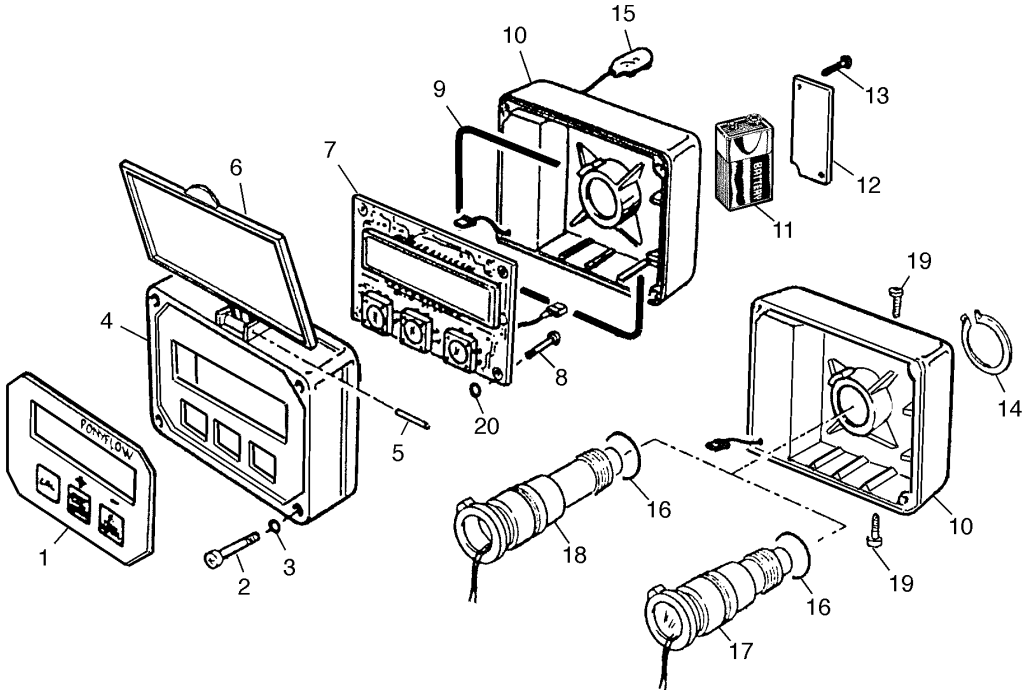# INSTRUCTION MANUAL

PONY FLOW 4 BATTERY

DISPLAY FOR MEASURING FLOW RATES

ENGLISH

PLEASE, CAREFULLY READ
THIS INSTRUCTION MANUAL
BEFORE USING THE INSTRUMENT
AND KEEP IT FOR FUTURE REFERENCE.

EXPL. VIEW OF THE COMPONENTS

COMPONENTS LIST

Pos.	Code no.	No. of parts	Notes
1	01305232	1	
2	86465625	4	
3	80006900	4	
4	01300232	1	
5	80204225	1	
6	01301332	1	
7	01305199	1	
8	86466225	4	
9	01300631	1	
10	01301132	1	
11	83130000	1	
12	01300832	1	
13	86466425	2	
14	80212525	1	
15	01301599	1	
16	80001400	1	
17A	30304432	1	standard ¾"- 1"- 1"½ - 2" - 3" - 4"
17B	01301732	1	standard ½" all + ¾" inox
18	01300732	1	rapid check
19	86465525	2	
20	80010700	1	

GUARANTEE

Our products are guaranteed for 12 months from the delivery date. Our guarantee covers all parts that are materially detective or that have manufacturing defects.

The guarantee will be considered void in the case of insufficient maintenance and improper use. The guarantee does not cover any parts not manufactured by our company. Repairs must be made at our factory or by personnel who we have authorized. For all service the products must be sent by freight prepaid.

The labor expenses are not included in the guarantee.

Whenever you request a repair or replacement under warranty, always inform us of the instrument's serial number which is located on the adhesive label.

VERSION

Compact: 9V battery with sinusoidal sensor incorporated.
Remote: 9V battery with remote sinusoidal sensor.

USE

Compact: installed directly on the flowmeter.
Remote: remote connection with a flowmeter having a turbine with sinusoidal wave sensor.

