

UV Digital Print On 3mm Foam Sheet

Size - 18 X 12 Inch - Each 1 No.

SPECIALITY EQUIPMENTS

S.O.P. OF WATER SOFTENER

A. Normal Operation

- In normal operation, when the softener is softening hard water, the inlet valve and the outlet valves are open, while all other valves are shut. The hard water is thereby directed to the top of the Softener Vessel. It passes downwards through the ion exchange, the softening action takes place and the softened water flows from the outlet to service.
- A positive pressure must always be retained on the outlet from the softener, the outlet valve being closed to give the required rate of flow to service.

B. Regeneration

- When the softener has delivered its specified output, or when the treated water hardness is more than the acceptable amount, the softener must be regenerated in the following manner, observing the following precautions:
- To prevent possible discharge of ion exchange material into the salt tank, setting the salt tank must be done ensuring that the wash inlet valve is closed.
 - The spigot/cut-off valve must never be opened during this backwash operation, that is when wash inlet valve and the wash outlet valves are open.
 - Ion exchange material is expanded and if the softener is washed at too high a rate of flow, some of this material may be flushed from the plant and lost down the drain. Collect samples of water from the wash water open in a glass container and inspect it. If grains of ion exchange are present, reduce the wash flow slightly by throttling the wash inlet valve.

- Backwash**
- Close the wash outlet valve.
 - Open fully wash outlet valve, then open slowly wash inlet valve and regulate this valve until desired flow is achieved. Continue backwashing for seven minutes / 10 water in dose.

Injection

- Close the wash outlet valve and then the wash inlet valve and open the following valves: the power water valve, the rinse outlet valve and the spigot/cut-off valve. Draw from the salt tank to cross being regulated into the top of the softener vessel.
- When the level of brine in the tank reaches the clamp or disc on the suction pipe, close spigot/cut-off valve and flow second dose clear power water and rinse outlet valves.
- Control the power water valve in order to complete injection in not less than 15 minutes.

Rinse

- Open inlet valve fully then open rinse outlet valve until the desired flow rate is achieved.
- After 30 minutes, take a sample from the rinse outlet valve and check the hardness.
- When a satisfactory level of hardness has been obtained, close the rinse outlet valve.

Service The softener is now regenerated and ready for operation. Close the outlet valve to service.

Refilling the Salt Tank

- When the softener has completed its service, open the spigot/cut-off valve. When the brine level in the tank is not too low, the tank is full, close the spigot/cut-off valve.
- The brine in the container salt tank must always be saturated. This is indicated by the presence of undissolved salt at the bottom.
- When salt about 100 mm of undissolved daily remains in the tank, add the tank with salt and level off to the clamp on the brine suction pipe.
- During the last regeneration involving a refill, the brine level must be lowered well below the clamp to avoid overflowing when the salt is poured in. The salt tank may be refilled into the softener during a normal cycle.

Notes

- Salt must be added to the container salt tank from time to time to ensure the formation or expansion brine at all times. The depth of undissolved salt remaining in the bottom of the tank must not be allowed to fall below 100 mm. It is better to add too much than too little.
- When raw water passes through the ion exchange water softener, calcium and magnesium ions in the raw water are exchanged for sodium ions.
- There is 100 times as the total dissolved solids (TDS) content of the treated water.
- There is 100 times as the total dissolved solids (TDS) content of the treated water.
- The specified output of the softener is based on specified raw water hardness. If there is an increase in the water hardness then add 10% proportionate increase in capacity.
- The raw water hardness is not to exceed 1000 ppm.
- Monitor treated water hardness at the end of flow and during service with the help of Test Kit (TS).
- During flow, a satisfactory hardness value may be obtained even before the end of flow. It is however possible that although the water is soft, some time has not been removed.
- When in doubt, check the chloride content of raw water and treated water. If using a complete, both these values will be equal. If neither the treated water softness higher chloride content.
- Always keep a logbook to keep a record of raw water hardness, output of softener, regeneration, average treated water hardness, injection time and flow rate.

MAINTENANCE

- EXTENDED BACKWASHING:** At weekly intervals extend the duration of the backwash operation from 7 to 20 minutes or until the waste water is quite clear. This helps to reduce the ion exchange in a clear condition.
- SAFETY:** Only clean salt containing not less than 95% sodium chloride (NaCl) must be used.

CLEANING/DECONTAMINATION

- At six monthly intervals, empty out and thoroughly clean the salt container and clean and flush out the entire water assembly.

DISPOSAL

- This is an important operation. A daily ion exchange test results in reduced output between regeneration and distribution of treated water quality.

CREATED BY:
SECURE FIRE AND SAFETY SERVICES



PUMP MAINTENANCE REPORT (Summersible Pump)

CUSTOMER: SECURE FIRE

SERVICE REFERENCE - AEROTIVEPLUS

DETAILS OF PUMP

PUMP SR. NO. : N/A
TYPE OF PUMP : FAC
HEAD MAXIMUM : 30
CAPACITY MAXIMUM : 1550 LPM
RPM : 2800
WORKING PRESSURE : 3 AMP

N/A
FAC
30
1550 LPM
2800
3 AMP

DETAILS OF MOTOR

MOTOR MAKE : WILO
SR. NO. : N/A
FRAME SIZE : STD
KW / HP : 7.5/10
RPM : 2800
AMP : 16 AMP

DETAILS OF SYSTEM

APPLICATION : SUMP PUMP
LIQUID : WATER
pH VALUE : N/A
SUCTION : FLOODED

SUMP PUMP
WATER
N/A
FLOODED

PARTS NAME

OIL TOP UP/ REPLACE
MECHANICAL SEAL/ O-RING
SATE KIT/ IMPELLER
BELL MOUTH CLEANING
VALVE/ NRV
CASING - BOTTOM / HALF
MOTOR BEARING DE/ NDE
MOTOR GLAND / SEALING

