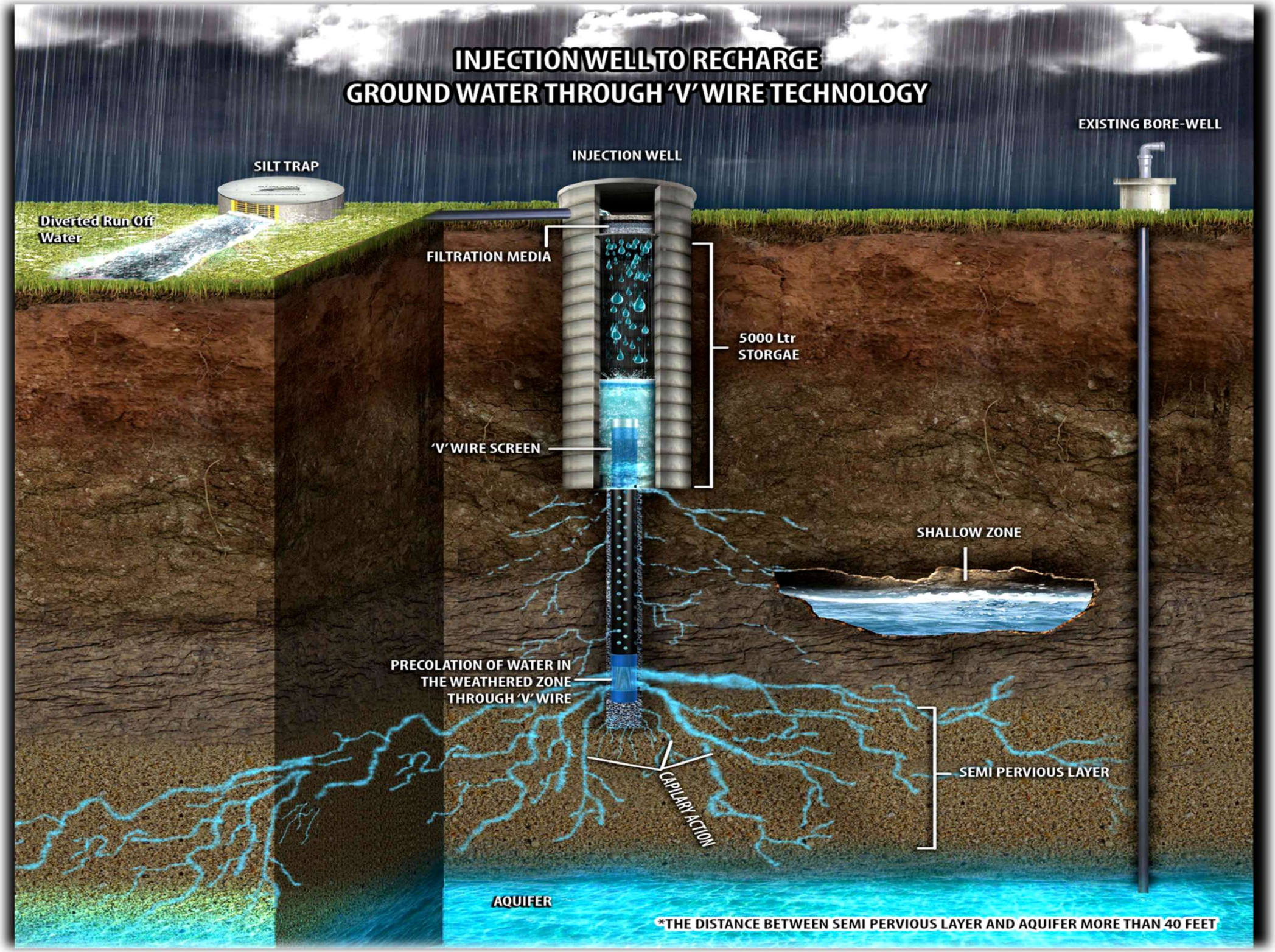
PANCH TATVAA ENTERPRISE

ECO-FRIENDLY-ECONOMICS

panch tatvaa
Eco - Friendly - Economics

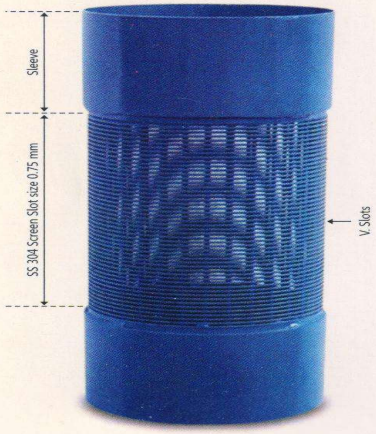
Mission

“Each one of us to learn as how to save even a drop of Rain Water”


INJECTION WELL TO RECHARGE
GROUND WATER THROUGH 'V' WIRE TECHNOLOGY
EXISTING BORE-WELL
INJECTION WELL
SILT TRAP
Diverted Run Off Water
FILTRATION MEDIA
5000 Ltr STORGAE
'V' WIRE SCREEN
SHALLOW ZONE
PRECOLATION OF WATER IN THE WEATHERED ZONE THROUGH 'V' WIRE
CAPILARY ACTION
SEMI PERVIOUS LAYER
AQUIFER
*THE DISTANCE BETWEEN SEMI PERVIOUS LAYER AND AQUIFER MORE THAN 40 FEET

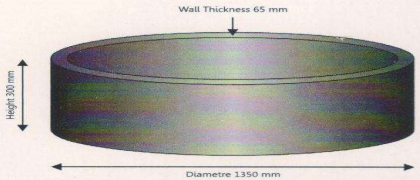
Technical Details

Various components required for 'V' Wire Technology.

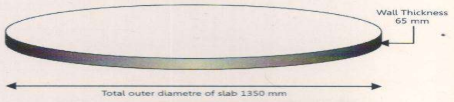


Front view of 'V' Wire Screen

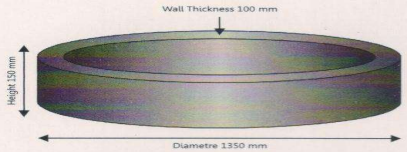
- The 'V' wire screen is of stainless steel material, grade SS-304, Cage type trapezoidal wire wound screen.
- Screen is evenly distributed continuous slot opening of 0.75 mm, so that it has more open area for minimum turbulence and loss of energy.
- The trapezoidal V shape inwardly widening slots are non clogging, so that sediments have only point contact.
- The diameter of the V wire screen is 150 mm, length 0.5 meter.



