

AIR COOLED HEAT EXCHANGER



KASERA Heat Transfer
A Name Moves
around the world





KASERA Heat Transfer Pvt. Ltd. was established in 1955. The high quality manufacture of Air Cooled Heat Exchanger products. In addition, repairs, Services, re-tubing & upgrading now has been added to the product portfolio at the Bhilwara site.

With more than 57 years experience in the design and fabrication of all major process cooling components, including finned tubing, headers, plenum chambers, rings, bundle frames & structure, we are able to offer customers an unparalleled guarantee on the thermal and mechanical performance of our equipment.

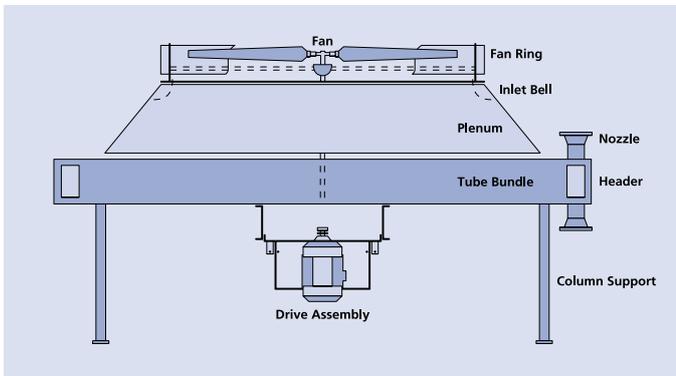
It is always our ambition to exceed our customers expectations.

DESIGNING HEAT EXCHANGER

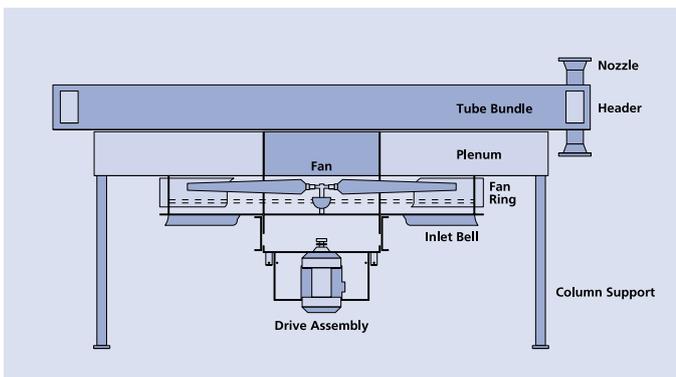
KASERA makes use of leading- HP computer equipment, including the latest Computer Design systems, to ensure maximum efficiency in:

- Thermal design
- Mechanical design of headers and steel structure
- Noise level predictions
- Preparation of the specification sheet
- Preparation of the general outline drawings
- Preparation of proposals
- Price estimation

Typical Components of an Fin Tube Heat Exchanger



Induced Draft

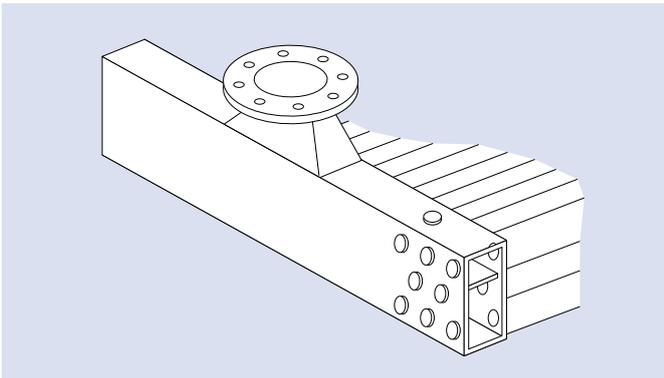


Forced Draft



CHOOSING THE HEADER

Plug Header



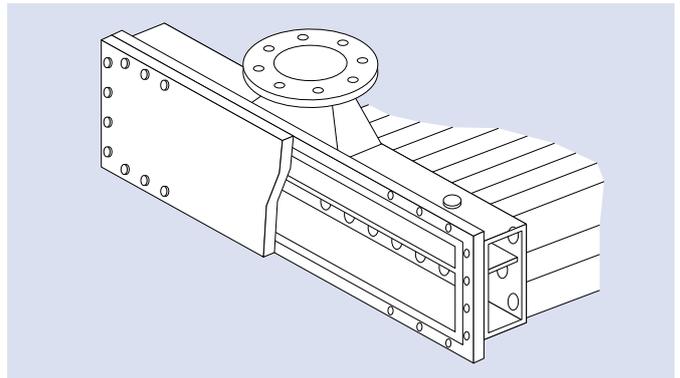
The plug header is the most commonly used header type for working pressures up to 350 bar.

