OFF-LINE COOLING (KIDNEY LOOP)

Hydraulic systems are generally equipped with system filters. The system filters are either placed on the pressure side downstream of pumps, before system components or on the return side before fluid is reaching the reservoir. The third option is a kidney loop system.

The kidney loop filtration systems, also known as off-line filtration, is the most cost effective place for a filtration cycle.

A kidney loop system is an option which can be added to any existing hydraulic power unit. A kidney loop system contains a motor, a pump and a filter to form an independent circuit. This system is placed on a reservoir and can run intermittently as needed or it can run continuously. The pump/motor group circulates fluid out from the hydraulic reservoir, through a filter, into the heat exchanger and then back into the tank. The filter in these systems are often very low micron and very high in efficiency. The steady flow of fluid from a dedicated pump prevents issues related to backpressure or pressure spikes.

The reservoir volume should be turned by a recirculating pump over five to seven times in one hour.

Today's hydraulic filter systems have seen a shift from reactionary to preventative and even predictive maintenance such as changing filters or cleaning the reservoir on a set schedule. Whether you change based on an hour of operation or time period, your hydraulic system will run more efficient.

AKG Thermal Systems is re-launching our AP series with improved pump suitable for ISO VG32 – ISO320 and 50/50 water glycol.

Applications:

- Gear boxes
- Hydraulic Installations
- Elevators / Lifts
- Hydraulic presses
- Injection molding presses
- Machine Tools
- Industrial Machinery & More

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Sizing and selecting an AP Series cooling system is simple. Table 1 summarizes the information required. The AP Series can handle applications at maximum temperatures and pressures of 250 °F and 377 psi, respectively.

Information Required To Size Oil Cooler	
Reservoir size (gallons):	
Viscosity (SUS):	
Reservoir temperature desired (inlet °F):	
Heat rejection rate (horsepower):	
Maximum pressure drop (psi):	
Operating pressure (typically 50-125psi):	
Ambient temperature (°F):	
Altitude (ft.):	

Table 1. Information required to size an oil cooler

AKG offers a web-based online software program making it easy to find the correct product. Please follow the link for the program and tutorial video.
https:/www.akgts.com/support/software/

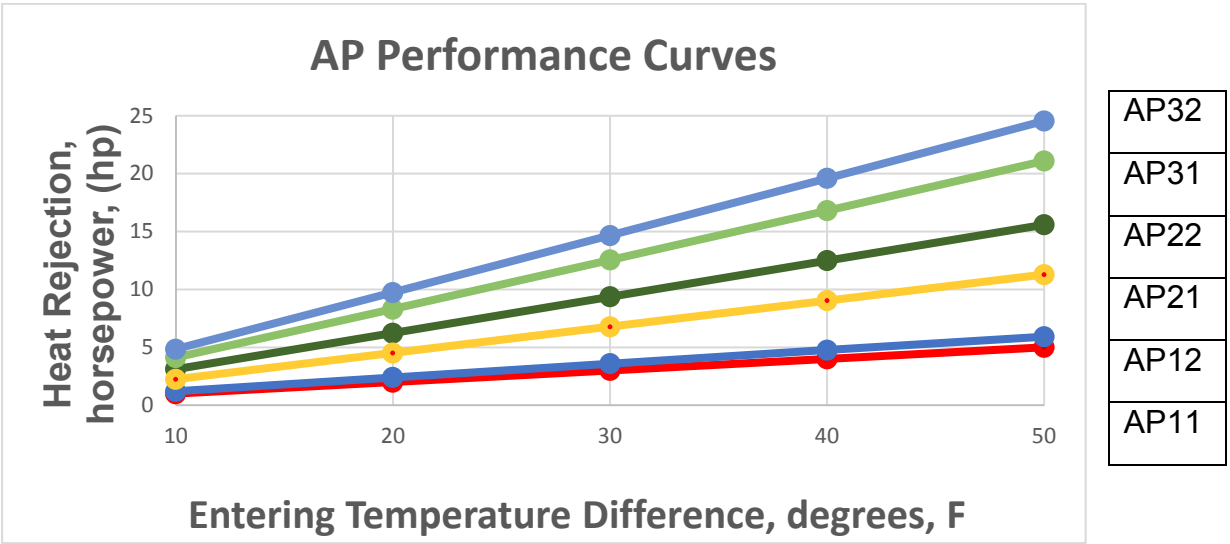

Figure 1. Performance for AKG's AP Series oil coolers
Listed performance curves are based on ISO VG 32 oil @ 85-PSI

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