



OUR PRODUCTS & SERVICES



AIR COOLED HEAT EXCHANGER (ACHE)

Designed to reject heat from a fluid directly to ambient air. Heat Exchange occurs on finned tube surfaces. Inlet and outlet header boxes feed the fluid into finned tubes. Finned tube bundles are set flat on a structure and they are blown by electrical fans and drives. The obvious advantage of ACHE is that it does not require water, thus plants requiring large cooling capabilities do not have to be located close to a supply of cooling water.

Type :

- > Induced Draft Type
- > Forced Draft Type
- > Natural Draft Type



SHELL AND TUBE HEAT EXCHANGER (STHE)

Shell And Tube Heat Exchanger are probably the most widely used in process industries. This type of heat exchanger provides comparatively large ratio of heat transfer area to volume and weight. It is easily to construct in various sizes and rugged to withstand normal fabrication stresses, shipping and field erection stresses, and normal operating conditions. Shell And Tube Heat Exchanger is easy to clean and most components subject to failure (tubes and gaskets) can be easily replaced.



PRESSURE VESSELS (PV), TANK AND PIPING

Used in many applications. They are designed in accordance with ASME Section VIII Div. 1 & 2 as well as B31. 1, B31. 3, B31. 8. For cases not covered by the code book, we use Finite Element Analysis.



PLATE HEAT EXCHANGER (PHE)

Designed to provide maximum efficiency in transferring heat from one liquid to another, or from steam to liquid. Consist of a series of gasketed, embossed metal platers arranged end frames to form channels through hot and cold media flow.

SKID PACKAGES

- > Fuel Gas Conditioning Package
- > Acid Removal Package (including Process Design Unit System)

SERVICES & MAINTENANCE

Mechanical Cleaning of STHE & ACHE including Thermal Re-rating.

TRADING

Spare parts supplier, tube, fan, forging, instrumentation, supply Plate Heat Exchanger.

TECHNOLOGY. INTEGRITY
SOLID TEAM WORK

MAKE DIFFERENCE

9 X 5.5cm

Product Air Cooled Heat Exchanger | Shell & Tube Heat Exchanger | Pressure Vessel | Plate Heat Exchanger

Services Heat transfer related calculation, design and development & troubleshooting | After Sales service by providing spare parts and special tools for heat exchangers



TECHNOLOGY
INTEGRITY
SOLID TEAM WORK
MAKE
DIFFERENCE



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WORKSHOP

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TURNING YOUR HEAT INTO VALUES

Established in August 8, 2005, PT. Waru Teknik Tama is specialized in heat transfer technology. We design and supply heat transfer equipment and other process equipment. Heat transfer technology applies to various industrial sectors such as oil and gas, petrochemical, energy, and many others.

In February 1, 2006, we become the member of Heat Transfer Research Institute (HTRI) member. To gain effective process and cost, we built our own workshop in 2009 to assembly parts and components of our products. In accordance with professional services and warranties, we've been certified as U, S and R Stamp Certificate and ISO 9001:2008 Certificate holder.

PT. Waru Teknik Tama maintain an effective and efficient quality management system that delivers product meeting customer's quality expectations and need whilst remaining competitive.

Vision

To be a leading designer & supplier of process equipment with technology, talent and teamwork to achieve quality above client expectation and making use of national capabilities.

Mission

We provide process equipment specifically heat transfer equipment and pressure vessels to accomplish highest degree of client satisfaction. We always advance our engineering and manufacturing capabilities of heat exchanger and pressure vessels to support oil and gas, petrochemical, process and power generation industries in the country and regional areas. We strive for creating values added for all stake holders.

Values

- Having integrity in all business conducts.
- Advancing knowledge through learning organization.
- Valuing diversity, unit and respecting of one another in teamwork for excellent.

TECHNOLOGY, EXPERIENCE AND EFFECTIVE DESIGN TOOLS RESULT IN COST EFFECTIVE DESIGN.



Our in-house design facilities are able to produce calculations and drawings to provide safe and cost effective solutions. HTRI Exchanger Suite for thermal design, rating and simulation of air-cooled heat exchangers and shell & tube heat exchanger.

Codeware Compress and Microprotol for Windows is the recognized software for mechanical design of pressure vessels and shell & tube heat exchanger in accordance with ASME BPV Section VIII. Div. 1 & 2, including TEMA & ASME UHX. Excel Spreadsheet for mechanical design of header boxes of air-cooled heat exchangers in accordance with ASME BPV Section VIII Div. 1 Appendix 13.

