Fluid Cooling Shell & Tube EC Series

COPPER & STEEL CONSTRUCTION

Performance Notes

- Rugged steel shell construction
- 3/8" tube size
- Larger shell diameter than EK, 8.50" maximum diameter
- High flow capacity & performance
- High efficiency finned bundle design
- End bonnets removable for easy tube cleaning
- Mounting brackets included – may be rotated for simple installation
- NPT, SAE, BSPP or flange connections

OPTIONS
Patented built-in Surge-Cushion® bypass

Type 316 stainless steel or 90/10 copper-nickel components

GREEN FRIENDLY
Requires Less Cooling Water

Ratings

Maximum Operating Pressure - Shell Side
300 PSI

Maximum Operating Pressure - Tube Side
150 PSI

Maximum Operating Temperature
300°F

Materials

Shell Steel

Tubesheets Steel

Tubes Copper

Baffles Steel

Mounting Brackets Steel

Gaskets Nitrile rubber/cellulose fiber

Fins Aluminum

End Caps Grey iron

Nameplate Aluminum foil

Optional Surge-Cushion®

The **Surge-Cushion**® is a patented protective device designed to internally bypass a portion of the oil flow during cold start conditions, or when sudden flow surges temporarily exceed the maximum flow allowed for a given cooler. This device may replace may replace an external bypass, but it is not intended to bypass the total oil flow.

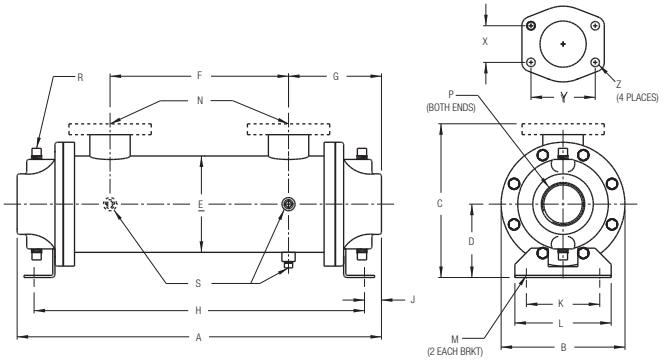
How to Order

	–		–		–		–		–	
Model Series **EC** **ECS** **ECM** **ECF** **ECFM**		**Model Size Selected**		**Baffle Spacing**	**Tubeside Passes** **O** - One Pass **T** - 2 Pass **F** - 4 Pass	**Surge Cushion** **Blank** - None **R** - Surge Cushion	**Cooling Tube Material** **Blank** - Copper **CN** - CuNi **SS** - 316 Stainless Steel	**End Bonnet Material** **Blank** - Cast Iron **B** - Bronze **SB** - 316 Stainless Steel	**Tubesheet Material** **Blank** - Steel **W** - CuNi **S** - 316 Stainless Steel	**Zinc Anodes** **Blank** - None **Z** - Zinc Anodes

EC = NPT Oil connections; NPT Water connections.
ECS = SAE O-Ring Oil connections; NPT Water connections.
ECM = BSPP Oil connections; BSPP Water connections.
ECF = SAE 4 Bolt Flange (Tapped SAE) Oil connections; NPT Water connections.
ECFM = SAE 4 Bolt Flange (Tapped Metric) Oil connections; BSPP Water connections.

Dimensions

One Pass

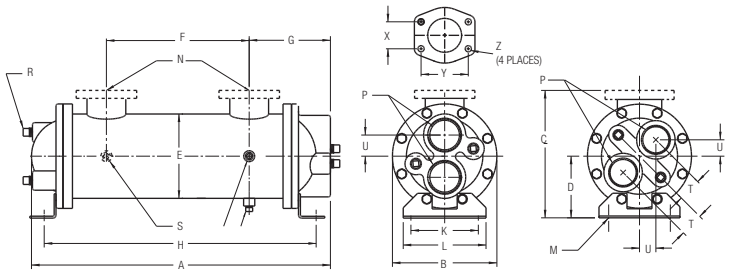


SAE Flange Size	X	Y	Z
1½	1.41	2.75	1/2 - 13
2	1.69	3.06	UNC-2B
3	2.44	4.19	5/8 - 11 UNC 2B

