2. User Guide

IN-FLUID

COMPACT DOSING ROBOT CDR-25

CE

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1. SAFETY INSTRUCTIONS

1.1 Intended use and reasonably foreseeable misuse

The In-Fluid Compact Dosing Robot is intended to be used as a dosing pump for filtered liquid substances, such as chemicals, medicines and other additives. The Compact Dosing Robot is intended to be used as a water treatment device in the agricultural, horticultural, wastewater treatment and similar sectors.

The product is not intended to be used in explosive environments. The product shall be used with original accessories and original components only. All use other than as described in this manual is seen as unintended use.

## 1.2 How to use the in-fluid dosing robot safely

Read and understand this manual before using the In-Fluid Compact Dosing Robot. The Compact Dosing Robot shall only be used by persons who have fully read and understood the contents of this manual. Ensure that each person who uses the product has read this manual and follows the instructions. Failure to do so can result in serious injury. Keep all instructions for future reference and pass them on to subsequent users of the product. The manufacturer is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the instructions. In such cases, the warranty will be voided.

- All personnel involved in the operation, installation, inspection and maintenance of the product must be qualified to carry out the work involved. If the personnel in question do not already possess the necessary knowledge and skill, appropriate training and instruction must be provided. All local regulations must be followed
- Be vigilant at all times, and always be careful what you are doing. Do not use electrical equipment if you are lacking in concentration or awareness, or are under the influence of drugs, alcohol or medication. Even a moment of inattentiveness can lead to serious accidents and injuries when using electrical equipment.

- Use this product only for its intended use as described in this manual.
- Use the product within the specified performance limits as described in the section TECHNICAL SPECIFICATIONS.
- Always refer to the SDS of the liquids that you want to use with the product. Hazardous substances can result in serious injury or damage to the product. When the product is handling hazardous liquids care must be taken to avoid exposure to the liquid by appropriate siting of the pump, limiting personnel access and by operator training. If the liquid is flammable and/or explosive, strict safety procedures must be applied
- Be careful when mixing substances. This may change their chemical properties and can result in serious injury, or damage to the product.
- Wear protective clothing, safety goggles and hand gloves when handling pump parts during operation mode. Be aware of any fumes from hazardous substances when opening the pump.
- Check the product for any damage before use. If there is any visible damage, a strong odour, or excessive overheating of components, stop using the product. Avoid running the pump dry. This may damage certain parts. Make sure that any inlet valves are fully open when the pump is running. Running the pump at zero flow or below the recommended minimum flow continuously will cause damage to the pump itself and to the teflon ring around the piston.
- Never carry out maintenance work when the product is connected to a power source. If your product will not be used for an extended period of time, store the product in a cool, dry place away from direct sunlight.
- Do not attempt to open, modify or repair the product other than as described in these instructions. Do not drop, puncture, break or expose the product to high pressure. Dropping the product may break some of the silica glass components.
- Alterations to the product and technical modifications are not permitted.
- Drain the product and isolate pipework before dismantling the product Appropriate safety precautions should be taken when the liquids used are hazardous.

