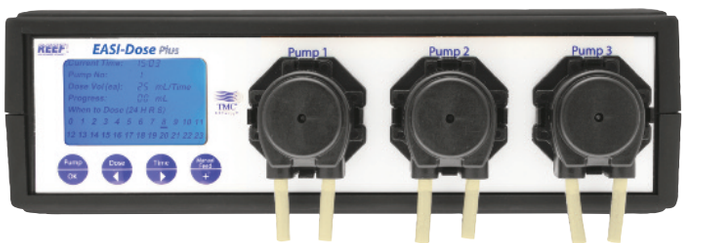
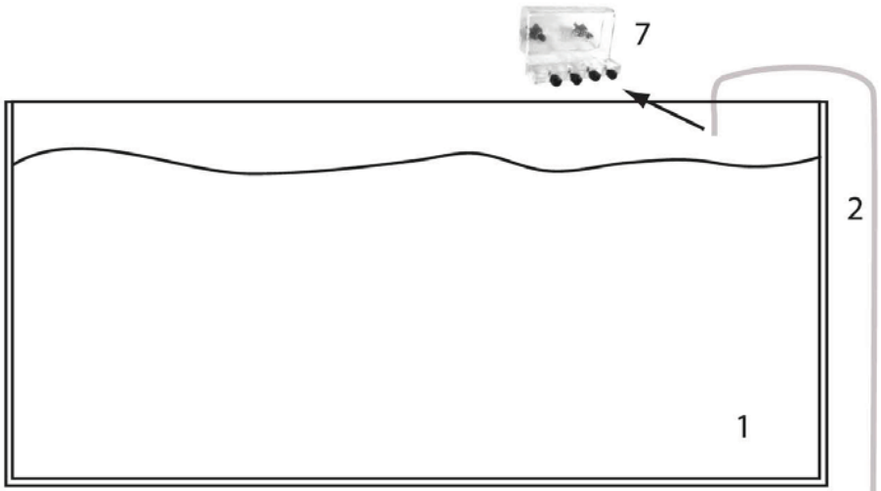
EASI-Dose Plus

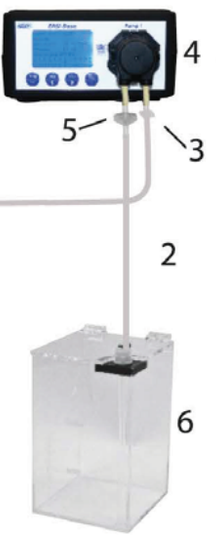


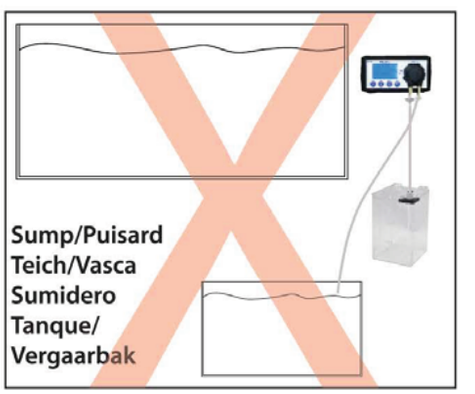
REEF BY TMC
FOR ADVANCED AQUARISTS

TMC® Aquarium



1. Aquarium/Acquario/Acuario/Aquário
2. Silicone hosing/Tuyau en silicone/ Silikonschlauch/ Siliconenslang/Tubazione in silicone/Manguera de silicona/ Tubagem de silicone
3. Hosing connector/Connecteur du tuyau/Schlauchverbinder/ Slangkoppelstuk/Connettore tubazione/Conector de la manguera/Conector para tubagem
4. EASI-Dose
5. Non return valve/Clapet anti-retour/ Rückschlagventil/ Terugslagklep/Valvola di non ritorno/Válvula de retención/ Válvula de retenção
6. Dosing container (sold separately)/Réservoir de dosage (vendu séparément)/Dosierbehälter (getrennt erhältlich)/Doseertank (apart verkrijgbaar)/Contenitore di dosaggio (venduto separatamente)/Depósito de dosificación (vendido por separado/Recipiente doseador (vendido separadamente)
7. Hosing clamp (available separately)/Fixation de tuyau (vendu séparément)/Schlauchschelle (getrennt erhältlich)/Slangklem (apart verkrijgbaar)/Fascetta stringitubo (venduto separatamente/Abrazadera para mangueras (vendido por separado/Braçadeira para tubagem (vendido separadamente)





Ensure all connections are tightly secured and that the EASI-Dose unit is installed correctly before operating. Failure to do so could result in leaks or operating problems.

