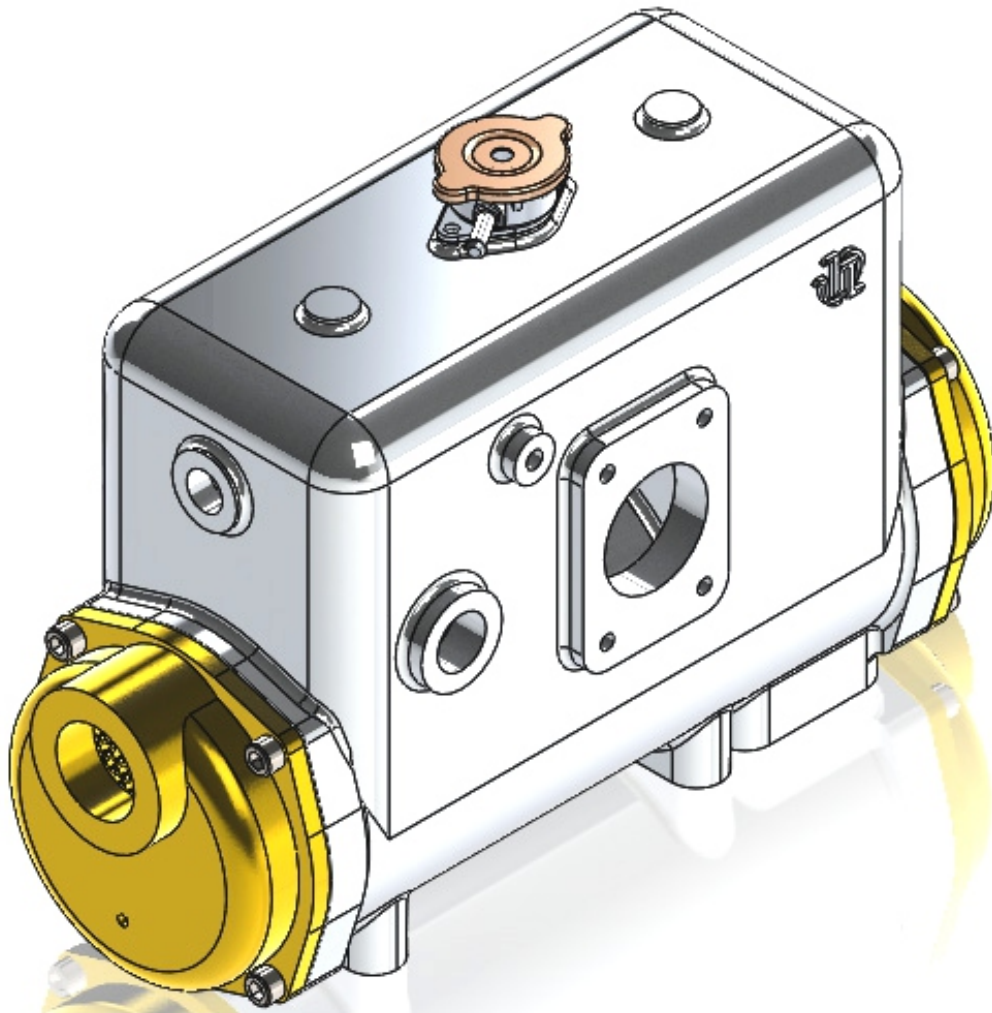




# United heat transfer pvt. ltd.

*Transformation of energy with safe & efficient design*



## HEADER TANK HEAT EXCHANGER

ASME "U" "R" "NB"



## Company Profile

United Heat Transfer is ISO 9001:2015 Certified Design & manufacturing company with a wide range of products. UHTPL is authorised for ASME “U”, designator “R”, & “NB” certification. We also supply products as per CE 2014/68/EU (Old PED 97/23/EC.)

UHTPL established in the year of 1995 extending its expertise and expanding with the growing national & multinational OEM industries.

