



T E R I A K
G R O U P

Credentials

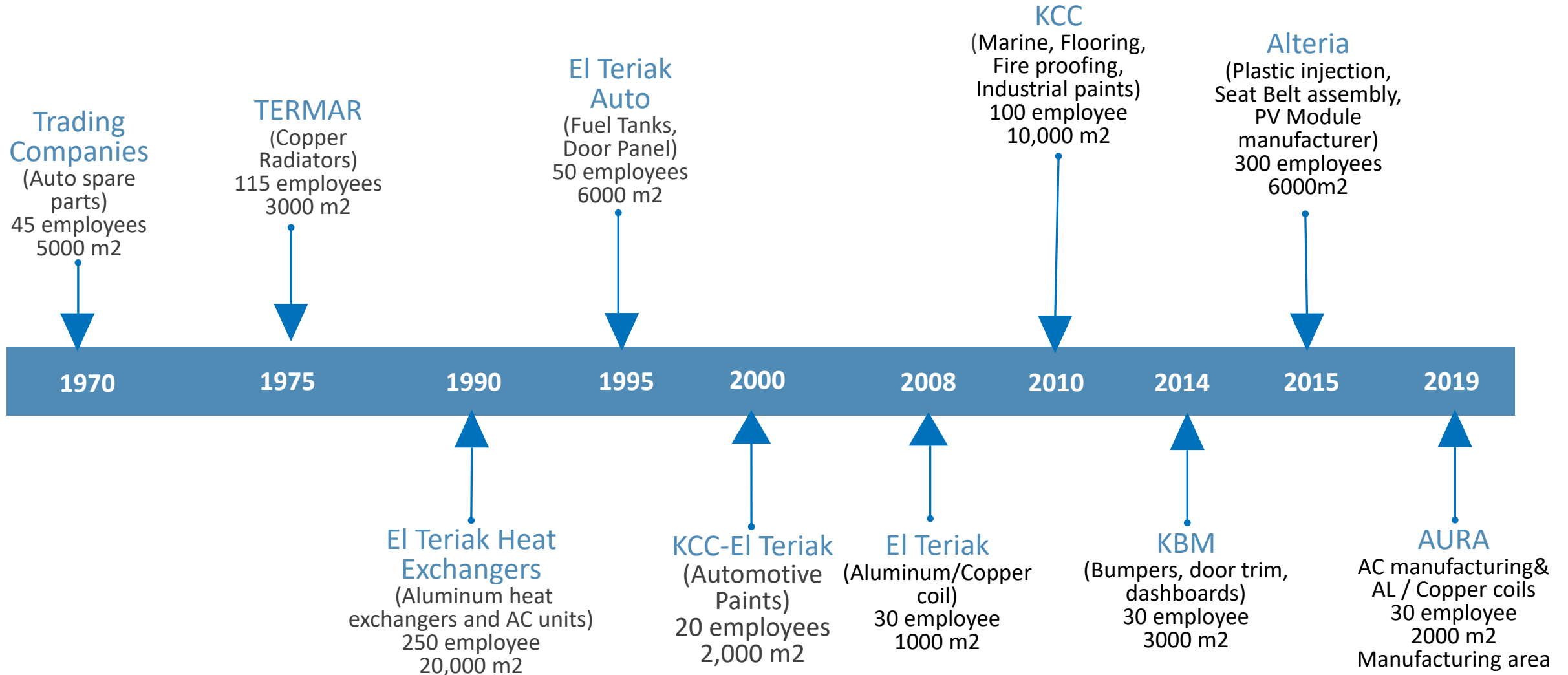
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About Us



Timeline



Teriak Group in brief

Teriak Group is a pioneer in the field of manufacturing automotive parts in Egypt and Middle East.

Establishment Year: 1975

Overall Investment: 80 Million Dollars

Annual Turnover: 130 Million Dollars

Total Area: Teriak Group's manufacturing facilities are composed of 6 plants that are located in 6th October City.

The total land area is 115,000 m² and an extension land of 30,000 m² for future expansions.

Labor: 1100 Employees

About Us

Business Units

The group covers a wide range of industries; El Teriak Heat exchangers for the production of high quality heat exchangers, El Teriak Paints for OEM automotive paints, Alteria Plastics for OEM plastic components injection, Ter-AutoSteel for steel stamping and chassis assembly. AutoSteel for steel stamping and chassis assembly, TERCAST for the production of aluminum ingots and die casting, and Sonnenstarke Solar for the production of solar panels and solar streetlights.

- Radiator, Condenser, Oil Cooler and Air Cooler
- HVAC
- Fuel Tanks
- Chassis Plant
- Paints
- Plastic Injection
- Sheet Metal processing and forming
- AC manufacturing & AL / Copper coils

Our Clients

Automotive sector



NISSAN



Our Clients

Cooling sector

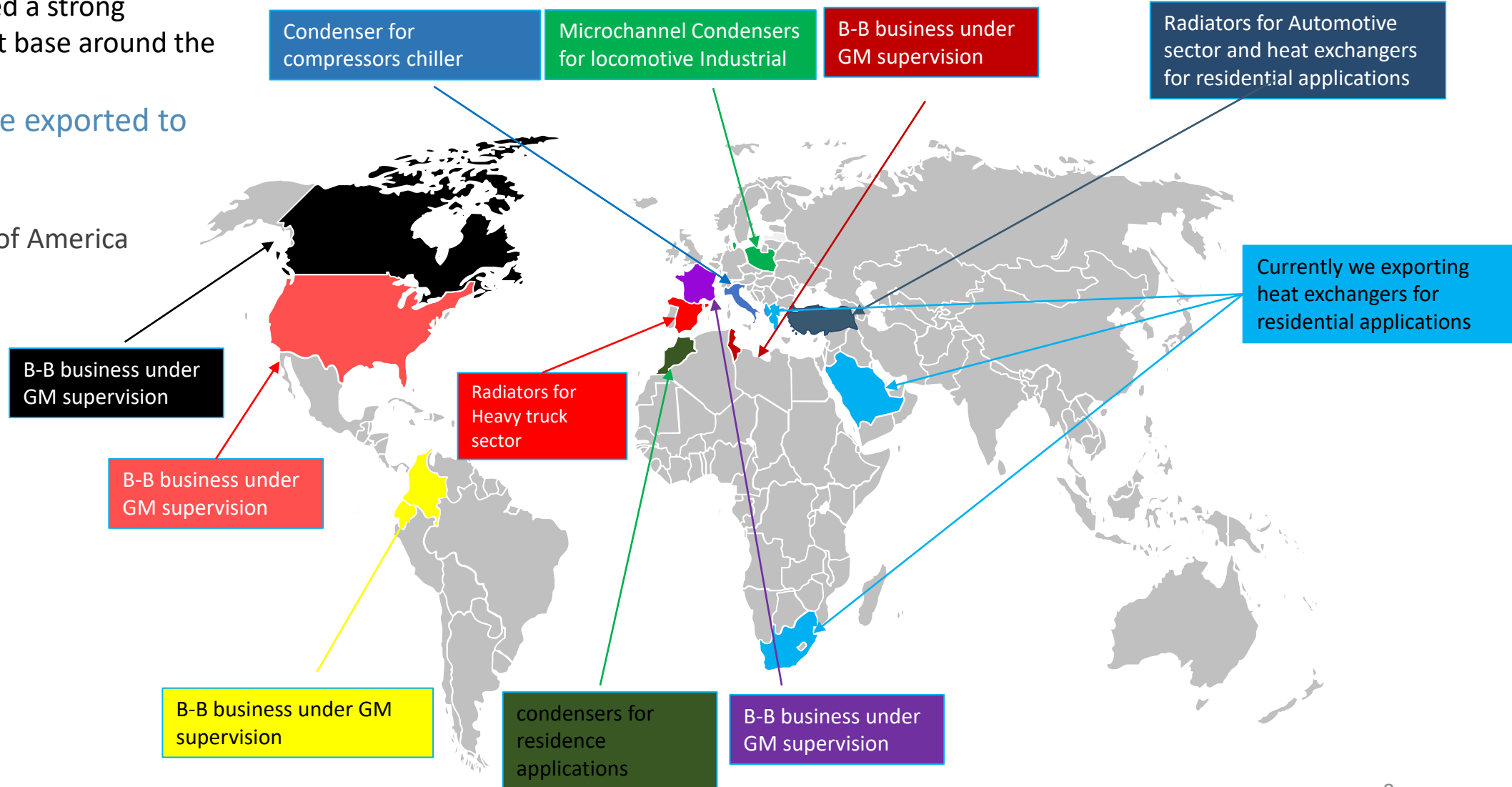


Export markets

Over the past 30 years, Teriak Group has successfully created a strong international client base around the globe.

