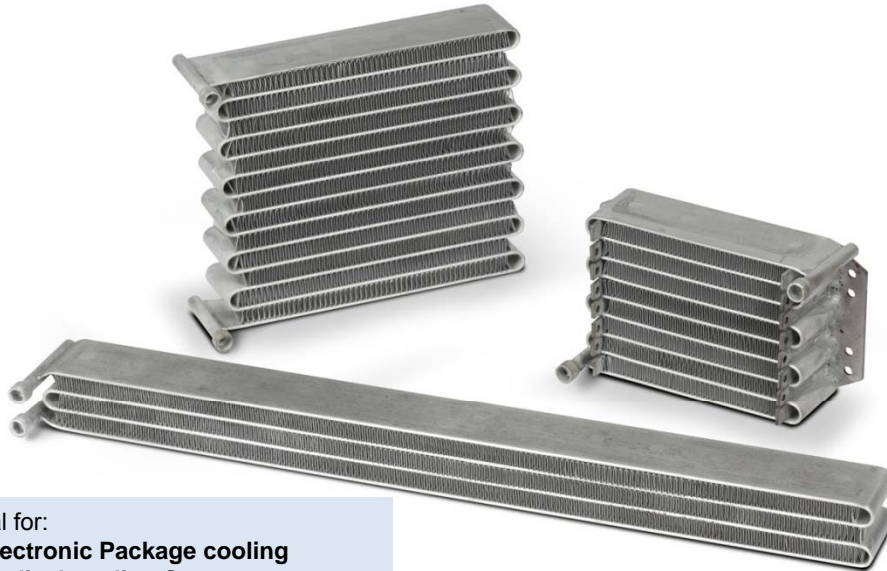


# MicroCondenser™

20 to 2000 watts (up to ½ ton)



[www.Alcoil.net](http://www.Alcoil.net)



Ideal for:

- **Electronic Package cooling**
- **Medical cooling Systems**
- **Laser cooling Systems**
- **Personal Cooling Units**
- **Military Applications**
- **Portable Cooling Systems**
- **Rack Mounted Cooling systems**
- **Micro-Climate Cooling Systems**
- **Beverage & Ice Making Equipment**

Alcoil manufactures the latest heat transfer technology for electronic cooling requirements, thermal management, and small cooling applications. The Serpentine S Series MicroCondenser™ is the smallest and most versatile heat exchanger in the industry for refrigerant condensers and cooling applications. Based on Alcoil's Microchannel technology, each coil is designed to deliver maximum heat transfer, reliability, and easy packaging.

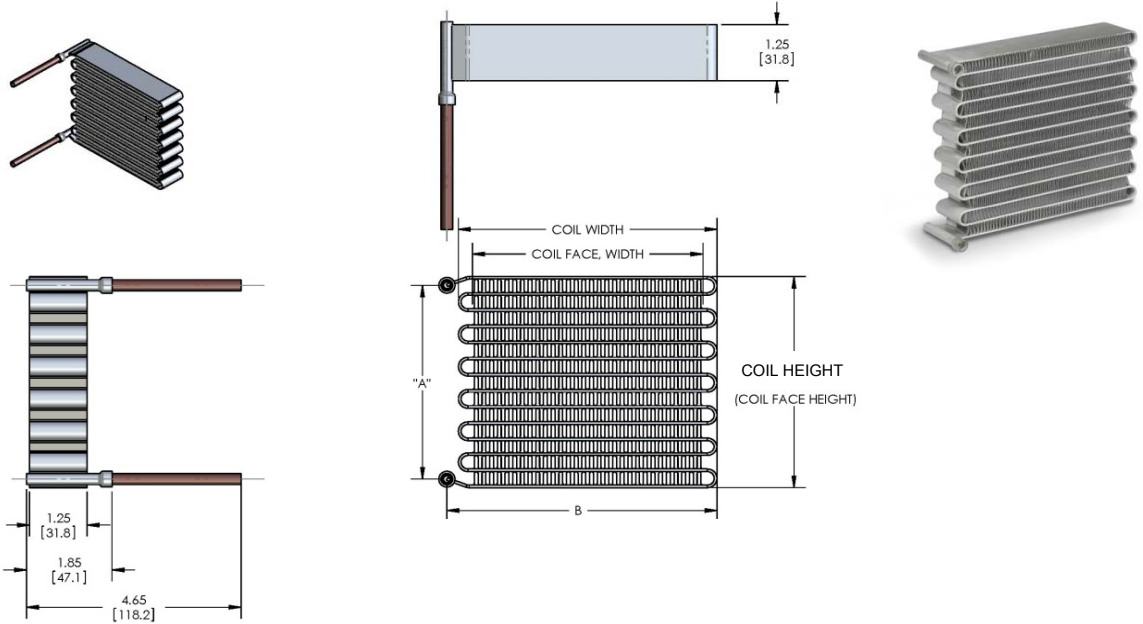
- **Ultra Light Weight**
- **Compact**
- **Only 1.25" depth**
- **High Performance**
- **Rated for 450psig or higher\***

The MicroCondenser™ can be used with R134a, R404a, R407c and R410a refrigerants as condensers in compressorized and pumped loop refrigerant systems. The coils can also be configured as evaporators for non-condensing cooling applications for electronic cooling systems. Coil orientation, whether vertical, horizontal/flat, stationary or in constant motion, has no effect on overall performance due to the single tube, serpentine design. Each coil is all aluminum, integrally brazed. Rated for 450psig operating pressures or higher.