Model	A	B Diameter	C NPT/BSPP SAE O-Ring	C SAE Flange	D	E Diameter	F	G	H	J	K	L	M	N NPT/BSPP Flange	N SAE O-Ring	P NPT BSPP	R NPT BSPP	S NPT BSPP
EC-1014	20.22	6.75	7.75	8.00	4.00	5.25	10.12	5.05	18.38	.92	4.00	5.25	.50 x .75 Slot	1½	#24 SAE	2	(4) 3/8	(3) 3/8
EC-1024	30.22	6.75	7.75	8.00	4.00	5.25	20.12	5.05	28.38	.92	4.00	5.25		1½	#24 SAE	2	(4) 3/8	(3) 3/8
EC-1036	42.22	6.75	7.75	8.00	4.00	5.25	32.12	5.05	40.38	.92	4.00	5.25		1½	#24 SAE	2	(4) 3/8	(3) 3/8
EC-1054	60.22	6.75	7.75	8.00	4.00	5.25	50.12	5.05	58.32	.92	4.00	5.25		1½	#24 SAE	2	(4) 3/8	(3) 3/8
EC-1224	30.72	7.75	8.75	9.38	4.50	6.25	18.97	5.87	27.84	1.43	5.00	6.25		2	#32 SAE	3	(4) 3/8	(3) 3/8
EC-1236	42.72	7.75	8.75	9.38	4.50	6.25	30.97	5.87	39.84	1.43	5.00	6.25		2	#32 SAE	3	(4) 3/8	(3) 3/8
EC-1254	60.72	7.75	8.75	9.38	4.50	6.25	48.97	5.87	57.84	1.43	5.00	6.25		2	#32 SAE	3	(4) 3/8	(3) 3/8
EC-1272	78.72	7.75	8.75	9.38	4.50	6.25	66.97	5.87	75.84	1.43	5.00	6.25		2	#32 SAE	3	(4) 3/8	(3) 3/8
EC-1724	33.22	10.50	11.50	12.50	5.75	8.50	18.75	7.23	28.81	2.25	7.00	8.25	.62 x .88 Slot	3	N/A	4	(4) 3/8	(3) 3/8
EC-1736	45.22	10.50	11.50	12.50	5.75	8.50	30.75	7.23	40.81	2.25	7.00	8.25		3	N/A	4	(4) 3/8	(3) 3/8
EC-1754	63.22	10.50	11.50	12.50	5.75	8.50	48.75	7.23	58.81	2.25	7.00	8.25		3	N/A	4	(4) 3/8	(3) 3/8
EC-1772	81.22	10.50	11.50	12.50	5.75	8.50	66.75	7.23	76.81	2.25	7.00	8.25		3	N/A	4	(4) 3/8	(3) 3/8
EC-1784	93.22	10.50	11.50	12.50	5.75	8.50	78.75	7.23	88.81	2.25	7.00	8.25		3	N/A	4	(4) 3/8	(3) 3/8

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

Two Pass



EC-1200 EC-1000 & 1700

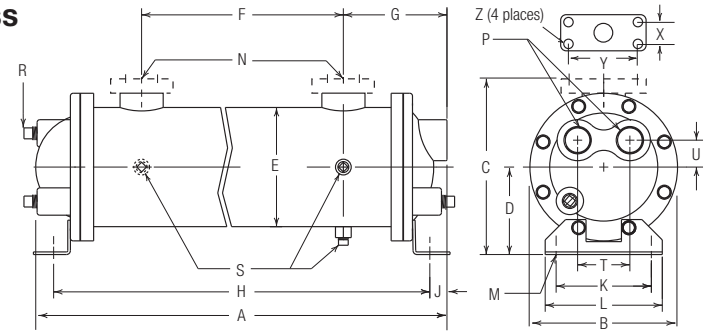
SAE Flange Size	X	Y	Z
1½	1.41	2.75	1/2 - 13
2	1.69	3.06	UNC-2B
3	2.44	4.19	5/8 - 11 UNC 2B

Model	A	B Diameter	C NPT/BSPP SAE O-Ring	C SAE Flange	D	E Diameter	F	G	H	J	K	L	M	N NPT/BSPP Flange	N SAE O-Ring	P NPT BSPP	R NPT BSPP	S NPT BSPP	T	U
EC-1014	19.75	6.75	7.75	8.00	4.00	5.25	10.12	5.05	18.38	.92	4.00	5.25	.50 x .75 Slot	1½	#24 SAE	1½	(4) 3/8	3/8	1.50	1.06
EC-1024	29.75	6.75	7.75	8.00	4.00	5.25	20.12	5.05	28.38	.92	4.00	5.25		1½	#24 SAE	1½	(4) 3/8	3/8	1.50	1.06
EC-1036	41.75	6.75	7.75	8.00	4.00	5.25	32.12	5.05	40.38	.92	4.00	5.25		1½	#24 SAE	1½	(4) 3/8	3/8	1.50	1.06
EC-1054	59.75	6.75	7.75	8.00	4.00	5.25	50.12	5.05	58.32	.92	4.00	5.25		1½	#24 SAE	1½	(4) 3/8	3/8	1.50	1.06
EC-1224	29.75	7.75	8.75	9.38	4.50	6.25	18.97	5.52	27.84	1.00	5.00	6.25		2	#32 SAE	2	(4) 3/8	3/8	—	1.56
EC-1236	41.75	7.75	8.75	9.38	4.50	6.25	30.97	5.52	39.84	1.00	5.00	6.25		2	#32 SAE	2	(4) 3/8	3/8	—	1.56
EC-1254	59.75	7.75	8.75	9.38	4.50	6.25	48.97	5.52	57.84	1.00	5.00	6.25		2	#32 SAE	2	(4) 3/8	3/8	—	1.56
EC-1272	77.75	7.75	8.75	9.38	4.50	6.25	66.97	5.52	75.84	1.00	5.00	6.25		2	#32 SAE	2	(4) 3/8	3/8	—	1.56
EC-1724	32.37	10.50	11.50	12.50	5.75	8.50	18.75	7.11	28.81	2.08	7.00	8.25	.62 x .88 Slot	3	N/A	2	(4) 3/8	3/8	2.25	1.59
EC-1736	44.37	10.50	11.50	12.50	5.75	8.50	30.75	7.11	40.81	2.08	7.00	8.25		3	N/A	2	(4) 3/8	3/8	2.25	1.59
EC-1754	62.37	10.50	11.50	12.50	5.75	8.50	48.75	7.11	58.81	2.08	7.00	8.25		3	N/A	2	(4) 3/8	3/8	2.25	1.59
EC-1772	80.37	10.50	11.50	12.50	5.75	8.50	66.75	7.11	76.81	2.08	7.00	8.25		3	N/A	2	(4) 3/8	3/8	2.25	1.59
EC-1784	92.37	10.50	11.50	12.50	5.75	8.50	78.75	7.11	88.81	2.08	7.00	8.25		3	N/A	2	(4) 3/8	3/8	2.25	1.59