Countries we have exported to

- Germany
- Canada
- United States of America
- Ecuador
- Colombia
- Spain
- France
- Denmark
- Italy
- Saudi Arabia
- Morocco
- Tunisia
- Greece
- South Africa
- Turkey



Automotive Heat Exchangers

Radiator

- Teriak Group supplies OEM Brass/aluminum radiators for trucks, buses, military vehicles and tractors.
- No louver fin radiators for heavy duty equipment and vehicles to withstand the harshest environments and the ease to clean.



Automotive



Tractors/Heavy
duty trucks



Military/Industrial



Forklift/ Buses

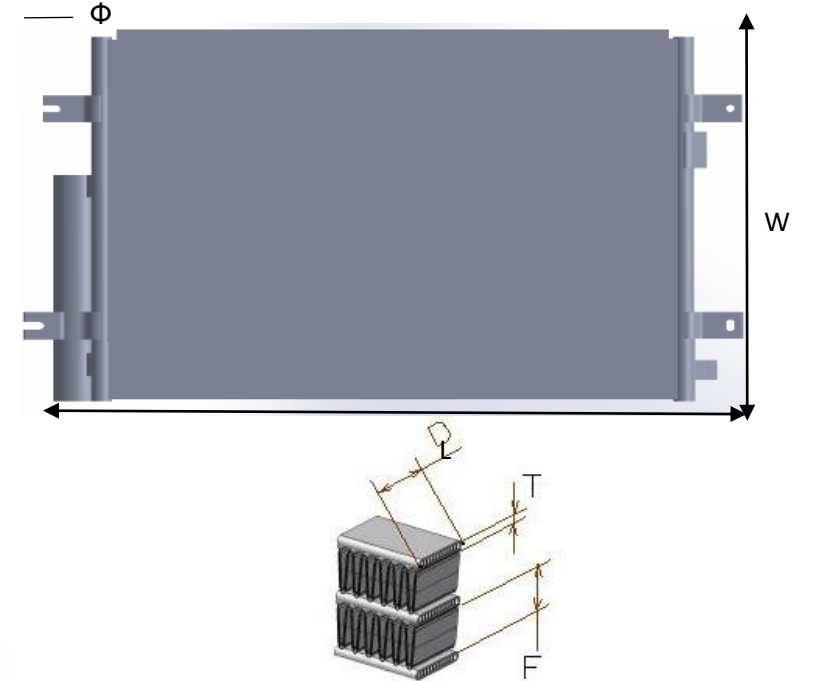
Automotive Heat Exchangers

Condenser

Teriak Groups design and replace a wide range of OEM automotive, locomotive and marine micro-channels condensers.

Applications:

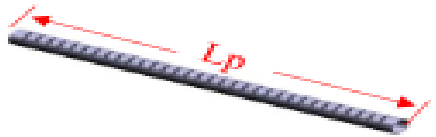
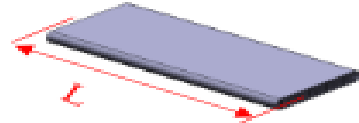
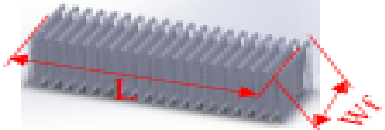
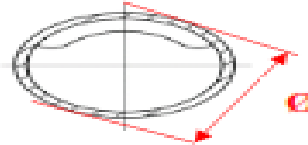
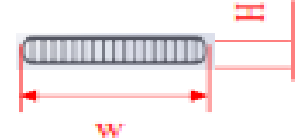

- Automotive
- Heavy duty
- Tractors
- Refrigerated containers
- Military
- Forklift
- Generators



Micro-channel pattern

Condenser

Micro-channel specs & sizes

| Header Pipe | Micro-channel tube | Fin |
|---|---|---|
|  |  |  |
|  |  |  |

| Size | Max Lp | Ø | W | H | W | H | Length (mm) |
|------|--------|----|------|------|------|-----|---------------|
| 1 | 800 | 30 | 25.5 | 1.2 | 25.5 | 8.2 | unit length |
| 2 | 490 | 25 | 20 | 2 | 20 | 6 | unit length |
| 3 | 796.6 | 20 | 16 | 1.8 | 16 | 8 | unit length |
| 4 | 500 | 20 | 16 | 1.75 | 16 | 8.2 | unit length |
| 5 | 407 | 20 | 16 | 2 | 16 | 7.8 | unit length |
| 6 | 420 | 16 | 12 | 1.8 | 12 | 8 | unit length |
| 7 | 750 | 38 | 25.4 | 2 | 25.4 | 8 | unit length |
| 8 | 750 | 30 | 25.4 | 1.3 | 25.4 | 8 | unit length |

Commercial and Industrial Heat Exchangers



Commercial and Industrial Heat Exchangers

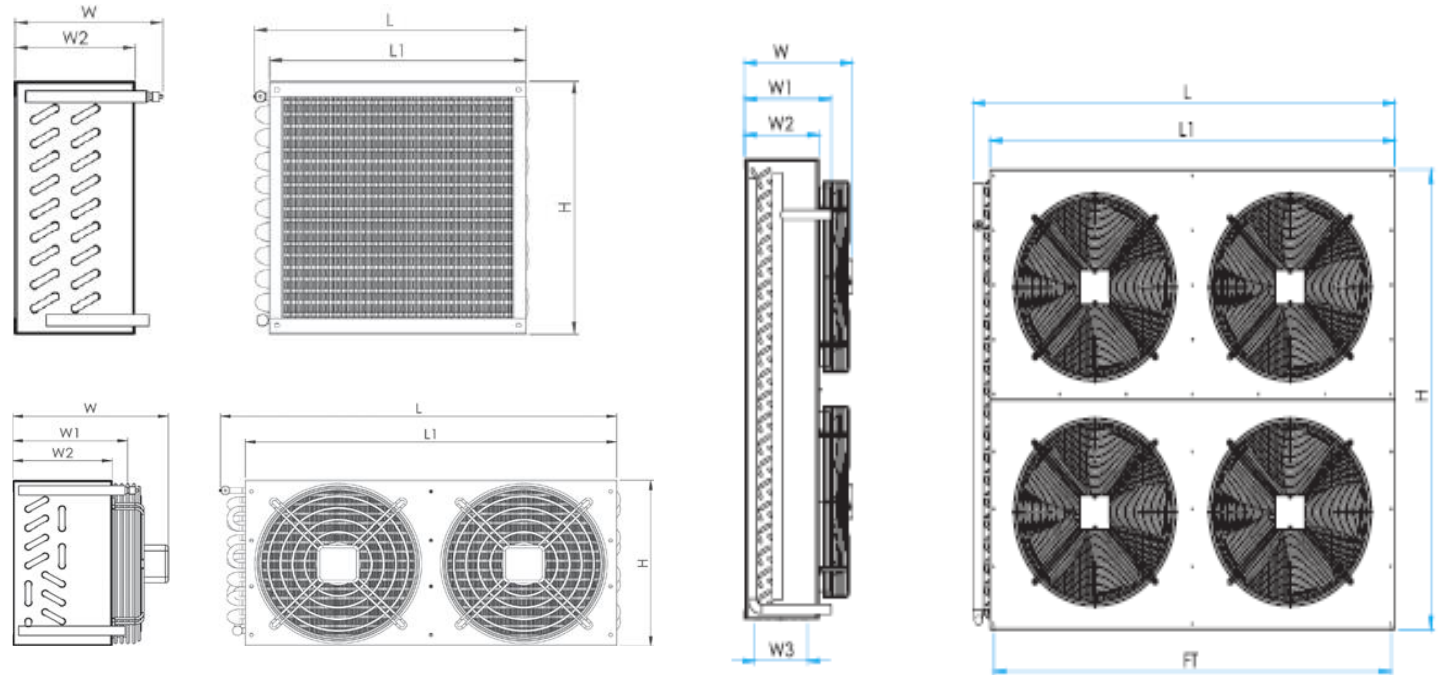
- Teriak Group is a leading of OEM automotive heat exchangers, HVAC systems and OEM components supplier to major auto makers and home appliances assemblers throughout the MENA region.
- With over than 30 years of experience Teriak Group delivers a product of excellence in a timely manner. With the support of the latest machinery, a rigid quality system and a state of the art laboratory, Teriak Group can design and replace a wide range of heat exchangers.