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

## Unique features associated with UHTPL's Header Tank Heat Exchanger

- Low weight housings reduce total weight.
- Least thermal stresses due to removable tube stack
- Easy venting of air
- Design flexibility
- Material flexibility
- High performance: compact & cost – effective
- Supplied with nozzle closure on the engine water side
- Simply unscrewing the end covering bolts, the tube stack can be removed for cleaning and maintenance.

## Entire Custom Design is Available

### Applications

- Large Engines
- Heavy Trucks
- Mining Trucks
- Marine Diesel Engines
- Freighters
- Railway Diesel Engine
- Heavy Haulages
- Maritime Ships
- Cruise & cargo ships
- Ferries
- Power generation set
- Super tankers
- Trawlers
- Mega yachts
- Pleasure Boat

## Marine Based Version

Marine header tank heat exchangers are specially designed to operate with cooling media such as sea water, mineral/Fresh water.

## Standard Materials

Applications	Tubes	Tubes Sheet	Shell / Body	End Caps
<b>Marine</b> Based Version	Cu:Ni 90:10 Cu:Ni 70:30 Titanium	Naval Brass Cu:Ni 90:10 Cu:Ni 70:30	Aluminium Carbon Steel	NAB Gun Metal Naval Brass
<b>Land</b> Based version	Copper Admiralty Brass Stainless Steel	Carbon Steel Stainless Steel	Aluminium Carbon Steel	Cast Iron

## Seals

The standard seal material is Nitrile. We can provide seals like Viton for temperature above 110 °C.

## Header Tank Heat Exchanger

Are meant for cooling the water in engine water circuit. They also avoid aeration in the circuit by easy venting at initial water fill up.

UHTPL designed header tank heat exchangers have flexibly assembled in the different shapes casted housing with floating tube bundle (Removable type). This avoids thermal stresses in the heat exchangers. These heat exchangers are suitable for marine based & land based applications

Engineering Capabilities includes performing thermal Rating, Design & Simulation on HTRI and mechanical designing on Bentley Autopipe software with ASME Sec. VIII Div. 1,2, TEMA R-C-B, API 660, 661 CODAP, ASME, AD, BS, API, GOST, IS 2825 & IS 4503.

## Technical Details

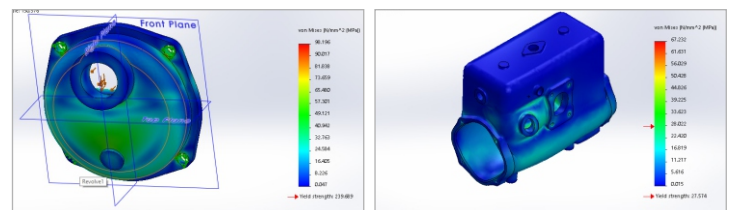
Working Temperature	120°C	Max.
Working Engine Pressure	1 Bar	Depends on filler cap rating
Working Coolant Pressure	16 Bar	Max.

## Finite Element Analysis (FEA)

FEA is simulating/analysing the behaviour of header tank heat exchangers (Stress/strain, deformation, natural frequencies etc.)

## The Benefits and Application of FEA

- Structural/mechanical engineering design
- Product development
- Manufacturing processes
- Failure analysis investigations



## Land Based Version

Land based header tank heat exchangers are specially designed to operate with cooling media clean water, wherein water is not contaminated.

