

# Fluid Cooling Shell & Tube EKT Series

0916

## COPPER & STEEL CONSTRUCTION

### Performance Notes

- HPU, in-tank cooler
- Compact size
- EK style & size
- High efficiency finned bundle design
- Serviceable
- Removable
- In-tank design minimizes space requirements and reduces plumbing
- Internal aluminum fins increase performance
- Removable end bonnets allow water passage servicing
- High strength steel shell

### Ratings

**Maximum Operating Pressure - Shell Side**  
75 PSI

**Maximum Operating Pressure - Tube Side**  
150 PSI

**Test Pressure - Shell Side**  
75 PSI

**Test Pressure - Tube Side**  
150 PSI

**Maximum Operating Temperature**  
250°F



#### OPTIONS

Patented built-in  
Surge-Cushion® bypass  
SAE or BSPP Connections Available

### Materials

**Shell** Steel

**Tubes** Copper

**Fins** Aluminum

**Tubesheets** Steel

**Baffles** Steel

**End Bonnets** Cast iron

**Gaskets** Nitrile rubber/cellulose fiber

### Optional Surge-Cushion®

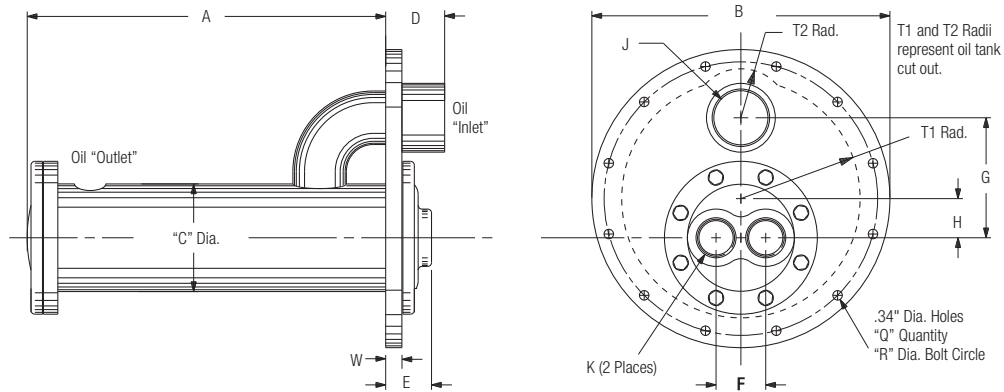
The **Surge-Cushion®** is a patented protective device designed to internally bypass a portion of the oil flow during cold start conditions, or when sudden flow surges temporarily exceed the maximum flow allowed for a given cooler. This device may replace an external bypass, but it is not intended to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

## How to Order

<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>
<b>Model Series</b> EKT EKTS EKTM		<b>Model Size Selected</b>		<b>Surge Cushion</b> Blank - None R - Surge Cushion

EKT = NPT Connections.  
EKTS = SAE Oil Connections.  
EKTM = All Metric Connections.

# Dimensions



Model	A	B	C	D	E	F	G	H	J		K NPT BSPP	Q	R	T 1	T 2	W	Approx. Weight (LBS)	
									NPT BSPF	SAE							Net	Shipping
EKT-508	8.87	6.79	2.55	1.84	1.68	1.12	2.44	.50	3/4	#12	3/8	6	5.60	2.25	.79	.62	11	14
EKT-518	18.87	6.79	2.55	1.84	1.68	1.12	2.44	.50	3/4	#12	3/8	6	5.60	2.25	.79	.62	14	16
EKT-708	8.72	9.75	3.52	2.22	1.67	1.62	3.94	1.25	1½	#24	3/4	12	4.00	4.00	—	.70	23	27
EKT-188	18.72	9.75	3.52	2.22	1.67	1.62	3.94	1.25	1½	#24	3/4	12	4.00	4.00	—	.70	30	34
EKT-1012	12.55	10.38	5.05	2.22	2.23	2.38	4.69	1.19	1½	#24	1	12	4.38	4.38	1.12	.70	42	46
EKT-1024	24.55	10.38	5.05	2.22	2.23	2.38	4.69	1.19	1½	#24	1	12	4.38	4.38	1.12	.70	58	63

NOTE: We reserve the right to make reasonable design changes without notice. Certified drawings are available upon request. All dimensions in inches. Tank gasket is included. BSPP threads are 55° full form whitworth.

## Selection Procedure

Performance Curves are based on a 40°F approach temperature, a 2:1 oil to water ratio and an average oil viscosity of 100 SSU. Example: oil leaving cooler at 125°F with 85°F cooling water (125°F - 85°F = 40°F). The 2:1 oil to water ratio means that for every GPM of oil circulated, a minimum of 1/2 GPM of water must be circulated to obtain the curve results.

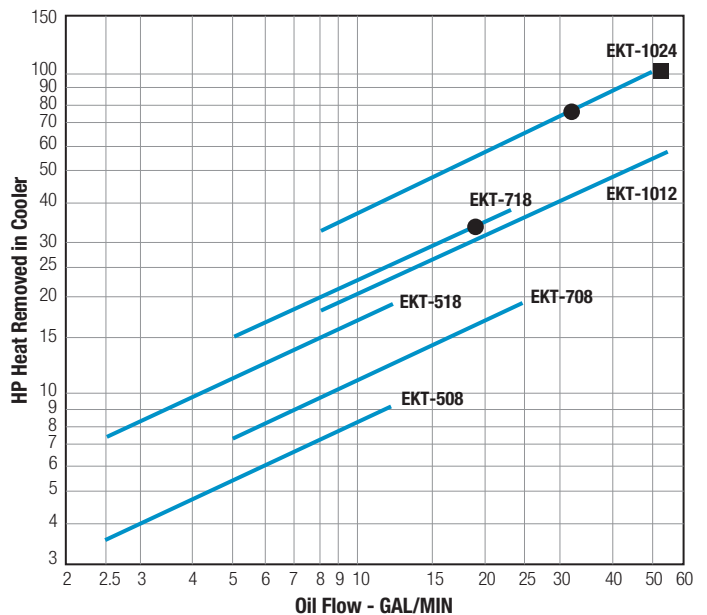
### STEP 1 Corrections for approach temperature and oil viscosity.

HP<sub>Heat Removed in Cooler</sub> =

$$HP_{Actual} \times \left[ \frac{40^\circ F}{\text{Oil out and } ^\circ F - \text{Water in } ^\circ F} \right] \times \text{Correction A}$$

**STEP 2 Oil Pressure Drop Coding:** ● = 5 PSI ■ = 10 PSI. Curves having no pressure drop symbol indicate that the oil pressure drop is less than 5 PSI to the highest oil flow rate for that curve. Multiply curve oil pressure drop by Correction B.

## Performance Curves



## Viscosity Corrections

Average Oil SSU	A	B
50	0.84	0.6
100	1.00	1.0
200	1.14	2.0
300	1.24	3.1
400	1.31	4.1
500	1.37	5.1

## Maximum Flow Rates

Unit Size	Shell Side GPM	Tube Side GPM
500	20	6
700	70	12
1000	100	28

If maximum allowable flow rates are exceeded, premature failure may occur.