



# K-JHIL

Blend of Innovation and Technology!



## DECADES OF EXCELLENCE IN **PROCESS PLANTS**

Trusted Leaders in Process Plants, Essential Oil Units & Automation Solutions

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# About Us

With over two decades of experience in manufacturing, supplying, and exporting a wide range of processing systems and glass units, K-jhil has made its mark in the industry.

From chemical processing systems, process automation, PLC SCADA design & development, and process automation to acid dilution and laboratory glass units, K-jhil is dedicated to providing excellent services and solutions to Agro Chemicals, Pharmacy, Bulk Drugs, R&D, Perfumery, Aromatics, Herbal, Biotech, and many other industries.

We're the industry leader in manufacturing and fabricating customized product ranges for our customers per their specifications. Owing to the excellent quality of our services and products, K-jhil has also attained the coveted memberships and affiliations from TUV & DAR.

## Mission

Becoming global leaders in industrial systems, we prioritize integrity and innovation to deliver top-notch solutions for clients worldwide.

## Vision

Become the go-to for high-quality industrial glass in the chemical and pharmaceutical sector, offering a full range of exceptional products at competitive prices.



# Founding Story

1990

### Humble **Beginning**

Establishing a small Glassware Manufacturing unit.

1995

### Laying the Cornerstone of **Excellence**

K-Jhil found a place in Vapi GIDC and ventured into industrial equipment fabrication for the pharmaceutical and chemical industries.

2000-2018

### **New Feathers** in Hat

Developing pilot plants for research and development, establishing a versatile laboratory, and revolutionizing thin film evaporators, bromine recovery, and HCL recovery.

2000

### **Expanding** Our Reach

Provided customers with package systems for different process systems, leading to potential revenue growth.

1997

### Going **Global** with Our First Export

Successfully exported a complete package system to the US.

2019 - Now

### Taking over the **World**

Automation for Success: Embracing total automation in precious metal recovery plants for international projects.



# Product List

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- Fractional Distillation Unit
- Reflux Reaction Cum Distillation Unit
- Azeotropic Distillation
- Reactive Distillation Unit
- CSTR
- Liquid-Liquid Extraction Unit (Solvent Extraction)
- Solid Liquid Extraction Unit
- Precious Metal Extraction Unit
- Bromine Recovery Plant
- Solvent Recovery Plant
- Jacketed Glass Reactor
- Mixer-Settler Extraction Unit
- HCL Gas Absorber
- Vacuum Ejector System
- Simple Distillation



# Our Global Presence



# Our Valued Clients



**MALABAR**  
GOLD & DIAMONDS



**EMERALD**



**coswan**  
REFINERY



# Fractional Distillation System



Elevate your distillation processes with K-Jhil's Fractional Distillation System – the pinnacle of precision and efficiency. Our advanced units utilize fractionating columns to meticulously refine liquid mixtures, achieving unparalleled separation even among components with closely aligned boiling points.

## Key Features

### ■ Distillation Flask

The liquid mixture is initially heated in a distillation flask, similar to simple distillation.

### ■ Fractionating Column

It contains a series of fractionating trays or packing material, providing multiple surfaces for vaporization and condensation.

### ■ Vaporization and Condensation

As the mixture vaporizes and rises through the column, components with higher boiling points condense on the trays and then re-vaporize.

### ■ Gradual Separation

Components with lower boiling points rise more quickly and are collected at the top, while those with higher boiling points take longer to reach the top, resulting in a finer separation.

### ■ ZERO Hold Up with Temperature Sensing Valve

Experience precise control and efficiency with ZERO Hold Up, complemented by Temperature Sensing Valve technology.

### ■ Wide Range of Operation: -90°C to +250°C

Adapt to diverse needs seamlessly with a wide operational range from -90°C to +250°C, customizable upon request.

## Applications

### ■ Petroleum Refining

Separation of crude oil into fractions like gasoline, diesel, kerosene, and others.

### ■ Chemical Industry

Purification of chemical substances with closely spaced boiling points.

