Industrial Heat Transfer Systems

Dry Coolers Bio

Dry Coolers, Inc specializes in manufacturing process heat transfer equipment and are experts in integrating heating and cooling systems. We have immersed ourselves in the alternative energy market, geothermal energy being one of them. In this market we are ahead of the curve in how to effectively and efficiently transfer energy (heat) from one medium to another in order to help harness the geothermal potential into a viable utility.

Dry Cooler Standard Products

- Air Cooled Heat Exchanger Systems (Dry Coolers)
- Cooling Tower Systems
- Closed Circuit Evaporative Cooling Systems
- Packaged Chillers – Air and Water Cooled
- Pumping Stations
- Heat Recovery Systems
- Plate and Frame Heat Exchangers
- System Integration Projects

Air Cooled Heat Exchangers – Standard Offering

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Air Cooled Heat Exchangers – Standard Offering

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Air Cooled Heat Exchangers – Standard Offering

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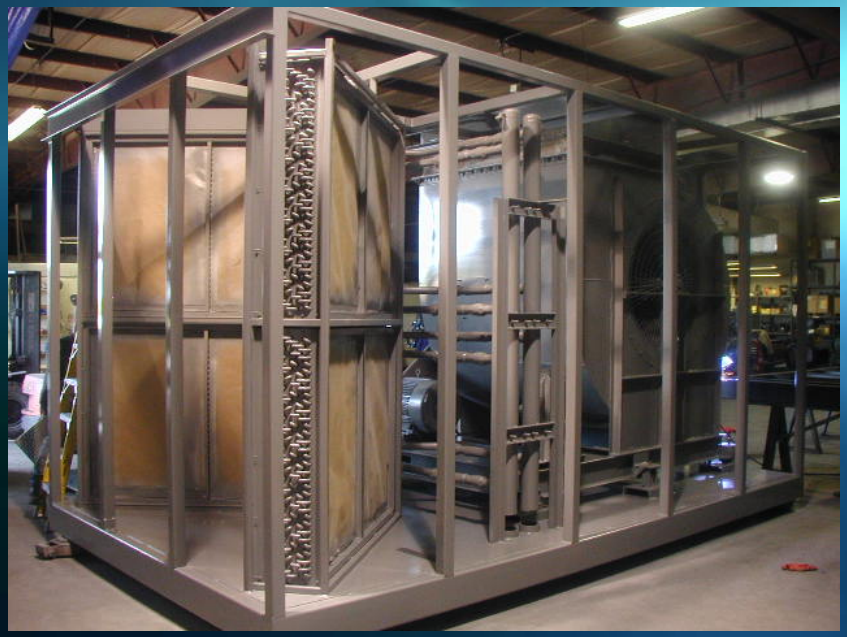
Centrifugal Blowers used for an indoor mounted dry cooler so warm discharge air can be ducted and distributed throughout building



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Forced Draft

- Direct Drive Propeller Fans - Forced Draft
- Full 1" Diameter Heavy Wall Tubing
- Removable Coverplate Headers
- Slide-Out Fan Plenum for Easy Access to Fins and Motor
- 3" FPT Inspection Port
- Pre-Wired to Safety Switch with Circuit Breaker
- Powdercoated Steel
- Floating Tube Bundle for Thermal Expansion
- Removable Corrosion-Resistant Fin Guard

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Selection Software

Customer:	SURFACE COMBUSTION	ACHE Performance Data Sheet
Ref. No.	0	Dry Coolers Inc.
Date:	1-Oct-09	800-525-8173

Heat Exchanger Performance Data:

Heat Exchanger Model:	AVQ-3x3x3-CS - 15	
Number of Units in Parallel:	1	
Fluid Circulated:	Houghton 150 Quench Oil @ 40C	
Heat Exchanged (Total):	727400 BTU/hr	213.1 kW
Flow Rate per Unit:	130 GPM	492 l/min
Flow Rate (Total):	130 GPM	492 l/min
Fluid Inlet Temperature:	310 °F	154.4 °C
Fluid Outlet Temperature:	284 °F	140 °C
Fluid Pressure Drop:	3.6 psi	24.7 kPa
Design Ambient Air (Dry Bulb):	100 °F	37.8 °C
Elevation:	0 ft	0 m

Heat Exchanger Structural Data (per unit):

