



J. K. Industries

The Strength of Experience

DISTILLATION AND STORAGE

- Multicolumn Distillation Plant
- Storage tank



MULTI COLUMN DISTILLATION PLANT

J.K.INDUSTRIES Multi Column Distillation Plant is based on FINN-AQUA design. It consist of specially designed columns which make optimum use of the principles of interstage heat exchange (Multi effect distillation method) to produce pure pyrogen free sterile distilled water for injectables as per IP/BP specification. The vapour with high velocity and under pressure passes over a SPECIALLY DESIGNED SPIRAL BAFFLE system which develops tremendous centrifugal force and thus eliminates any chances of pyrogens carry over in the vapours.

By Multi Effect Distillation method significant energy (75% approx) is saved when compared to the conventional method. All contact parts are made out of AISI 316 quality stainless steel and mirror polished. All pipes and tubes are essentially seamless. The unit is mounted on sturdy m.s. tubular stand and duly painted by epoxy paint.



Technical specifications:

Industrial steam at 3 bar pressure			Industrial steam at 8 bar pressure		
Capacity	Supply steam	Cooling water	Capacity	Supply steam	Cooling water
80	40	120	145	44	180
150	48	180	285	85	350
300	97	365	570	170	700
500	130	605	920	275	1130
700	175	860	1200	360	1475
1000	238	1265	1920	575	2360
1500	390	1700	2750	825	3385
2000	440	900	3835	1150	4720
3000	660	650	5500	1650	6770
5000	1200	1100	9585	2875	11795

Operation :

The pre-heated feed water (through condenser) is fed into the first column where 33% of feed water is converted into steam under pressure by outside boiler steam. The pure steam produced in the first column having temperature of 135°C and the remaining feed water goes to the 2nd column. The pure steam is used as a heating media in the 2nd column and converts part of remaining feed water into steam. In the process the steam itself condenses back into water. This process is repeated till the last column each working at low temperature & pressure as compared to the one before it. The steam produced in the last column is condensed in the condenser by feed water as well as cooling water. As external heat is required only to convert the 33% of feed water, the heating energy required is reduced by 67%.

Salient Features :

- Compact unit, easy to maintain and operate.
- Total energy saving is 75% as less heating energy and less cooling water is required.
- Pyrogens are removed by centrifugal force developed & specially designed spiral baffle.
- Maintenance cost is low as there are no moving parts.
- Trouble free performance of multi-stage pump (horizontal)
- Provided with Compact control panel board.
- All contact parts are s.s.316 quality. All pipes and tubes are seamless and gaskets made from teflon.
- Distillate Temperature is quite high. (90-95°)
- Distilled water as per IP/BP standards and conductivity less than 1 micromhos/cm.



Scope of supply Includes :

- A S.S..316 quality surge tank with float valve to maintain water level.
- Feed Water Pump s.s 316
- GRUNDFOS pump.
- Control panel board with indicating Lamps.

STORAGE TANKS

For over a quarter of a Century, **J.K.INDUSTRIES Industries** have been supplying stainless steel tanks and process equipment to the brewing, beverage, food, waste, pharmaceutical and chemical industries. We also supply mild steel tanks.

we handle the increasing demand for high quality stainless steel storage and process vessels from a wide range of industries – each with its own requirements.



J.K.INDUSTRIES manufactures STORAGE

Vessels from 50 litres to 180,000 litres which can be used for various applications, with the following accessories/attachments.

- Jacket for heating/chilling/maintaining the temperature of the product within the vessel
- Electrical trace heating of the vessel to maintain product temperatures
- Cladding in either stainless steel (welded or riveted) or riveted aluminum to maintain internal temperatures
- Attaching a mixer/high shear blending unit to the vessel
- Ensuring that the vessel is suitable for CIP, including spray balls etc.

All our new vessels are designed to meet industry standards - such as ASME VIII, Div 1 and Good Engineering Practices - and are supported by manufacturing drawings that we submit for approval to the relevant parties. We also work to our fully documented quality assurance system to ensure

that the finished product reflects the customer's required parameters and is of superior quality. We always supply a documentation package containing manufacturing methods, material certificates and outside inspection, where applicable.

We manufacture vessels used in industries such as brewing, pharmaceutical, chemical and food, so our stock range will suit most customer requirements. Different types of storage vessels:-

- Bulk storage vessels (stainless steel / mild steel)
- Fermentation vessels
- Bright beer tanks
- Cellar tanks
- Brew houses
- Mixing vessels
- Powder silos
- Process vessels
- Micro breweries
- Horizontal vessels



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Regd, Off : JK House

Plot No. A-2, National Highway, Kalol, GIDC, (N.G.), Gandhinagar-382721, Gujarat, India.

Works I : Plot No. A-2, National Highway, Kalol, GIDC, (N.G.), Gandhinagar-382721, Gujarat, India.

Works II : Plot No. I 15/5, Nr. Chirag Cinema, A-2, Kalol, GIDC, (N.G.), Gandhinagar-382721, Gujarat, India.

Phone : +91-2764-227975, 222424, **E-Mail :** info@jkindus.com, **www.jkindus.com**