

Check out our  
NEW 3D Product  
Configurator!

# FLUID POWER

PRODUCT  
OVERVIEW



An industry leader in the design and manufacturing  
of highly engineered heat transfer products sold  
through a global network of distribution partners.

We **COOL**  
what you  
**POWER**

## We are an API Heat Transfer Company.

Sold through a global network of distribution partners, TTP offers a complete portfolio of standard products available from API Heat Transfer. This includes a broad range of fluid power related heat exchangers (oil-water, oil-air, air-air) utilized in mobile and industrial applications, along with custom engine cooling models.

## We are a global network of distribution partners.

As a recognized industry leader, TTP catalogs a wide offering of standard oil coolers and builds custom designed OEM Engine coolers and modules for Industrial Fluid Power and Mobile markets. We design and build heat exchangers from Aluminum and Copper materials—both components and multi-tiered cooling modules. We have extensive experience engineering to applications in the Mobile, Industrial, Compressor and Process industries.



TTP Headquarters – Racine, WI USA

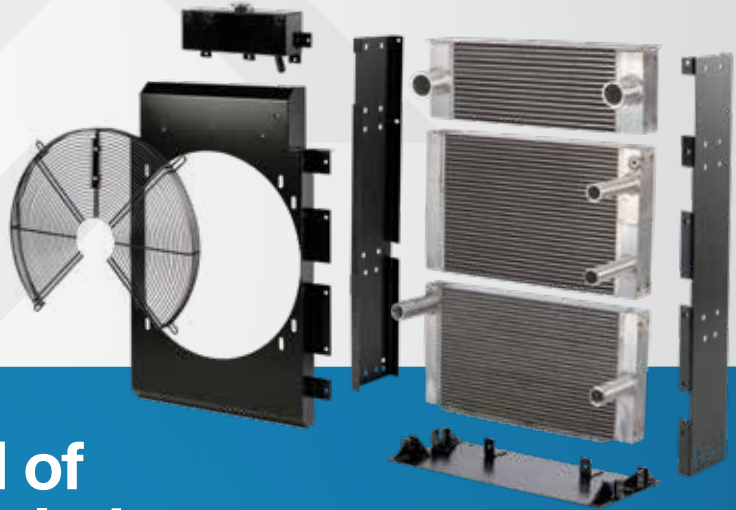
**ISO**  
**9001:2008**  
REGISTERED

## We serve these markets.

Industrial Machinery  
Agriculture  
Material Handling  
Fluid Power  
Construction

Oil & Gas  
Specialty Equipment  
Turf Care





## We are a world of heat transfer solutions.

- Racine, Wisconsin
- Franklin, Wisconsin
- Iron Ridge, Wisconsin
- Buffalo, New York
- Arcade, New York
- Bretten, Germany
- Dortmund, Germany
- Suzhou, China



# Mobile Cooling



Our Mobile solutions offer oil coolers, radiators, and charge air coolers with or without electric DC fans and Hydraulic fan motor drives. Built from brazed aluminum or copper round tube and fin, and are available in standard catalog product and custom designed OE modules.

## Market Focus

Agriculture  
Construction  
Forestry  
Material Handling  
Mining  
Off-Highway  
On-Highway  
Specialty  
Turf Care



Turn-key Cooling Module

## Our Product Series

MA DH DF M MF  
AOC AOHM AOVHM

## New Technology

### Brushless DC Fan

TTP now offers axial fans equipped with Brushless DC electric motors. These fans are a featured option on many P-BAR Series MA standard catalog oil coolers. Brushless motors offer benefits for extended life including low current draw on start up, custom fan speed control and lower ambient noise.

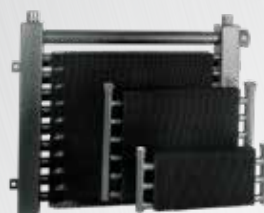


## MAGHEX Fan Controller

This combined sensor and controller is designed to mount directly to the heat exchanger. It provides accurate temperature control by cycling the electric cooling fan to maintain desired oil temperature. A single housing reduces wiring and mechanical installation. The MAGHEX magnetic wand is used to set up and program the sensor.



MA



DH



M



DF



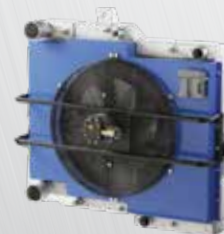
MF



AOC



AOVHM



Turn-key Cooling Module





# Industrial Cooling

Our Industrial solutions offer air cooled oil coolers built with our without electric AC motors and water cooled shell & tube coolers designed for multiple fluid types and built from aluminum, copper and steel for fluid power related applications.

