



BD DRUM FILTER



TF TUBE FILTER

BD DRUM AND TF TUBE FILTER INSTRUCTIONS

The details in this manual are correct at the time of going to press. Burton's Manufacturing seeks to achieve constant products improvement and therefore reserves the rights to change specifications at any time without prior notice.

WWW.BURTONSAQUATICS.COM



Please check for any physical damage when removing the packaging report any breakages to the supplier ASAP.

The BD and TF range of filters are rotating drum filters designed to remove particles bigger than 60 microns from pond water and flush them to waste automatically leaving less maintenance and more time to enjoy clear clean water. The units are designed to have little maintenance to keep them going with no special tools need to service them. The controls use state of the art controllers with a program written to run itself and other items connected to it.

Please read this manual before you attempt to install and run the unit for the first time.

SITING YOUR DRUM FILTER

DO NOT FIT THE FILTER IN AREAS THAT HAVE NO ACTIVE DRAINAGE AS WATER DAMAGE WILL INVALIDATE YOUR WARRANTY.

The BD and TF range of drum filters need to be installed on a flat level and ideally concrete base as when full will be heavy, if the base is in adequate this could damage the BD filter and invalidate your warranty.

ELECTRICAL CONNECTION

THE ELECTRICAL CONNECTION MUST BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.

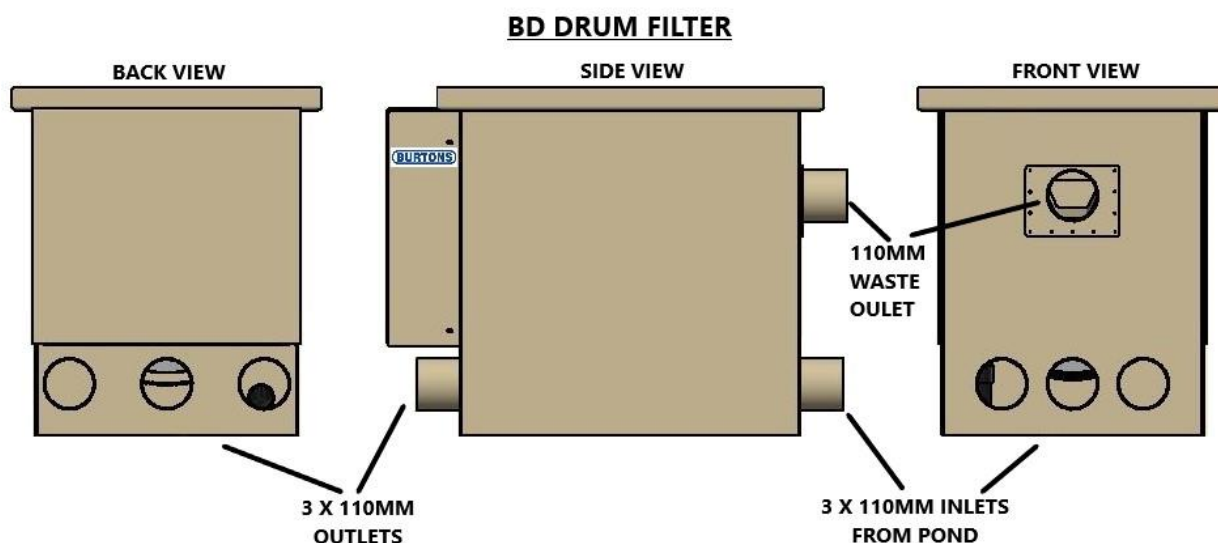
Power needed for the BD filter range:

Single phase 240Vac 13amp RCD supply.