### ■ Laboratory Research

Essential for separating and purifying compounds in chemical research and pharmaceutical development.

### ■ Chemical Purification

Used to obtain pure solvents or separate components of a mixture.



### CAPACITY

Available in vessel sizes:  
20, 50, 100, 200 & 300 Ltr.

Suitable for operation under atmospheric pressure and full vacuum.



# Reflux Reaction Cum Distillation System



Discover unparalleled efficiency and versatility with K-Jhil's Reflux Reaction Distillation System, seamlessly integrating reflux and distillation processes for superior chemical separation.

Our units, available in sizes up to 300 liters, offer flexible operation as Reaction Distillation or Fractional Distillation Units, catering to diverse needs with atmospheric pressure and full vacuum capabilities. Benefit from high capacity, reliability, and competitive pricing, making K-Jhil your trusted partner in refining processes.

## Key Features

### ■ Continuous Purification

Reflux distillation ensures a continuous cycle of vaporization and condensation, promoting optimal separation by returning volatile components to the reaction vessel. This leads to enhanced purity and efficiency in the distillation process.

### ■ Precision Separation

The incorporation of reflux in distillation allows for precise separation of components with close boiling points. This technique minimizes the risk of contamination, resulting in superior purity levels of the desired product.

### ■ Versatile Application

Reflux distillation finds wide-ranging applications across industries, from pharmaceuticals to petrochemicals. It is a versatile method that adapts to various chemical processes, delivering consistent and reliable outcomes.

### ■ ZERO Hold Up with Temperature Sensing Valve

Experience precise control and efficiency with ZERO Hold Up, complemented by Temperature Sensing Valve technology.

### ■ Wide Range of Operation: -90°C to +250°C

Adapt to diverse needs seamlessly with a wide operational range from -90°C to +250°C, customizable upon request.

## Applications

### ■ Chemical Purification

Used to obtain pure solvents or separate components of a mixture.

### ■ Laboratory Research

A common technique in chemistry labs for various experiments and analyses.



# Azeotropic Distillation System



Redefine your distillation processes with K-Jhil's Azeotropic Distillation System, engineered to conquer the complexities of azeotropes in traditional methods. By employing an innovative entertainer component, our system disrupts vapor-liquid equilibrium, ensuring efficient separation of azeotropic mixtures. Experience unparalleled purity, efficiency, and adaptability, revolutionizing your chemical production. Elevate your separation processes with K-Jhil's Azeotropic Distillation solutions, where precision meets efficiency for optimal results in chemical manufacturing.

## Key Features

### ■ Breaking Azeotropes

Azeotropic distillation excels in separating components with similar boiling points, overcoming the limitations posed by azeotropes – mixtures that boil at a constant composition.

### ■ Precise Separation

Achieve precise separation of closely boiling components, allowing for the purification of valuable products with high purity levels.

### ■ Customizable solutions

Tailor the azeotropic distillation process to your specific needs, ensuring optimal performance for a wide range of applications and chemical systems.

## Applications

### ■ Dehydration of Alcohols

Efficient water removal from alcohol solutions by forming azeotropes with appropriate entertainers.

### ■ Solvent Recovery

Reclaim valuable solvents by breaking azeotropes and separating components effectively.

### ■ Purification of Chemicals

Achieve high-purity chemicals by overcoming azeotropic challenges in traditional distillation.

#### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.



# Reactive Distillation System



Welcome to the future of chemical processing – Reactive Distillation. Our innovative solution integrates chemical reactions and distillation into a single, streamlined process, delivering unparalleled efficiency, selectivity, and sustainability. Reactive Distillation offers several advantages that make it a compelling option for various chemical processes. Here are some key reasons why you might consider reactive

## Key Features

### ■ Unified Operation

Unlike conventional methods, Reactive Distillation combines chemical reactions and separation in a single unit operation, eliminating the need for separate reactors and distillation columns.

### ■ Enhanced Selectivity

The unique combination of reaction and separation facilitates precise control over product formation, resulting in improved selectivity and higher yields of desired products.

