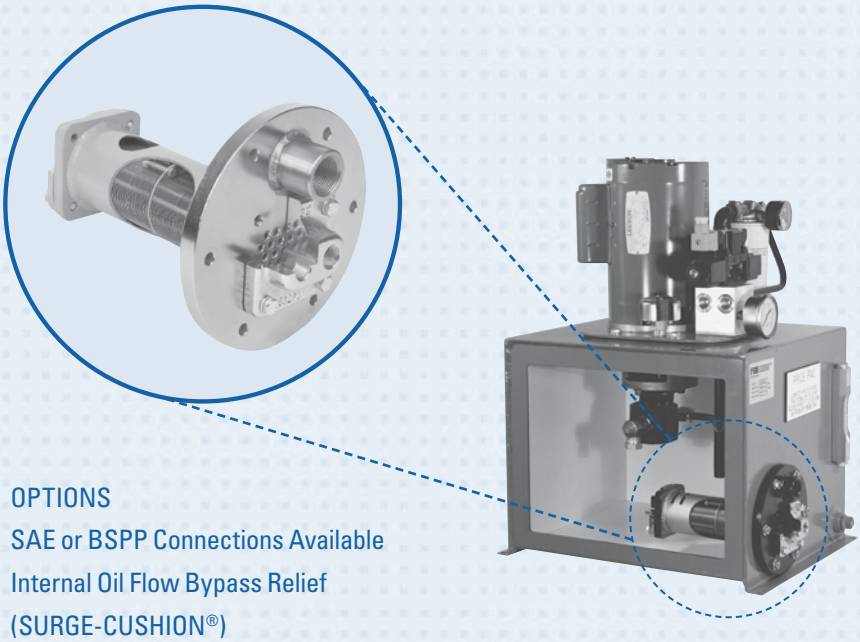
# FLUID COOLING | Shell & Tube EKT Series



**COPPER & STEEL CONSTRUCTION**

## Features

- **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 Dramatically Increase Performance
- Removable End Bonnets Allow Water Passage Servicing
- High Strength Steel Shell



OPTIONS

SAE or BSPP Connections Available

Internal Oil Flow Bypass Relief (SURGE-CUSHION®)

## Ratings

**Operating Pressure:**

**Shellside** 75 psi – **Tubeside** 150 psi

**Test Pressure:**

**Shellside** 75 psi – **Tubeside** 150 psi

**Maximum Temperature** 250° F

## Materials

**Shell** Steel

**Tubes** Copper

**Fins** Aluminum

**Tubesheets** Steel

**Baffles** Steel

**End Bonnets** Cast Iron

**Gaskets** Nitrile Rubber/Cellulose Fiber

## Surge-Cushion (Option)

The SURGE-CUSHION® is a protective device (patented) 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 valve, but it is not intended to bypass the total oil flow.



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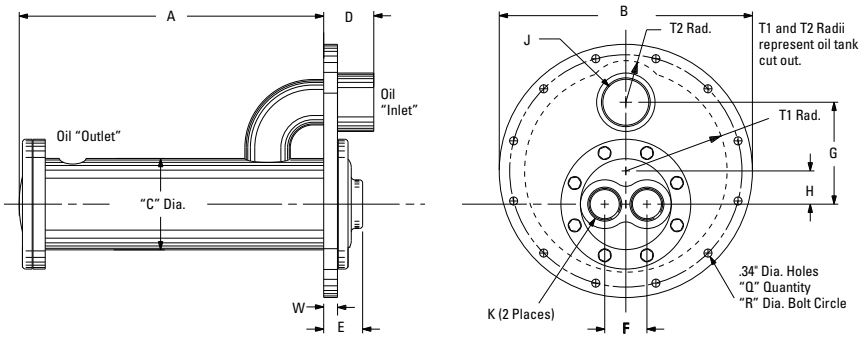
# Dimensions




| MODEL | A | B | C | D | E | F | G | H | J NPT or BSPF | J SAE | K NPT or BSPF | Q | R | T1 | T2 | W | Net. Wt. | Approx. Ship Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | 14 | 16 |
| EKT-708 | 8.72 | 9.75 | 3.52 | 2.22 | 1.67 | 1.62 | 3.94 | 1.25 | 1-1/2" | #24 | 3/4" | 12 | 8.94 | 4.00 | — | .70 | 23 | 27 |
| EKT-718 | 18.72 | | | | | | | | | | | | | | | | 30 | 34 |
| EKT-1012 | 12.55 | 10.38 | 5.05 | | 2.23 | 2.38 | 4.69 | 1.19 | | | 1" | | 9.62 | 4.38 | 1.12 | | 42 | 46 |
| EKT-1024 | 24.55 | | | | | | | | | | | | | | | | 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.*

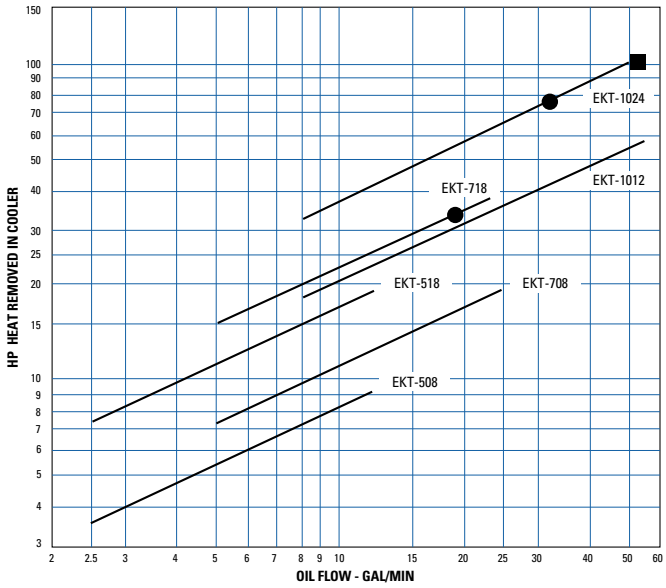
# Performance Curves

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 must be circulated to obtain the curve results.

**Step 1** **Corrections for approach temperature and oil viscosity.**

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

**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.




## Viscosity Corrections

| Average Oil SSU | A | B |
|---|---|---|
| 50 | 0.84 | 0.6 |
| 100 | 1.0 | 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 | 60 | 12 |
| 1000 | 80 | 28 |

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