Length:	36.13 ft	11.01 m
Width:	3 ft	0.91 m
Weight (shipping):	3540 lbs	1606 kg
Tubes:		
• Material:	Carbon Steel	
• OD:	1 in	25.4 mm
Fins:		
• Material:	Aluminum	
• Spacing:	10 fins/inch	394 fins/m
Fans:		
• Quantity (per unit):	1	
• Diameter:	22 in	558.8 mm
• Type:	Direct Drive - Induced Draft	
• Total Air Flow (per unit):	3700 ACFM	1.76 m3/sec
Motors:		
• Size (each):	1 hp	0.7 kW
• Speed:	850 RPM	
• Total FLA/unit @ 460 V:	2.6 amps	
• Total FLA/unit @ 230 V:	5.1 amps	

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3232 Adventure Lane
Oxford, MI 48371
Phone (248) 969-3400
Fax (248) 969-3401

BATCH COOLING CALCULATIONS for ACHE

REFERENCE: SURFACE COMBUSTION

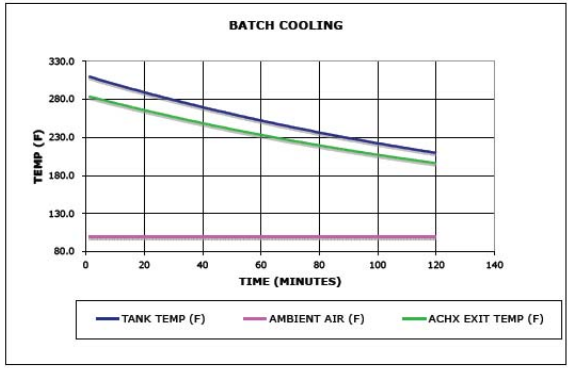
HEAT EXCHANGER: AVQ-3x3x3-CS-15

BATCH DATA:

Fluid Circulated		Houghton 150 Quench Oil @ 40C
Flowrate	GPM	130.0
Batch Start Temp	°F	310.0
Batch Finish Temp	°F	250.0
Batch Volume	gal	2,960
Ambient Air Temp	°F	100

CALCULATED DATA

Max. Heat Rejection	Btu/hr	727,393
Time To Reach Finish Temp	min	61



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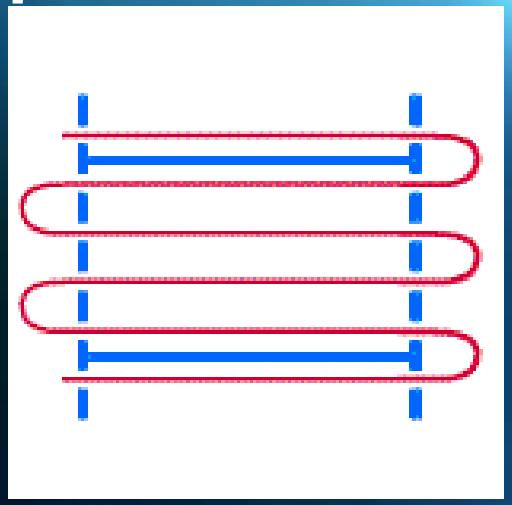
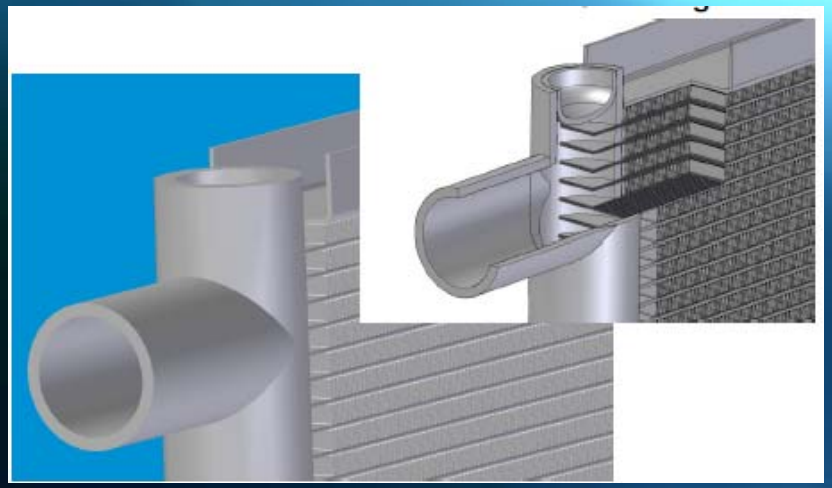
Design Advantages

