paddle-wheel.

The electronic component converts the measured signal and displays the actual value and the totalised amounts.

MEASURING PRINCIPLE

When liquid flows through the pipe, the paddle-wheel is set in rotation producing a measuring frequency in the transducer (coil), which is proportional to the flow.

The frequency modulated induced voltage is proportional to the flow velocity of the fluid. A conversion coefficient, enables the conversion of this frequency into flow rate. This coefficient (Factor-K in pulse/litre) is available in the instruction manual.

The electronic is supplied with two 9 V DC batteries.

The flow indicator totaliser can measure a flow rate from 0.5 m/s (1.6 ft/s).



The operation is classified according to two levels.

DISPLAY

This menu displays flow, main totalizer and daily totalizer. The daily totalizer can also be reset in this menu.

PARAMETER DEFINITION

All the necessary settings, such as the language, engineering units, K-factor and Filter are carried through in this menu. The ENTER key can be locked (see Pg 8). Here the main as well as the daily totaliser are simultaneously reset.

Indicator-Totaliser Operating and Control Elements

Choice of digit value
Steps from 0 to 9

Direction downwards in
menu or sideways for
digit selection



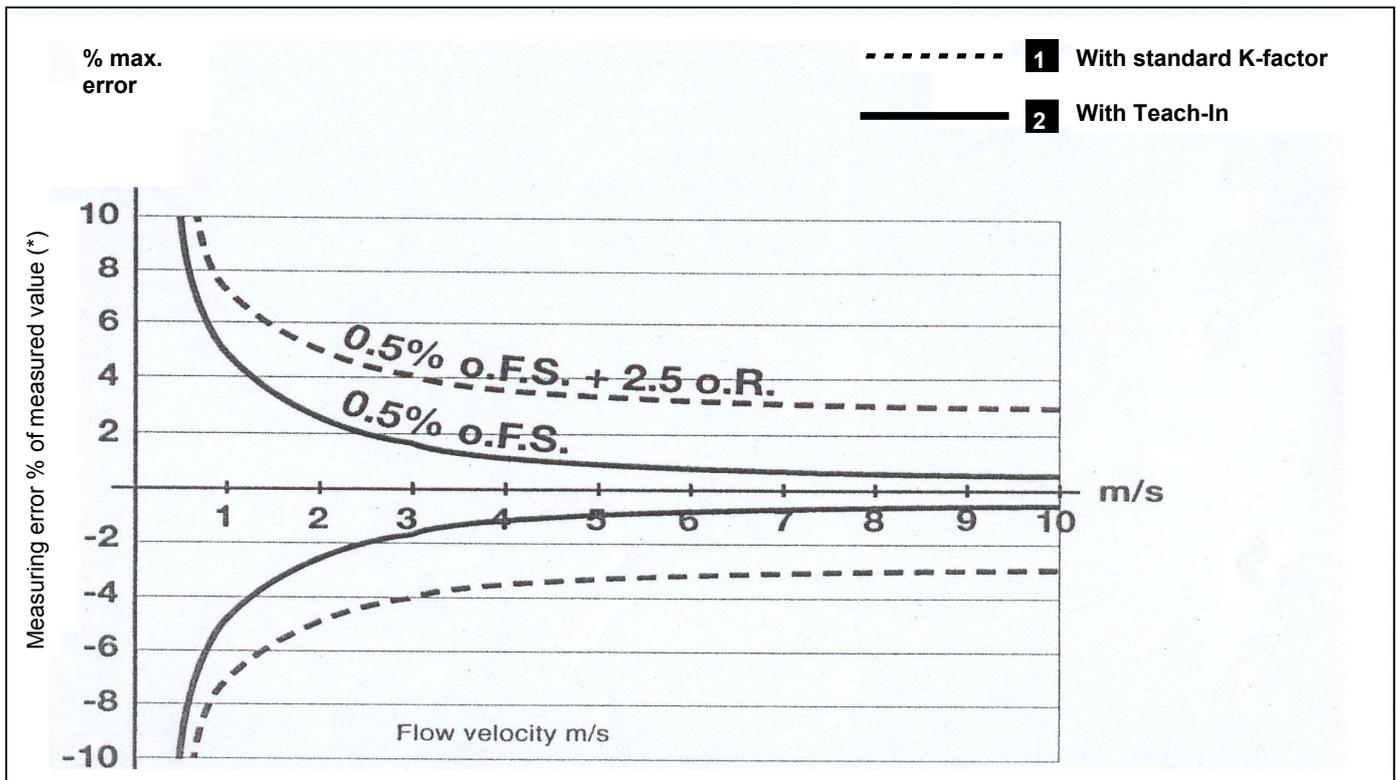
Accept of chosen
Parameter or adjusted
value

Units are supplied with the following factory settings:

Total in litres, flow in litres per second, programming enabled meter ON

Meters can also be set to individual requirements by following the guide lines in this handbook.