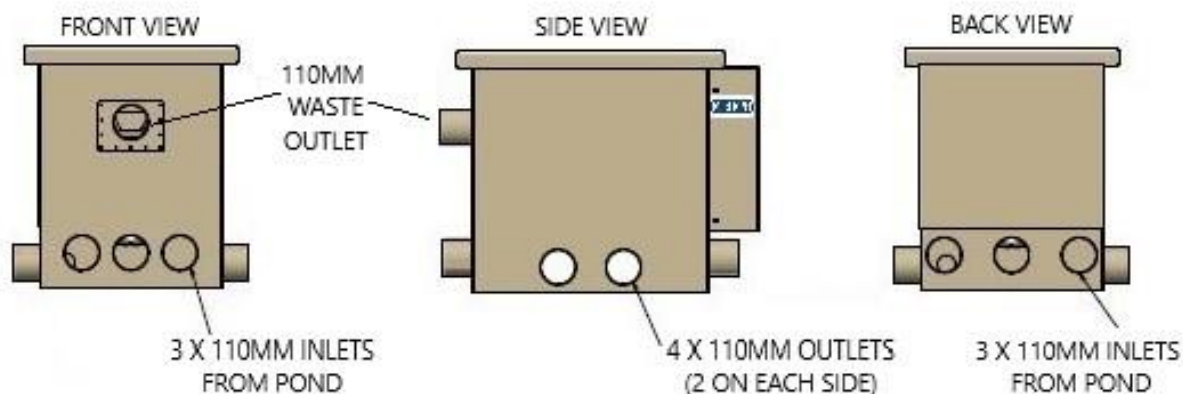
If you mount the control box to the wall it is important to use the screw blanking caps included inside the control box.

INSTALLATION

Drum filters use a small amount of pond water every time the unit preforms a clean cycle. Over time this will lower the water level of the pond. With this in mind we recommend having an automatic mains water top up on your pond. Maintaining a constant water level in your pond is important for consistent running of your drum filter, if the water level goes to low your drum filter will over clean and turn off in safe mode.



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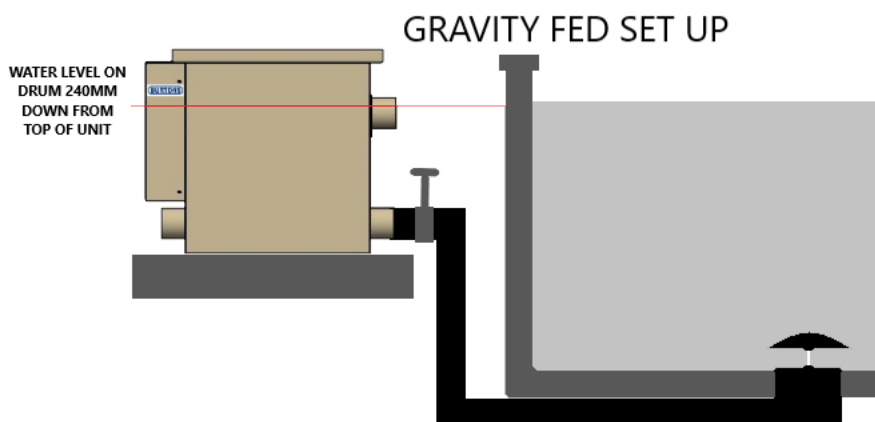


GRAVITY FED INSTALLATION

When fitting your Burtons drum filter on a gravity fed setup the water level is very important. You should set the water level at 240mm down from the top of the filter unit. The Burtons drum filter must sit on a solid level base ideally constructed of concrete.

The waste chute should be kept to the 110mm pipe size to reduce the chance of blockages.

