

INDION® High Purity Water Systems

INDION High Purity Water (HPW) Systems are designed to meet the stringent requirements of the pharmaceutical industries and have been developed after consultations with the pharmaceutical engineers and end users. The net result is a fully pre-validated system that is compliant with the Current Good Manufacturing Practices (CGMP) and Good Automated Manufacturing Practices (GAMP) and FDA compliant.

The system includes

- INDION water softener and microfiltration (MF) for preconditioning the process feed water.
- Multipurpose tank of SS construction designed to minimize microbial contamination and provide for water storage, hot water sanitization and chemical cleaning capabilities.
- Reverse Osmosis (RO) unit to remove upto 97% of Total Dissolved Solids and over 99% of total dissolved organics and particulate matters. RO also provides total removal of microbial species.
- Continuous Electro Deionization (CEDI) to remove boron and weakly ionized species like silica and carbon dioxide and produce high purity water with resistivity exceeding 18 mega Ω cm at 25°C.
- Ultrafiltration (UF) system (optional) to remove endotoxins and bacteria from the product water to produce highly purified water.
- Ultraviolet (UV) disinfection system (optional) provides a high transmissivity medium that allows the UV to effectively kill any trace microbial species.

Features

Hot Water Sanitization

- Provision for hot water sanitization
- No chemical requirement

Packaged System

- All the units are skid mounted for minimal foot print and easy installation and commissioning.



Designed for pharmaceutical industry

- Compliance with Current Good Manufacturing Practices (CGMP) and Good Automated Manufacturing Practices (GAMP).
- Compliance with Food and Drug Authority (FDA), International Society for Pharmaceutical Engineering (ISPE) and EU Pharmacopia (Ph. Eur) standards.
- All standards are of sanitary design.

Standard pre-validated system

- Pre-validation to industry accepted standards.
- Pre-delivery Factory Acceptance Testing (FAT)
- Provisional Installation Qualifications (IQ) at our factory.

Ultimate Process Security

- Multi-stage monitoring.
- Automated hot water sanitization at 85°C.
- Pass code PLC security.
- Advanced CEDI purification technology.

Designed for serviceability

- Easy access design.
- PLC information download facility.
- Performance qualification option for system validation.
- Inter-stage sampling capability.
- Automated membrane condition alarm.
- Full range of service maintenance contracts.

Specifications

- One INDION Softener complete with frontal pipe work & valves and initial charge of ion exchange resin
- One Microfiltration MF unit
- One Multipurpose Tank of SS 316 L construction
- One RO unit complete with high pressure pump, membranes and other accessories
- One Continuous Electro Deionisation (CEDI) unit
- One Ultrafiltration unit (optional)
- One Ultraviolet unit (optional)
- One lot Sanitary fixtures

Applications

Pharmaceutical industries involved in the manufacture of:

- Large and small volume parenterals
- Serum/media
- Genetically engineered drugs
- Ophthalmic solutions
- Antibiotics
- Cosmetics & Nutraceuticals
- Veterinary products
- OTC and ethical products
- Fermenter make-up
- Diagnostics & Medical devices

Technical Specification

Model Number		400	1000	1500	2000	3000	4000	6000
Product flow	l/h	400	1000	1500	2000	3000	4000	6000
Feed flow	l/h	533	1333	2000	2666	4000	5333	8000
Concentrate flow	l/h	133	333	500	666	1000	1333	2000
Average recovery	%	75						

Nominal flows are based on operation at 25°C, 500 mg/l TDS, 20 mg/l CO₂, and SDI<3. Product flows at a maximum outlet pressure of 1 bar

Certification of manufacturing units: Goa & Hosur ISO 9001; Ankleshwar ISO 9001 & 14001; Patancheru ISO 9001 & 14001 and OHSAS 18001

To the best of our knowledge the information contained in this publication is accurate. Ion Exchange (India) Ltd. maintains a policy of continuous development and reserves the right to amend the information given herein without notice. Please contact our regional / branch offices for current product specifications.

INDION is the registered trademark of Ion Exchange (India) Ltd.

ION EXCHANGE (INDIA) LTD.

Corporate Office

Ion House, Dr. E. Moses Road,
Mahalaxmi, Mumbai 400 011
Tel: +91 22 3989 0909 | Fax: +91 22 2493 8737
E-mail: ieil@ionexchange.co.in

International Division

R -14, T.T.C MIDC, Thane - Belapur Road,
Rabale, Navi Mumbai 400 701
Tel: +91 22 3989 0909 / 3913 2400 | Fax: +91 22 2769 7918
E-mail: export.sales@ionexchange.co.in

OFFICES

Regional	Telephone	Fax	E-mail
Chennai	+91 44 3989 0909 / 3910 2900	+91 44 2815 3361	checro@ionexchange.co.in
Delhi	+91 11 3989 0909 / 3054 3200	+91 11 2577 4837	delcro@ionexchange.co.in
Kolkata	+91 33 3989 0909 / 3043 3400	+91 33 2400 4345	calcro@ionexchange.co.in
Vashi	+91 22 3989 0909 / 3913 2300	+91 22 2788 9839	mumcro@ionexchange.co.in
Branch			
Bengaluru	+91 80 2204 2888	+91 80 2853 2002	bngcro@ionexchange.co.in
Bhubaneswar	+91 674 326 9525 / 257 1491		bbsr@ionexchange.co.in
Chandigarh	+91 172 274 5011	+91 172 274 4594	delcro@ionexchange.co.in
Hyderabad	+91 40 3066 3101 / 02 / 03	+91 40 3066 3104	hydcro@ionexchange.co.in
Lucknow	+91 522 2235 422	+91 11 2577 4837	lko.general@ionexchange.co.in
Vadodara	+91 265 302 7489 / 90	+91 265 235 2932	brdcro@ionexchange.co.in
Visakhapatnam	+91 891 324 6253	+91 891 257 2007	sales.vizag@ionexchange.co.in

Factories: Ankleshwar | Hosur | Patancheru | Rabale | Verna

All India Service and Dealer Network

www.ionindia.com