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EDOSE OPERATION & MAINTENANCE MANUAL

SPECIFICATION:-

E dose is an electronic metering pump with a digital display using solenoid , controlled by an internal circuit to drive a reciprocating diaphragm

Electrical	*230 volts AC (±20%) 50 HZ*
Suction Tubing	*4/6mm*
Discharge Tubing	*4/6mm*
Dosing rate	*1.5/3/6/10 at 4 kg/cm^2*
Max Strokes/ Minutes	*400*

ALSO AVAILABLE:-

Options of level switch interlock, Relay Output, 4-20mA input, pulse input

SCOPE OF SUPPLY:-

- *Metering pump*
- *3 meter suction & discharge tubing*
- *Suction filter cum foot valve*
- *Injection/ back pressure assembly*
- *O & M manual*

MATERIAL OF CONSTRUCTION

Pump Head	:	Glass filled PP
Diaphragm	:	Teflon
Connectors	:	Glass filled PP
Suction tubing	:	HDPE
Discharge tubing	:	HDPE

INSTALLATION

- Install the pump in a dry environment and mount it on a tank/surface using the mounting brackets and nut-bolts provided.
- Place the pump above the liquid to be dosed within a maximum limit of 1.5 meter suction lift.
- The discharge point (marked with arrow) should always be facing upward.
- The suction nipple will be on the lower side with the suction tubing being immersed completely in solution.
- Cut the suction tubing to the desired length and attach suction filter to it.
- Ensure that suction filter is placed vertical and always immersed completely in solution.
- Use the remaining tubing on the discharge side and connect the back pressure/injection valve to the injection pipe into which dosing is to be done.
- Connect nozzle on pump to the injection valves.
- Plug the pump into a 230 Volts AC electrical outlet.

OPERATING INSTRUCTIONS

The numbers displayed for 1.5; 03; 06; 10 indicates th capacity of pump in LPH at 4Kg/cm².

When "SPM" is displayed, numbers on display indicate actual strokes per minute.

When "LS" is displayed- it means that the pump has a level switch interlock.

When "AC" is displayed- it indicates the input voltage.

When "%" is displayed, the numbers displayed indicate the percentage setting.

1. The ON/OFF key is used to switch the pump OFF and ON.
2. When pump is in operation, by pressing the ► key, you can scroll to display either the percentage dosing, number of strokes per minute or the input A.C. voltage

STARTING THE PUMP

SWITCH ON THE MAINS POWER SUPPLY TO THE PUMP.

Press the ON/OFF key to start the pump. Turn the frequency knob fully clockwise so that the display shows 100 (This is the maximum frequency setting of the pump). Make sure all the air is primed out of the system by opening the bleed valve until liquid flows out in a continuous stream. Close bleed valve. Pump is now in operation. Adjust the knob to the desired percentage frequency to achieve required dosing flow.

[Note- By pressing the ▶ button once, the strokes per minute (spm) value is displayed.

Pressing a second time displays the input voltage. Press ▶ once again to show the percentage dosing].

LOCKING THE FREQUENCY KNOB

Normally the frequency knob can be rotated to increase or decrease the frequency of the dosing. In case you desire to lock the setting to prevent unnecessary tampering, use the following procedure.

Press the ON/OFF button to stop the pump.

Then press the ▶ and ▲ buttons simultaneously (display shows PAS and then cursor blinks)

Then using the ▲ key to scroll left to right and the ▲ key to increase the value- set the pass-word to 191 and then press the ON/OFF button. The display shows lck first and then OFF.

Using the ▲ Key change display to ON. Press Enter. Then press ON/OFF to start the pump.

The frequency knob is now locked. If you rotate the knob the frequency does not change and the display shows lck.

To unlock/change frequency, follow the same procedure as above and select the lck-OFF option.

PUMP ON- TO Switch ON PUMP- Press "ON/OFF Enter" Key. (Display shows "100 %")

PUMP OFF- To switch OFF Pump- Press "ON/OFF Enter" key. (Display shows "OFF" until Power supply switched OFF.)

