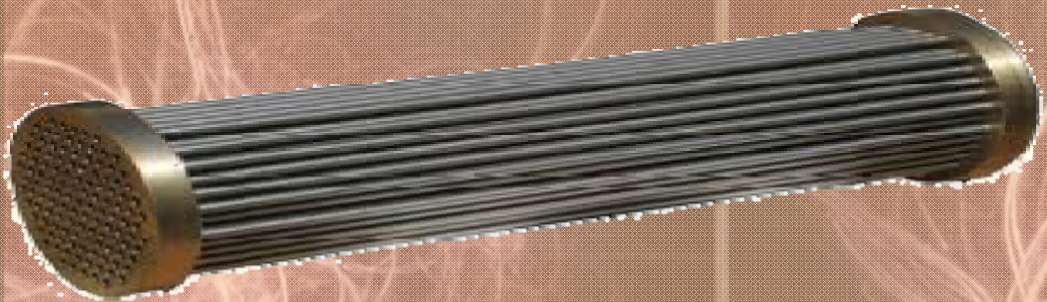


SEPC

Quality Supplies Guaranteed

Heat Exchangers

SEPC manufactures heat exchangers for Industrial applications. Efficient and innovative use of materials using state of the art manufacturing methods means good higher energy transfer, compact design, longer time between overhauls if any. Also removable tube bundles ensure easier cleaning routines. Sealing materials ensure leak proof joints even at high pressure and temperature in corrosive environment.



SEPC

61/62, Unique Tower
4, Padma Nagar, Near
Evershine Ngr, Off Link Road,
Malad (west), Mumbai -64, India

Phone: 022-288-13803
Fax: 022-2881-3803
E-mail: manish@shritara.com
Cell: +91 9820191532



Standard Design

Heating / Cooling

Multiple quantity

100% interchangeable parts



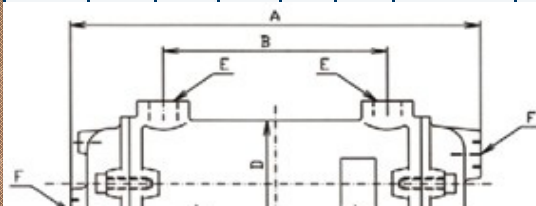
**Robust design
CNC Machining**

Original Seals

**Polished Tubes—
minimum fouling**

Easy Fitting

Model	Dimensions					Dissipated Power kW	Oil Flow Rate l/min.	Water Flow l/min.	Oil Pressure Drop bar	Water Pressure Drop bar	Surface m ²	Weight kg
	A	B	C	D	E							
	F											
HX-A 1	195	72	38	86	3/4"	3	30	15	0.10	0.02	0.13	3
HX-A 2	263	142	106	86	3/4"	6	46	23	0.19	0.05	0.22	3.5
HX-A 3	349	228	192	86	3/4"	9	56	28	0.36	0.09	0.32	4
HX-A 4	448	326	290	86	3/4"	13	64	32	0.60	0.13	0.46	4.7
HX-A 5	576	454	418	86	3/4"	16	56	28	0.56	0.12	0.68	5.5
HX-B 1	273	123	109	108	1"	8	66	33	0.16	0.02	0.33	5
HX-B 2	355	205	190	108	1"	12	80	40	0.32	0.03	0.48	6
HX-B 3	452	302	289	108	1"	18	104	52	0.96	0.07	0.66	7
HX-B 4	587	437	422	108	1"	25	106	53	1	0.11	0.90	8.2
HX-B 5	730	580	566	108	1"	29	98	49	1.04	0.14	1.16	10
HX-C 1	372	187	93	130	1 1/4"	16	100	50	0.28	0.04	0.64	9
HX-C 2	472	287	193	130	1 1/4"	26	120	60	0.55	0.07	0.90	10
HX-C 3	600	416	322	130	1 1/4"	36	140	70	0.74	0.13	1.23	12.5
HX-C 4	744	559	465	130	1 1/4"	48	160	80	1.06	0.17	1.60	14.5
HX-C 5	922	737	643	130	1 1/4"	56	140	70	0.95	0.16	2.07	17.5
HX-D 1	505	273	109	162	1 1/2"	40	180	90	0.40	0.07	1.58	20
HX-D 2	634	402	238	162	1 1/2"	52	200	100	0.55	0.09	2.14	24
HX-D 3	780	548	384	162	1 1/2"	66	220	110	0.62	0.12	2.79	27
HX-D 4	954	722	558	162	1 1/2"	84	240	120	0.80	0.16	3.57	32
HX-D 5	1160	928	764	162	1 1/2"	108	260	130	1	0.19	4.48	38
HX-D 6	1364	1132	968	162	1 1/2"	120	240	120	0.96	0.21	5.38	45
HX-E 1	675	372	239	198	2"	76	320	160	0.44	0.09	3.27	33
HX-E 2	816	513	380	198	2"	106	360	180	0.64	0.13	4.24	39
HX-E 3	998	696	560	198	2"	134	400	200	0.90	0.20	5.45	45
HX-E 4	1204	901	766	198	2"	175	420	210	1.10	0.25	6.82	54
HX-E 5	1408	1102	968	198	2"	205	400	200	1.15	0.28	8.22	64
HX-E 6	1712	1406	1272	198	2"	240	360	180	1.10	0.28	10.27	75
HX-F 1	754	330	236	278	3"	133	720	360	0.36	0.09	7.20	47
HX-F 2	900	476	382	278	3"	180	780	390	0.50	0.13	9.14	57
HX-F 3	1077	654	560	278	3"	250	840	420	0.62	0.17	11.81	68
HX-F 4	1280	856	762	278	3"	325	900	450	0.76	0.25	14.60	79
HX-F 5	1484	1060	966	278	3"	410	960	480	1	0.32	17.30	91
HX-F 6	1790	1364	1270	278	3"	500	900	450	1.16	0.52	21.54	105