## Market Focus

Hydraulic Presses  
Injection Molding and Extrusion  
Hydraulic Power Units  
Oil & Gas  
Wind Energy  
Paper Industry

## Product Series

### Air Cooled

AOC AO AOF AOVH RM  
AOL BOL OCA COL DH DHF  
M MF AOHM AOVHM MA

### Water Cooled

EK EKT EC HC SSC A B  
CA UC/UCV PVR BPSW  
BPW PF COLW

## Wide Range of Technology

**Cool Loop COLW Series** Water cooled Cool Loop offline fluid conditioning system. Utilizes a high efficiency EK Series shell & tube heat exchanger.

**Bypass Valves** TTP now offers two bypass valve options on standard BOLR and MAR models—a factory installed integrated pressure valve and a temperature/pressure bypass valve.

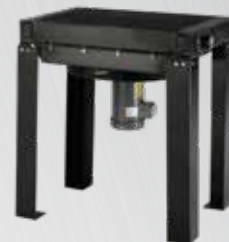
**BP Series** Our BP Series heat exchangers are rugged, compact, cost-effective and reliable over long periods of time with minimal maintenance.

**PF Series** Our PF Series heat exchangers are a compact, serviceable design and flexible cost saving alternative.

**HC Series** TTP introduces the HC-Series shell & tube heat exchangers. "Hybrid" design based on interchangeability with the previous TTP C-Series.



BOL



AOL



COL



EK B



COLW



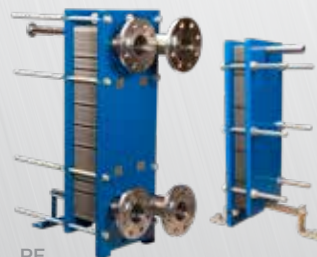
CA



OCA



BP



PF

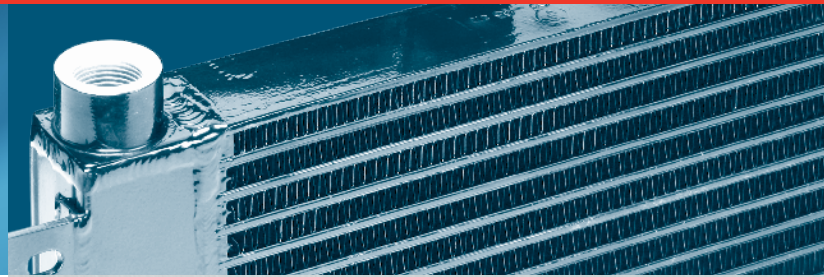


PVR





# Compressor Cooling



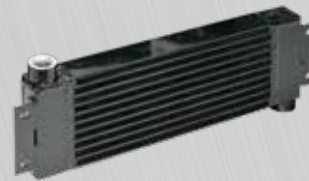
TTP manufactures air to air aftercoolers, water to air aftercoolers, and air to oil lube oil coolers for air compressor applications in both catalog and custom OE models. Our high quality products provide outstanding cooling performance in rotary screw, piston and centrifugal air compressors, as well as vacuum systems and blower lube oil coolers.

## Market Focus

Oil & Gas  
Power  
Pharmaceutical  
Waste Water  
Printing  
Auto  
Plastics  
Paper  
Metals  
Transit

## Our Product Series

BGA	AHP / AHPH	ACOC / ACOCH
AB	HC	AOL
M BELT GUARD		



BGA



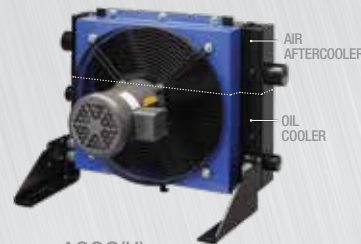
AHP / AOL



AHP / AHPH



ACOC



ACOC(H)



M BELT GUARD



HC



AB





# Process Cooling

TTP process coolers cover a wide variety of industrial process applications, across many industries. These coolers are used in the daily plant operations to provide a means of highly reliable, compact and efficient cooling. Our process coolers cover a variety of industrial applications beyond Hydraulics Oil Cooling—chillers, fuel heaters, biogas, natural gas, de-ionized water, refrigerant air cooling, condenser and more.