- **Floating Coil**
  - **Allows coil tubes to expand and contract without rubbing the tube sheets causing premature failure**



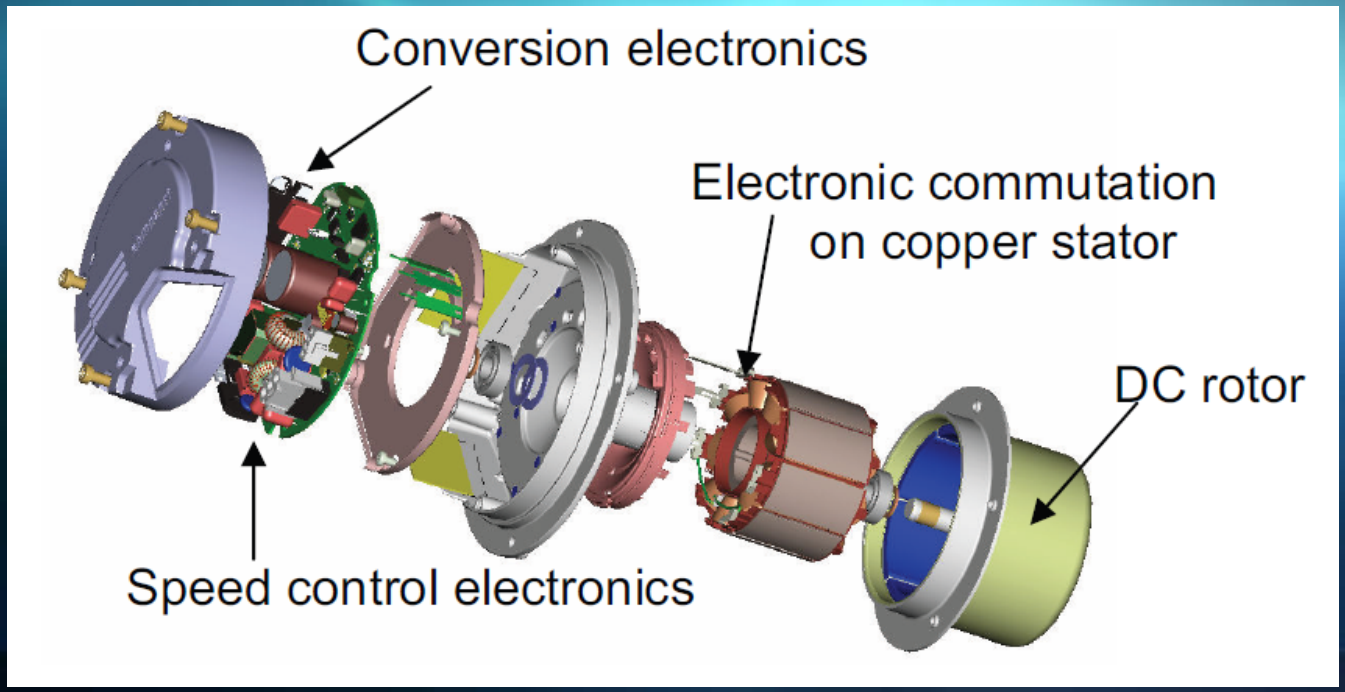
Future Offerings
All Aluminum Coil – Micro Channel

