American Industrial
Heat Transfer Inc.

Manufacturer of Quality Heat Exchangers

AOCH - AOCHM SERIES

AOCHM SERIES
with hydraulic motor

AOCH SERIES
with electric motor

AIR COOLED

LIQUID COOLERS

- Thermal capacity to 210hp (157Kw).
- Severe duty construction with OSHA guard.
- Serviceable Core®.
- Operating temperature of 300°F at 300 PSI.
- Electric or hydraulic drive.
- Optional: internal built-in bypass relief valve.
- Computer generated data sheet available for any application
- Can be customized to fit any applications.
- Cools: Fluid power systems, rock crushers, presses, shears, lubrication equipment for paper machinery, gear drives, marine transmissions, etc.

AOCH & AOCHM Series *overview*

AOCH SERIES with electric drive

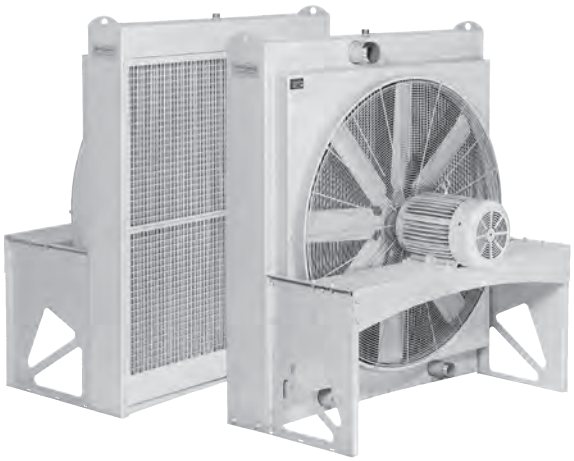
Industrial air-cooled liquid coolers, high performance six row rolled tube heat exchangers with direct electric drive cooling fan, OSHA guard, and air directing louvers. Rated operating temperature of 300°F at 300 PSIG. Services standard flow rates from 4 to 250 GPM. Thermal capacity up to 210 hp (157Kw). NPT, flange, or SAE straight thread port connections. Optional built-in bypass relief valve 30 PSI or 65 PSI. Can be modified to meet your requirements. Suitable for most hydraulic oils, lubrications oils, synthetic compressor oils, ethylene glycol, and many other fluids compatible with listed material.

AOCHM SERIES with hydraulic drive

Industrial air-cooled liquid coolers with hydraulic fan drive, high performance six row rolled tube heat exchangers with direct electric drive cooling fan, OSHA guard, and air directing louvers. Rated operating temperature of 300°F at 300 PSIG. Services standard flow rates from 4 to 250 GPM. Thermal capacity up to 210 hp (157Kw). NPT, flange, or SAE straight thread port connections. Optional built-in bypass relief valve 30 PSI or 65 PSI. Can be modified to meet your requirements. Suitable for most hydraulic oils, lubrications oils, synthetic compressor oils, ethylene glycol, and many other fluids compatible with listed material.

AOCH & AOCHM SERIES with optional screen

Same rugged features as standard AOCH & AOCHM Series with fabricated steel front screen in place of louvers.



AOCS Series *WITH ELECTRIC DRIVE*

Severe duty air-cooled liquid coolers, super capacity, rolled tube heat exchangers with direct electric drive cooling fan, OSHA guard, and heavy duty front screen. Rated operating temperature of 300°F at 200 PSIG. Standard flrow rates from 10 to 600 GPM. NPT, ANSI flange, or SAE code 61 four bolt flange port connections. Optional built-in bypass relief valve 30 PSI or 65 PSI. Can be modified to meet your requirements. Suitable for most hydraulic oils, lubrications oils, synthetic compressor oils, ethylene glycol, and many other fluids compatible with listed material.

HIGH PERFORMANCE TURBULATOR

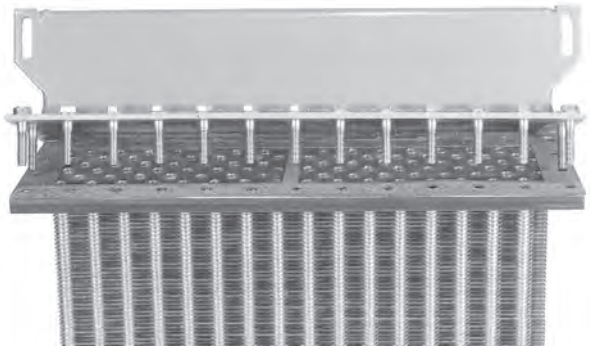
Exclusive American Industrial Turbulators (installed in every flow tube) increase heat transfer by more than 100%.

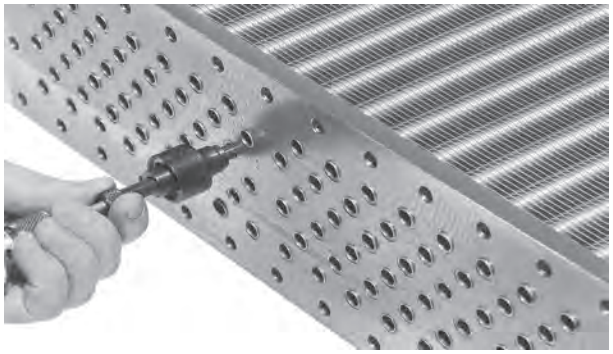
American Industrial Turbulators eliminate the laminar flow condition normally associated with other smooth tube heat exchangers. High viscosity hydraulic and lubricating oils are easily cooled by this new state-of-the-art turbulator.

