



WIDEST RANGE OF ANY PIPING SYSTEMS AVAILABLE UNDER ONE ROOF





PRINCE SWR SYSTEMS PVT. LTD. is a leading Indian manufacturer & supplier of Piping Systems.

PRINCE SWR SYSTEMS is wholly owned by the Piyush Chheda Group & has a significant presence in the Asia-Pacific rim and emerging as a global player in piping system. Founded in 1988, PRINCE SWR SYSTEMS has grown significantly to become a national company employing several hundred staff working in manufacturing, product development and marketing. Four manufacturing units; developed by PRINCE SWR, throughout India to efficiently distribute our own products and those of our national & international suppliers. This wide geographical base provides us with significant capacity and flexibility to meet the needs of a national customer base and respond to market conditions & special project specification.

PRINCE SWR pipe and fittings systems are used in a broad cross-section of markets such as plumbing, water supply, sewerage and wastewater, Strom water & drainage, Rain water harvesting, mining, industrial, rural, irrigation, electrical, telecommunications & gas. Prince SWR pipe systems are used in a wide variety of applications which has enabled us to successfully challenge other piping materials like metals, earthenware, concrete and fibre cement.

The products under the *Piyush Chheda Group* are manufactured under the following brand names:

- 1. PRINCE SWR Systems
- 3. PRINCE CPVC Pipes & Fittings
- 5. PRINCE Agri Pipes & Fittings
- 7. PRINCE Rain Water Harvesting Systems
- 9. PRINCE Swept Pipes & Fittings
- 11.PRINCE Pex Pipes
- 13.PRINCE Water Tanks & Lofts.
- 4. PRINCE PP-R Pipes & Fittings6. PRINCE Bore Well Systems

2. PRINCE - uPVC White Pipes & Fittings

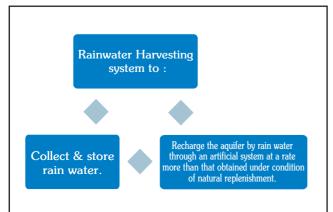
- 8. PRINCE Under Ground Pipes.
- 10. PRINCE Manhole Covers & Gratings
- 10. PRINCE Mannole Covers & Grat
- 12. PRINCE HDPE Pipes

RAIN WATER HARVESTING AND CONSERVATION :

Shortage of water for industrial and domestic use and even for drinking purpose is cause of concern throughout the world specially in developing and under developed countries. India is already experiencing water shortage and the problem will become very acute in the near future unless preventive measures are taken on a substantial scale. At this juncture, measures are to be taken up by various Governmental and non-Governmental organizations as well as the public at large, so as to harvest the rainfall and maintain groundwater balance. Such measures will help to have reliable and sustainable groundwater resource for supplementing the domestic and industrial water supply needs of urban and rural area. The government of India is also laying emphasis for rain water harvesting and conversion.



Rain Water Harvesting and conversation, is the activity of direct collection of Rain Water. The conversion of rain water so collected can be stored for direct use or can be re-charged in to the ground water. The main goal is to minimize flow of rain water through Drains/ Nallahas to river without making any use of the same. It is known fact that the ground level of water is depleting and going down and down in the last decade. Thus rain water harvesting & conversation aims at optimum utilization of natural resources, that is, Rain water which is first form of water that we know is hydrological cycle and hence is a primary source of water for us. Therefore, Rain water Harvesting & Conservation means to understand the value of rain and to make optimum use of rain water at the place where it falls.



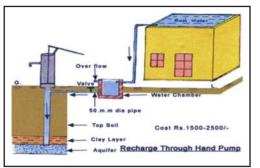
Rain water Harvesting system include following :

- 1. Proper assessment of groundwater potentials
- i.e. Groundwater prospecting, study of bore wells, wells etc.
- 2. Rainwater harvesting
 - a. Roof top rainwater harvesting.
 - b. Surface runoff Rainwater harvesting.
- 3. Watershed Management.