Vérifiez que toutes les connexions sont serrées à fond et que l'appareil EASI-Dose est correctement installé. Ne pas observer cette consigne pourrait entraîner des fuites ou des problèmes de fonctionnement.

Stellen Sie vor dem Einschalten sicher, dass alle Anschlüsse fest sitzen und dass das EASI-Dose-Gerät richtig installiert wurde. Andernfalls kann es zu Undichtigkeiten oder Betriebsstörungen kommen.

Controleer voor ingebruikname dat alle aansluitingen goed zijn bevestigd en dat de EASI-Dose-unit juist is geïnstalleerd. Indien u dit niet doet, kan dit lekkages of storingen tot gevolg hebben.

Prima di procedere al funzionamento, accertarsi che tutti i collegamenti siano fissati saldamente e che l'apparecchio EASI-Dose sia installato in maniera corretta. Il mancato rispetto di queste indicazioni potrebbe comportare perdite o problemi di funzionamento.

Antes de poner en marcha la unidad EASI-Dose, compruebe que todas las conexiones están firmemente fijadas y que la unidad se ha instalado correctamente. No hacerlo podría provocar fugas o problemas de funcionamiento.

Certifique-se de que todas as ligações estão bem presas e de que a unidade EASI-Dose está corretamente instalada antes de a utilizar. O não cumprimento destas instruções pode dar origem a fugas ou problemas de funcionamento.

EASI-Dose *Plus*

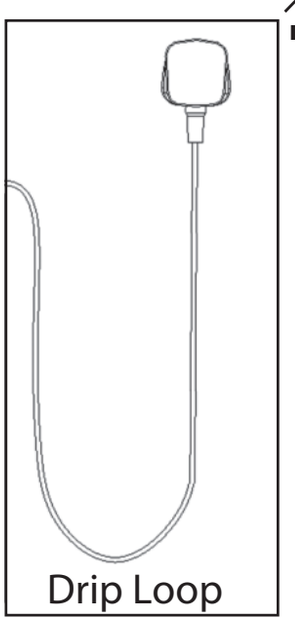
INSTRUCTIONS FOR INSTALLATION AND USE

Important Safety Information - Please Read Carefully

- Always isolate from the mains electricity before installing or carrying out any maintenance to the EASI-Dose*Plus* dosing system.
- Power to the EASI-Dose *Plus* dosing system must be supplied through a Residual Current Device (RCD) with a rated residual operating current not exceeding 30mA.
- Pump rating: 220-240V, 50Hz unless marked otherwise.
- Do not operate any appliance if it has a damaged cord or plug, if it is malfunctioning, or if it has been dropped or damaged in any way.

- This unit is designed to be used indoors and is not suitable for any outdoor applications.
- Ensure the EASI-Dose *Plus* dosing system is safely positioned before operating.
  Caution: The EASI-Dose plus Dosing system is not waterproof and therefore must not be mounted above the aquarium or sump, or in any position where it may accidentally fall into water or be splashed by water, or in a humid environment.
- Always leave a drip-loop in the cables to prevent water running down the cable and reaching the power source (see below).

- Dispose of this unit responsibly. Check with your local authority for disposal information.
- Please Note: It is advisable to consider the quantity and concentration of the additive in your dosing container in order to reduce any risks of overdosing your tank. Thought should be given to the unlikely event that the dosing system is set up incorrectly or should fail and the total amount of product in the dosing container could be dosed into your tank. It is advised not to exceed a volume / concentration that would lead to your water parameters being affected to a degree that could result in harm to the tank inhabitants. Please refer to the dosing instructions of the additive to be added for maximum recommended dose rates.



It is also recommended to undertake daily checks on your equipment. The TMC Easi Dose containers are graduated in order to keep an eye on daily usage levels.

