

DF30-70 OIL COOLER

TECHNICAL DATA

Principals of Operation:

The **DF30-70** Oil Cooler is essentially a heat pump designed specifically for hydraulic elevators. The oil is removed from the power unit and passed through the cooling core. At the same time ambient air is passed over the core. The air is the medium which removes the heat from the oil. Since the heat from the oil must go someplace, the **DF30-70** relies on adequate room ventilation to remove the heat from the machine room or any remote location.

The **DF30-70** will dissipate 70,000 BTU's per hour @ 100°F Initial Temperature Difference (ITD). ITD is the difference between the incoming oil temperature minus the ambient air temperature. The following chart illustrates the heat dissipation over a wide range of oil and air temperatures:

		AIR TEMPERATURE (°F)								
		30	40	50	60	70	80	90	100	110
OIL TEMPERATURE (°F)	30	0								
	40	7000	0							
	50	14000	7000	0						
	60	21000	14000	7000	0					
	70	28000	21000	14000	7000	0				
	80	35000	28000	21000	14000	7000	0			
	90	42000	35000	28000	21000	14000	7000	0		
	100	49000	42000	35000	28000	21000	14000	7000	0	
	110	56000	49000	42000	35000	28000	21000	14000	7000	0
	120	63000	56000	49000	42000	35000	28000	21000	14000	7000
	130	70000	63000	56000	49000	42000	35000	28000	21000	14000
	140	77000	70000	63000	56000	49000	42000	35000	28000	21000
	150	84000	77000	70000	63000	56000	49000	42000	35000	28000
160	91000	84000	77000	70000	63000	56000	49000	42000	35000	



Electro-Mech. Industries

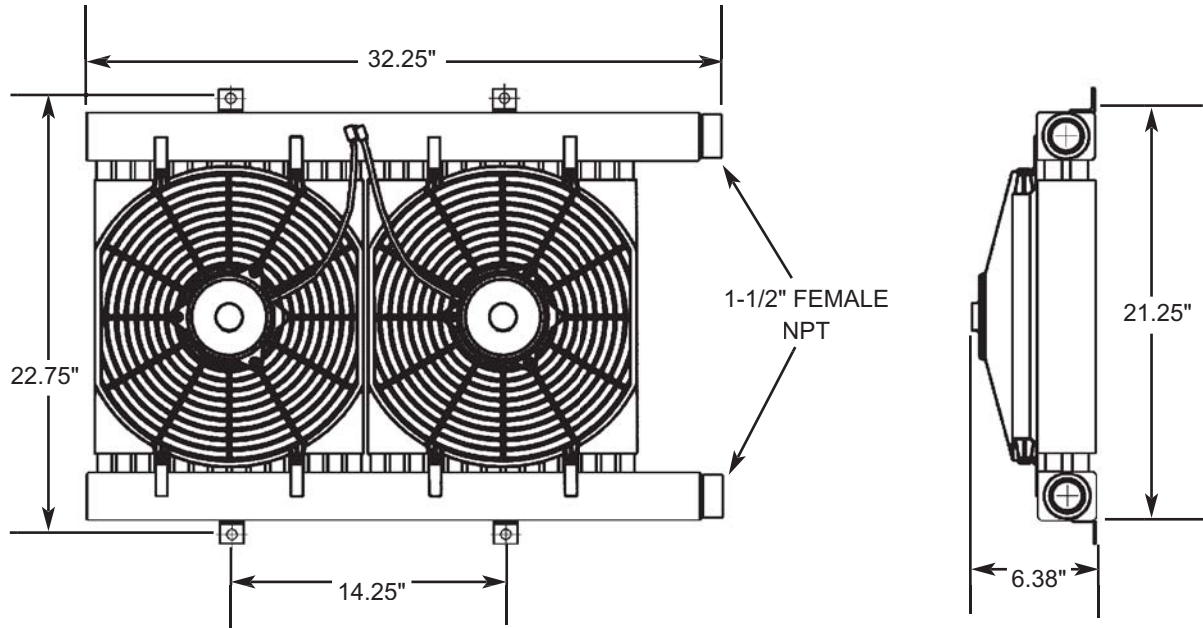
2420 Hamilton Rd., Arlington Heights, IL 60005
Phone (847) 593-4900 Fax (847) 593-1394

