



PHARMA DEVILS

PRODUCTION DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Operation of Soft Water Plant	Effective Date:
Supersedes: Nil	Review Date:
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Purpose: To lay down operating procedure for operation of Soft Water plant.

Scope: This procedure is applicable to

Responsibility: Production Chemist
To supervise the activity

Equipment used: Softener (Indion NGS - 3B)

Operating procedure:

1. Check the cleaning of softener and their surrounding area.
2. Open suction and delivery valve of raw water feeding pump.
3. Move the mutiport valve to FAST RINSE position.
4. Start feed water pump.
5. Take a sample from drainpipe to check hardness. If hardness is less than 5 PPM
6. Stop feed water pump and moves multiport valve to SERVICE position.
7. Open discharge valve and Start feed water pump.
8. Collect above soft water in water tank.

Precaution and check point:

1. When the units which have been stopped overnight or for an appreciable length of time is restarted, the treated water should be allowed to flow to water till water is soft acceptable.
2. Frequent stopping and starting of a unit will result in poor treated water quality and drop in capacity.
3. All the valve of the unit should be closed when it is not in used.
4. If the unit fails to give specified quantity & quality of soft water, check the followings.
 - a) Raw water hardness.
 - b) Quality and condition of resin in the unit.
 - c) Strength (concentration) of brine.
 - d) Blockages in piping, valves, ejector or internal fitting such as strainer.
 - e) Pressure at inlet of unit (minimum required 1.8 kg/cm²).
 - f) Flow rate through the unit (3.0 m³/hour).
 - g) Presence of suspended matter other impurities in raw water. Water should be clear and colourless.
5. Hardness testing
 - a) Take a sample of soft water in the EASY TEST JAR (fill upto 25 ml)



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- b) Add 2 to 4 drops of HARDNESS REAGENT A.
c) Add 15 to 20 drops of HARDNESS REAGENT B.
d) Add HARDNESS REAGENT S drop by drop, till the colour of sample changes from the red to blue. Carefully count the drops added. 1 drops of REAGENT S = 2 PPM of HARDNESS as CaCO_3