PARTS LIST

1. LCD display
2. Dosing pump head
3. Silicone hosing (3m)
4. Inlet (left)
5. Outlet (right)
6. Non return valve
7. Hosing connector
8. Power supply unit (PSU)
9. Slave connection cable (supplied with Slave only)
10. PSU port -12v (not supplied with Slave)
11. Extension port A for Slave unit
12. Extension port B for Slave unit
13. Easi-Stir Plus extension port
14. Input from master (using connection cable supplied with Slave)

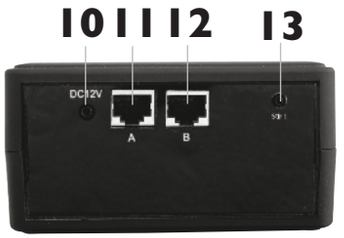
PARTS REQUIRED FOR INSTALLATION AND OPERATION (NOT SUPPLIED)

- Residual current device (RCD) with a rated residual operating current not exceeding 30mA.
- Additional silicone hosing and hosing connectors (depending on individual installation requirements).
- Scissors for cutting the silicone hosing to the required length.
- Measuring vessel suitable for accurately measuring 10ml.

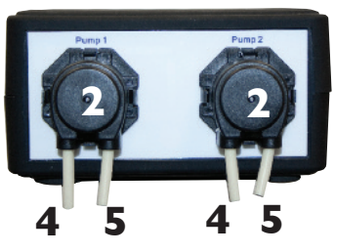
TECHNICAL SPECIFICATION

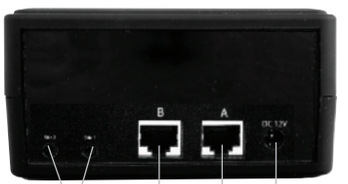
Power Consumption: 4W
Max Flow: 60ml/minute
Motor Speed: 3800rpm
Accuracy: +/-5%

EASI-Dose 1

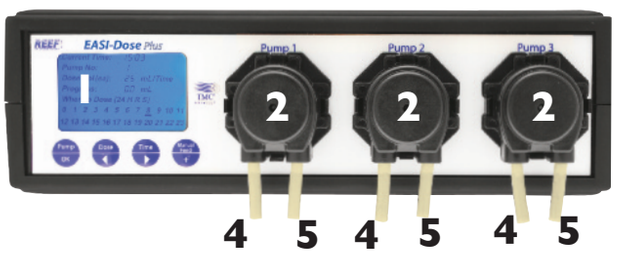


EASI-Dose 2

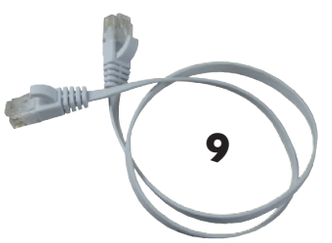


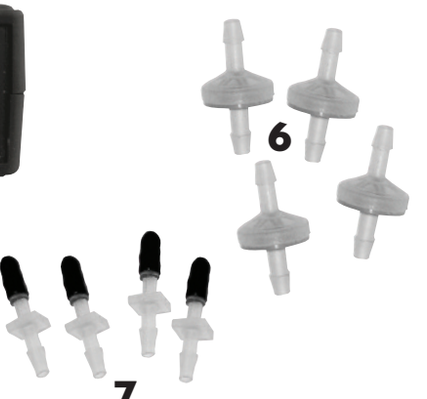


EASI-Dose 3



EASI-Dose Slave





INSTALLATION OF ALL MASTER/SLAVE MODELS

Installing the EASI-Dose *Plus* dosing system is very easy and requires minimal set up, apart from connecting power cables and silicone hosing.

1. Place the EASI-Dose *Plus* unit in a convenient, stable position (do not mount it above the aquarium or in any position where it may accidentally fall into water or be splashed by water) where it can be easily accessed for maintenance.
   Useful Tip: We recommend using the EASI-Dose *Plus* shelf to allow easy and convenient installation (shelf sold separately - please see back page for available accessories and spares).
2. Plug the power supply (PSU) into the PSU port (10) on the back of the unit ensuring there is a drip loop in the power cable (see diagram above).
3. Carefully measure and cut the silicone hosing (3) to the required lengths. Please ensure that the lengths of hosing are long enough to connect your liquid storage containers to the inlet(s) (4) on the dosing pump head(s) (1) and to connect the outlet(s) (5) to your desired dosing location, without any kinks or sagging. Additional silicone hosing and hosing connectors may be required, depending on individual installation requirements.
4. Each dosing pump head (2) is controlled separately and, depending on model, is numbered from 1 - 4 from left to right. The inlet (4) is on the left of the dosing pump head (2), and this is where your chosen liquid is drawn in. The outlet (5) is on the right and this is where the liquid is dispensed from.
5. Insert the non return valve (6) with the domed section pointing upwards into the inlet (4) of the dosing pump head (2) (see photo).
6. Connect one end of your cut silicone hosing to your liquid storage container and connect the other end to the non return valve (6) ensuring there are no kinks or sagging.
   Useful Tip: We recommend you use an EASI-Dose *Plus* dosing container (sold separately - please see back page for details).