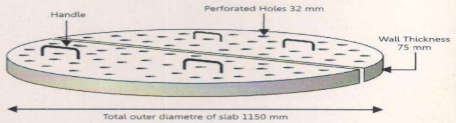
Top view of Reinforced Concrete Ring
(6 mm mild steel rod should be used for reinforcement)



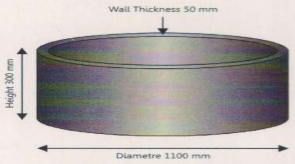
Reinforced Concrete closing slab of Silt Trap
(8 mm mild steel rod should be used for reinforcement)



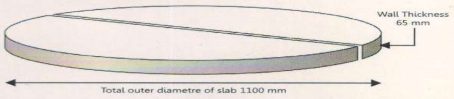
Heavy Duty Reinforced Concrete Ring
(6 mm mild steel rod should be used for reinforcement)



Top view of Reinforced Concrete Perforated Slab
(8 mm & 10 mm mild steel rods should be used for reinforcement)



Top view of Reinforced Concrete Ring of Silt Trap
(6 mm mild steel rod should be used for reinforcement)



Top view of Reinforced Concrete Closing Slab
(8 mm mild steel rod should be used for reinforcement)

100 mm coarse sand and 50 mm pebbles and gravel

20 mm crushed stones

50 mm charcoal
50 mm activated carbon

50 mm crushed stone

DIFFERENT LAYERS OF FILTRATION MEDIA

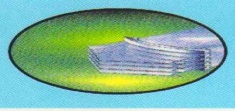
Activated Carbon : (G carbon GS 800 Granule activated carbons (GAC) removes dissolved organic contaminates and controls taste and odor problems.) **Charcoal** used is 25 mm to 32 mm Burnt in Foundries: To observe Color in the water and better filtration of rain water.