### ■ Energy Savings

Operating in a continuous mode, Reactive Distillation minimizes energy consumption by optimizing heat integration and reducing the overall number of processing steps.

### ■ Compact Footprint

By consolidating reaction and separation functionalities, our Reactive Distillation units offer a significantly reduced physical footprint, enabling efficient use of space and cost-effectiveness.

## Applications

### ■ Esterification

Efficient production of esters by combining the reaction of organic acids and alcohols with simultaneous distillation for product separation.

### ■ Etherification

Synthesis of ethers through the reaction of alcohols with acids or other alcohols, with in-situ separation enhancing overall efficiency.

### ■ Dehydration

Removal of water from various chemical processes while simultaneously performing desired reaction.



### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.



# Continuous Stirred Tank Reactor System (CSTRS)



Continuous Stirred Tank Reactors (CSTRs) are at the forefront of modern chemical and biochemical processes, offering a seamless and efficient solution for a wide range of applications. Designed for continuous operation, CSTRs provide unparalleled control, ensuring optimal outcomes in chemical synthesis, polymerization, and beyond. Continuous Stirred Tank Reactor is a type of chemical reactor system used in industrial processes for the continuous mixing of chemical substances in a liquid or slurry form.

## Key Features

### ■ Steady State Operation

Enjoy the benefits of continuous and steady-state processing, maintaining consistent reaction conditions.

### ■ Efficient Mixing

The agitator within the CSTR guarantees uniform mixing, essential for precise reactions.

### ■ Scalability

Whether in the lab or on an industrial scale, CSTRs offer easy scalability to meet your production needs.

### ■ Versatility

Ideal for a variety of chemical and biochemical reactions, offering flexibility across industries.

### ■ Continuous Operation

No more batch processing limitations; CSTRs operate continuously for enhanced productivity.

### ■ Consistent Quality

Achieve reliable and reproducible results with the ability to tightly control reaction conditions.

### ■ Ease of Control

CSTRs facilitate easy adjustment and control of reaction parameters, ensuring optimal performance.

## Applications

### ■ Chemical Industry

From synthesis to biodiesel production, CSTRs play a pivotal role in various chemical processes and laboratories.

### ■ Pharmaceutical

Trusted in pharmaceutical manufacturing for drug synthesis and other critical processes.

### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.



# Liquid-Liquid Extraction System



Explore Liquid-Liquid Extraction, a game-changing separation technique revolutionizing industries with unparalleled precision. This method delivers seamless extraction, purification, and isolation of substances, ensuring top-tier outcomes. Vital in the chemical sector, its efficiency hinges on thermodynamics, hydrodynamics, and mass transfer. Understanding droplet dispersion mechanisms aids process enhancement, examined across equipment, droplets, and liquid interfaces.

## Key Features

- **Selective Separation**  
Enjoy the benefits of continuous and steady-state processing, maintaining consistent reaction conditions.
- **Scalability**  
From the lab to industrial scale, this method adapts to your production needs.
- **Versatility**  
Ideal for a wide range of applications, from pharmaceuticals to petrochemicals.
- **High Purity**  
Achieve exceptional purity levels, vital for critical processes and product quality.
- **Mild Operating Conditions**  
Gentle on sensitive substances, maintaining the integrity of your materials.
- **Efficient Resource Utilization**  
Minimize waste and maximize yields with efficient extraction processes.

### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.

## Applications

- **Pharmaceuticals**  
Critical for isolating pharmaceutical compounds with high purity.
- **Chemical Industry**  
Versatile applications in chemical processing for separation and purification.
- **Environmental Remediation**  
Effective in removing pollutants from wastewater.
- **Solvent Selection**  
Tailor your extraction with a range of solvents to meet specific requirements.
- **Phase Ratio Optimization**  
Fine-tune your process by optimizing the ratio of phases for efficient separation.
- **Equipment Flexibility**  
Liquid-Liquid Extraction can be seamlessly integrated into various types of extraction equipment.