7. Insert a hosing connector (7) (with black dust protector removed) into the outlet (5) on the right side of the dosing pump head (2) and connect another length of silicone hosing to the other end. Place the end of this length of hosing in your desired dosing location e.g. your sump, ensuring there are no kinks or sagging. Secure as required.
   Useful Tip: We recommend the use of the EASI-Dose *Plus* hosing clamp (sold separately - please see back page for details) to ensure a neat and secure set up.
8. Ensure all connections are tightly secured and that the EASI-Dose *Plus* unit is installed correctly before operating. Failure to do so could result in leaks or operating problems.
9. Repeat the above steps for each dosing pump head you wish to use.

EXPANDING YOUR EASI-DOSE DOSING SYSTEM

The EASI-Dose *Plus* Dosing System is expandable and allows two EASI-Dose *Plus* Slave units (4 pumps each) to be connected and independently controlled from the Master system (EASI-Dose *Plus* 1, 2 or 3) giving you up to 8 additional pumps.

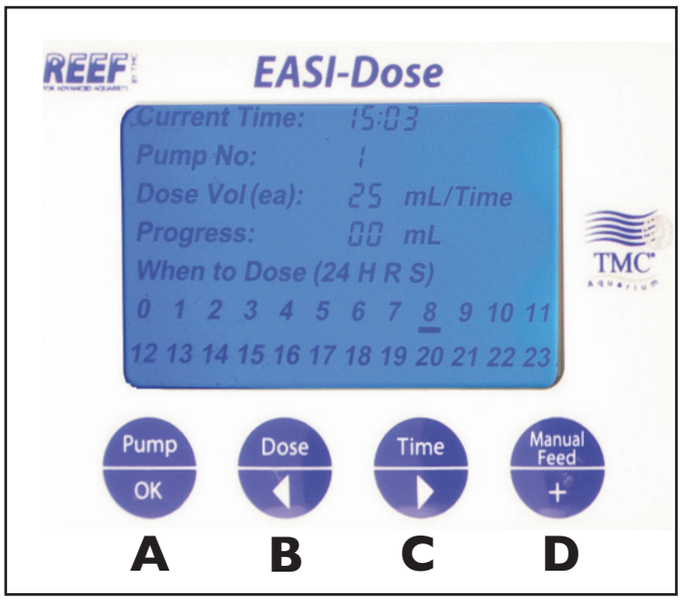
If you wish to expand your EASI-Dose *Plus* Master system, simply connect an EASI-Dose *Plus* Slave (sold separately) to your Master system by inserting one end of the the slave connection cable (9 - supplied with Slave unit only) into the INPUT socket on the Slave and the other end into either extension port A or B (11 or 12) on the back of the EASI-Dose *Plus* Master system. Once connected the Master system will power and automatically recognise the Slave unit and you will be able to programme from the Master.

Complete the installation points above for each pump that you wish to use.

The EASI-Dose Plus can also be connected and used with the EASI-Stir magnetic stirrers to offer simple automated stirring of your chosen liquid supplement or feed. Using the connection cable supplied with the EASI-Stir, connect to the correct EASI-Stir extension port on the back panel of your EASI-Dose Plus and the EASI-Stir will be automatically activated 15 seconds before each programmed dose time and then switches off before dosing commences.

PROGRAMMING YOUR EASI-DOSE MASTER (ALL MODELS)

The EASI-Dose *Plus* Master units are quickly and easily programmed by using a series of buttons.