QUALITY STANDARDS & CERTIFICATION



Our business policies include safety, health and environment standards thereby ensuring good practices into all project activities. We encourage employee participation in and contribution to the establishment and implementation of safe working practices. All employees are required to accept their individual responsibility to maintain health and safe system of work.

We are committed to deliver high quality products and service to our customers. We use written procedures to define, at every stage, the full range of design and fabrication ensuring the final quality of products. Our workmanship is without compromise.

CERTIFICATIONS

- THE NATIONAL BOARD OF BOILER & PRESSURE VESSEL INSPECTORS (NB)
- THE NATIONAL BOARD OF BOILER & PRESSURE VESSEL INSPECTORS (R)
- ISO 9001-2008 QUALITY MANAGEMENT SYSTEM
- THE AMERICAN SOCIETY OF MECHANICAL ENGINEER (U & S)
- HEAT TRANSFER RESEARCH INSTITUTE (HTRI) MEMBER

CODES & STANDARDS

- PRESSURE VESSEL : ASME Section VIII Div. 1&2, PD 5500
- AIR COOLED HEAT : API 661, ASME Section VIII Div. 1 EXCHANGER
- SHELL & TUBE HEAT EXCHANGER : TEMA, API 660, ASME Section VIII, Div. 1&2
- STORAGE TANK : API 650, API 620, AWWA D100
- PIPING SYSTEM : ASME Section I, ASME B31.3, B31.4, ASME B31.8
- CONDENSOR LP HEATER, HP HEATER, DEAERATOR : HEI (Heat Exchanger Institute)

TECHNOLOGY
INTEGRITY
SOLID TEAM WORK
MAKE DIFFERENCE.



DESIGN AND TECHNICAL ACTIVITIES

The company has been involved in many projects in the country and overseas with specialization in heat transfer technology, with coverage service area : design and supply heat transfer equipment and other process equipment. Heat transfer technology applies to various industrial sectors such as oil & gas, petrochemical, energy, and many others. We aim to resolve our clients' problems of heat transfer equipment, with experiences in **debottlenecking**, troubleshooting and revamping of heat exchangers.

Our technical support services including:

- Field Troubleshooting
- Heat Transfer Related Calculation, Design and Development
- After Sales Service by providing Spare Parts and Special Tools for Heat Exchangers

ACTIVITIES :

- Basic Design of Heat Transfer Equipment using the latest version of HTRI.
- Mechanical Design in accordance with ASME BPV Section VIII Division 1 & Division 2, API 661, API 660, TEMA, ASME B31.3, B31.4 and B31.8.
- Structural Design in accordance with AISC.
- Field Trouble Shooting and Technical Support Service.
- Joint Operation with Local Manufacturer to supply and fabricate Heat Transfer Equipment, Pressure Vessels, Process Skid & Piping.
- Acting as a manufacturer's representative organization specializing in equipment for the process industries. These industries are primary oil refinery, gas processing, petrochemical industries, as well as the many engineering firm which serve these industries.
- Revamping or refurbishing of existing equipment.
- Inspection Services.
- Maintaining a world wide availability of spare part and special tool for Heat Exchangers and Pressure Vessels, from other manufacturers.
- A representative of Leader Heat Exchanger (LHE) for Plate Heat Exchanger (PHE) and Welded Plate Heat Exchanger (WPHE) products in Indonesia market, including provide various types and wide range of Plate Heat Exchanger Applications.



We maintain an effective and efficient Quality Management System that delivers product meeting customer's quality expectations and needs whilst remaining competitive.

WORKSHOP & FACILITIES



- ✓ ASME Certified
- ✓ Covered area 1,600 sq-m
- ✓ Open Area 4,400 sq-m
- ✓ Capacity of 780T/year

MODIFIED AND SELF-ENGINEERED MACHINE TO OPTIMIZE ACHE FABRICATION



External Welding SAW



Internal Welding SAW



Rolling for Profile



Hydrotest Machine



Electrode Oven



Noise Level

Thickness Gauge



Animo Meter



Vibration Meter

QA/QC TOOL TO ASSURE QUALITY OF PRODUCT

Equipments fabricated as required by Code & QA system, using in-house production facilities, operated by qualified man power, safety concerned process and performance guaranteed.