The plug hole opposite each tube allows the tube to be expanded into the tube sheet. It also facilitates mechanical cleaning and plugging in case of leakage.

For hydrogen service at high pressure, seal welding or strength welding can be provided.

This is less expensive than using pipe headers, which are generally employed for a service pressure above 200 bar

Cover Plate Header



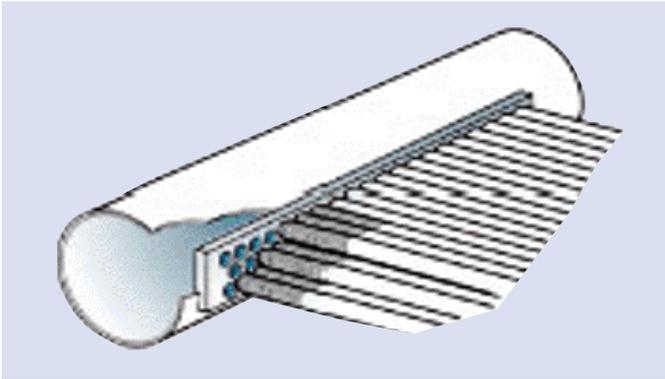
The cover plate header is used for fluids with high fouling factors up to 40 bar maximum where frequent mechanical cleaning is needed.

It is also used for highly corrosive process fluids to allow periodic checking of the corrosion allowance.



CHOOSING THE HEADER

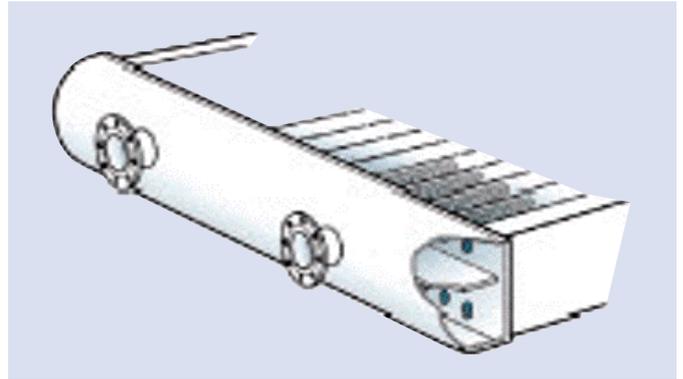
Manifold Header



The manifold header is the most commonly used header type for allowable pressures drop is very low. This large manifold ensures an equal distribution of fluid flow in the tubes. The tube sheets are directly welded to the manifold. This type is used for vacuum steam condensers, heat exchangers and refrigeration units.

The welds are heat treated and X-ray tested.

