Wastewater Engineers, Inc.
Wastewater Treatment Specialists

210 Coy Court
Oxford, MI 48371
Phone: (248) 236-9800
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RT-65-DB
WASTEWATER TREATMENT UNIT

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Chemical Start–up Procedure

Prior to installation, every waste stream was sampled and lab-tested to determine the best method of treatment. This method is delineated in the Test Report, and returned to the customer with an example of how that particular sample was treated along with the resulting floc. It is assumed that these initial samples are representative of the on-going nature of the waste stream to be treated, and in most cases of steady-state industrial processes, this is in fact true. However, it is always a good idea to perform a jar-test of the current effluent before filling the RT-unit for the first time.

Every RT now comes with a start-up kit, consisting of a standardized jar with a marked fill line, the designated reactant powder, and any other necessary chemicals to perform a bench/jar test.

W.E., Inc.
General Start-up Kit

General Procedure for Performing a Bench-test

1) Fill the jar to the mark with effluent which is representative of that which will be put into the RT-unit, i.e., after any necessary pre-treatment. If it is not possible to do this, appropriate steps to emulate pre-treatment, such as settling, skimming, etc., must be taken before continuing the bench-test.

2) After filling the jar, make chemical additions in the order and proportion specified on the individualized Start-up Test sheet, which is included with the start-up kit. Make sure to cap the jar and mix thoroughly after each addition. The WE reactant powders should be sprinkled lightly over the entire surface of the liquid, never 'slugged' in one mass.

3) After the last addition (usually one of the WE reactant powders), cap the jar and shake well. Too vigorous mixing can result in 'sudsing', which may inhibit flocculation and should be avoided. If this occurs, you may either swirl the mix to break all the bubbles and proceed, or start over. Sudsing does not occur in the RT as all mixing takes place below the surface of the liquid, and therefore no air is entrained in the mix.

4) Results are generally visible within 1-2 minutes of shaking, and can be viewed through the clear jar, or filtered to separate the floc and treated effluent.

Keep the start-up kit in a safe place. Any changes in the waste stream which result in a decrease in the effectiveness of the prescribed treatment can often be troubleshot in-house or over the phone, using the products already on-hand.

Setup the RT-65-DB

The Electric connections

The power supply needed for the RT-65-DB unit is **115 VAC.**

Short service cord with a receptacle end is used to connect the RT Discharge Sump Pump, which is located in the RT Sludge Cart.

Longer service cord with a plug end is to be connected to a power supply outlet.

(Both are marked with identification labels)

Note: **With the RT-65-DB power service cord plugged in to a power outlet the Sump Pump, which is float activated will start to discharge when the water level rises causing the float to activate (start) the pump. The Sump Pump has a built in thermal over load protector so it has been wired to the Hot or Power side of the Motor Starter. This means that the pump has power at all times when the unit is plugged into a power source.**

The Discharge Plumbing

The Discharge plumbing from the Sludge Cart to the CT-Tank, Column, or Sewer depending on your system should be connected with the 1-1/2" Rubber Hose. Remember the Cart has to be able to be pulled forward to lift out the Filter bag. WE Inc. strongly recommend that a Canister Filter Vessel be used if recycling treated fluid. The Canister Filter will help to prevent Pin-Floc or other debris from being pumped into a Clean Tank causing contamination.

SCHEDULE MAINTENANCE

Mixing Assembly:
The Mixing assembly consists of (1) 1Phase Motor, (1) Drive Coupler Housing, (1) Stainless Shaft, and (1) Stainless Prop. The Mixer shaft and prop should be washed down periodically to get rid of any debris or build up.

Discharge Pump:
The Discharge Pump is located in the base of the Sludge Cart should be checked to see if there is any debris or sludge in the base around it. If there is any debris use a Shop Vacuum to clean it out, this will protect the Discharge Pump from being clogged. Which may cause the pump to burn out or stop pumping water out of the base causing an over flow.

Sludge Cart:
The Sludge Cart is equipped with a perforated metal basket that houses the filter bag. This bag will filter the sludge from the processed water. As the water is filtered through the bag and into the bottom of the cart, it will be pumped out via the Sump pump. This pump is connected to a 1-1/2" pipe fitting, located at the back of the Sludge Cart. The basket can be taken out for cleaning by simply lifting straight up and out.

BASIC RT RUN OFF PROCEDURE

Step 1. Make sure that the Clean Water and Sludge Valves are closed. *Always make sure that the mine cart is positioned beneath the Mix Tank when discharging water and sludge or before starting the machine*. Fill the RT tank until the fluid level reaches the RT FULL mark label.

Step 2. Press the Start (**Black**) Button on the motor starter.
This will activate the Mixer motor and begin to mix the fluid in the reactor tank.