POWER SUPPLY

9 volt MN1604 6LR61 battery.

INSTALLATION

Protected from the elements, from prolonged exposure to sunlight, and from mechanical vibrations.

IMPORTANT: High pressure washing of the exterior of this equipment could cause irreversible water damage to the electronic components. To prevent any damage, remove the display when washing the equipment's exterior.
The manufacturer declines all responsibilities for damage to the display that is the result of operator negligence.

GENERAL FEATURES

a) The instrument is turned on by the pressure of any keys or by the passage of flow;
b) If there is no flow for several consecutive minutes and the operator does not touch any keys the Pony Flow 4 will turn off automatically;
c) 2 lines Display visualising at the same time partial units, total units, STOP & START total counting functions, unit measure used for reading;
d) Possibility of blocking the total count by means of the STOP function indicated by the message STOP not flashing;

e) Possibility of counting partial units by means of the START function indicated by the message STOP flashing;
f) Its capacity of counting partial units is 99.999 or 9.999,9 or 999,99;
g) Its capacity of counting total units is 99.999.999 or 9.999.999,9 or 999.999,99;
h) Possibility of setting up to 65.000 or 6.500,0 or 650,00 pulses/litre or pulses/gallon;
i) Possibility of setting up to 65.000 pulses cubic meters hour;
j) Reading cannot be monitored in cubic meters/hour if you connect the Pony Flow to a flowmeter having a number of impulses/litres greater than 65 (the message ERROR will appear on "C");
k) When you change the unit measure, the calibration constant "C" is set automatically depending on the unit you have chosen (taking into consideration the limits we mentioned at the points h-I-j; conversion coefficients are the following: impulses gallon = impulses litre x 3,785 / impulses cubic meters hour = pulses x 1000.
l) Electromagnetic compatibility report (EMC);
m) While in stand-by it records the last total delivered (*the value is not stored if the battery discharges or is deactivated*);
n) Reading Menu and Setting Menu;
o) Impositions you set are always stored;
p) Possibility of setting the reading with or without the decimals (2 decimals maximum);
q) Reading units to be selected in the Setting Menu are marked by the message "Unit";
r) In the Setting Menu, the choice of the decimal point (2 max.) for the calibration constant is marked by the message 'Point C = ';
s) In the Setting Menu the calibration constant is marked by the message 'C = ' and refers to the unit measure previously set; so, if you select the unit measure L/m you will have to set the calibration constant "C" in impulses/litres, if you select the unit measure G/m you will have to set the calibration constant "C" in impulses gallon and if you select the unit measure m3/h you will have to set the calibration constant "C" in impulses cubic meters hour;
t) In the Setting Menu the choice of the decimal point (2 max.) for reading is marked by the message 'Point tot';
u) It accepts a sinusoidal wave signal;
v) Current input while in stand-by is 200 μA. (microampere);
w) Current input while in function is 1,5 mA. (milliampere);
x) When the battery is under charging battery symbol flashes.

FUNCTIONING OF THE KEYS

Red 'ENTER' key

a) It can be pressed to turn on the instrument;
b) If you press it together with the green key in the Reading Menu, the total units delivered will be reset to zero;
c) In the Setting Menu it confirms values change and allows the several messages to be displayed;
d) If you press it together with the green key '–' during the STOP phase of the Reading Menu, for 2 seconds, it performs the zero setting of the total units.

Orange 'STOP/START + ' key

a) It can be pressed to turn on the instrument;
b) It can be used to 'STOP' or to 'START' the total units count;
c) In the Setting Menu it is used to change the values to be set;
d) If you press it, in the Reading Menu, together with the green key '–' for 3 seconds, it permits to enter the Setting Menu.

Green '–' key

a) It can be pressed to turn on the instrument;
b) In the Setting Menu it is used to change the values to be set;
c) If you press it together with the red key 'ENTER' during the STOP phase of the Reading Menu, for 2 seconds, it permits the zero setting of the total units;
d) If you press it in the Reading Menu, together with the orange key 'STOP/START +' for 3 seconds, it allows to enter the Setting Menu.