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

Dimensions

Four Pass



SAE Flange Size	X	Y	Z
1½	1.41	2.75	1/2 - 13
2	1.69	3.06	UNC-2B
3	2.44	4.19	5/8 - 11 UNC 2B

Model	A	B Diameter	C NPT/BSPP SAE O-Ring	C SAE Flange	D	E Diameter	F	G	H	J	K	L	M	N NPT/ BSPP Flange	N SAE O-Ring	P NPT BSPP	R NPT BSPP	S NPT BSPP	T	U
EC-1014	19.87	6.75	7.75	8.00	4.00	5.25	10.12	4.82	18.38	.75	4.00	5.25	.50 x .75 Slot	1½	#24 SAE	1	(3) 3/8	(3) 3/8	2.40	1.20
EC-1024	29.87	6.75	7.75	8.00	4.00	5.25	20.12	4.82	28.38	.75	4.00	5.25		1½	#24 SAE	1	(3) 3/8	(3) 3/8	2.40	1.20
EC-1036	41.87	6.75	7.75	8.00	4.00	5.25	32.12	4.82	40.38	.75	4.00	5.25		1½	#24 SAE	1	(3) 3/8	(3) 3/8	2.40	1.20
EC-1054	59.87	6.75	7.75	8.00	4.00	5.25	50.12	4.82	58.32	.92	4.00	5.25		1½	#24 SAE	1	(3) 3/8	(3) 3/8	2.40	1.20
EC-1224	29.87	7.75	8.75	9.38	4.50	6.25	18.97	5.44	27.84	1.00	5.00	6.25		2	#32 SAE	1½	(3) 3/8	(3) 3/8	2.82	1.41
EC-1236	41.78	7.75	8.75	9.38	4.50	6.25	30.97	5.44	39.84	1.00	5.00	6.25		2	#32 SAE	1½	(3) 3/8	(3) 3/8	2.82	1.41
EC-1254	59.78	7.75	8.75	9.38	4.50	6.25	48.97	5.44	57.84	1.00	5.00	6.25		2	#32 SAE	1½	(3) 3/8	(3) 3/8	2.82	1.41
EC-1272	77.78	7.75	8.75	9.38	4.50	6.25	66.97	5.44	75.84	1.00	5.00	6.25		2	#32 SAE	1½	(3) 3/8	(3) 3/8	2.82	1.41
EC-1724	31.61	10.50	11.50	12.50	5.75	8.50	18.75	7.06	28.81	2.08	7.00	8.25	.62 x .88 Slot	3	N/A	2	(3) 3/8	(3) 3/8	4.25	1.41
EC-1736	43.61	10.50	11.50	12.50	5.75	8.50	30.75	7.06	40.81	2.08	7.00	8.25		3	N/A	2	(3) 3/8	(3) 3/8	4.25	1.41
EC-1754	61.61	10.50	11.50	12.50	5.75	8.50	48.75	7.06	58.81	2.08	7.00	8.25		3	N/A	2	(3) 3/8	(3) 3/8	4.25	1.41
EC-1772	79.61	10.50	11.50	12.50	5.75	8.50	66.75	7.06	76.81	2.08	7.00	8.25		3	N/A	2	(3) 3/8	(3) 3/8	4.25	1.41
EC-1784	91.61	10.50	11.50	12.50	5.75	8.50	78.75	7.06	88.81	2.08	7.00	8.25		3	N/A	2	(3) 3/8	(3) 3/8	4.25	1.41

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

Selection Procedure

Performance Curves are based on 100SSU oil leaving the cooler 40°F higher than the incoming water temperature (40°F approach temperature).

STEP 1 **Determine the Heat Load.** This will vary with different systems, but typically coolers are sized to remove 25 to 50% of the input nameplate horsepower. (Example: 100 HP Power Unit x .33 = 33 HP Heat load.)
If BTU/HR is known: $HP = \frac{BTU/HR}{2545}$

STEP 2 **Determine Approach Temperature.**
Desired oil leaving cooler °F − Water Inlet temp. °F = Actual Approach

STEP 3 **Determine Curve Horsepower Heat Load.** Enter the information from above:

$$\text{HP heat load} \times \frac{40}{\text{Actual Approach}} \times \text{Viscosity Correction A} = \text{Curve Horsepower}$$

STEP 4 **Enter curves** at oil flow through cooler and curve horsepower. Any curve above the intersecting point will work.

STEP 5 **Determine Oil Pressure Drop from Curves.** Multiply pressure drop from curve by correction factor B found on oil viscosity correction curve.
● = 5 PSI ■ = 10 PSI ▲ = 20 PSI

Oil Temperature

Oil coolers can be selected by using entering or leaving oil tempertures.