Fin And Tube Heat Exchangers

Capabilities

- Patten: Staggered
 - 25.4mm Tube Distance X 22mm Row Distance
- Copper Pipe:
 - 3/8inch, 5 mm, and 7 mm Outer Diameter
 - Thicknesses (0.28mm and 0.41mm)
- Corrugated Aluminum Fin:
 - Bare (Thicknesses 0.12mm, 0.15mm and 0.18mm)
 - Hydrophilic (Thicknesses 0.12mm and 0.18mm)
 - Golden Fin (0.12mm)
- Sheet Metal
 - Galvanized Steel (From 0.7mm up to 3mm Thk.)
 - Aluminum (1mm Thk.)
- Silver Brazing with Gas Flux
 - 0% Silver Brazing Rods
 - 5% Silver Brazing Rods
 - 20% Silver Brazing Rods



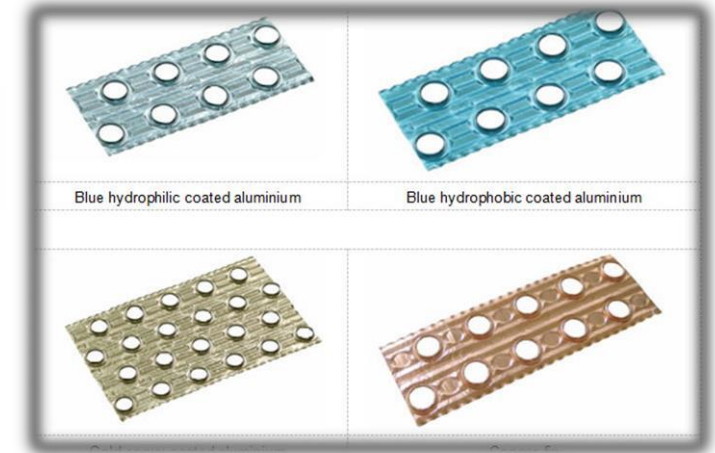
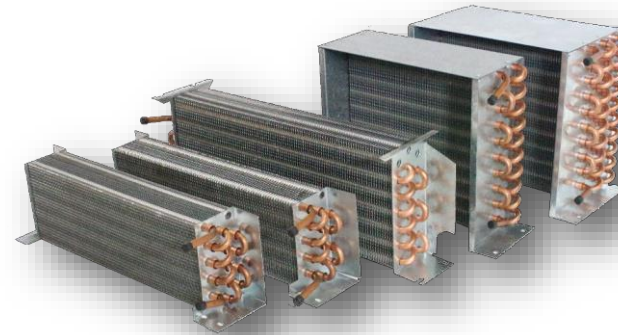
| | Minimum | Maximum |
|---------------|---------|---------|
| No. Of Rows | 2 | 12 |
| Core Length | 15cm | 2m |
| Fins Per Inch | 6FPI | 12FPI |

Copper/ Aluminum Heat Exchangers

Condenser and Evaporator coils

Teriak Group supplies condenser and evaporator coils to major air-conditioning and refrigeration companies.

Our fin and tube condensers and evaporators are known for their reliability and quality.



- Pipes specifications:

Material: Round copper pipes

Size: 9.52 mm 3/8", 5 mm, and 7 mm diameter

Types: inner groove or standard

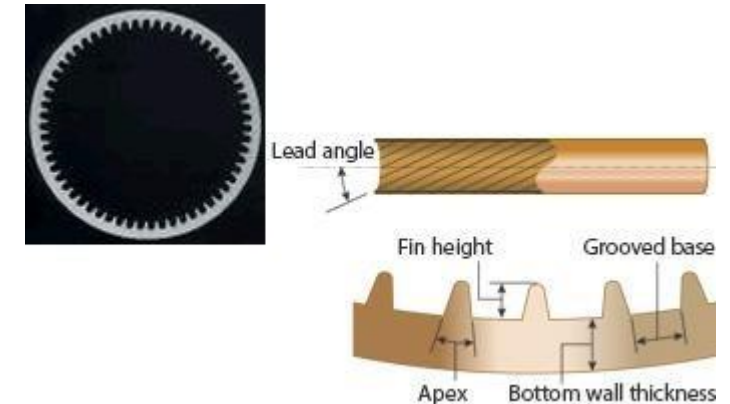
- Fins specifications:

Material: Aluminum

Size: according to client

Types: Corrugated, louvered or flat

Treatment options: Hydrophilic or standard



Copper/ Aluminum Heat Exchangers

Condenser coil for HVAC & R

Tubes:

- Copper
- 9.52 mm 3/8", 5 mm, and 7 mm
- Smooth, thick-walled and inner Grooved
- Connection to several circuits available

Fins:

- Aluminum
- Hydrophilic
- Golden Al

Applications:

- Remote condensers
- Condensing units
- Close control AC
- Showcases
- Display cases
- Bottle coolers
- Milk tanks
- Transportation AC and refrigeration



Offered Solutions:

- Straight coils integrated fan shrouds for axial fans
- Pre-coated epoxy (gold) or blue (hydrophilic) fin material is available
- Different approach of plain, corrugated or louvered fin profiles
- Smooth tube, inner grooved tube for condensing application
- An optimum solution of the system condenser coil - fan can be achieved through our selection program (Unilab).

Copper/ Aluminum Heat Exchangers

Evaporator coil for HVAC & R

Tubes:

- Copper
- 9.52 mm 3/8", 5 mm, and 7mm
- Smooth, thick-walled and inner Grooved
- Connection to several circuits available

Fins:

- Aluminum
- Hydrophilic
- Golden AL

Applications:

- Close control AC
- Rooftops
- Air-handling units
- Fan-coils
- Ducted systems
- Air curtains and transportation AC
- Bottle coolers
- Chillers



Offered Solutions:

- Straight coils integrated fan shrouds for axial and centrifugal fans
- Smooth or inner grooved tube with wall different diameters and thickness
- Different approach of plain, corrugated or louvered fin profiles
- Pre-coated epoxy (gold) or blue (hydrophilic) fin material is available
- Up to of 4.1 mm fin spacing
- An optimum solution of the system of evaporator coil-fan can be achieved through our selection program (Unilab), including the design of the refrigerant distributor

Copper/ Aluminum Heat Exchangers

Industrial coil

Tubes:

- Copper
- 9.52 mm 3/8"
- Smooth, thick-walled and inner Grooved
- Connection to several circuits available
- Up to 15 m long fin surface

Fins:

- Aluminum
- Hydrophilic
- Epoxy coated

Applications:

- Oil coolers for hydraulic systems
- Water and liquid coolers for industry and power plants etc.