SERVICEABLE CORE ®

Core covers disassemble for easy access and cleaning. Repairable design for applications that require limited down time. Roller expanded tube to tube-sheet joint.

100% mechanical bond. No braze or solder joint to fatigue fail, corrode, crack, etc.. No rubber grommets to replace. Positive gasket seal is field replaceable for field maintenance or repair.





SUPERIOR COOLING FINS

Copper tubes are mechanically bonded to highly efficient aluminum cooling fins. Die-formed fin collars provide a durable precision fit for maximum heat transfer.

Custom fin design forces air to become turbulent and carry heat away more efficiently than old flat fin designs.

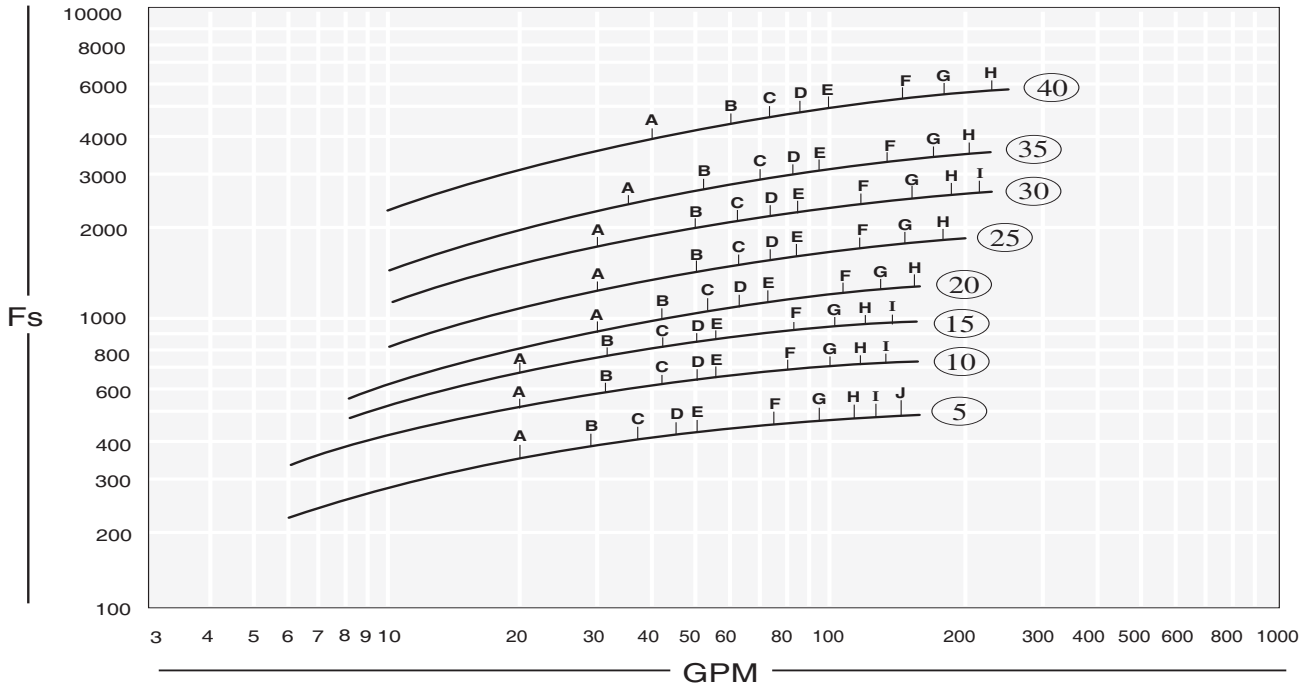
CONSTRUCTION MATERIALS & RATINGS

Standard Construction Materials		Optional Construction Materials
Tubes	Copper	Carbon Steel, 90/10 Cu.Ni, 316L Stainless Steel
Fins	Aluminum	Copper
Turbulators	Steel	Brass
Tube sheet	Steel	316L Stainless Steel
Removable Tanks	Steel	316L Stainless Steel
Connection pipes	Steel	316L Stainless Steel
Cabinet & frame	Steel	316L Stainless Steel, Galvanized Steel
Fan Blade	Aluminum	Plastic, Non-sparking, Steel
Fan Guard	Zinc Plated	
Gasket	Hypalon Composite	Viton, Nitrile, Composites

