











KIRAN COOLING SYSTEMS

KIRAN since inception, has been working on focused and very clear objectives... developing and incorporating futuristic technologies with real environmental considerations, providing users with the most accomplished solutions, customized to their needs and owning up to support the commissioned equipment, throughout, to ensure that the benefits are realized, as conceived.

- R-134a, R-22, R-404A, R-407C, R-410A, NH₃
- Capacity Range 2 TR to 1800 TR
- Temperature Range (+) 60 °C to (-) 55 °C
- AIKW/TR Upto 0.42
- Standard Design Basis 48 °C ambient, upto 55 °C max, 99% RH
- Temperature Accuracy Upto ± 0.3 °C
- · Fluids Handled Water, Air, Oils, Chemicals, Gases, Solutions, Viscous Fluids





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Screw Chillers

KIRAN Screw Chillers use world's most efficient and rugged compressors. The condensers and evaporators - designed and fabricated in-house - are uniquely designed for high fluid flow, with due scope for higher fluid impurities. The air-cooled condensers are designed and tested as per the extreme weather conditions of the area, so that the breakdowns are eliminated. The water-cooled condensers too are designed on higher fouling factors, to compensate for high TDS cooling water.

The capacity of these Chillers varies exactly as per the fluctuating load conditions, to have the energy efficiency at its best. Data logging, remote operation and controlling as well as synchronizing with the centralized systems remain standard.

The costs involved in installation and maintenance are reduced to minimum by providing the necessary Chiller fittings as standard. The machines are designed giving proper thought to have them easily and quickly serviced when needed.

Overall ownership of Reynold Screw Chillers is customers' delight.

Air-cooled Screw Chillers : $30\,\mathrm{TR}$ to $900\,\mathrm{TR}$ Water-cooled Screw Chillers : $34\,\mathrm{TR}$ to $1800\,\mathrm{TR}$ Temperature Range : (+) $40\,^{\circ}\mathrm{C}$ to (-) $40\,^{\circ}\mathrm{C}$





Scroll Chillers

The user segment of our Scroll Chillers is well defined. The machines need to be efficient and easy to operate and maintain. The break-downs need to be kept to minimum, even when the operating period remains continuous - 365 days.

So, comes to fore the idea of 'Internal Standby' to have both efficiency as well as practicality in one package.

While designing the Scroll Chillers we follow the design principles to have robust machines - unlike most others - due to the same reasons, that there are a lot of limitations within the operating environments and at the same time the machines need to have operational flexibility.

We promote a larger range in Scroll version as given the fact that designing not being the limitation in our Scroll Chillers, these are highly beneficial, through a range, considering their operating costs and flexibility of operation, so, are preferred through most processes within their range of temperatures and capacities.

Air-cooled Scroll Chillers: 5 TR to 100 TR
Water-cooled Scroll Chillers: 5.5 TR to 120 TR
Temperature Range: (+) 40 °C to (-) 15 °C

Recip Chillers

KIRAN designs the Reciprocating Chillers over their benefits, not deficiencies. KIRAN Reciprocating Chillers are designed for robust operations, mainly outdoors, where the scheduling for proper operation and maintenance is not always possible, yet the Chillers need to operate within the largest range of ambient and operating temperatures.

Although the operating parameters are the focus for the Reciprocating Chillers, we design them on such platforms where the operating parameters are primary focus yet the operating efficiencies are not compromised. Adding to it all the modern operation, data and controlling features are incorporated to have the Chillers which will be technologically advanced but will perform relentlessly over the toughest jobs they have been chosen for:

Most of our Recip Chillers will find their applications in the industrial segments as well as for customized requirements. These processes require special attention, so KIRAN Recips will use the material and design of the highest available standard.

Air-cooled Recip Chillers : 2 TR to 300 TR Water-cooled Recip Chillers : 5 TR to 600 TR Temperature Range : (+) 60 $^{\circ}$ C to (-) 55 $^{\circ}$ C





Variable Speed Chillers

Installed equipment may be operating at their maximum efficiencies, so, we synchronize them with other modern technologies to have efficiencies enhanced to next levels.

Our Variable Speed Screw and Scroll Chillers are targeting a smaller but fastest growing segment. These are essentially designed for amazing efficiencies, so, naturally will employ the most modern technologies available for the operation and control. Simultaneously, we make sure that the robustness is inherent, what is desired from these machines, ease of operation and maintenance remaining the essence. Over and above, proper training programs are arranged for the users, to let them feel at home to operate them, while as the organizations are continuously profiting through their efficient operation.