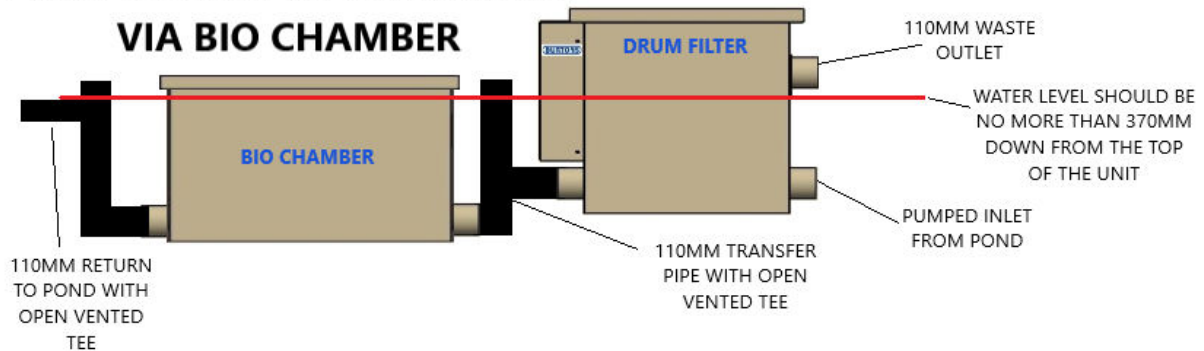
There are 3 x 110mm inlets (6 on the TF models) and 3 x 110mm outlets (4 on the TF models). To achieve the maximum flow rate of your unit you will need to use all of the inlets and keep the pipe size at 110mm all the way to the pond. Any unused inlets or outlets will need to be capped off with the use of rubber fittings.



PUMP FED INSTALLATION

With a pump fed installation you will need to set the drum filter level depending on the type of bio filter to be used after the unit. Once you have established the filter height of the bio filter to be used transfer this to the BD filter and set the plinth height required to set it to this line. The gap from the water level on the pump fed filter to waste chute needs to be no bigger than 150mm to give enough dynamic load on the pumped dirty side to trigger the float for clean and give the ability to adjust. When you have this level set and the BD filter in place make all connection to pumps and Bio filter. Now the BD filter is sat and ready for wiring connections and commissioning.

PUMP FED SET UP RETURNING VIA BIO CHAMBER



PLEASE NOTE: THE AMOUNT OF OUTLETS NEEDED WILL BE RELEVANT TO THE PUMPS FLOW RATE

IF THE WATER IS RETURNING STRAIGHT BACK TO THE POND FROM THE DRUM FILTER THE RETURN PIPES NEED TO BE SET 370MM FROM THE TOP OF THE FILTER

BD FILTER CONTROLS

Buttons	Action
A	Manual rotation (when pressed)
B	Advanced menu / menus scroll
ESC	Escape out of menu
-	Time decrease
+	Time increase
OK	<ol style="list-style-type: none"> In normal mode pressing OK will start a clean cycle. In advance it will turn pumps on and off. In advance it will turn over run on and off.



PUMP AND UV OUTPUT SOCKETS

It is recommended that all pumps and UVs that are to be used with the drum filter are plugged in via the control panel provided, the software in the controller will protect and turn off the pumps if the drum stops from over cleaning or a blockage and the UVs will switch off when the lid is opened. The UVs turning off when the lid is opened is a safety feature as looking directly at a UV light is dangerous.



Both the pump and the Uv outlets have a pre fitted double socket which is controlled via the main drum controller. Each double socket can handle up to 8amp load.

These are clearly marked with pump and Uv.

PLEASE NOTE, these sockets are not designed to be used as general sockets for other appliances. The use of high-powered equipment like power tools or heaters will damage the main drum controller.

These sockets will be pre-set on when you plug in and turn on your drum filter, but you can turn these off at any time if required. You will also find the instructions for this on the front of the control box.

Turning pump and Uv sockets on and off

Press and hold the B button to enter the advanced menu. There will be a star by output 1 (pump) pressing OK will switch output 1 (pumps) on. Press B again and the star will move to output 2 (UV lights) pressing OK will switch output 2 (UV lights) on. When outputs 1 (pump) and 2 (UV light) are on the drum will control the outputs and switch them off in case of a failure. You will also need to push both the breakers on output 1 and 2 up to turn the pumps and UVs on. Push the ESC button to return the controller back to the normal mode.

