Quick Ship - Condensers

1 to 30 Tons

www.Alcoil.net

- **Built-in Mini-Receiver**
- **Mounting Brackets & Studs**
- **Std, Left Hand Copper Connections**
- **Optional Right Hand or Straight Connections**
- **High Performance**
- **Microchannel Vertical Tubes**

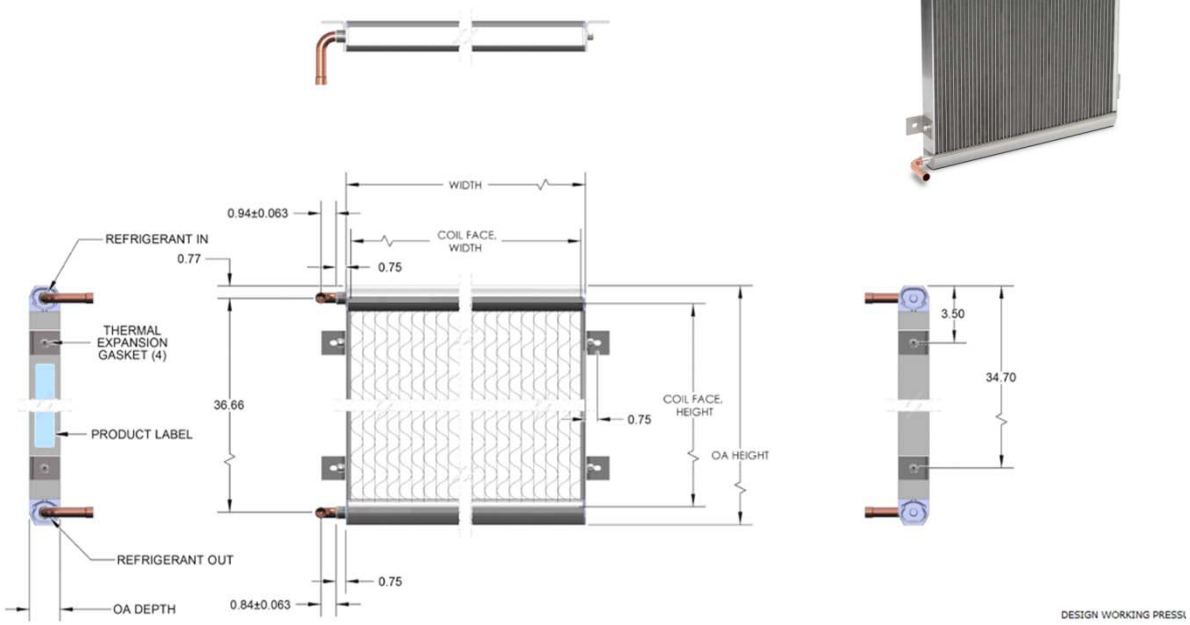
Alcoil maintains a full line for Condenser models for QUICK SHIP from stock and 3-4 week lead times. These standard models are designed for a wide range of design conditions for R410A, R407C, R404A, R134a, R22 and other refrigerants. All models are provided with copper elbow connections, mounting brackets, integral coil frame/casing, and built-in mini-receiver. All aluminum, integrally brazed. Rated for 650psig operating pressures.

Quick Ship Models provide:

- **High Energy Efficiency**
- **Smaller Size**
- **Lower Refrigerant Charge**
- **Less Weight**
- **Replacement for 3 Row, 4 Row, and up to 6 Row Fin/Tube Coils**
- **Easier OEM packaging**

Alcoil makes it easy to use the latest Microchannel coil technology by offering a standard line of Quick Ship models for 1 to 30 ton refrigeration condensers. These models represent *the highest performing coils in the industry*, designed for lower condensing pressures and lower compressor KW use. The Quick Ship C Series brings the full capabilities of higher performance, smaller packaging, and reliability as standard models.