Method B – Abandoned / Running Hand Pump:



The existing hand pumps may be used for recharging the shallow/deep aquifers. In this method, water is diverted from rooftop to hand pump through Prince pipe to abandoned/running hand pump. This system is suitable for small building having the roof area up to 150 Sqm. The runoff of 1^{st} rain should not be allowed to go percolate to the rain water harvesting structure.

Method C-Decentralizes percolation through water spreading and longitudinal trenches.

In this method, applicable to houses having larger open areas, the runoff water from the roof top can be diverted into the bare soil or garden in the premises of the households. The top soil may be loosened before monsoon, for better recharge. Apart from this, a longitudinal trench of 1.0 to 1.5 m. depth with a width of 0.5 to 1.0 m., may be dug and filled with well rounded pebbles, gravel and sand in order to store excess runoff water during rainy days that will eventually percolate.

Method D - Percolation well cum bore pits :

Pits are dug deeper and away from the building foundations, where the soil is more pervious. The pits may be back filled with permeable material like pebbles, gravel and sand for better percolation. The top sand layer need to be cleaned and re-laid once in two years to remove the settled silts for restoring the percolation. Commonly, pits with 1.0 m. dia. and 2 to 3 m. depth are recommended. The combination of water spreading and pit recharge is better for more groundwater recharge.

Method E - Recharge through shafts: For recharging the shallow aquifer which are located below clayey surface, recharge shafts of 0.5 to 3 m. diameter and 10 to 15 m. deep are constructed and back filled with boulders, gravels & coarse sand.

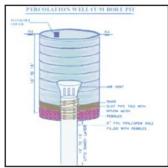
Method F - Recharge Bore wells through injection wells

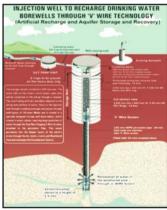
Recharging through injection wells involves direct discharge of rain water through a settling sump to the underground water bed.

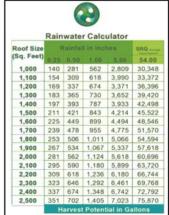
Simple Calculation for Quantity of Rain Water which can be harvested : How much water can be harvested?

Advantages :

- 1. Rainwater harvesting technologies are simple to install and operate. Local people can be easily trained to implement such technologies, and construction materials are also readily available.
- 2. Rainwater harvesting is convenient in the sense that it provides water at the point of consumption, and family members have full control of their own systems
- 3. As it is collected using existing structures not specially constructed for the purpose.
- 4. It provides water when there is a drought, can help mitigate flooding of low-lying areas, and reduces demand on wells which may enable ground water levels to be sustained.
- 5. By storing of water and re-utilizing it Water and power bill can be saved as much as 50 to 60% per month. Technology works on the Gravitational Principle that reduces the cost of pumping of ground water.
- 6. One notable advantage of rainwater is its softness when compared to hard groundwater. Therefore, rain water is exceptionally pure source of water for a minuscule investment.
- 7. Dependency on water tankers, ground water and corporation water can also be much reduced.
- 8. Recharge of Groundwater, replenishes the deeper layers of the earth's crust which in turn insulates the earth from rise in temperature, reducing global warming.
- 9. It helps to reduce soil erosion as by capturing rain water flow of storm is reduced which helps to reduce urban flooding.



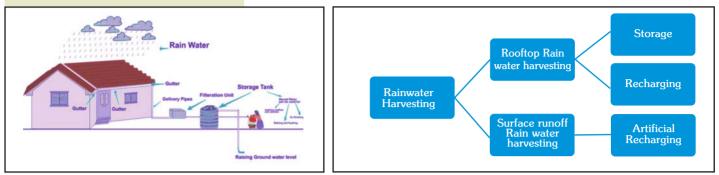




An ISO 9001, ISO 14001 & BS OHSAS 18001 Certified Company



Method of Rain water Harvesting :



1. ROOF TOP RAIN WATER HARVESTING :

Domestic Rain Water harvesting or roof top Rain Water harvesting is the technique through which Rain Water is captured from roof catchments and stored in tanks/reservoirs/Ground Water aquifers. It consists of conservation of roof top Rain water in urban areas and utilizing it to augment Ground Water storage by artificial recharge. It requires connecting the Prince half round uPVC rainwater pipe and fittings to prince outlet pipe from roof top to divert collected water to existing storage tank, well/tubewell/bore well or a specially designed well.

