

# Complete Water Solutions for Rural India

Our state-of-the-art manufacturing facilities are ISO 9001, ISO 14001 & ISO 45001 certified.

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### Regional and Branch Offices

Bengaluru | Bhubaneswar | Chandigarh | Chennai  
Delhi | Hyderabad | Kolkata | Lucknow | Vadodara  
Vashi | Visakhapatnam

### Overseas Offices

Bahrain | Bangladesh | Canada | Indonesia | Kenya  
Malaysia | Oman | Portugal | Saudi Arabia | Singapore  
South Africa | Sri Lanka | Tanzania | Thailand | UAE | USA

### Manufacturing Units

India - Ankleshwar | Hosur | Patancheru | Rabale | Verna | Wada

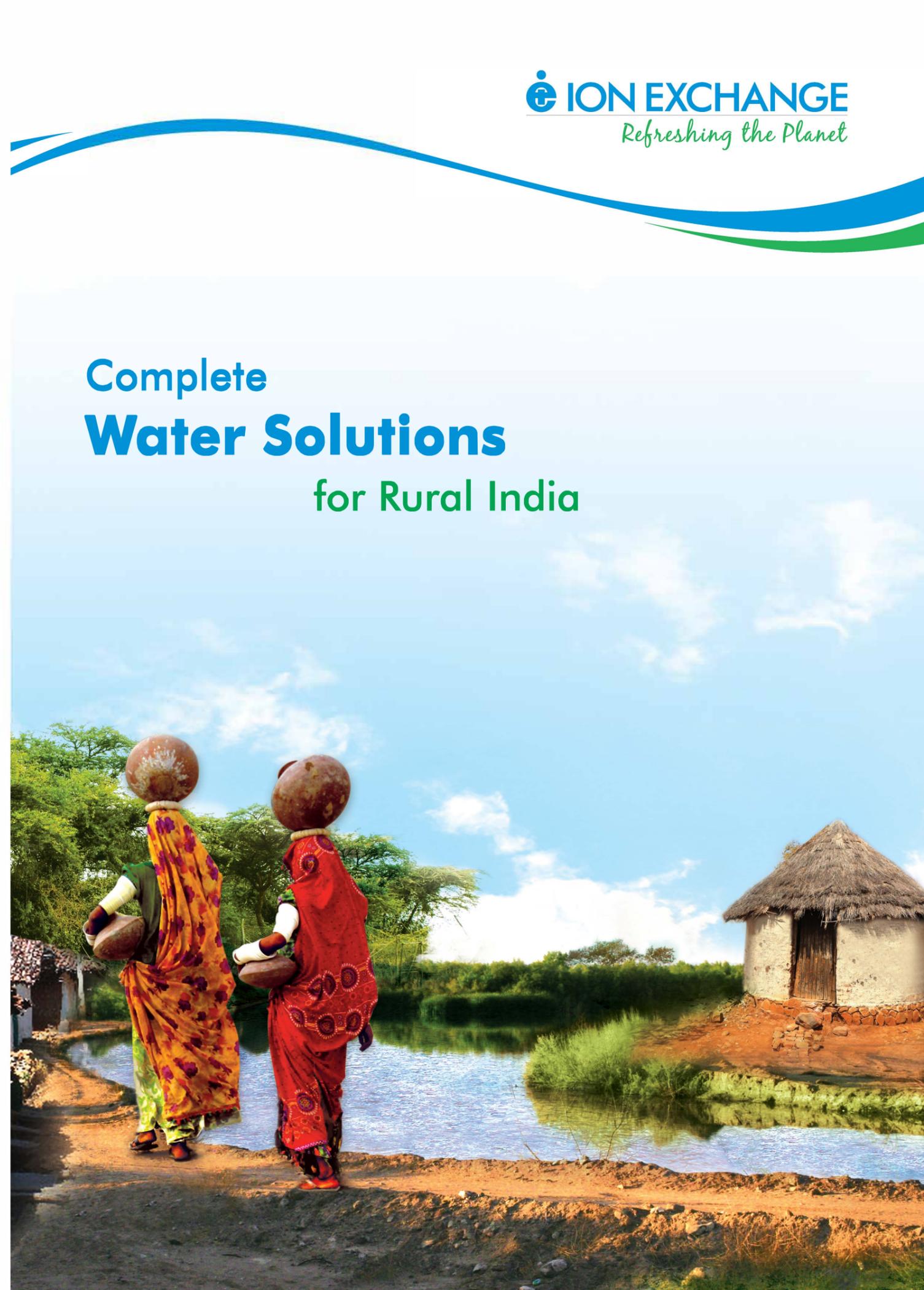
Overseas - Bangladesh | Indonesia | Saudi Arabia | UAE

All India Service and Dealer Network

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More precious than gold. That's what safe drinking water is to India's rural population. Arsenic, iron, fluoride, nitrate, brackishness and pathogens in ground water affect millions in rural India and in developing countries across the globe, causing severe health hazards. Although, the effects of these water contaminants can be reversed in the early stages, in the long term they can lead to serious life threatening diseases and in some cases, even death.