Skilled and specially trained engineers are employed for proper and timely service support of these Chillers.

Variable Speed Scroll Chillers Air-cooled : 4TR to 60TR Water-cooled : 5TR to 76TR Temperature Range : (+) 25 °C to 0 °C

Variable Speed Screw Chillers Air-cooled: 20 TR to 315 TR Water-cooled: 22 TR to 350 TR

Temperature Range : (+) 25 °C to (-) 30 °C



Industrial Chillers

While conceptualizing Industrial Chillers, understanding the needs and applications at the industry become imperative, which are different from the general requirements. So the basis over which the equipment for the industry is designed, the unique industrial perspective and finally the choice of design and technology is altogether a separate subject.

Industrial applications are critical, tough yet are very elaborate and need to be accurate too. KIRAN Chillers, if categorized singularly, would fall within the industrial segment, more than the commercial. The design intricacies and the range of requirements at the industry are much wider, so the Chillers need to be sturdier, through uncompromising accuracy and high reliability needed for designing the equipment for these applications. The natural outcome through these practices is higher energy efficiency, so, either way, we follow just one standard.

KIRAN Industrial Chillers are designed, after establishing completely the process requirements. The design of these Chillers does not begin at the drawing boards but are conceived at the processes. Different sets of solutions may be worked out and then a final solution is reached at, through expertise and consultation. Highest grades of material and superior workmanship, backed by expertise of skilled commissioning staff, ensure the desired results.





HVAC Chillers

Basic platform for an KIRAN HVAC Chiller is energy efficiency. Energy conservation in buildings and spaces, through design and material, is fast growing to be a standard norm to be followed in future, so, to apply thought on this principle comes naturally to us.

The energy efficiency, although being the primary principle, needs to be compensated adequately, so as to reduce the overall operating cost, through discovering the systems by which we can look beyond the machine design and choice of equipment. Concepts like utilizing heat removed through the condensers and the choice of system of operation of the allied equipment like pumps, AHUs etc., ensure that higher efficiency is achieved through the whole system optimization instead of only the individual equipment.

Accurate, reliable and convenient monitoring and control for any HVAC Chiller is given a lot of attention, as is desired for all modern and hi-tech buildings and spaces. All this is backed through quick and most reliable support, being ready for any challenge.

The job will begin from being equipped to understand fully the exact need and then being capable enough to back it by providing with the most desirable and the latest. Reynold understands the need and continuously enhances the capabilities to provide for both.

Air-cooled HVAC Chillers: 20TR to 450 TR Water-cooled HVAC Chillers: 22 TR to 900 TR



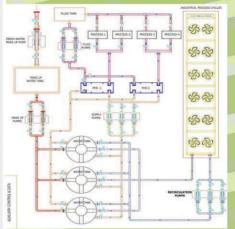
Customized Chillers

There are numerous applications, where a standard Chiller may not serve the purpose, partially or even fully. As each such application has fewer requirements and such applications are numerous, developing a separate range of Chillers may not be feasible. KIRAN from the beginning, has been catering to these special requirements, with special customized equipment, so by now has become an expert on such processes.

ATEX Certified Chillers, Batching Chillers, Air Chillers, Gas Liquefying Chillers, Cascade Low Temperature Chillers, Oil Chillers, CO₂ based Chillers etc. are few such machines which need to be customized as per the process requirements.

The design and material for each Customized Chiller is chosen keeping essentially the process requirements in view. They require highest designing capabilities which can be generated only through inherent capabilities and the expertise from the specific requirements. Another big ask remains to back these machines with the specific servicing knowhow of the highest order. As we have been specifically working on similar jobs for a long time now, we have the entire required infrastructure in place.

Customized Chillers: 0.5 TR to 1800 TR Temperature Range: (+) 60 °C to (-) 55 °C



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Turnkey Cooling Projects

We have commissioned numerous cooling projects, for a large range of required fluid temperatures. Most of these projects are industrial or customized, medium to large in size. Our customers throughout the world have been trusting us for years to work on their cooling projects, where they need an expert working on such jobs. Although Chillers being central to such projects, these projects require an equal amount of grasp on the other allied equipment as well as enhanced design and foreseeing capabilities, which not only ensure the desired result but, more importantly, focus on minimizing the cost of ownership of such projects.

KIRAN works through exclusive project teams, which conceptualize, define, time, coordinate, monitor and commission the projects. The project teams also coordinate with the external agencies involved as well as for any support needed for smooth and efficient operation of the projects post commissioning.







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