'STOP' Function

a) If you press it together with the orange key while the Reading Menu is in the Start phase, the total count will stop and the stop function is indicated by the non flashing STOP message;
b) While in the STOP phase it is possible to set the total units to zero;
c) While in the STOP phase it is possible to enter the Setting Menu;
d) While in the STOP phase partial units are regularly displayed.

'START' Function

a) If you press the orange key while the Reading Menu is in the stop phase, the total count will increase and the start function is indicated by the flashing STOP message;
b) While in the START phase it is not possible to set total units to zero;
c) While in the START phase it is possible to enter the Setting Menu;
d) While in the START phase partial units are regularly displayed.

READING MENU

Once you have turned the instrument on, the display is in the Reading Menu.

1) The partial units (5 numbers), the unit measure symbol, STOP and START functions and total units (8 numbers) symbols are displayed in the Reading Menu;
2) If you press the orange key and the green key together at the same time, you can enter the Setting Menu.

SETTING MENU

It provides 4 settings maximum:
1) Setting of the reading units;
2) Setting of the calibration constant decimal point (2 max.) (*this imposition is not provided if you have chosen cubic meters hour as unit measure*);
3) Setting of the calibration constant (you need to know the impulses of the flowmeter to which the instrument is connected; refer to the chapter "exact calculation of the flowmeter constant 'C' ");
4) Setting of the decimal point (2 max.) for the Reading menu values;

Operative phase:
1a) turn on the instrument;
1b) press the orange key and the green key at the same time for 3 seconds to enter the Setting Menu in the "Unit" message;
1c) select the unit measure by pressing the orange key or the green key;
1d) confirm the selection by pressing the red key;

2a) press the red key to set the decimal point 'Point C = '; (this phase is not displayed if you have chosen the cubic meters hour as unit measure);
2b) select the decimal point you want to use in the calibration constant value by pressing the orange key or the green key;
2c) confirm the selection by pressing the red key allowing the direct passage to the successive message 'C = XXXXX';

3a) select the calibration constant by pressing the orange key or the green key;
3b) confirm the selection by pressing the red key;

4a) press the red key to set the decimal point 'Point tot';
4b) select the decimal point you want to use in the

Menu, by pressing the orange key or the green key;

4c) confirm the selection by pressing the red key allowing the direct passage to the Reading Menu.

RESETTING THE TOTALS TO ZERO (RESET)

When the Reading Menu is in the STOP phase, press the orange key and the green key at the same time for 3 seconds. This operation has no value if you perform it in the Setting Menu.

EXACT CALCULATION OF THE FLOWMETER CONSTANT 'C'

Each flowmeter is delivered with an identification plate which lists an indication of the number of impulses per litre. This total value can be increased or decreased depending on the type of application and the use of the flowmeter.

It is indispensable to always perform a comparison between the displayed total and the amount of liquid that is actually delivered, so as to calculate the exact number of impulses to be used to calibrate the instrument. This comparison must be performed with new flowmeter and then periodically thereafter.

example: the liquid displayed by the instrument is: 55 litres;
the amount of liquid that is actually delivered by the instrument is: 57 litres;
the set calibration constant 'C' is: 650;

An analysis of this data shows that it is necessary to modify the set calibration constant 'C' by means of the following formula: 650 x 55: 57 = 627

(new calibration constant to be set).

1) when the displayed value is less than the actual value (delivered), you need to decrease the calibration constant 'C' that was previously set;

2) when the displayed value is greater than the actual value (delivered), you need to increase the calibration constant 'C' that was previously set.

GENERAL MAINTENANCE RULES

Keep the instruments protected from the elements.

Avoid extreme temperatures, direct sunlight, and direct contact with water, especially while washing the equipment with water under high pressure.

In the case of battery-powered instruments immediately replace the batteries or remove them from their compartment when they are exhausted.

Press the keys carefully.

PONY FLOW 4 SPECIFICATIONS

- Dimensions of the Standard version, taking into account the sensor (mm.): 95x76x86

- Dimensions of the Rapid Check version, taking into account the sensor (mm.): 95x76x110

- Dimensions of the Standard and Rapid Check version, not taking into account the sensor which is screwed onto the flowmeter (mm.): 95x76x65

- Weight of the standard version (gr.): 240

- Weight of the Rapid Check version (gr.): 245

- Precision: ± 1%

- Battery: 9 volt transistor MN 1604

- Optimal operating temperature range: - 40° a + 85°

- Not condensed relevant humidity max. 90% (*with no tropicalization*).