A specially designed high tensile strength 140 mm percolator high density poly ethylene pipe with 8 mm spirally perforated holes at 30 mm intervals, throughout the inner layer of the wall, provides an open area of 135 square centimeters/meter. This increased surface area allows for large quantities of wter to be recharged at varied depths.

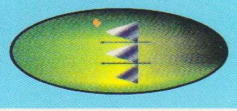
LONGITUDINAL SECTION OF HDPE PERCOLATOR PIPE

THE SALIENT FEATURES OF 'V' WIRE SCREEN

Continuous Slots :
The special design gives continuous slot opening across the periphery and length of screen.



Non Clogging Slots :
V-shape wire gives inwardly widening V-share slots. This shape does not give space for any sand particle to get stuck inside the slot and hence these screens are non clogging.



Drilling of Bore

Development of Bore-Well

Excavation Design From Safety Point of View

Installation of RCC Rings

Installation of V-Wire Screen and Air Pipe and Perforated RCC Slab

Filtration Media

Filtration Media

Filtration Media

Top View Of Injection Well and Silt Trap

Top View of Injection Well and Silt Trap

Injection Well Video

Testing Of Injection Well

Calculation of Rain Water for Constructed area:

1. Total Area = 20000 SqMtr
2. Avg. Rain fall = 1000 mm
3. Run-off Co-efficient = 0.85
4. No. of days of Rainfall = 45 days
   In one season

Total Rain Water Harvested = Total Area x Avg. Rainfall x Run-off Co-efficient
= 20000 x 1000 x 0.85
= 1,70,00000 Lt

So, 45 days Rainfall = 1,70,00000 Lt
One day Rainfall = 1,70,00000/45
= 3,80,000 Lt
One Hour Rainfall = 3,80,000/12
= 32,000 Lt

Maintenance of the system

- The maintenance cost involves de-silting of the silt trap after every one year.
- Replacement of filtration media once in 3 years.
- Development of bore with the help of Air – Compressor once in 3 years.

Some Of Our Reputed Clients:

1. Alembic Ltd
2. Ipca Laboratory Ltd
3. Kirby
4. Larsen and Toubro
5. Saurer Textile Solutions Pvt. Ltd.
6. Schott Kaisha Pvt Ltd.
7. Gunnebo india Pvt. Ltd.
8. Ratnamani Metals And Tubes Ltd.
9. Shreno Ltd.
10. Cosmo Films
11. Sanathan Textiles
12. Wago India Pvt. Ltd.
13. Baxter Pharmaceuticals
14. LIC
15. Merino Industries and Many more…

