

Compressed Air Cooling Air ACOC(H) Series

BRAZED ALUMINUM CONSTRUCTION

Performance Notes

- Combination welded cores – air & oil core
- Brazed aluminum core/bar and plate
- Excellent for field conversions
- Vertical air flow
- Compact design
- Light weight
- Compact, high performance all aluminum core assembly
- Designed specifically for rotary screw compressors
- Ideal for converting water cooled units to air cooled
- Eliminates high water and sewer costs
- Eliminates corrosion problems associated with water cooled units
- Excellent for heat recovery
- State-of-the-art heat transfer technology
- Detachable legs on ACOC (shipped unattached)
Fixed mounting feet on ACOCH
- CRN available



Ratings

Maximum Operating Pressure
250 PSI

Maximum Operating Temperature
350°F

Materials

Legs Steel with baked enamel finish

Shroud Steel

Core Brazed aluminum bar and plate

Fan Aluminum hub, plastic blades

Motor TEFC

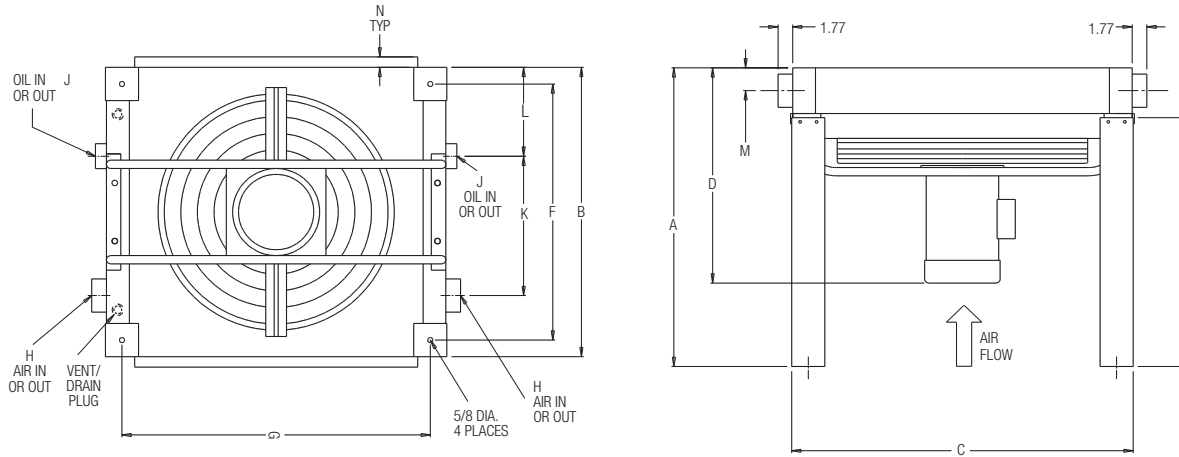
How to Order

ACOC	-		-	
Model Series ACOC		Model Size Selected 400 725 950 1200 1600 2000 2500 3000 3500		Specify Motor Required 0 - No Motor (includes Fan Blade & Fan Guard) 2 - Single Phase 3 - Three Phase 6 - 575 Volt

ACOCH	-		-	
Model Series ACOCH		Model Size Selected 400 725 950 1200 1600 2000		Specify Motor Required 0 - No Motor (includes Fan Blade & Fan Guard) 2 - Single Phase 3 - Three Phase 6 - 575 Volt

