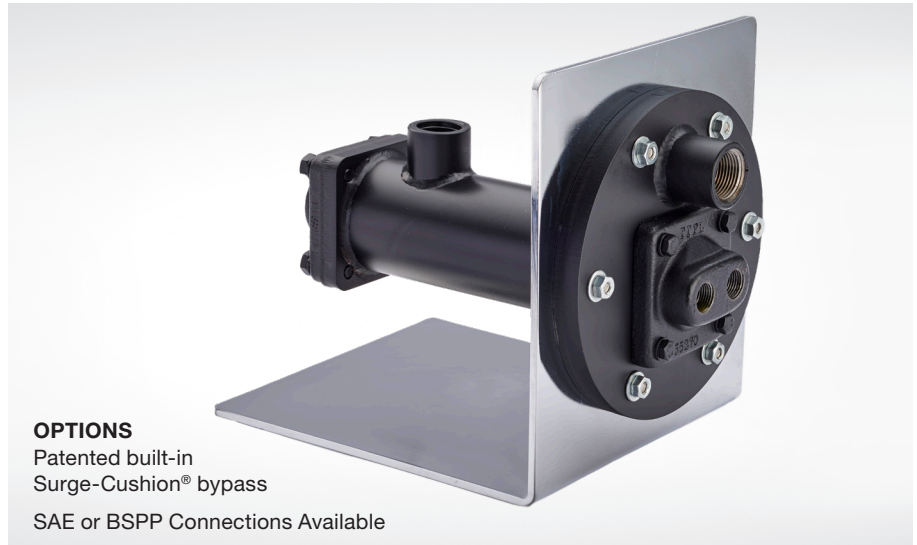


# EKT Series – In-Tank Finned Tube Bundle Shell & Tube Water to Oil Cooling

The EKT Series is an EK model designed with a tank flange that allows it to be installed directly in the hydraulic reservoir. The aluminum finned tube bundle design provides an increased surface area that allows for optimal heat rejection with low water usage. An optional Surge-Cushion® bypass is available for cold start up protection or flow surges. This compact design allows for simple integration and installation in the hydraulic power unit.



## How to Order

### Model Series

**EKT** = NPT Oil x NPT Water  
**EKTS** = SAE Oil x NPT Water  
**EKTM** = BSPP Oil x BSPP Water

### Model Size Selected

**508, 518, 708, 718, 1012, 1024**  
 (See Performance Curve Chart on page 2 for sizes)

### Surge Cushion

**Blank** - None  
**R** - Surge Cushion

## 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.

## Features

### Compact Size

### High Efficiency Finned Bundle Design

### Removable and Serviceable

### In-Tank Design Minimizes Space Requirements and Reduces Plumbing

### Internal Aluminum Fins Increase Performance

### High Strength Steel Construction

### Multiple Connections Options

- NPT x NPT
- SAE x NPT
- BSPP x BSPP

### End Bonnets Removable For Servicing

### Mounting Feet Included (May be rotated in 90° increments)

## Materials

**Tubes** Copper

**Tubesheets** Steel

**Shell** Steel

**Baffles** Steel

**End Bonnets** Cast Iron

**Fins** Aluminum

**Gaskets** Nitrile Rubber/  
Cellulose Fiber

## 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

For additional sizing information consider using TTP's **XSelector®** online sizing Program.\*

## Selection Procedure

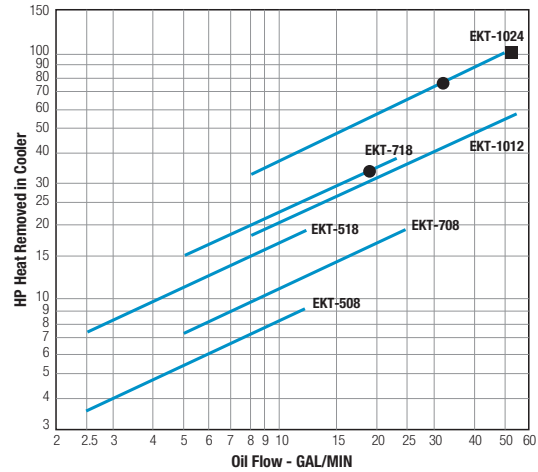
Performance Curves are based on a 40°F approach temperature, a 2:1 oil to water ratio and an average oil viscosity of 100 SSU. Example: oil leaving cooler at 125°F with 85°F cooling water (125°F - 85°F = 40°F). The 2:1 oil to water ratio means that for every GPM of oil circulated, a minimum of 1/2 GPM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

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

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

**STEP 2 Oil Pressure Drop Coding:** l = 5 PSI n = 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

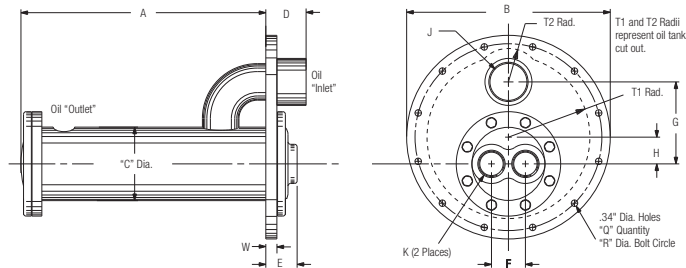
Average Oil SSU	A	B
50	0.84	0.6
100	1.00	1.0
200	1.14	2.0
300	1.24	3.1
400	1.31	4.1
500	1.37	5.1

## 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.

## Dimensions



Model	A	B	C	D	E	F	G	H	J		K NPT BSPP	Q	R	T1	T2	W	Approx. Weight (LBS)	
									NPT BSPP	SAE							Net	Shipping
EKT-508	8.78	6.79	2.55	1.84	1.68	1.12	2.44	.50	3/4	-12 1 1/16-12	3/8	6	5.60	2.25	.79	.59	11	14
EKT-518	18.78	6.79	2.55	1.84	1.68	1.12	2.44	.50	3/4	-12 1 1/16-12	3/8	6	5.60	2.25	.79	.59	14	16
EKT-708	8.72	9.75	3.52	2.22	1.67	1.62	3.93	1.25	1 1/2	-24 1 7/8-12	3/4	12	8.95	4.00	—	.70	23	27
EKT-718	18.72	9.75	3.52	2.22	1.67	1.62	3.93	1.25	1 1/2	-24 1 7/8-12	3/4	12	8.95	4.00	—	.70	30	34
EKT-1012	12.55	10.38	5.05	2.22	2.23	2.38	4.68	1.18	1 1/2	-24 1 7/8-12	1	12	9.62	4.38	1.12	.70	42	46
EKT-1024	24.55	10.38	5.05	2.22	2.23	2.38	4.68	1.18	1 1/2	-24 1 7/8-12	1	12	9.62	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.

\* To register for **XSelector®** please go to [www.thermaltransfer.com/get-in-touch/](http://www.thermaltransfer.com/get-in-touch/) and complete the **XSelector®** Inquiry form and submit. Download the **XSelector®** for both Apple and Android formats by searching for **XSelector®** in their App Stores. You must first register for **XSelector®** before using it on mobile devices.