REFTEK CHILLER'S
A FLAIR TO CHILL

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ISO 9001 REGISTERED
DNV
MGMT. SYS.
RvA C024
DNV Certification B.V., The Netherlands

Product Features

UNIQUE *CO-EX* HEAT EXCHANGERS (Mini series)

The Heat Exchanger is of COAXIAL type, the design maximizes exchanger efficiency by using Copper tubes in a coiled TUBE-IN-TUBE arrangement. Tube sizes are carefully chosen so that fluid velocities are maintained through the tubes. This promotes turbulence break up boundary and maximizes the heat transfer rate with minimum pressure drop.

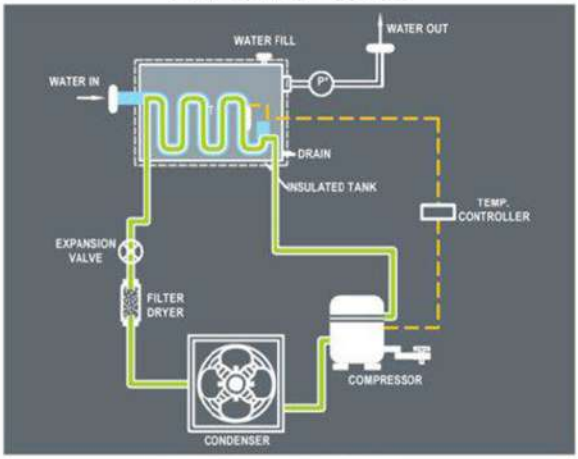
To further increase heat transfer efficiency, a Counter Flow pattern is used that achieves the maximum temperature difference.

SPECIAL FEATURE OF CO-EX

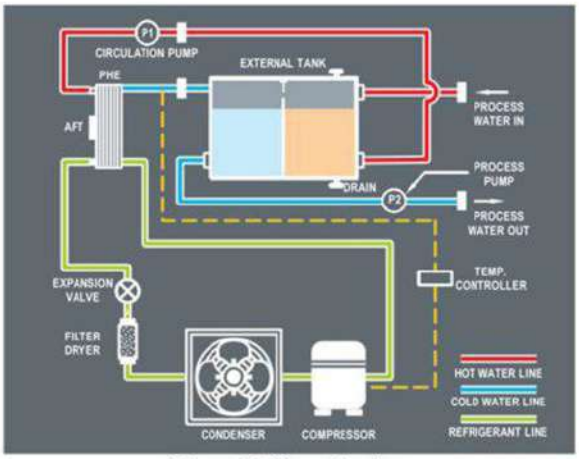
Full copper corrosion free heat exchanger
Non-fouling exchanger
Co-Axial arrangement, tends to minimize space requirement
Minimises power consumption
No leakage
Low pressure drop
High efficiency
Corrossion free light weight FRP tank

- Compact - occupies minimum space
- Built in closed tank for thermal mass operation
- High pressure pump for reliable operation for specific application
- Microprocessor control
- Reduced Maintenance
- More heat transfer area
- Energy efficient fans
- Environment friendly R407C refrigerant used
- Electronic expansion valve (optional)
- Remote and water cooled condenser (optional)

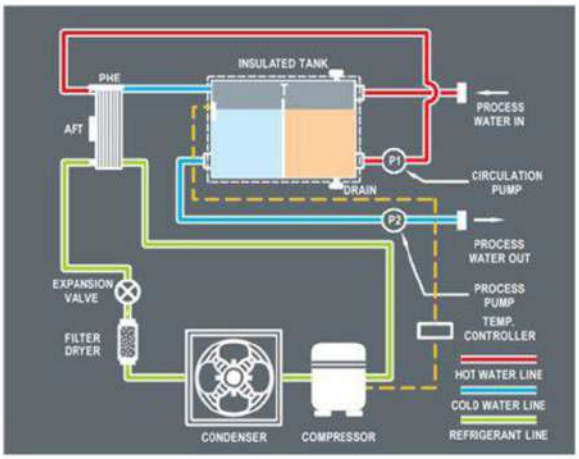
Mini Chiller Series



Max Chiller Series
With External Tank



Max Chiller Series
With Internal Tank



BRAZED PLATE TYPE HEAT EXCHANGER (Max series)

The brazed plate heat exchanger is variation of the traditional gasketed plate type heat exchanger. It is designed to have lower pressure drop. It consists of stainless steel (AISI 316) plates and two end plates. The plates are brazed (99% copper) together in a vacuum oven to form a compact pressure-resistant unit. This compact design can easily be mounted directly in piping without brackets and foundations.

PUMP: High pressure, high volume pump with mechanical seal for long life and no leakage. The pump is capable of working 24 hours a day throughout the year. No need of stand-by pump. Pump motor has an overload protection.

TANK: Stainless steel well insulated tank to save power due to no heat transfer from closed tank.