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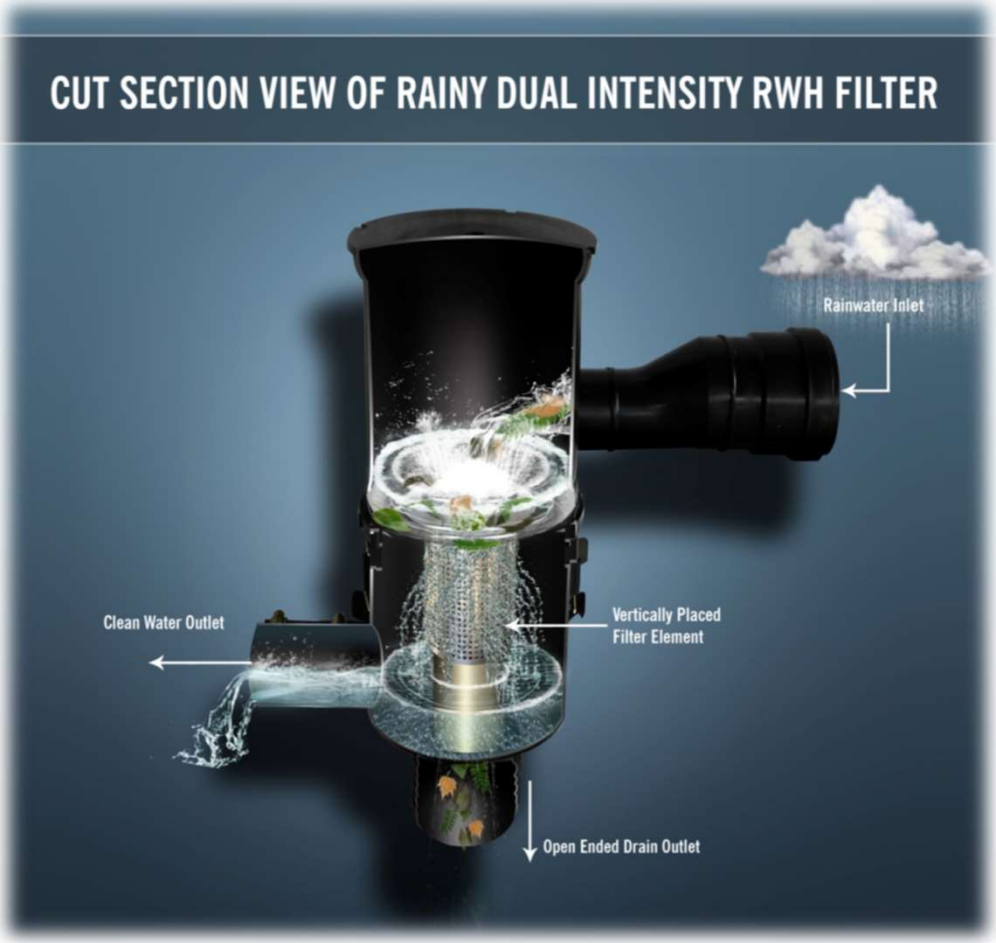
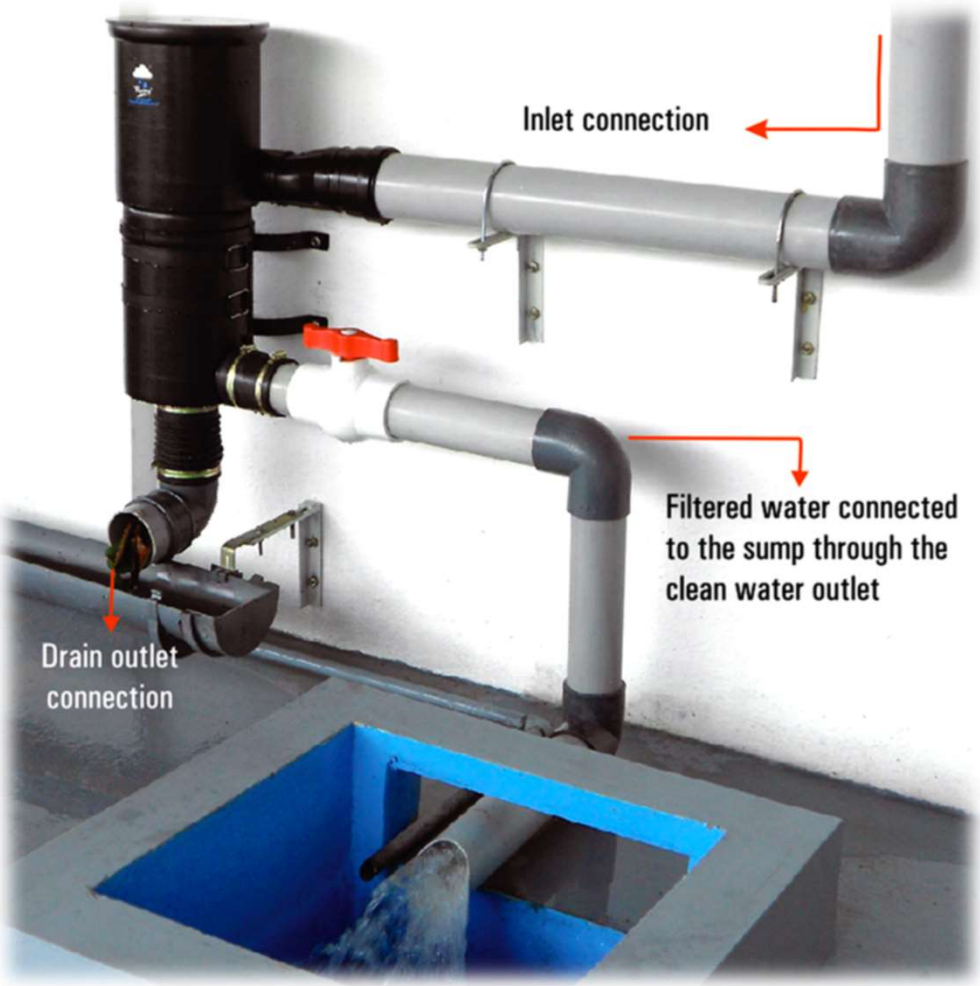
Roof Top System