A. Pump/OK Button

Use this button to select the pump number you wish to change settings for. It will allow you to scroll through each of the pumps' settings and see the progress of each dose. At any stage whilst programming your unit, pressing this button will save your programmed settings and will return the doser to running mode (the ':' on the clock will flash whilst in running mode but not whilst in setting mode).

B. Dose/◀ Button

This button will allow you change the dose quantity (in ml) and also scroll to the 'When to dose' section. It will also let you scroll left when changing other settings.

C. Time/▶ Button

This will let you set the time of your unit, and also allow you to scroll right whilst changing other settings.

D. Manual Feed/+ Button

This button will let you prime your pumps and also manually dose additives.
Please Note: this will not affect your settings when doing so.
When changing settings, it will allow you to increase the number displayed.

SETTING THE CURRENT TIME

1. Press button C (Time/▶) to enter current time. The clock will flash whilst in the settings mode.
2. Press button C (Time/▶) again to scroll through the hours and minutes (selected item will flash) and using button D (Manual Feed/+) increase the hours/minutes to the correct time.
3. Press button A (Pump/OK) to confirm and save the current time.

SETTING DOSING VOLUME

1. Press button A (Pump/OK) a number of times to scroll through all pump numbers until you find the pump you wish to set dosing details for.
2. Press button B (Dose/◀) to enter the dosing volume setting.
3. Press button D (Manual Feed/+) to adjust the first two digits (from 1 - 19) of the dosing volume and then press button C (Time/▶) to move onto the third digit of the dosing volume and adjust using button D (Manual Feed/+) (1 - 9). For example, if you wanted to set the dosing volume to 149ml, you would set the first two digits to 14 and the third digit to 9.

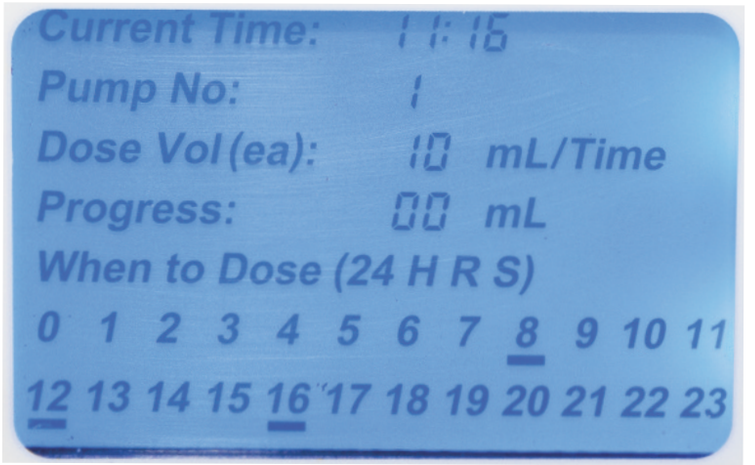
Please Note: Dosing volume can be set from 1ml to 199ml per dose.

SETTING DOSING TIMES

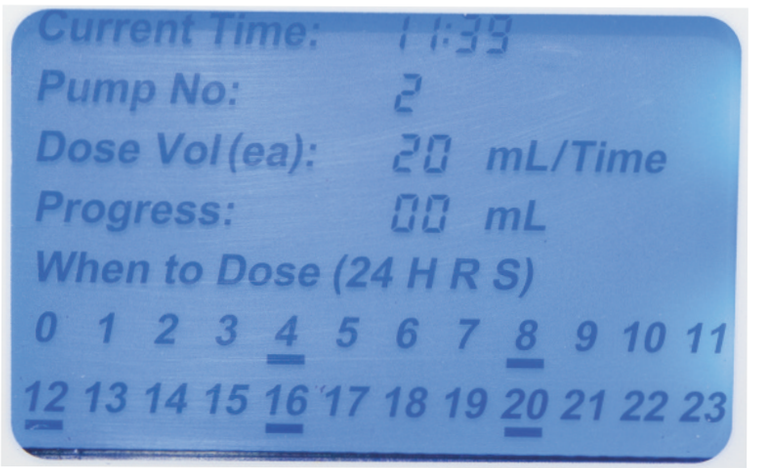
After setting your dosing volume you can set **when** to dose. Each pump can deliver your determined dosing volume up to 24 times per day, on each hour, should you require it. Each pump will start approximately 3 minutes after the previous one in order to allow time for your chosen additives to mix with your aquarium water. For example if you set two pumps to dose at 10am, the first will dose at 10am and the second will dose at approximately 10.03am.