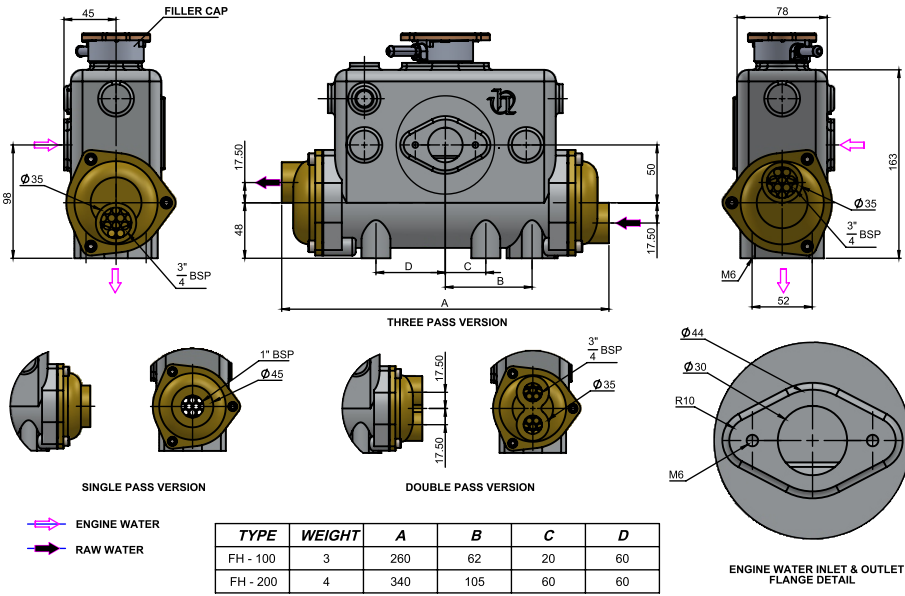
### Header Tank Heat Exchanger Range For Sea Water Application (Marine)

UHT Models	Heat Dissipated		Raw Water Volume	Engine Water Volume Header Tank	Max. Raw Water Flow		
					Single Pass	Two Pass	Three Pass
	kW	HP	Litres	Litres	l/min	l/min	l/min
UHT BS - GH 100	40	54	0.49	0.96	180	60	54
UHT BS - GH 200	52	70	0.69	1.38	180	60	54
UHT BS - HH 100	82	110	1.10	2.13	270	100	95
UHT BS - HH 200	115	154	1.46	2.82	270	100	95
UHT BS - IH 100	150	201	2.35	4.31	375	140	125
UHT BS - IH 200	200	270	3.09	5.66	375	140	125
UHT BS - JH 100	240	322	4.00	7.07	640	240	225
UHT BS - JH 200	320	429	5.27	9.31	640	240	225
UHT BS - JH 300	400	540	6.73	11.89	640	240	225
UHT BS - KH 100	450	603	7.49	13.08	975	400	325
UHT BS - KH 200	600	804	10.00	17.46	975	400	325
UHT BS - KH 300	750	1005	12.53	21.89	975	400	325
UHT BS - LH 100	620	831	11.09	19.25	1400	540	460
UHT BS - LH 200	820	1100	14.00	24.30	1400	540	460
UHT BS - LH 300	1000	1340	17.55	30.46	1400	540	460
UHT BS - MH 100	1200	1608	22.81	38.67	2125	820	700
UHT BS - MH 200	1500	2010	28.67	48.60	2125	820	700
UHT BS - MH 300	1800	2413	34.84	59.05	2125	820	700

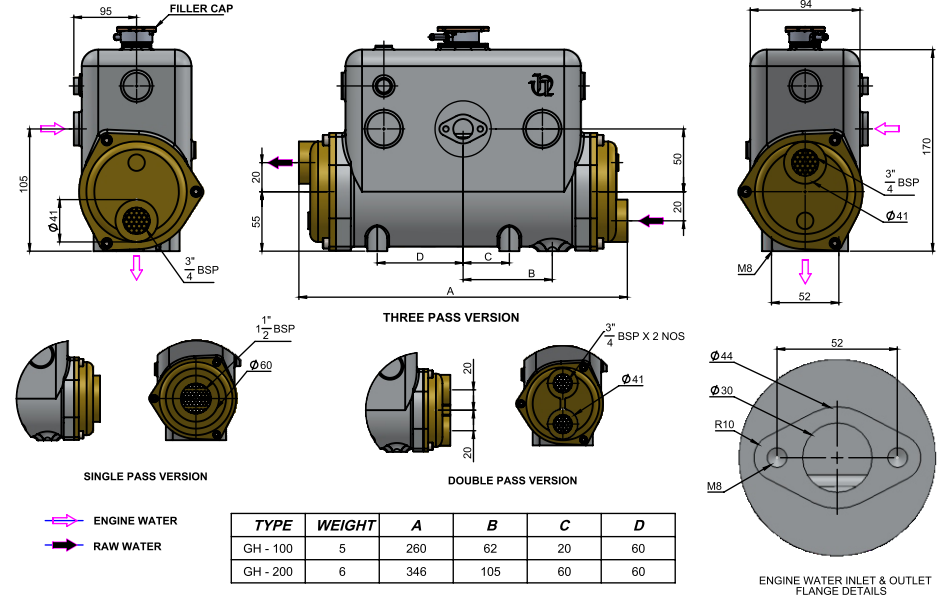
### Header Tank Heat Exchanger Range For Fresh Water Application (Land)