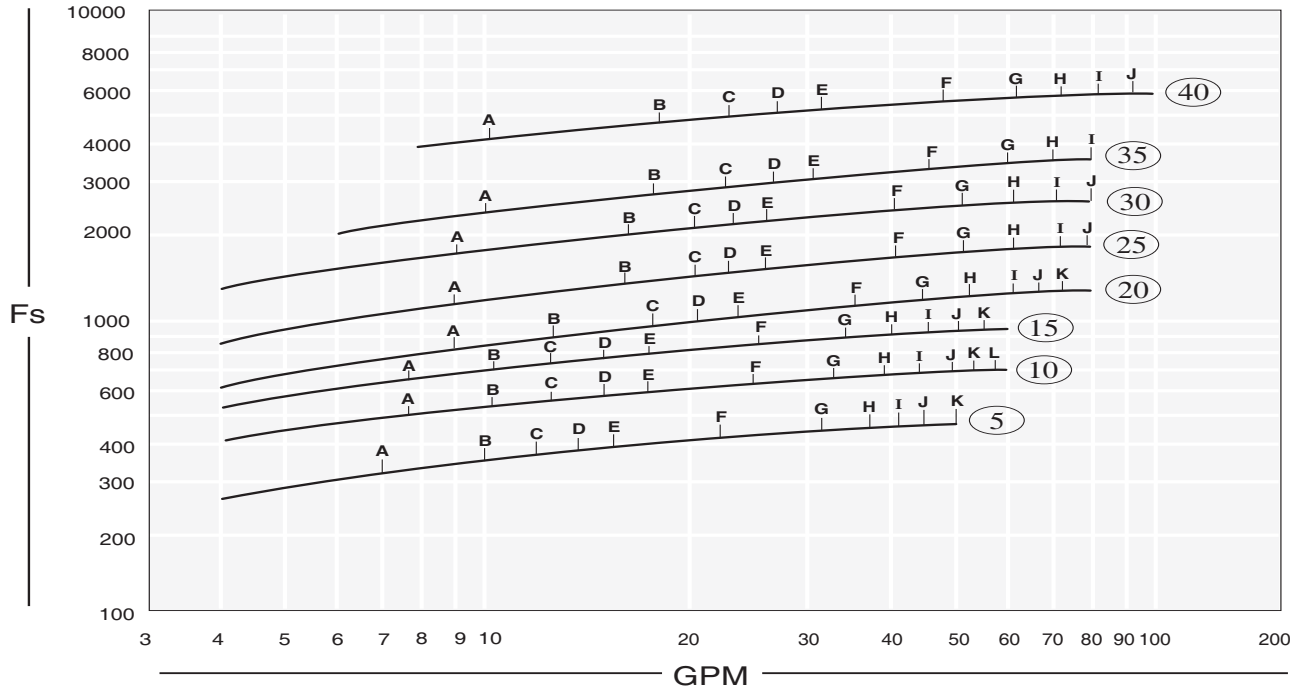
Standard Unit Ratings	
Operating Pressure	300 psig
Operating Temperature	300 °F
Max. Fan Over-speed	10 %
Max. Ambient Conditions	104 °F
Altitude	0-3300 ft.

AOCH & AOCHM Series *performance*

ONE PASS



TWO PASS



PERFORMANCE CALCULATION	OIL PRESSURE DROP (PSI) CODE
$F_s = \frac{\text{Horsepower to be removed (HP) x 2545 x Cv}}{\text{°F (Oil Leaving}^* \text{ - Ambient Air Entering)}} = \frac{\text{BTU}}{\text{hr °F}}$	A = 1 PSI D = 4 PSI G = 15 PSI J = 30 PSI B = 2 PSI E = 5 PSI H = 20 PSI K = 35 PSI C = 3 PSI F = 10 PSI I = 25 PSI L = 40 PSI

*Represents desired fluid leaving the cooler.

Note: When a model selection has been made, record whether the selection was from the one pass curve or the Two Pass curve so that the unit can be properly plumbed. Incorrect installation can seriously affect the performance.

Sizing
The performance curves provided are for petroleum oil at 50 ssu viscosity. However, fluids with characteristics other than the above mentioned may be used by applying a correction factor.

Heat Load
If the heat load is unknown, a horsepower value can be calculated by first determining the systems total potential. For a basic hydraulic system, it is helpful to know whether the system is open loop (with a large reservoir) or closed loop (normally on mobile equipment, with a very small reservoir). System potentials may be calculated quickly by using one of the two methods below.

There are some system parameters that will be required to properly accomplish the sizing calculations. Without system parameters, it is difficult to determine the optimal heat exchanger size. Normally many of the system parameters can be found on hydraulic schematics or on tags located on the actual equipment. Following are some basic parameters that you should try to acquire before attempting the sizing calculations. However, it is not necessary to have every parameter listed below.

- Main system flow rate (gpm) & operating pressure (psi).
- Electric motor HP driving hydraulic pump (if more than one add up the Hp for all).
- Desired temperature (°F).
- Fluid type (SAE 10, 20, 30, etc....).
- Ambient air temperature (warmest day).
- Desired fan drive (hydraulic, electric, 12-24V DC, etc...).
- BTU's or HP to be cooled (normally given for lubrication systems).
- Maximum pressure drop allowed through the heat exchanger.
- Space available for heat exchanger (LxWxH).
- External air condition (dirty, papers,etc).

Method 1
Normally used for open loop circuits. Multiply the main hydraulic systems Electric Motor Name plate Horsepower by a heat removal factor (normally 30-50%).

Example: 50 HP motor x 0.3 = 15 HP heat load

Method 2
Normally used when the HP input potential is unknown or for mobile applications where diesel engines operate the entire system.

Multiply system pressure by the flow rate of the main system divided by 1714 equals system potential (HP). Multiply the system HP by a heat removal factor (Normally 25-35%). Note: In some closed loop systems only a portion of the total system flow is directed through the heat exchanger. This may affect the cooler selection process substantially. You may contact our factory for additional technical assistance.

Example: $\frac{(2000 \text{ psi} \times 60 \text{ gpm})}{1714} = [70 \text{ HP} \times .25] = 17.5 \text{ HP heat load}$

Determining Fs value
To determine the proper size heat exchanger for your application, use the following equation to first determine the (Fs) factor:

$$Fs = \frac{\{ \text{heat load (HP)} \times 2545 \times Cv \}}{\{ \text{°F (oil leaving - air entering)} \}}$$

Example:
Heat load = 17.5 HP
Cv = 1.14 (SAE 20) determined from chart. [Located on page 5.]
Desired operating temperature = 120 °F
Ambient air temp. = 100 °F

$$Fs = \frac{\{ 17.5 \times 2545 \times 1.14 \}}{\{ 120 \text{ °F} - 100 \text{ °F} \}} = 2539$$

Selection
To select a model, locate the flow rate (GPM) at the bottom of the flow vs Fs graph. Proceed upward until the GPM flow rate intersects with the calculated Fs. The curve closest above the intersection point will meet these conditions.