Dimensions

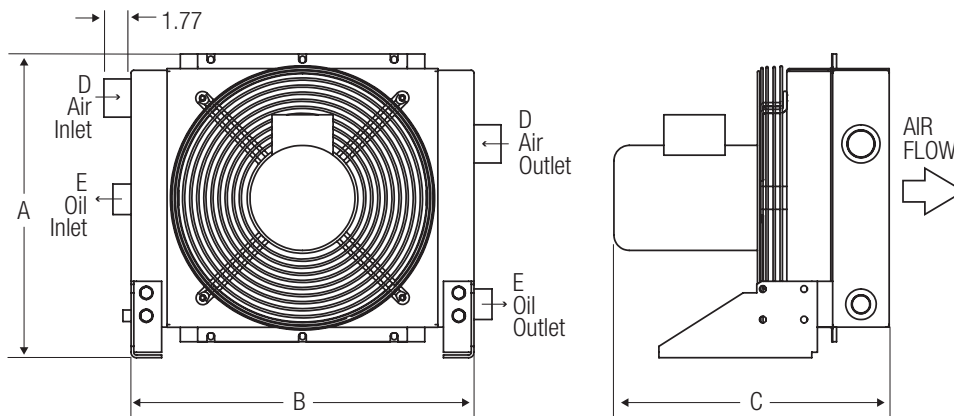
ACOC – Vertical Air Flow



Model	A	B	C	D (Approximate)	E	F	G	H NPT	J NPT	K	L	M	N
ACOC-400	34.20	17.96	22.68	20.86	30.00	13.96	18.68	1.50	1.00	8.35	5.08	1.85	1.25
ACOC-725	34.20	22.37	30.56	20.86	30.00	18.37	26.56	1.50	1.00	10.55	6.34	1.85	1.25
ACOC-950	36.01	26.78	37.24	23.62	30.00	22.78	33.24	2.00	1.25	12.67	7.64	2.76	1.25
ACOC-1200	36.01	26.78	41.19	25.51	30.00	22.78	37.19	2.00	1.25	12.83	7.64	2.76	1.25
ACOC-1600	36.01	34.89	41.19	27.51	30.00	30.89	37.19	2.50	1.50	16.81	10.08	2.76	1.25
ACOC-2000	36.01	37.88	51.04	28.51	30.00	33.88	47.04	2.50	1.50	18.47	10.98	2.76	1.25
ACOC-2500	36.01	43.70	49.07	28.51	30.00	39.70	45.07	3.00	2.00	21.11	12.83	2.76	1.25
ACOC-3000	36.01	52.52	51.04	30.51	30.00	48.52	47.04	3.00	2.00	33.30	8.00	2.76	1.25
ACOC-3500	36.01	56.30	51.04	30.51	30.00	52.30	47.04	4.00	2.50	27.40	18.43	2.76	1.25

Note: We reserve the right to make reasonable design changes without notice. All Dimensions are in inches.

ACOCH – Horizontal Air Flow



Model	A	B	C (Approximate)	D NPT	E NPT
ACOCH-400	19.88	22.45	20.86	1.50	1.00
ACOCH-725	24.20	30.31	20.86	1.50	1.00
ACOCH-950	28.56	37.03	23.62	2.00	1.25
ACOCH-1200	29.01	40.94	25.51	2.00	1.25
ACOCH-1600	37.02	41.05	27.51	2.50	1.50
ACOCH-2000	39.77	51.26	28.51	2.50	1.50

Note: We reserve the right to make reasonable design changes without notice. All Dimensions are in inches.

Selection Procedure

STEP 1 Determine the Air Compressor's motor horsepower.

STEP 2 Enter the chart at the motor horsepower to select the correct model.

STEP 3 Check the aftercooler SCFM. The SCFM of air discharged from the air compressor must be equal to or less than the value in the chart for the model selected. If it is not, choose a larger model. If the SCFM is unknown, multiply the air compressor's motor horsepower by 4.5 to determine the SCFM capacity required.

Model	Compressor HP	Aftercooler Maximum SCFM with 100 PSI air and a 15°F Approach Temperature
ACOC(H)-400	15-35	175
ACOC (H)-725	40-55	275
ACOC (H)-950	60-85	425
ACOC (H)-1200	90-120	600
ACOC (H)-1600	125-155	775
ACOC (H)-2000	160-225	1125
ACOC-2500	230-275	1375
ACOC-3000	280-325	1625
ACOC-3500	330-360	1800

Sizing

- Oil flow is .45 GPM/HP.
- Oil pressure drop - 15 PSI or less
- Oil heat transfer based on 100°F E.T.D.
(E.T.D. = Entering Temperature Difference)
(E.T.D. = Oil in Temperature - Ambient Air Temperature)
- Air aftercooler pressure drop - 3 PSI or less.
- E.T.D. Temperature Correction Factor:

$$HP_{\text{chart}} = HP_{\text{compressor}} \times \frac{100}{\text{Desired E.T.D.}}$$

Recommended Typical Installation

- Support piping as needed. Flexible connectors must be properly installed to validate warranty.
- Coolers should not operate in ambient temperatures below 35°F (1°C). Consult factory for recommendations.
- The fan cannot be cycled.
- AHP coolers operated outdoors must be protected from weather. Consult factory for recommendations.
- If ductwork or additional static resistance is added to the cooler airstream, an auxiliary air mover may be required.

Maintenance

Periodic cleaning of the fins with compressed air is needed to remove the accumulation of dirt and dust. Check the automatic drain on the separator (not included) periodically.

If the inside of the tubes need to be cleaned of oil and carbon, use a chlorinated solvent. Do not use strong solvents. Do not use acids or caustic cleaners.