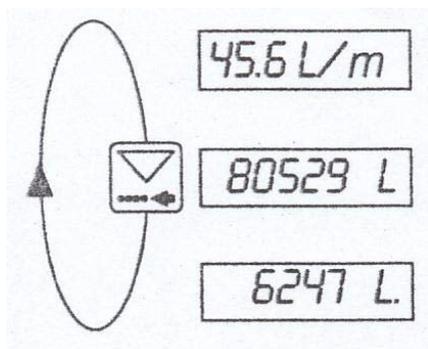
INSTALLATION FLOW INDICATOR - TOTALIZER 8025



Measuring error with/without Teach-In

OPERATION MODE DISPLAY

The following variables are displayed in the operation mode:



Flow rate in the required engineering unit. The display switches to main totaliser after 10 secs.

Main totaliser in the required engineering unit (see calibration Menu). Reset in the calibration menu.

Daily totaliser in the same engineering unit as the main totaliser. A point behind the unit differentiates it from the main totaliser. Reset by simultaneously pressing the keys   for 2 seconds.

CALIBRATION MODE:

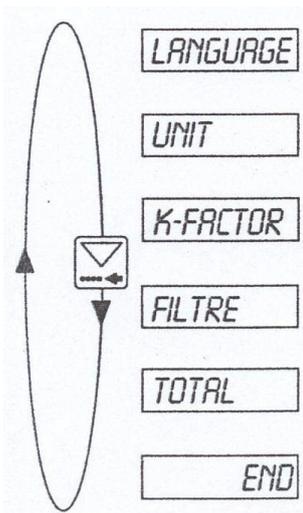


First select flow display option

Press simultaneously for 5 seconds

The ENTER key can be locked (see P8)

The following variables can be set in the parameter definition menu.



LANGUAGE Language selection between English, German, French and Italian

UNIT Selection of engineering units to display flow rate and totaliser

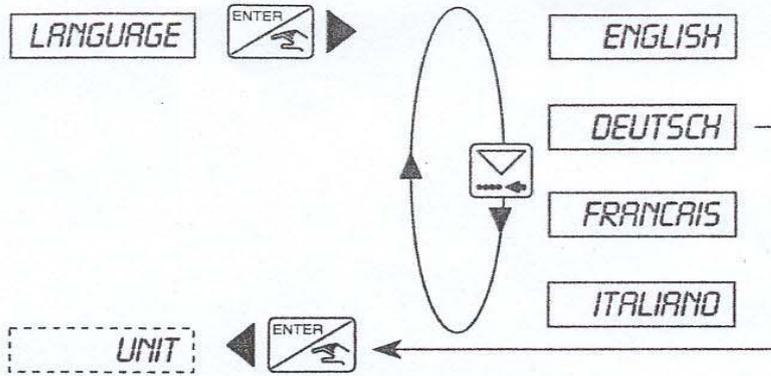
K-FACTOR Input of K-factor according to chart or Teach-in function in order to determine the specific K-factor

FILTRE Dampening selection. There are ten different steps available.