SPEC.: 7089-A
DATE: APRIL 96

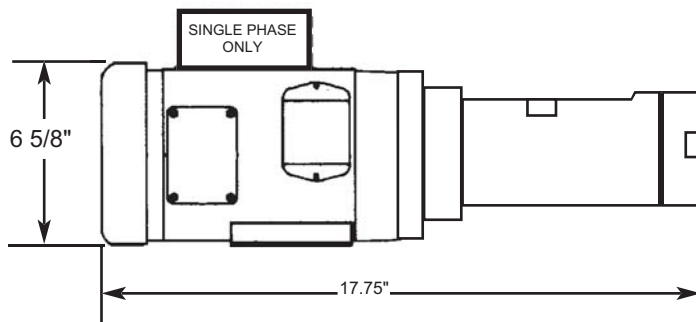
DF30-70 OIL COOLER

DIMENSIONS

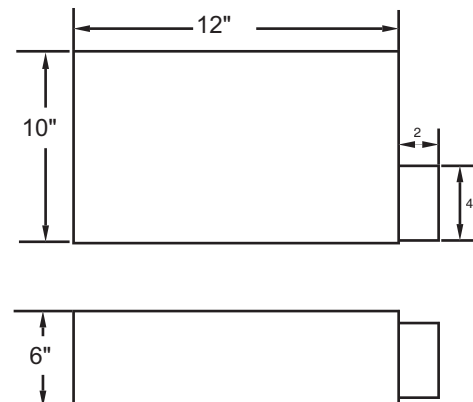
HEAT EXCHANGER



PUMP/MOTOR COMBINATION



CONTROLLER



Electro-Mech. Industries

2420 Hamilton Rd., Arlington Heights, IL 60005
Phone (847) 593-4900 Fax (847) 593-1394

SPEC.: 7106-A
DATE: JUNE 2007

DF30-70 OIL COOLER

ELECTRICAL DATA

3 PHASE PUMP MOTOR POWER SUPPLY

VOLTAGE	200	230	460
F.L. AMPS	6.1	6.0	3.0

CONTROL POWER: 115 VOLTS SINGLE PHASE

ELECTRICAL CONNECTIONS

1. FROM SERVICE PANEL TO CONTROLLER

Three conductors (110vac power supply H, N, G)
Three conductors (3ph power in)

2. FROM CONTROLLER TO THERMOSTAT

Two conductors

3. FROM CONTROLLER TO HEAT EXCHANGER

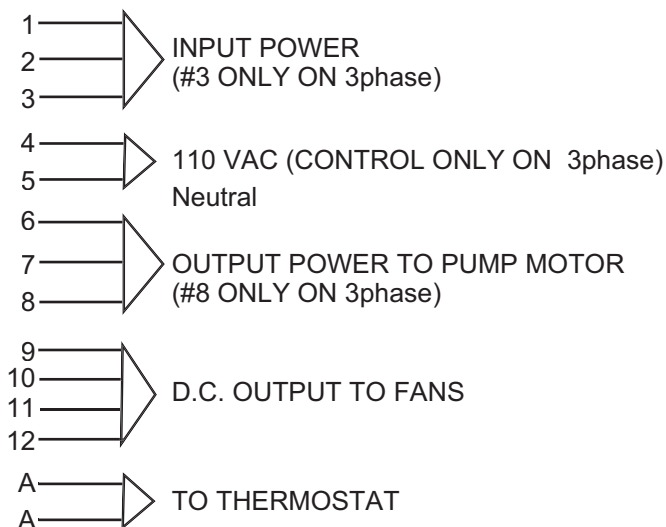
Four conductors

4. FROM CONTROLLER TO PUMP MOTOR

Three conductors (3ph)

CONNECTION DIAGRAMS

**LEADS WITHIN
TERMINAL BOX
OF DF30-70**



Electro-Mech. Industries

2420 Hamilton Rd., Arlington Heights, IL 60005
Phone (847) 593-4900 Fax (847) 593-1394

SPEC.: 7105-R6
DATE: SEPT. 04

EK718-75 WATER COOLED OIL COOLER

Advantages of the EK718-75

- * Increased Motor & Valve Life
- * Improved Valve Control & Adjustments
- * Consistant Elevator Performance
- * Heat Transfer Occurs Away from Elevator Control Equipment

Principals of Operation:

The EK718-75 is a parallel cooling system for extreme duty hydraulic elevators. The oil is removed from the power unit and passes through the heat exchanger. At the same time cooling water passes through the core. The water is the medium which removes the heat from the oil. This results in efficient cooling without increasing the machine room temperature. Since there are no cooling fans, the noise generated by the system is negligible.

The system will dissipate 75,000 Btu/hr. @ 36 deg (F) Inital Temperature Difference (ITD) with a water flow of 10 GPM. ITD is the temperature difference between the incoming oil minus the incoming water.