## Market Focus

Chemical Processes	Hydraulic Power Units
Mining	Food Industry
Pulp & Paper	Oil & Gas
Marine	Plastic Injection Molding
Power Generation	Extrusion Machinery

## Our Product Series

BPW	BPSW	AOL	UC/UCV
PF	PVR	HC	EK
USSC/USSCV (stainless steel)			

## Wide Range of Technology

### Brazed Plate Heat Exchangers

**BP Series** heat exchangers are rugged, compact, cost-effective and reliable over long periods of time with minimal maintenance. The compact design and multiple mounting options lead to optimization of heat transfer for compact industrial applications. 316 stainless steel construction and standard SAE connections are features of this highly efficient technology.

### Plate & Frame Heat Exchangers

**PF Series** heat exchangers are a compact, serviceable design and flexible cost saving alternative. The unique designs produce high heat transfer coefficients for a given application. Large heat exchanging surfaces in a very compact, space-saving frame. Double sealing design prevents the possibility of mixing the two process fluids. Readily expanded for greater capacities. Low temperature approaches/differences. Capable of handling large volumetric flows with low pressure drops.



### Available Contraction Materials

- Carbon Steel
- Stainless Steel
- Duplex & Super Duplex Stainless
- Copper & Copper Alloys
- Nickel & Nickel Alloys
- Hastelloy
- Chrome-Moly Alloys
- Titanium
- Alloy-Lined, Clad, Explosion-Clad & Weld Overlay

### Available Certifications & Registrations

TEMA  
ASME  
C-TPAT  
ISO 9001  
API  
ABS  
GOST-R  
NR-13  
PED  
HTRI





# Engine Cooling

## Flexible Cooling Solutions for Diesel, Gas, Alternative Fuels & E-Fan Integration

TTP can supply complete cooling packages, including in-house designed framing, fan shroud, finger guard, expansion tank, and more. Modules are pressure and leak tested, assembled and packaged.



### TUBULAR MICRO CHANNEL EXTRUSION



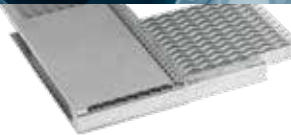
**T-BAR** is a proprietary extrusion design and one of the most clever cooling technologies available on the market today. Highly engineered on the front end, equals simplicity on the application end. T-BAR has unrivaled strength and rigidity, which ensures reliable field performance. T-BAR is factory zinc coated for cathodic protection, seam/leak free extruded and ultimately reliable.

#### Superior Performance

Aluminum has up to 25% higher heat transfer capacity in comparison to a traditional copper/brass cooling package.

**Look to T-BAR for demanding applications where performance is an absolute.**

### CUSTOM PLATE & BAR DESIGN



**P-BAR** is the most efficient design solution in heat transfer today, utilizing an aggressive hot side turbulator. Perfect for all fluid medias in diesel engine cooling applications demands, while offering remarkable heat rejection levels for new Tier systems. P-BAR is a cost effective solution and excels in core combination packaging.

#### Superior Performance

Aluminum has up to 30% higher heat transfer capacity in comparison to a traditional copper/brass cooling package.

**Look to P-BAR as an industry standard solution & available globally.**

### SEAM WELDED TUBE



**S-BAR** is a high strength automotive design, utilizing a seam welded, free flowing tube design. Constructed in a tube to header plate fashion, with options for multiple rows, fin types and tank material (plastic or metal). S-BAR is the choice for engine water jacket cooling in lower HP ranges and OEM production volumes. Engineered for challenging heat loads and demanding ambient conditions.

#### Superior Performance

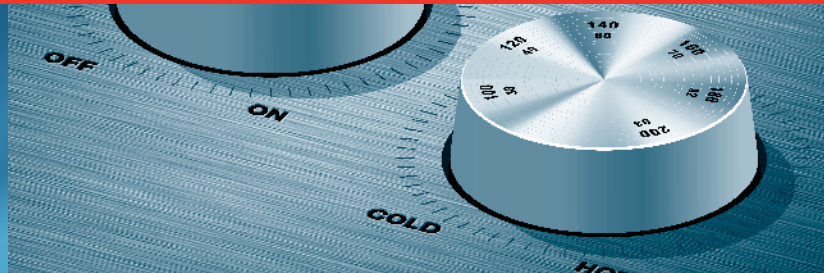
S-BAR high flow tubes offer higher heat transfer capacity in comparison to traditional radiator cooling package designs.