# Solid- Liquid Extraction System



Uncover the transformative potential of Solid-Liquid Extraction with K-Jhil. Essential in various industries, this sophisticated process revolutionizes separation by efficiently isolating valuable components from solid matrices. Explore the principles and advantages of this technique, renowned for its precision and quality outcomes. At K-Jhil Scientific, we lead the charge in extraction technology, offering unparalleled capabilities through our Solid-Liquid Extraction Pilot Plant. Join us at the forefront of innovation and elevate your separation processes with K-Jhil's expertise.

## Key Features

### ■ Solid Matrix

The starting material is often a solid substance containing the desired component.

### ■ Solvent

The liquid that selectively dissolves the solute from the solid matrix. The choice of solvent is crucial for successful extraction.

### ■ Solute

The target component that needs to be separated from the solid matrix

## Applications

### ■ Pharmaceuticals

Extraction of flavors, colors, and bioactive compounds from herbs, spices, and botanicals.

### ■ Food and Beverage

Versatile applications in chemical processing for separation and purification.

### ■ Environmental Remediation

Removal of contaminants from soil or water through selective extraction.

### ■ Chemical Processing

Separation of valuable chemicals from industrial waste or by-products.



### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.



# Precious Metal Refinery System



As a leading Manufacturer, Exporter, and Supplier of Gold Refining Equipment, K-JHIL is trusted across India for our Automatic Aqua Regia Gold Refining Plant. Our state-of-the-art Gold Refining System is engineered to deliver gold with 99.95% purity, utilizing cutting-edge technology meticulously tested by our engineers for optimal performance. Fully customizable to meet client specifications, our plant boasts capacities from 1kg to 100kg, ensuring accuracy, sturdiness, cost-effectiveness, and reliability in every dimension. Partner with K-JHIL for gold refinement excellence.

## Key Features

- **Simple & Versatile**  
The simplest, most versatile refining process.
- **100% Yield**  
Yields virtually 100% of your gold. Purity up to 95% or more can be achieved.
- **Metal Recovery**  
Silver and copper in your gold alloy is recoverable.
- **Low Acid Consumption**  
Low consumption of HCL and HNO<sub>3</sub> acids.
- **Refines Carat gold**  
Refines carat gold jewelry, gold scrap, rolling strips, granules, faceting dust, lead contamination, etc.
- **Waste Recovery**  
Recovers from low-grade gold wastes, e.g., Floor sweeps, buffing rouge powder, filings, grindings, polishing, wash slurry, crucible powder, etc.

## Applications

- **Gold Refining-Automatic**  
K-JHIL's Fully Automatic Gold Refining System is designed to operate automatically under the set parameters, e.g., batch Start / Stop time, batch quantity, emergency stop button etc.
- **Gold Refining - Semi-Automatic**  
K-JHIL's Semi-Automatic Gold Refining System is designed with a specially designed control panel where each operation is done by operating buttons manually.
- **Precious Metal Refining Plant**  
At K-JHIL we specially design and engineer system for Platinum Group Metal (PGM) as per client's requirement and convenience. Contact us for more details.



# Bromine Recovery System



Experience the innovative solutions of Bromine Recovery by K-Jhil, designed to reclaim bromine from diverse sources, including industrial waste streams and natural reservoirs. Our process begins with meticulously identifying bromine sources, ensuring efficient reclamation. Utilizing advanced techniques such as solvent extraction and membrane processes, we precisely isolate bromine from complex waste streams. With capabilities up to 600 mm Dia, our Bromine Recovery systems offer unparalleled efficiency and sustainability. Join us in harnessing the power of bromine, a versatile halogen element essential in numerous industrial applications.

## Key Features

### ■ Bromine Reclamation

The unit efficiently captures and separates bromine from waste streams, ensuring maximum recovery rates. This not only conserves a valuable chemical resource but also minimizes environmental impact.

### ■ Modular Design

Our Bromine recovery unit features a modular design for seamless integration into existing chemical processing plants. This adaptability enhances the flexibility of application across diverse industrial setups.

### ■ Automated Operation

The unit is equipped with state-of-the-art automation, allowing for precise control over the recovery process. Automated monitoring and adjustment of parameters ensure optimal efficiency and minimal operator intervention.

