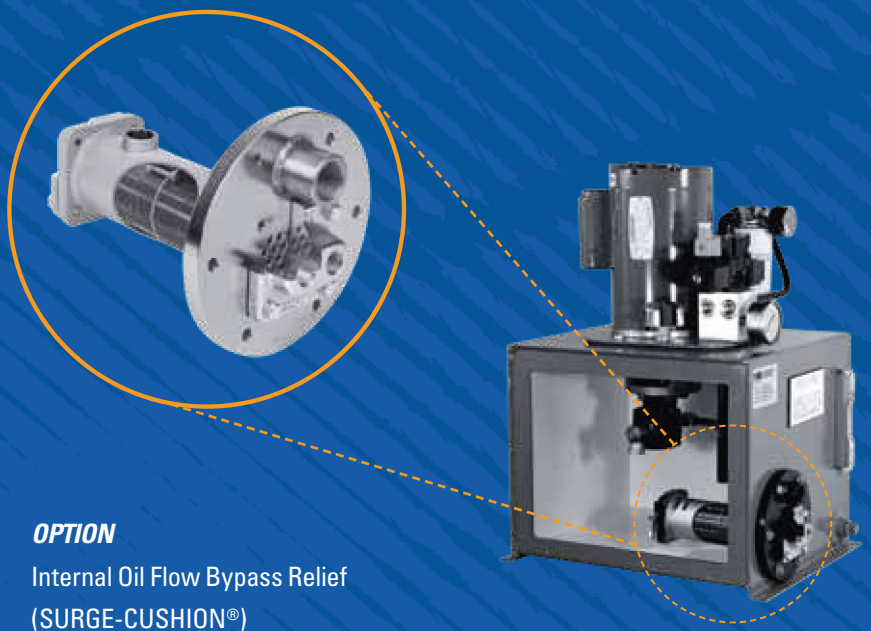
FLUID COOLING | Shell & Tube EKTM Series

COPPER & STEEL CONSTRUCTION

Features

- **HPU, In-tank Cooler**
- **Compact Size**
- **EKM 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



OPTION

Internal Oil Flow Bypass Relief (SURGE-CUSHION®)

Ratings

Maximum Shell Side Pressure 5.2 BAR

Maximum Tube Side Pressure 10.3 BAR

Maximum Temperature 121°C

Materials

Shell Steel

Tubes Copper
Optional: CuNi

Fins Aluminum

Tubesheets Steel

Baffles Steel

End Bonnets Cast Iron
Optional: Electroless Nickel Plate

Gaskets Nitrile Rubber/Cellulose Fiber

Surge-Cushion *(Option)*

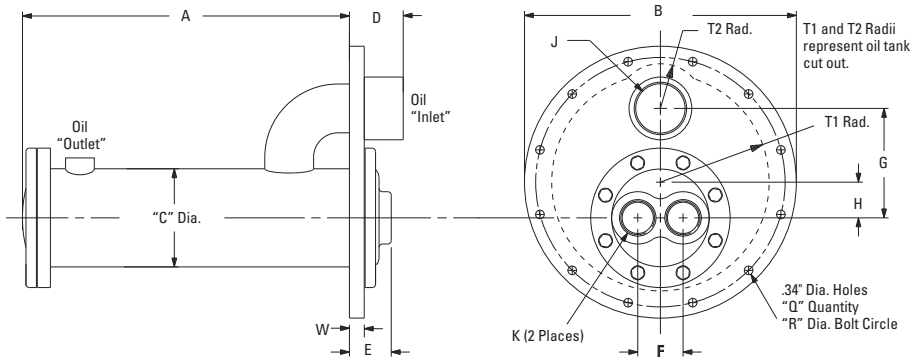
The SURGE-CUSHION® is a protective device (patented) designed to internally bypass a portion of the oil flow during cold start conditions, or when sudden flow surges temporarily exceed the maximum flow allowed for a given cooler. This device may replace an external bypass valve, but it is not intended to bypass the total oil flow (1 BAR).

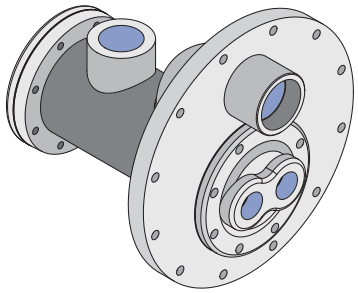
How to Order

Model Series	**Model Size Selected**	**SURGE-CUSHION®**	**Cooling Tube Material**	**End Bonnet Material**
EKTM		**Blank** - No SURGE-CUSHION® **R** - SURGE-CUSHION®	**Blank** - Copper **CN** - CuNi	**Blank** - Cast Iron **NP** - Electroless Nickel Plate

All Metric Connections.

Dimensions





Model	A	B	C Dia.	D	E	F	G	H	J BSPP	K BSPP	Q Qty.	R Dia.	T1	T2	W	Net Weight (Kg)	Ship Weight (Kg)
EKT-508	225	172	65	47	43	28	62	13	3/4"	3/8"	6	142	57	20	16	5	6
EKT-518	479	172	65	47	43	28	62	13	3/4"	3/8"	6	142	57	20	16	6	7
EKT-708	225	248	89	56	42	41	100	32	1-1/2"	3/4"	12	227	102	—	18	10	12
EKT-718	479	248	89	56	42	41	100	32	1-1/2"	3/4"	12	227	102	—	18	14	15
EKT-1012	319	264	128	56	57	60	119	30	1-1/2"	1"	12	244	111	28	18	19	21
EKT-1024	624	264	128	56	57	60	119	30	1-1/2"	1"	12	244	111	28	18	26	29

NOTE: We reserve the right to make reasonable design changes without notice. Certified drawings are available upon request. All dimensions are in millimeters, unless noted otherwise. Shipping weight is approximate. Tank gasket is included. BSPP threads are 55° full form whitworth.

Selection Procedure

Performance Curves are based on a 22°C approach temperature, a 2:1 oil to water ratio and an average oil viscosity of 21.7 CST. Example: oil leaving cooler at 52°C with 29°C cooling water (53°C - 29°C = 22°C). The 2:1 oil to water ratio means that for every LPM of oil circulated, a minimum of 1/2 LPM of water must must be circulated to obtain the curve results.

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

$$KW_{Heat\ Removed\ in\ Cooler} = KW_{Actual} \times \left[\frac{22°C}{\text{Oil out (°C) - Water (°C)}} \right] \times \text{Correction A}$$

Step 2 **Oil Pressure Drop Coding:** ● = .35 BAR; ■ = .69 BAR. Curves having no pressure drop symbol indicates that the oil pressure drop is less than .35 BAR to the highest oil flow rate for that curve. Multiply curve oil pressure drop by Correction B.

Viscosity Corrections

Average Oil CST	A	B
7.5	0.84	0.6
21	1.0	1.0
43	1.14	2.0
65	1.24	3.1
87	1.31	4.1
108	1.37	5.1

Maximum Flow Rates

Unit Size	Shell Side (LPM)	Tube Side (LPM)
500	76	23
700	227	45
1000	303	106

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

Performance Curves