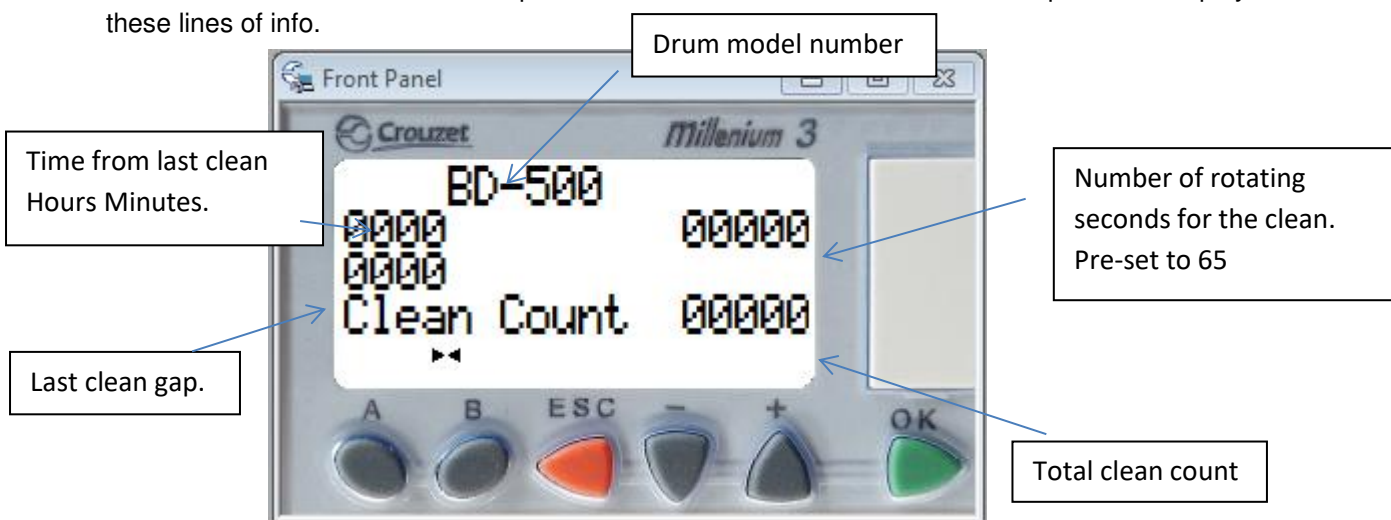
Once these items have been plugged into the control box you can quickly turn them on and off by pushing the breaker switches up and down. UP = on Down = off

Please note for safety reasons the UV light that sits inside the drum should be plugged into the drum controller socket, when the lid is removed the UV light will turn off. **NEVER LOOK DIRECTLY AT A UV LIGHT!!!**

COMMISSIONING

Gravity system

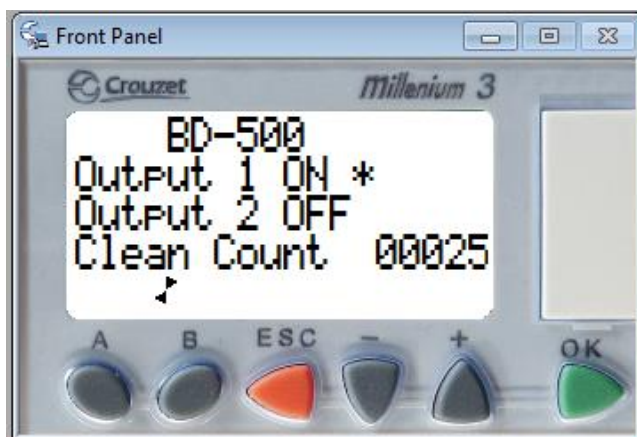
1. Open the slide/ball valves holding the water back from the pond, check the water level is correct with in the drum filter, top the pond up to the correct level and ensure your pond water overflow works. If you run an auto top up system, ensure this is working. (It is essential that you have adequate water coming into the pond to ensure the drum filter runs correctly a constant water head in the pond is needed).
2. Check to see if the float switch is below the water surface, lift off the lid to check. If ok replace the lid plug in and turn on the drum filters control panel, make sure the breakers are off at this point, the display will show these lines of info.