Benefits of using Standard Make Branded HX

Standardised Design for bulk applications like , Oil Cooler, Condensor, Pre-Heater for lubrication fluids, thermic fluids, coolants in machine, marine engines, heavy duty automobiles, chemical plants, etc.

Shell & Tube TEMA type Heat Exchangers:

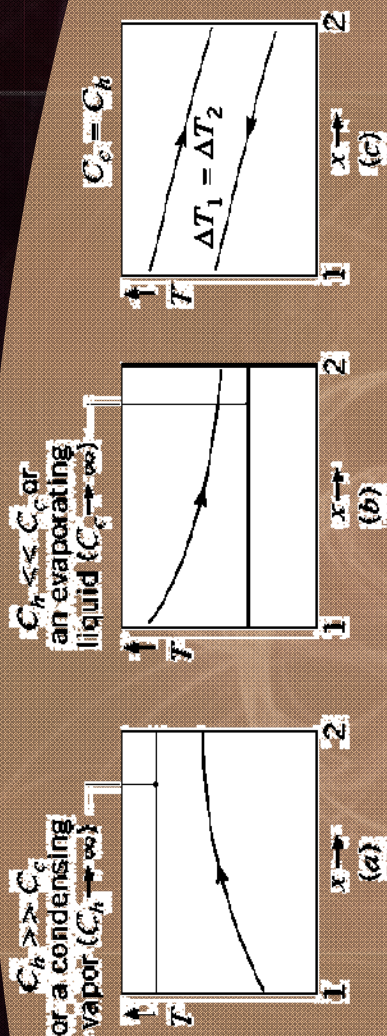
U Tube, Floating Head, Stacked type Fixed tubesheet with Expansion Bellows, Reboiler with Tube bundle, Coil in Tank-Type, Heater bank in various configurations, Double pipe (Pipe In Pipe), Single / Multiple pass exchangers are the various designs supplied.



Common design as per TEMA 'R' & 'C' : AES, BEM, AEP, CFU, AKT, and AJW.

Designed and Tested:

Every exchanger is designed as per TEMA 'R' - Severe Service like Petroleum, 'C' - Commercial applications like low pressure heat dissipation or 'B' - Chemical Plant Service.



Each & Every pressure or load bearing part is traceable to origin (Mill TC). For other parts, weldable steel or suitable chemistry if ensured. Use of Current Drawing with Quality Plans, ITP's, MTC, Welding Procedures, Calibrated Instruments, Safe working Procedures, ensure good workmanship and fixed time schedule.

Customized or Bespoke exchangers are also fabricated as per HTRI guidelines.

Capacity to manufacture Up to 6 meters long x 1.25 m diameter, up to 2" OD tube size, Stainless Steel, Carbon Steel, LAS, Brass, Copper, Aluminum, Incolloy, etc. Fixed, Floating Head, U Tube, Double pipe, Reboiler, Condenser, Economiser, Pre-Heater,

Theory and Application of Shell & Tube Water Oil Coolers

Two fluids, of different starting temperatures, flow through the water oil cooler. One fluid flows through the internal tubes and the other flows around the tubes inside the shell. Heat is transferred from one fluid to the other through the tube walls, either from inside the tubes to the surrounding fluid or vice versa.