## Applications

### ■ Chemical Manufacturing

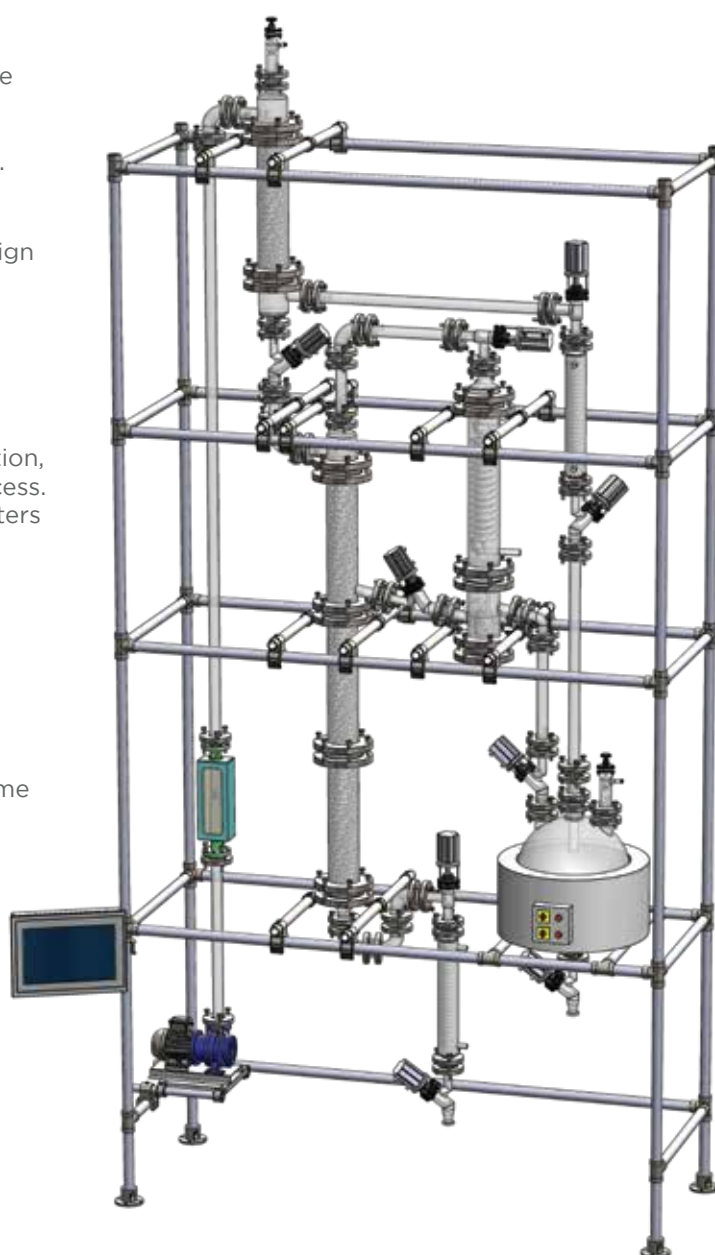
Ideal for industries involved in the production of bromine-based chemical, pharmaceutical, and flame retardants,

### ■ Oil and Gas Processing

Addresses the bromine recovery needs in petrochemical extraction and refining processes.

### ■ Electronics Manufacturing

Supports efficient bromine retrieval in electronic component manufacturing processes.



#### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.

# Solvent Recovery System



Discover the transformative potential of Solvent Recovery Systems by K-Jhil. Designed to reclaim and recycle solvents from industrial processes, our cutting-edge facilities offer a sustainable solution to solvent management. By capturing and purifying solvents for reuse, our systems reduce waste and significantly lower procurement costs for businesses.

Experience the versatility and efficiency of Solvent Recovery, seamlessly integrating chemical reaction and distillation in a single unit. From esterification to dehydration, our technology caters to diverse industries, including petrochemicals, pharmaceuticals, and specialty chemicals. Join the sustainable revolution with K-Jhil's Solvent Recovery Systems.

