



Title: Replacement of Media in Multi Grade Filter & Resin in Softener Plant

SOP No.:		Revision No.:	00
Effective Date:		Supersedes No.	Nil
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1.0 OBJECTIVE:

To lay down a Procedure for Replacement of Media in Multi Grade Filter & Resin in Softener plant.

2.0 SCOPE:

This SOP is applicable for replacement of Media in Multi Grade Filter & Resin in Softener plant.

3.0 RESPONSIBILITY:

Officer / Executive – Engineering

4.0 ACCOUNTABILITY:

Head – Engineering

5.0 ABBREVIATIONS:

CIP	Clean In Place
FRP	Fiber Reinforced Plastic
Kg	Kilogram
Ltd.	Limited
MGF	Multi Grade Filter
MOC	Material of Construction
Pvt.	Private
SOP	Standard Operating Procedure
UF	Ultra Filtration
pH	Potential of Hydrogen
PPM	Parts Per Million

6.0 PROCEDURE:

6.1 PROCEDURE FOR THE REPLACEMENT OF MULTI GRADE FILTER MEDIA:

- 6.1.1** The Multi Grade Filter found to be filling with filter media with Pure Graded Quartz Sand.
- 6.1.2** First pour the MGF vessel of MOC FRP with Coarse Media (4/8 mesh size) with quantity of 50 Kg. through upper side of vessel by avoiding wastage during filling.
- 6.1.3** After completed of filling of coarse media, fill Medium Media (8/16 mesh size) with quantity 50 kg. through top of the vessel.
- 6.1.4** After satisfactory completion of coarse media filling in MGF vessel, fill Fine Media (16/32 mesh size) through top of the vessel.
- 6.1.5** Close the mouth of vessel air tight.
- 6.1.6** After completion of replacement activity, operate the MGF for flushing with portable water for 30 minutes.



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- 6.1.7** Record the media replacement & flushing details of multi grade filter in **Annexure-I**.
- 6.1.8** After completion of replacement and flushing activity, operate the MGF system for backwash as per SOP (HER-017) and record the details accordingly.
- 6.1.9** Operator /Officer Engineering shall intimate QC to collect the sample for the analysis of pH (6.5 to 8.5) & chlorine (2 to 5 ppm) as per SOP.
- 6.1.10 Frequency:** Differential pressure across MGF found more than 1.0 Kg/cm² even after backwash.

6.2 PROCEDURE FOR RESIN REPLACEMENT OF SOFTENER PLANT:

- 6.2.1** Check and ensure that certificate of resin is available and match with existing resin specification.
- 6.2.2** 3As per plant design output between regeneration is 60,000 for 3 KL plant & 90,000 Ltr. for 5 KL plant.
- 6.2.3** As per below mention plant requirement resin of softener shall be replaced:
- For 3 KL: 450 Liters
For 5 KL: 710 Liters
- 6.2.4** After completion of resin replacement activity, regeneration activity should be performed as per SOP No. HER/017 and record the details accordingly.
- 6.2.5** Record the replacement record as per **Annexure –II**.
- 6.2.6** Operator /Officer Engineering shall intimate QC to collect the sample for the analysis of pH (6.5 to 8.5) & Hardness (NMT: 4 PPM).
- 6.2.7** Frequency: When Hardness found more than 4 ppm even after regeneration.

Note: QC Analysis report shall be attached with the replacement record.

7.0 ANNEXURES:

ANNEXURES No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	Replacement Record of Sand in MGF	
Annexure-II	Replacement Record of Resin in Softener	
Annexure – III	Status Label	

ENCLOSURES: SOP Training Record



PHARMA DEVILS

ENGINEERING DEPARTMENT

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8.0 DISTRIBUTION:

- Controlled Copy No. 01 Quality Assurance
- Controlled Copy No. 02 Engineering
- Master Copy Quality Assurance

9.0 REFERENCES:

As per instruction of Hydropure.

10.0 REVISION HISTORY:

CHANGE HISTORY LOG

Revision No.	Change Control No.	Details of Changes	Reason for Change	Effective Date	Updated By



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ANNEXURE – III STATUS LABEL

STATUS LABEL
EQUIPMENET ID:
REPLACEMENT DONE ON :
REMARKS:
DONE BY (SIGN & DATE):
CHECKED BY (SIGN & DATE):

FORMAT No.: HER-081/F03-00