ADVANCED FUNCTIONS SETTING :

If you have already specified the type of advanced function required, viz. batch or interval dosing, the pump will come with the relevant option already chosen. In this case use the following method for setting [Please note-In case you haven't specified the advanced function required, this option can be selected by using the instruction in "CHOOSING ADVANCED FUNCTIONS" in case not specified to dealer earlier in the next paragraph]

PROGRAMMING FOR BATCH DOSING

This feature can be used to dose a fixed quantity of liquid by setting the number of stroke for which the pump should operate. The number of strokes can be set to a maximum of 999 multiplied by 999 (multiplying factor).

a. Display shows bAt and the bou
b. Press ENTER. Display shows oFF
c. Press ▶ and ▲ together. Display shows PAS and then 000 left most Zero blinks.
d. By pressing key ▶ you can choose the next level. Display showso blinking of the level chosen.
e. By pressing ▲ numbers will change from 0 to 9.
f. Press ▲ to change number and press ▶ to choose level.

g. Obtain "678" on the screen and then press "ON/OFF ENTER" key.

h. Display will show Auto / Manual.

i. Select Auto.

j. Display shows " bAt " which is batch mode and then 000 with left 0 blinking.)

k. For selecting up to 999 we can select by pressing the ▶ and ▲ , for to greater than 999 then we have to choose multiplicatson factor.

l. For factor press ENTER, display shows FAC

m. Selecting 001 will give us the first selection "999" multiplied by "001"; selecting appropriate number like 002 will give "999X002"; the required number of strokes can thus be achieved by choosing the strokes and the multiplication factor, maximum number of strokes of "999X999" can be achieved.

n. Press Enter display shows bAt and then bou

o. Press ENTER again, display shows oFF ; this means the batch is set.

p. Once we start the pump again, the ▲ key has to be pressed to start the pump.

q. For pump OFF, "ON/OFF ENTER" key has to be pressed to switch OFF the pump.

r. Even when supply is switched OFF, the program is retained for next operation.

PROGRAMMING FOR INTERVAL DOSING

This function can be used to operate the pump in fixed intervals i.e. the pump can be programmed to remain ON for a certain period of time and OFF for a certain time after which the cycle will repeat.

a. Display shows int and then off

b. Press ▶ and ▲ together. Display shows PAS and then 000 left most Zero blinks.

c. Enter 678 and press ENTER.

d. Display will show Auto/Manual.

e. Select Auto press enter.

f. Display shows ont and then 001 left most Zero blinks, this means ON time is 1 min and we can set maximum of 999 minutes by using ▶ and ▲ keys press enter.

g. Display shows oFt and then 001 left most Zero blinks, this means OFF time is 1 min and we can set maximum of 999 minutes by using ▶ and ▲ key

h. Press Enter.

i. Press ON/OFF Enter again to start the pump.

j. The pump will be ON for selected minutes and then OFF for selected minutes.

k. Display will show ont and the selected times alternately during pump functioning.

l. Display will show oFt and then selected time alternately during pump OFF.

m. By pressing the ON/OFF ENTER, we can stop the pump.

CHOOSING ADVANCED FUNCTIONS IN CASE NOT SPECIFIED TO DEALER EARLIER

1. Press ▶ and ▲ together. Display shows PAS and then 000 left most Zero blinks.
2. By pressing key ▶ you can choose the next level. display shows blinking of [] the level chosen.
3. By pressing ▲ numbers will changes from 9 to 9.
4. Press ▲ to changes number and press ▶ to choose level.
5. Obtain "567" on the screen and then press " ON/OFF ENTER" key.
6. Firstly display shown MAN . Showing Manual mode. Press Enter to select this mode.
7. Press ▲
8. Secondly display shows BAT Showing Batch mode.
9. Press ▶ Enter to select this mode.
10. Thirdly display show INT . Showing Interval mode. Press Enter to select this mode.