Roof Top Rain Water Harvesting & Conserving Systems, both small and large are comprised of six basic components as described below :

(j) Catchment Area/Roof : Surface upon which rain fails.

(jj) Gutters and Down pipes : Prince Half round rain water system for efficient collection of water from sloping roof buildings.

Prince pipe and fittings is used for transportation of water from RCC roofs of individual houses, common houses, multi-storied complexes etc.

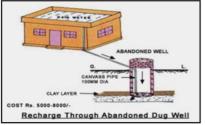
- iii) Leaf Screens and Roof Washers : Systems that remove contamination and debris.
- iv) Filter Unit: To clean rain water, that can be used for re-utilization or recharging of borewell.
- iv) Storage/Recharge : Filtered rain water can be collected and stored in
 - a. Cisterns or Storage Tanks
 - b. Underground sump for re-utilization purpose.
 - c. Recharging the borewell by connecting the filtered water directly to the casing pipe if roof area is less than 100 sq. mts.
 - d. Recharging of bore well if roof area is more than 100sq. meters.
 - e. Recharging of open well.

(v) Conveyance System : Prince Pipe and fittings to transport filtered rain water from catchment channel surface to storage, either by gravity or pump. Prince pipe and fittings are also used for conveyance of stored water for reuse. (vi) Water Treatment : filters and equipment and additives to settle biter and disinfect.

2. Artificial Recharge : Artificial recharge to ground water is a process by which the ground water reservoir is augmented at a rate exceeding that obtaining under natural conditions or replenishment. Any man-made scheme or facility that adds water to an aquifer may be considered to be an artificial recharge system. The methods suggested are water spreading, recharge through pits, trenches, Tube Wells, shafts and directly diverting runoff water into the existing wells. The choice and effectiveness of any particular method is governed by local hydro geological and soil conditions and ultimate water use.

Methods of Artificial Recharging :

Method A - Utilisation of dried up wells:



Dried up wells can be utilised as recharge wells by connecting them to the water outlet pipes from the roof tops or surface runoff rain water harvesting water. In this system recharge water is guided through Prince Pipe to the bottom of well or below the water level to avoid scouring of bottom and entrapment of air bubbles in the aquifer. Recharge water should be silt free as far as possible & Open/Dug well should be cleaned annually preferably.



Application Area :

The Rain Water Harvesting technology can be installed in individual households, Apartment and residential buildings, Factories, Shops, Corporate Houses, Schools & Colleges, Hospitals, Commercial buildings, Govt. & semi Government Organizations, gram Panchayaths, Zillapanchayath, Railway Stations and all urban & rural areas to improve in the yield levels of bore wells which were earlier dry or having low yields.

