



PUNJAB AAB-E-PAK AUTHORITY

4th Floor EFU House, Jail Road, Lahore
Phone # 042-99263028-29



PWON
Pakistan Water Operators Network

Flood Relief Products - Technical Comparison

Sr. No.	Description	UF Hand Pump	Bond E Shams	EcoCare Experts BOX	EcoCare Experts HP
	Picture				
1	Capacity (LPH)	500 LPH	1000 LPH	1000 LPH	500 LPH
2	Technology	Hand Driven Ultrafiltration	Solar Ultrafiltration	Solar Ultrafiltration	Hand Driven Ultrafiltration
3	Power Source	Hand Driven (SS Bar)	Solar 250 - 300 W	Solar 700-900 W with inverter 1000 KVA	Hand Driven
4	Feed or Raw Water	Flood / Pond / Canal	Flood / Pond / Canal / Bore	Flood / Pond / Canal / Bore	Flood / Pond / Canal
5	Feed Pump	Mechanical Pump Available / Plunger type,	Submersible with DC Motor 0.5 - 0.8 HP	Feed Pump with AC Motor 0.5 - 0.75 HP 220 Volts	Mechanical Pump / Local / not reliable
6	Strainer for Raw Water	0.005 mm Mash Filter	Not Available	Available	Not Available
7	Cartridge Filter	Available	Available	Available	Available
8	Pre Filter (Sand & Activated Carbon)	Activated Carbon Filter	Activated Carbon Filter	Activated Carbon Filter	Activated Carbon Filter
9	Pressure Gauges	Available	Nil	Available	Nil
10	Water Flow Meter	Available	Nil	Available	Nil
11	Back Wash System	Automatic High Pressure Back wash System	Manual	Automatic	Manual
12	Back Wash Water Quality	With Clean / Product Water (Due to high Turbidity)	With Raw Water	With Clean / Product Water (Due to high Turbidity)	With raw Water
13	Back Wash Indicator	Available (With pressure Gauge)	Not Available	Available	Not Available
14	Membrane	NSF 61 / KIWA (UF) imported	China / Locally Available	Pall, Made in China (Low Energy UF membrane)	China / Locally Available
15	Storage Tank	Nil	600 liter	400 - 500 liter	Nil
16	Size of Box (L x W x H)	1.94 x 1.64 x 5.67 ft	6 x 4 x 6 ft	6 x 4 x 5.5 ft	4 x 5 x 5.5 ft
17	Weight	85 Kg	1000 Kg	1000 Kg	200 Kg
18	Installation / Foundation	Ready to installed / No Foundation required	Foundation required	Foundation required	Foundation required
19	Mobility / Movement	Easy to move, No tow truck required	Wheel mounted / Tow Truck required	Wheel mounted / Tow Truck required	Easy to Move



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20	Operation and Maintenance	Cartridge filters and Chlorine tablets for disinfection of plant is available for one year maintenance	Nil	Including 5 Years Maintenance	Nil
21	Cost per unit	2.5 million	1 million	1 million	0.6 million
22	Branding	Allowed	Not Allowed	Allowed	Allowed
23	Body Material	Excellent (Acrylic Resin Double hull) free from Rusting	MS Sheet (Finishing of Welding Joints) Reason for rusting, but can be improved.	MS Sheet (Finishing of Welding Joints) Reason for rusting, but can be improved.	Not good MS Sheet (Finishing of Welding Joints) Reason for rusting

Evaluation:

UF Hand Pump System is imported having relatively higher costs. System is self contained, easy to move giving good water quality results. Overall look and quality are superb and system has high reliability. Preferred solution for flood relief activities since communities can self operate the system. (Accepted)

Bond E Shams System is technically complex since it incorporates solar technology. System is self contained, giving reasonable water quality results. Overall look and quality are acceptable and can be improved. A good solution for flood relief activities but may be difficult to move owing to its weight. If the backwash system is automated system may become a preferred solution. (Conditionally Accepted)

EcoCare Experts BOX System is technically complex since it incorporates solar technology. System is self contained, but could not be tested for water quality results. Overall look and quality are acceptable and can be improved. A good solution for flood relief activities but may be difficult to move owing to its weight. (Conditionally Accepted)

EcoCare Experts HP System is simple but the quality is not good and there is a lot of room for improvement. Susceptible to water quality variations. Overall look is not impressive. System is discarded as a reliable solution. (Rejected)