All models have ¼" ID aluminum/copper connections or optional ¼" copper connections, optional mounting methods, and a full range of sizes from 1" to over 18". Available in 3-4 week lead times, standard and custom models.



# S Series - MicroCondenser



		Performance Table	Coil Height inches mm	Coil Width inches mm	Coil Face, Width inches mm	A - Dimension inches mm	B - Dimension inches mm	Connection Size	Weight (lbs)
<b>Square Models</b>									
<b>C3.3x3x1.25S</b>	Stock	<b>A</b>	3.3 83.8	3.6 91.7	3.0 76.2	2.91 73.9	3.86 98.0	1/4"	0.3
<b>C4x4x1.25S</b>	Stock	<b>B</b>	4.0 101.6	4.6 117.1	4.0 101.6	3.61 91.7	4.86 123.4	1/4"	0.5
<b>C4.7x5x1.25S</b>	Stock	<b>C</b>	4.7 119.4	5.6 142.5	5.0 127.0	4.31 109.5	5.86 148.8	1/4"	0.7
<b>C6.2x6x1.25S</b>	Stock	<b>D</b>	6.2 157.5	6.6 167.9	6.0 152.4	5.81 147.6	6.86 174.2	1/4"	1.1
<b>Rectangular Models</b>									
<b>C2.6x4x1.25S</b>	Built to Order	<b>A</b>	2.6 66.0	4.6 117.1	4.0 101.6	2.21 56.1	4.86 123.4	1/4"	0.3
<b>C2.6x6x1.25S</b>	Built to Order	<b>B</b>	2.6 66.0	6.6 167.9	6.0 152.4	2.21 56.1	6.86 174.2	1/4"	0.5
<b>C2.6x9x1.25S</b>	Built to Order	<b>C</b>	2.6 66.0	9.6 244.1	9.0 228.6	2.21 56.1	9.86 250.4	1/4"	0.7
<b>C2.6x14x1.25S</b>	Built to Order	<b>D</b>	2.6 66.0	14.6 371.1	14.0 355.6	2.21 56.1	14.86 377.4	1/4"	1.1
<b>C3.3x7x1.25S</b>	Built to Order	<b>C</b>	3.3 83.8	7.6 193.3	7.0 177.8	2.91 73.9	7.86 199.6	1/4"	0.7
<b>C3.3x11x1.25S</b>	Built to Order	<b>D</b>	3.3 83.8	11.6 294.9	11.0 279.4	2.91 73.9	11.86 301.2	1/4"	1.1
<b>C4x6x1.25S</b>	Built to Order	<b>C</b>	4.0 101.6	6.6 167.9	6.0 152.4	3.61 91.7	6.86 174.2	1/4"	0.7
<b>C4x9x1.25S</b>	Built to Order	<b>D</b>	4.0 101.6	9.6 244.1	9.0 228.6	3.61 91.7	9.86 250.4	1/4"	1.1
<b>Thin "BLADE" Models</b>									
<b>C1.1x9x1.25S</b>	Built to Order	<b>A</b>	1.1 27.9	9.6 244.1	9.0 228.6	0.71 18.0	9.86 250.4	1/4"	0.3
<b>C1.1x14x1.25S</b>	Built to Order	<b>B</b>	1.1 27.9	14.6 371.1	14.0 355.6	0.71 18.0	14.86 377.4	1/4"	0.5
<b>C1.1x21x1.25S</b>	Built to Order	<b>C</b>	1.1 27.9	21.6 548.9	21.0 533.4	0.71 18.0	21.86 555.2	1/4"	0.8
<b>C1.9x5x1.25S</b>	Built to Order	<b>A</b>	1.9 48.3	5.6 142.5	5.0 127.0	1.51 38.4	5.86 148.8	1/4"	0.3
<b>C1.9x9x1.25S</b>	Built to Order	<b>B</b>	1.9 48.3	9.6 244.1	9.0 228.6	1.51 38.4	9.86 250.4	1/4"	0.5
<b>C1.9x13x1.25S</b>	Built to Order	<b>C</b>	1.9 48.3	13.6 345.7	13.0 330.2	1.51 38.4	13.86 352.0	1/4"	0.7
<b>C1.9x18x1.25S</b>	Built to Order	<b>D</b>	1.9 48.3	18.6 472.7	18.0 457.2	1.51 38.4	18.86 479.0	1/4"	1.0

**Notes:**

1. Standard Pressure Ratings: 450psig ; Other pressure ratings available (650psig and higher).
2. Copper Connections, 1/4" ODS optional
3. Aluminum connections 1/4" IDS available when copper connection not provided
4. Overall Dimensions exclude connections
5. LARGER MODELS – Please contact the factory

Made in York, PA USA



# S Series - MicroCondenser

## Coil Performance

Performance Tables below (Table A, D, C, & D) show the heat transfer performance of various Alcoil models listed on the previous page. Tables on the left are in BTU/hr and tables on the right are in Watts.

