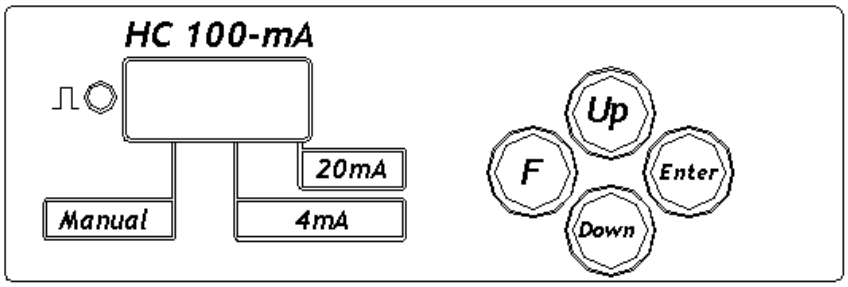
PROGRAMMING INSTRUCTIONS
FOR DOSING PUMP

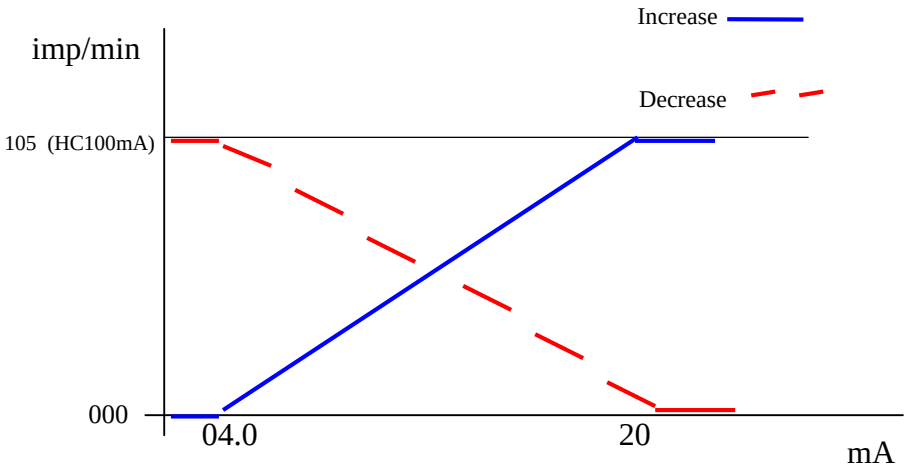
HC 100 mA



ENGLISH

This dosing pump can be used both in manual or proportional mode. Whilst in proportional mode it responds to any standard 4-20 mA input signal current.
The dosing pumps type "HC 100 mA", are utilised the latest microprocessor technology that allows comprehensive control of a mA current input.
The operator can select the type of operation from within the program. It is possible to program the pump to dose as the milliamp signal increases or in reverse so that the pump will dose when the signal decreases. The drawing below illustrates this

GRAPHIC RAPPRESENTATION OF THE TWO DOSING POSSIBILITIES



FUNCTIONS

F1 Manual Mode:

In manual mode (F1) the pump works like a normal dosing pump with manual regulation (without any interruption from the milliamp signal) The pump will run at an adjustable frequency of frequency between 0-105 imp/min. This mode is normally used above when priming the pump.

F2 4mA Function:

In the ' 4mA ' mode (F2) the pump will stroke in response to an external milliamp signal. The counter allows you to set the number of strokes the pump will run at 4 mA This is done by using the push buttons on the front panel.

F3 20mA Function:

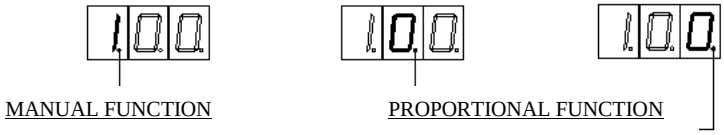
In the '20mA ' mode (F3) the pump will stroke in response to an external milliamp signal. The counter allows you to set the number of strokes the pump will run at 20 mA. This is done by using the push buttons on the front panel.

END LEVEL ALARM

When stopped the pump display will simulate a picture of a tank emptying and show the words Lo being displayed on the right of the display. A small time delay of a 5 seconds is present to eliminate nuisance switching caused by ripples on the surface of chemical. The pump restarts automatically when the chemical level is restored.

PROGRAMMING

Push the **F** button to choose your desired function :
F 1 - manual, **F 2** and **F 3** -proportional
Push the **Enter** button to confirm the choice. Set the number of desired impulses, the micro will receive the programming only when the number blinks on display.
Push the button **Up** and **Down** to decide the number of impulses N. If you have selected function F1 manual, then number N is the number of injections per minute, if you have selected function F2 the number N is the number of injections per minute associated to an input current of 4 mA, if you have selected function F3 the number N is the number of injections per minute associated to an input current of 20 mA.
Push the **Enter** button to confirm, the Green Led lights up and the pump will be ready to run. During running, every injection the pump delivers will make the display light up. The little point in the lower right part of digit on the display will show the programmed function of the pump.



EXAMPLES OF PROGRAMMING

- **MANUAL 100 imp/min**

Push the F button and select F1 function. Push the ENTER button and while the display is blinking with the UP and DOWN buttons select 100, push ENTER to confirm, GREEN LED will lights up and the pump will work.

- **EXAMPLE OF A PROPORTIONAL mA PROGRAM**

Pump to respond to a 4 – 20 mA signal and deliver 0 imp/min at 4 mA and 100 imp/min at 20 mA .

Press the **F** button until **F2** function is selected. a dot on the lower part of the display will light against the correct operating mode. F2 : 4mA
Press the Enter button to enter programming mode, the display flashes.
Using the Up or Down buttons set the strokes per minute (SPM) output to 0. Push the Enter button to confirm, the display stops flashing, the Green LED lights. Press the F button until F3 is selected, a dot on the lower part of the display will light against the correct operating mode. F3 : 20mA.Press the Enter button to enter programming mode, the display flashes.
Using the Up or Down buttons set the strokes per minute (SPM) output to 100. Push the Enter button to confirm, the display stops flashing, the Green LED lights and the pump will be ready to dose and will await a signal from the flow meter or analytical instrument.

CONNESSIONI/CONNECTIONS/CONEXIÓNES