TO ORDER SPARE PARTS, SPECIFY THE FOLLOWING:

- Series number of the display
- Code number of the part to be replaced
- Quantity
- Shipping desired

CHANGING THE 9-VOLTS PONY FLOW BATTERY

A) Unscrew the screws (pos. 1)

B) Remove the cover (pos. 2)

C) Remove the battery (pos. 4) by unsnapping it from the contacts (pos. 3)

D) Clean the contacts (pos. 3) to eventual oxidation

E) Replace it with a new battery

F) Close the Pony Flow with the cover (pos. 2) and the screws (pos. 1)
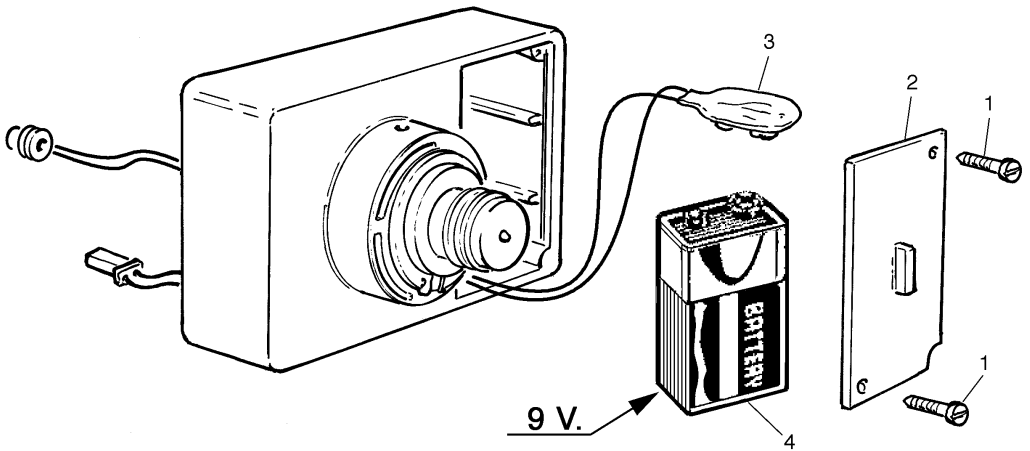
PONY FLOW 4 FUNCTIONS RAPID GUIDE

Caption: red key " ENTER "   **A**
              orange key " STOP/START / + "   **B**
              green key " – "   **C**

IGNITION = Press any of the keys "A", "B" or "C" for an instant: you enter the Reading Menu automatically.

EXCTINCTION = After 2 minutes of inactivity the instrument turn off automatically (*only if you are in the Reading Menu*).

TOTAL ZERO SETTING = Press the keys "A" and "C" at the same time for 3 seconds (*Reading Menu in the STOP function*).

STOP AND START FUNCTIONS
These functions stop the count of total units;
press the key "B" to enter the START function (*the message STOP will be flashing on the display*) and the count of the total units will increase;
press the key "B" to enter the message STOP (*the message STOP will not be flashing on the display*) and the count of the total units will not increase.

SETTING MENU = You enter the Setting Menu to verify and eventually modify the following parameters: 1) reading unit; 2) calibration constant decimal point; 3) calibration constant; 4) reading decimal point.

Press the keys "B" and "C" at the same time for 3 seconds (*you enter the Setting Menu*);
use the key "B" or the key "C" to modify the parameters;
use the key "A" to confirm the parameters modified;
use the key "A" to run through the messages.

PROBLEMS, CAUSES AND CORRECTIVE

PROBLEM ENCOUNTERED	POSSIBLE CAUSE	POSSIBLE CORRECTIVE
The instrument will not turn on	The battery is completely exhausted	Replace the battery
The instrument will not indicate the flow rate	Defective flowmeter sensor	Replace the sensor
	Pony Flow is not perfectly screwed onto the flowmeter	Correctly screw the instrument onto the flowmeter
	Flowmeter impeller blocked	Flowmeter maintenance
Message "batt" is displayed	The battery is low	Replace the battery
Message "C error" is displayed	Calibration constant set beyond the limit	Change the unit measure