Casing Material:

- Thick. 1 – 3 mm
- Galvanized steel
- Aluminum
- Stainless steel - Copper



Copper/ Aluminum Heat Exchangers

Water and Glycol coil

Tubes:

- Copper
- 9.52 mm 3/8"
- Smooth, thick-walled and inner Grooved
- Connection to several circuits available
- Up to 15 m long fin surface

Fins:

- Aluminum
- Hydrophilic
- Epoxy coated

End Fittings:

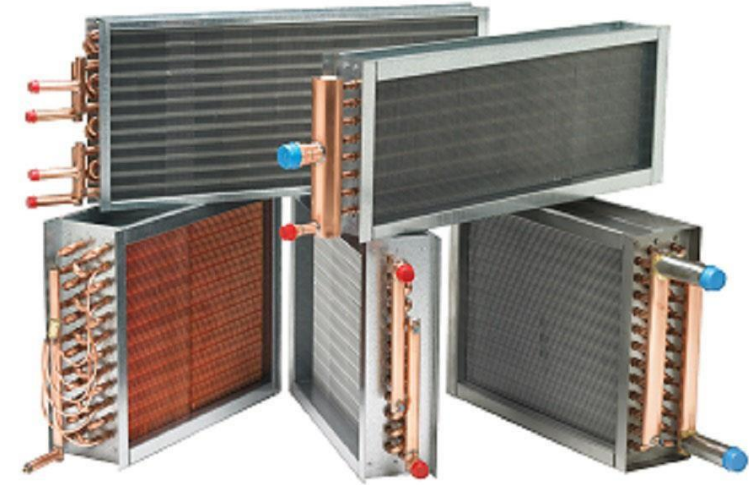
- A wide range of end fittings (male/female)
- Brass or steel design
- Union nut
- Flanges

Applications:

- Unit heaters
- Fan coils
- Convectors
- Air handling units
- Ducted systems
- Cold beams
- Chillers
- Glycol heat recuperation circuits etc.
-

Offered Solution:

- Vertical, horizontal or inclined positions of the connection
- Coils with horizontal or vertical headers
- The standard circuiting ensures correct drain and purge
- Our selection program (Unilab) allows the customer to design
- The correct circuiting and selection the optimum connection size



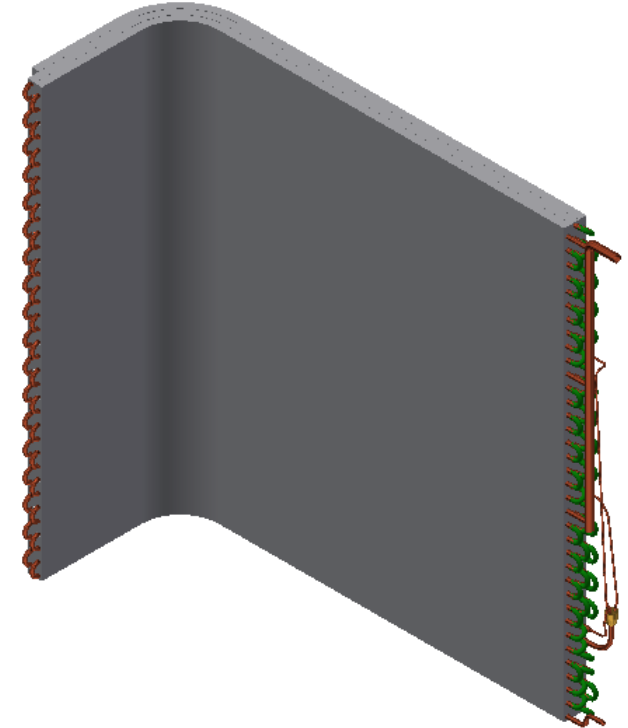
Fin And Tube Heat Exchangers For Residential AC

Capabilities

- Patten: Staggered
 - Φ 7mm, 21mm Tube Distance X 13.37mm Row Distance
 - Φ 5mm, 19.5mm Tube Distance X 11.6mm Row Distance

- Copper Pipe:
 - Inner grooved 7mm Outer Diameter
 - Inner grooved 5mm Outer Diameter

- Corrugated Aluminum Fin:
 - Golden Louvered Fin (0.095mm)

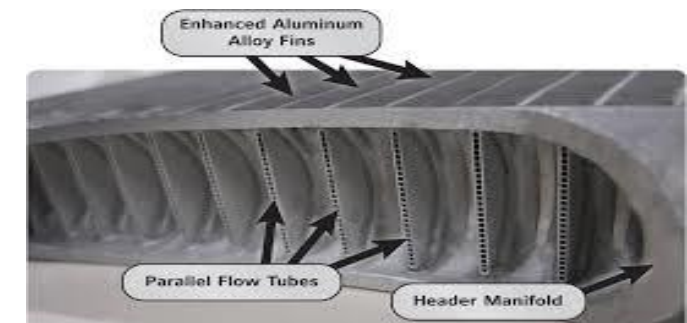
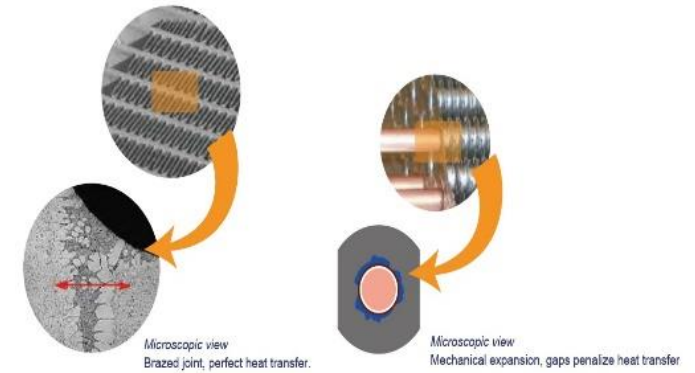
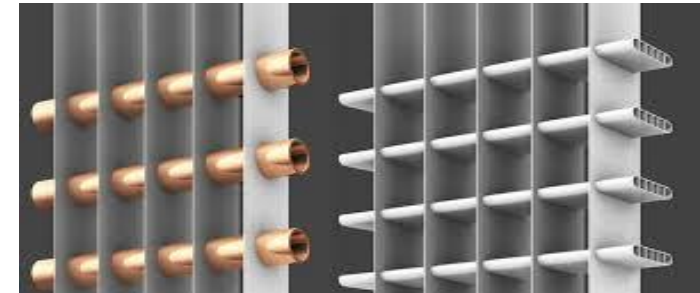


| | 7mm | 5mm |
|---------------|---------|---------|
| No. Of Rows | 3 (max) | 4(max) |
| Core Length | 160 cm | 160 cm |
| Fins Per Inch | 17~23 | 17~19.5 |