FRAME: Rigid steel frame construction covered with easy removable steel covering, free accessible maintenance of all internal components, weather resistant power coating finish.

CONTROL PANEL: PLC based control panel is totally enclosed, dust proof, complete with all necessary switching, control and safety devices in accordance with applicable codes.

Compressors are protected with overloads and safety trips.

GAUGES & SWITCHES: Standard high pressure and low pressure refrigeration gauges.

Adjustable low pressure and fan pressure switches for flexibility in operation.

Unit is self contained of **environmental and energy saving design**. All equipment are factory tested prior to delivery.

OPERATION: Adjacent plates form flow channels carrying alternately hot and cold media throughout the plate pack.

All port connections are located in the fixed frame plate proving a low maintenance installation.

Provided the number of passes is the same for both media nearly 100% counter-flow will be achieved

ADVANTAGES:

Efficient heat transfer between refrigerant and water.
Low weight
Flexibility & easy by adding or removing plates

EASE OF INSTALLATION: All chillers are shipped pre-piped and wired, ready to install and operate, installation is made easy with conveniently located Water and Drain connections.

SERVICE: REFTEK CHILLERS are designed to require minimum maintenance. Should service be necessary, a team of trained technicians is available to answer your questions about installation, operation and maintenance or repair. A complete inventory of spare parts is maintained at the factory and channel partners & local service providers located all over India.

Base Model	Model Variance		Capa-city	Heat Load		Refrigeration Compressor			Water Pump		Cooling Fan				Water Tank		I/O Water
			TR	kcal/h	kW	Qty	Type	Absorbed Power kW	Flow rate lpm	Absorbed Power kW	Qty	Size mm	Power W	Supply	Material	Capacity litres	BSP
Mini Series																	
	1	P															
RFT 010	3	3	1	3230	3.7	1	Recip	1.44	11	0.375	1	300	110	230 / 50 / 1	FRP	35	¾"
RFT 020	3	3	2	6300	7.3	1	Recip	2.35	21	0.525	1	450	240	230 / 50 / 1	FRP	50	1"
RFT 030	3	3	3	8850	10.3	1	Recip	3.3	30	0.65	1	450	240	415 / 50 / 3	FRP	50	1"
RFT 050	3	3	5	15120	17.5	1	Recip	6.1	50	1.1	2	450	240	415 / 50 / 3	FRP	150	1½"
RFT 075	3	3	7.5	22500	19.7	1	Recip	7	75	1.25	3	450	240	415 / 50 / 3	FRP	300	1½"
Max Series																	
	A	B															
RFT 100	3	3	10	30000	34.8	1	Scroll	9.93	100	1.4	4	450	240	415 / 50 / 3	SS 304	400	2"
RFT 150	3	3	15	45000	52.3	1	Scroll	14.01	150	1.5	6	450	240	415 / 50 / 3	SS 304	600	2"
RFT 200	3	3	20	60000	69.6	2	Scroll	19.26	200	1.65	8	450	240	415 / 50 / 3	SS 304	900	2"
RFT 300	3	3	30	90000	104.5	2	Scroll	28.02	300	2	2	1000	2237	415 / 50 / 3	SS 304	900	2"
RFT 400	3	3	40	120000	139.5	2	Scroll	38.214	400	4	2	1000	2237	415 / 50 / 3	SS 304		2"
RFT 500	3	3	50	150000	174.42	2	Scroll	50.406	500	5.5	4	1000	2237	415 / 50 / 3	SS 304		2"
RFT 600*	3	3	60	180000	209.3	4	Scroll	56.04	600	6.5	4	1000	2237	415 / 50 / 3	SS 304		2"
RFT 800*	3	3	80	240000	279.06	4	Scroll	79.44	800	7.5	4	1000	2237	415 / 50 / 3	SS 304		2"
RFT 1000*	3	3	100	300000	348.8	4	Scroll	100.812	1000	11	4	1000	2237	415 / 50 / 3	SS 304		2"

Model Nomenclature (Mini series):

AFE → Product Series

x x x → Capacity in TR / 10

x →
- 1 - 1/3 bar air cooled, Tube In Tube
- P - 1/3 bar air cooled, with PHE

Model Nomenclature (Max series):

AFE → Product Series

x x x → Capacity in TR / 10

x →
- A - Air Cooled
- B - Water Cooled

For details contact factory

x →
- Blank - Internal tank with process pump in customer scope
- C - External Tank with Process Pump in Customer Scope

Sizing Conversion Factors:

Operating condition

	Ideal	Maximum
Water Outlet Temperature	15° C	
Ambient Temperature	40° C	
Water Thermal Difference	5° C	
Refrigerant Used	R22	
Water Inlet Pressure	1 bar g	2-3 bar g

Ambient Temperature : (C1)