Typical operating temperature ranges are:

Hydraulic Motor Oil	110°F - 130°F
Hydrostatic Drive Oil	130°F - 180°F
Lube Oil Circuits	110°F - 130°F
Automatic Transmission Fluid	200°F - 300°F

Desired Reservoir Temperature

Return Line Cooling: Desired temperature is the oil temperature leaving the cooler. This will be the same temperature that will be found in the reservoir.

Off-Line Recirculation Cooling Loop: Desired temperature is the temperature entering the cooler. In this case, the oil temperature change must be determined so that the actual oil leaving temperature can be found. Calculate the oil temperature change (Oil △T) with this formula:

Oil △T=(BTUs/HR)/GPM Oil Flow x 210).

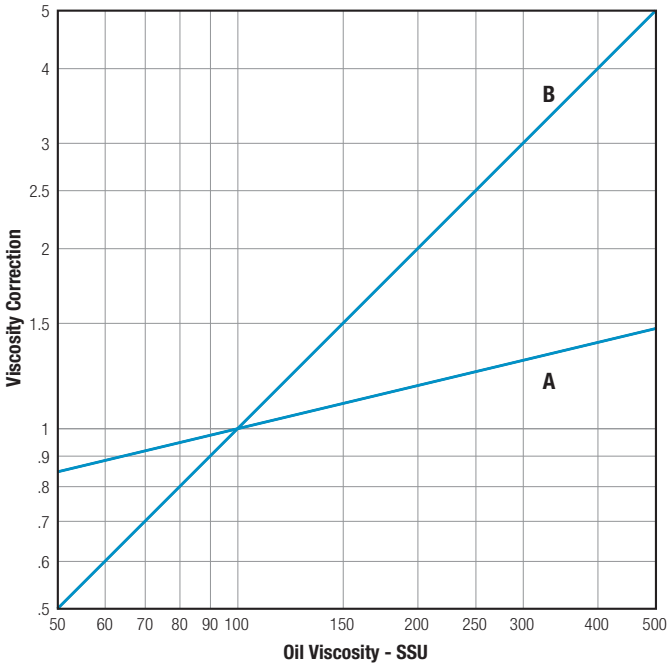
To calculate the oil leaving temperature from the cooler, use this formula:

Oil Leaving Temperature = Oil Entering Temperature - Oil △T.

This formula may also be used in any application where the only temperature available is the entering oil temperature.

Oil Pressure Drop: Most systems can tolerate a pressure drop through the heat exchanger of 20 to 30 PSI. Excessive pressure drop should be avoided. Care should be taken to limit pressure drop to 5 PSI or less for case drain applications where high back pressure may damage the pump shaft seals.

Oil Viscosity Correction Multipliers



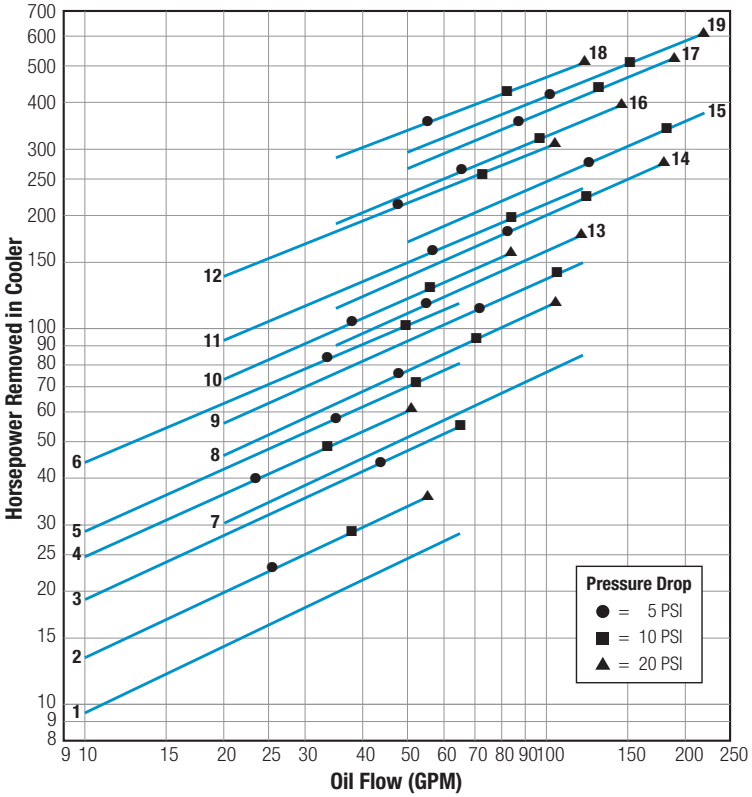
Maximum Flow Rates

Unit Size	Shell Side GPM	Tube Side GPM		
		One Pass	Two Pass	Four Pass
1000	70	65	32	16
1200	120	120	60	30
1700	250	220	110	65

Incorrect installation can cause premature failure.