3. To test the rotation of the drum filter press and hold button A ensuring the drum filter turns round.
4. Next prime and test the spray tips, press and hold button B this takes you to the advanced menu, when you see output 1 and output 2 on the screen with a star by the side release button B then a single press will move you though to menu, keep signally pressing until you see NOZZLE TEST then press and hold the OK button this will start the high pressure pump running. Keep holding the button down and look at all the spray tips, you want a full fan on each tip. If you see any tip that has an incomplete fan remove and clean any swarf from the manufacturing process, tip caps are removed by a quarter turn.
5. To change the rotation time, press the + or - buttons. One press of the button will put one second on or off the rotation count, we recommend and pre-set to 65 seconds this is just over two full rotations of the drum filter.

BURTONS

6. Next we come to starting to run the pond pumps and cleaning the incoming water. Take your time with this step because if the incoming water is very dirty containing particles bigger than 60 microns the drum filter will clean quicker than the pond can be topped up. If you intend on running more than one pump switch one on at a time or if you have an adjustable flow type pump start low and increase slowly. The drum filter controls will run and take control of your pumps and UVs if wired through the box (see wiring section). If you have wired the pumps through the box press and hold the B button scroll to output 1 (the pump) and press the OK button. Then switch over the breaker and your pump will start (if your pump is not wired through the control panel switch your pump on).

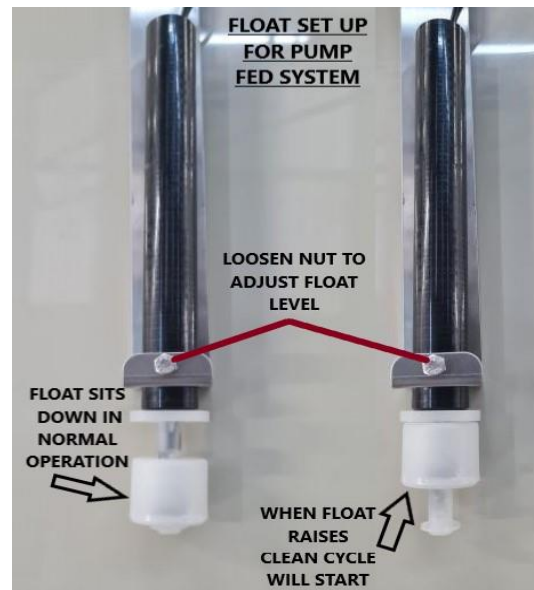
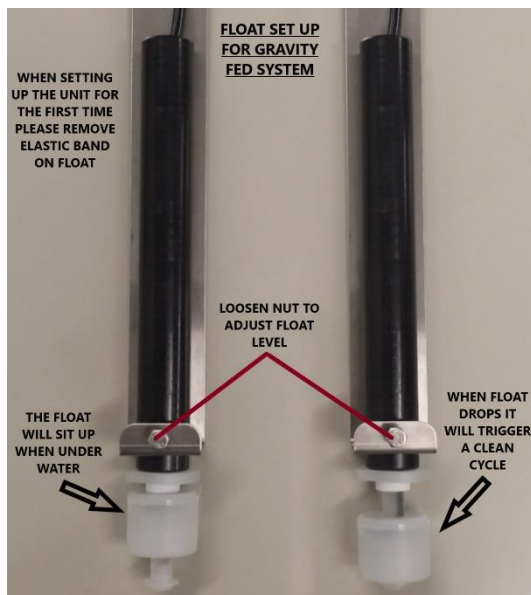


Press ESC to come out of the advanced menu, lift the lid off the drum filter and see what is coming into the dirty side, you should see fish waste and any other waste that has been sat in the pond base starting to move through. If you look at the control screen it will say LID NOT IN PLACE!! When this is displayed the drum filter will not clean this is a safety feature. Replace the lid for cleaning to commence when needed.



Once you have water flowing through the BD filter it will monitor how often it cleans before you increase or switch other pumps on.

7. Adjustments to the float switch will determine the clean gap, by pushing the float down it will increase the gap between cleans lift it will shorten, when the system is first started and depending how dirty the water is how far down you will need to set the float switch for the first 24hrs or so, once the BD filter has clean the water you can bring the float back up to get a stable clean time through the day.