Example: Fs = 2539 = Model = AOCH,AOCHM - 35
GPM = 60
PASSES = 1

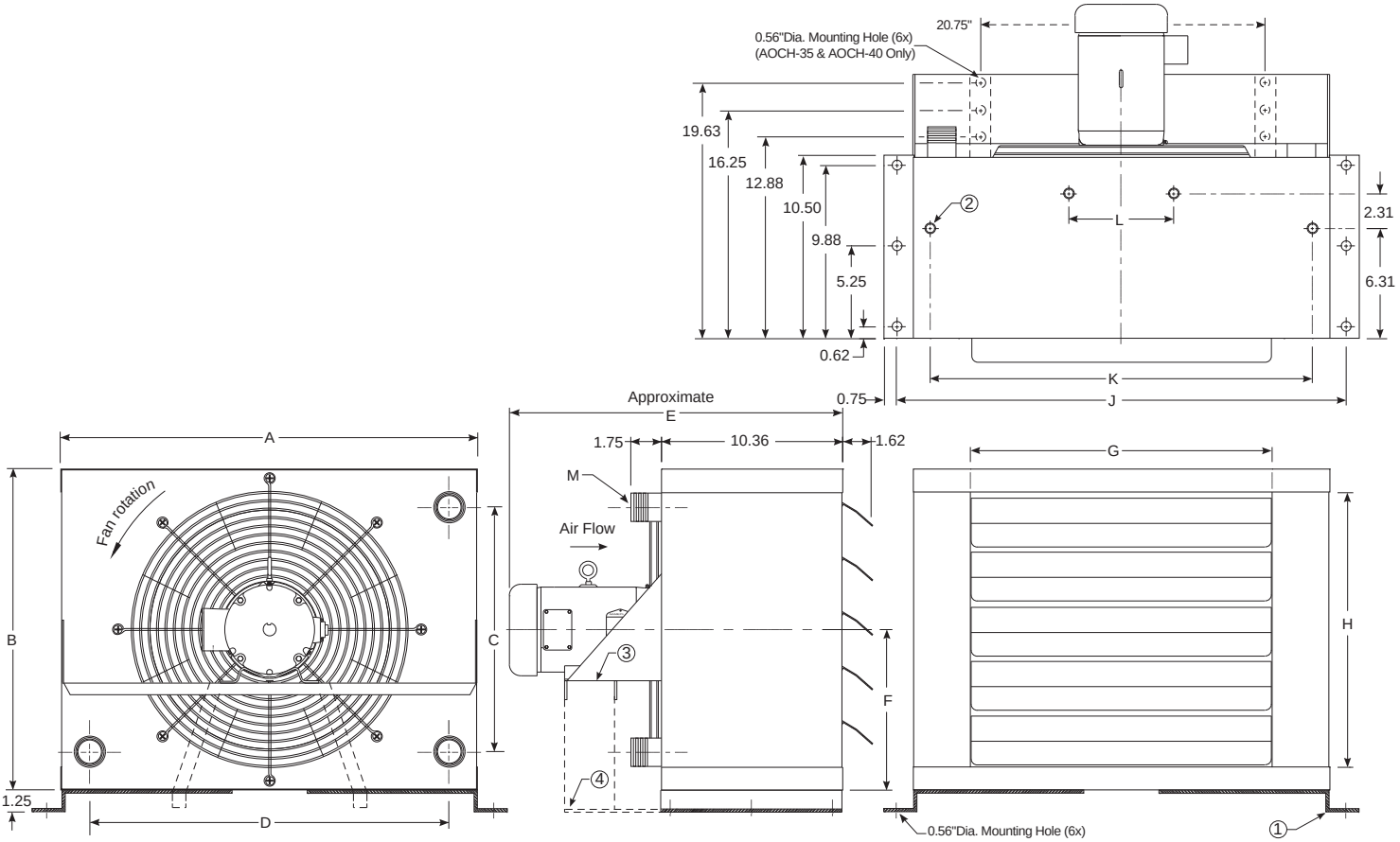
Pressure differentials
Determine the oil pressure drop from the curves as indicated. For viscosities other than 50 ssu, multiply the actual indicated pressure drop for your GPM flow by the value shown in the pressure differential curve for your viscosity value.

Example: Model 35 @ 60 gpm & 50 ssu -1 pass curve-
Indicated pressure drop 2.4 psi (Approx)
{ 2.4 psi x 2.8Cp (for SAE-20 oil) } = 6.72 corrected psi