UHT Models	Heat Dissipated		Raw Water Volume	Engine Water Volume Header Tank	Max. Raw Water Flow		
					Single Pass	Two Pass	Three Pass
	kW	HP	Litres	Litres	l/min	l/min	l/min
UHT BS - FH 100	40	54	0.31	0.61	90	60	45
UHT BS - FH 200	52	70	0.44	0.87	90	60	45
UHT BS - GH 100	82	110	0.70	1.40	135	90	55
UHT BS - GH 200	115	154	0.94	1.86	135	90	55
UHT BS - HH 100	150	201	2.35	2.95	250	140	125
UHT BS - HH 200	200	270	3.09	3.88	250	140	125
UHT BS - IH 100	240	322	4.00	4.23	360	240	225
UHT BS - IH 200	320	429	5.27	5.57	360	240	225
UHT BS - IH 300	400	540	6.73	7.11	360	240	225
UHT BS - JH 100	450	603	7.49	9.29	640	320	275
UHT BS - JH 200	600	804	10.00	12.40	640	320	275
UHT BS - JH 300	750	1005	12.53	21.89	975	400	325
UHT BS - KH 100	620	831	11.09	13.83	805	470	395
UHT BS - KH 200	820	1100	14.00	17.46	805	470	395
UHT BS - KH 300	1000	1340	17.55	21.89	805	470	395
UHT BS - LH 100	1200	1608	22.81	25.62	975	680	600
UHT BS - LH 200	1500	2010	28.67	32.20	975	680	600
UHT BS - LH 300	1800	2413	34.84	39.12	975	680	600