Micro-Channel Heat Exchangers Benefits

Benefits of migrating to Micro-channel

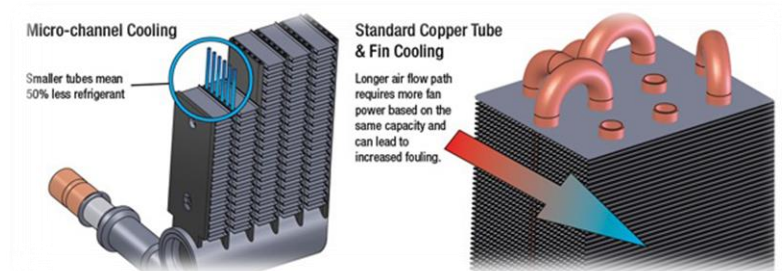
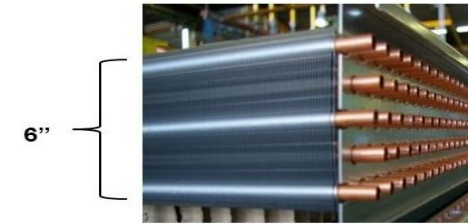
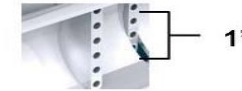
- 30% higher heat efficiency
- No galvanized corrosion
- No formicary corrosion



Micro-Channel Heat Exchangers Benefits

Benefits of migrating to Micro-channel

- 50% reduction in weight
- 35% decrease in condenser price
- 25% reduced refrigerant charge
- Easy to clean



Buses air condition

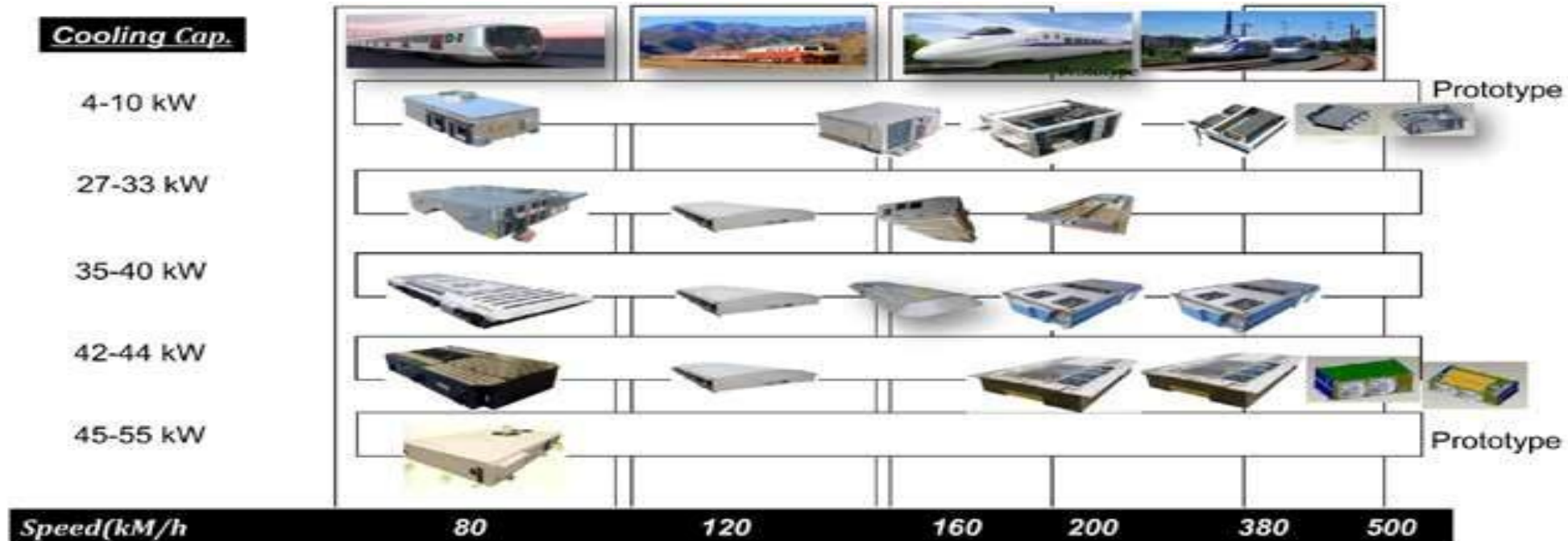
We have a wide range of buses air conditioning systems ranging from minibuses (7 seats) up to big couch buses.



Trains air conditioning systems

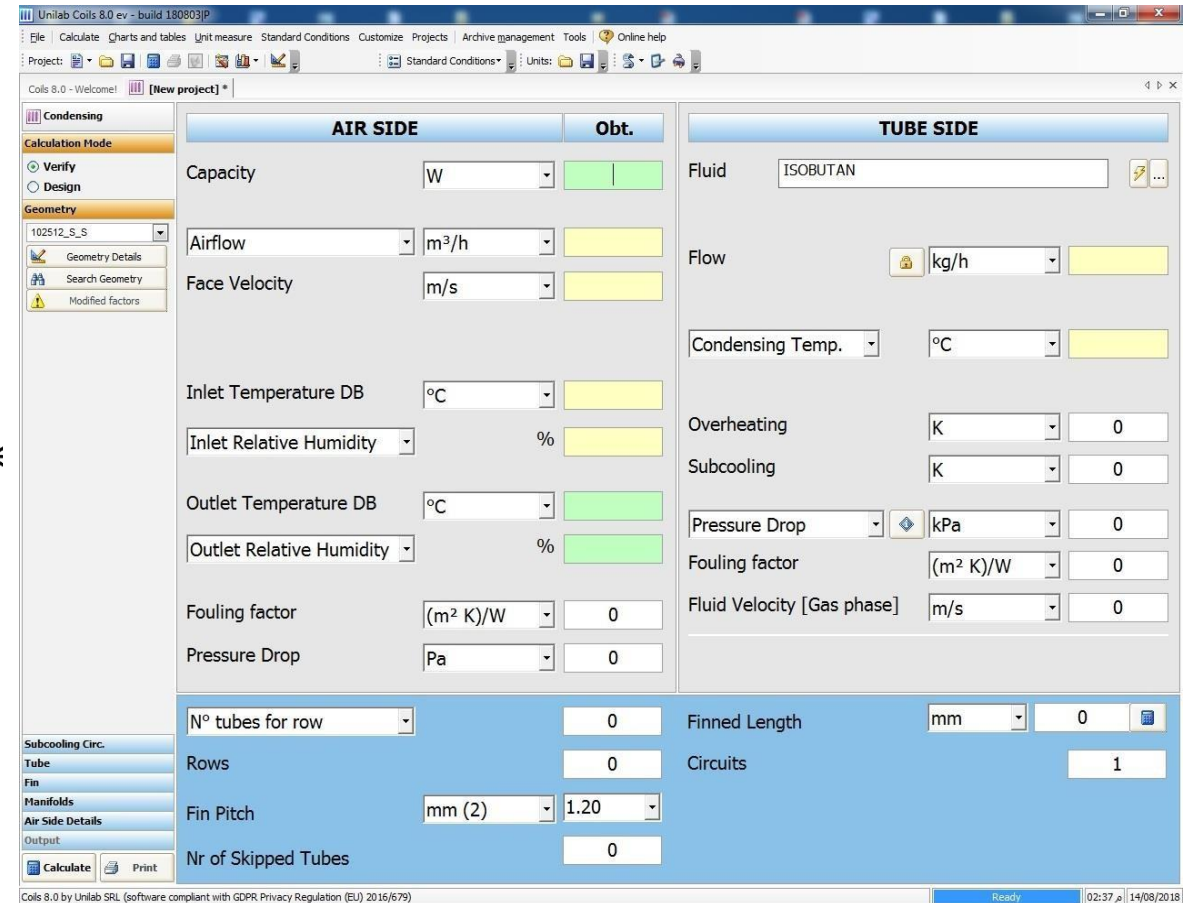
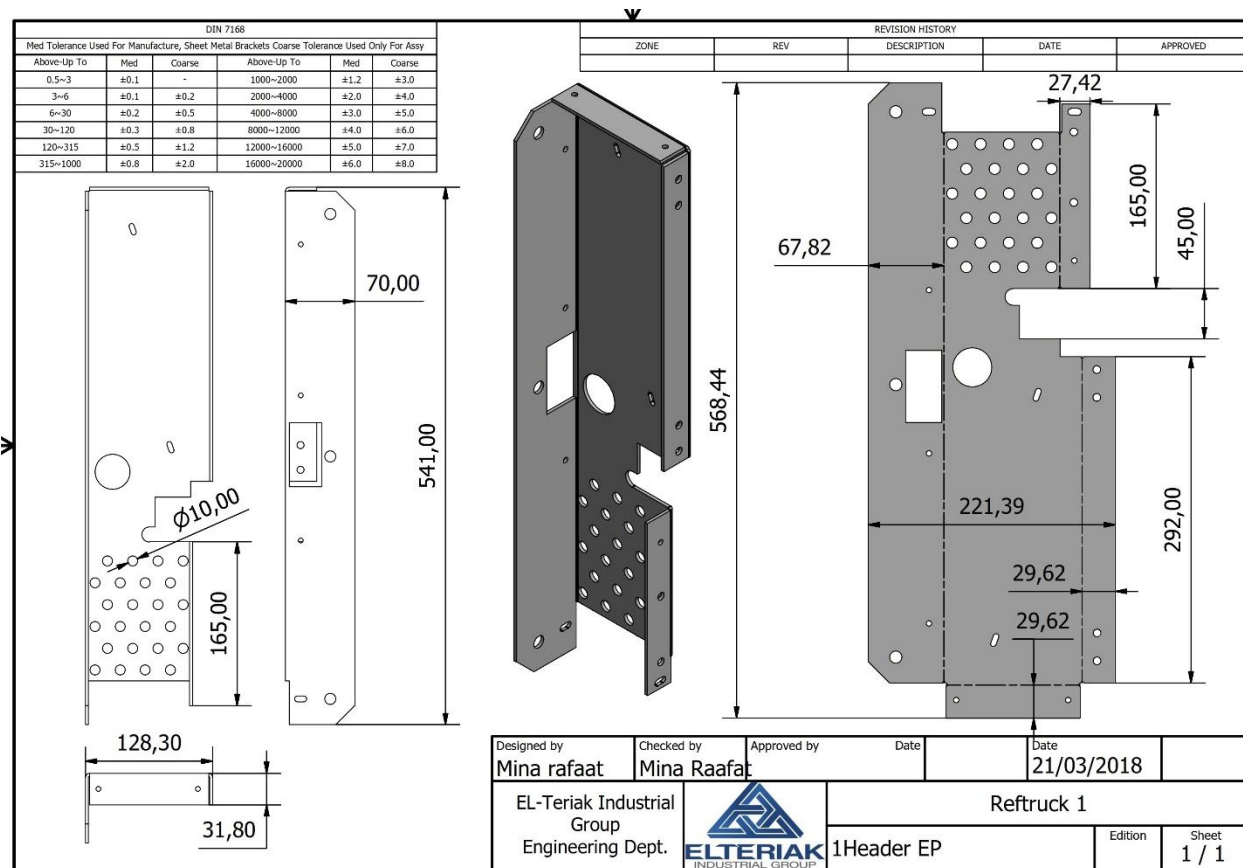
our scope