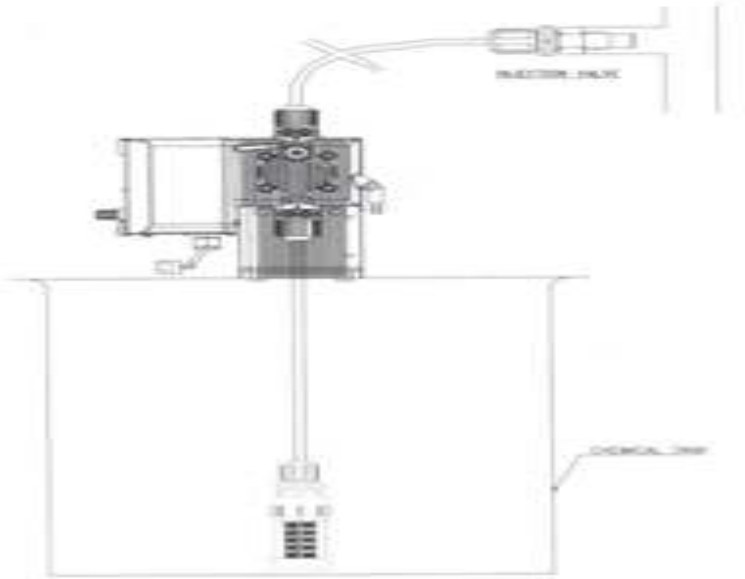
PRECAUTIONS

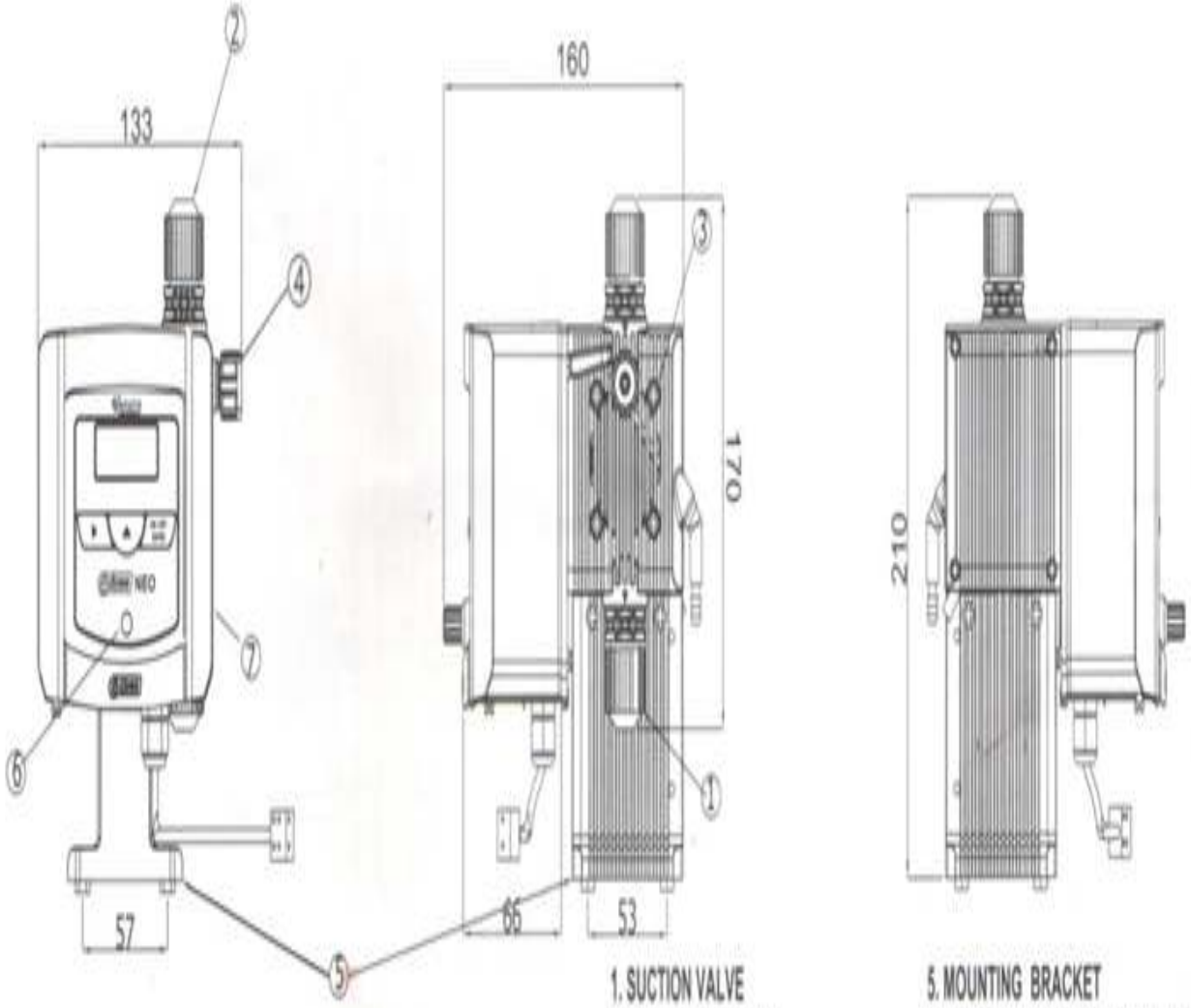
A) Electrical

- Ensure voltage is within range specified for the pump ie. 180- 280 Volts.
- Electrical connection should be made between "Live-Neutral" & Not Live-Ground".
- Avoid giving supply to dose from the same line as heavy electrical equipment.

B) General

- Install pump in any shaded place AWAY from direct sunlight.
- Pump is resistant to dust and water but cannot be used in a sub-merged condition.
