

# Compressed Air Cooling Air AB Series

## COPPER TUBE CONSTRUCTION

### Performance Notes

- Compressed air and gas aftercoolers
- For water to air cooler
- All brass hubs and shell assemblies: reduce or eliminate galvanic and other types of corrosion
- Copper nickel tubes available for sea water service



### Ratings

**Maximum Operating Pressure - Tubes**

250 PSI

**Maximum Operating Pressure - Shell**

250 PSI

**Maximum Operating Temperature**

350°F

### Materials

**Tubes** Copper

**Shell** Brass

**End Hubs** Brass

**End Bonnets** Cast iron

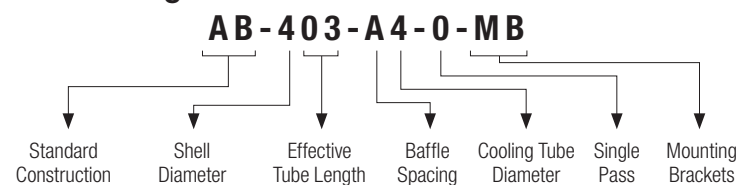
**Baffles** Brass

**Gaskets** Nitrile rubber

**Nameplate** Aluminum foil

**Mounting Brackets (optional)** Steel

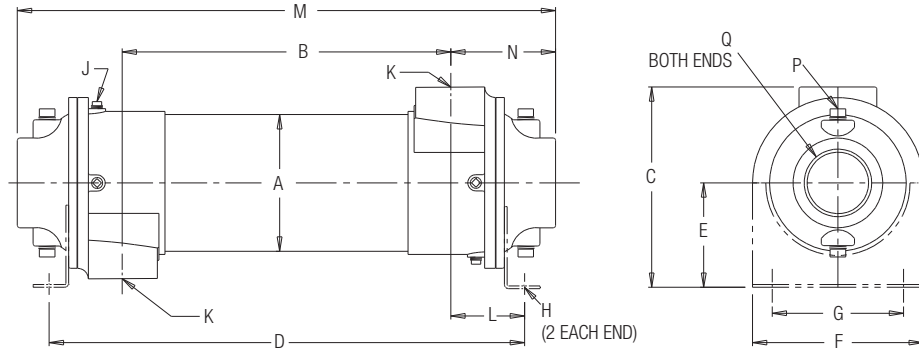
### Unit Coding



### How to Order

<b>AB</b>	-	[ ]	-	[ ]	-	[ ]	-	[ 0 ]	-	[ ]
<b>Model Series</b> AB		<b>Model Size Selected</b> 403 404 405 705 1006 1206 1207 1606 1607 1608		<b>Baffle Spacing</b> A - 1.125 B - 2.25 C - 4.5 D - 9.0		<b>Tube Diameter Code</b> 4 - 1/4" (400 & 700 models only) 6 - 3/8" (1000, 1200 & 1600 models only)		<b>Tubeside Passes</b>		<b>MB or Blank</b>

# Dimensions



NOTE: Mounting brackets are optional.

Model	A Dia.	B	C	D*	E*	F*	G*	H*	J NPT	K NPT	L	M	N	P NPT	Q NPT	Weight (LBS)
AB-403-A4-0	2.12	25.62	3.50	29.06	1.94	2.62	1.76	.41 Dia.	—	.50	1.72	33.36	3.87	(4) .50	1.50	13
AB-404-A4-0	2.12	34.62	3.50	38.06	1.94	2.62	1.76	.41 Dia.	—	.50	1.72	42.36	3.87	(4) .50	1.50	16
AB-405-B4-0	2.12	43.62	3.50	47.06	1.94	2.62	1.76	.41 Dia.	—	.50	1.72	51.36	3.87	(4) .50	1.50	18
AB-705-B4-0	3.66	43.00	6.25	48.38	3.62	5.25	3.00	.44 x 100	(2) .38	1.00	2.69	50.40	3.70	(4) .50	2.50	40
AB-1006-B6-0	5.12	51.50	7.38	57.62	4.00	6.75	4.00	.44 x 100	(6) .38	1.50	3.06	59.60	4.05	(4) .50	3.00	80
AB-1206-C6-0	6.12	50.50	8.81	57.38	4.75	7.50	5.00	.44 x .88	(6) .38	2.00	3.44	60.25	4.88	(4) .50	3.00	130
AB-1207-C6-0	6.12	59.60	8.81	66.38	4.75	7.50	5.00	.44 x .88	(6) .38	2.00	3.44	69.25	4.88	(4) .50	3.00	150
AB-1606-C6-0	8.00	49.60	12.13	58.38	6.50	8.62	7.00	.44 x 100	(6) .38	3.00	4.39	62.62	6.52	(4) .50	5.00	259
AB-1607-D6-0	8.00	58.60	12.13	67.38	6.50	8.62	7.00	.44 x 100	(6) .38	3.00	4.39	71.62	6.52	(4) .50	5.00	270
AB-1608-D6-0	8.00	67.60	12.13	76.38	6.50	8.62	7.00	.44 x 100	(6) .38	3.00	4.39	80.62	6.52	(4) .50	5.00	315