Total Heat Transfer Rate (BTU/hr or KW), Heat of Rejection is shown based on Actual Air flow rate (aCFM) and "Approach Temperature" (Temperature difference between inlet air temperature and saturated condensing temperature) of the refrigeration system.

For example: Using Table A; If the saturated condensing temperature is 120F and inlet air temperature is 90F use the 30F Approach temperature column and the corresponding air flow rate (aCFM) from your fan performance curve. Make sure the ΔPD (Airsides Pressure Drop) is closely equal to or less than the airside pressure drop on the fan curve for the aCFM required

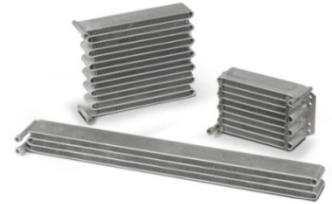


Table A

aCFM	Capacity (Btu/hr) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	15	135	285	430	
25	205	435	670	900	0.23
35	260	565	875	1180	0.38
50	335	735	1145	1550	0.65
70	410	930	1450	1980	1.10

aCFM	Capacity (Watts) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	15	40	84	126	
25	60	127	196	264	0.23
35	76	166	256	346	0.38
50	98	215	336	454	0.65
70	120	273	425	580	1.10

Table B

aCFM	Capacity (Btu/hr) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	25	325	590	810	
50	425	900	1370	1840	0.26
75	585	1240	1900	2570	0.50
100	720	1540	2380	2950	0.77
125	840	1820	2800	3200	1.03

aCFM	Capacity (Watts) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	25	95	173	237	
50	125	264	401	539	0.26
75	171	363	557	753	0.50
100	211	451	697	865	0.77
125	246	533	821	938	1.03

Table C

aCFM	Capacity (Btu/hr) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	50	475	970	1470	
75	670	1390	2110	2700	0.25
100	850	1800	2450	2900	0.38
150	1160	2200	2900	3250	0.68
200	1420	2450	3200	3500	1.05

aCFM	Capacity (Watts) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	50	139	284	431	
75	196	407	618	791	0.25
100	249	528	718	850	0.38
150	340	645	850	952	0.68
200	416	718	938	1026	1.05

Table D

aCFM	Capacity (Btu/hr) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	50	495	1000	1510	
75	710	1460	2070	2620	0.15
100	915	1770	2420	2900	0.24
150	1280	2160	2850	3170	0.43
200	1500	2405	3130	3410	0.66

aCFM	Capacity (Watts) at Approach Temperature(°F)				Airsides Pressure Drop ΔPD (in. wg)
	10°F	20°F	30°F	40°F	
	50	145	293	443	
75	208	428	607	768	0.15
100	268	519	709	850	0.24
150	375	633	835	929	0.43
200	440	705	917	999	0.66

Notes:

1. Approach Temperature = Saturated Condensing Temperature (Ct) minus Entering Air Temperature
2. ΔPD (Airsides Pressure Drop) stated in "inches water gauge". in.wg = psi x 2.7.7; Pascal = in.wg x 249
3. Air Flow Rate: CFM (Cubic Feet per Minute) = Cubic Meters/min x .02832
4. Tables based on use of R134a refrigerant. Heat Transfer rate using R410a, R404a & others will be 3-5% higher.
5. For pumped loop, non-compressorized systems, glycol loops or evaporator use, contact the factory.
6. Larger Models & Capacities, please contact the factory.



## Alcoil Product Family

Alcoil has a full line of capabilities for high technology cooling and heat rejection for refrigerant based systems for R134a, R404a, R410a, R717, CO2 and other refrigerants. Water and Glycol fluid models are available upon request.

### MicroCondensers™

Alcoil MicroCondensers for 20 to 2000 watts of heat rejection for specialty products and small appliance products, are detailed in this brochure.



### Evaporator/Cooling Coils

Cooling coils for computer room and server applications is one of our specialties. Whether pumped loop or direct expansion, Alcoil has custom models from 100 watts to 100kw of cooling



### Mini-Cold Plates

For special evaporator/cooling applications or miniature fluid chillers, Mini-Cold plates can be configured to any application.



### HVAC/R MicroChannel Condensers

As Alcoil's primary product line, we manufacture a full range of refrigerant condensers from ½ ton to 30 tons for the HVAC/R industry, rated for 450 psig and 650 psig applications.



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