Ion Exchange a specialist in water & environment management has developed cost-effective systems to treat contaminated water. These systems are adaptable to fit onto hand pumps, a major source for drinking water in rural areas. They are also available as point-of-use and community level systems.



## Community Level Solutions

The community level water treatment solutions offered by Ion Exchange help in determining water pollution as well as treating it. Our community level portfolio includes the following solutions:

### INDRO® – Packaged Reverse Osmosis Systems

INDRO help obtain pure water from brackish water. Its reverse osmosis membrane technology produces water containing very low dissolved solids, which is free from particulate, colloidal and organic matter.



#### Features

- Treats water with TDS levels between 1500 to 2500 ppm
- Compact & easy to startup
- Short delivery periods
- On-line device helps monitor treated water quality and flow
- Available with capacities ranging from 200 l/h to 3000 l/h

\*Solar powered units available.

## INDION® Hand Pump & Power Pump Attachments Arsenic, Iron, Fluoride & Nitrate Removal Units

Ground water is susceptible to contamination by arsenic, iron, fluoride & nitrate present in soil and rocks. Ion Exchange offers resin based solutions in the form of hand pump and power pump attachments for removal of these contaminants.

#### Features

- Affordable
- Treated water meets WHO drinking water standards
- Hand pump attachment do not require electricity



Hand Pump Attachment



Tube Well Attachment

### Contamination Removal Performance – Hand Pump Attachment

Parameter	Specifications			
	Arsenic	Iron	Fluoride	Nitrate
Media Type	INDION ASM*	INDION ISR*	INDION RS-F	INDION NSSR*
Design flow rate litre/minute	8 - 10	8 - 10	8 - 10	8 - 10
Material of construction of the unit	Powder coated MS	Powder coated MS	FRP	FRP
Backwash frequency	Once in 14 days (site specific)	Once in 2 days (site specific)	During regeneration	During regeneration
Maximum influent contamination concentration	Up to 3.5 ppm of total arsenic and 15 ppm of total iron	10 ppm to 12 ppm of iron	Up to 10 ppm of fluoride	Up to 150 ppm of nitrate
Reduces to	< 10 ppb of total arsenic	< 0.3 ppm	< 1.5 ppm	< 45 ppm
Design pH range	6 - 8.5	7 - 9	6 - 8	6.5 - 8.5

### Contamination Removal Performance – Power Pump Attachment

Parameter	Specifications			
	Arsenic	Iron	Fluoride	Nitrate
Media Type	INDION ASM*	INDION ISR*	INDION RS-F	INDION NSSR*
Design flow rate m <sup>3</sup> /h	1 - 10	1 - 10	1 - 10	1 - 10
Material of construction of the unit	MS-Epoxy	FRP	FRP	FRP
Prefilter required	Yes	No	Yes	Yes
Tolerance of maximum influent contamination	3.5 ppm as total arsenic and 15 ppm as iron	Max. 15 ppm	10 ppm	120 ppm
Reduces to	< 10 ppb as arsenic and < 0.3 ppm of iron	< 0.3 ppm of iron	< 1.5 ppm of fluoride	< 45 ppm of nitrate
Design pH range	6.5 - 8.5	> 6.5	6.5 - 7.5	6.5 - 8.0
Design TDS range	< 1000	< 2500	< 1500	< 1000



\* WQA certified resins - INDION ASM, INDION ISR and INDION NSSR.

## Continuous Sand Filter – Efficient and high quality performance

Continuous Sand Filter is a continuous filter which effectively treats surface water and contaminated ground water. It treats influent containing several times more dirt than a conventional filter.

### Features

- Treats suspended solids up to 150 ppm; treated water quality < 5 ppm
- Operates at atmospheric pressure
- Ensures uninterrupted operation without stopping for backwash
- Minimum energy consumption
- Lowest operation cost
- Compact, easy to use and maintain
- Space saving
- Easy capacity expansion (for flow rates higher than 60 m<sup>3</sup>/h a design in concrete walled honeycombed structure is available)



### Standard Models

Model number	Capacity* (m <sup>3</sup> /h)	Diameter (mm)	Height on straight (mm)	Operation weight (tonnes)
DS 03	3.6	640	2700	1.3
DS 07	8.4	960	3125	3.2
DS 15	18	1430	4450	9.0
DS 30	36	1920	4800	16.0
DS 50	60	2550	5850	34.0

\*Capacity for raw water source.