1. After setting your dosing volume press button C (Time/▶) to scroll through to the 'when to dose' section of the screen. 1 to 24 represents each hour of the day in 24hr time format. Press button C (Time/▶) to scroll right, or button B (Dose/◀) to scroll left. An hour time slot will flash then you are able to select/deselect it.
2. Use button D (Manual Feed/+) to select/deselect the hours when you would like the pumps to dose. The selected hours will be underlined when the button is pressed and will be deselected by pressing button D (Manual Feed/+) again. No line will show under the number when it is deselected.
3. Repeat the above process for all dosing pumps and then press and hold down button A (Pump/OK) for 2 seconds to confirm and save the settings for all pumps. The dosing unit will now be in running mode and the ':' on the clock will now be flashing.

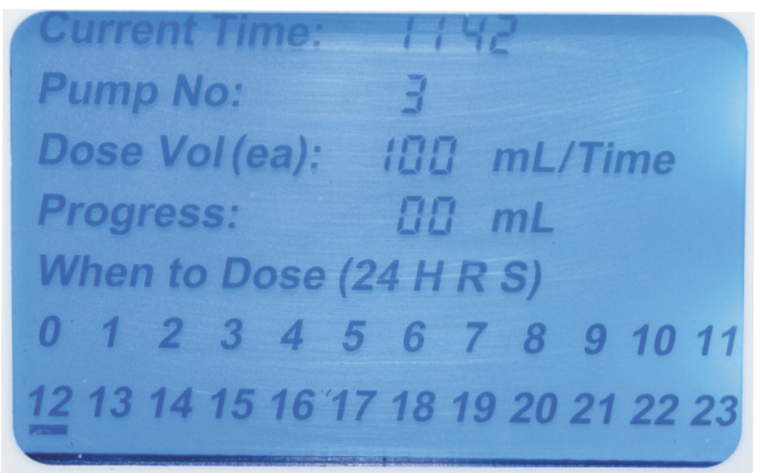
Example Settings



Pump No: 1
Dosing Volume: 10ml
Dosing Times: 08:00, 12:00, 16:00



Pump No: 2
Dosing Volume: 20ml
Dosing Times: 04:00, 08:00, 12:00, 16:00, 20:00



Pump No: 3
Dosing Volume: 100ml
Dosing Times: 12:00

PRIMING THE PUMPS

Once you have set all of your desired settings you will need to prime each pump before dosing can begin. Priming is the action of making the dosing pump manually take in liquid and pass it to the end of the tubing so it is ready to dose into your desired location.

1. Press button A (Pump/OK) a number of times to scroll through and select the relevant pump you need to prime.
2. Press button D (Manual Feed/+) and hold until your chosen dosing liquid exits out of the hosing into your chosen dosing location e.g. sump.
3. Select the next pump to prime by pressing button A (Pump/OK) and repeat the process until all pumps are primed as required.

Useful Tip: Using button D (Manual Feed/+) you can also manually dose additives as and when required.

CALIBRATING YOUR EASI-DOSE MASTER (ALL MODELS)

The calibration process is based on calibrating to a 10ml dosing volume. The calibration process should be carried out using your chosen dosing liquid.

1. Carefully follow steps 1 to 9 in the "INSTALLATION OF ALL MASTER/SLAVE MODELS" above.
2. Fill your liquid storage container with a sufficient volume of your chosen liquid to allow the dosing pumps to be successfully primed.
3. Carefully follow steps 1 to 3 in the "PRIMING THE PUMPS" section above.
4. Place the outlet hose of the first pump you are calibrating into your chosen measuring vessel.
5. To enter the calibration process press and hold the 'Time' button (3) for 3 seconds. Pump No: 01 should be flashing on the LCD screen.
6. Press the 'Time' button (3) and Pump No: 01 will begin dosing into your chosen measuring vessel.
7. Measure the volume of liquid Pump No: 01 has dosed.

IF THE DOSED VOLUME IS LESS THAN 10ML

Please Note: The figure "100" which appears in 'Dose Vol (ea)' equates to 10 seconds of pump working time, and this is increased by increments of 0.1 seconds by pressing the 'Manual Feed +' button (4) to increase the figure '100' to 101 (10.1 secs), 102 (10.2 secs) etc or decreased by increments of 0.1 seconds by pressing the 'Dose' button (2) to decrease figure to 99 (9.9 secs), 98 (9.8 secs) etc.