C Series - Condensers



Model #	Nom'l Tons	Overall Dimensions (inches) Header	Height	Depth	Face Dimensions (inches) Header/Width	Height	Volume (cu.inches) Overall/Mini-Receiver	Connections Refrig IN	Refrig OUT	Weight lbs
C1	1	15.5	16.2	1.9	14.7	14.0	54 / 23	1/2"	3/8"	8
C1.5	1.5	15.5	20.2	1.9	14.7	18.0	57 / 23	1/2"	3/8"	10
C2	2	19.1	20.2	1.9	18.3	18.0	70 / 28	5/8"	1/2"	12
C2.5	2.5	19.1	24.2	1.9	18.3	22.0	73 / 28	5/8"	1/2"	14
C2.5T	2.5	15.5	24.2	1.9	14.7	22.0	59 / 23	5/8"	1/2"	11
C3	3	21.9	24.2	1.9	21.2	22.0	84 / 32	5/8"	1/2"	16
C3T	3	15.5	32.2	1.9	14.7	30.0	64 / 23	5/8"	1/2"	15
C5	5	30.6	32.2	1.9	29.9	30.0	128 / 45	5/8"	1/2"	29
C5T	5	21.9	38.2	1.9	21.2	36.0	97 / 32	5/8"	1/2"	25
C7.5	7.5	30.6	38.2	1.9	29.9	36.0	136 / 45	7/8"	5/8"	34
C7.5T	7.5	21.9	50.2	1.9	21.2	48.0	108 / 32	7/8"	5/8"	32
C10T	10	30.6	50.2	1.9	29.9	48.0	151 / 45	7/8"	5/8"	45
C10	10	44.6	38.2	1.9	43.3	36.0	194 / 64	7/8"	5/8"	49
C12.5T	12.5	32.7	50.2	1.9	32.0	48.0	162 / 48	1-1/8"	7/8"	47
C15T	15	44.6	50.2	1.9	43.3	48.0	216 / 64	1-1/8"	7/8"	64
C15	15	61.9	38.2	1.9	60.7	36.0	291 / 96	1-1/8"	7/8"	68
C20T	20	61.9	50.2	1.9	60.7	48.0	302 / 90	1-1/8"	7/8"	89
C20	20	93.2	38.2	1.9	91.5	36.0	408 / 135	1-1/8"	7/8"	102
C25T	25	66.2	50.2	1.9	64.9	48.0	324 / 96	1-1/8"	1-1/8"	96
C30T	30	93.2	50.2	1.9	91.5	48.0	453 / 135	1-1/8"	1-1/8"	133
C30T-2	30	99.7	50.2	1.9	97.8	48.0	486 / 144	1-1/8"	1-1/8"	143

Notes:

1. Overall Dimensions exclude connections. Add 2.0" for 3/8, ½ & 5/8" connections; 2.70" for 7/8"; 3.30" for 1-1/8"
2. Std Left hand copper elbow connections. Optional Right Hand or Straight Connections for Quick Ship models.
3. Std stud bolts and mounting brackets as shown.
4. Alternate Dimensions available as non-stock models; increments of 1" height and .72" width dimensions
5. US Patent & PCT International Patents Filed

Made in York, PA USA

Alcoil

Condenser Performance 1-30 tons

1. **All Ratings Based on 95F Inlet Air Temp at sea level.**
   R410A, 60F Superheat, 5F Subcooling, Vertical Orientation
2. For R407C application, multiply rating by .997.
3. For R404A application multiply rating by .994
4. For R22 application, multiply rating by .970
5. For R134a, application, multiply rating by .985 and call the factory for larger connection sizes

		Total Heat of Rejection Capacity (kBtu/hr)				Airside PD
Model #	**ACFM**	115F Ct	120°F Ct	125°F Ct	130°F Ct	ΔP (in w.g.)
C1	400	7	9	11	13	0.12
	600	10	12	15	18	0.23
	800	12	15	19	22	0.35
	1000	14	18	22	26	0.48
C1.5	750	12	15	19	22	0.22
	900	14	18	23	27	0.29
	1200	18	23	27	33	0.43
	1500	20	26	32	38	0.62
C2	1000	16	20	25	29	0.24
	1300	19	24	30	36	0.36
	1500	21	27	33	39	0.45
	1800	24	31	38	45	0.58
C2.5	1200	19	25	30	36	0.24
	1600	24	31	38	45	0.36
	2000	28	36	45	53	0.51
	2400	32	41	51	60	0.67
C2.5T	1200	18	24	29	34	0.33
	1600	23	29	36	43	0.50
	2000	26	34	42	50	0.70
	2400	30	39	48	57	0.91
C3	1500	24	32	39	46	0.27
	1800	27	37	45	53	0.35
	2400	34	46	56	66	0.54
	2700	37	50	61	72	0.64
C3T	1500	25	32	39	46	0.29
	1800	28	37	45	53	0.38
	2400	35	46	56	68	0.58
	2700	38	50	61	74	0.69
C5	2500	43	54	65	77	0.22
	3000	49	62	75	89	0.29
	4000	61	77	94	111	0.44
	5000	72	91	111	131	0.61
C5T	2500	42	54	65	77	0.27
	3000	49	62	75	89	0.36
	4000	60	77	94	112	0.55
	5000	71	91	111	134	0.77
C7.5	3750	63	81	97	116	0.30
	4500	73	93	113	134	0.40
	6000	90	116	142	170	0.61
	7200	103	132	165	196	0.80
C7.5T	3750	64	79	96	115	0.30
	4500	74	92	113	134	0.43
	6000	92	115	142	168	0.67
	7200	105	133	163	193	0.87