Step 3. With the Mixer running begin to add in the Reactant Chemical **SLOWLY**. Allow time for the Chemical to mix with fluid and wait for reaction (flocculation) to occur. **Average time of mixing for a RT-65 is 5 Minutes.** There will be an obvious change in the mixing fluid. To check for this use a clear container to dip into the reactor to get a visual sample. The Reactant Chemical should have "oatmeal" looking appearance and fluid should have visual clarity. At this time turn off the Mixer, by pressing the (**Red**) Stop Button and allow time for settling. *As the operator uses the equipment the operator will be able to judge the appropriate amount of time for Mixing and Settling.*

Step 4. After allowing time for settling open up the Clean Water Valve only **half way**. The valve is a 1-1/2" Ball Valve located at the front of the RT. Allow time for clean water to filter through the Filter Bag Media.

Step 5. Slowly turn the Sludge Valve handle and let the sludge or floc to disperse into the Filter Bag. The valve is a 2" Gate valve and is located at the bottom of the reactor tank. ***Do not open valve fully or the sludge or floc will pour out too rapidly and may overflow the Filter Bag.*** For optimal performance let sludge out in intermediate intervals, close the valve and let sludge or floc decanter water off through the Filter Bag before opening the valve again. Repeat this process until reactor is empty. By doing this process it will help the sludge or floc to decanter water through the Filter Bag.

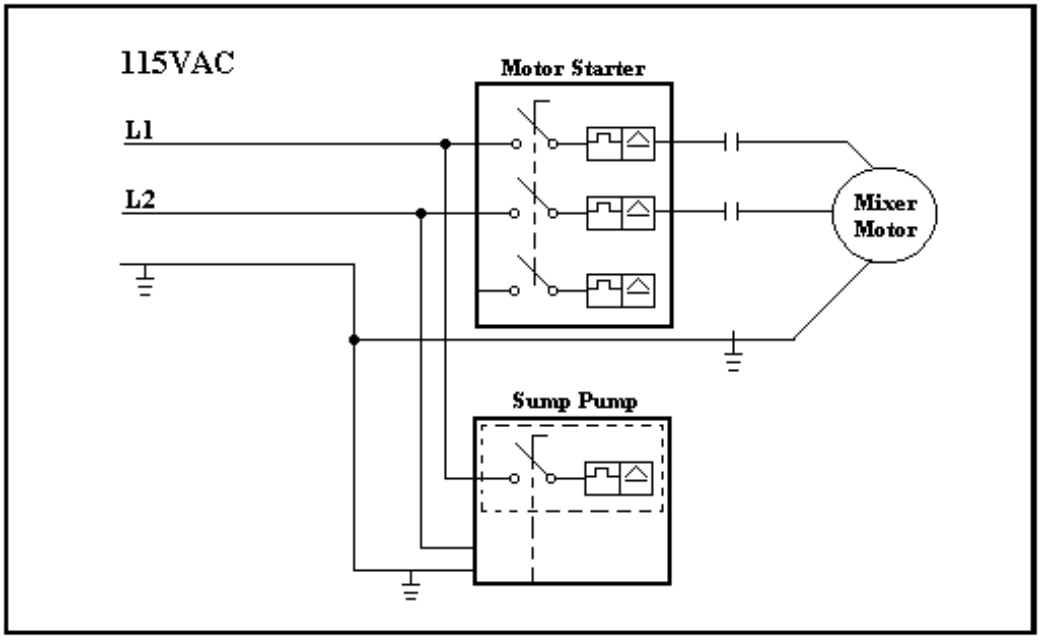
Note:

After every process it is important to spray out the RT-Tank with fresh water. This will help to prevent the build up of debris in the tank. After each process the Filter Bag will fill up with about (10) ten Pounds of sludge. The filter bag has holding straps to allow it to be lifted out of the mine cart by physical labor or the use of the forklift. When the Sludge cart filter bag is emptied it should be washed and reused.

RT-65-DB Parts List

Part Description	Brand	Part Number
1/2 HP Mixer Motor	Leeson	C6017FK3F
Clean Water Valve	Boss	1-1/2" Ball Valve
Mine Cart Filter Bag	WE	65-DB Filter Bag
Mixer Motor Starter/ Enclosure	Telemecanique	6B175/6B167
Mixer Shaft	WE	3/4" x 26
Mixer Drive Coupler	WE	Drive Coupler Housing
Mixing Prop (4"w/3/4" Bore)	WE	4" SS Prop
Powder Measuring Scoop	WE	Powder Scoop
Sludge Valve	Boss	2" Gate Valve
Sludge Valve Handle	WE	2" Gate Valve Handle
Sump Pump	Zoeller	2P547

*For ordering parts listed above please contact your WE Inc. Sales Representative


115VAC
Motor Starter
L1
L2
Mixer
Motor
Sump Pump