8. If the dosed volume is less than 10ml, press the 'Manual Feed +' button (4) to increase the 'Dose Vol (ea)' from 100 to 101.
9. Empty the liquid from the measuring vessel, place the outlet hose back in the vessel and then press the 'Time' button (3) again. Pump No: 01 will begin dosing again.
10. Measure the volume of liquid Pump No: 01 has dosed.
11. Repeat this process, increasing the 'Dose Vol (ea)' to 102, 103, 104 etc until a dosing volume of 10ml is achieved.

IF THE DOSED VOLUME IS MORE THAN 10ML

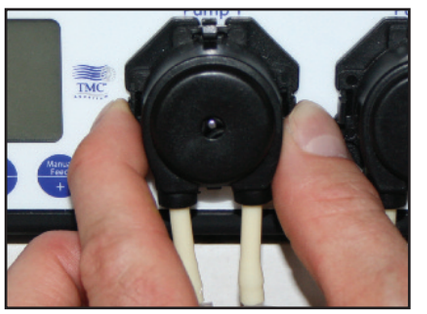
12. If the dosed volume is more than 10ml, press the 'Dose' button (2) to reduce the 'Dose Vol (ea)' from 100 to 99.
13. Empty the liquid from the measuring vessel, place the outlet hose back in the vessel and then press the 'Time' button (3) again. Pump No: 01 will begin dosing again.
14. Measure the volume of liquid Pump No: 01 has dosed.
15. Repeat this process reducing the 'Dose Vol (ea)' to 98, 97, 96 etc until a dosing volume of 10ml is achieved.
16. Once Pump No: 1 has been successfully calibrated press the 'Pump OK' button (1) to change to Pump No: 02 to begin the calibration process of Pump No: 02. Pump No: 02 should be flashing on the LCD screen
17. Repeat the above steps for all pumps that require calibrating.
18. Once all pumps have been calibrated, press and hold the 'Time' button (3) for 3 seconds to confirm and save all calibration settings and to exit the calibration process.
19. Now follow instructions for "PROGRAMMING YOUR EASI-DOSE MASTER (ALL MODELS)" in the EASI-Dose *Plus* instructions.

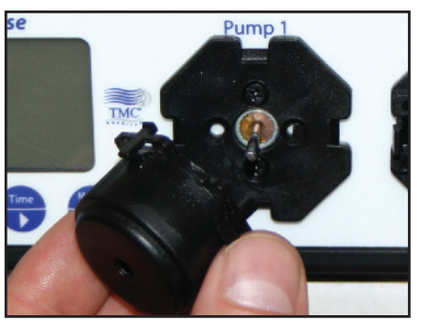
MAINTENANCE

1. Regularly check all connections to make sure they are secure and that the EASI-Dose *Plus* unit is functioning correctly.
2. During routine maintenance, the dosing pump heads and the silicone hosing must be checked for any signs of wear or degradation and must be replaced accordingly. Failure to do so could result in dosing inaccuracies, operating problems and damage to the dosing pump. Spares are available from your local stockist. These consumable items are not covered under the 12 month guarantee (please see back page for details on all available accessories and spares).

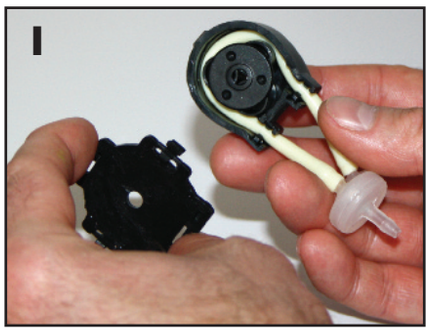
REPLACING THE DOSING PUMP HEAD

1. To replace the dosing pump head, squeeze the left and right tabs either side of the head and gently but firmly pull the pump head forward.
2. To replace, ensure the pump shaft sits centrally in the dosing pump head and push onto the EASI-Dose *Plus* unit, ensuring the clips are aligned left and right. Firmly push the dosing pump head on until it clicks into place. Check the pump head is operational by pressing and holding button D (Manual Feed/+) until liquid is successfully passing through.