**Look to S-BAR for high volume OE applications in small HP ranges.**





# NEW Products



## BP Series

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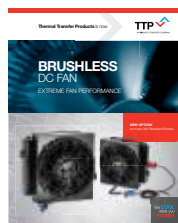
## Plate & Frame Heat Exchangers

PF Series heat exchangers are a compact, serviceable design and flexible cost saving alternative. The unique designs produce high heat transfer coefficients for a given application. Large heat exchanging surfaces in a very compact, space-saving frame. Double sealing design prevents the possibility of mixing the two process fluids. Readily expanded for greater capacities. Capable of handling large volumetric flows with low pressure drops.



## HC Series

TTP introduces the HC-Series shell & tube heat exchangers. "Hybrid" design based on interchangeability with previous TTP C-Series units. The HC Series remains the industry standard in ultimate value and long-term reliability. This proven fixed tubesheet design shell and tube heat exchanger offers the cost effectiveness that comes with having a highly standard design, while easily providing for various options to meet specific application requirements.



## Brushless DC Fan

TTP now offers axial fans equipped with Brushless DC electric motors. These fans are a featured option on many P-BAR Series MA standard catalog oil coolers. Brushless motors offer benefits for extended life including low current draw on start up, custom fan speed control and lower ambient noise.



## Bypass Valves for BOLR and MAR Series

TTP now offers two bypass valve options on standard BOLR and MAR models—a factory installed integrated pressure bypass and a thermo/pressure bypass.

# XSELECTOR

## The **X**SELECTOR Software program from TTP allows you to:

- Perform cooler heat transfer sizing and analysis on coolers for Air Cooled and Water Cooled applications.
- Now perform cooler heat transfer sizing and analysis on Air Cooled (Air Blast) coolers found in our P-BAR Series and Braze Plate in our BP Series
- Size our Proprietary T-BAR core (OCA only)

The Aftercoolers and COL units are not included in the software

\* To register for **XSelector** please go to [www.thermaltransfer.com/get-in-touch/](http://www.thermaltransfer.com/get-in-touch/) and complete the **XSelector** Inquiry form and submit.

Download the **XSelector** for both Apple and Android formats by searching for **XSelector** in their App Stores. You must first register for **XSelector** before using it on mobile devices.

### Available fluids that can be selected include:

- ISO Grade Oils from ISO 32 to ISO 220
- Water
- Various Water/Glycol Mixes

Projected results allow the user to select the cooling solution from a list of performing heat exchangers.

Final model selection choice can be decided from the following sizing results:

- Performance
- Material
- Weight
- Size
- Price Factor
- Estimated Delivery

## 3D Standard Product Configurator

### Configure your AO Series

Part No. AOR-25-1-3-FB-3PH

Model Series AO

Model Size 25

Number of Passes One Pass

Connection Type SAE

Bypass Setting No Bypass

Port Mounted Brackets Four Brackets

Specify Motor Required Three Phase

Dimensions:

Dimension	Value	Unit
A	13.34	Inch
B	20.00	Inch
C	11.81	Inch
D	22.82	Inch
E	19.26	Inch
F	20.89	Inch
G	20.19	Inch
H	12.40	Inch
J	24.21	Inch
K	9.82	Inch
L	19.26	Inch
M Thread	1 1/4" BSP	Inch
N	11.75	Inch
P	23.88	Inch
T	-	Inch

Download links: AOR-25-1-3-FB-3PH (CAD), AOR-25-1-3-FB-3PH (PDF)

Footer: powered by CADENAS | Legal notice | Terms and Conditions | Terms of Use | Data privacy policy | Cookie settings | CA-224

### Features:

#### PDF Datasheet

- Displays 3D Model that can be Rotated to Desired Position
- Provides Basic Series Data
- 2D Drawing of Configured Unit

#### CAD Download

- 150 Software Packages of Native CAD Programs

#### Video

- How to Use Video Located on TTP Webpage, [www.thermaltransfer.com/2022/10/14/3d-product-configurator-for-standard-catalog-product/](http://www.thermaltransfer.com/2022/10/14/3d-product-configurator-for-standard-catalog-product/)



# Tech Center



## Our Tech Center capabilities include:

### Performance Validation and Enhancement

- Performance testing of new or existing designs with service fluids including Water and Glycol
- Bench test comparison testing between API Heat Transfer designs and designs by other manufacturers
- Test facilities for Pasteurization, Evaporation and Dealcoholization running with original customer's products