Average Liquid Temperature	Cv VISCOSITY CORRECTION FACTORS																
	SAE 5	SAE 10	SAE 20	SAE 30	SAE 40	ISO 22	ISO 32	ISO 46	ISO 68	ISO 100	ISO 150	ISO 220	ISO 320	MIL-L-7808	POLYGLYCOL	PHOSPHATE ESTER	50% ETHYLENE GLYCOL & WATER
100	1.11	1.15	1.25	1.38	1.45	1.08	1.14	1.18	1.26	1.37	1.43	1.56	1.84	1.19	0.92	0.83	0.85
110	1.09	1.12	1.20	1.32	1.40	1.06	1.13	1.16	1.25	1.31	1.39	1.48	1.67	1.14	0.89	0.80	0.84
120	1.06	1.10	1.17	1.27	1.35	1.04	1.11	1.14	1.20	1.27	1.35	1.40	1.53	1.09	0.88	0.79	0.84
130	1.04	1.08	1.13	1.24	1.29	1.03	1.09	1.13	1.17	1.24	1.30	1.34	1.44	1.05	0.85	0.77	0.83
140	1.03	1.05	1.11	1.19	1.25	1.02	1.08	1.10	1.16	1.20	1.26	1.30	1.39	1.03	0.84	0.76	0.82
150	1.01	1.04	1.09	1.16	1.22	1.02	1.06	1.09	1.13	1.17	1.22	1.27	1.33	1.01	0.83	0.74	0.82
200	0.98	0.99	1.01	1.04	1.07	0.98	0.99	1.00	1.01	1.02	1.08	1.09	1.14	0.98	0.79	0.71	0.80
250	0.95	0.96	0.97	0.98	0.99	0.95	0.96	0.96	0.96	0.97	0.99	1.01	1.02	0.97	0.76	0.69	0.79

Average Liquid Temperature	Cp PRESSURE DROP CORRECTION FACTORS																
	SAE 5	SAE 10	SAE 20	SAE 30	SAE 40	ISO 22	ISO 32	ISO 46	ISO 68	ISO 100	ISO 150	ISO 220	ISO 320	MIL-L-7808	POLYGLYCOL	PHOSPHATE ESTER	50% ETHYLENE GLYCOL & WATER
100	2.00	2.40	4.40	6.40	8.80	1.07	1.53	1.82	2.54	4.19	6.44	9.38	13.56	1.26	3.00	3.50	0.730
110	1.70	2.10	3.60	5.10	6.70	1.04	1.45	1.72	2.35	3.73	5.70	8.33	11.63	1.20	2.40	2.90	0.720
120	1.50	1.80	3.00	4.20	5.60	1.02	1.38	1.60	2.15	3.26	4.91	7.23	9.73	1.14	2.10	2.50	0.709
130	1.40	1.60	2.60	3.40	4.50	0.99	1.30	1.49	1.94	2.80	4.14	6.19	7.80	1.08	1.90	2.20	0.698
140	1.30	1.50	2.23	2.90	3.70	0.97	1.23	1.38	1.75	2.38	3.47	5.20	6.11	1.03	1.90	2.00	0.686
150	1.20	1.30	1.90	2.50	3.10	0.95	1.17	1.30	1.61	2.04	2.90	4.35	4.77	0.98	1.70	1.90	0.676
200	0.93	0.96	1.20	1.40	1.60	0.89	0.99	1.08	1.18	1.33	1.59	1.74	1.95	0.90	1.20	1.30	0.635
250	0.81	0.82	0.92	0.97	1.05	0.85	0.93	0.96	1.03	1.11	1.21	1.22	1.23	0.83	1.00	1.05	0.556

AOCH Series *dimensions*



DIMENSIONS (inches)													
Model	A	B	C	D	E	F	G	H	J	K	L	M NPT	M SAE
AOCH - 5 - ✱	14.81	11.81	7.69	11.69	19.39	5.90	8.31	9.19	16.81	12.94	—	1.50	24 SAE 1 7/8 -12UN-2B Thread
AOCH - 10 - ✱	19.00	13.13	8.88	15.88	19.48	6.56	12.50	10.50	21.00	17.13	—	1.50	
AOCH - 15 - ✱	20.38	15.75	11.50	17.25	19.48	7.88	13.88	13.12	22.38	18.50	—	1.50	
AOCH - 20 - ✱	23.81	18.38	14.00	20.56	19.48	9.19	17.19	15.75	25.81	21.81	—	2.00	32 SAE 2 1/2 -12UN-2B Thread
AOCH - 25 - ✱	26.68	23.63	19.25	23.56	23.58	11.81	20.19	21.00	28.68	24.81	—	2.00	
AOCH - 30 - ✱	31.63	27.56	23.19	28.50	23.33	13.78	25.13	24.94	33.63	29.75	11.00	2.00	
AOCH - 35 - ✱	33.81	30.19	25.81	30.69	23.06	15.09	27.31	27.56	35.81	31.94	11.00	2.00	
AOCH - 40 - ✱	41.63	36.75	32.38	38.50	23.06	18.38	35.13	34.12	43.63	39.75	13.25	2.00	

✱ Represents options.

Notes:

1) Removable foot mounting brackets are supplied with unit at no additional charge.
2) 1/2-12 UNC-2B Tabs, 4 points, 8 points on models AOCH - 30,35 & 40 (top & bottom) for optional mounting purposes.
3) Motor mounting bracket is rotated 90 degrees on AOCH - 5 & 10 units.
4) Dotted line represents motor mounting bracket on AOCH-35 & 40.
5) Louvers are manually adjustable. However, all units are available with a screen front as an option (specify when ordering).
6) All units are available with an optional preset 30 or 65-psi pressure internal bypass valve. (see note "i" on page 155)
7) All units can be connected in one or Two Pass configuration. Refer to piping instructions for detailed operating and maintenance information.