TOTAL Totaliser resetting

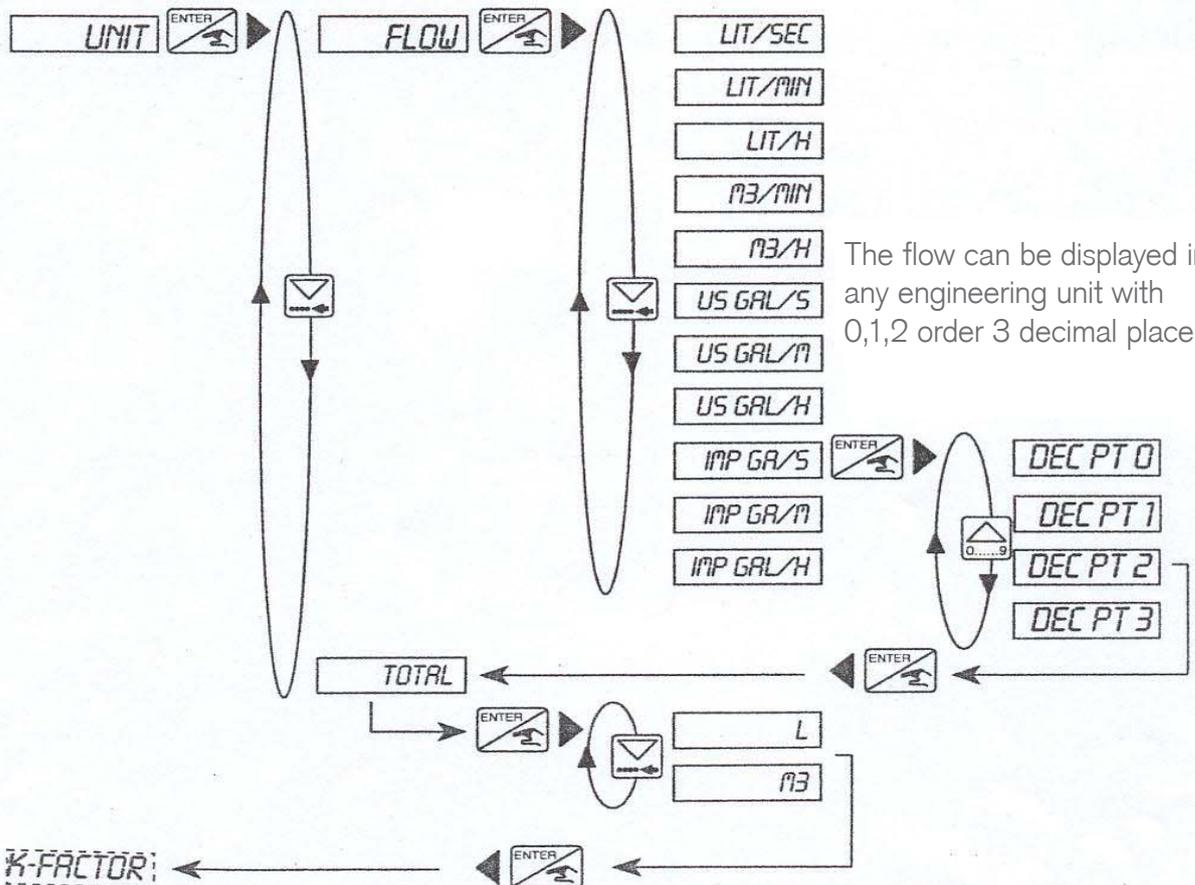
END Return to function menu

LANGUAGE:



The required language is confirmed and activated via the Enter-key.

ENGINEERING UNITS:



The flow can be displayed in any engineering unit with 0,1,2 order 3 decimal places.

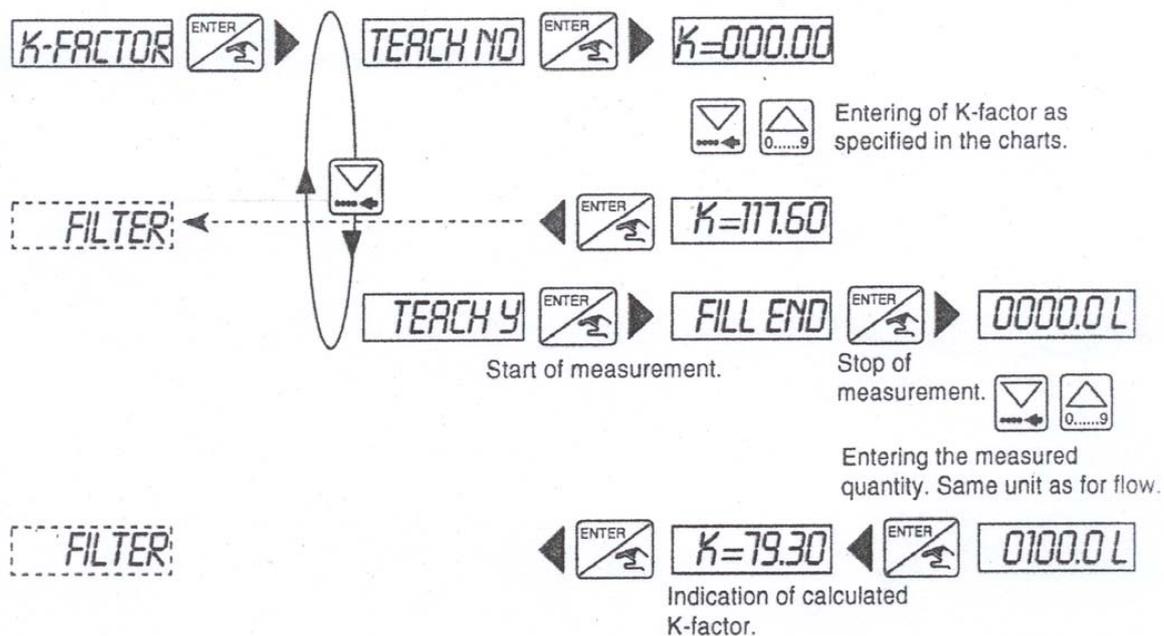
Note: You only return to the main menu via the sub-menu "TOTAL" if you select L or m3 per time unit as flow unit. If the unit gallon (US or UK) is selected for flow, the unit of the totaliser is automatically gallon (US or UK).