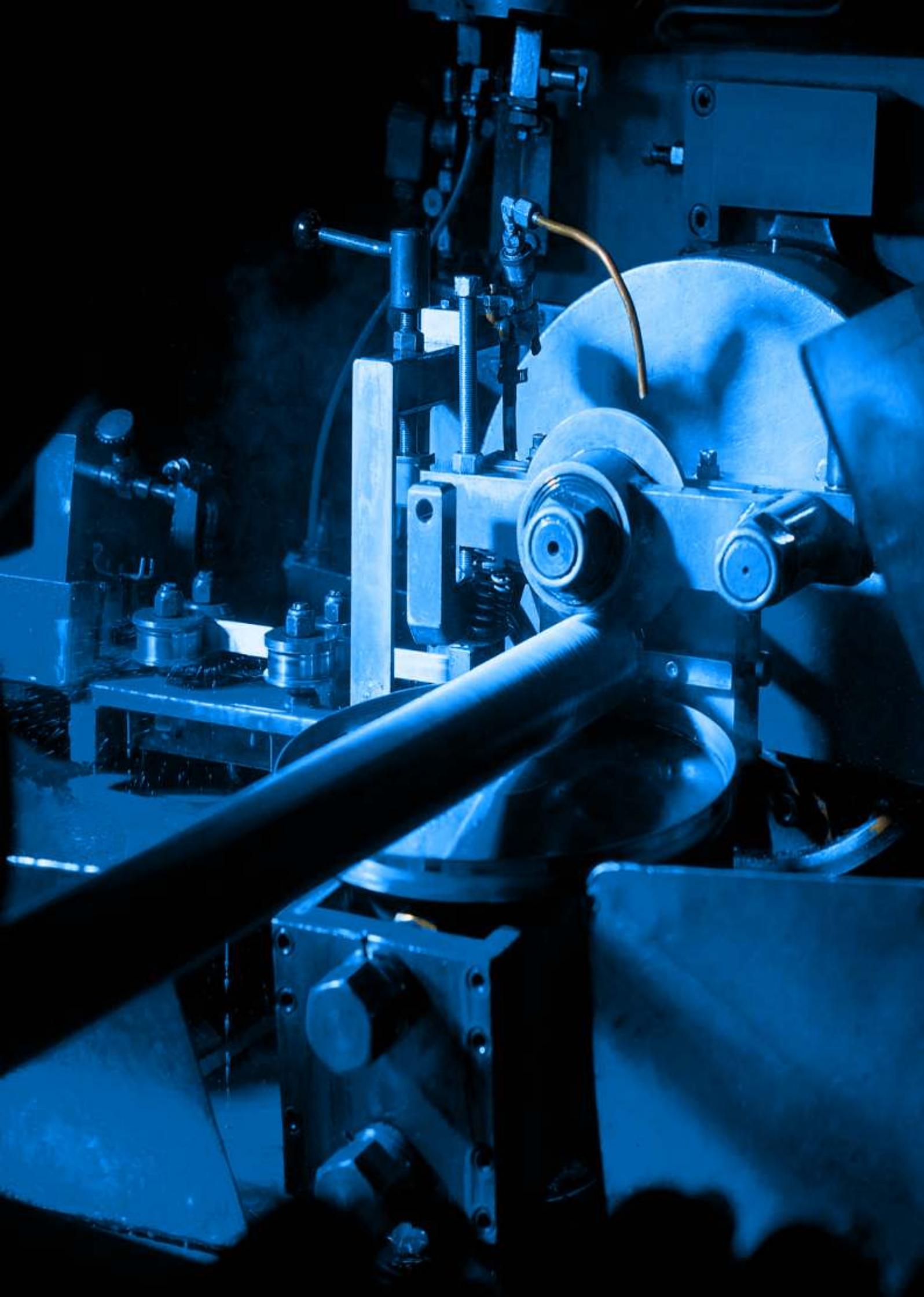
Welded bonnet Header



The welded bonnet header is used for special service as ammonia condensers, freon condensers and vacuum steam condensers. The advantage of the design is the full welded construction which provide the perfect sealing required suitable for vacuum applications.

The welds are heat treated and X-ray tested.





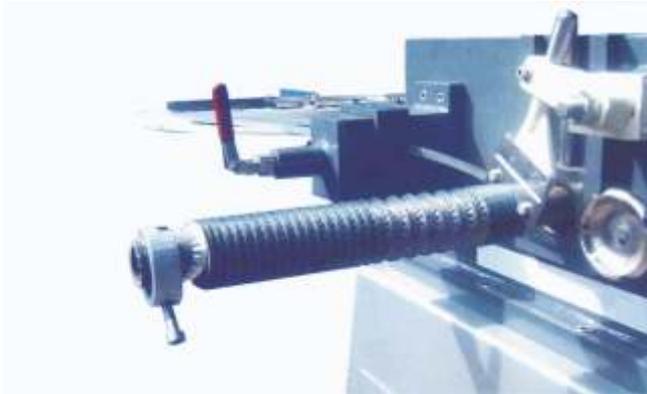
CHOOSING FINNED TUBES

Our KASERA Group's company KASERA Fin Tube is the india company to manufacture Wire, Spiral, Welded, Applied and Extruded Finned Tubes, KASERA has the ability to manufacture high-specification tube from 25mm to 350mm diameter for uses in process/engine Coolers, Boilers and Furnaces.