NOTE: We reserve the right to make reasonable design changes without notice. All dimensions in inches.

## Selection Example

### Specified

Two stage compressor with a 340 SCFM air delivery at 100 PSIG and a 250°F discharge temperature. Maximum allowable pressure loss is 2 PSI. Water flow rate to be determined.

### Solution

**STEP 1** From the 2-stage compressor column select model **AB-1006-B6-0** with 440 SCFM capacity.

**STEP 1** To determine  $\Delta P$ : Read column to right of SCFM capacity selected.  
 **$\Delta P = 0.3 \text{ PSI}$**

**STEP 1** Water flow rate required  
**340 SCFM x .03 = 10.2 GPM**

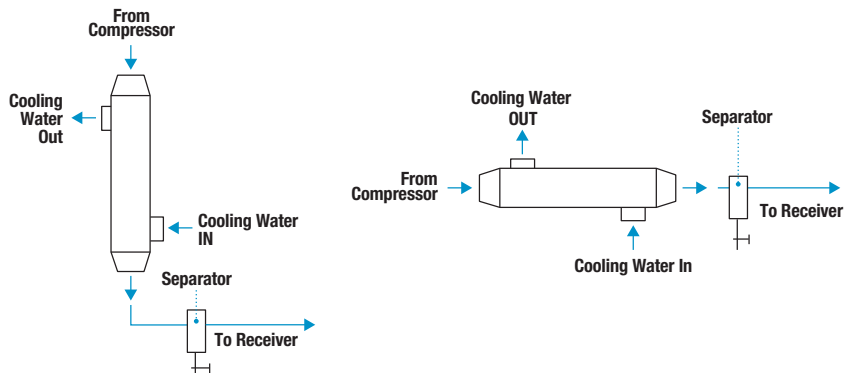
## Capacity Selection

Model	2-Stage Recip 250°F Inlet Air		Rotary Screw 200°F Inlet Air	
	SCFM Capacity* in Tubes	$\Delta P$ , PSI, at Rated Capacity	SCFM Capacity* in Tubes	$\Delta P$ , PSI, at Rated Capacity
AB-403-A4-0	40	0.1	58	0.1
AB-404-A4-0	80	0.3	110	0.6
AB-405-B4-0	150	1.2	205	2.0
AB-705-B4-0	310	1.0	439	1.6
AB-1006-B6-0	440	0.3	654	0.5
AB-1206-C6-0	640	0.3	955	0.6
AB-1207-C6-0	1250	1.1	1690	1.9
AB-1606-C6-0	1600	0.5	2280	0.9
AB-1607-D6-0	2100	1.0	3080	1.7
AB-1608-D6-0	2800	1.6	3170	2.0

\*Based on ambient air at 60°F, 14.7 psia, and 50% relative humidity. Compressed air cooled to within 15°F of inlet water temperature. Water flow rate 3 GPM per 100 SCFM air flow. For single stage compressor type, 300°F inlet, use 2-stage SCFM capacities with a 15% reduction.