K-FACTOR

The K-factor of the fitting is entered in this menu (see instruction manual fitting type SO20/1500/1501). The "Teach-in" function allows to practically determine the application specific K-factor. The user only needs to run a known quantity through the system.

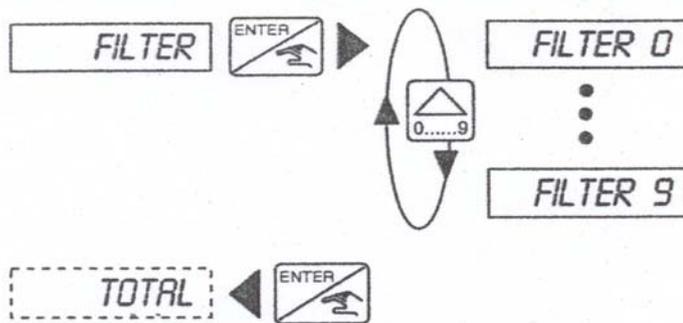
Example: In order to determine a quantity the most accurately possible, the user shall fill a tank of 100 litres. When the message "TEACHY" appears, they press the Enter key to start the measuring procedure. The message "FILL END" (end of filling) will appear. He then switches on a pump or opens a valve. As soon as his tank is full, switch off the pump or closes the valve. Pressing Enter stops the measurement. The user will then be asked to enter the quantity (100 litres). The calculated K-factor is displayed after confirmation.

Note: The device uses the K-factor entered or determined at last.



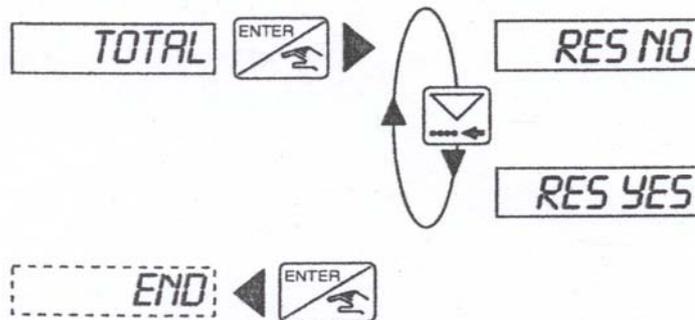
FILTER

The dampening is specified in this sub-menu. It prevents from fluctuations of the display. There are ten levels available. The first level ("FILTER 0") has no dampening effect.



TOTALISER

The main and daily totalizers are reset in this menu. The reset procedure only starts when Enter is pressed, at the "END" position in the parameter definition menu.



To avoid failure in use it is recommended batteries are replaced with 2 x 9V alkaline batteries at 12 month intervals. (See page 8 for details on battery change).

Note the electronic meter is IP65 rated. This is dust and low pressure water splashes only. Unless checking readings keep lid closed. Immersion of this meter in water will damage unit and void the warranty.