Using KASERA to manufacture your finned tubes will guarantee that you receive a high-quality product, delivered on time at a highly-competitive price.

- ‡ WIRE FINNED TUBE
- ‡ SPIRAL FINNED TUBE
- ‡ EXTRUDED FINNED TUBE
- ‡ L-FOOT FINNED TUBE
- ‡ KL-FOOT FINNED TUBE
- ‡ LL-FOOT FINNED TUBE
- ‡ G-FOOT FINNED TUBE
- ‡ EDGE FINNED TUBE
- ‡ SOLDERED FINNED TUBE
- ‡ BRAZED FINNED TUBE
- ‡ PLATE FINNED TUBE
- ‡ WELDED FINNED TUBE

Spiral Finning Machine



Wire Finning Machine



Welded Finning Machine



Applied Finning Machine



Extruded Finning machine



CHOOSING FANS, DRIVERS AND TRANSMISSIONS

Fan blades are made of either aluminium or G.R.P. The number of blades and tip speed depend on airflow and noise limitations. Fans are balanced according to code requirements.

Belt and pulley transmissions are used for up to 37kW. Pulleys are dynamically balanced. Belt types are:

- V belt
- Toothed belt (HTD)
- Chevron Belts

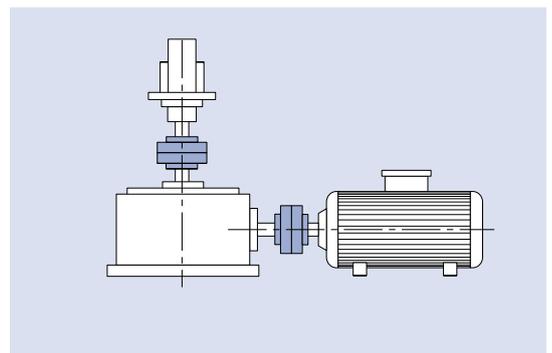
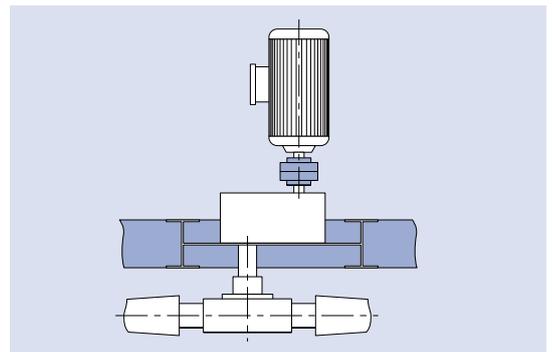
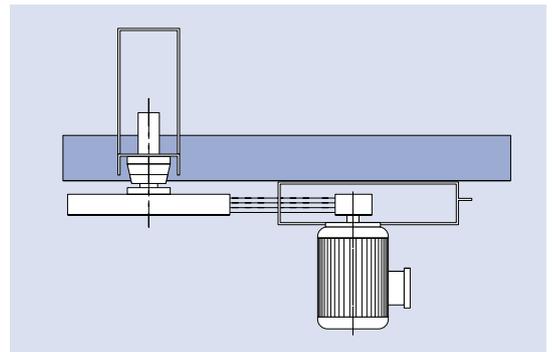
Gear drives are generally preferred for over 37kW and are:

- Parallel shaft
- Right-angle drive

Electric motors are generally used as drivers. However, steam turbines or hydraulic motors may also be used, as well as low-speed direct-drive electric motors.

Airflow can be controlled in one of the following ways:

- Louvres (manual or automatic)
- Two-speed electric motors
- Automatic variable pitch fan
- Variable-speed electric motors (variable frequency)
- Steam turbine drivers



DYNAMIC BALANCING

Boosting the Efficiency of Fan – Ensuring Long Life For Your Equipment

To avoid the serious hazards of shortened machine life – or even catastrophic failure – we can arrange dynamic balancing using state-of-the-art equipment.