Example of a model:

AOCH - 35 - 3 - S - R65 - 2P - ____ - ____

Model

Size

Drive Type
N = no motor
1 = single phase
3 = three phase
1EXP = single phase
3EXP = three phase
5 = 575 Volt

Connections
Blank = NPT
S = SAE O-Ring
F = 4 Bolt Flange
A = ANSI 150#RF Flange

Bypass
R30 = 30psi
R65 = 65psi

Number of Passes
1P = 1 pass
2P = 2 pass

Tubing
Blank = Copper
U = 90/10 Cu Ni
C = Carbon Steel
SS = Stainless Steel

Coating
Blank = Enamel (standard)
G = Galvanize (cabinet)
T = Heresite (core)
X = Epoxy (cabinet)
STS = Stainless Steel (cabinet)

AOCH ELECTRIC MOTOR @ 60 Hz. DATA

Model	Horse Power	Phase	Hz	Volts	RPM	NEMA Frame	Enclosure Type	Full Load Amperes	Service Factor	Thermal Overload
AOCH-5,10,15,20	1/2	1	60	115/230	1800	56	TEFC	4.6/2.3	1.15	NO
AOCH-5,10,15,20	1/2	3	60	208-230/460	1800	56	TEFC	1.6/0.8	1.15	NO
AOCH-5,10,15,20	1/2	3	60	575	1800	56	TEFC	.8	1.15	NO
AOCH-25, AOCH-30	1	1	60	115/230	1800	56	TEFC	8.6/4.3	1.15	NO
AOCH-25, AOCH-30	1	3	60	208-230/460	1800	56	TEFC	3.4/1.7	1.15	NO
AOCH-25, AOCH-30	1	3	60	575	1800	56	TEFC	1.5	1.0	NO
AOCH-35, AOCH-40	3	1	60	115/230	1800	184T	TEFC	28.0/14.0	1.0	NO
AOCH-35, AOCH-40	3	3	60	208-230/460	1800	182T	TEFC	7.6/3.8	1.15	NO
AOCH-35, AOCH-40	3	3	60	575	1800	182T	TEFC	3.3	1.15	NO

AOCH ELECTRIC MOTOR @ 50 Hz. DATA

Model	Horse Power	Phase	Hz	Volts	RPM	NEMA Frame	Enclosure Type	Full Load Amperes	Service Factor	Thermal Overload
AOCH-5,10,15,20	1/2	1	50	110/220	1500	56	TEFC	7.2/3.6	1.0	NO
AOCH-5,10,15,20	1/2	3	50	230/400	1500	56	TEFC	1.6/1.0	1.0	NO
AOCH-25, AOCH-30	1	1	50	110/220	1500	56	TEFC	12.4/6.2	1.0	NO
AOCH-25, AOCH-30	1	3	50	230/400	1500	56	TEFC	3.4/1.8	1.0	NO
AOCH-35,AOCH-40	3	1	50	110/220	1500	184T	TEFC	25.0/12.5	1.0	NO
AOCH-35, AOCH-40	3	3	50	230/400	1500	182T	TEFC	7.6/4.9	1.0	NO

ELECTRIC MOTOR NOTES:

1) All motors are NEMA, high efficiency
2) TEFC motors are available for all models.
3) Motor electrical ratings are an approximate guide and may vary between motor manufacturers. Consult ratings on motor data plate prior to installation and operation.
4) Explosion proof, high temperature, severe duty, chemical, IEC, Canadian Standards Association, and Underwriters Laboratory recognized motors are available upon request.
5) American Industrial reserves the right to enact changes to motor brand, type and ratings regarding horsepower, RPM,FLA,and service factor for standard products without notice. All specific requirements will be honored without change.
6) Fan rotation is clockwise when facing the motor shaft.
7) The above motors contain factory lubricated shielded ball bearings; no additional lubrication is required.
8) **Abbreviation Index**

