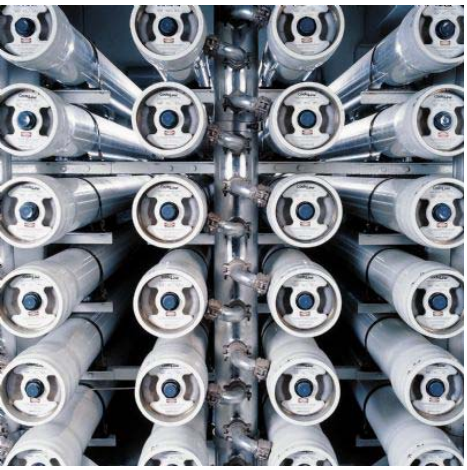
IDEA

KSB Partners

KSB Water Solutions

We Care Our Customers

KSB



Introduction

KSB knows water – with extensive experience in pumping water and fluids for industry, utilities, mining, building services and the energy sector. KSB is a recognised world leader in innovative, expertly engineered products for desalination systems. KSB offers a solutions-oriented approach to desalination, delivering reliable end-to-end quality that endures. With cutting-edge technology and tailored service that starts right from the planning stage, KSB helps you provide water security – today and tomorrow.

Its organization, in continuous growth, is composed by high qualified technicians with recognized experience in international projects, able to manage complex situation and work strictly with the Customer to better understand its request and solve the problems.

With this prerogative, KSB plans, realizes, installs and manages the systems, solving the problem and guaranteeing the final result with respect of the enforced regulations and the environment.

Furthermore, it has arranged various pilot plants units for the test and the experimentation on the field of the technologies proposed in preliminary phase.
The pilot tests are fundamental to demonstrate to the Client that its investment is economically and technically the better solution to the problem and with a sustainable pay-back.

KSB completes its services to the Customer with an advanced post-sales support, with high qualified technicians. Its mechanical unit can carry-out maintenance operations and technical services, and in its warehouse you can find original spare parts of main equipment installed.

Fresh water for the future

Aqua Refine Pro with Pre-Filtration

- Standard capacities of 2m3/hr & 4m3/hr drinking water customizable for other production capacities. Designs available for upto 2.0 IMGD plants.
- Depth Filtration through sand filters to remove turbidity.
- Taste & Odor treatment through granular activated carbon filters (GAC)
- Arsenic removal through absorption by Granular Ferric Hydroxide (GFH) media.
- Fluoride removal through Active Alumina media.
- Nitrate removal through Cationic Ion Exchange Resin Media
- Hardness Control System through Anionic Ion Exchange Resin media
- Bacteriological Contamination through Ultra Filtration membrane certified for 99.99% (Log4) virus removal and 99.9999% (Log6) bacteria removal.
- Online disinfection through Sodium Hypo-chloride injection (optional)
- PAC /PLC controlled operation of whole plant including backwashing of whole system.
- Mimic on plant for operator assistance.
- Remote monitoring of whole system over GPRS/GSM networks
- Standardized reporting software module.
- All the components certified to NSF / KIWA / CE

Demin Plant 30 m3/hr

Seawater Treatment System

Ultra Filtration Plant 200 m3/h

Ultra Filtration Plant 500 m3/h

RO - Feed Water Limiting Conditions

- Oxidizing agents like chlorine
- COD & BOD within limits
- Oil & Grease Nil
- SDI Less than 5
- pH range from 3 to 11
- Turbidity less than 1

RO - Terminology

- Feed - Product / Permeate - Brine Reject
- Recovery = Product Flow / Feed Flow
- Salt Passage = Product TDS / Feed TDS
- Salt Rejection = 100% - Salt Passage in %

RO - Role of Pre-treatment

- To reduce particulates & Improve SDI
  - Clarification / Filtration
  - Polymer / coagulant addition
  - Micro Filtration
- Minimize scaling & fouling
  - Softening
  - Acid & anti scalant addition
  - Anti scalant addition
- Chlorine Removal
  - Carbon filtration
  - Bisulfide addition
- Minimize Silica Scaling
  - Antiscalant addition
  - Softening & pH Control
  - Turbocirculator
- Controlling Organic
  - Dissolved Organic
  - Colloidal Organic

ZERO DISCHARGE
& waste water reclamation

The quality water demand for industrial necessities is continuously increasing and at the same time the sources of this fundamental substance are quickly diminishing. Together with the energy supply, water, in really near future, will be probably one of the hugest problem for industry developing. The imperative mission will be maximize the energetic efficiency and optimize the integrated water cycle in order to maintain a competitive position in the market.

The mission of KSB is continuously improve their technologies in order to find applicable turnkey solutions for their customers, solutions focused on industrial waste water reuse, moving towards zero discharge.

Moving towards this target we always must take in consideration only one fundamental aspect for our customer: minimize the specific operational costs, so minimize the cost for the water management and, when it is possible, to recover energy and by products from the waste water.

Waste Water Automatic Chanel Screen

Waste Water Aeration Tank With Cooling Tower

Waste Water Aeration System 500 m3/h India

Waste Water Aeration System

Research and development at KSB – for innovative products and business ideas Technologies

Our technology.
Your success.

The R&D center is continuously focused on the study and optimization of the treatment processes, data collection and management in order to design and realize innovative systems with the higher energy efficiency and lower environmental impact.

KSB develops and tests all the processes, software control and material (new membrane for example) upgrade. investing, important economical resources for the realization of pilot plants to be installed and controlled directly at the final users site.

On the basis direct experiences, we can face and solve every type of problem in the field of waste wa ter treatment, drinkable water treatment and reuse of water in the industrial process.

Applications

Sea water desalination
Reverse osmosis (include the pretreatment by Ultrafiltration)

Waste water treatment and recovery
Zero discharge application
Reverse osmosis
Nanofiltration
Ultrafiltration
Flotation
Evaporation: mechanical recompression evaporation

Drinking water treatment
Biological filtration for the removal of iron, manganese and ammonia without chemicals
Ozone disinfection
Nanofiltration
Ultrafiltration
Multimedia filtration
Reverse Osmosis
Arsenic removal by regenerable resins
Metal removal by cheling resins
Nitrate removal by selective ion exchange resins

Industrial water treatment
Reverse osmoses
Ion exchange resins: co-current and packed bad process
Ion exchange resin mixed bed
Ion exchange softening
Nanofiltration softening

Special applications
Landfill leachate treatment
Biogas plant: processing of the produced waste sludge
Heavy metal removal by cheling resins
Contaminate sites well water treatment

Water reuse
Reverse Osmosis
Ultrafiltration: MBR or polishing UF
Ozone oxidation
Evaporation

Sludge treatment
Flotation
Aerobic digestion
Chemical physical treatment

Biological Anaerobic Process
UASB
Mesophilic anaerobic fermentation of biological civil waste
Mesophilic anaerobic fermentation of zoo technical manure
Energy valorization by biogas production
Distillery wastes valorization by mesophilic anaerobic fermentation
and biogas production

KSB Pumps Company Limited
16/2 Sir Aga Khan Road, Lahore-54000 Pakistan.
Tel: +92 42 36304173-4 UAN: +92 42 111 572 786
Fax: +92 42 3638878
E-mail: info@ksb.com.pk
www.ksb.com.pk

Industrial Development & Engineering Associates
20-C, Mezzanine Floor, Indus Centre, 14th Commercial Street,
D.H.A. Phase-II, Ext., Karachi-75500 Pakistan.
Ph: +92 21 35390481-2, 35397960-3 Fax: +92 21 5390483
Email: sales@idea.com.pk
www.idea.com.pk