8. Check that the top up water is coming in and if you have an overflow make sure it's flowing.
 9. On a new set up depending on how dirty the water is you may have to set the float quite a way down until the water is clean then bring it back up to get a good clean gap (See the fine tuning section for more tips).

BEFORE TURNING YOUR SYSTEM ON PLEASE MAKE SURE THE ELASTIC BAND IS REMOVED FROM THE FLOAT

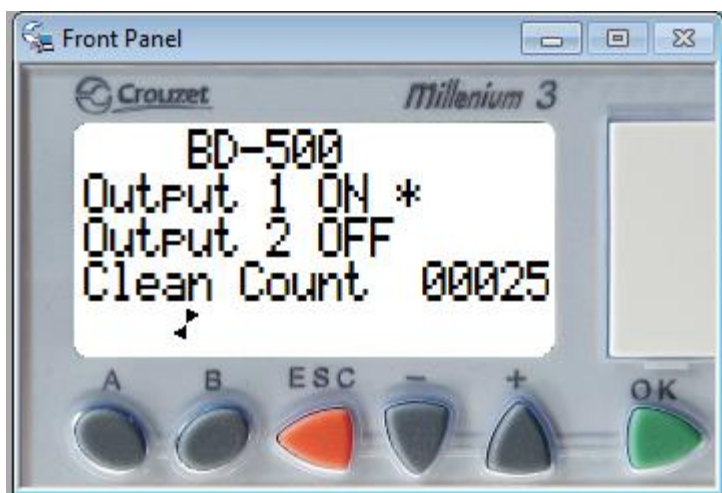
Pumped System

Ensure the lid is placed on the control panel before you plug into the mains power and pressing any of the control buttons.

1. With a pump fed system it is more important that any pumps are wired into the drum filters control panel, this stops draining the pond if the drum stops working.
2. When the pump or pumps are wired in fit the control boxes lid back on and plug turn on the mains power. Ensure the lid is on the drum filter so in case a clean cycle is needed.
3. Test that the drum rotates by pressing button A on the control panel you should see the drum rotate all the time your pressing the A button.
4. To switch on a pump controlled by the drum filter you need to access the advanced menu you do this by pressing and holding the B button to take you to the first page in the advanced menu, when you see output 1 and 2 displayed on the screen release button B



By pressing the OK button, it will switch on the output that you want on



Now switch on the breaker and the pump will start, let the pump run until the drum filter is ready to flow to the next stage of filtration or back to the pond. At this point quickly take off the lid to the drum filter and check the water levels are correct. It's important to make sure the water from the dirty side of the drum does not go over the overflow or down the waste chute. If this happens you need to check the height at which the unit has been set to. Maximum water level for a pump fed system is no more than 370mm down from the top of the unit.

5. With a pumped drum filter the float switch is at the front in the dirty side and to adjust it you slide it up or down this will lengthen or shorten the clean gap time. When you are happy that the height is ok start the pump and get water flowing through, depending on how dirty the incoming water is this determines how often it will clean, to start with it will clean more often until all the waste particles have been removed.
6. Check the water top up when you are running for the system first time as a lot of water could be used on a dirty system. Although it's not as critical on a pump fed system you still need to keep an eye on the water level of the pond.



PROCESSING SEQUENCE / FINE TUNING

Gravity sequence

Water to be processed enters the dirty side on the drum filter flowing into the drum here is where the dirt partials will be trapped as the stainless steel screen is 60 microns, the cleaned water passes through this screen, as this 60-micron screen starts to block it will start to trap smaller and smaller particles which means you will be filtering down to 30 microns before the drum filter starts a clean cycle. As the screen starts to block with waste particles it will hold back the water that is flowing into the drum filter, you will see that the dirty section water will rise and the clean side will lower. When the clean side of the drum filter starts to lower the float on the float switch will drop signalling to the controller to start the cleaning process.

When the clean cycle is triggered by the float switch the controller will start the rotation of the drum filter and start the high pressure water spray pump, the spray pump takes water from the clean side of the filter and pumps it to the spray tips, these tips have a small orifice causing a pressured jet of water to fan out over the screen washing the dirt off into the waste chute and away to waste.