Rain water Product Dimension and Size

Hum water i fouuer							
	End Cap : To cap open end of pipe through half-round section fitted with rubber foam seal.		Size WT A H L D d	140 2.75 163.6 80.4 47.0 113.75	180 2.90 207.5 101.0 65.0 153.50	250 3.05 207.5 144.0 84.5 197.50	
	<u>Coupler</u> : To join together two length of plain Pipe, use the new pivot mounted clips. The join bracket is a true half-round section fitted with deep Rubber seals. Must be screwed direct to fascia or anchored by a suitable rafter bracket.		Size WT A H L D d	140 2.35 164.5 80.1 114.5 142.4	180 2.80 121.4 102.4 160.6 178.7	250 2.85 285.3 142.6 205.3 253.5	
	Tee : To connect pipe to rainwater pipe via a fitting through half round section, fitted with deep rubber seals and outlet. Must be screwed direct to fascia or anchored by a suitable rafter bracket.		Size WT A H L D d	140 2.30 - 132.5 229.4 140.5 75.0	180 2.70 190.0 333.0 180.0 109.6	250 3.00 238.4 415.0 249.3 159.1	
	Tee with End Cap : open end of pipe and provide for connection to rainwater pipe via a fitting through half-round section fitted with deep rubber seal		Size WT A H L D d	140 2.70 147.3 133.7 232.0 141.2 75.0	180 2.55 187.2 190.8 327.0 179.5 109.2	250 3.10 257.8 241.5 417.2 247.5 161.2	
	Elbow with Outlet : To provide for change of direction in gutter, through half-round sections, filled with deep rubber seals.		Size WT A H L D d	140 2.55 137.7 345.0 140.0 74.8	180 2.80 155.1 455.0 181.0 110.0	250 3.02 217.7 615.0 247.0 158.8	
	Elbow without Outlet : To provide for change of direction in gutter, through half round sections filled with deep rubber seals.		Size WT A H L D d	140 2.55 - 82.0 345.0 140.0 -	180 2.80 - 105.0 445.0 181.0 -	250 - - - - -	
	Pipe Clamp: New support brackets for pipe and fittings. Screw fix to fascia or bolt to rafter brackets.	A	Size WT A H L D d	140 1.95 20.1 105.5 153.3 -	180 2.30 30.0 137.2 196.9 -	250 3.65 37.2 189.6 272.8	
 PORTO In a new command 	Pipe : To dry joint to all pipe fittings. Supplied in plain ended lengths.	A	Size WT A H L D d	140 1.85 129.0 72.7 3010.0 122.8 -	180 2.60 164.0 92.2 3010.0 158.0	250 3.80 230.0 124.0 3010.0 224.0	





 Side Bracket : To fix pipe support brackets open ends of rafters must be screwed to rafter, to provide full support for Fittings with two screw fixings.	A	Size WT A H L D d	140 3.15 144.0 235.0 250.0 20.2	180 3.30 143.6 251.0 273.0 29.0	250 2.90 176.0 423.0 404.0 37.0	
<u>Top Bracket</u> : To fix a pipe support brackets, open ends of rafters must be screwed to rafter. Allow vertical adjustment of the pipe support bracket.		Size WT A H L D d	140 3.05 113.6 236.6 184.0 19.2	180 2.85 144.5 245.3 240.0 27.5	250 3.10 180.0 415.0 330.0 37.6	
Lock :		Size WT A H L D d	140 2.5 164.5 89.7 - -	180 3.0 208.0 110.5 - -	250 3.5 279.0 154.9 - -	
<u>Clip (Bracket Holder)</u> :		Size WT A H L D d	140 3.2 101 51 -	180 2.8 128 72 -	250 5.4 180 91 - -	
<u>Rubber Gasket</u> :		Size WT A H L D d	140 9.00 226.0 15.0 - -	180 11.00 283.0 21.5 - -	250 14.00 385.0 33.2 - -	

FILTERS AVAILABLE IN MODEL NO. FL-100, FL-200, FL-300 & FL-500

Techinical Speciciations & Parameters of Various Models of FL Series Dual Intensity RWH Filter							
	FL-100	FL-200	FL-300	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					
Working Principle :	Cohesive Force & Centrifugal force						
Operating Pressure :	Less Than 2 feet of head (0.060 kg/cm ²)						
Capacity :	105 LPM	225 LPM	340 LPM	340 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	90 mm			
Housing :	High Density Polyethylene						
Efficiency of Filter :	Above 90%	Above 90%	Above 90%	Above 90%			
Source of power :	Gravity	Gravity	Gravity	Gravity			
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Suitable for : Individual households, Schools, Apartments, Institutions, Commercial Buildings & Industries.

• Any specification can change without prior notice.

• All information contained in this literature is given in good faith and believed to be accurate and reliable. But because of many factors which may be outside our knowledge and control and affect the use of the product. no warranty is given or is to be implied with respect to such information, nor do we offer any warranty of immunity against patent infringement. No responsibility can be accepted for any error, omissions or incorrect assumptions.

PRINCE

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SYSTEMS