Specifications

Electric Motor and Fan Data

Model	Fan CFM	Motor HP	Voltage	Phase	Full Load Amps 230V	HZ	RPM	Nema Frame	Thermal Overload	Net Weight (LBS)	Approximate Shipping Weight (LBS)
ACOC(H)-400	2200	1.0	115/208-230	1	6.0	60 ¹	3450	56C	No	105	136
	1825/2200	1.0	208-230/460 ²	3	3.6/3.2	50/60	2850/3450	56C	No	105	136
ACOC(H)-725	3600	1.5	115/208-230	1	8.5	60 ¹	3450	56C	No	149	155
	3025/2200	1.5	208-230/460 ³	3	4.8/4.2	50/60	2850/3450	56C	No	149	155
ACOC(H)-950	4700	1.5	115/208-230	1	8.6	60 ¹	1740	145TC	No	223	280
	4700	1.5	208-230/460	3	4.6	60 ¹	1740	145TC	NO	223	280
ACOC(H)-1200	7000	5.0	230	1	23.0	60 ¹	1740	184TC	No	297	410
	7000	3.0	208-230/460	3	8.8	60 ¹	1740	182TC	No	297	410
ACOC(H)-1600	9700	5.0	208-230/460	3	13.4	60 ¹	1740	184TC	No	345	495
ACOC(H)-2000	11000	7.5	230/460	3	19.6	60 ¹	1740	213TC	No	495	350
ACOC-2500	14000	7.5	230/460	3	19.6	60 ¹	1740	213TC	No	522	540
ACOC-3000	17500	10.0	230/460	3	24.8	60 ¹	1740	215TC	No	655	780
ACOC-3500	17500	10.0	230/460	3	24.8	60 ¹	1740	215TC	No	690	820

All motors shown are TEFC—Other motor options available upon request.

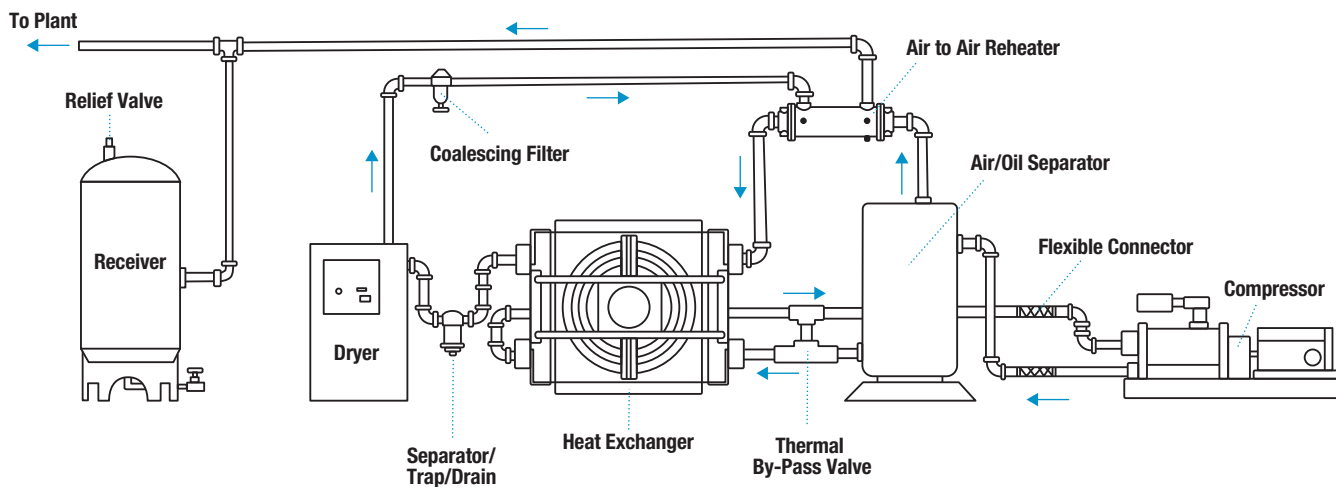
Published electrical ratings are approximate and may vary because of motor brand. Actual ratings are on motor nameplate.

⁽¹⁾ May also be operated at 50 Hz. Consult factory for details.

⁽²⁾ 50 Hz voltage: 190 - 200 - 208 - 220/380 - 400 - 415 - 440

⁽³⁾ 50 Hz voltage: 190 - 208/380 - 415

Bottom view of cooler to illustrate piping



General Information

1. Side by side units are built for operation with maximum air and oil pressure of 250 PSI and temperature of 350°F (176°C).
2. The motors furnished are built for fan duty. Consideration should be given to the installation location so motors are not subjected to extreme temperatures.
3. The “ACOC” coolers **are not to be operated** in ambient temperatures below 35°F (1°C).
4. The fan **cannot be cycled**.
5. “ACOC” coolers operated outdoors **must be protected** from weather. Consult factory for recommendations.