Fine tuning the settings

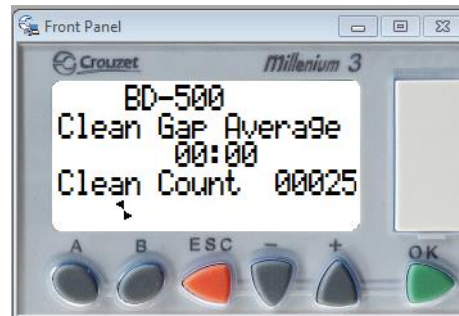
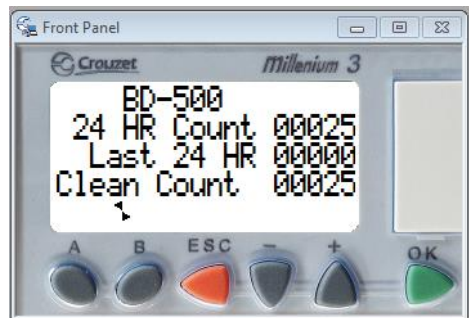
There are a number of little tweaks you can do once the drum filter has been up and running for a week or so.

1. Cleaning time, this should be factory set from testing and be at 65 seconds but you can change this value to increase or decrease the cleaning time as you wish just press the + or – button until the time you wish is reached. We have found from tests pond ponds that a cleaning time 65 or over is best to clean all of the BD filter screen and any run off that's has happened.
2. Adjusting the float level and clean gap, once the system has settled down and the BD filter is on top of any waste you will see the clean increase, to get this back to a good time you will need to raise the float up a little bit at a time to bring this time lower, things you will notice when the clean gap get to long is waste will be forced through the screen from the pressure of the water and the BD screen under the waterline will have a brown look. A long gap between cleans will also course any partials to dry on the inside of the screen making the clean cycle work hard to remove these.
3. Seasonal changers, you will find that as the seasons and feeding habit change you may need to adjust the float to change the BD filters cleaning gap, if after heavy repeated feed the filter cleans to often then you can lower the float switch to increase the clean gap but don't allow this to go to long when you are feeding heavily as waste will be forced through the screen, go for around 20 minutes when heavy feeding.

ADVANCED MENU

Ensuring the lid is in place before you start this procedure.

1. To access the advanced menu press and hold the B button, release when you see the screen change to saying Output 1 and 2, now a single press of the B button the * will move to denote what output is to be switched on or off. Press ok to switch output 1 or 2 on or off. To move to the next screen a press the B button once.
2. The next screen is the 24hour clean count, here you can see the number of cleans in the last 24hours and the previous amount of cleans in the 24hours before that. The top line is the current 24 hours. Middle line is the previous 24 hours and the bottom line is the total clean count.
3. This screen tells you how many hours and minutes that the drum filter has rotated for
4. If you need to check if the spray nozzles are all working you can do it from the nozzle test screen. When it is at the Nozzle Test section press and hold the OK button the wash pump will start spraying water from the spray nozzles.
5. This next screen will tell you the average gap between cleans, it's a sinking average calculation, it will need at least 10 clean before it will so any data.



- Next we have the Over Run Clean screen. This function will make the drum filter clean on a pre-set timer. Pressing the + button in this screen will show a minute on the counter press the ok button to turn on the overrun clean this will do a clean every time it reaches the set time before the float is triggered.



You can see from this image that every 14minutes a clean cycle will start weather the drum is dirty or not, this can be used in the winter to keep water moving and to stop the unit and pipework from freezing.



When you run the BD filter with the overrun setting and it does more than 10 before the float is triggered it will give you an on screen warning saying, **more than ten over runs!** Press ESC to remove this warning. It's just to make sure you want the filter to run like this.

- This next screen it the total run rotating minutes and hours for the BD filter.
- To exit the advanced menu press ESC or not pressing any buttons it will return to normal after 5 minutes (to see all menus keep the lid on).