- 1- High speed trains
- 2- Mainline Coach
- 3- Locomotive



Cooling solution

Teriak group has the ability to design and replace heat exchangers using the latest design software (Autodesk Inventor & Unilab Coils & Micro-channel)



Facilities

Component and Accessories manufacturing

Steel metal forming and manufacturing

Fin machines

Tube machine

Plastic injection



Core Assembly

Heater core assembly

Semi-automatic radiator core assembly

Condenser core assembly

Automatic core builder machines



Facilities

Three Nocolok Brazing lines

- Degreasing
- Water rinsing
- De-mineralized water line
- Fluxing
- Dehydration furnace
- Brazing furnace

Sub Assembly

- Plastic injection machine
- Automatic radiator crimping machine
- Condenser argon welding
- Robot Argon Welding



Research and Development

Our labs are equipped with the latest technology to analyze and validate the design and performance of any heat exchanger product.

With 20 design engineers we are capable of designing according to clients' standards and specifications with higher performance and efficiency at lower cost.

Heat Exchanger capacity and performance analysis: (Unilab MCHE, Unilab professional)

Performance test:

- Overall performance
- Heat rejection
- Pressure drop

Pressure cycle test: Heat fatigue

Salt spray test: Corrosion

Microscopic Analysis: Brazing quality

Burst test: Determine pressure threshold

CMM machine: Dimension analysis test (only radiators)

Vibration test: Durability of product and connecting pipes

Helium vacuum chamber: Leakage



Research and Development



Meclec Services Ltd **CONDENSER DURABILITY TEST RIG 3** Elteriak Company

e:\applications\elteriak\condenser test rig (9880)\test data\2005\week36\Mon\20050905-1014 - Pressure Cycle Test

Desc: Pressure Cycle Test - 50,000 cycles... Test Sequence: PRESSURE DURABILITY

Commenced: Mon Sep 05 10:14:03 2005 Current: Wed Nov 10 12:57:50 2010

Total Cycles: 50000 TEST STOPPED / RE-START Cycles Completed: 4928 \ 45072

File: Calibration | Info | Print | Exit

SETUP | PRESSURE DURABILITY | PRESSURE CYCLE | MANUAL

File

Filename: Pressure Cycle
Description: Pressure Cycle Test - 50,000 cycles...
Comments: Test with new software

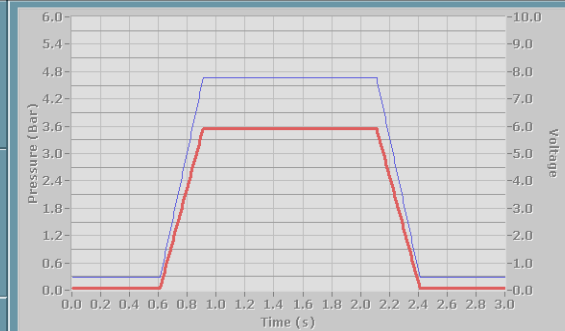
| Near Station | | Far Station | |
|--------------|------------------|--------------|------------------|
| Part Number | 3MSH-19710-CA | Part Number | 4S6H-19710-CA |
| But Off Date | 24th August 2005 | But Off Date | 17th August 2005 |
| Test Request | iP Test | Test Request | iP Test |

Test Sequence: Durability Test Only

Set Durability Pressure (MPa) = 5.40

Number of Cycles = 50000

File Update Frequency (Cycles) = 500



| Time (s) | Pressure 1 (MPa) | Pressure 2 (MPa) |
|----------|------------------|------------------|
| 1 | 0.6 | 0.05 |
| 2 | 0.3 | 0.05 |
| 3 | 1.2 | 3.55 |
| 4 | 0.3 | 3.55 |
| 5 | 0.6 | 0.05 |