Water temperature and flow have a linear effect on heat dissipation. By increasing the water flow and ITD by 10% (11 GPM; 40 deg(F) ITD), the system will dissipate **90,750 Btu/hr**

Performance Data:

Power Supply (3ph)..... 200V 6.1A; 230V 6A; 460V 3A
Heat Dissipation..... 75,000 Btu/hr. @ 36 Deg F ITD
Water Pressure..... 140 psi Max.
Water Flow..... 10 GPM
Pressure Drop:
 Shell Side (Oil)..... 7 psi
 Tube Side (Water)..... 3 psi @ 10GPM



Electro-Mech Industries

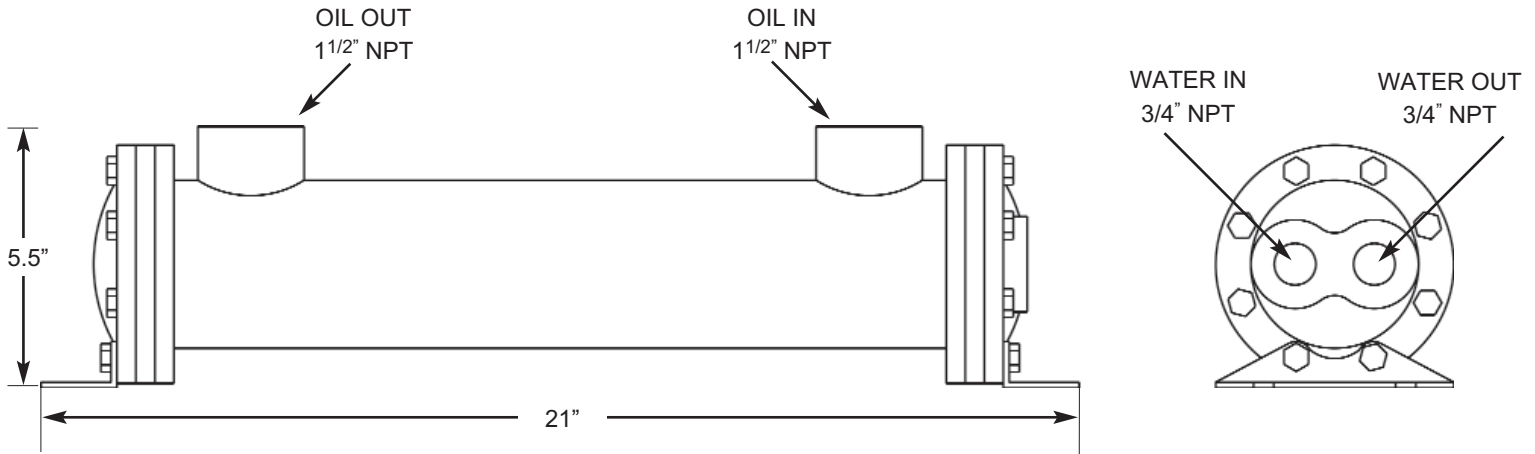
250 Hamilton Rd., Arlington Heights, IL 60005
Phone: (847) 593-4900 Fax (847) 593-1394

SPEC.: 7043-D
DATE: Sept. 2015

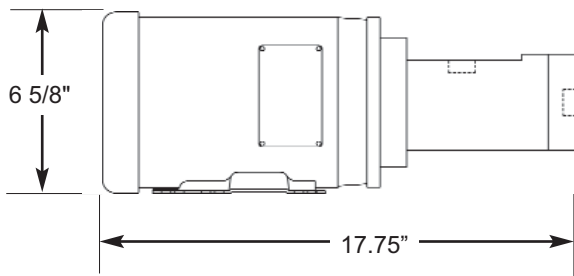
EK718-75 WATER COOLED OIL COOLER

DIMENSIONS AND CONNECTION DIAGRAM

HEAT EXCHANGER



PUMP/MOTOR COMBINATION



CONTROLLER

8 X 8 X 4 JUNCTION BOX

CONNECTION DIAGRAM

Connect Solenoid NEUTRAL to wire 5

Supply Includes

- 1 - Heat Exchanger, Pump, Motor & Thermostat
- 1 - Pump & Motor
- 1 - Thermostat
- 20' - 1" Hose
- 1 - Solenoid Valve
- All Misc. Hardware to complete installation (including Teflon Tape)

- 1 ——— POWER IN
- 2 ——— POWER IN
- 3 ——— POWER IN
- 4 ——— 110H
- 5 ——— 110N
- 6 ——— TO PUMP-MOTOR
- 7 ——— TO PUMP-MOTOR
- 8 ——— TO PUMP-MOTOR
- A ——— TO THERMOSTAT
- F ——— FROM THERMOSTAT
- 10 ——— 110H TO SOLENOID