- 30% Weight reduction
- Up to 50% less refrigerant charge



Future Offerings
EC Motors

- **Double the life expectancy**
- **Greater than 90% Efficient**



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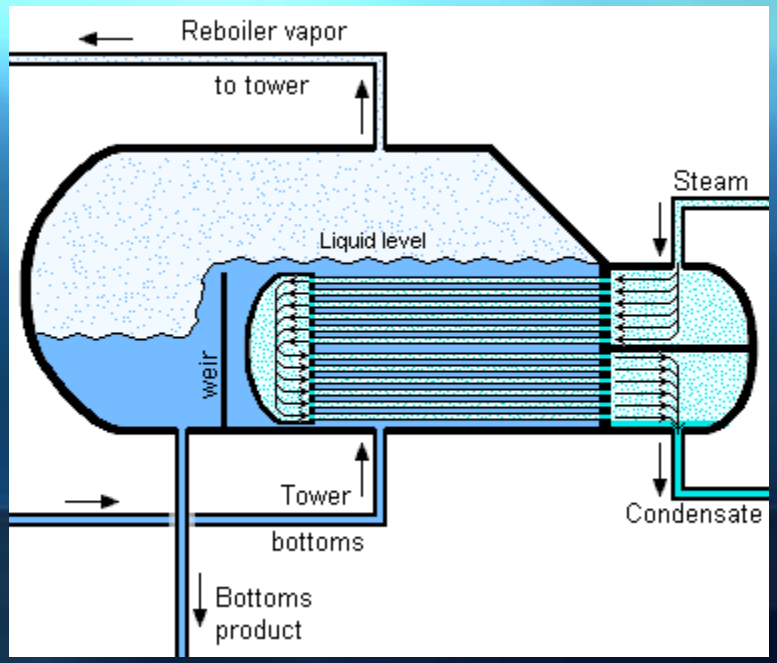
Shell and Tube Heat Exchangers Evaporators



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Cooling Tower Systems

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Pumping Stations

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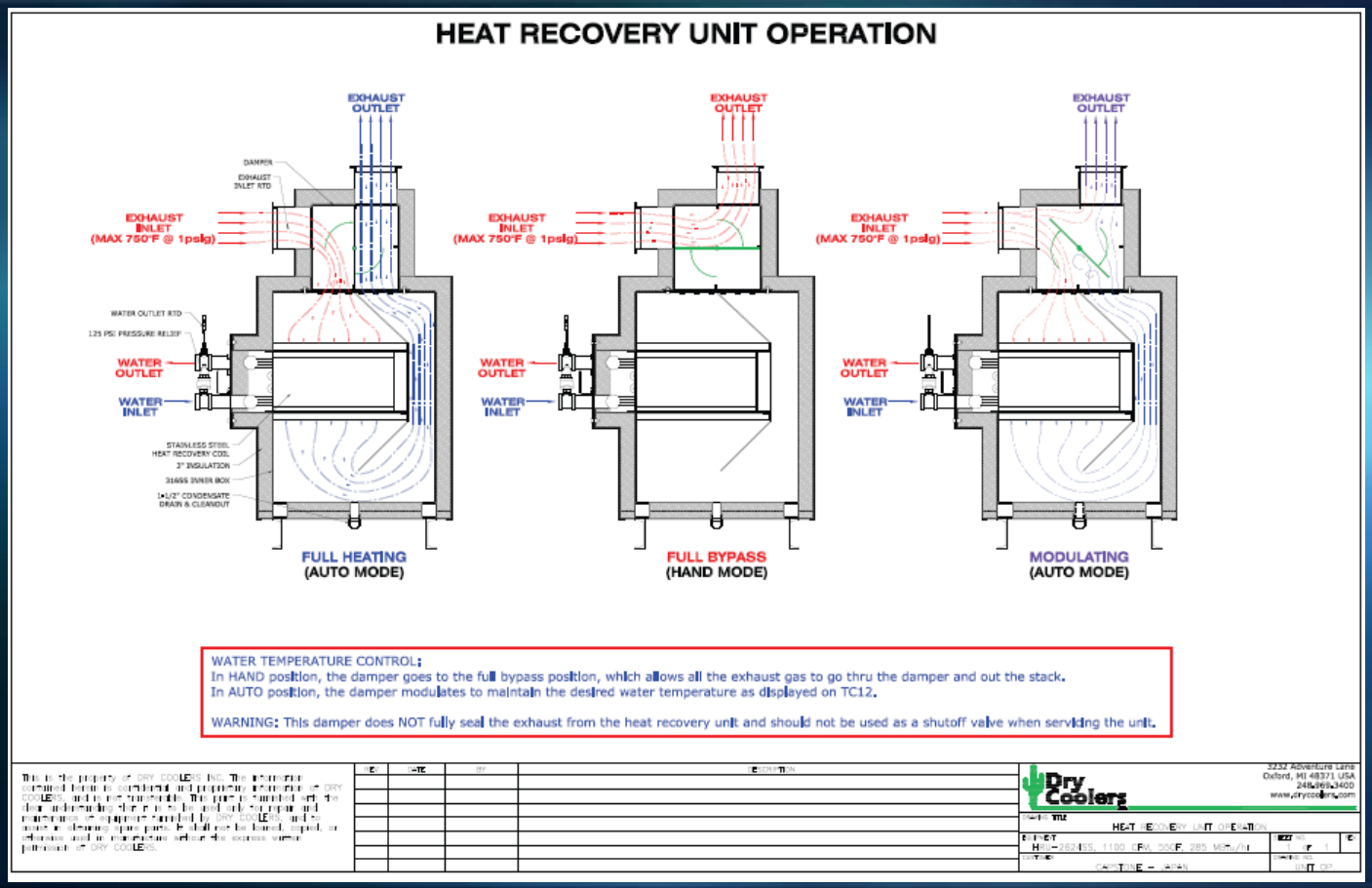
Heat Recovery Systems