## Key Features

### ■ Distillation Unit

Distillation is a common method for solvent recovery. The used solvent is heated in a distillation unit, and the vapor is collected and condensed back into a liquid. This process separates the solvent from impurities or contaminants.

### ■ Condenser and Coolers

These components are crucial for converting the vaporized solvent back into a liquid form. They help in the separation of the purified solvent from other substances.

### ■ Recovery Columns

Recovery columns enhance the separation of different components within the solvent mixture. They help improve the efficiency of the distillation process.

### ■ Filtration and Purification Systems

Filtration systems remove solid impurities or particulate matter from the solvent. Additional purification methods may include adsorption or chemical treatments to remove remaining contaminants.

### ■ Storage Tanks

Recovered and purified solvents are typically stored in tanks before being returned for reuse. Proper storage is important to maintain the quality of the recovered solvent.

### ■ Monitoring and Control System

Automated systems monitor and control various parameters such as temperature, pressure, and flow rates to ensure the efficiency and safety of the solvent recovery process.

## Applications

### ■ Pharmaceutical Industry

Solvent recovery is crucial in pharmaceutical manufacturing processes.

### ■ Chemical Industry

Used for the recovery of solvents in various chemical processes.

### ■ Manufacturing Sector

Common in industries where solvents are utilized for cleaning and processing.

#### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.





# Jacketed Glass Reactor System



Our state-of-the-art Jacketed Reactor Pilot Plant is meticulously crafted to enhance your processes and streamline production efficiency. Representing a culmination of equipment evolution and customer needs, our jacketed glass reactors offer unparalleled versatility for various tasks such as stirring, dissolving, mixing, and extraction. Our reactors redefine possibilities with features like heat exchangers for optimal dissolving and crystallization, mobility for seamless transport, and optional condensers for vacuum distillation. Available in cylindrical shapes and sizes ranging from 5 to 50 liters, K-Jhil's Jacketed Reactor Systems set the standard for innovation in the industry.

## Key Features

### ■ Advanced reactor Systems

Immerse yourself in cutting-edge reactor systems designed for precision, versatility, and efficiency.

### ■ Modular Design for Flexibility

Our Pilot plant embraces a modular design, allowing flexibility to adapt to various mixing and reaction processes.

### ■ Real-time monitoring and control

Experience the power of real-time monitoring and control systems, ensuring accuracy and enabling data-driven decision-making.

### ■ Highly Customizable Parameters

Tailor the mixing and reaction parameters to your specific requirements, empowering you with unparalleled control over your processes.

## Applications

### ■ Pharmaceuticals Process Development

Conduct pilot-scale studies for pharmaceutical manufacturing, optimizing reaction conditions and ensuring scalability.

### ■ Polymerization Studies

Explore polymerization processes with precision and control, tailoring polymer properties for specific applications.

### ■ Chemical Processing

Conduct pilot-scale studies for pharmaceutical manufacturing, optimizing reaction conditions and ensuring scalability.



# Mixing Settler Unit System



Unleash the potential of our Mixing Reactor Pilot Plant, meticulously crafted to enhance your operations and streamline production processes. Representing the culmination of customer feedback and equipment evolution, our mixing reactors offer versatility and efficiency for laboratory, pilot plant, and small-scale production applications.

With reduced installation costs and minimized pressure and temperature losses, our systems empower you to achieve scalable and cost-effective solutions. Join us at K-JHIL Scientific and embark on a journey of innovation and excellence.

## Key Features

### ■ Advanced reactor Systems

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## Applications

### ■ Pharmaceuticals Process Development

Conduct pilot-scale studies for pharmaceutical manufacturing, optimizing reaction conditions and ensuring scalability.

### ■ Polymerization Studies

Explore polymerization processes with precision and control, tailoring polymer properties for specific applications.

### ■ Chemical Processing

Conduct pilot-scale studies for pharmaceutical manufacturing, optimizing reaction conditions and ensuring scalability.

### ■ Temperature Controller

Precision control ensured with advanced temperature controller for optimal reaction conditions.