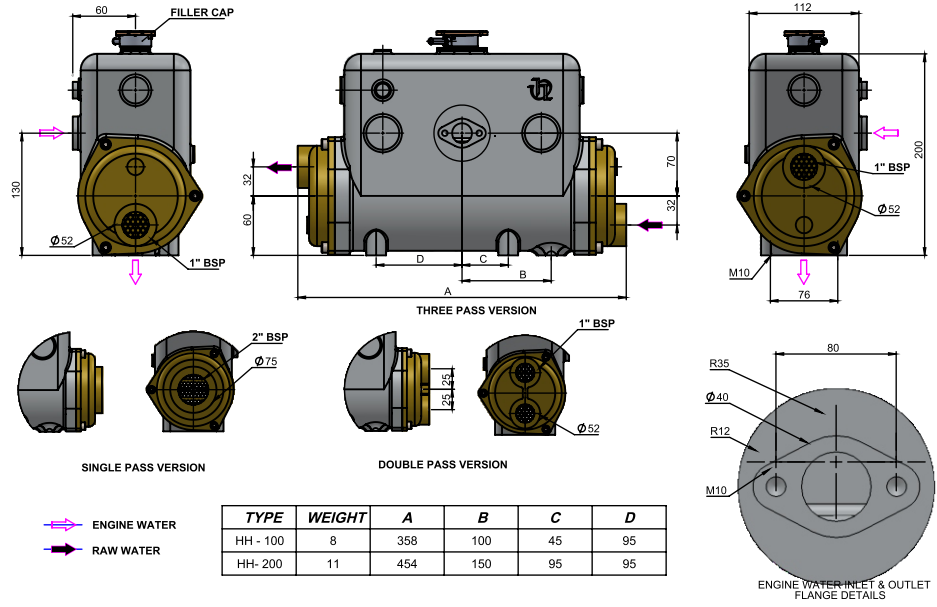
### BS - FH SERIES



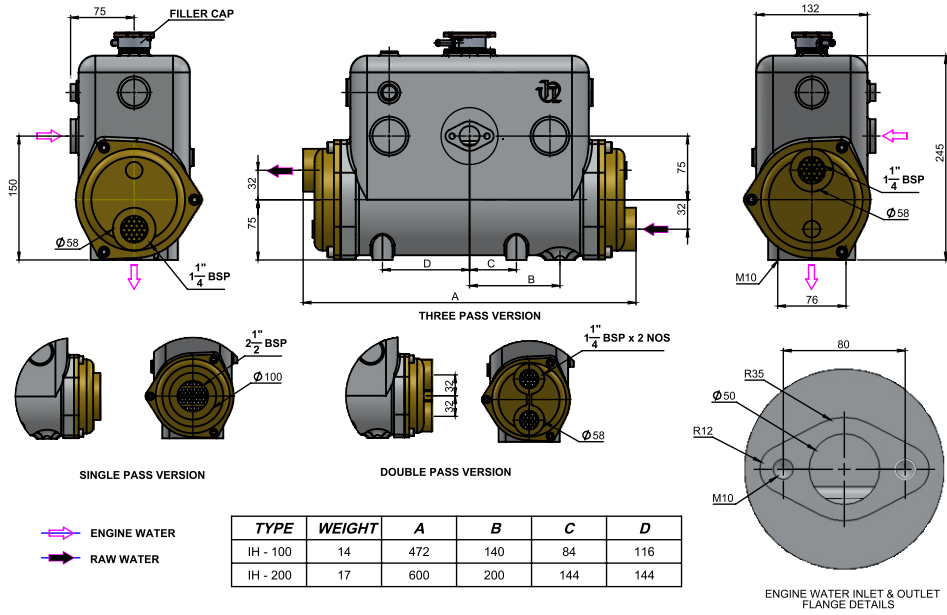
### BS - GH SERIES



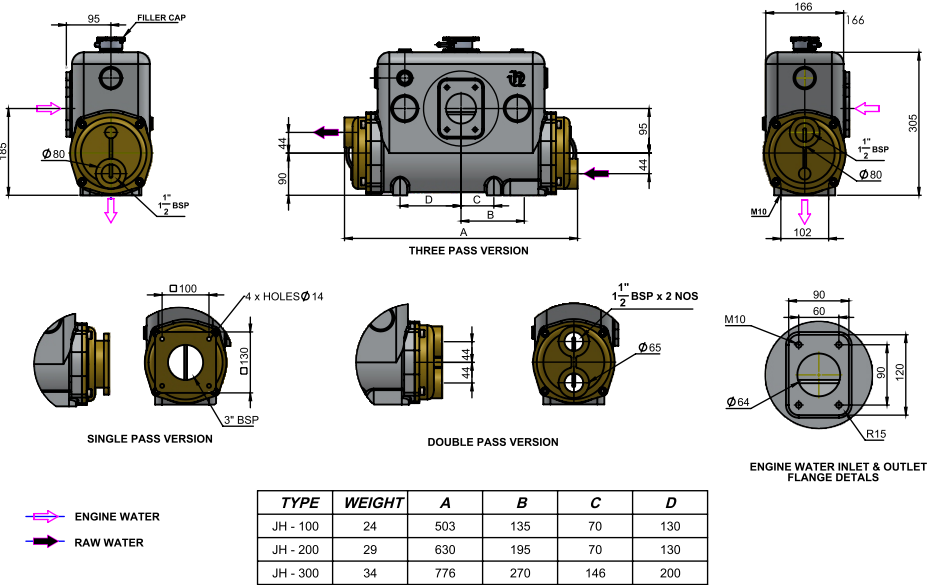
### BS - HH SERIES



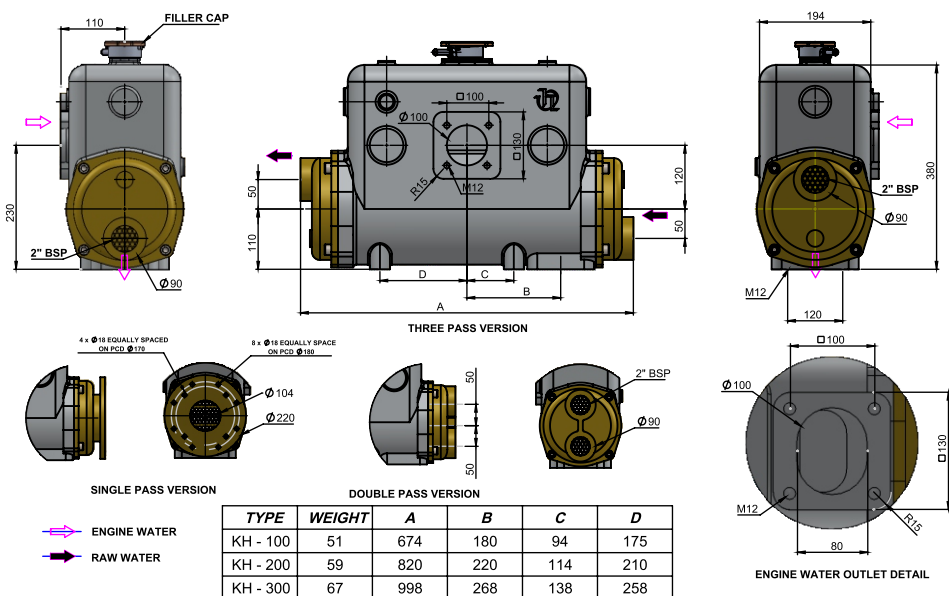
## BS - IH SERIES



## BS - JH SERIES

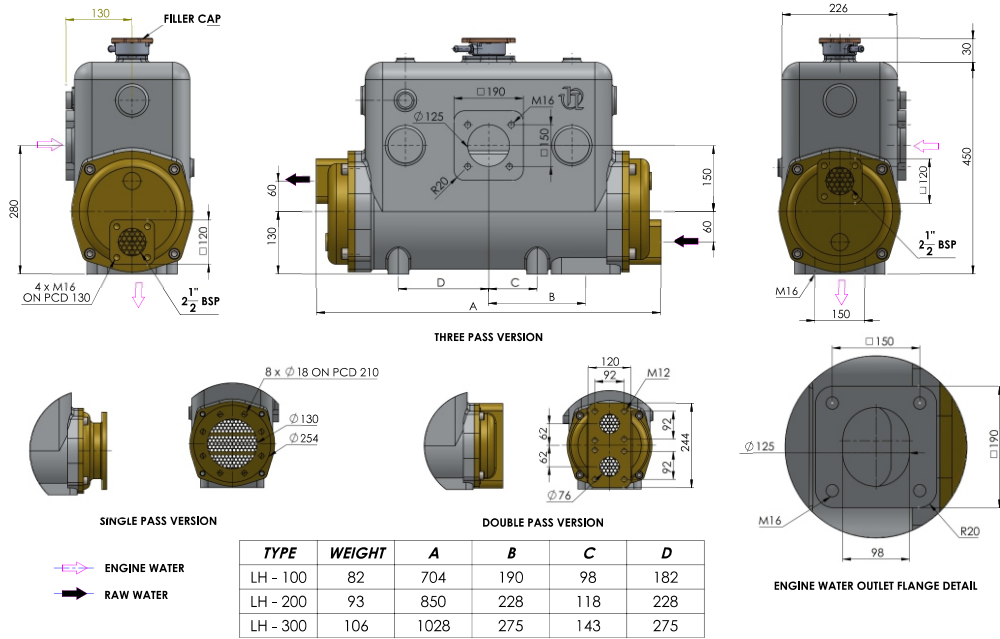


## BS - KH SERIES

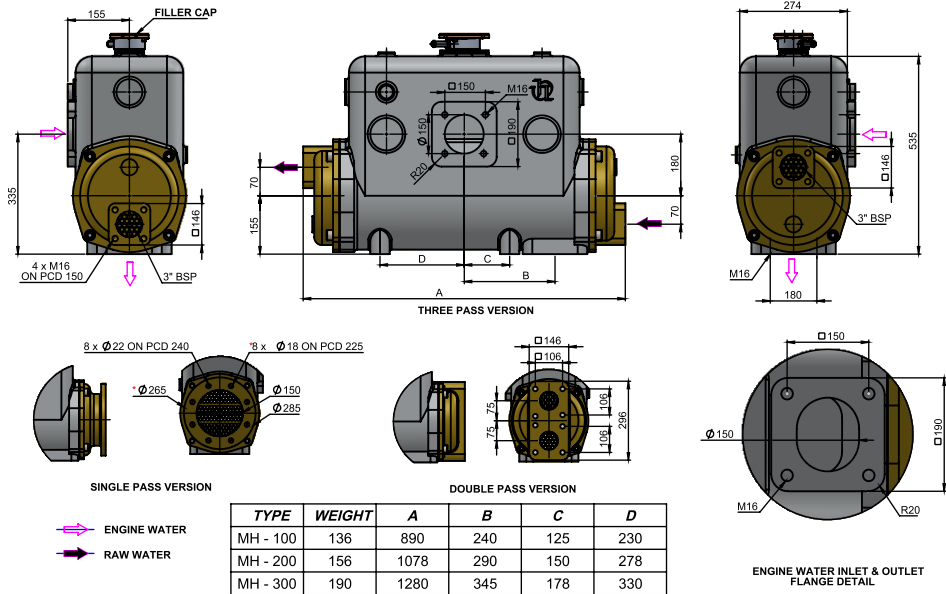




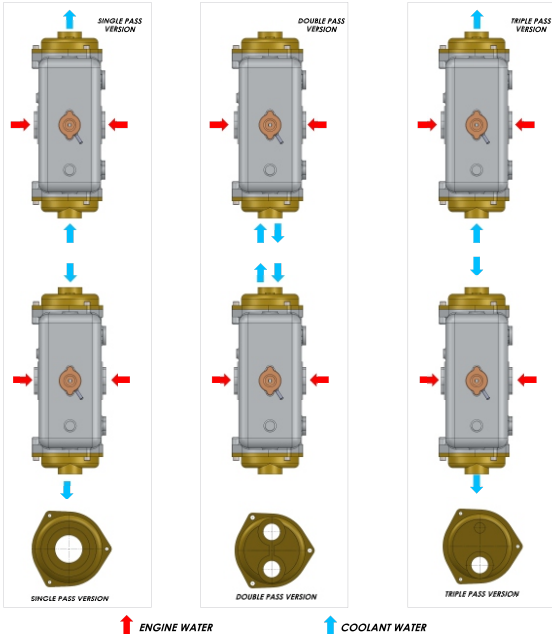
## BS - LH SERIES



## BS - MH SERIES



### SUITABLE FLEXIBLE CONNECTIONS (BENEFICIAL TO ENGINE...)



### Product Selection Method

We have developed software to make it easy to select the suitable model for your application. By supplying us with the following information we can advise the correct Header Tank Unit:

- ▣ Heat dissipation kW
- ▣ Engine water flow rate l/min
- ▣ Engine water temperature °C
- ▣ Cooling water temperature °C

## HOW TO ORDER

Our selection criteria based on following digit codes representing unique feature suitable for specific size and specification. Final part number should look like in the box given below:

**UHT BS-GH 100** **M** - **3** - **S** - **V**

Series	Length	Application	Coolant Pass	Connection	Seal
<b>UHT BS - GH 100</b> <b>UHT BS - GH 200</b>	Refer Pages 4, 5 & 6	`M` = Marine Based Version `L` = Land Based Version	1-Single Pass 2-Double Pass 3-Three Pass	S-Standard C-Customized	N-Nitrile V-Viton

## Design & Engineering

Thermal design is carried out to meet customer service requirements taking care of the following Constrains:-