- Clamp the mounting bracket adequately so that vibrations do not loosen the mounting.
- Before performing any maintenance on the pump, release internal pressure by operating bleed valve and disconnect power supply.

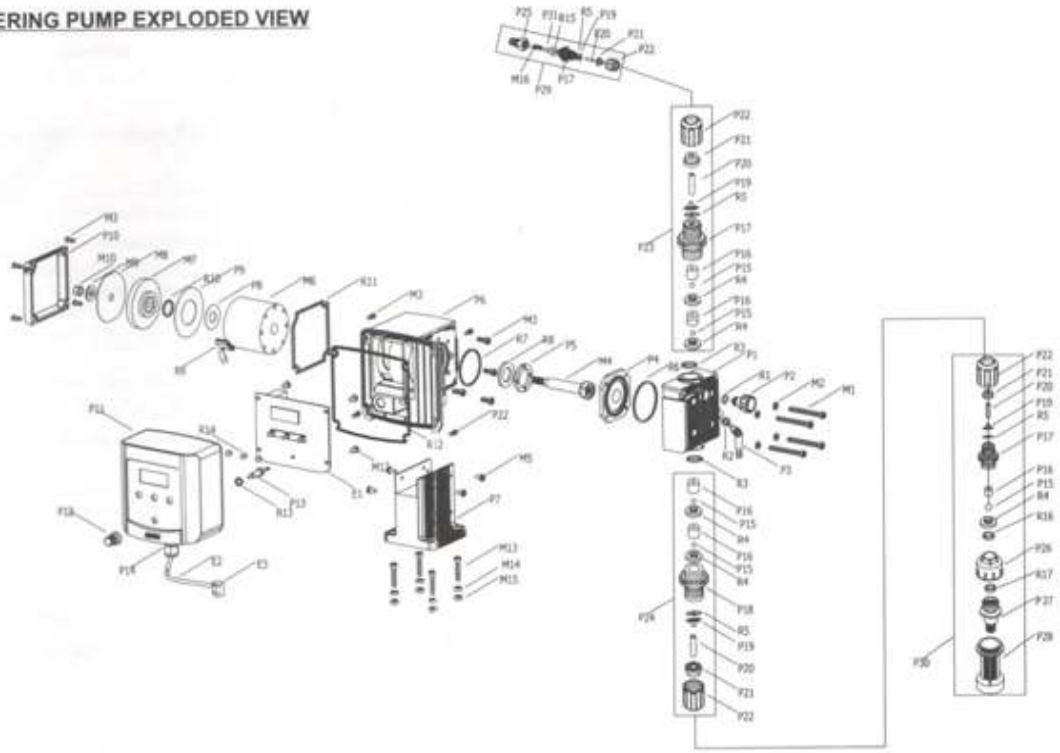




1. SUCTION VALVE
2. DISCHARGE VALVE
3. DOSING HEAD
4. AIR RELEASE VALVE

5. MOUNTING BRACKET
6. FREQUENCY ADJUSTMENT KNOB
7. PCB HOUSING

E-DOSE NEO METERING PUMP EXPLODED VIEW



PART LIST

(ALL DETAILS SHOWN IN THE MANUAL ARE SUBJECT TO CHANGE WITH/WITHOUT NOTICE)