'Rainy'™





Installed Rainy Filters

Technical Details of Rainy Filters

Innovative Filters

'Rainy' Filters are designed to fix to the WALL by connecting Rooftop Drain water Pipes. When the rainwater flows by gravity through the uniquely designed inlet of filter and enters the upper housing so as to flow into the SS 304 filter element in angular motion at specific velocity, which creates cohesive force and waste materials are flushed out through the drain outlet and at the same time clean water outlet which can be used for reutilization or recharging of bore wells

Convention Filters

In conventional Filters, the filtration by way of sedimentation tanks, resulting in clean water with more suspended particles. This technique required periodic maintenance and repeated use of consumable like charcoal, sand and pebbles etc.

The rainwater along with dirt particles, tree leaves and other particles have to pass through the candle or though the other filtration media link mesh, sponge, or sand. In this case the debris will be clogged inside the filter and get decayed. Due to this, the rainwater gets contaminated and also the chances of overflow of water through the filter/rooftop resulting in unsafe flow of water to the surrounding environment.

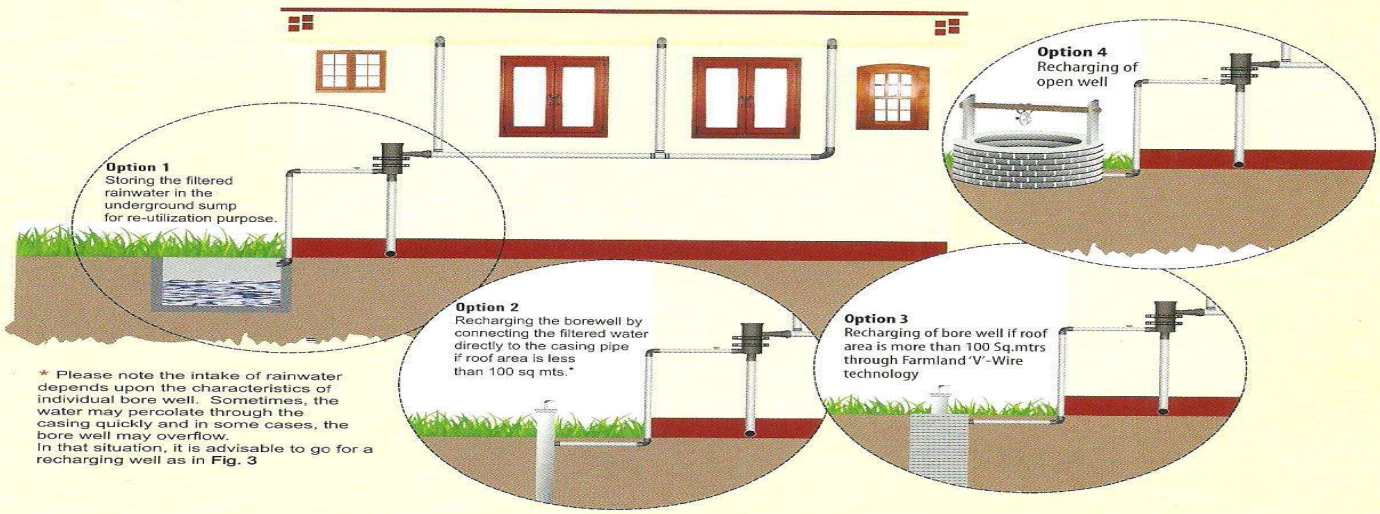
Technical Specifications & Parameters of various models of Rainy FL Series Dual Intensity RWH Filter