PUMP ROUTINE / MAINTENANCE SCHEDULE

2000HRS/ 1 YEAR
REPLACE IN 3 YEAR OR CONDITION
REPLACE IN 5 YEAR OR CONDITION
180 DAYS
REPLACE IN 5 YEAR OR CONDITION
REPLACE IN 10 YEAR OR CONDITION
REPLACE IN 5 YEAR OR CONDITION (IF BRG ZZ)
REPLACE IN 3 YEAR OR CONDITION

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CUSTOMER: SECURE FIRE

SERVICE REFERENCE - AEROTIVEPLUS

DETAILS OF PUMP

PUMP SR. NO. : N/A
TYPE OF PUMP : FAC
HEAD MAXIMUM : 30
CAPACITY MAXIMUM : 1550 LPM
RPM : 2800
WORKING PRESSURE : 3 AMP

MOTOR MAKE : WILO
SR. NO. : N/A
FRAME SIZE : STD
KW / HP : 7.5/10
RPM : 2800
AMP : 16 AMP

DETAILS OF SYSTEM

APPLICATION : SUMP PUMP
LIQUID : WATER
pH VALUE : N/A
SUCTION : FLOODED

SUMP PUMP
WATER
N/A
FLOODED

PARTS NAME

OIL TOP UP/ REPLACE
MECHANICAL SEAL/ O-RING
SATE KIT/ IMPELLER
BELL MOUTH CLEANING
VALVE/ NRV
CASING - BOTTOM / HALF
MOTOR BEARING DE/ NDE
MOTOR GLAND / SEALING

2000HRS/ 1 YEAR
REPLACE IN 3 YEAR OR CONDITION
REPLACE IN 5 YEAR OR CONDITION
180 DAYS
REPLACE IN 5 YEAR OR CONDITION
REPLACE IN 10 YEAR OR CONDITION
REPLACE IN 5 YEAR OR CONDITION (IF BRG ZZ)
REPLACE IN 3 YEAR OR CONDITION

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PUMP MAINTENANCE REPORT (Summersible Pump)

CUSTOMER: SECURE FIRE

SERVICE REFERENCE - AEROTIVEPLUS

DETAILS OF PUMP

PUMP SR. NO. : N/A
TYPE OF PUMP : FAC
HEAD MAXIMUM : 45
CAPACITY MAXIMUM : 1550 LPM
RPM : 2800
WORKING PRESSURE : 4 BAR

MOTOR MAKE : WILO
SR. NO. : N/A
FRAME SIZE : STD
KW / HP : 15/22
RPM : 2900
AMP : 24 AMP

DETAILS OF SYSTEM

APPLICATION : SUMP PUMP
LIQUID : WATER
pH VALUE : N/A
SUCTION : FLOODED

SUMP PUMP
WATER
N/A
FLOODED

PARTS NAME

OIL TOP UP/ REPLACE
MECHANICAL SEAL/ O-RING
SATE KIT/ IMPELLER
BELL MOUTH CLEANING
VALVE/ NRV
CASING - BOTTOM / HALF
MOTOR BEARING DE/ NDE
MOTOR GLAND / SEALING

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SPECIALITY EQUIPMENTS

S.O.P. OF MULTIGRADE FILTER

A. Normal Operation

1. Normal Starting

Ensure that upstream equipment such as pumps / dosing systems for coagulants/drainfectants must be in operation.

Open the inlet valve and the air release valve, if provided. When all the air is removed, close the air release valve, if provided, open the drain valve and allow the water to drain. If air release valve is not provided, open the inlet and drain valves and allow the water to drain.

After few minutes of rise and making sure that water is clear, close drain valve and open outlet valve.

2. Normal Stopping

When the pressure drop across the filter increases to 0.35 kg/cm² or when there is an unacceptable drop in flow or when the filtered water quality is unacceptable, close the outlet and inlet valves. Stop the upstream pump and dosing systems.

3. Backwash

fully open the backwash outlet valve and open and adjust the backwash inlet valve to maintain the desired flow. Ensure that filter media is not being lost to drain; if it is, slightly reduce the backwash flow.

After 15-20 Minutes or when the water in the drain is clear, close the backwash outlet valve. When all the air is expelled from the unit, close the backwash inlet valve and the air release valve, if provided. If air release valve is not provided, close the backwash outlet and inlet valves.

4. Rinse

Open the inlet and the drain valves. When the water in the drain is clear, close the drain valve. Open and adjust the outlet valve to get the desired flow to service.

B. Maintenance

1. Extended Backwash

Once a week, the duration of the backwash may be increased to 45 minutes. This will help minimise the accumulation of the suspended matter on the filter bed.

2. Filter Media (Sand)

Once a year, open the top cover and observe the filter bed. If any mudballing or lump formation is noticed, air may be admitted into the bed through a 25 mm steel or 61 pipe attached to a hose connected to an air blower or air compressor giving oil-free air. Carefully insert the steel pipe into the filter bed from top and admit air into the bed to churn the bed. Water level above the bed should be about 200 mm. The process of inserting the pipe and admitting air is over the entire cross section. After the entire bed has been churned, an extended backwash shall be carried out to clean the bed. Entire media can be replaced in about five years.

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B. Regeneration

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SAFETY

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CLEANING/DECONTAMINATION

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DISPOSAL

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