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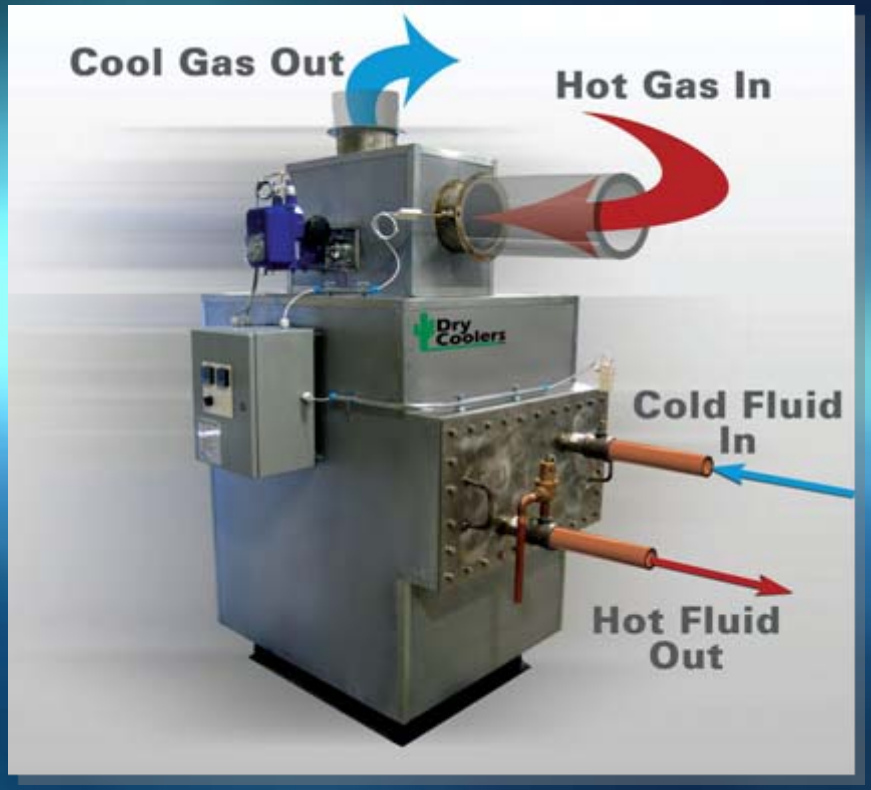
Heat Recovery Systems

- Automatic damper-controlled gas flow
- Operating temperatures to 750°F
- Removable coverplate for tube bundle access
- Slide-out finned coil heat exchanger for easy access
- All stainless steel heat transfer surfaces
- Fully shielded and insulated construction
- Engineered to handle thermal expansion



Dry Coolers Inc.

Countries Dry Coolers has shipped to within the last 12 months

Germany	China
Israel	India
Mexico	Singapore
Venezuela	Korea
Poland	Japan
Viet Nam	Australia
Canada	Chile
Ireland	Brazil
UAE	Columbia
Italy	

The Dry Coolers Advantage

- Talent
- Teamwork
- Innovation
- Quality
- Service to our customers
- OEM Relationships

Dry Coolers Inc.

Warranty

- Service Network across the US, Mexico and China
- Factory trained and certified field technicians
- Factory run-off and quality check to avoid warranty situations

We value the opportunity to present our capabilities and hope that we can be of service to you.

Dry Coolers Inc.

Thank You.