2. DISPLAY INFO

During the startup process you will be able to find the software version in the bottom right corner of the display.
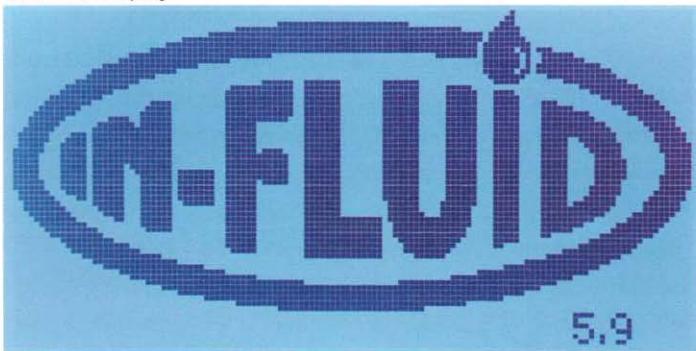
Next the home screen will load up.
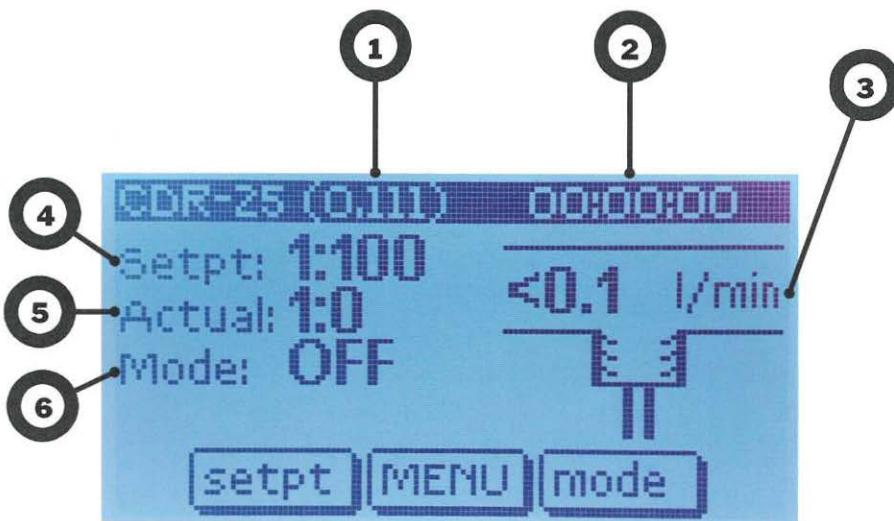
1. Pump IP
2. Time (HH:MM:SS)
3. Flow indication (L/min)
4. Setpoint (set Dosing ratio)
5. Actual (actual dosing ratio)
6. Mode (Off / Manual / Program)

3. INITIAL SETUP

3.1 Setting the date and time

1. The first step to ensure your pump is correctly set up to log data is to set the time and date. Begin by Pressing 'MENU'


2. Press the down arrow until you get to 'General settings' then press 'ENTER'

3. Press the down arrow until you get to 'Date & Time' then press 'ENTER'

4. Now go through each option in this menu by pressing 'ENTER' and set your current date and time. Once completed you can exit this menu.
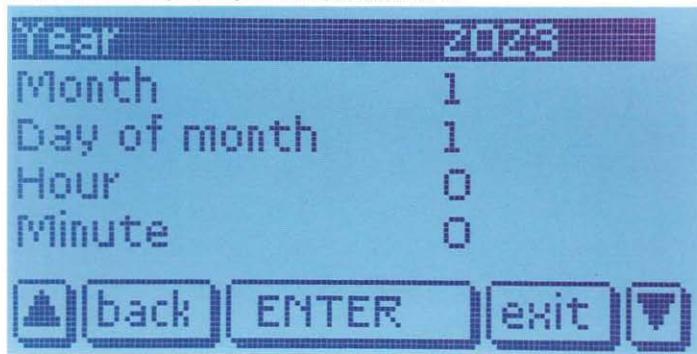
3.2 Setting up a wifi connection

1. The first step to connect the pump to a wireless network (Wifi) is to press 'MENU'

2. Press the down arrow until you get to 'WiFi wizard' then press 'ENTER'
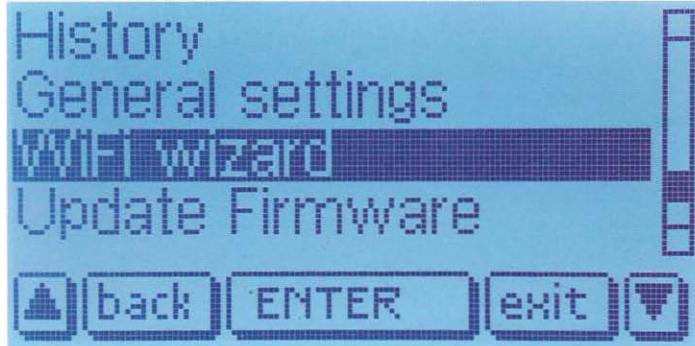
3. The wizard will now search for networks, select your network by pressing 'ENTER'
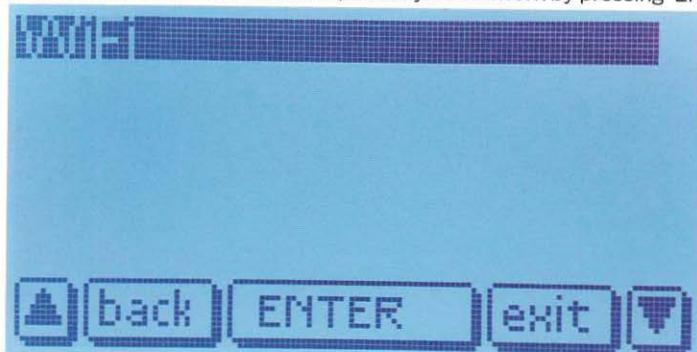
4. Using the left and right arrows together with 'ok' type in your password, once complete press the '↵' symbol at the bottom right of the keyboard.