   TEFC ..... Totally Enclosed, Fan Cooled

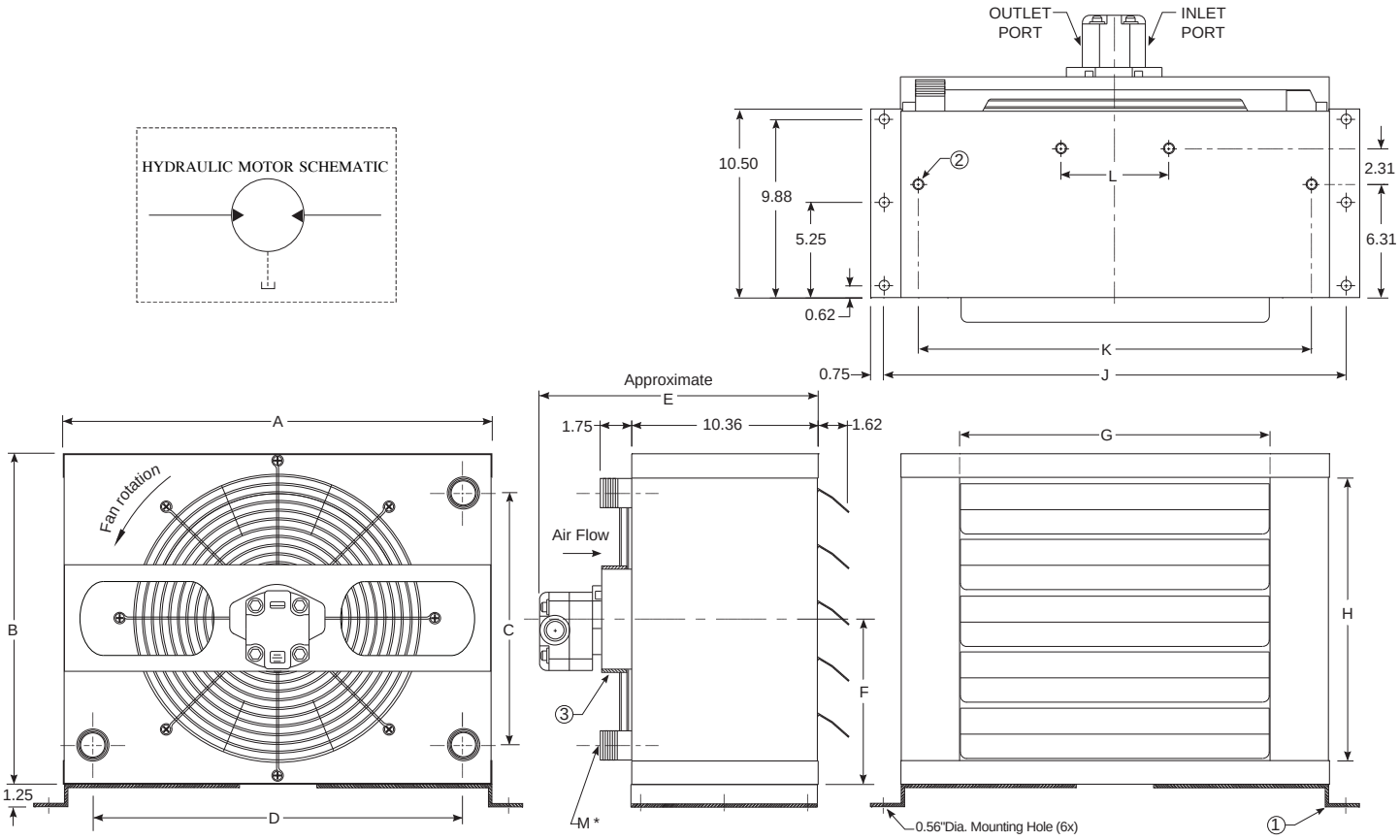
   X-PROOF ..... Explosion Proof

CLASS I,DIV.1, GROUP D or CLASS II,DIV.2, GROUP F & G EXPLOSION PROOF MOTOR DATA

Model	Horse Power	Phase	Hz	Volts	RPM	NEMA Frame	Enclosure Type	Full Load Amperes	Service Factor	Thermal Overload
AOCH-5,10,15,20	1/2	1	60	115-208/230	1800	56	X-PROOF	7.4/3.7	1.0	YES
AOCH-5,10,15,20	1/2	3	60	208-230/460	1800	56	X-PROOF	2.0/1.0	1.0	YES
AOCH-25, AOCH-30	1	1	60	115/230	1800	56	X-PROOF	13.0/6.5	1.0	YES
AOCH-25, AOCH-30	1	3	60	208-230/460	1800	56	X-PROOF	3.6/1.8	1.0	YES
AOCH-35, AOCH-40	3	1	60	115/230	1800	215	X-PROOF	30.0/15.0	1.0	YES
AOCH-35, AOCH-40	3	3	60	208-230/460	1800	182	X-PROOF	8.4/4.2	1.0	YES

NOTE: All of the AOCH Series explosion proof motors are available in 50hz upon request as a special

AOCHM Series *dimensions*



DIMENSIONS (inches)													
Model	A	B	C	D	E	F	G	H	J	K	L	M NPT	M SAE
AOCHM - 5 - ✱	14.81	11.81	7.69	11.69	15.21	5.90	8.31	9.19	16.81	12.94	—	1.50	24 SAE 1 7/8 -12UN-2B Thread
AOCHM - 10 - ✱	19.00	13.13	8.88	15.88	15.21	6.56	12.50	10.50	21.00	17.13	—	1.50	
AOCHM - 15 - ✱	20.38	15.75	11.50	17.25	15.21	7.88	13.88	13.12	22.38	18.50	—	1.50	
AOCHM - 20 - ✱	23.81	18.38	14.00	20.56	15.21	9.19	17.19	15.75	25.81	21.81	—	2.00	32 SAE 2 1/2 -12UN-2B Thread
AOCHM - 25 - ✱	26.68	23.63	19.25	23.56	15.21	11.81	20.19	21.00	28.68	24.81	—	2.00	
AOCHM - 30 - ✱	31.63	27.56	23.19	28.50	15.21	13.78	25.13	24.94	33.63	29.75	11.00	2.00	
AOCHM - 35 - ✱	33.81	30.19	25.81	30.69	15.21	15.09	27.31	27.56	35.81	31.94	11.00	2.00	
AOCHM - 40 - ✱	41.63	36.75	32.38	38.50	15.21	18.38	35.13	34.12	43.63	39.75	13.25	2.00	

✱ Represents options.

Notes :

1) Removable foot mounting brackets are supplied with unit at no additional charge.
2) 1/2-12 UNC-2B Tabs, 4 points, 8 points on models AOCHM - 30,35 & 40 (top & bottom) for optional mounting purposes.
3) Motor mounting bracket is rotated 90 degrees on AOCHM - 5 & 10 units.
4) Louvers are manually adjustable. However, all units are available with a screen front as an option (specify when ordering).
5) All units are available with an optional preset 30 or 65-psi pressure bypass valve. (see note "i" on page 155)
6) All units can be connected in one or Two Pass configuration. Refer to piping instructions for detailed operating and maintenance information.