TROUBLE-SHOOTING

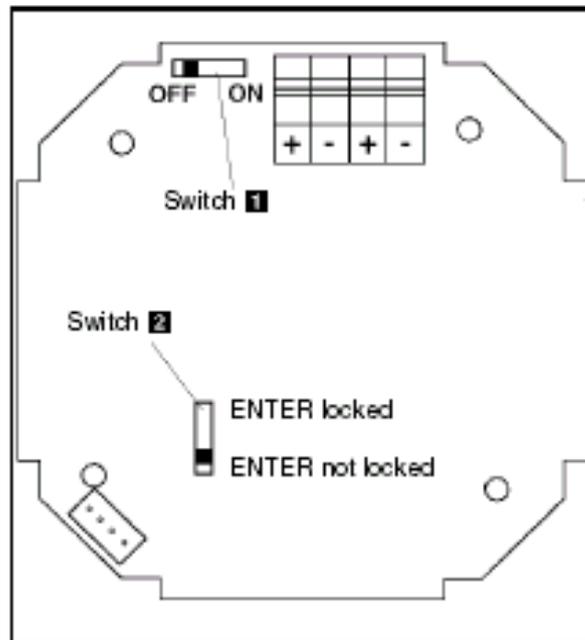
In correct installation the transmitters are maintenance-free. If contamination or clogging should occur during operation, the transmitter (paddle-wheel, bearing) can be cleaned with water or another appropriate cleaning agent.

The message "ERROR" on the display indicates that calibration data has been lost. By pressing ENTER, the user access to operation menu but the device works with the factory settings. The transmitter must be re-calibrated. If this message appears more often please return the product to the factory.

When the batteries become low, the display blinks (flow display and totalizer) but the device still works. A replacement of batteries must be planned. This message "LOW BATT" appears only when batteries are too low to ensure function of the Device. Only disconnect one at a time to retain memory.

LOCKING OF THE ENTER KEY

The enter key can be locked to prevent from access to calibration menu especially the reset of totalizer. Remove the cover and put switch 2 in position 'ENTER' Locked (see below).

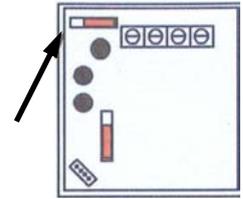


Indicator Totaliser Board

APPENDIX ONE
SUPPLEMENTARY SETTING NOTES

To switch on the flow meter slide the switch beside the battery terminals to the right (towards the terminal strip).

On/Off
Switch



Once switched on, the flow meter goes through a start up sequence and then after approximately 5 seconds will settle into displaying the flow rate. After a further 10 seconds it will revert to displaying total.

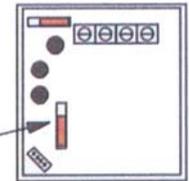


The unit can display one of three readings

1. Flow rate.
2. Total Number 1 (this can only be reset in the programming mode).
3. Total Number 2 (this can be reset by depressing both the up and down arrow together for approximately 2 seconds).

To get from one reading to the next just push the down button.

Programme
switch



PROGRAMMING THE UNIT:

To enter setup mode first set the dipswitch on the side of the board to be down (away from the terminal strip). Next select flow rate as the reading on the display. Then hold the down button and the enter button simultaneously for approximately 5 seconds after which time the display will change to read LANGUAGE. Push the down arrow to get to the next function, or the enter arrow to select a language. Once the language is selected then push the enter button. The display will now read UNIT.



UNITS FUNCTION

To select the units you want the flow meter to display, press the enter button and the display will read FLOW then by pressing the up or down button you can scroll through the choices of flow units until you find the unit that suits your application. Once you have the selection on the screen push the enter button to confirm. The display will now read TOTAL. Now you can choose the engineering units you want the total to display, use the down arrow to select the units. Once chosen push the enter button to confirm. The display will change and now read KFAC.



K FACTOR FUNCTION

Push the enter button and the display will now read NO TEAC. If you know the K FACTOR then push the enter button again and the display will now read 00.00 KFAC (or any 4 digit number that has been previously entered). The far right digit will be flashing. You need to enter the K FACTOR for this flow sensor. The K FACTOR is published at the front of this instruction manual.

The far right number should still be flashing. To change the number push the up button until the number reads correctly then push the down button.

The next digit to the left should now start flashing. Repeat the process as above until all the digits are reading correctly. Now push the enter button, the display will now read FILTER.

FILTER FUNCTION

The filter function allows you to filter out some of the stray electrical signals that could make the unit inaccurate. The disadvantage is that the higher the filter the slower the unit is to respond. The normal setting is 2 or 3. To change the number use the up button. When the correct setting is chosen push the enter button, the display will now read TOTAL.

TOTAL FUNCTION

Push the enter button and the display will now read RES NO
Push the down arrow and the display will now read RES YES
To reset the totals to zero push the enter button.
The display will now read END. Push the enter button and the display will now go to the flow rate display and after 10 seconds will revert to displaying total number 1.

The unit is now programmed.

Remember to slide the programming switch back off (towards the terminal strip)