### ■ Reaction monitoring

Real-time monitoring capabilities enable comprehensive oversight of reactions for enhanced process control.

### ■ Efficient Heat Transfer

Superior heat transfer efficiency facilitates rapid and uniform heating, promoting consistent and reliable results.



### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.

# HCL Gas Absorber System



Experience unparalleled efficiency with K-Jhil's HCL Gas Absorber, essential for scrubbing hydrogen chloride gas before atmospheric venting. Our falling film absorber, a vertically mounted shell and tube heat exchanger, offers continuous operation and efficient heat removal.

Our absorber ensures optimal absorption efficiency with hydrogen chloride gas entering the top and flowing concurrently with water/dilute HCL. Cooling water circulated through the shell side efficiently absorbs heat, resulting in a higher acid concentration due to low absorbing temperature. Trust K-Jhil for superior HCL gas absorption solutions where efficiency meets innovation.

## Key Features

### ■ Absorption Tower Design

Features an absorption tower that allows the contact of HCl gas with an absorbing solution, promoting efficient absorption and neutralization.

### ■ Spray System

Incorporates a spray or scrubbing system to enhance the contact between the gas and the absorbing solution, improving absorption efficiency.

### ■ Absorption Solution

Equipped with a suitable absorbing solution, often an alkaline substance, to effectively neutralize and capture HCl gas.

### ■ Monitoring Ports

Includes ports or windows for real-time visual observation of the absorption process, allowing operators to monitor the gas-liquid interaction.

### ■ Gas Inlet/Outlet Ports

Designed with ports for the controlled entry of HCl gas into the absorber unit and the exit of treated gas after absorption.

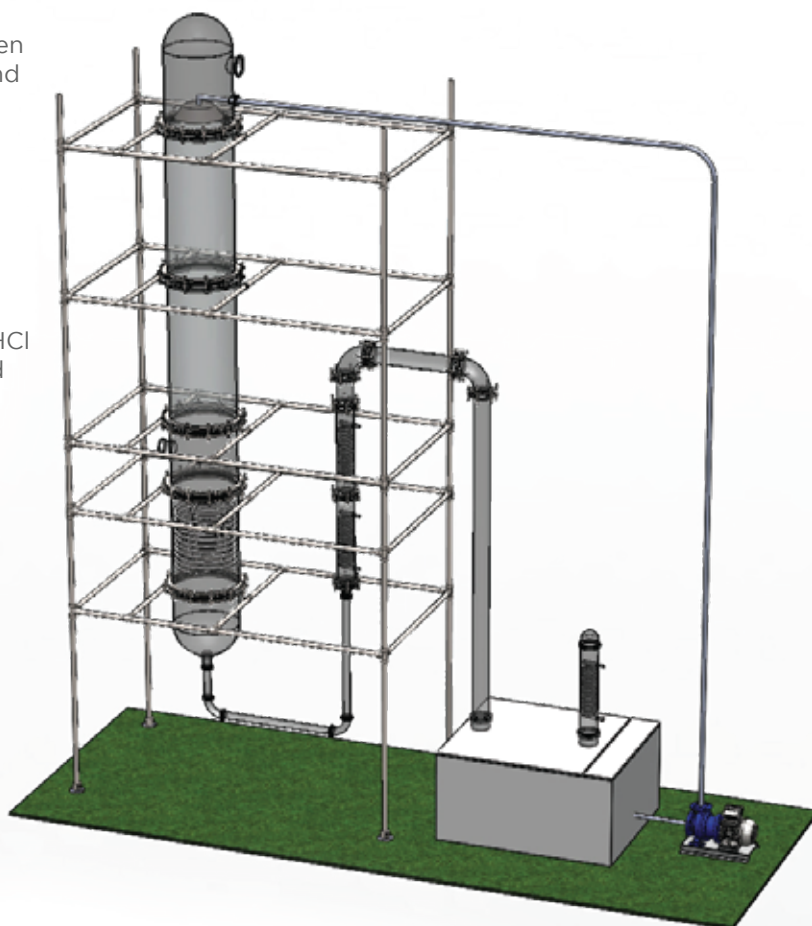
## Applications

### ■ Pharmaceuticals Process Development

Conduct pilot-scale studies for pharmaceutical manufacturing, optimizing reaction conditions and ensuring scalability.