Example of a model:

AOCHM - 40 - 9 - S - R65 - 2P - ____ - ____

Model

Size

Drive Type
N = No motor
9 = Hydraulic motor

Connections
Blank = NPT
S = SAE O-Ring
F = 4 Bolt Flange
A = ANSI 150#RF Flange

Bypass
R30 = 30psi
R65 = 65psi

Number of Passes
1P = 1 pass
2P = 2 pass

Tubing
Blank = Copper
U = 90/10 Cu Ni
C = Carbon Steel
SS - Stainless Steel

Coating
Blank = Enamel (standard)
G = Galvanize (cabinet)
T = Heresite (core)
X = Epoxy (cabinet)
STS = Stainless Steel (cabinet)

HYDRAULIC MOTOR DATA

Model	Motor RPM	Displacement in^3/Rev	Required Flow		Min. pressure start / run PSIG	Case Drain	SAE Size	Side Port SAE O-Ring	Max. Continuous Pressure PSIG
			GPM	LPM					
AOCHM - 5 - ✱	1725	0.43	6.5	24.6	300	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 10 - ✱	1725	0.43	6.5	24.6	300	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 15 - ✱	1725	0.68	6.0	22.7	400	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 20 - ✱	1725	0.68	6.0	22.7	400	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 25 - ✱	1725	0.68	6.0	22.7	400	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 30 - ✱	1725	0.68	6.0	22.7	400	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 35 - ✱	1725	0.68	6.0	22.7	1000	#6 9/16 -18	A	#12; 11/16-12	3000
AOCHM - 40 - ✱	1725	0.68	6.0	22.7	1000	#6 9/16 -18	A	#12; 11/16-12	3000

NOTES: ✱ Represents options.

HYDRAULIC MOTOR NOTES:

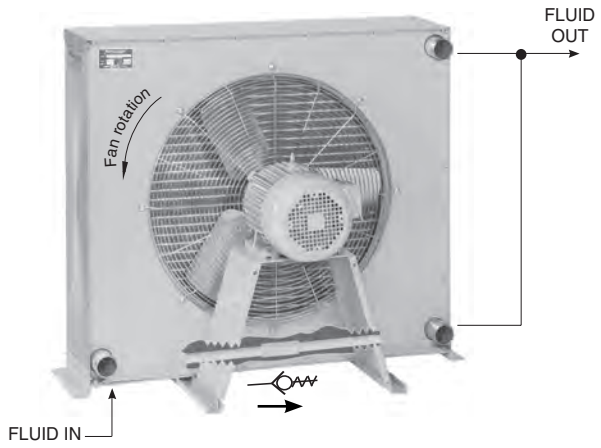
1) Standard units are supplied with a bi-directional hydraulic gear motor for the fan drive. The gear motor requires an external case drain be used during operation. The external case drain should be connected directly to hydraulic reservoir or a return line with not greater than 10PSIG back pressure. (NOTE: *Failure to properly connect and use the external case drain during motor operation could result in motor failure and external leakage of hydraulic fluid.*
2) Hydraulic motor flow requirements are provided with an efficiency rating of approximately 85%. Pressure requirements are calculated theoretical minimum operating requirements.
3) Shaft adapters are used to bridge the differences in length between the fan and hydraulic motor.
4) Maximum degree of fluid contamination, class 18/15 according to ISO 4406. Therefore, it is recommended to use a filter with retention rating of B20>. For longer life, it is recommended to use class 17/14 achievable with filter B10>-100.
5) Fan rotation is clockwise when facing the motor shaft.
6) Optional displacement motors available upon request.
7) American industrial reserves the right to enact changes to hydraulic motor, brand, type, ratings, port sizes, or any additional non-specified attribute for standard products without notice. All specific requirements will be honored without change pending availability.

COMMON DATA

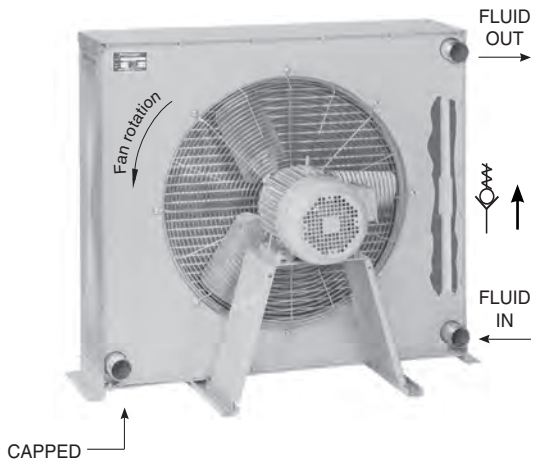
Model	Air Flow		Sound Level dB(A) @ 7ft	Liquid Volume		Weight Electric		Weight Hydraulic		Serviceable Core
	CFM	m^3/s		gal.	cm^3	lb	kg	lb	kg	
Model - 5 - ✱	780	.368	85	.88	3331	82	37	64	29	NO
Model - 10 - ✱	1110	.523	85	1.09	4126	91	41	73	34	NO
Model - 15 - ✱	1590	.750	80	1.29	4883	103	47	85	39	NO
Model - 20 - ✱	2168	1.023	80	1.70	6735	152	69	134	61	Yes
Model - 25 - ✱	3000	1.42	81	2.27	8592	175	79	157	71	Yes
Model - 30 - ✱	4095	1.93	84	2.86	10826	218	99	200	91	Yes
Model - 35 - ✱	5921	2.79	89	3.46	13097	351	159	233	106	Yes
Model - 40 - ✱	9609	4.54	91	4.72	17865	432	196	314	142	Yes

NOTES: a) ✱ Represents the options for motor drive.
b) To estimate the sound level at distances other than 13 feet (4 meters) from the cooler, add 6 db for each halving of distance, or substract 6 db for each doubling of the distance.

PIPING HOOK UP *shown with relief valve*



ONE PASS



TWO Pass