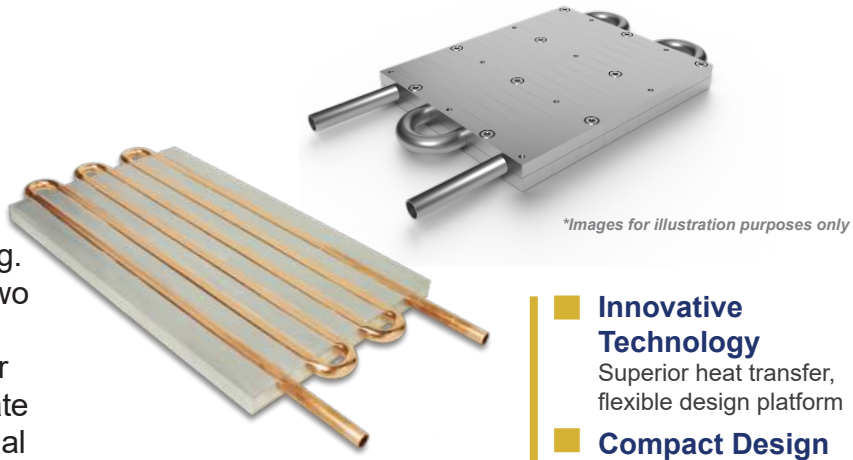
Tubed Cold Plates
High-Performance Tubed Cold Plates

The Tubed Cold Plate family is engineered as a cost effective and reliable solution for thermal management applications where liquid cooling of components is preferred over air.

The cold plates are manufactured in the USA using continuous copper or stainless steel tubing. The stainless steel tubing is secured between two base plates. The copper tubing uses a press-fit attachment method that maximizes heat transfer since the tubes are directly connected to the plate instead of through a bulky epoxy or other material that can act as thermal insulator.



*Images for illustration purposes only

FEATURES AND BENEFITS

- Cost-effective thermal management solution for component cooling where the heat load is low to moderate
- Compatible with industry accepted coolants
- The cold plate base is made of aluminum 6063
- Copper tubed cold plates feature a direct attachment method to provide superior heat transfer
- Stainless steel tubed cold plates feature stainless steel tubing (SS 304/316) secured between two plates
- Supplied with secure, 3/8” push-to-connect tube fittings for a tight connection between the cold plate and inlet and outlet tubing (Fig. 1)
- Tube outer diameter is 3/8” (9.525 mm).
- Maximum pressure: 200 psi
- Plastic tubing connecting to our Cold Plate fitting has to be at least 90 durometer Shore A scale



Fig. 1 - 3/8” push-to connect tube fittings

Innovative Technology
Superior heat transfer, flexible design platform

Compact Design
Designed to be used in a variety of liquid cooling applications

Easy Connections
Supplied with push-to-connect fittings for a quick, reliable, secure connection.

Safe & Reliable
Continuos tubing for a safe & reliable unit

Customization Available!
ATS will customize any of our cold plates to meet any application need

APPLICATIONS

- Automotive
- Battery Cooling
- High-Power, High-Heat Flux Applications
- High-Powered Industrial Lasers
- Induction Heaters
- Instruments
- Motor Devices
- Photovoltaic Inverters
- Uninterruptible Power Supplies
- Wind Turbines

ADDITIONAL COMPONENTS DEPLOYED IN LIQUID COOLING LOOPS



Cold Plates



Heat Exchangers



Chillers



Leak Detectors & Flow Meters



iCDM

ATS has the products needed to design a complete liquid cooling loop: **Cold Plates** to transfer and remove the heat from the source, **Heat Exchangers** to transfer heat from the liquid to the air with or without a fan, and **Chillers** to circulate and condition the fluid in the system. In addition, ATS offers **Flow Meters** and **Leak Detectors** to monitor the system. The **iCDM** (Industrial Cooling Distribution Module) is a liquid loop in a single stand-alone system that connects to an external cold plate.

Tubed Cold Plates
High-Performance Tubed Cold Plates

ATS Tubed Cold Plate Family
(Performance Data based on 400 W, 20°C Inlet Temp, and Water as Fluid)

Part Number	Plate Dim. (mm)			Overall Length (mm)	# of Tube Passes	Weight (g)	Tube Material	Flow Rate* 0.5 gpm		Flow Rate* 1.0 gpm		Flow Rate* 1.5 gpm		Flow Rate* 2.0 gpm	
	L	W	H					R (°C/W)	dP** (psi)	R (°C/W)	dP** (psi)	R (°C/W)	dP** (psi)	R (°C/W)	dP** (psi)
ATS-TCP-1000	57	57	15	133	2	166.7	Copper	0.088	0.15	0.075	0.47	0.067	0.95	0.063	1.61
ATS-TCP-1001	152	127	15	229	4	855.8	Copper	0.021	0.52	0.016	1.57	0.013	3.07	0.012	5.10
ATS-TCP-1002	305	127	15	381	4	1658.4	Copper	0.013	0.80	0.009	2.26	0.008	4.67	0.007	7.87
ATS-TCP-1003	152	178	15	241	6	1202	Copper	0.015	0.81	0.011	2.32	0.009	4.65	0.008	7.82
ATS-TCP-1004	305	178	15	393	6	2326.5	Copper	0.011	0.96	0.006	3.22	0.005	6.66	0.004	11.25
ATS-TCP-1005	610	178	15	698	6	4575.4	Copper	0.007	1.78	0.004	5.99	0.003	12.47	0.003	20.77
ATS-TCP-1018	57	57	15	133	2	149.9	Stainless Steel	0.159	0.10	0.144	0.24	0.135	0.44	0.127	0.69
ATS-TCP-1019	152	127	15	229	4	794.9	Stainless Steel	0.031	0.35	0.027	0.89	0.024	1.73	0.024	2.82
ATS-TCP-1020	305	127	15	381	4	1551.8	Stainless Steel	0.018	0.55	0.015	1.36	0.014	2.69	0.013	4.35
ATS-TCP-1021	152	191	15	229	6	1190.2	Stainless Steel	0.021	0.52	0.018	1.34	0.017	2.66	0.016	4.25
ATS-TCP-1022	305	191	15	381	6	2326.1	Stainless Steel	0.013	0.82	0.010	2.10	0.009	4.06	0.009	6.75
ATS-TCP-1023	610	191	15	686	6	4597.9	Stainless Steel	0.008	1.18	0.006	3.64	0.005	7.49	0.004	12.86
ATS-TCP-1029	305	100	15.2	370	4	1316.5	Copper	0.012	0.8	0.009	2.26	0.008	4.67	0.007	7.87
ATS-TCP-1030	108	72	15.2	138.4	2	331.3	Copper	0.06	0.15	0.041	0.47	0.034	0.95	0.03	1.61

* Note: To convert to l/min, multiply by 3.8
** Note: To convert to kPa, multiply by 6.9

ADDITIONAL COLD PLATE OFFERINGS



HIGH-PERFORMANCE COLD PLATES

The internal, mini-channel fin structure enhances the surface area to maximize heat transfer



DO-IT-YOURSELF (DIY) COLD PLATES

Holes may be drilled in them to create a mounting pattern to match the specific connection points of the device being cooled



DUAL-SIDED HIGH-FLOW COLD PLATES

Offers the flexibility to mount components on both sides, delivering exceptional cooling capabilities

CUSTOM MANUFACTURED COLD PLATES

ATS can design cold plates to meet size restrictions and manufacture cold plates to connect with a variety of components