Time (s) = 3.00

Research and Development



Research and Development



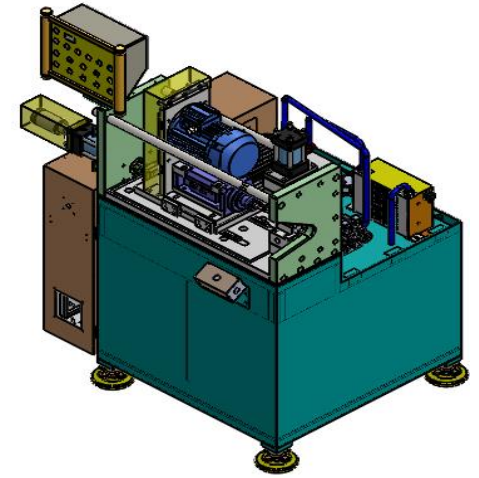
Research and Development



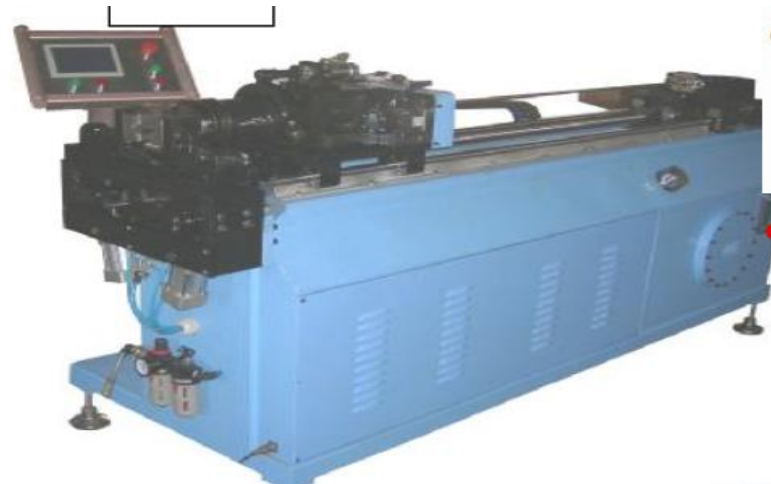
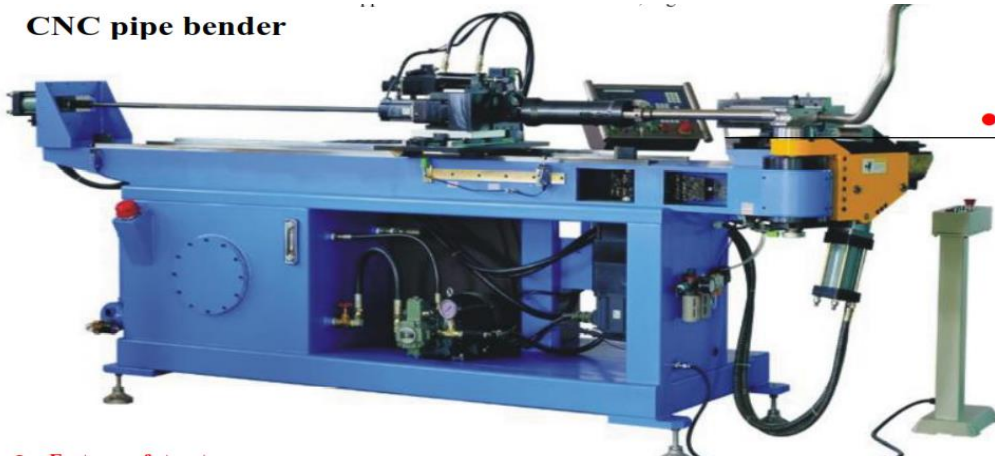
New Investments

Teriak group has invested in new machines to expand & improve our 3/8 coil line, including the followings:

- CNC Flute punching
- CNC Tube bender
- Pipe End forming machine
- New Return bend line
- Straightening & cutting machine
- Auto Brazer & Dryer



CNC pipe bender



FINISHED PRODUCT

TAA & Licenses

- Teriak Group has been working with several international OEM companies under their technical assistance and license agreements.
- This has facilitated sharing extensive knowledge and understanding of the products. Moreover, it made Teriak Group up-to-date and engaged in the latest developments within the heat exchange industry worldwide.



Prison Thermal System USA (1996)
HVAC and CRFM (Opel Vectra B, Astra T3000)



Japan & Thailand (2011/2016)
CRFM (Toyota worldwide)

Korea (1995/ 2007/2016)



HVAC and CRFM (Hyundai)



Japan & Thailand (2013)
Condenser N17

USA (1994)

CRFM (Jeep Cherokee KJ)



Korea 2007/2013
Condenser/ Radiator/ HVAC Lanos
Condenser/ Radiator Aveo

Germany (1995)

CRFM (Opel Corsa S4300 ,BMW)



France & Japan & USA (1993) / (2006)
HVAC (Peugeot 505) / CRFM (Chrysler)



TER AUTO STEEL

About Us

Ter-AutoSteel was established by Teriak Group in 1998 with a steel stamping facility as well as a body and chassis assembly lines. The facility currently produces steel body parts, and assembles a wide range of trucks, passenger and commercial vehicles for the top companies in Egypt.