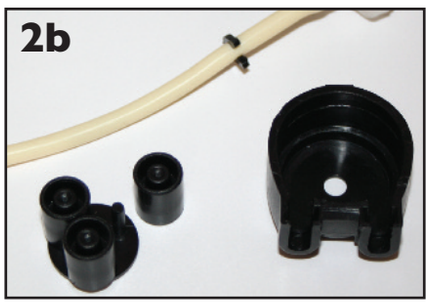


To check the internal components of the dosing pump head, follow the instructions above to remove the dosing pump head and then do the following:-



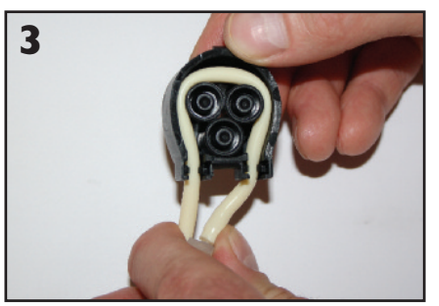
1. Holding the pump head in the same orientation as it is installed on the pump, evenly squeeze the top and bottom tabs to remove the bottom plate from the pump head.

2. Pinch the two ends of the silicone hosing together and pull upwards, removing the hosing and the rolling wheel assembly. The rolling wheel assembly contains three rollers which are loose on the underside of the wheel so be careful not to drop them during removal. Inspect the rollers, the silicone hosing and the inside of the dosing pump head for wear. Replace any parts that are worn.



3. Wrap the silicone tubing around the rolling wheel and re-insert into the dosing pump head, ensuring the two small hosing clips are re-seated correctly in the assembly.

4. Do not force the pump head back together. If it does not fit back together correctly, check assembly.



5. To replace the dosing pump head onto the EASI-Dose *Plus* unit, ensure the pump shaft sits centrally in the pump head and push onto the dosing unit, ensuring the clips are aligned left and right. Gently, but firmly push on evenly until it clicks into place. Check the pump head is operational by pressing and holding button D (Manual Feed/+) until liquid is successfully passing through.

TROUBLESHOOTING

Problem: The LCD display does not light up

Solution: Check PSU is plugged in correctly and turned on.

Problem: No liquid is coming through

Solution: Check direction of non-return valve and that the correct hose is in the liquid (intake = right hand hosing)
Solution: Check priming of pump by pressing button D (Manual Feed/+)
Solution: Check pump head is correctly clipped onto the dosing pump
Solution: Check pump head for any signs of degradation
Solution: Check silicone tubing for any signs of degradation

Problem: Dosing pumps are not dosing on the hour

Solution: Each pump will run in order with approximately a 3 minute gap between doses. This ensures your liquids will mix correctly and will help to stop precipitation of balling salts or anionic or cationic trace elements joining together.
Solution: Check pump is selected to dose at that time.

Problem: There has been a power cut.

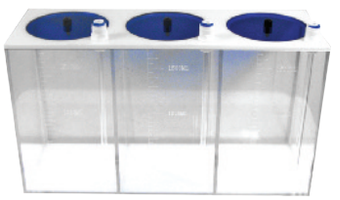
Solution: Settings are automatically saved in the event of a power cut. Once power is restored the doser will dose at the next scheduled dosing time (it will not make up for any missed, scheduled dosing times). For example, if the power goes off at 08:55 and comes back on at 09:55 and you have dosing times scheduled for 09:00 and 10:00 it will only dose once at 10:00 and will miss the 09:00 dose.

9534
EASI-Dose *Plus* 1
EASI-Dose *Plus* 2

9535
EASI-Dose *Plus* 3
EASI-Dose *Plus* Slave

9536
1.5L

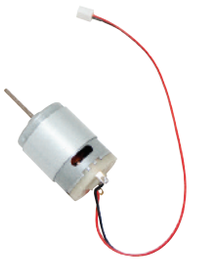
9537
2.5L



9538
4.5L (3 x 1.5L)

9539
5L

9540



9542

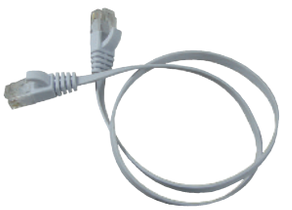
9543

9544

9545

9546
3m

9547



9548

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