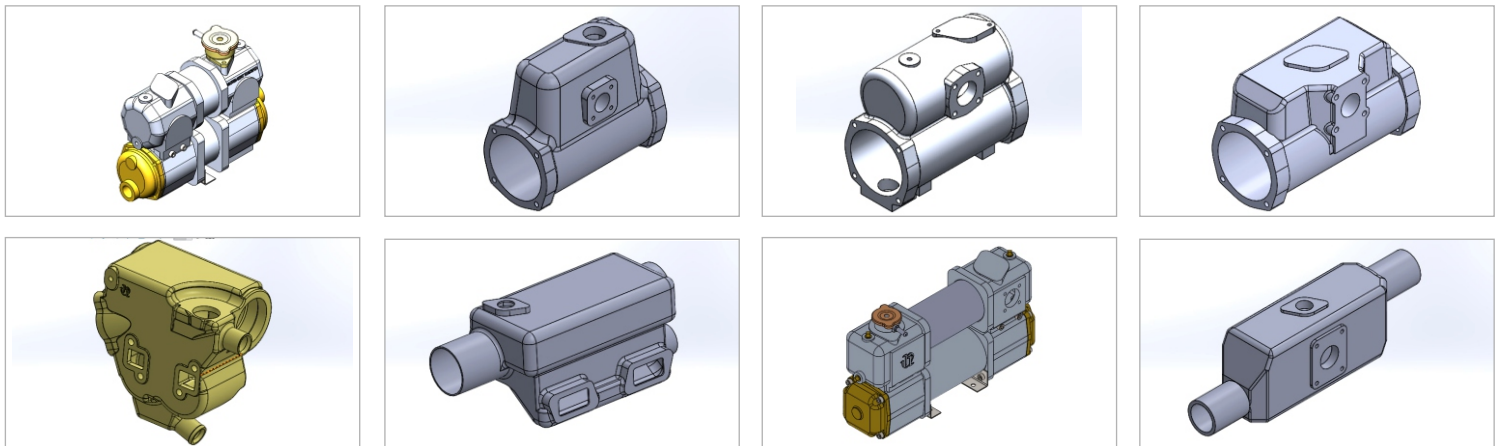
- ▣ Space Limitations
- ▣ Fouling From Operating Fluids
- ▣ Pressure Drop Limitations
- ▣ Flow induced vibrations
- ▣ Optimum Design
- ▣ Sea Water and Fresh Water Application



This is achieved by the Design Software "HTRI" which is part of our Design & Engineering Facilities. The availability of this software gives us tremendous engineering support in terms of:-

- ▣ Strong Database
- ▣ Quick Thermal Calculations
- ▣ Phase Change Graphs
- ▣ Vibrations Analysis

## Different Shapes As Per Requirement



## Installation, Maintenance & After Sales Service

- ▣ The Coolers may be installed horizontally but both fluids must circulate counter current flow.
- ▣ Our team is pleased to support the customer with sound problem analysis and operational improvements.

Consult your nearest distributor for complete operating and maintenance booklets if not received along with the product, alternatively download them from [www.unitedheat.com](http://www.unitedheat.com)

All rights reserved

M/S. United Heat Transfer Private Ltd. reserves the right to change specifications & technical data without prior notice.

## Quality Control & Assurance:

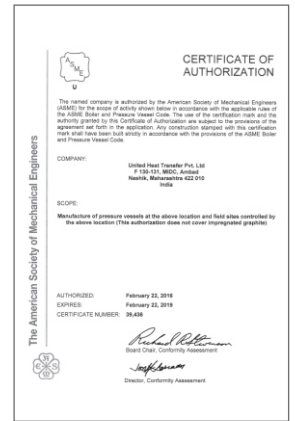
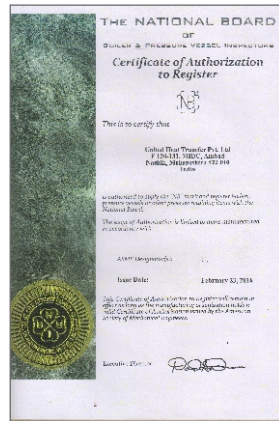
UHTPL has qualified & trained workforce which are committed to the quality requirements of the job. Frequent exposure to International codes, statutory requirements, customer requirements helps us to supply equipment with best quality. Our aim is to fulfil statutory as well as implied needs of the job.

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

## Certificates



 **United heat transfer pvt. ltd.**

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