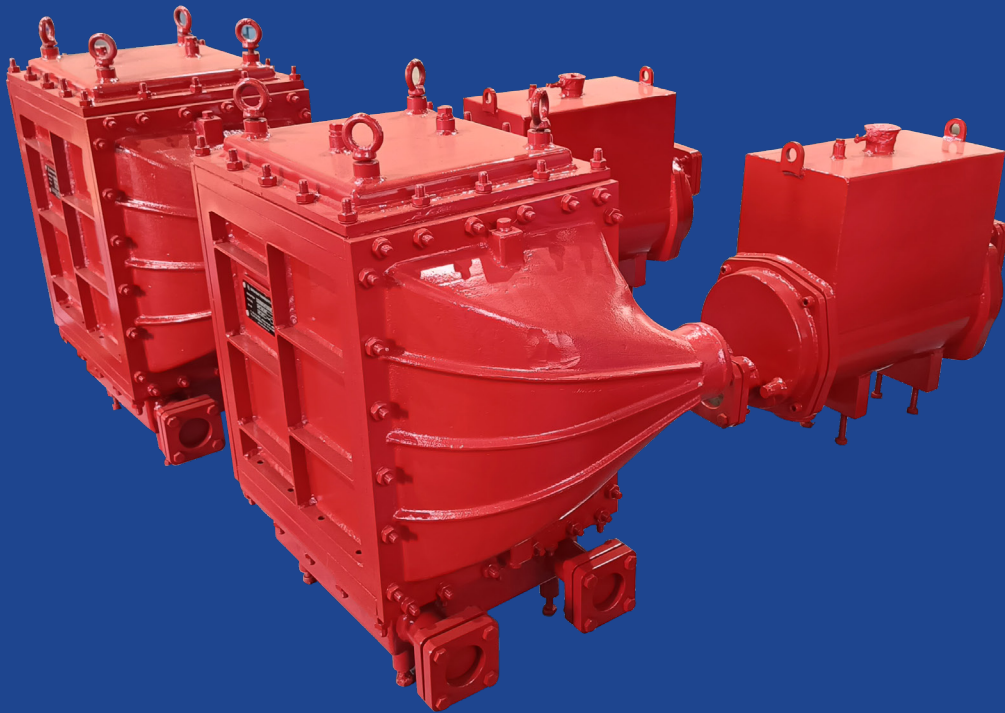


CHARGED AIR COOLER



 **UHT**
UNITED HEAT TRANSFER

COMPANY PROFILE

United Heat Transfer is ISO 9001:2015 Certified Design & manufacturing company with a wide range of products. UHTPL is established in the year of 1995 extending its expertise with the growing national & multinational OEM industries.

UNITED HEAT TRANSFER CAN PROVIDE VESSELS WITH VARIOUS CERTIFICATION

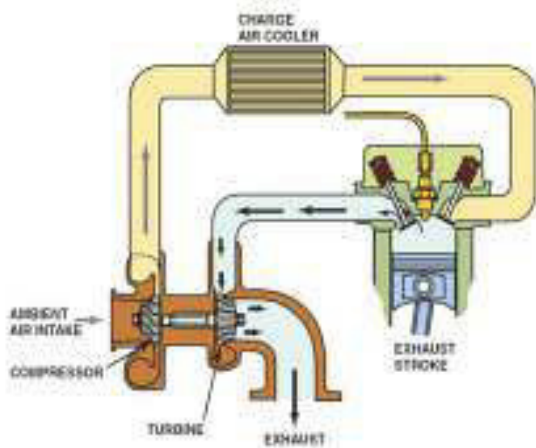
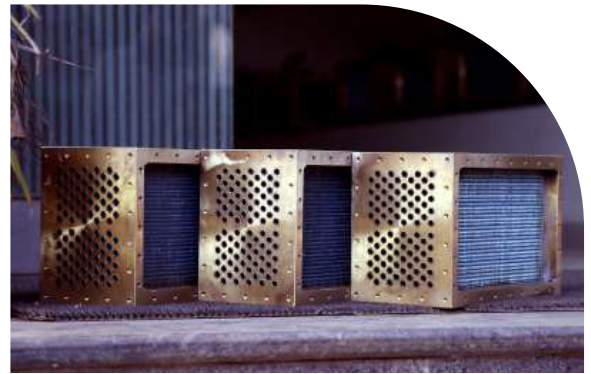
ASME 'U' Stamp	NB	CE PED
UKCA	CU TR-032 / 2013 & 2017	ARH
IBR	MALYSIAN DOSH	MOM

The experience we have accumulated during last 22 years of serving process industries qualifies us to provide clients worldwide with the highest quality equipment.