### Buffalo Lab

- Calorimetric Performance Testing
- Pressure and Thermal Cycle Testing
- Computational Fluid Dynamics (CFD)
- Thermal Contact Resistances Measurement

### Bretten Lab

- Single phase flow stands for thermal performance and pressure drop testing
- Pilot plants
- Utilities

**Our fully equipped multiple-disciplinary Technical Centers in Buffalo, NY and Bretten, Germany are available for expert application engineering, metallurgical and analytical support. Working with our customers and OEMs, we provide heat exchanger performance modeling, performance analysis and mechanical testing.**

- Integrated heat transfer performance test platform.
- Sophisticated laboratory analytical services providing metallurgical, chemical and polymer analysis using EDS x-ray, FTIR and DSC, as well as a wide array of mechanical and material properties analysis.
- Durability, life cycle and corrosion testing platforms to validate designs and optimize materials and performance.
- Providing the technology and expertise to support the development of new products to meet the current and future needs of our customers.





# See how our performance can improve yours.

With manufacturing facilities, R&D locations and sales support all over the world, we're where you need us to be. Contact your TTP sales rep or visit [thermaltransfer.com](http://thermaltransfer.com).

## Find TTP on a world of applications

Agricultural Harvesting Machines  
Air Compressor Lube Oil Cooling Systems  
Aviation Fuels  
Bearing Lubricating Systems  
Blow Molding Machines  
Brake Retarders  
Broaching Machines  
Brush Cutters  
Chemical Process Heaters & Coolers  
Chillers Compressed Air Aftercoolers  
Compressed Air Cooling  
Compression Molders  
Cutting Oil Cooling  
Die Casting Machines  
Hydrostatic Drives  
Induction Brazing Machines  
Industrial Lasers  
Injection Molding Machines  
Machine Tools  
Mining Equipment  
Paint Heating

Paper Making Machines  
Pavement Compactors  
Plastic Film Making Machines  
Plastic Injection Molding Machines  
Quenching Oil Coolers  
Redi-Mix Concrete Trucks  
Reduction Gears  
Rough Terrain Fork Lifts  
Diesel Engine Lube Oil Systems  
Dynamometers  
Engine Jacket Water/Glycol  
Engine Oil Cooling Extruders  
Fluid Drive Centrifugals  
Fluid Power Systems  
Gasoline Engine Lube Oil Systems  
Gear Shapers  
Gearbox Lube Oil Cooling  
Golf Course Turf Mowers  
Hydrostatic Drives  
Heat Transfer Fluids  
Hydraulic Couplings

Hydraulic Winches  
Hydraulically Operated Robots  
Solvent Coolers  
Specialty Vehicles  
Spraying Equipment  
Stoker Drives  
Street Sweepers  
Test Stands  
Timber Harvesting Machines  
Torque Converter Oil Cooling  
Torque Converters  
Tractors  
Transformers  
Transmission Cooling  
Trucks-Off Road  
Tube Formers & Testers  
Turbine Oil Cooling  
Vacuum Pump Seal Oil Cooling  
Water & Process Heating  
Welding Machines

### API HEAT TRANSFER GLOBAL HEADQUARTERS

2777 Walden Avenue | Buffalo, NY 14225, USA | +1.716.684.6700 | [apiheattransfer.com](http://apiheattransfer.com)

### OTHER LOCATIONS

#### USA

##### Arcade Facility

91 North Street  
Arcade, NY 14009 USA  
+1.585.496.5755

##### Franklin Facility

4700 Ironwood Drive  
Franklin, WI 53132 USA  
+1.414.761.4500

##### Iron Ridge Facility

1025 Industrial Road  
Iron Ridge, WI 53035 USA  
+1.920.387.4200

#### GERMANY

##### Bretten Facility

Langenmorgen 4  
75015 Bretten  
Germany  
+49.7252.53.0

##### Dortmund Facility

Breienbachstrasse 87  
44357 Dortmund, Germany  
+49.231.9920.119

#### CHINA

##### Suzhou Facilities

156 Qingqiu Street  
3rd District  
Suzhou Industrial Park  
Suzhou, Jiangsu 215126  
China  
+86.512.8816.8000

126 Qingqiu Street  
3rd District  
Suzhou Industrial Park  
Suzhou, Jiangsu 215126  
China  
+86.512.8816.8000

### TTP HEADQUARTERS

5215 21st Street | Racine, WI 53406, USA | +1.262.554.8330 | [ttp-sales@apiheattransfer.com](mailto:ttp-sales@apiheattransfer.com)