1. Chassis assembly line
2. Body assembly line
3. Metal stamping for several body parts like:

- Fuel tanks
- Doors
- Roof panels
- Side panels
- Steel bumpers
- Trunk lid



Chassis Assembly line

1- FOTON Chassis



2- General Motors Egypt (GME) Left body side Optra Right body side Optra



TER AUTO STEEL

Chassis assembly line



Automotive Fuel Tanks

Automotive Fuel tanks

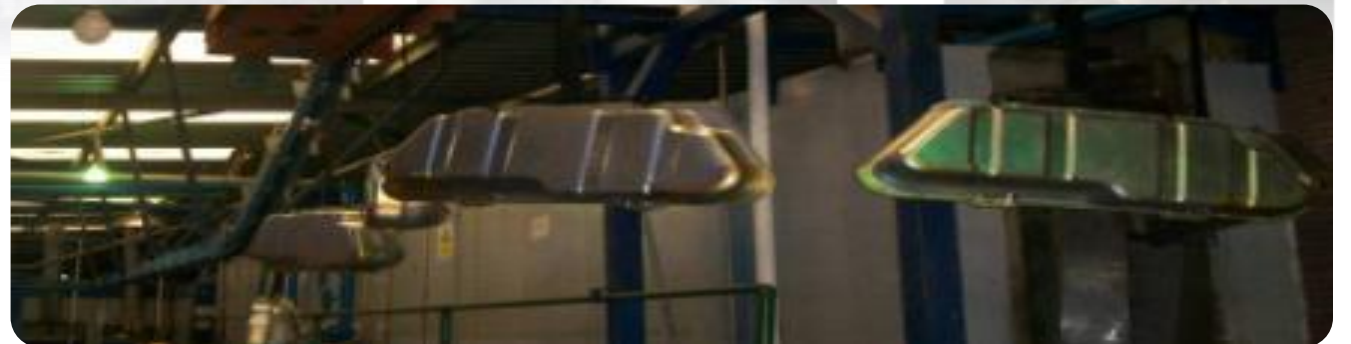
A-Preassembly Line

- Projection Welding
- Spot Welding
- Tin Welding
- Seam Welding

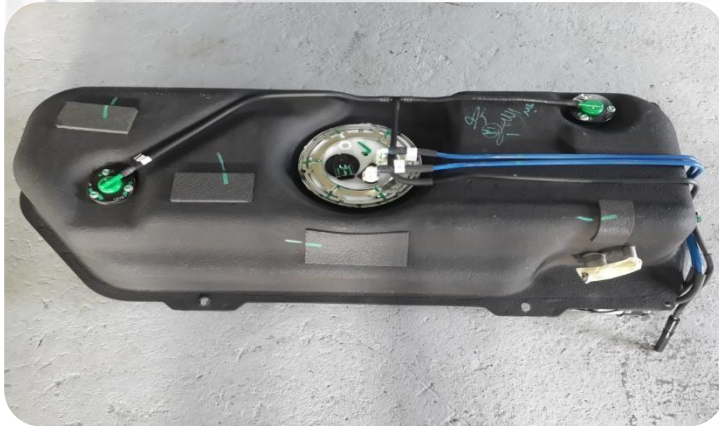


B- Testing and Painting

- Water Leak Test
- Electrostatic Paint line



Automotive Fuel tanks



ALTERIA PLASTIC INJECTION

Alteria Plastics

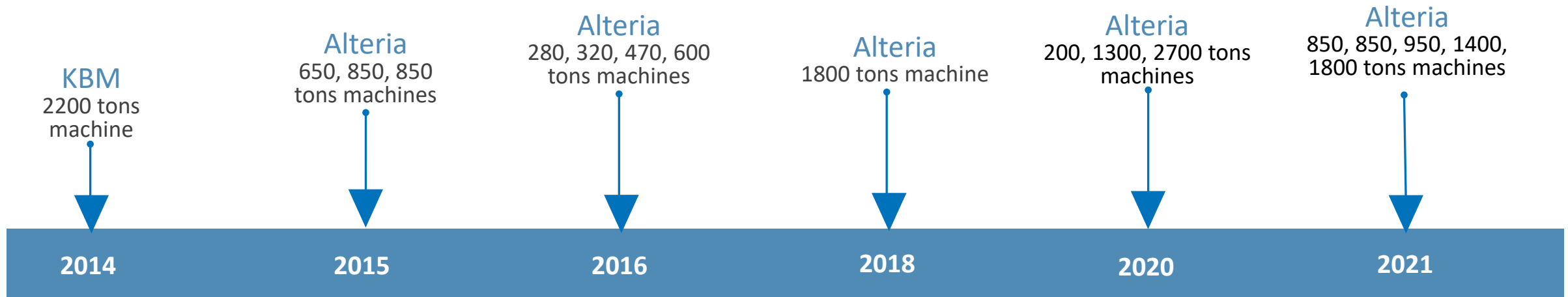
About Us

Alteria Plastics is an OEM supplier of plastic components to major automakers and home appliance companies such as Hyundai, Nissan, GM, LG and Samsung.

Alteria covers a wide range of products from car bumpers and AC unit casings, to industrial paint and chemical containers.

This is achieved with the help of our R&D, integration of the latest technology and robotics as well as our highly skilled personnel with a zero defect mindset.

Timeline



Alteria Plastics

Alteria is a fully automated plastic manufacturing company.

Location: [Engineering Square](#)

Overall investment: [30 million dollars](#)

Total Area: [20,000 m2](#)

Used Area: [4500 m2](#)



The facility is fully ventilated and is dust free. All entrances and exits are double doors to prevent an inflow of dust.

Alteria Plastics facility is equipped with the latest plastic injection machinery with an injection range: 200 tons to 2,700 tons.

Our facility is also equipped with:

- Handling robots
- Steam Unit (Gloss)
- Hot Runners
- Dry Hopper
- In-Mould-Labeling (IML)
- Assembly line



Injection machines

| No. | Machine | Tonnage | No. | Machine | Tonnage |
|--------------|-------------------|---------|-----|-----------------|---------|
| 1 | Woojin | 200 | 7 | DL 650S-Woojn | 650 |
| 2 | MA 2800 II / 1350 | 280 | 8 | DL 850S -Woojin | 850 |
| 3 | MA 3200 II | 320 | 9 | DL 850S -Woiojn | 850 |
| 4 | MA 4700 II / 2950 | 470 | 10 | Woojin | 1300 |
| 5 | VR-550 – Vector | 550 | 11 | DL 1800 A5 | 1800 |
| 6 | MA 6000 II /4500 | 600 | 12 | TRX2200 | 2200 |
| New Machines | | | | | |
| 1 | Wintec | 850 | 4 | Wintec | 1400 |
| 2 | Wintec | 850 | 5 | Wintec | 1800 |
| 3 | Wintec | 950 | 6 | Wintec | 2400 |

Mold maintenance machines

| No. | Machine type | EA |
|-----|-------------------------|----|
| 1 | CNC Milling 3-axis | 4 |
| 2 | Wire cut | 1 |
| 3 | Lathe | 1 |
| 4 | Manual surface grinding | 1 |
| 5 | Manual radial drilling | 1 |
| 6 | Laser welding | 1 |

Products

Automotive sector:

- Door Trims
- Wheel Covers
- Bumpers
- Radiator Tanks
- Battery Base
- Dashboards
- Fan shrouds

Home Appliances:

- AC body case
- LCD
 - Screens
 - Base
- Washing machines
 - Base
 - Detergent drawer
 - Control knobs

Commercial:

- Food packaging
- Fruits and Vegetables baskets
- Cosmetics packaging
- Shopping carts and baskets

Industrial Sector:

- Paint containers
- Industrial chemicals
- Plastic pallets
- Storage boxes
- Rubbish bins
- Bottle handling boxes
- Toilet Seats

Alteria Plastics

Interior and Exterior Automotive Parts

1- Fan shroud with motor assembly



2- Wheel Covers



3- Radiator Plastic Tanks



4- Battery Base



5- Doors Trim



6- Bumpers



7- Radiator grill



Alteria Plastics

TV Parts

1- Cover Rear



2- Stand Neck



3- Cover Stand



4- Cover Stand base



5- Guide Stand Neck



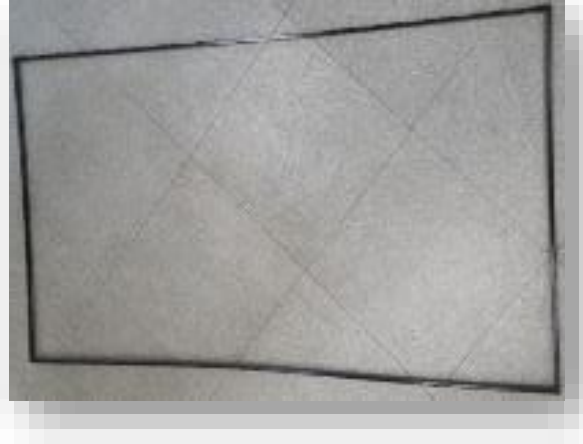
6- CFB



Alteria Plastics

TV Parts

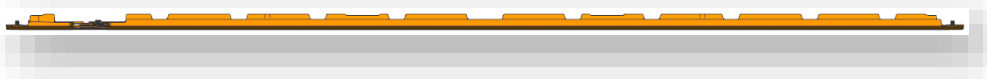
7- PTC



10- Rubber



8- Decoration



9- Cover Terminal Side



Alteria Plastics

Food and Painting Bucket Parts

1- Paint Bucket with IML



Home Appliance Parts

1- Washing machine front and rear panel



Our Clients



TOSHIBA



bticino

Quality Systems

EL-TERIAK applies the standards of

IATF 16949:2016 Quality Management System

ISO 14001:2004 Environmental Management System

ISO 18001:2007 Health and Safety Management system

Best Supplier from TOYOTO Corporation for year 2012 & 2017

Supplier Quality Excellence Award from GM Global for year 2013

Supplier Quality Excellence Award from GM Global for year 2015

Supplier Quality Excellence Award from GM Global for year 2016

Best Supplier from TOYOTO Corporation for year 2017

Supplier Quality Excellence Award from GM Global for year 2017

Supplier Quality Excellence Award from GM Global for year 2018

Alliance Supplier Evaluation Standard (ASES) Nissan Corporation

Quality System Basics (QSB) General Motors Cooperation

Built In Quality System (BIQS) General Motors

On-site supplier assessment (OSA) Johnson Control

Fiat Chrysler audit (FCA) Daimler Chrysler

Suzuki Audit Suzuki

BMW audit BMW

New Supplier Assessment (NSA) PSA Groupe Peugeot

Supplier Health Check (SHC) Nissan Corporation

THANK YOU