This specialist service is one of the valuable ways we can help you anticipate problems before a breakdown actually occurs.

Dynamic balancing can be provided at your site for a wide range of rotating machinery – in particular fans, pumps, blowers and similar equipment. Our specially trained field staff are experts in the use of the latest portable microprocessor analyser-balancer machines.

Dangers of Imbalance

Imbalance has been found to be one of the commonest causes of vibration, generating powerful forces which may prove dangerous for the lifespan of the equipment. Imbalance can be defined as the unequal distribution of the weight or mass of a rotor about its rotating centreline. Although analysis of vibration data can highlight the presence of rotor mass imbalance, the problem can only be corrected through the specialised technique of dynamic balancing.

What is the Cause?

Assuming a good state of balance has been achieved during manufacture, the likeliest causes of imbalance developing during service are:

- Build-up of material deposits on rotor blades
- Erosion of rotor due to abrasive dust burden
- Uneven wear due to corrosion
- Distortion due to excessive heat
- Impact damage from a foreign body
- Bent shaft
- On-site repairs to any – or all – of these problems

If You Think You Have a Problem...

If you have any doubts about your equipment, please call us – we can offer rapid, expert diagnosis.

It is dangerous to ignore the warning signs!

Remember that the centrifugal force created by imbalance actually increases by the square of the rotor rpm. This means that, at speed, a small amount of unbalanced mass can be transformed into a huge – and potentially disastrous – weight.

SPARE PARTS

Our service is not limited to the main and most frequent replacements. We are available for any kind of supply according or not to our design; our experienced team can help you implementing and improving the performance of your equipment.

A non-exhaustive list of the products, which can be supplied as complement of our units are:

- Vibration switches
- Vibration detectors
- Bearings
- Louvers
- Positioners
- Finned tubes
- Collars, tubes supports

and any other parts as per your needs.

The KASERA production range covers all types of finned tubes with aluminium fins, steel fins, etc. The finning operations are completely carried out in our workshops and guaranteed by our periodic production tests.

All tubes can be supplied with any kind of exchanger tube material and a wide choice of dimensions and thicknesses.



Complete range of mechanical parts such as:

- Aluminium or plastic fan blades
- Fan hubs
- "V", HTD, etc. pulleys type and belts
- Electric motors
- Gearboxes
- Other accessories

If not available from stock, can be supplied within the shortest time.

Among the most common spares needed for the air-cooled heat exchangers are plugs, gaskets and belts, subjects to frequent wear. Our well stocked warehouse put at your disposal, standard materials and dimensions, nearly upon immediate delivery.