Ambient Temperature, °C	30	35	40	45	50
Conversion Factor	1.2	1.1	1	0.9	0.8

Water Outlet temperature: (C2)

Water Outlet Temperature, °C	5	10	15	20	25
Conversion Factor	0.6	0.75	1	1.16	1.3

** For these models, kindly contact factory.*

Shipping Data

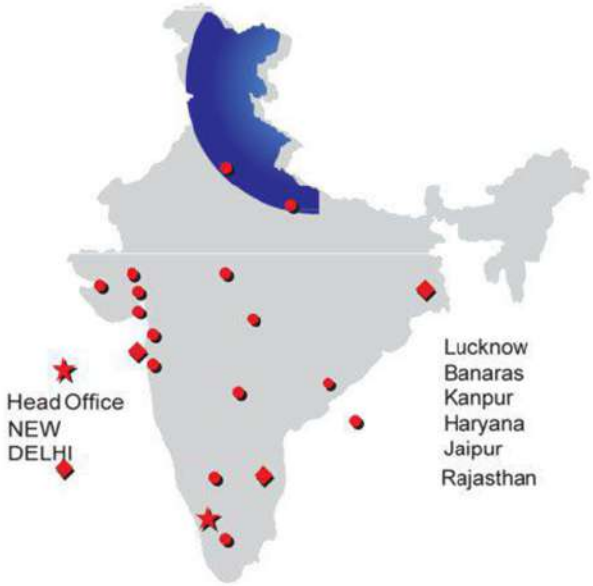
Base Model	Machine Dimensions, mm			Net Weight, kg
	Length A	Width B	Height C	
RFT 007	650	490	840	150
RFT 010	650	490	840	175
RFT 020	900	600	980	200
RFT 030	900	600	980	250
RFT 050	1100	800	1160	370
RFT 075	1650	800	1160	500
RFT 100	1400	1200	1680	600
RFT 150	1800	1200	1910	900
RFT 200	2600	1200	1910	1200
RFT 300	2600	1200	1910	2500
RFT 400	2600	1200	1910	1750
RFT 500	5000	1200	2040	3000
RFT 600	5000	1200	2040	3500
RFT 800	5000	1200	2040	4000
RFT 1000	5000	1200	2040	4250

Typical Application

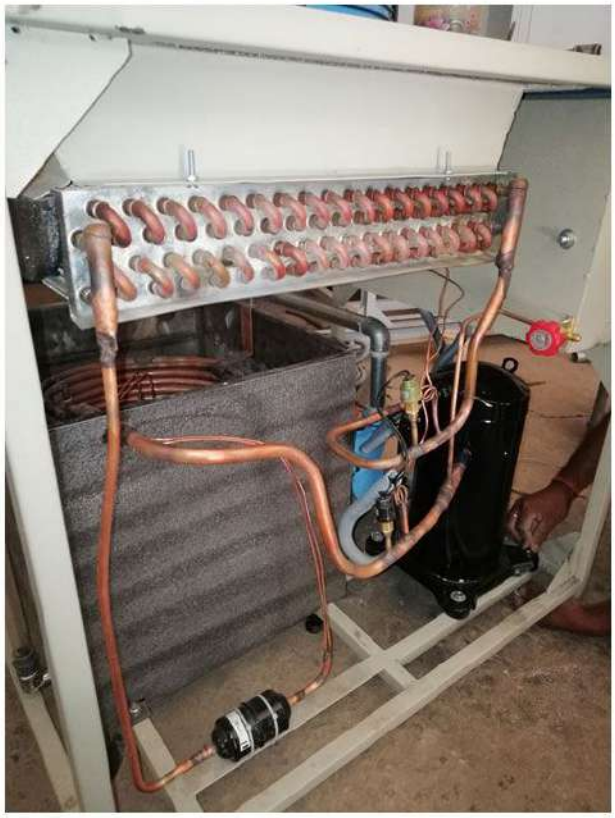
Chemical Industry
Food & Beverage Industry
Glass Industry
Pharmaceutical Industry
Plastic Industry

Distilleries / Breweries
Health Care / Hospitals
Metal Spraying
Oil Cooler
Oncology Machine
Printing Process
PET - Stretch Blow Moulding
Process Chilling
Textile Processing
Welding Machine
and many more

Sales and Service



Air Cooled Heat Exchangers



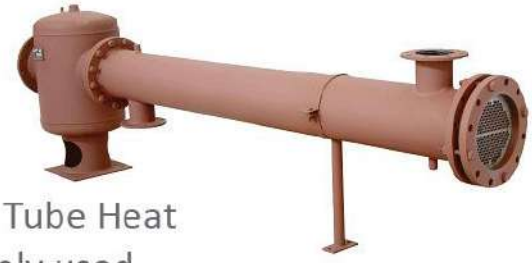
"Reftek chillers" Air Cooled Heat Exchangers are designed and constructed so that the hot process fluid to be cooled flows through a tube while the cooling air flows across the outer surface to remove heat. The cooling air is propelled by fans in either a forced draft or induced draft configuration. These Heat Exchangers can be Cover Plate / Plug Box and pipe bend models. Tube materials can be carbon or low alloy steel, stainless steel, copper, copper alloys and nickel alloys. Fin materials which are attached to the outer surface of tubes in order to create large surface area, can be of Carbon steel, Aluminum, Marine grade Aluminum and Copper Materials.

