

Automatically better

SKF Centralized Lubrication Systems for
construction equipment





Be on the safe side with SKF centralized lubrication systems

Manual lubrication is a thing of the past – automated centralized lubrication systems are the modern solution. Why contend with the costs and uncertainties of manual lubrication when you can equip construction equipment with SKF centralized lubrication systems that help these powerful machines perform at their best at all times?

Reliability is key

Construction machines must be in top shape so they can reliably achieve high productivity in summer and winter in all climates. Friction wear, corrosion and dirt can cause significant damage to the mechanical components of these machines, but there is a tried and proven way to minimize this potential damage: tailored centralized lubrication systems from SKF that automatically lubricate and protect the right points using the right amount of the right lubricant at the right time.

Exceptional power balance

SKF centralized lubrication systems continuously supply all bearings with lubricant while the machine is running and when the bearings are moving. This technology significantly increases the service life of machine components and, thus, the construction equipment. Use of an SKF centralized lubrication system likewise significantly reduces the effort required for maintenance and repair, and the up to 40% reduction in lubricant consumption helps SKF centralized lubrication systems stand out both economically and ecologically

Amortization after just one year

An automated SKF centralized lubrication system pays for itself after just one year, when you consider the costs of manual lubrications such as manual repair work, higher lubricant consumption and machine downtime.





The latest technology and highest service

As a full-range supplier, SKF offers a complete selection of high-performance lubrication systems for construction equipment. Based on its high-quality standard components, SKF offers custom system solutions that are exactly tailored to the customer's specific requirements.

Over 80 years of experience in lubrication

Good advice is often difficult to get, considering the variety of systems on the market.

It does not have to be this way if you take advantage of the experience and knowledge of experts in the lubrication of construction equipment. With over 80 years of experience, SKF offers the entire range of tried and proven solutions.

Sturdy construction with state-of-the-art technology

The principle of SKF centralized lubrication systems' design, their sturdy construction and state-of-the-art technology, have already proven themselves in practice for decades. But that is not enough; new knowledge and consistent application of the entire expertise of the SKF Group have led to a continuous process of optimization, allowing SKF to offer extremely reliable centralized lubrication systems that help to ensure highly effective lubrication of construction equipment.

Global service

Wherever in the world you use your construction equipment, SKF is nearby. Our company's global presence, combined with a sophisticated logistics concept, guarantees fast, straightforward help. This helps reduce downtime to a minimum.





The essence of construction machinery lubrication

The centralized lubrication systems developed by SKF for construction equipment are characterized by high operational reliability and ease of use. The tried and proven piston pumps of the KFG(S) series with integrated control units and progressive feeders are used to provide precise lubrication of the machinery.