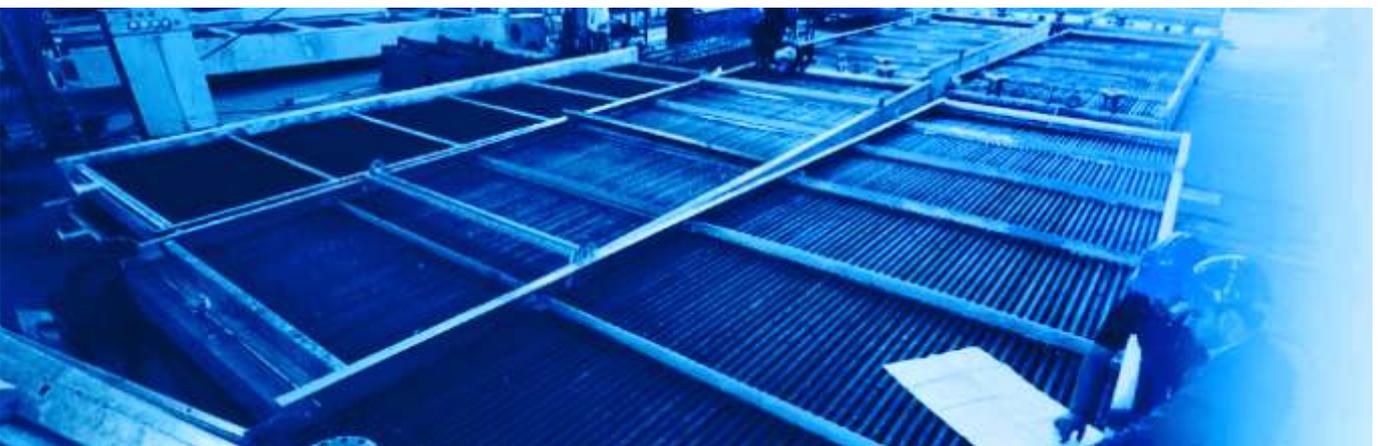


KASERA can supply replacements of pressure parts for air-cooled heat exchangers. All pressure parts are supplied in accordance with the same quality assurance as the original equipment and constructed following all pertinent international Codes and Regulations and certified, when required Re-tubing of tube bundles Re-tubing of can be made in our workshops. A special care in the workshop organization assures priority during the manufacturing cycle to guarantee short delivery terms.

REFURBISHMENT/RE-TUBING

Repairing and Re-tubing Facilities

Many repairs – including the complete re-tubing of tube bundles, are offered. Our preference is to re-tube/refurbish in our own workshop where the work can be carried out under factory conditions. Where this is not possible on-site repairs can be arranged.



COOLING SYSTEMS

KASERA has a wealth of experience in designing and manufacturing fin tube heat exchangers for a multitude of cooling applications. Our extensive experience includes, but is not limited to, Process Coolers, Power Generation Cooling, Transformers, Condensers and many more.

Our air cooled heat exchangers are designed to meet the most onerous worldwide environments on sites from the Arctic to the equator. Design and construction incorporate materials that ensure long and trouble-free service with a minimum of maintenance. The heat transfer surfaces are selected from KASERA's extensive range of finned tube systems and are optimised to suit the application in the most cost-effective manner.

We employ a team of thermal engineers with extensive experience in solving the kind of problems likely to arise in this area of operations.

Quality Control

We have achieved full qualification to ISO 9001: 2000 in all stages of design and manufacture.

Rigorous Testing

We ensure all tube bundles are subject to through hydraulic tests appropriate to the cooling medium employed. We also have individual test rigs for transformer oil, turbine lubricating oil and water. These rigs incorporate flushing, filtration, flow and pressure loss measurement.

Every fan supplied as an integral part of our equipment is tested to ensure there are no inherent vibration problems, and that it complies with the appropriate specifications. In addition, noise levels can be measured if required.

Comprehensive certification is issued covering all stages of inspection and test.



SERVICE

- ? **Chemical Cleaning**
- ? **Mechanical Brush Cleaning (Straight Thru design)**
- ? **Steam Pressure Washing**
- ? **Individual Tube Pressure Testing**
- ? **Onsite Cleaning Available**
- ? **Can repair or provide new Radiators**



Standard turnaround time 3 days or less! Contact us at +91-9680808888

KASERA also has door to door service facilities across India.

KASERA's Goal is to be customer's one stop Center for all Heat Exchanger needs offering complete service on all types of heat exchangers, (Shell and Tube, Plate & Frame, Fin tube heat exchanger). KASERA also offers a complete range of replacement plates and tubes for all Type of Heat Exchangers.

Your order is custom-designed by our team of professional engineers. Using advanced computer applications, we provide detailed drawings and supporting data sheets that will exactly, and economically, fit your application. In addition, a comprehensive quality control manual accompanies every shipment.

We offer you these services:

Retubing, From a single tube up to a complete tube bundle rebuild & Component replacement.
Re-rolling. Very often, tube-to-tube sheet joint leaks can be eliminated by re-rolling the tubes.
Tube-to-tube sheet joint welding. We perform strength and seal welding of tube ends.
Compliance with ASME code, Section VIII, Division 1 and TEMA requirements.
Component repair, leaks in top & bottom can be repaired by weld repair.
Hydro testing of heat exchanger.







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Live Customer Care Center +91 9680808888
Monday to Saturday 10.00am to 6:00pm (Indian Time)

Also use our telephone support center to contact a service representative during regular business hours.
Sunday is holiday please leave a message. A customer representative will contact you within 1 hour of your call in working days.