condensers are a special type of heat exchanger employed to condense steam at the exhaust end of steam turbines for both power generation and mechanical drive applications.Fin Type can be Plain or Crimped with 'L' or 'G' Type, Extruded or Embedded. Special imported heavy duty fans & motors are fitted for outdoor applications. Designing is done considering fouling, condensation, velocity of the air flow and enhanced tube surface area being provided by fins. The mechanical design of the exchanger takes utmost care of the process conditions including pressure, temperature, corrosivity and ease of maintenance.

"Reftek chillers" Air Cooled Heat Exchangers are commonly used in industrial applications where a reliable source of water is not available as a cooling medium. These heat exchangers find favour with industry for economic and operational reasons since they eliminate need of any kind water cooling systems as well as water conditioning systems thereby reducing capital requirements, as well as operating and maintenance costs.

"Reftek chillers" Air Cooled Heat Exchangers are made to be used throughout the oil and gas industry including refineries and petrochemical plants, under severe conditions including high pressure and temperature, as well as corrosive fluids and environments. Air cooled steam

Shall & Tube Type Condensor



"Reftek Chillers" designs and manufactures "Shell & Tube Heat Exchangers" which are the most widely and commonly used Heat Transfer Equipment in Petrochemical, Pharmaceutical, Oil & Gas and Power Generation Industries.

"Reftek Chillers" Shell & Tube Heat Exchangers are the product of a team which has extensive process fundamental knowledge attained through years of practical and theoretical designing and operational experience. Each of our manufactured Heat Exchanger is warranted for long trouble free performance with minimal maintenance. "Reftek Chillers" Shell & Tube Heat Exchangers are made robust by Design to withstand toughest of stresses present both at the fabrication and operational levels.

"Reftek Chillers" Shell & Tube Heat Exchangers Thermal and Mechanical Designing is carried out in-house. Thermal Designing determines the unit sizing including tubes, baffles, Shell etc. and mechanical Designing is done in order to achieve required thickness of each component of the heat exchangers, in confirmation of material, pressure and service requirements.

"Reftek Chillers" Shell & Tube Heat Exchangers are designed & built in a wide variety of size and metallurgy as per customer's requirement. Length can vary form 0.5 meter 20 meters & Diameter can be very from 0.15 meter to 2.0 meters. The design and test pressure can be upto 300 Kg/Cm2G. Also the metallurgy offered includes materials like Duplex Steel, Admiralty Brass, Naval Brass, Hastelloy, Inconel, Monel, Cupro Nickel, Titanium other than the most commonly used various Carbon Steel and Stainless Steel Grades. The Heat Exchangers are fabricated in accordance with TEMA / ASME / API & ASHARE Standard requirements. Heat Exchangers for Sea Water Marine applications with Monel, Brass and Cupro-Nickel construction designed & offered as per customer specific requirements.

Water & Air Cooled Condensers

Water Cooled Condensers

Reftek Chillers offers cleanable Shell & Tube Integrally Finned Water Cooled Condensers from 3TR to 200TR capacity. These Condensers are built in a wide variety of sizes from 6 inch to 24 inch in diameter. Length vary from 3 feet to 20 feet over the tube heads. The Condensers are designed for a pressure of 20 Kg per sq.cm gauge on shell side and 7 Kg per sq.cm gauge on water side.

They are tested upto 28 Kg per sq.cm gauge on the shell side & 10 Kg. per sq.cm gauge on water side. The Condensers are fabricated as per TEMA / ASME unfired pressure vessels codes & ASHRAE standards requirements. Condensers for sea water marine application or with steels shells are also offered & designed as per customer specific requirements.

Air Cooled Condensers

Reftek Chillers offers Fin & Tube Air Cooled Condensers from 1TR to 60TR capacity. These Condensers are designed for an optimum combination of high heat transfer performance & low operating cost. The staggered tube, corrugated plate fin provides a highly efficient air flow pattern through the condenser. Copper tubes are mechanically/ hydraulically expanded assures maximum fin-tube bonding for optimum heat transfer.

Air Cooled Condensers are tested at 28 Kg per sq. cm gauge with dry nitrogen. Fin & Tube type Condensers for sea water marine application or with steels shells are also offered & designed as per customer specific requirements.

Shell And Tube Water Cooled Condenser

Air Cooled Condenser