NOTE: to change between uppercase, lowercase, and numbers use the 'Aa?' button
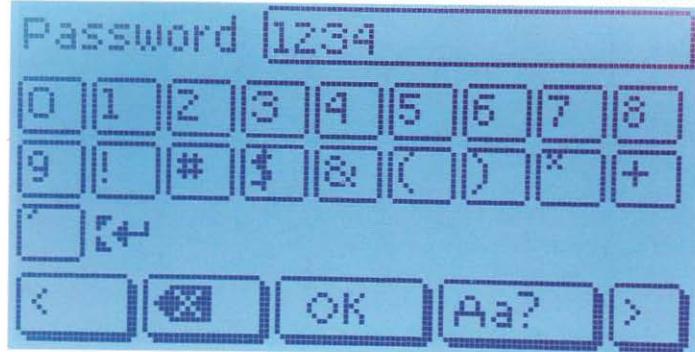
5. The WiFi wizard will then check the internet access, connect to the router, and finally will say 'SUCCESS: connected'.

NOTE: In the event that the wizard cannot connect to your network: make sure you selected the correct network, typed in the correct password, and if they are all correct reboot the pump and go through the WiFi wizard again.

3.3 Pump priming

1. The first step to prime the pump is to press 'MENU'

2. Press the 'Pump priming' to begin the priming process. NOTE: once water reaches the piston you will hear the noise level of the pumping drop, you can then press 'exit'
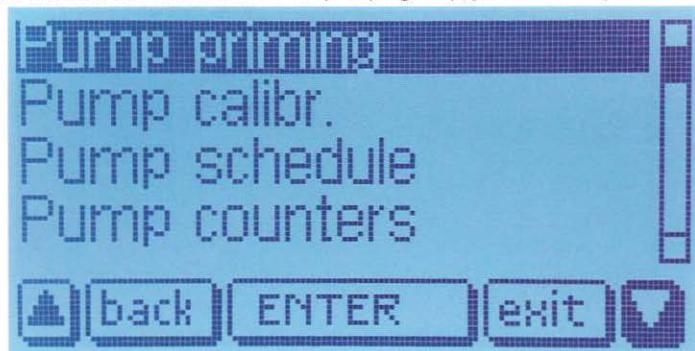
4. REVIEWING YOUR STATISTICS

4.1 Pump counters

Your pump statistics (also called counters) can be found by pressing 'MENU' followed by 'Pump counters'. Pump Counters contain 6 main sections:

- Total
- Since maintenance
- Today
- Custom counters
- Reset custom counters
- Reset maint. counters

4.2 Pump counter logs

Your pump counter logs the following in each main section:

- Powered (min)
- Active (min)
- No water (min)
- Water vol (L)
- Dosed vol (mL)
- Nr of inject
- Piston inject (ms)
- Piston release (ms)
- Powerups

5. UPDATING FIRMWARE

Checking for firmware regularly can keep you up to date with any bug fixes we apply!
NOTE: To see if you are running the newest firmware you can also check our website.

1. The first step to update your firmware is to press 'MENU'

2. Press the down arrow until you get to 'Update Firmware' then press 'ENTER'
NOTE: you must be connected to your wireless network to update your firmware

6. BASIC OPERATION

6.1 Manual Mode

Manual mode works based on your desired dosing ratio. The dosing ratio ranges from 1:10 all the way to 1:10,000.

1. To begin pumping adjust the setpoint by pressing 'setpt'

2. Press '+' and/or '-' buttons until you get to your desired dosing ratio, then press 'SAVE'
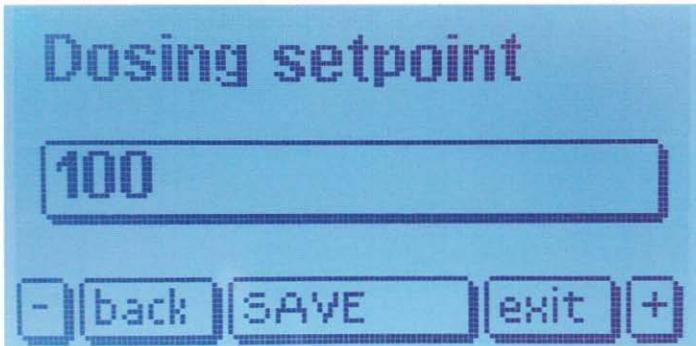
3. Once you have your Setpoint adjusted click the 'mode' button and watch for the mode to switch to 'Mode: MAN'