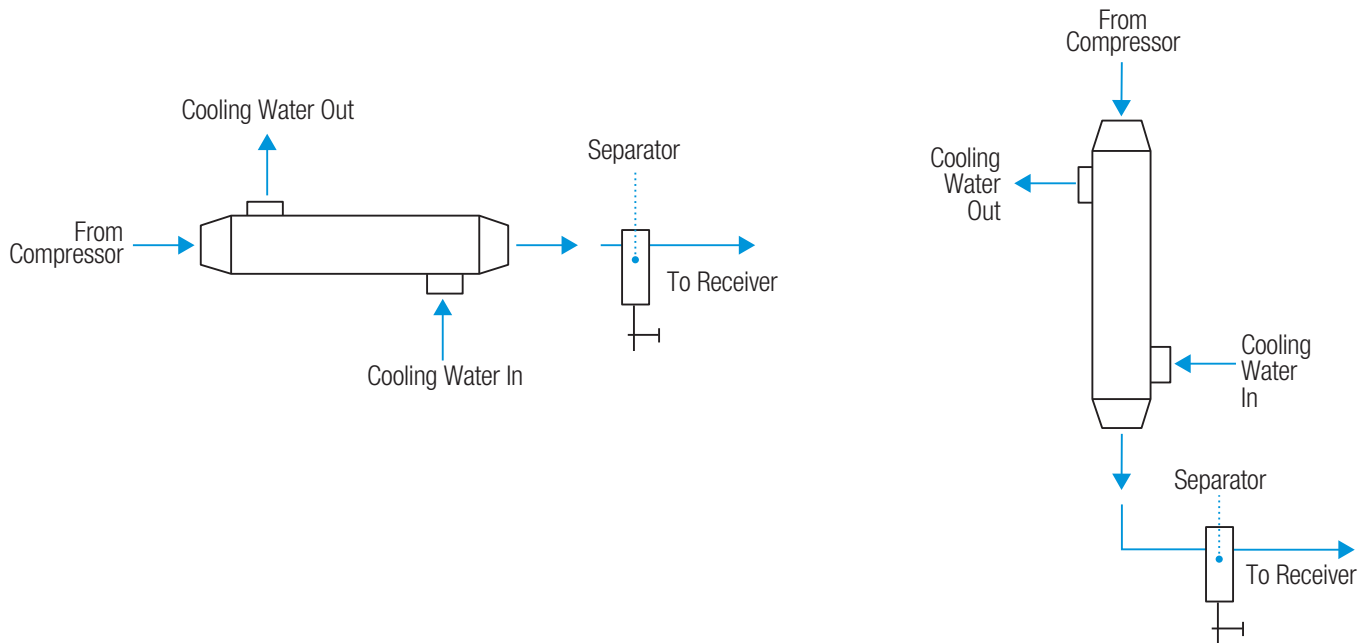
## Piping Diagram

Thermal Transfer Aftercoolers can be mounted in either of the positions shown. Separators should be used as shown. Consult factory for separator recommendations.



## Installation

The satisfactory use of this heat exchange equipment is dependent upon certain precautions which must be taken at the time of the installation.



1. Aftercoolers can be mounted in either of the positions shown. Separators should be used as shown above.
2. If an automatic water regulating valve is used, place it on the INLET end of the cooler. Arrange the water outlet piping so that the exchanger remains flooded with water, but at little or no pressure. The temperature probe is placed in the air line from the aftercooler to sense a system temperature rise. Please contact factory for water regulating valve recommendations.

It is recommended that a water strainer be installed ahead of this aftercooler when the source of cooling water is from other than a municipal water supply. Dirt and debris can plug the water passages very quickly, rendering the aftercooler ineffective. Please contact factory for water stainer recommendations.

3. A separator/trap/drain should be installed in the outlet piping of the aftercooler to remove the condensate.
4. All piping to the aftercooler should be properly aligned and supported to avoid stress to the unit. A flexible metal hose should also be installed between the aftercooler and compressor to isolate damaging vibration.
5. CAUTION If sealant tape is used on pipe threads, the degree of resistance between mating parts is less, and there is a greater chance for cracking the aftercooler castings. **Do not over tighten.**
6. Never exceed maximum flow rates or ratings.

## Service

Each aftercooler has been cleaned at the factory and **should not require** further treatment. It may be well to inspect the unit to be sure that dirt or foreign matter has not entered the unit during shipment. The aftercooler should be mounted rigidly in place with pipe connections tight.

Performance information should be noted and recorded on newly installed units so that any reduction in effectiveness can be detected. Any loss in efficiency can normally be traced to an accumulation of water scale or deposits.

When storing the unit, be sure to keep the air and water ports sealed. If storage continues into the cold winter months, the water chamber must be drained to prevent damage by freezing.

Replace gaskets when removing end castings.