S.NO.	PART NO.	DESCRIPTION
1	P1	DOSING HEAD.
2	P2	AIR RELEASE VALVE.
3	P3	ARV NOZZLE.
4	P4	DIAPHRAGM.
5	P5	DIAPHRAGM SPACER.
6	P6	SOLENOID HOUSING.
7	P7	MOUNTING BRACKET.
8	P8	PVC WASHER.
9	P9	PVC RING.
10	P10	SOLENOID HOUSING COVER.
11	P11	PCB HOUSING.
12	P12	KNOB.
13	P13	KNOB STICK.
14	P14	GLAND.
15	P15	NRV BALL (DIA-6MM).
16	P16	NRV BALL CAP.
17	P17	NRV BODY (DISCHARGE).
18	P18	NRV BODY (SUCTION).
19	P19	NRV NOZZLE.
20	P20	TUBING.
21	P21	TUBING CAP.
22	P22	TUBING CONNECTOR.
23	P23	DISCHARGE VALVE ASSLY.
24	P24	SUCTION VALVE ASSLY.
25	P25	INJECTION VALVE ADAPTOR.
26	P26	SUCTION FILTER TOP CAP.
27	P27	SUCTION NRV ASSLY.
28	P28	FOUR RIB ADAPTOR.
29	P29	INJ VALVE ASSLY.
30	P30	SUCTION FILTER ASSLY.
31	P31	INJ. VALVE BALL (Ø6.00MM).
32	R1	ARV BODY "O" RING (Ø7.5X2).
33	R2	ARV NOZZLE "O" RING (Ø3.8X1.8).

S. NO.	PART NO.	DESCRIPTION
34	R3	DOSING HEAD "O"RING.
35	R4	BALL SEAL.
36	R5	NRV BODY "O" RING.
37	R6	DIAPHRAGM "O" RING (Ø 42X2.2)
38	R7	SOLENOID HOUSING ORING (Ø 40 X 2).
39	R8	PLUNGER WASHER.
40	R9	SOLENOID HOUSING GROMET SQ.
41	R10	SOLENOID SPACER "O" RING (Ø15.6X1.78).
42	R11	SOLENOID HOUSING COVER WASHER.
43	R12	PCB HOUSING WASHER.
44	R13	KNOB STICK WASHER (11.5X6X2.5).
45	R14	PRESS KEY GROMET.
46	R15	INJECTION VALVE ADAPTOR WASHER (Ø18X8.5).
47	R16	FILTER TO CAP WASHER (14X19X2).
48	R17	SUCTION NRV ASSLY. "O" RING (Ø11.5X2.62)
49	E1	PCB.
50	E2	POWER CORD.
51	E3	2-WAY CONNECTOR
52	M1	DOSING HEAD FITTING BOLT (M4 X 40 S.S 316).
53	M2	DOSING HEAD FITTING WASHER (M4 S.S. 316).
54	M3	SOLENOID FITTING BOLT (M3X8. S.S).
55	M4	PLUNGER (BRASS).
56	M5	MOUNTING BRACKET BOLT (M3X8).
57	M6	SOLENOID ASSLY.
58	M7	SOLENOID SPACER.
59	M8	SS SPRING.
60	M9	SPRING FITTING WASHER.
61	M10	SPRING FITTING NUT (M8).
62	M11	PCB FITTING BOLT (M3X6).
63	M12	M6X20 BOLT
64	M13	M6 WASHER
65	M14	M6 NUT
66	M15	INJECTION VALVE SS SPRING