## INDION® Lampak - Helping communities obtain clean water

INDION Lampak is a compact, single tank unit introduced to treat highly contaminated surface water.

### Features

- Delivers safe drinking water with less than 5 mg/l TSS from feed water containing suspended solids as high as 500 mg/l
- Can run on diesel generated or an alternate energy source
- Easy to transport, operate and maintain
- Available in two models, 10 m<sup>3</sup>/h and 25 m<sup>3</sup>/h
- The unit can be truck-mounted along with DG set for ease of transportation and installation in remote areas



## Institution and Home Water Solutions

Easy to use and maintain, safe drinking water solutions for homes and institutions such as schools, colleges, restaurants etc.

### Non-Electrical Water Purifiers

#### Zero B eco<sup>+</sup> - Puriline

Eco<sup>+</sup> - Puriline is ideal for installation in large drinking water consumption areas like schools, colleges, hospitals, factories, hotels, *dhabbas*, restaurants etc. It provides 1000 -1200 glasses of safe drinking water per hour.

### Features

- 3 stage purification process eliminates bacteria & viruses from water irrespective of the level of contamination



#### Zero B Suraksha

A handy, easy to use water purifier

### Features

- A tap attachment purifier
- In-built indicator indicates expiry of unit life
- Provides 7500 litres of pure water



#### Zero B Suraksha Plus Pro

Its purification process eliminates bacteria, viruses and provides energized water.

### Features

- 4 stage purification cum storage
- Gives 3000 litres of purified water



#### Zero B D-Ferrous

Designed for removal of iron from water

### Features

- No use of chemicals
- Highest iron holding capacity
- Also removes foul taste and smell from water



#### Zero B Solar

World's first storage cum online water purifier with solar intelligence.

### Features

- 6 stage purification process
- 4 litres storage capacity
- Removes heavy metals like aluminium, lead etc.



## Electrical Range of Water Purifiers

### Zero B range of ROs



Kitchen Mate

Pristine

Ultimate

eco RO

Emerald

## Disaster Management Solutions

### INDION® Disaster Management Unit – Providing relief by means of delivering pure water during disasters

INDION Disaster Management Unit (DMU) is a containerised water treatment system specifically designed to cater to emergency requirements such as floods, droughts, cyclones, earthquakes etc. INDION DMU produces 5000 litres of pure water per hour from contaminated surface water supply having low (< 200 ppm) total dissolved solids and 2000 litres of pure water per hour from brackish water sources like ground water with TDS as high as 2000 ppm. The unit produces safe drinking water conforming to stringent IS 10500 standards, using ultra filtration, reverse osmosis and ozonation.

#### Features

- Mobile, containerised and skid/trolley mounted. It can easily and quickly be moved to affected locations
- Highly adaptable to prevalent conditions, however adverse
- Works on alternate source of power
- Does not involve use of chemicals



Truck-mounted DMU



Trolley-mounted DMU

## Jalshudhi - Low Cost Drinking Water Purification

Jalshudhi a ready-to-use water purifier eliminates E-coli and provides 100% bacteria-free water. It is ideal for disaster and for purifying muddy and turbid water as it settles suspended impurities. Also ideal for semi-urban and rural areas of developing countries. The product has been successfully tested by Government approved laboratories. A 5 mg sachet of Jalshudhi can purify 20 litres of contaminated water with respect to bacteria and turbidity.



#### Features

- Ensures that hazardous E-Coli are totally removed from water
- Simple and convenient
- Available at extremely low cost

## Water Testing Solutions

### INDION® Water Potability Test Kit

It measures the eight most important chemical parameters of drinking water within the range specified by the Bureau of Indian Standards – pH, total hardness, alkalinity, chloride, fluoride, chlorine, iron and nitrate.

#### Features

- Accurate and quick results
- Simple, user friendly
- Can be used by a semi-skilled person
- Inexpensive



## Decentralised Sewage Treatment Solutions

### INDION® Packaged Sewage Treatment Plants

Decentralised sewage treatment systems are single tank compact units with low sludge volumes. They require minimal electricity and have low operational cost. Available in capacities from 10 - 100 m<sup>3</sup>/d.

We also offer packaged sewage treatment plant based on advanced proprietary fluidised media reactor (FMR), MBBR and membrane bio-reactor (MBR) process for higher capacities - flow rates.



INDION Fluidised Media Reactor



INDION New Generation Packaged Sewage Treatment Plant (NGPSTP)



INDION Membrane Bio-Reactor

## At Your Service 24/7 service

- The largest organised service provider for water and waste water treatment systems
- Provides laboratory services, enviro-care services, instrument services, comprehensive annual maintenance and operation services
- Complete responsibility for supply of treated water in required quantity and of desired quality