CHARGED AIR COOLER (CAC)

Charged Air Cooler (CAC) are meant to cool compressed engine air after it has passed through a turbocharger, but before it enters the engine. The idea is to return the air to a lower temperature, for the optimum power for the combustion process within the engine. They are essential to meet engine manufacturers' design objectives for better horsepower, competitive fuel economy by increasing volumetric efficiency and reduced exhaust emissions.

Now a days many of diesel engines depend on air to air & air to liquid heat exchangers to maximize fuel economy and performance.



CAC range in size depending on the engine. They vary in sizes from smallest one for trucks/tractors & larger one for Marine applications.

CAC cools the turbo's air charge before it is routed into the engine. It is an air-to-air or air-to-liquid heat exchange device used on turbocharged and supercharged IC engines to improve their volumetric efficiency by increasing intake air-charge density through isochoric cooling. A decrease in air intake temperature provides a denser intake charge to the engine and allows more air & fuel to be combusted per engine cycle, increasing the output of the engine.

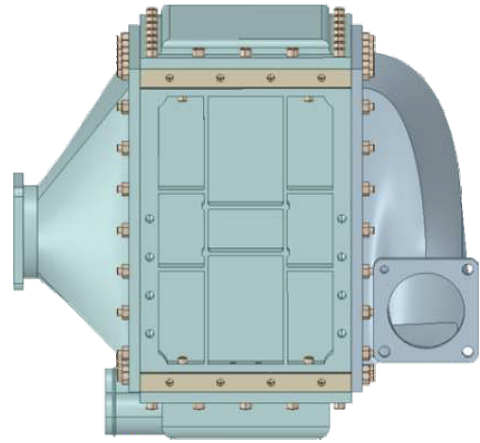
Depending on the number of stages of turbocharging, there can be intermediate stage CAC (Intercooler) or After-cooler.

UNIQUE FEATURES ASSOCIATED WITH UHTPL'S CHARGE AIR COOLER

- Low weight housings reduces total weight of system to achieve better fuel consumption & lower noise level
- Effective combustion
- Improve the efficiency of whole engine
- Proper construction reduces pressure drop.
- Different material options to have choice for fluids
- Innovative fin geometry
- Lower space & Compact design Respect to Installation
- High performance: compact and cost-effective
- Compact and customized design as per
- Sustaining of engine power
- Reduces Exhaust manifold failure
- Avoid pre-mature piston, ring and valve failure
- Assist to control elevated coolant temperatures
- Reduce risk of turbocharger failure
- Decrease particulate levels in emissions
- Stout & proven design
- Ideal for Heavy duty application
- Longer life span as well as Cost Saving Solution by applying Anti-corrosive coating on CS

APPLICATIONS

- Railway Diesel Engine
- Heavy Haulages
- Maritime ships
- Cruise and cargo ships
- Ferries
- Mega-yachts
- Trawlers
- Large Engines
- Heavy Trucks
- Mining Trucks
- Marine Diesel Engines
- Freighters
- Power Generation Set
- Supertankers



Manufacturing CAC's with optional added advantage of Anti-Corrosive Coating. Water in the world's oceans has a salinity of between 3.1% and 3.8% containing sodium (Na+) and chloride (Cl-) ions. It is an electrolyte with strong corrosiveness and with a amount of dissolved oxygen and marine organisms which decompose marine items. Anti-corrosive coating can be applied on metallic and non-metallic surface to protect and increase the life of equipment. Anti-corrosive forms a monolithic joint with the principle surface without any air pocket.

This technology is widely applicable in the following industries:

- Marine and offshore, oil & gas
- Ore & deep sea mining
- Water and wastewater treatment facilities.
- Automobile

STANDARD MATERIALS

Tubes	Tubes Sheet	Shell / Body	End Caps	Fins
Copper	Carbon Steel	Aluminium	Gun Metal	Aluminium
Cu:Ni 90:10	Naval Brass	Gun Metal	Nickel Aluminium Bronze	Copper
Cu:Ni 70:30	Cu:Ni 90:10	Nickel Aluminium Bronze	Cast Iron Naval Brass	(Plain & Enhanced)
Admiralty Brass	Cu:Ni 70:30	Cast Iron	C. S (with Option of	
Titanium	SS 304/SS 304L	C. S (with Option of	Anti-Corrosive coating)	
SS 304/SS 304L	SS 316/SS 316L	Anti-Corrosive coating)		
SS 316/SS 316L				

Seals

The standard seal material is Nitrile. We can provide seals like Viton for temperature above 100 °C.