Design Features

Shell & Tube Water Oil Coolers are designed to provide for most power classification or ranges in the oil- hydraulics applications. The coolers range from the smallest size (SE-CM) with 2 KW of heat transfer power to the largest size (SE-CX) with 500 KW per average. Shell & Tube Water Oil Coolers are designed as floating head tube bundles.

Materials of construction

Industrial Cooler:

Shell: Aluminium, Bronze | End Covers: Hot Pressed Brass, Bronze | Tubes: Copper, CuNi 90/10 | Baffles: Aluminium | End Plates: Brass | O-Rings/Seals: Nitrile / Neoprene / EPDM.

Marine Cooler:

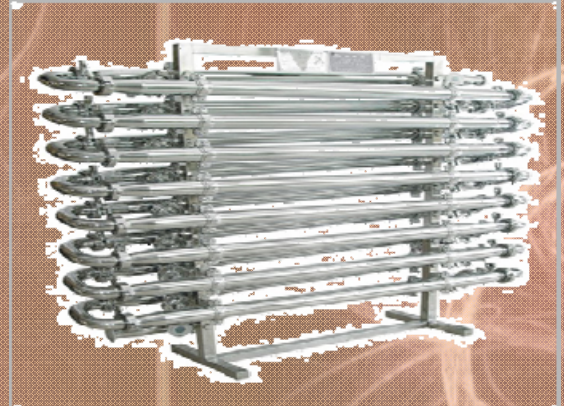
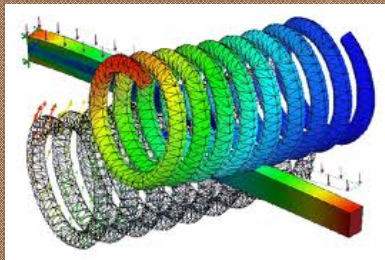
Shell: Aluminium, Bronze | End Covers: Hot Pressed Brass, Bronze | Tubes: Copper, CuNi 90/10 | Baffles: Aluminium | End Plates: Brass | O-Rings/Seals: Nitrile / Neoprene/ EPDM.

Limitations

Maximum Design Temperature: 94°C with NBR seals (Operating Temperature is around 60°C). Design Pressure: Oil side 15 bar / Coolant side 10 bar (pressure - temperature charts Kindly refer to manual).

Installation and Maintenance

Shell & Tube Fluid Oil Coolers may be installed either in vertical or horizontal position but both fluids must circulate as a 'counter current flow'. The cooler could be installed either in the return line to the tank or in a closed circuit, and bypass isolating shall be set in place to allow for maintenance.



Finned Tube heat exchangers:

1. CNC machine: Oil Cooling Applications.
2. Mobile Tower: Air Cooled Exchangers installed in Remote areas.
3. CNG Filling Stations API 661 based Fan Cooled Exchangers.
4. Marine Radiators using Sea Water as Coolant.

Wire Wound Finned Tube Coolers prove to be better option for high temperature low pressure application in continuous / cyclic flow. They can be designed to fit on the machine or restricted spaces due to higher efficiency of heat dissipation capacities. Rugged design ensures minimal breakdown. DC fans are mounted on frame for forced or induced draught type as per ease of approach or available space, coolant and power for fan coolant and reservoir suction pumps. We provide complete set of equipment customized (bespoke) design. Fins are available in Copper, Aluminium in wound, embedded, embossed, fluted , extruded options. Tubes of SS, Titanium, Hastelloy as per HTRI guidelines. *Supplied to PRTM Bangalore*

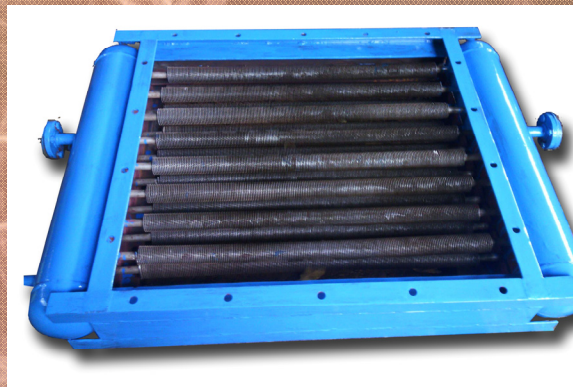


**Wire Wound
Finned Tube
Exchanger
Copper Wire
wound on SS
304 Seamless
tubes**

**Supplied to:
Mobile Tower
Cooling**

**Spirally
Wound Fin-
ned Tube
Exchanger**

**Supplied:
Sugar Indus-
try, Cooling
towers, Natu-
ral Gas etc.**



ing the tube walls is minimal. Available in Stainless Steel, aluminium, Copper, brass, Admiralty Brass.

