

TECHNOLOGY. INTEGRITY

9 X 5.5cm

SOLID TEAM WORK

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.

- > 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 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



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.



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

SERVICES & MAINTENANCE

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

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



PT. WARU TEKNIKATAMA

COMPANY PROFILE

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





PT. WARU TEKNIKATAMA

HEAD OFFICE

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TURNING YOUR HEAT INTO VALUES

Established in August 8, 2005, PT. Waru Teknika 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

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

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.

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 changer Suite for thermal design, rating and simulation of aircooled 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 ith ASME BPV Section VIII Div. 1 Appendix 13.

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 : TEMA, API 660, ASME Section VIII, Div. 1&2 HEAT EXCHANGER
- STORAGE TANK : API 650, API 620, AWWA D100
- PIPING SYSTEM : ASME Section I, ASME B31.3, B31.4, ASME B31.8
- CONDENSOR : HEI (Heat Exchanger Institute) LP HEATER. HP HEATER.

DEAERATOR



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.



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















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.

Thickness Gau



ACHE: Plaju-Palembang

Air Cooled Heat Exchanger, Forced Draft

: 4.4m W x 9.2m L and 2.8m W x 6.1m W Size

Material : SA240 S31803

Project SWS Project PT Pertamina (Persero) RU-II

(Oil & Gas, Onshore, Plaju) : Design, Procurement, Fabrication, Supervision for Scope

Commissioning

Air Cooled Heat Exchanger, Forced Draft

: SA 516-70, SA213-316L

: Jambi Merang Gas Development Project (Oil & Gas, Jambi) : Design, Procurement, Fabrication Project

Scope



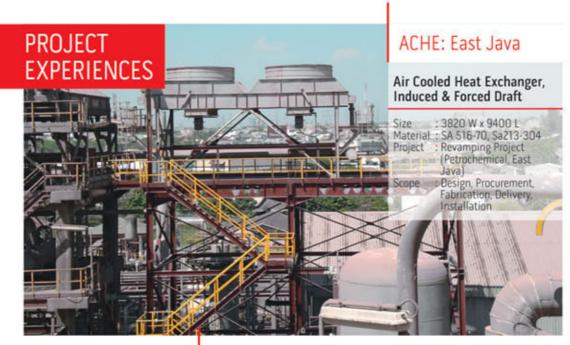
Air Cooled Heat Exchanger, Forced Draft

Material

Scope

: 15.7' W x 29.2' : SA516-70 : 40 MMSCFD LPG Extraction Plant (Oil & Gas, Project

OnShore, East Java) : Design, Procurement, Fabrication, Delivery, Installation, Commissioning













Reformer Feed PreHeating Coil

PROJECT EXPERIENCES

: 253 MA : 31,5 bar Material MAWP Operating: 1,077 deg C

Temperature
Project : Replacement of
Reformer Unit (Petrochemical, East Java)

: Design, Procurement, Fabrication, Installation



REFORMER: Gresik, East Java



Deaerator & Storage Tank

: 8,000 kg : SA 516-70 : ST1102-Block #2 Weight Material Project

STG28 1x60MW Expansion Project (Power Plant, South Sulawesi)

: Design, Procurement, Fabrication (ASME U-Stamp)

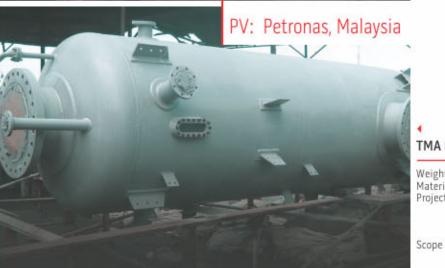


Gas Scrubber, Air Separator, Sump Tank, Vent Stack

Weight Material : 1,200 kg : SA 516-70

Project : Compressed Natural Gas Tambak Lorok, Semarang

(Power Plant, Mid Java) : Design, Procurement, Fabrication, Delivery



TMA Catchpot & Resin Trap

Material

: 8,074 kg : SA516-70 : TMA Catchpot and Ion Exchange Resin, Petronas Methanol Labuar Sdn Bhd

(Petronas, Malaysia) : Design, Procurement, Fabrication, Commissioning