Performance Curves

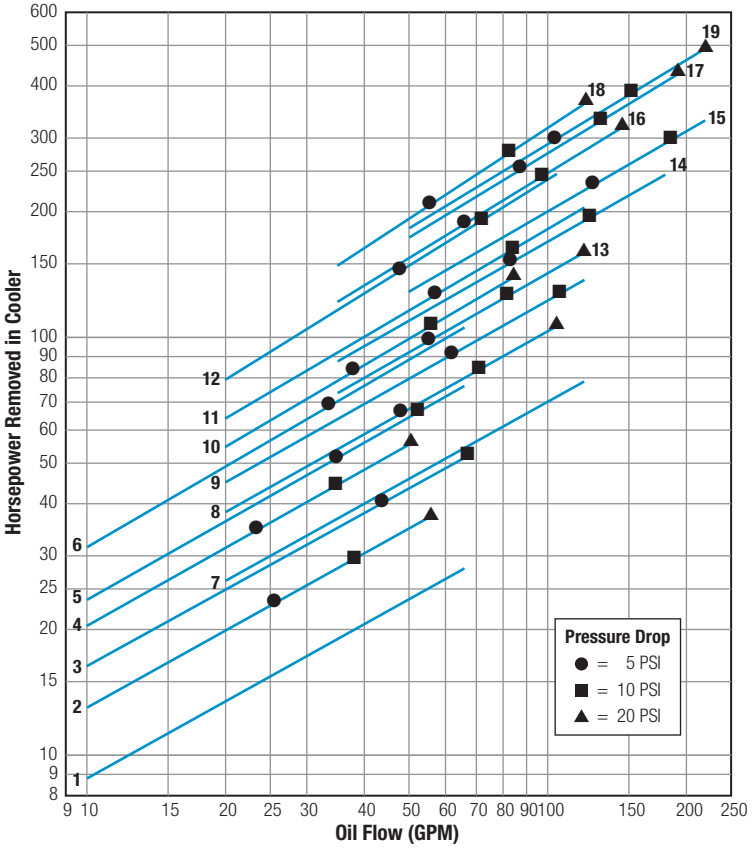
1:1 Oil to Water Ratio – High Water Usage



Curve Number	Model	Approximate Weight (LBS)	
		Net	Shipping
1	EC-1014-7-0	28	28
2	EC-1014-4-0	28	28
3	EC-1024-6-0	45	45
4	EC-1024-4-0	45	45
5	EC-1036-6-0	66	66
6	EC-1054-7-0	105	105
7	EC-1224-12-0	98	98
8	EC-1224-6-0	98	98
9	EC-1236-9-0	125	125
10	EC-1236-6-0	125	125
11	EC-1254-9-0	155	155
12	EC-1272-9-0	210	210
13	EC-1724-6-0	145	145
14	EC-1736-9-0	201	201
15	EC-1754-14-0	275	275
16	EC-1754-9-0	275	275
17	EC-1772-12-0	330	330
18	EC-1772-9-0	330	330
19	EC-1784-14-0	390	390

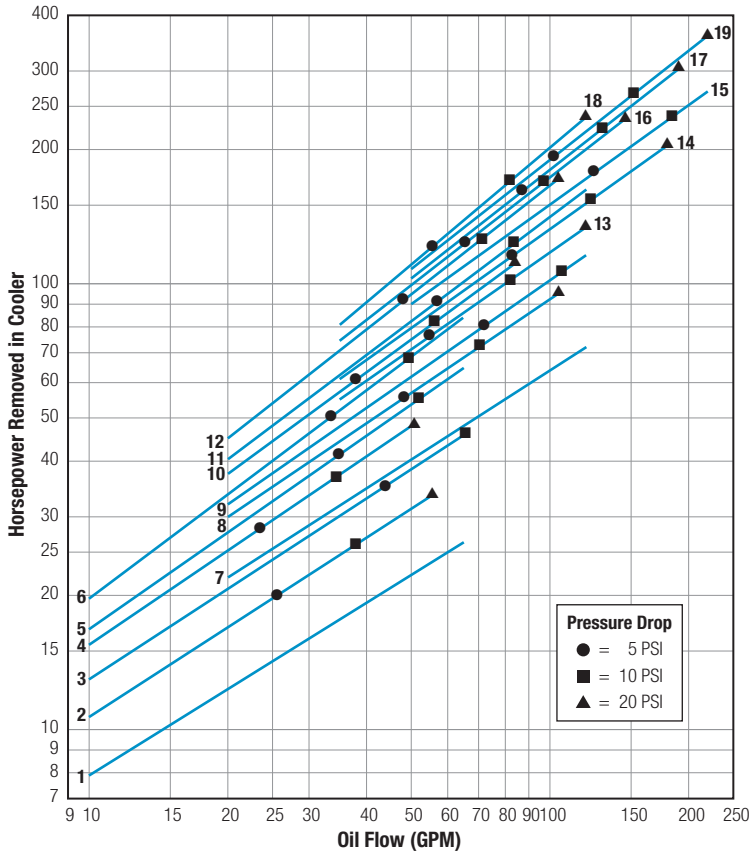
Performance Curves

2:1 Oil to Water Ratio – Medium Water Usage



Curve Number	Model	Approximate Weight (LBS)	
		Net	Shipping
1	EC-1014-7-T	28	32
2	EC-1014-4-T	28	32
3	EC-1024-6-T	45	50
4	EC-1024-4-T	45	50
5	EC-1036-6-T	66	70
6	EC-1054-7-T	105	140
7	EC-1224-12-T	98	105
8	EC-1224-6-T	98	105
9	EC-1236-9-T	125	145
10	EC-1236-6-T	125	145
11	EC-1254-9-T	155	185
12	EC-1272-9-T	210	250
13	EC-1724-6-T	145	175
14	EC-1736-9-T	201	235
15	EC-1754-14-T	275	305
16	EC-1754-9-T	275	305
17	EC-1772-12-T	330	380
18	EC-1772-9-T	330	380
19	EC-1784-14-T	390	450

