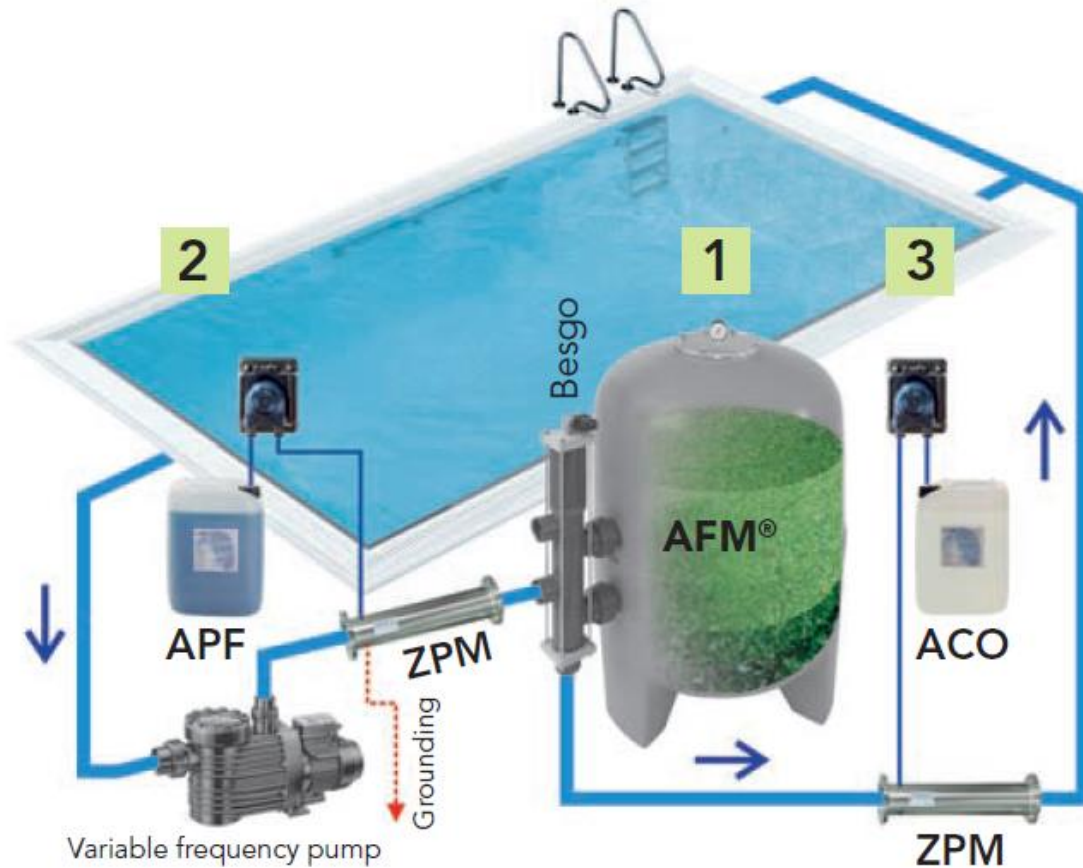


Guide for Changing to the DAISY System

DAISY System Diagram



Instilation

Recomended Order of Operations

1. DryOx Treatment
2. System Shut Down
3. Installation of Components
 - a. Changing Media for AFM
 - b. Installing ZPM's
4. Instilation of Dosing Pumps
5. Commissioning

DryOx Treatment

1. Ensure there are no bathers in the pool at any point during DryOx treatment procedure.
2. Calculate the number of tablets to be used.
3. Wear protective gloves and eye protection when handling. Open tablet box and use scissors to open the vacuum pack, drop the tablet into the water, skimmer basket, overflow channel or a combination of these. DO NOT TOUCH tablets or allow them to get wet prior to adding to the pool or overflow channels.
4. Allow tablets to dissolve with the system running in normal operation for a minimum of 1 hour.
5. Once this is complete perform a normal backwash procedure on the filters.
6. Following this backwash shutdown system to prepare for removal of media.