	Rainy FL-100	Rainy FL-200	Rainy FL-300	Rainy FL-500
Suitable up to roof area:	110 SQMTRS	225 SQMTRS	350 SQMTRS	500 SQMTRS
Max: Intensity of Rainfall:	75 mm/hr	75 mm/hr	75 mm/hr	75 mm/hr
Working Principle:	Cohesive Force & Centrifugal force			
Operating Pressure:	Less Than 2MTR of head (0.060kg/cm^2)			
Capacity:	105 LPM	225 LPM	340 LPM	480 LPM
Filter Element:	SS-304 Screen	SS-304 Screen	SS-304 Screen	SS-304 Screen
Mesh Size:	250 Microns	250 Microns	250 Microns	250 Microns
Inlet:	90 MM	110 MM	110 MM	110 MM
Clean Water Outlet:	63 MM	75 MM	90 MM	90 MM
Drain Outlet:	90 MM	90 MM	90 MM	110 MM
Housing:	High Density Polyethylene			
Efficiency of Filter:	Above 90 %	Above 90%	Above 90 %	Above 90%
Source of power:	Gravity	Gravity	Gravity	Gravity

With the use of Rainy Filters one can harvest the rainwater and reutilize or recharge the groundwater source to meet the requirements to the extent of 35 percent of the annual requirements. For example one square meters of roof area at 25 mm precipitation of rainfall yields 25 liters. A house of 110 square meters roof area (30' x 40' - 1200 square feet) considering 800 mm of rainfall, 70,000 liters of water per year can be harvested and utilized for regular domestic usage or to recharge groundwater source.

Various Applications Through ‘Rainy’ Filters

Various applications through ‘Rainy’ Filters



* Please note the intake of rainwater depends upon the characteristics of individual bore well. Sometimes, the water may percolate through the casing quickly and in some cases, the bore well may overflow. In that situation, it is advisable to go for a recharging well as in **Fig. 3**

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Capacity:	105 LPM	225 LPM	340 LPM	480 LPM
Filter Element:	SS-304 Screen	SS-304 Screen	SS-304 Screen	SS-304 Screen
Mesh Size:	250 Microns	250 Microns	250 Microns	250 Microns
Inlet:	90 MM	110 MM	110 MM	110 MM
Clean Water Outlet:	63 MM	75 MM	90 MM	90 MM
Drain Outlet:	90 MM	90 MM	90 MM	110 MM
Housing:	High Density Polyethylene			
Efficiency of Filter:	Above 90 %	Above 90%	Above 90 %	Above 90%
Source of power:	Gravity	Gravity	Gravity	Gravity

Suitable for:

- Individual households
- Schools
- Apartments
- Institutions
- Commercial Buildings
- Industries

Rainy FL Series on site Installation (Model Fl 500)

Functioning of Rainy Filters

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