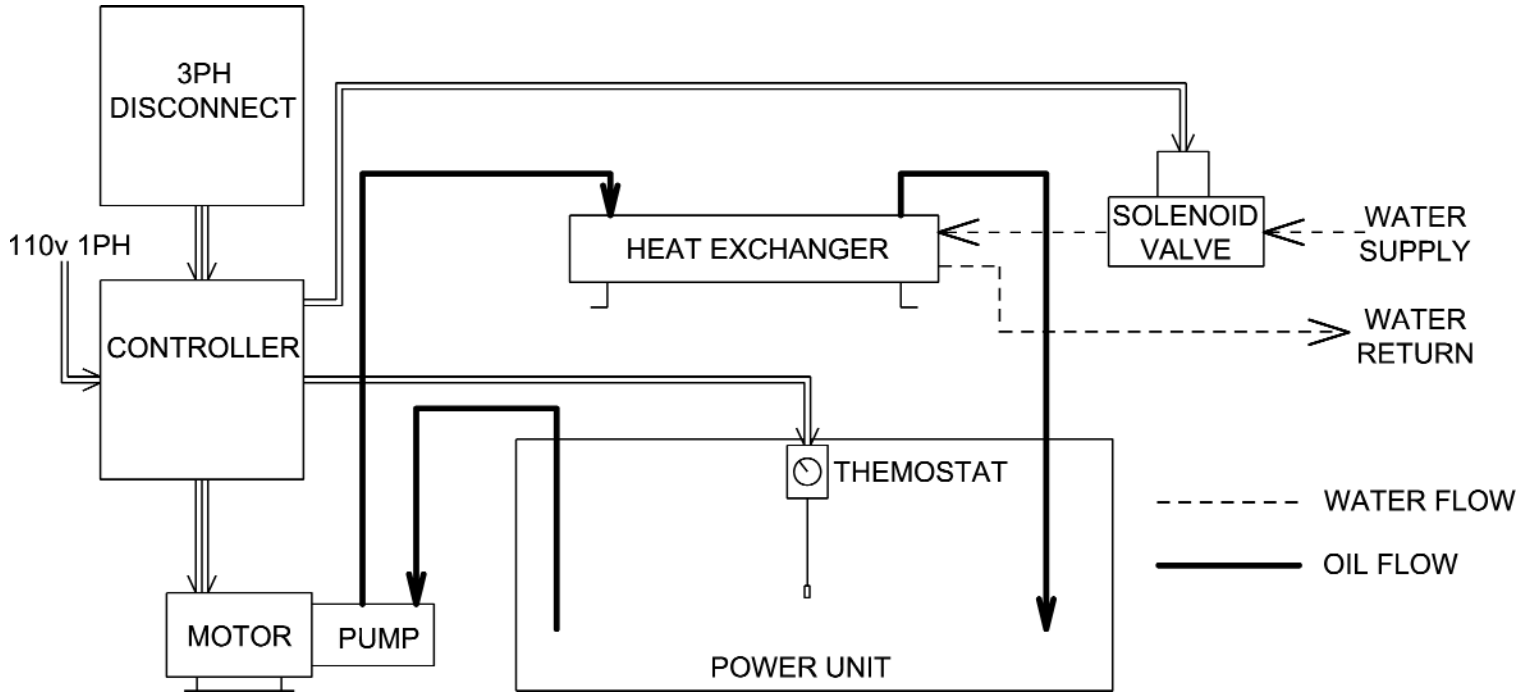
Electro-Mech Industries

250 Hamilton Rd., Arlington Heights, IL 60005
Phone: (847) 593-4900 Fax (847) 593-1394

SPEC.: 7108-E
DATE: July 2016

EK718-75 WATER COOLED OIL COOLER

BLOCK DIAGRAM



TECHNICAL SUBMITTAL

Heat Exchanger:

Type: Shell & Tube
Cooling Capacity: 75,000 btu/hr @ 36°F Temp Differential
Water Requirements: Flow: 10GPM
Max. Pressure: 140psi Pressure Drop: 3 psi @ 10GPM

Motor: 2hp 1800srpm 200-230/460V 3ph 60Hz 145TC ODP
Pump: Screw
Thermostat: Remote Bulb
Oil Hose: 20 feet of 1" PVC

Equipment Supplied: *3PH Disconnect & Power
by Others: *110V 1PH Control Power
*Water piping



Electro-Mech Industries

250 Hamilton Rd., Arlington Heights, IL 60005
Phone: (847) 593-4900 Fax (847) 593-1394

SPEC.:
DATE: Sept. 2015