FCS
Fluid circulation system

Lubrication of open gear drives with highly viscous fluid lubricants

Adequate for:

- Rotary kilns
- Cement mills
- Coal plants
- Iron ore mills
- Drum dryers
- Many other applications under harshest conditions

Advantages of the fluid circulation system:

- A permanent lubricant supply with high amounts of lubricant increases the thickness of the lubricating film and thus offers safety against poor lubrication and protection against wear
- The special lubrication pipe ensures optimum lubricant distribution on the tooth flank
- The excessive lubrication facilitates heat dissipation from the driving pinion
- The fluid circulation system can be used with viscosities ranging from 250 to 25 000 cSt (at 40 °C). In this way the lubricant can be adapted to the drive perfectly
- Long replacement intervals result in cost savings

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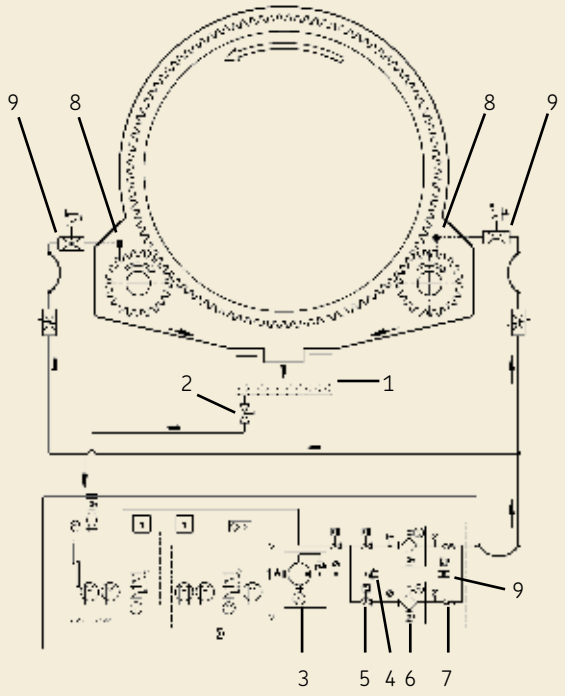
The lubricant is taken in either via an immersion bath or via a separate reservoir. It is then supplied through a pump to the lubricating pipes and applied onto the tooth flanks. A complex filtering ensures that the lubricant is free from contamination. The version with separate reservoir allows heating the lubricant

One of the prerequisites is a thorough sealing of the drive's casing to prevent contaminations out of the environment from penetrating into the lubricant reservoir as far as possible. On the other hand the sealing is to ensure that no lubricant leaks into the environment.

The fluid circulation system has been developed to be able to use highly viscous lubricants that are designed to suit the operating conditions of large girth gear drives.

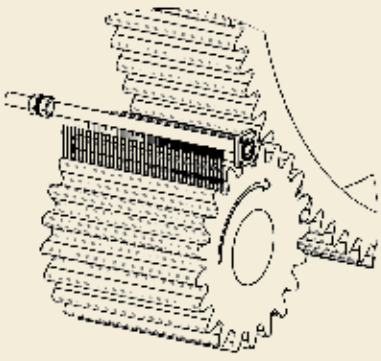
Generally, the fluid circulation system can be used for lubrication of single, double or multiple pinion systems in kiln drives, mill drives and other girth gear drives. It can also be retrofit into an existing system. The advantage is that the lubricant is cleaned via filters permanently and is applied onto the load-carrying flanks excessively and efficiently even during continuous operation thanks to the specially designed lubricating pipes. In addition, the oils and fluids have a cleaning and cooling effect.

Function of the Fluid circulation system



1 Lubricant reservoir
2 Shut-off valve
3 Lubricant supply pump
4 Overpressure valve
5 Shut-off valve
6 Lubricant filter
7 Check valve
8 Lubricating pipe
9 Flow sensor

Lubricant application onto the tooth flank



Version without reservoir

Available versions:

FCS-..-1-2FA:	Single pinion, without reservoir, 2 automatic filters
FCS-..-2-2FA:	Double pinion, without reservoir, 2 automatic filters
FCS-T-1-2FA:	Double pinion, with reservoir, 2 automatic filters
FCS-T-2-2FA:	Double pinion, with reservoir, 2 automatic filters

All versions include:

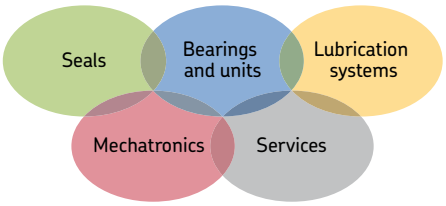
- Pump with frequency-controlled motor
- Lubricating pipe, adapted to pinion width, flow sensor(s), hoses
- Control unit including set of cables

Additionally, all reservoir versions include the following:

- Heaters, temperature monitoring, recirculation, level control

Specific data is required to layout a fluid circulation system.

Should you be interested, we shall be glad to send you a questionnaire.



The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

Important information on product usage

All products from SKF may be used only for their intended purpose as described in this brochure and in any instructions. If operating instructions are supplied with the products, they must be read and followed.

Not all lubricants are suitable for use in centralized lubrication systems. SKF does offer an inspection service to test customer supplied lubricant to determine if it can be used in a centralized system. SKF lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

Hazardous materials of any kind, especially the materials classified as hazardous by European Community Directive EC 67/548/EEC, Article 2, Par. 2, may only be used to fill SKF centralized lubrication systems and components and delivered and/or distributed with the same after consulting with and receiving written approval from SKF.

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