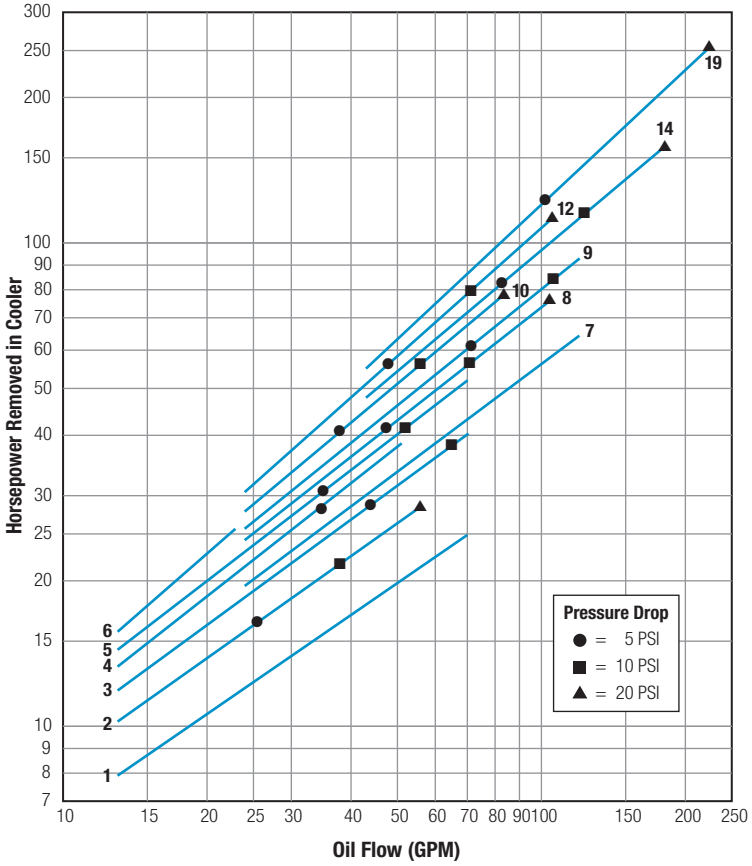
4:1 Oil to Water Ratio – Low Water Usage



Curve Number	Model	Approximate Weight (LBS)	
		Net	Shipping
1	EC-1014-7-F	28	32
2	EC-1014-4-F	28	32
3	EC-1024-6-F	45	50
4	EC-1024-4-F	45	50
5	EC-1036-6-F	66	70
6	EC-1054-7-F	105	140
7	EC-1224-12-F	98	105
8	EC-1224-6-F	98	105
9	EC-1236-9-F	125	145
10	EC-1236-6-F	125	145
11	EC-1254-9-F	155	180
12	EC-1272-9-F	210	250
13	EC-1724-6-F	145	175
14	EC-1736-9-F	201	235
15	EC-1754-14-F	275	305
16	EC-1754-9-F	275	305
17	EC-1772-12-F	330	380
18	EC-1772-9-F	330	380
19	EC-1784-14-F	390	450

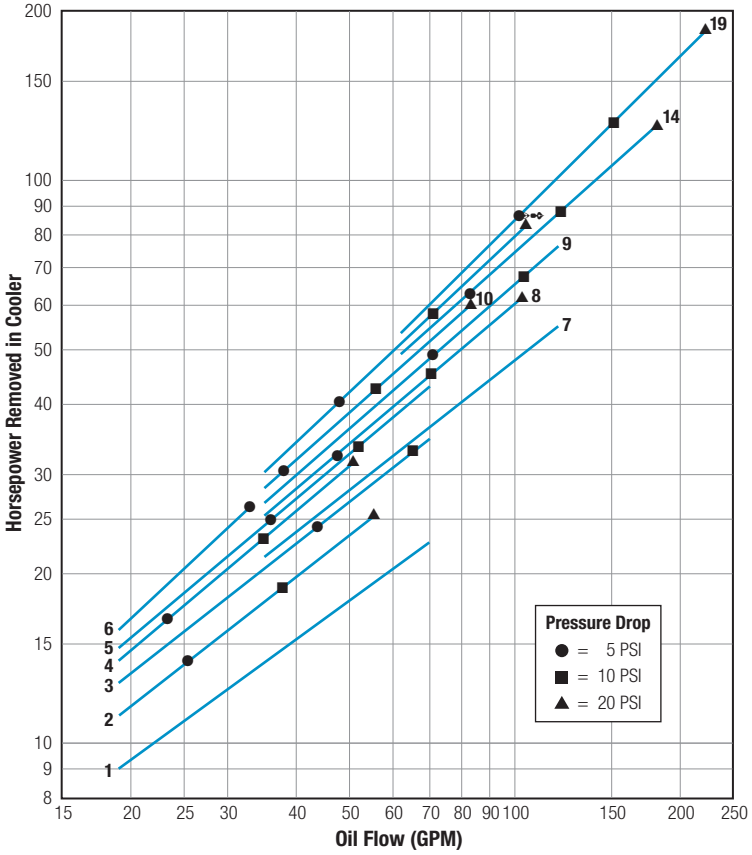
Performance Curves

7:1 Oil to Water Ratio – Lower Water Usage



Curve Number	Model	Approximate Weight (LBS)	
		Net	Shipping
1	EC-1014-7-F	28	32
2	EC-1014-4-F	28	32
3	EC-1024-6-F	45	50
4	EC-1024-4-F	45	50
5	EC-1036-6-F	66	70
6	EC-1054-7-F	105	140
7	EC-1224-12-F	98	105
8	EC-1224-6-F	98	105
9	EC-1236-9-F	125	145
10	EC-1236-6-F	125	145
12	EC-1254-9-F	210	250
14	EC-1736-9-F	201	235
19	EC-1784-14-F	390	450