Changing Media for AFM

1. Existing filter media to be removed, Dryden Aqua recommend that this is done using a vehicle with a vacuum suction hose.
2. Once filter is empty of media the drain system (nozzles or lateral system) in the filter should be checked for damage or wear, if the media has been in the filter for more than a short period it is likely that changing the drain system will be required.
Please Note: Over time the nozzles/lateral system will become more brittle and therefore more susceptible to damage during backwashing. Dryden Aqua recommend that nozzles/lateral system are changed before AFM® is placed into any filter.
3. The AFM® can then be installed in the filter. This should be carried out as per the filter manufacturers guidelines and with largest grade first. Normally this will be Grade 3,2 then 1.
4. After installing the AFM® the filter should be backwashed until the water runs clear before being brought online and used in filtration mode.



Installing ZPM's

Positioning

- The pre-filter ZPM (between the pump and filter) should be installed as far towards the pumps as is reasonably practical to allow for as long a flocculation period as possible.
- The post filter ZPM should be installed after the filter and before any heat exchangers or UV Systems.

Installation

1. Flow through the pipework area that the ZPM is being installed into must be stopped this will most likely involve stopping circulation.
2. Pipework modifications can be carried out to allow installation of the ZPM, the following information may be useful.
 - Sizes DN40, DN50 and DN65 are Male BSP threaded in the appropriate sizes.
 - Sizes DN40 & DN50 have 1 Female BSP Threaded ½" port.
 - Sizes DN80 and above have DIN PN10 Flanges.
 - Sizes DN65 and above have 2 Female BSP Threaded ½" ports.
3. Following the required pipework modifications the ZPM should be installed into the pipe ensuring a seal is formed at both ends.
4. The pre-filter ZPM should be grounded using earth wire, the post filter ZPM does not require grounding.
5. Any injection or sampling points should be installed into the ½" ports before returning flow to this area of pipework.
Please Note: If these ports are not being used then please ensure the plugs are fully in place before restarting flow.



Installing APF/ACO Dosing

Dosing Pumps

1. Dosing pumps should be located as local to both the chemical drum and the injection point as possible. This ensures the length of hose used is small and reduces the likelihood of any blockages.
2. Dosing pumps should be installed as per the dosing pump installation manual.
3. Injection check valves should be used at the injection point of the chemical to ensure consistent dosing and no blockages.

Chemicals

- APF should be dosed into the ZPM located before the filters.
 - ACO should be dosed into the ZPM located after the filters.
1. Chemicals containers should be placed in a bund tray located locally to the dosing pump.
 2. The strainer/foot valve on the suction line from the dosing pump should be placed as low as possible within the chemical container.
 3. The suction line from the dosing pump should be passed through a hole in the lid of the chemical container and this lid should also have another small hole drilled to allow air to enter/exit the container.



Commissioning

Balancing Water

When starting to use the DAISY system it is important that the water being filtered meets certain chemical conditions, these are shown in the table below:

Chemical Parameter	pH	Hardness (as CaCO ₃)	Alkalinity
If to low?	Use pH plus such as Sodium Carbonate to increase pH.	Add chemical such as Calcium Chloride to increase Hardness.	Add Sodium Bicarbonate to increase Alkalinity.
Acceptable Range	6.9-7.2	>100	60-120
If to high?	Use pH minus such as Hydrochloric Acid or CO ₂ to reduce pH.	N/A	

Dosing of APF and ACO

Starting Point

The rate at which APF and ACO should be dosed should be controlled through the measurement of Turbidity and Aluminium, the process for carrying this out is described below, as a starting point however the dosing rate required can be estimated as follows:

1ml of APF and ACO should be dosed for every m³ of water circulated through the filters.

i.e If circulation flow rate is 100m³/hr then 100ml/hr of APF and ACO should be dosed.

Ongoing Adjustment

The following procedure should be carried out each week to ensure the correct amount of APF and ACO are being dosed into the system.