Installation

1. Units should not be located in corrosive atmospheres as rapid deterioration of fan shroud, cooling coil, fan and motor may take place resulting in reduced life.
2. Piping should be sized based on air flow and pressure drop requirements, and not on the aftercooler’s supply and return connection size.
3. A strainer located ahead of the aftercooler should be installed to trap scale, dirt or sludge that may be present in piping and equipment, or that may accumulate with use.
4. A separator/trap/drain should be installed in the outlet piping of the aftercooler to remove condensate.
5. Flexible connectors should be installed to prevent the stressing of manifolds. (Must be properly installed to validate warranty.)
6. Arrange the outlet pipe so that the moisture that condenses within the aftercooler can drain freely by gravity.
7. For proper air flow, a minimum of 12” clearance should be allowed between the aftercooler fan and any wall or obstructions.

Electrical

1. **CAUTION** To prevent possible electrical shock, it is important to make sure this unit is properly grounded.
2. Connect motor only to a power supply of the same characteristics as shown on the motor nameplate. Be sure to provide proper fusing to prevent possible motor burnout. Before starting motor, follow manufacturer’s recommendations. Turn fan manually to eliminate possible motor burn out in the event the fan has been damaged in shipment. Observe operation after motor is started for the first time.

Maintenance

Inspect the unit regularly for loose bolts and connections, rust and corrosion, and dirty or clogged heat transfer surfaces (cooling coil).

Heat Transfer Surface

Dirt and dust should be removed by brushing the fins and tubes and blowing loose dirt off with an air hose. Should the surface be greasy, the motor should be removed and the fins and tubes brushed or sprayed with a non-flammable degreasing fluid. Follow with a hot water rinse and dry thoroughly. A steam hose may also be used effectively. Do not clean with caustic cleaners

Fan Shroud, Fan and Motor

Dirt and grease should be removed from these parts. Rusty or corroded surfaces should be sanded clean and repainted.

Internal Cleaning

Once a year piping should be disconnected and a degreasing agent or flushing oil circulated through the unit to remove sludge from turbulators and internal tube surfaces to return the unit to full capacity. A thorough cleaning of the entire system in the same manner is preferable to avoid carry-over from uncleaned piping, pump and accessories. The strainer of any filtering devices should be removed and serviced following this cleaning operation.

Motor

Keep outside surface free of dirt and grease so motor will cool properly. Make sure cooling air over motor is not obstructed. Ball bearing motors are normally furnished and require lubrication every 6 months. If the motor is equipped with Alemite fitting, clean tip of fitting and apply grease gun. Use 1 to 2 full strokes on motors in NEMA 215 frame and smaller. Use 2 to 3 strokes of NEMA 254 through NEMA 365 frame. Use 3 to 4 strokes on NEMA 404 frames and larger. On motors having drain plugs, remove grease drain plug and operate motor for 20 minutes before replacing drain plug. On motors equipped with slotted head grease screw, remove screw and apply grease tube to hole. Insert 2 to 3 inch length of grease string into each hole on motors in NEMA 215 frame and smaller. Insert 3 to 5 inch length on larger motors. On motors having grease drain plugs, remove plug and operate motor for 20 minutes before replacing drain plug. **CAUTION** Keep grease clean. Lubricate motors at standstill. Do not mix petroleum grease and silicone grease in motor bearings.

Repair or Replacement of Parts

When ordering replacement parts or making inquiry regarding service, mention model number, serial number and the original purchase order number. Any reference to the motor must carry full nameplate data.

AHP(H) / AOL / ACOC(H) Series

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1. The cooler storage area should be dry and maintained at a constant room temperature.
2. In order to minimize and/or eliminate condensation (on both the inside and outside surfaces of the cooler), coolers **should not be moved** from warm areas to cold areas without prior adjustment of the room temperature in order to minimize the temperature changes which result in condensation. If this criteria cannot be met, the cooler shall be sealed in plastic bags with desiccant added.
3. For coolers which will be stored up to a maximum of 6 months: No specific internal corrosion protection procedures are required. All cooler openings shall be sealed with plastic plugs.
4. For coolers which will be stored from 6 months to 24 months: These coolers should be internally flushed with oil and all cooler openings sealed with plastic plugs.
5. For coolers which will be stored for more than 24 months: These coolers should be completely filled with oil and sealed. These coolers should then be flushed, inspected, refilled with oil, and sealed every 24 months.
6. For compressor aftercoolers after installation:
 - 6.1 Any condensation should be thoroughly removed from the aftercooler after the initial trial run of the compressor.
 - 6.2 In the event a compressor is to be stored, or not used for a period of 6 months to 24 months, the aftercooler should be internally flushed with oil, and all cooler openings sealed.
 - 6.3 In the event a compressor is to be stored, or not used for a period of more than 24 months, the aftercooler **should be completely filled** with oil and sealed. the aftercooler should then be flushed, inspected, refilled with oil, and sealed every 24 months.
 - 6.4 Prior to compressor start-up, any corrosion protection oil **should be removed** from the aftercooler.