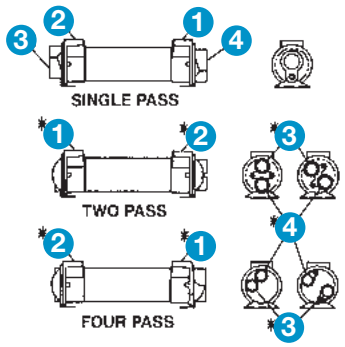
10:1 Oil to Water Ratio – Low Water Usage



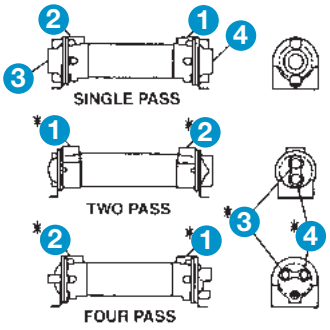
Curve Number	Model	Approximate Weight (LBS)	
		Net	Shipping
1	EC-1014-7-F	28	32
2	EC-1014-4-F	28	32
3	EC-1024-6-F	45	50
4	EC-1024-4-F	45	50
5	EC-1036-6-F	66	70
6	EC-1054-7-F	105	140
7	EC-1224-12-F	98	105
8	EC-1224-6-F	98	105
9	EC-1236-9-F	125	145
10	EC-1236-6-F	125	145
12	EC-1254-9-F	210	250
14	EC-1736-9-F	201	235
19	EC-1784-14-F	390	450

Piping Hook-up

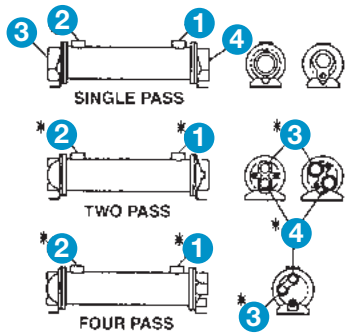
A Series



B Series

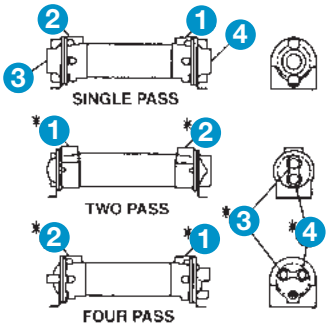


HC / SSC / EC Series

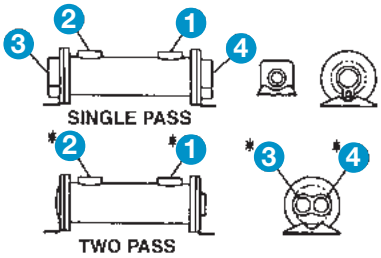


EC bonnet rotation is slightly different from what is shown. See Series literature for details.

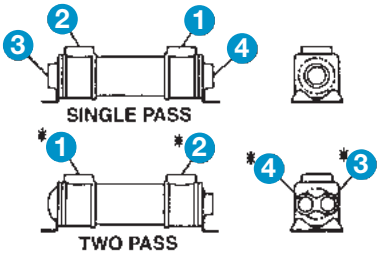
SLE / SL / R Series



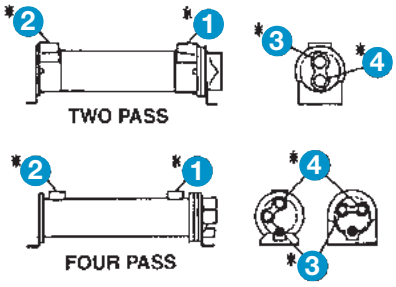
EK / EKS / EKM Series



K / KN Series



U / UC / UR Series



Note baffle location when inserting bundle into shell assembly after cleaning.

1 **Hot Fluid In**

2 **Cooled Fluid Out**

3 **Cooling Water In**

4 **Cooling Water Out**

*Note: For all two pass and four pass heat exchangers:
connections **1** and **2** may be reversed, and
connections **3** and **4** may be reversed
with no effect on performance.

Shell & Tube Recommendations

Installation

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

1. Connect and circulate the hot fluid in the shell side (over small tubes) and the cooling water in the tube side (inside small tubes). Note piping diagrams.
2. If an automatic water regulating valve is used, place it on the INLET connection 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 hydraulic reservoir to sense a system temperature rise. Write the factory for water regulating valve recommendations.
3. There are normally no restrictions as to how this cooler may be mounted. The only limitation regarding the mounting of this equipment is the possibility of having to drain either the water or the oil chambers after the cooler has been installed. Both fluid drain plugs should be located on the bottom of the cooler to accomplish the draining of the fluids. Drains are on most models.
4. It is possible to protect your cooler from high flow and pressure surges of hot fluid by installing a fast-acting relief valve in the inlet line to the cooler.
5. It is recommended that water strainers be installed ahead of this cooler 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 cooler ineffective. Write the factory for water strainer recommendations.
6. Fixed bundle heat exchangers are generally not recommended for steam service. For steam applications, a floating bundle exchanger is required. Note: When installing floating bundle unit, secure one end firmly and opposite end loosely to allow bundle to expand and contract. Consult factory for selection assistance.
7. Piping must be properly supported to prevent excess strain on the heat exchanger ports. If excessive vibration is present, the use of shock absorbing mounts and flexible connectors is recommended.

