



Injector

Sunfab Injector K-JET 2 is a basic technical solution for the recirculation of oil in closed hydraulic systems that is cost efficient and saves weight.

Three models K-JET 2, cover the flows 160, 250 and 350 l/min.

K-JET 2 recirculates the oil with an injector. This function replaces the previous standard of feed pressure pumps as compensation for leakage oil losses in the main circuit and any scavenging pumps for the cooling and filtering circuits.

K-JET 2 also slightly pressurises the feed pressure, which means a significantly higher pump speed than the self-priming speed can be used. This is reflected in a considerable increase in the capacity of the pump.

Hydraulic systems with pressure feed of the pump require the pump to be externally drained. The Sunfab pump SAP DIN Optimised with external drainage conforms to these demands and is recommended in applications with K-JET 2.

K-JET 2 has no moving parts, which makes it completely maintenance free.

Advantages of K-JET 2 compared with open hydraulic circuits:

- Reduced tank size and oil volume.
Only 15-20 % of the main pump flow
- Lower weight through smaller oil tanks
- Lower cost for oil
- Significantly higher pump speed

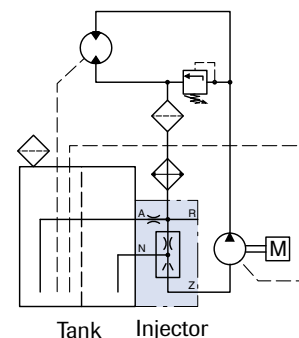
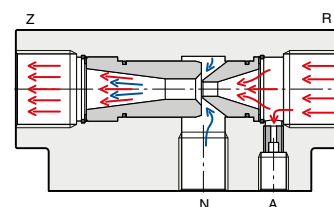
Function

Sunfab K-JET 2 houses an injector. When the return flow is led in port R and meets the injector, approximately 10 % of the flow is deflected via port A. The flow and leakage flow from the pump and hydraulic motor are led to the oil tank.

New oil is drawn in from the tank via port N and is added with the injector's other through flow. Suitable counterbalancing with the deflected flow at A, means a specific positive pressure can be maintained on the outgoing flow, port Z. This pressurised flow is fed to the pump's suction line.

This working principle has several benefits in a closed system for hydraulic motor operations:

- The oil tank can be small.
- Deflection provides for oil turnover.
- New oil is also supplied to compensate for internal leakage.
- The pressurised outgoing flow (feed pressure) permits a significantly higher pump speed than the self-priming speed.



Selection of the injector

Sunfab K-JET 2 is available in three different sizes with a max. recommended flow of 160, 250 or 350 l/min.

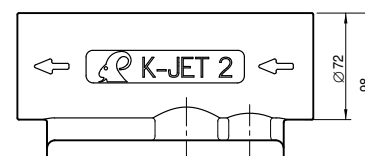
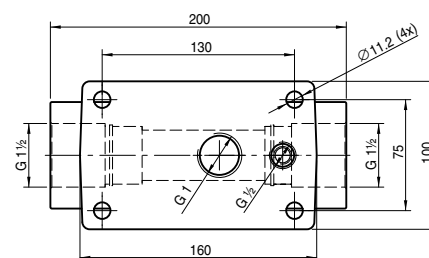
The diagrams show the pressure after the K-JET 2 injector as a function of the oil flow. The pressure rises when the flow increases and is adapted to the pump's requirement.

Tank size

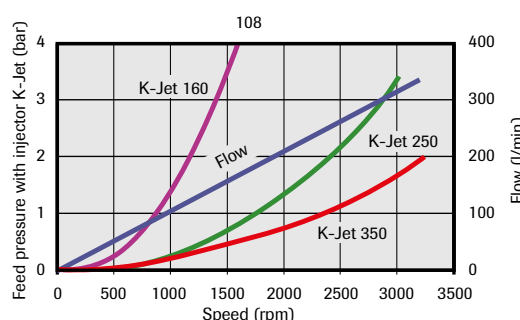
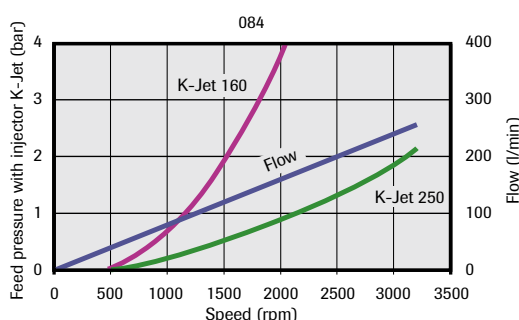
The size of tank is selected so that the whole oil volume is turned over in 1.5 to 2 minutes. When the oil is purged.

If 10 % of the injector's return flow is deflected to the tank and the leakage flow from the motor and pump is normal, the volume of the tank is calculated to be 15-20 % of pump's flow in l/min.

Most applications require an oil cooler.



SAP 084, 108 DIN Optimised + external drainage	084			108				
	without	160	250	without	160	250	350	
K-Jet 2								
Oil flow at 97% vol. efficiency and 200 bar	rpm	l/min		l/min				
	500	41	-	52	52	-	-	
	1000	81	81	105	105	105	-	
	1500	122	122	157	157	157	157	
	2000		162			210	210	
	2500		203			262	262	
	3000		243				314	
Displacement	cm ³ /rev	83.6			108.0			
Max pump speed								
min continuous	rpm	300	750	1200	300	550	1000	1200
max continuous		1800	2000	3000	1800	1500	2500	3000
max limited		2300			2300			
Max working pressure	bar	400			400			
Weight	kg	13.9			13.9			
Tare-weight torque (M)	Nm	18.5			18.5			
Direction of rotation		Left (L) or Right (R)						



Threaded suction connection with feed pressure above 4 bar.