Technical Details

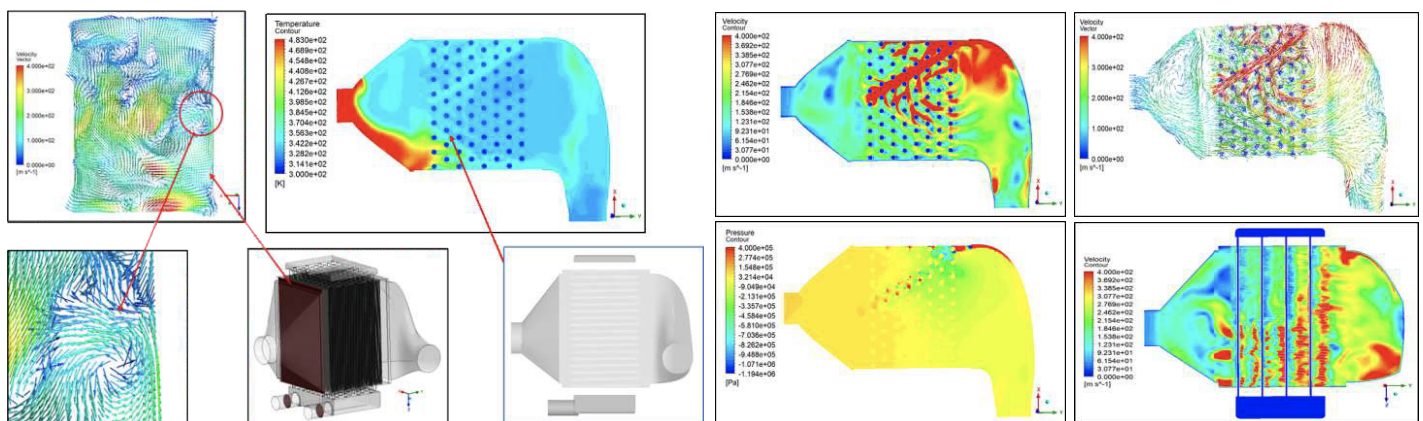
- Removable core/ Fixed Core
- Round Core Diameter 3", 4", 5", 6", 8" or as per customer requirement
- Square / Rectangle Core : As per customer requirement

Available Port Connections

- NPT
- Hose
- BSP
- Customized Design Port
- SAE Port
- ASME

Design to meet your expectations

Offer design under most extreme operational conditions & Tropical Conditions of sea water. Our engineering team support the maximum functionality and reliability for diesel engines. Engineering Capabilities includes performing thermal Rating, Design & Simulation on HTRI and mechanical designing of heat exchanger on Bentley Autopipe software with ASME Sec. VIII Div. 1,2, TEMA R-C-B, API 660, 661, CE 2014/68/EU, CODAP, ASME, AD, BS, API, CUTR, IS 2825 & IS 4503. CFD thermal analysis simulations extract information to accurately predict temperature distribution, heat transfer rates, hot spots, heat flux rates, airflow fields and patterns.



CAC to meet your requirements in following vari

- Air-to-Air
- Air-to-Liquid
- Suitable for Fresh Water / Sea Water / Ethylene Glycol
- Single Stage / Multi Stage
- Plate fin design
- Bar & Plate Design
- High Fin tube design
- Fixed or removable bundle
- Can be supplied with air ducts and all accessories



UHTPL has qualified & trained workforce which are committed to the quality requirements of the job. Frequent exposure to International codes, statutory requirements, customer requirements helps us to supply equipment with best quality. Our aim is to fulfil statutory as well as implied needs of the job.

Quality Management System is certified to ISO 9001:2015 by Lloyd's Register for Design, Develop, Manufacturing, Supply & Servicing, Erection & Commissioning of Intricate Type of Heat Exchangers, Pressure Vessels & Process Equipment's.

EXPOSURE TO THIRD PARTY INSPECTION AGENCIES

- | | | | | |
|--------------------|------------------|-----------|----------------|--------|
| • Lloyd's Register | • Bureau Veritas | • EIL | • CEIL | • RINA |
| • Uhde | • ABS | • TUV SUD | • DGQA, QAE WE | • IRS |
| • TUV Nord | • Inter Tech | • Technip | • TPL | • IBR |
| • TOYO | • Saipem | • Jacob | • VELOSI | • HGS |
| • ICS | | | | |



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