PROJECT EXPERIENCES

ACHE: Jambi-Merang



ACHE: Plaju-Palembang



Air Cooled Heat Exchanger, Forced Draft

Size : 4.4m W x 9.2m L and 2.8m W x 6.1m W
Material : SA240 S31803
Project : SWS Project PT Pertamina (Persero) RU-II (Oil & Gas, Onshore, Plaju)
Scope : Design, Procurement, Fabrication, Supervision for Commissioning

Air Cooled Heat Exchanger, Forced Draft

Material : SA 516-70, SA213-316L
Project : Jambi Merang Gas Development Project (Oil & Gas, Jambi)
Scope : Design, Procurement, Fabrication



ACHE: East Java

Air Cooled Heat Exchanger, Forced Draft

Size : 15.7' W x 29.2'
Material : SA516-70
Project : 40 MMSCFD LPG Extraction Plant (Oil & Gas, OnShore, East Java)
Scope : Design, Procurement, Fabrication, Delivery, Installation, Commissioning

PROJECT EXPERIENCES

ACHE: East Java

Air Cooled Heat Exchanger, Induced & Forced Draft

Size : 3820 W x 9400 L
Material : SA 516-70, SA213-304
Project : Revamping Project (Petrochemical, East Java)
Scope : Design, Procurement, Fabrication, Delivery, Installation



ACHE: East Java

Air Cooled Heat Exchanger, Forced Draft

Size : 4517 W x 9144 L
Material : SA516-70
Project : Kodeco Poleng Booster Compressor PPP Platform (Oil & Gas, Offshore, East Java)
Scope : Design, Procurement, Fabrication, Delivery, Offshore Installation



ACHE: West Java

Air Cooled Heat Exchanger, Forced Draft

Size : 3100 W x 6700 L
Material : SA213-304
Project : Krakatau Daya Listrik Power Plant (Power Plant, West Java)
Scope : Design, Procurement, Fabrication, Supervision for Commissioning



PROJECT EXPERIENCES



STHE: Petronas, Malaysia

Desalter Water Effluent Cooler

Size : TEMA R-AES, 760 ID x 6096 mm L
Material : SA387GR5CL2
Project : HSFO Blending Project, Petronas Penapisan Melaka, Sdn Bhd (Petronas, Malaysia)
Scope : Design, Procurement, Fabrication

STHE: Tambak Lorok, Mid Java



CNG Cooler

Size : TEMA R-CEU, 18in OD x 5000mm T/T
Design : 263 bar
Pressure :
Material : SA106-B
Project : Compressed Natural Gas Tambak Lorok, Semarang (Power Plant, Mid Java)
Scope : Design, Procurement, Fabrication, Delivery



STHE: Jambi Merang

CNG Cooler

Size : TEMA R-AKU, AJU, 1371.6 ID x 6096 L
Design : 263 bar
Material : SA 516-70, SA213-316L
Project : Jambi Merang Gas Development Project (Oil & Gas, Jambi)
Scope : Design, Procurement, Fabrication

PROJECT EXPERIENCES

Reformer Feed PreHeating Coil

Material : 253 MA
MAWP : 31,5 bar
Operating : 1,077 deg C
Temperature :
Project : Replacement of Reformer Unit (Petrochemical, East Java)
Scope : Design, Procurement, Fabrication, Installation



REFORMER: Gresik, East Java

DEAERATOR: South Sulawesi



Deaerator & Storage Tank

Weight : 8,000 kg
Material : SA 516-70
Project : ST1102-Block #2 STG28 1x60MW Expansion Project (Power Plant, South Sulawesi)
Scope : Design, Procurement, Fabrication (ASME U-Stamp)

PV: Semarang, Mid Java



Gas Scrubber, Air Separator, Sump Tank, Vent Stack

Weight : 1,200 kg
Material : SA 516-70
Project : Compressed Natural Gas Tambak Lorok, Semarang (Power Plant, Mid Java)
Scope : Design, Procurement, Fabrication, Delivery

PV: Petronas, Malaysia



TMA Catchpot & Resin Trap

Weight : 8,074 kg
Material : SA516-70
Project : TMA Catchpot and Ion Exchange Resin, Petronas Methanol Labuan Sdn Bhd (Petronas, Malaysia)
Scope : Design, Procurement, Fabrication, Commissioning