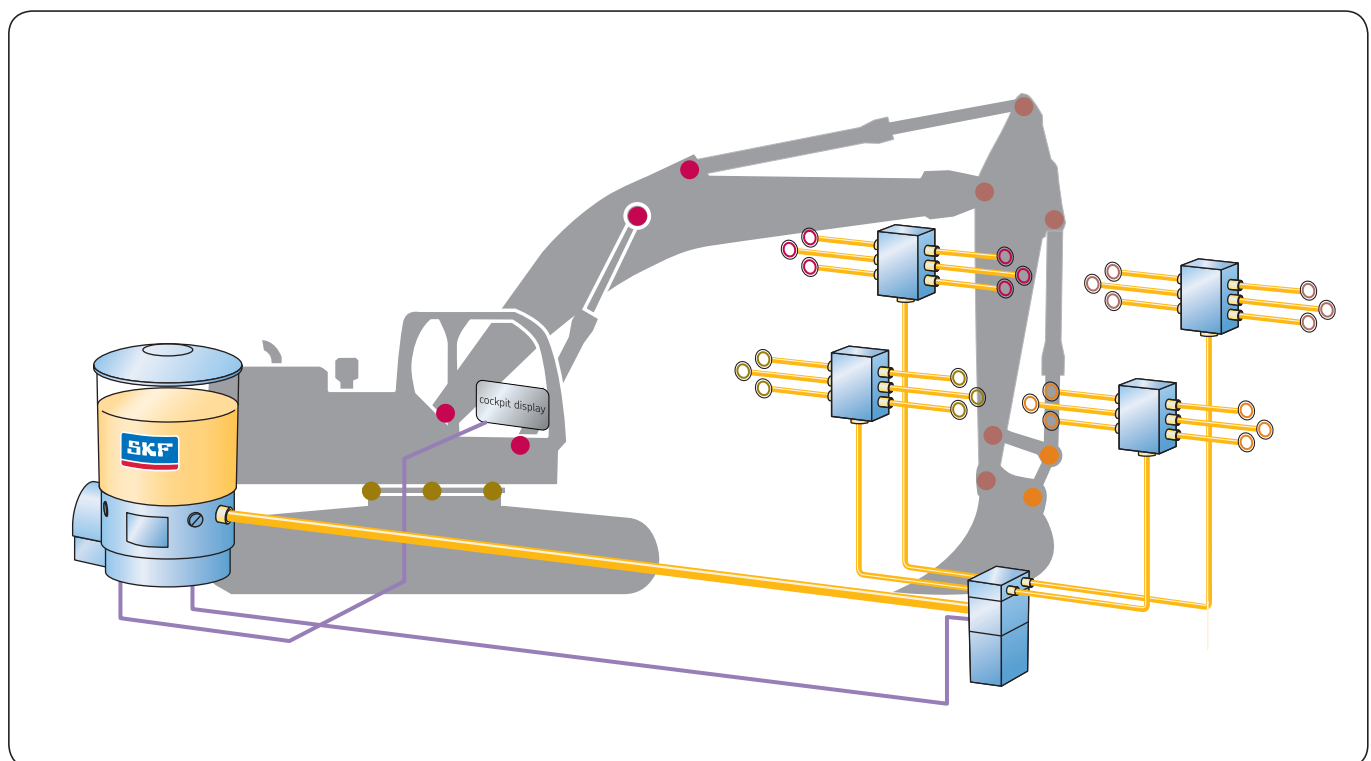
Functional description of progressive lubrication

The control electronics integrated into the pump unit switch the lubricant pump on after a set interval time. The pump delivers the lubricant to the feeders through the main lines for a set contact time. Progressive feeders precisely divide the lubricant delivered by the piston pump consecutively according to the planned ratio. In this way, each lubrication point on the construction machine receives the exact amount of lubricant required. The progressive feeder's positively actuated operation results in a high level of operational reliability.

Installation requirements and system protection

All instructions from the construction machine manufacturer must be followed when installing the components and arranging the lines on an SKF progressive lubrication system. While the lubricant pump is installed in a secure and easily accessible location, the lines and feeders in high-risk areas of a machine require additional protection.

In consultation with construction equipment manufacturers, SKF's engineers have developed a range of solutions that offer highly effective system protection even in extreme operational conditions.





LC502 control unit for greater demands

SKF has developed an even more powerful control unit, the new LC502, as an alternative to its tried and proven IG502 control unit, which is used to control progressive centralized lubrication systems.

Numerous options

With the new LC502, SKF is fulfilling its customers' desire for even more efficient and reliable automatic lubrication. While both control units provide highly reliable lubrication, the new unit offers the additional ability to control the pump cycle time using various parameters, specifically the pump speed or time-dependent control in minutes. This ensures even more precise supply of the lubricant quantity, especially at extremely low temperatures. Another advantage of the new device is that it can monitor up to three lubrication zones. These options let the new control unit cover a large range of applications in progressive, single-line and dual-line centralized lubrication systems.

Increased reliability

The new control unit is equipped with wire breaking monitoring and internal overload protection. All settings on the control unit can be secured using PIN code protection, which prevents unauthorized adjustment of the lubrication intervals. An interesting aspect for construction equipment leasers and leasing companies is the built-in diagnostics memory, which allows registered notifications to be saved in the vehicle history.



5/4 directional control valve for centralized lubrication systems

SKF has developed a new 5/4 directional control valve that allows up to four lubrication zones to be independently supplied with the quantity of lubricant they require.

The problem:

On large construction equipment such as hydraulic excavators, the slewing ring, boom and attachments must be supplied differently, depending on the operating conditions. The lubrication must therefore be divided into multiple independent zones. Thus far, this problem was solved by using centralized lubrication systems equipped with a separate electric switch valve for each zone.