NOTE: Watch your 'Actual' ratio when beginning to pump, if your water flow is too high for the pump the actual dosing ratio may be incorrect. In the case of a high water flow you can attempt to counter it by increasing the concentration of your stock solution and then decreasing the dosing ratio of the pump

Consult your In-Fluid representative or refer to the user manual of the display unit on www.in-fluid.com for more information on how to operate the In-Fluid Compact Dosing Robot.

7. TROUBLESHOOTING AND REPAIR

WARNING! The product contains glass parts. Handle the product with care when broken and contact your local supplier for assistance and spare parts. Consult the website to find list of distributors and nearest sales point for spare parts.

Error	Cause	Repair
No correct flow recorded	Water temperature out of range	Contact representative
	Sensor not calibrated right	Contact representative
	Water turbulence	Improve installation of CDR
	Water leakage	Contact representative for new seals
	Corrosion of flow sensor surface	Contact representative
	Dirty surface flow sensor	Clean surface with soft brush
	Sensor cable disconnected	Contact representative

Error	Cause	Repair
Dosing not correct	Clogged filter in medium	Clean filter and prime again
	Large particles in pump cylinder	Clean pump cylinder and check filter, prime again
	Empty tank	Fill tank
	Air bubbles from the solution are not recorded	Avoid air entering the filter, keep medium above filter level
	Flow not correctly recorded	See above
	Very sticky media which doesn't suck quickly enough	Improve the density of the media
	Software error	Contact representative
	Media tank is too far away	Move media tank closer
	Back pressure too high for settings	Lower dosing ratio
	Back pressure too high, self-regulating pump temperature turns down frequency of piston injections	Lower dosing ratio
Max dosing capacity exceeded	High water flow i.c.w. settings	Change ratio settings and apply more concentrated media
	Low dosing ratio setting i.c.w. water flow	Install second CDR to double dosing capacity, divide water flow.
		Allow CDR to dose underdosed volume of media at later stage after peak flow period ends

Error	Cause	Repair
Schedular dosing incorrectly	Dosing schedule not correct	Change settings
No dosing	Dosing pump turned OFF	Change settings
	Suction of air instead of media	Check filter position and restart priming
Leakage of water	Seals in coupling or sensor	Apply new coupling seals or contact representative
Leakage of media	Check connections first. Weak seals or dirt particles in pump cylinder and piston	Clean parts or replace pump cylinder and piston with NRV, check filter
Wifi errors	No Wifi found	Check the Wifi access points then restart CDR-25 by disconnecting power for 5 seconds
	Cannot connect	Wrong password, No connection to the internet
Update	Cannot update	Check the Wifi connection, then restart CDR-25 by disconnecting power for 5 seconds
		Check current version, is it already the latest version?
I did not find my answer	Download the newest error document from the website	Read latest error document from website or contact your service dealer
I did not find my error		

If you are still experiencing technical issues with your In-Fluid Compact Dosing Robot, please contact our nearest distributor for In-Fluid products and for further assistance. On www.in-fluid.com you find an overview of In-Fluid distributors and their contact details.

8. TECHNICAL SPECIFICATIONS

In-Fluid Compact Dosing Robot		Value
Model name		CDR-25
Technical life span[1]		Approximately 5 years
Relative humidity		10% ~ 95%
Frequency	Hz	50/60
Power supply output voltage	V=	24
Power supply input voltage	V~	100 – 240
Power supply input current	A	1.8
Power supply output current	A	2.5
Power Sockets		TYPE F: EUROPE, RUSSIA TYPE I: AUS, NZL, CHN, ARG TYPE G: GBR, IRL, MLT, MAS, SIN TYPE A: USA, MEX, CAN, JAP
IP Rating		IP 65
Storage temperature	°C/°F	+5°– +50° / +41°– +122°
Operating temperature	°C/°F	+10°– +45° / +50°– +113°

[1] Technical life span of the complete product when wearable parts are replaced regularly and the product is used according to the instructions in this manual.

Revision 0.0
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Compact Dosing Robot CDR-25

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