### ■ Chemical Processing Plants

Absorbers capture and neutralize HCL gas emissions generated during chemical manufacturing processes, preventing their release into the atm.





# Vacuum Ejector System



Unlock the power of vacuum technology with K-Jhil's Vacuum Ejector Systems. Utilizing the Venturi effect, our ejectors seamlessly convert pressure into kinetic energy, creating a vacuum essential for diverse industrial applications. Whether it's suction or vacuum you need, our systems deliver unparalleled performance. With features such as brass construction and efficient water inlet/outlet design, our ejectors ensure reliability and longevity. Based on Bernoulli's principle, experience the versatility of ejectors, also known as educators or jet pumps. Join the forefront of vacuum technology with K-Jhil's Vacuum Ejector Systems.

## Key Features

### ■ Compact Design

Vacuum ejectors are often designed to be compact and lightweight, making them easy to install and integrate into existing systems.

### ■ No Moving Parts

Many vacuum ejectors have no moving parts, reducing the risk of mechanical failure and minimizing maintenance requirements. This characteristic enhances their reliability and longevity in industrial environments.

### ■ Adjustable Performance

Some vacuum ejectors feature adjustable parameters such as flow rate and vacuum level, allowing users to optimize performance based on their specific application requirements.

### ■ Energy Efficiency

Vacuum ejectors are known for their energy efficiency, as they utilize the energy of the compressed air or steam to create vacuum suction without the need for additional power sources.

### ■ Versatility

Vacuum ejectors can be used in various ranges, including vacuum packaging, material handling, pick-and-place systems, suction cups, and vacuum grippers in robotics. They can handle various types of mat including liquids, gases, and solids.

## Applications

### ■ Food Processing

K-JHIL's Fully Automatic Gold Refining System is designed to operate automatically under the set parameters, e.g., batch Start / Stop time, batch quantity, emergency stop button etc.

### ■ Semiconductor Manufacturing

Vacuum ejectors play a critical role in semiconductor fabrication processes for wafer handling, pick-and-place operations, and creating controlled environments in vacuum chambers during deposition, etching, and cleaning processes.

### ■ Medical & Pharmaceutical Industry

Vacuum ejectors are used in medical and pharmaceutical applications for handling sensitive materials, transferring liquids and powders, and creating vacuum environments in laboratory equipment and processing systems.

### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**

Suitable for operation under atmospheric pressure and full vacuum.



# Simple Distillation System



K-Jhil's Simple Distillation System is the go-to solution for laboratories seeking efficient separation of liquid mixtures. With precision engineering and user-friendly design, our system excels in purifying liquids by exploiting variations in boiling points. Simplifying complex solutions into pure substances, K-Jhil's distillation system ensures reliable results with ease. Experience streamlined distillation processes and superior performance with K-Jhil's innovative solution.

## Key Features

### ■ Heating the Mixture

The liquid mixture is heated in a flask, initiating the vaporization of the component with the lowest boiling point.

### ■ Vaporization and Condensation

The vapor rises through a distillation column and is then condensed back into liquid form through a condenser.

### ■ Collection of Purified liquid

The condensed liquid, now purified, is collected in a separate receiving flask, leaving behind components with higher boiling points.

### ■ Ease of Use

Simple distillation setups are relatively easy to assemble and operate. The apparatus needed for simple distillation is straightforward, usually comprising a distillation flask, condenser, and collection flask.

## Applications

### ■ Chemical Purification

Used to obtain pure solvents or separate components of a mixture.

### ■ Laboratory Research

A common technique in chemistry labs for various experiments and analyses.

### CAPACITY

Available in vessel sizes:  
**20, 50, 100, 200 & 300 Ltr.**  
Suitable for operation under atmospheric pressure and full vacuum.





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