The solution from SKF

SKF's engineers have developed a more elegant and inexpensive solution. Instead of using multiple valves, they employ just one – the newly developed 5/4 directional control valve. It possesses an inlet which can be switched to one of the four outlets at a time, allowing up to four independent zones to be supplied with lubricant.

Further optimization possible

You can make the lubrication of construction equipment even simpler and more reliable by integrating the centralized lubrication system with the 5/4 directional control valve into the machine's on-board communication network over CAN bus. Monitoring, operating and configuring the lubrication system through the CAN bus achieves optimum lubrication for each individual lubrication zone.





Retrofitting improves machine performance

There are various reasons why some construction machines are not equipped with a centralized lubrication system, but the arguments in favor of using an SKF centralized lubrication system are clear:

- High operational readiness for your construction machine
- Long service life for mechanical machine components
- Lower costs for maintenance and repair
- Reduction in downtime and risk of failure
- Significant reduction in lubricant consumption
- Harmonization of economic and ecological requirements

Retrofitting with ease

Construction equipment without centralized lubrication systems can be retrofitted with reasonable effort, provided the required kits fit the particular machine type and can be mounted easily and quickly.

SKF retrofit kits have been manufactured according to the specifications of notable OEMs, and they meet their requirements and lubrication standards. The prefabricated sets are available in large quantities and in all designs; the same applies, should you ever need one, to the repair kits.

To ensure that retrofitting can be performed without complications, SKF provides complete kits with all necessary components, plus the plans and instructions for assembly of a centralized lubrication system for the particular type of construction equipment.

If you wish to have retrofitting performed by specialists, for example, on special purpose machinery, you can take advantage of SKF's flexible technical service at any time.





Customized solutions for your applications

SKF's product portfolio covers a wide range of lubrication system solutions for construction equipment, including custom solutions developed for very special applications. See the two sample solutions below.

Automatic lubrication system for hydraulic hammers and demolition grapples

Hydraulic hammers require a different lubricant than other lubrication points on an excavator. For this reason, the solution developed by SKF for the lubrication of attachments involves equipping each hammer or, for example, a demolition grapple with its own small, easy-to-install chisel-paste lubrication system. This solution provides a special advantage when switching the attachment from one machine to another.



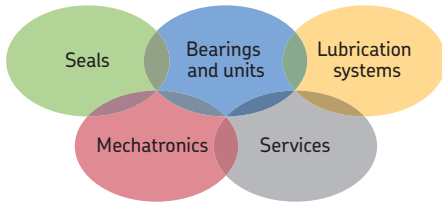
FK pump unit for heavy machinery

SKF developed the FK pump unit for use in heavy machinery, for example, in the mining sector. This pump unit leaves nothing to be desired in terms of lubricant supply, lubricant consumption and powerful pressure build-up, even on long lines. The special feature of this sturdily constructed, modular FK pump unit is that it can expand to meet additional demand. The customer can select from a wide range of options for performance data and accessories to create the unit that is optimally suited for the desired application.

Consulting and service are at the top of SKF's priorities

Regardless of the problem you encounter in the field of construction equipment lubrication, SKF is always available as your competent partner with help and advice.

Contact us if you are looking for a custom solution. We may well already have an appropriate standard solution ready for you.



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.

Further brochures:

1-0103-EN	<i>Fittings and Accessories</i>
1-0107-6-EN	<i>Accessories for Progressive Systems</i>
1-0992-EN	<i>Automatic Lubrication System with CAN Control</i>
1-1700-2-EN	<i>Control Units for Progressive Systems</i>
1-8029-EN	<i>Centralized Lubrication for Commercial Vehicles</i>
1-9201-EN	<i>Transport of Lubricants in Centralized Lubrication Systems</i>
1-9420-EN	<i>Single-line Systems for Commercial Vehicles</i>
1-9430-EN	<i>Progressive Systems for Commercial Vehicles</i>
6408 EN	<i>SKF Multilube</i>

SKF Lubrication Systems Germany AG

Hockenheim Plant
2. Industriestrasse 4
68766 Hockenheim
Germany

Tel. +49 (0)6205 27-0
Fax +49 (0)6205 27-100

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