CYCLE FAILURE AND FAULT FINDING

Faults	Fix
Control panel blank	Check mains fuse or circuit breaker feeding the control. Open control panel check 24v power supply.
On screen notice FLOW BLOCKAGE!!	Check that the pond water level is correct. Float not set at correct height for flow being pulled through the drum filter. Bottom Drain Blocked or valve closed.
Drum will not rotate	Ensure the lid is on correctly and the screen does not say lid not in place. When you press button A you can hear the motor but no rotation ensure the drum drive shaft is located on the flat of the motor. Drum is loaded with water pull out by pass pipe turn off pumps when the water has balanced out press the OK button do a clean then replace the bypass pipe and turn on the pumps. Power off the drum to reset the drive card Check replace motor.
Strips on the drum screen	Clean nozzles and test
High pressure pump doesn't run	Ensure the inline plug is connected. Check power supply in control panel
MCB trip on control panel	Problem with the pump or UV connected to the MCB that is tripping.

SCREEN UNBLOCKING PROCEDURE

If for any reason the screen becomes overloaded with waste and the drum filter shuts down, follow these steps.

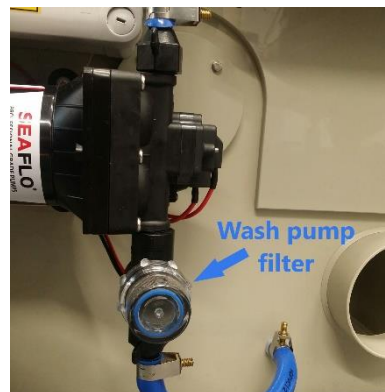
1. Switch off all water pumps drawing off the drum filter. Also turn the Drum control box off for 2 minutes.
2. Remove the black bypass pipe. (TF filters have 2 pipes)
3. Allow the water to balance in both clean and dirty side of the drum filter.
4. Once balanced and the water weight load is off the drum place the lid on and press the OK button to start a clean cycle.
5. Ensure the BD filter is set to do a whole rotation of 65 seconds on the display, this will ensure the screen is cleaned.
6. Top up any lost water to achieve the correct pond level.
7. Replace the bypass pipe.
8. Start the pumps slowly if you have adjustable pumps.
9. When you are back to full flow check float height and that the clean top up water is adequate.

Note: If you run a short clean time you will be in danger of blocking the screen as it will have a non-clean part of the screen on first rotation to flow the water through. 65 second is recommended.

SERVICE AND MAINTENANCE

The BD and TF range of drum filters are designed to aid in the daily pond cleaning and are not maintenance free. There are still a few checks that need to be done to ensure the filter runs at its best.

1. If a blanket weed treatment has been used, you will need to keep clean the waste chute before it gets over loaded. We recommended treating for blanket weed as soon as you see it.
2. Check the cleaning nozzles with the advance mode (check for blockages).
3. Clean the nozzle filter on the high pressure pump inlet.
4. Periodically clean the screen with Burtons Drum cleaner to remove lime scale.



WARRANTY

What's covered?

Our warranty covers defect in materials or workmanship for 24 months after the date of invoice.

What's not covered?

Carriage costs, Consequential loss, engineer call out, miss-use, accidental damage, consumable items like lip seal, drum mesh, filters and tips. Repairing or replacing items does not extend the warranty period.

What to do

If you have a problem with any of our products, first of all call the place of purchase or Burtons Direct. We will try to resolve the issue with as little inconvenience as possible. If goods have to be returned, you must inform us before doing so.

Please note, carriage and packaging costs are expressly excluded.

This does not affect your statutory rights.

To register this warranty, please complete the Registration Form included with your purchase and send it back via the options listed on the form. We will acknowledge your registration. Please keep your acknowledgement safe. In the unlikely event of work needing to be carried out under warranty, you will require this as proof of registration.

If you should have any difficulty in operation, please contact your place of purchase.

Service assistance:

If you need assistance with this product please contact the place of purchase or alternately.....

UK- Burtons Aquatics service department. Tel: 01622 834330

Overseas – local agent or Tel: +44 1622 834330

Email: aquatics@burtonsdirect.com

Please have your product model number and serial number to hand.