Service

Each heat exchanger 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 heat exchanger should be mounted firmly in place with pipe connections tight.

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 heat exchanger castings. Do not overtighten. When storing the unit, be sure to keep the oil and water ports sealed. If storage continues into cold winter months, the water chamber must be drained to prevent damage by freezing.

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 oil sludge, or water scale.

Recommendations

Replace gaskets when removing end castings. It is recommended that gaskets be soaked in oil to prevent corrosion and ensure a tight seal.

Salt water should not be used in standard models. Use salt water in special models having 90/10 copper-nickel tubes, tube sheets*, bronze bonnets and zinc anodes on the tube side. Brackish water or other corrosive fluids may require special materials of construction.

When zinc anodes are used for a particular application, they should be inspected two weeks after initial startup.

At this time, by visual inspection of the anode, determination of future inspection intervals can be made, based on the actual corrosion rate of the zinc metal.

The zinc anodes must be replaced when 70% of the zinc volume has been consumed.

It may be necessary to drain the water chambers of the exchanger to protect it from damage by freezing temperatures. Drains are provided in most standard models.

The oil chamber of the exchanger may become filled with sludge accumulation and require cleaning. It is recommended that the unit be flooded with a commercial solvent and left to soak for one-half hour. Backflowing with the solvent or regular oil will remove most sludge. Repeated soaking and backflowing may be required, depending on the degree of sludge buildup.

It may be necessary to clean the inside of the cooling tubes to remove any contamination and/or scale buildup. It is recommended that a fifty-fifty percent solution of inhibited muriatic acid and water may be used. For severe problems, the use of a brush through the tubes may be of some help. Be sure to use a soft bristled brush to prevent scouring the tube surface causing accelerated corrosion. Upon completion of cleaning, be certain that all chemicals are removed from the shellside and the tubeside before the heat exchanger is placed into service.

When ordering replacement parts or making an inquiry regarding service, mention model number, serial number, and the original purchase order number.

**Available on HC/SSC/SSCA Series models only.*

Maximum Shell & Tube Flow Rates

CAUTION

Incorrect installation can cause this product to fail prematurely, causing the shell side and tube side fluids to intermix. Maximum allowable flow rates are as charted below.

B Series Model No. Example: B-702-A4-F

	Shell Side (GPM) / Baffle Spacing					Tube Side (GPM)		
Unit Size	A	B	C	D	E	0	T	T
400	9.6	—	—	—	—	25		
700	17	29	29	—	—	61	31	15
1000	24	48	69	69	—	146	73	37
1200	29	57	115	115	—	224	112	56
1600	37	75	149	253	—	363	181	91
2000	—	—	187	347*	457*	652	326	163

**281 GPM maximum for all B-2005-D **500 GPM maximum for all B-20080-E and 562 GPM maximum for all B2006-E6 or B-2006-E10*
562 GPM maximum for all B-2006-E6 or B-2006-E10

A Series Model No. Example: A-1024-2-6-F

			Tube Side (GPM)		
Unit Size	Baffle Spacing	Shell Side (GPM)	0	T	F
SA-400	.75	7	18	—	—
	2	19			
600	1	14	48	24	12
	1.5	21			
	2	29			
	4	29			
800	1.5	29	87	43	21
	2	38			
	3	57			
	4	69			
1000	1.5	32	146	73	37
	2	42			
	3	60			
	4	69			
1200	2	51	224	112	56
	3	77			
	4	103			
	6	115			
1600	26	66	280	203	101
	3	100			
	4	133			
	6	200			

HC / SSC Series Model No. Example: HC-1024-2-6-F

			Tube Side (GPM)		
Unit Size	Baffle Size	Shell Side (GPM)	0	T	F
600	1.38	19	48	24	12
	2	29			
	3	29			
800	1.38	26	84	42	21
	1.7	31			
	2	38			
	3	57			
	4	69			
1000	1.38	24	146	23	37
	2	41			
	3	64			
	5	69			
1200	2.5	60	224	112	56
	3	77			
	3.62	93			
	5	115			
	6	115			
1700	3.	125	465	232	116
	4	143			
	4.5	161			
	5	179			
	6	215			
	7	251			
	8.4	253			

EC Series Model No. Example: EC-1236-6-F

			Tube Side (GPM)		
Unit Size	Baffle Size	Shell Side (GPM)	0	T	F
1000	4	55	66	33	15
	6	70			
	8	70			
1200	4	65	120	60	28
	6	100			
	8	115			
	12	115			
1700	4	90	220	110	52
	6	140			
	8	190			
	12	255			

K / EK Series Model No. Example: EK or K-712-F

		Tube Side (GPM)	
Unit Size	Shell Side (GPM)	0	T
500	20	13	—
100	70	24	12
1000	100	56	28