Supplied to Sugar Industries

**Integral Fin
Tube
Exchanger**



Shell & Tube type heat exchangers with Cold Drawn **Integral Fin tubes** (internal or external fins). This multiplies the heat transfer surface and hence is a huge space saving solution for exchangers with clean fluids or where possibility of precipitates coating the tube walls is minimal. Such exchangers can be designed for tube in tube type applications also. Available in Stainless Steel, Copper, Brass etc. *Supplied for Marine oil Coolers*

Spiral Wound Fin Tube heat exchangers with Cold Drawn Seamless tubes with external fins. This provides Air cooled Heat transfer with Fan of Induced or forced Draft, saving cooling fluids loop reducing pollution useful where small temperature drops are required or available for clean fluids or where possibility of precipitates of salt coating the tube walls is minimal. Available in Stainless Steel, aluminium, Copper, brass, Admiralty Brass.

Shell & Tube type heat exchangers with Cold Drawn **Integral Fin tubes** (internal or external fins). This multiplies the heat transfer surface and hence is a huge space saving solution for exchangers with clean fluids or where possibility of precipitates coating the tube walls is minimal. Such exchangers can be designed for tube in tube type applications also. Available in Stainless Steel, Copper, Brass etc. *Supplied for Marine oil Coolers*

Heating & Cooling coils for Large Tanks & Reaction Vessels

Heat exchange can also be effectively implemented through

- Use of metallic coils mounted inside large **concrete tanks** open to atmosphere. Heater reduces the high viscosity and prevents solidification or coagulation e.g. tar, bitumen, resin etc.,
- **Agitated reaction vessels** use internal coils to heat or cool using steam or cold water for various process requirements,
- Coils inside closed **fixed roof** and **floating roof & fuel tanks** are used in cold weather location for keeping hydrocarbon in liquid phase and sometimes cooling coils are required to keep VOC losses low in highly volatile fluid tankages ,
- Heating of **edible substances** for cooking, boiling and drying. Use of steam is a non invasive and efficient solution rather than use of furnace oil, wood or gas as an external burner. Steam can be raised to high temperature (superheated) to effective flash dry some solids giving excellent properties of dry powders.
- Use of Coils is widespread as **Sampling points** to reduce temperature of process fluids intended for Laboratory Samples at intermediate locations in Plants.



Multiple coils for even heating



Dimple Jacketed Process Equipment

Dimple Jacket Heat Exchangers & Agitated Vessels

Greater efficiency of heat transfer heat flows rapidly from the outer jacket wall through the weld contact area of Dimpled Jacket with Tank wall. Overall heat transfer coefficient “U” is significantly higher. When a conventional jacket vessel is designed, the required shell thicknesses are the function of the diameter, design pressures, and the unsupported length of the inner shell. Any increase of these values necessarily leads to an increase in material thickness. The dimpled jacket makes a thinner wall possible, because it is based on using a relatively short distance between the dimples.



Through the use of the large number of reinforcing dimples, the thickness of both the inner and outer walls can be considerably reduced.

Reduced Cost & Weight

Improved Heat Transfer Ability

Ideal for Clean Fluids where Agitated Vessels require process

side anti scaling properties.

Design Pressure : 100 psig Design Temperature : 200 °C

MOC : Stainless Steel 304, 316 Al, Carbon Steel.

Wall Thickness: 1.2 mm to 3 mm stainless Steel

Dimple Size: 12.0 mm diameter x 50 mm rotated square.

Can be supplied with Rolled shell, Conical and dished end or flat pillow type internal heating panels

Applications:

Food Industry—Ice Cream Blending, Cream ripening. Tobacco Dryer & Grain Dryer

Chemical Industry—Sulfur Re-melter tanks, Water cooled chute for Chemical product.

Accessories Provided:

Sight Glass, Square or Oblong Man-hole, Tubular Legs and Supports