		Total Heat of Rejection Capacity (kBtu/hr)				Airside PD
Model #	**ACFM**	115F Ct	120°F Ct	125°F Ct	130°F Ct	ΔP (in w.g.)
C10T	4500	77	98	119	141	0.26
	6000	97	124	150	181	0.40
	7500	115	148	182	216	0.56
	9800	140	183	224	265	0.83
C10	5000	84	107	129	154	0.27
	6000	98	124	150	178	0.36
	8000	120	154	188	224	0.55
	10000	142	181	221	268	0.77
C12.5T	5625	95	121	146	176	0.33
	7500	119	152	188	223	0.50
	9500	141	185	226	268	0.72
	11000	158	207	253	300	0.89
C15T	7500	128	159	192	230	0.30
	9000	148	183	225	267	0.43
	12000	184	230	283	335	0.67
	14400	210	265	325	385	0.87
C15	7500	126	161	194	231	0.27
	9000	146	186	225	267	0.36
	12000	180	231	281	336	0.55
	15000	206	272	332	402	0.77
C20T	9000	154	197	238	282	0.26
	12000	194	248	300	361	0.40
	15000	230	296	363	432	0.56
	19600	280	366	447	530	0.83
C20	11250	189	242	292	347	0.30
	13500	219	279	338	401	0.40
	18000	270	347	426	510	0.61
	21600	309	396	495	588	0.80
C25T	11250	190	242	293	351	0.33
	15000	238	304	375	445	0.50
	19000	282	370	451	536	0.72
	22000	316	414	506	600	0.89
C30T	13500	231	295	357	422	0.26
	18000	291	372	450	542	0.40
	22500	345	444	545	647	0.56
	29400	420	548	671	795	0.83
C30T-2	16875	285	363	439	527	0.33
	22500	357	456	563	668	0.50
	28500	423	555	677	804	0.72
	33000	474	621	759	900	0.89

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Installation Recommendations

Condenser Installation & Orientation

The QS Quick Ship models are based on Alcoil's latest vertical tube design for high heat transfer efficiency and use of a built-in mini-receiver. Proper orientation of the condenser should be vertical, or angled from vertical, and no less than 15 degrees from horizontal for downward refrigerant flow. Horizontal operation will cause loss of capacity. For Horizontal orientation, contact the factory for custom horizontal models.

OK

OK to 15°

Not Recommended
Contact Alcoil for Alternate Model(s)

Mounting Brackets & Support

Alcoil QS models have four (4) L-Brackets for easy mounting and attachment to equipment frames and sheet metal. The L Brackets are bolted to the Side Plates of the coil and can be adjusted, rotated or removed. The L-Brackets have ¼"x ½" slot holes for mounting purposes. For models C10 and larger, (40lb or greater) it is recommended that the coil sit on a support to reduce the load on the L-Brackets.

Connections

All models have copper IDS solder connections, optional elbow or straight connections for refrigerant piping. When soldering or brazing to these copper connections, use a wet rag at the base of the copper connection (at the black protective sleeve) to minimize heat at the copper to aluminum transition joint.
For models ordered with Aluminum solder connections, copper piping can be easily soldered into the Aluminum connections using the appropriate Zn/Al brazing rods and flux. Contact Alcoil for information on soldering Al to Cu joints.

Refrigerant Charge

When using an Alcoil microchannel condenser, the refrigerant system charge will typically use 30% to 60% less refrigerant than a traditional fin/tube condenser (excluding a receiver, if used). Overcharging the system will result in higher head pressure and loss of system capacity. The following procedure is recommended: 1) At full load or near full load operating conditions and by weight of refrigerant, put approximately 1/3rd the calculated charge in the refrigeration system. Let the system stabilize and check for gas bubbles in the liquid line sight glass . 2) Incrementally, add small amounts (.1oz) of refrigerant and wait for the system to stabilize. 3) When there are few or no gas bubbles entering the expansion valve, then the charge is most likely correct. 4) If the system is operating with higher head pressure than design, extract refrigerant charge from the system.

Corrosion

Due to the all aluminum construction, brazed aluminum heat exchangers are subject to significantly less galvanic corrosion than traditional fin/tube coils, in that there are no dissimilar metals. Sea coast and marine use is acceptable. For applications with pollution, chemical emissions, or corrosive environments, coil coatings are available. Contact the factory for details.

Coil Cleaning

Routine cleaning of particulates from the coil can be performed with high pressure air.
Routine cleaning of dirt and grime may be performed with high pressure water.
In both cases, the pressure must be controlled to prevent damage to the fins.

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