

WINDLUB

Single-Line Centralized Grease Lubrication System for Wind Energy Systems



Designs

The SKF WINDLUB single-line centralized lubrication system is available in KFG pump designs with and without a control unit, as well as in a CAN bus version on request.

The single-line pumps are available as both stationary and rotary pumps. The delivery volume of the pumps is 0.8 to 5.0 cm³/min. depending on the pump element used.



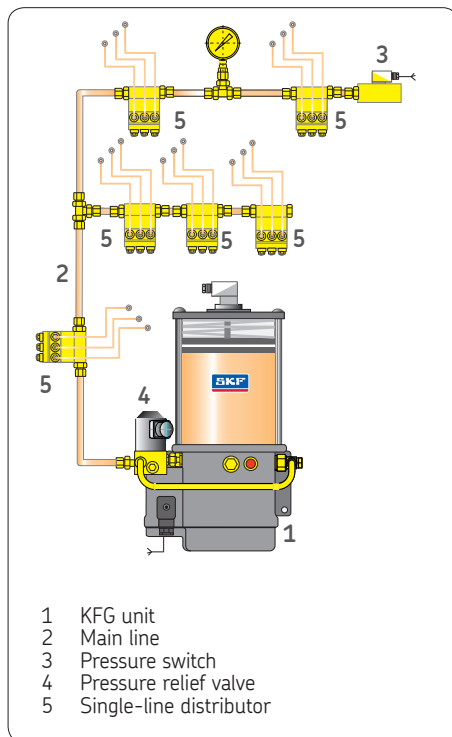
The metering element on the SKF single-line system is a piston distributor of the VR series. This distributor is designed as a prelubrication distributor and is characterized by its high pressure resistance (315 bar), a fitted control piston and high relief pressure (30/70 bar).

Advantages of the SKF WINDLUB single-line centralized lubrication system

- High-pressure technology with a grease follower plate, which makes it suitable for rotary operation, use in the fixed or rotor section
- Even greases with high solids content can be fed easily
- Available as a pre-assembled kit, which means low mounting effort and a reduced incidence of mounting errors
- Individual supply of lubrication points, which provides high apportioning accuracy and separate supply of individual lubrication points
- Electronic fill level control, which allows centralized monitoring of the fill level by the wind energy system's control system
- Visual stroke monitoring of the lubrication cycle via an indicator pin, which allows monitoring of lubrication directly at the individual lubrication points
- Distributors feature quick connector technology, which results in reduced mounting time and expenses
- System components available in corrosion-resistant design, which makes them suitable for offshore applications
- Available with CAN bus control on request

A WINDLUB single-line centralized lubrication system consists of a pump unit with pump element, a pressure relief valve with integrated pressure regulating valve, and a main line with single-line distributors and pressure switch.

The single-line centralized grease lubrication system is approved for an operating voltage of 230 V AC or 24 V DC and greases up to NLGI Grade 2 with a flow pressure of ≤ 700 mbar.



Functional description of SKF single-line systems with KFG pump unit

When the pump motor is turned on, the piston pump delivers lubricant from the reservoir to the lubricant outlet. The pump element attached to the outlet meters the lubricant and delivers it further through the pressure relief valve attached to the pump unit on to the main line. The lubricant flows through the main line to the single-line distributors, where it is metered and passed to the lubrication points during the ongoing pump cycle. After the metering is complete and the pre-set pressure has been reached, the pressure switch installed at the end of the line system sends a signal to the wind energy system's central control unit. After the pre-set delay time, the control unit cuts off the power supply to the relief valve and the pump unit.

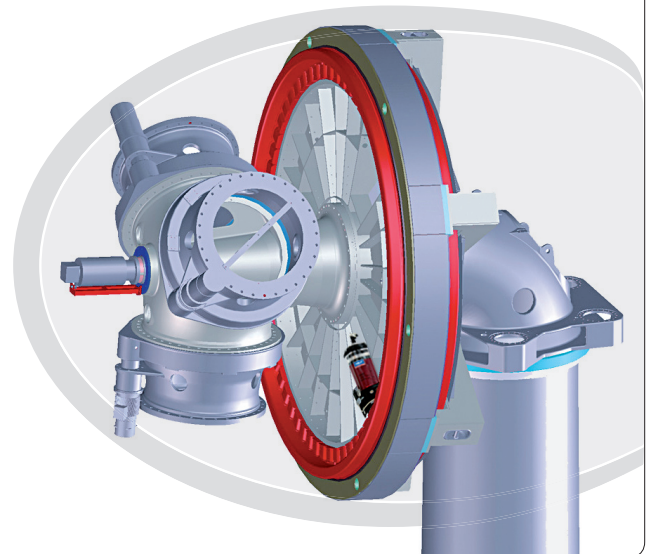
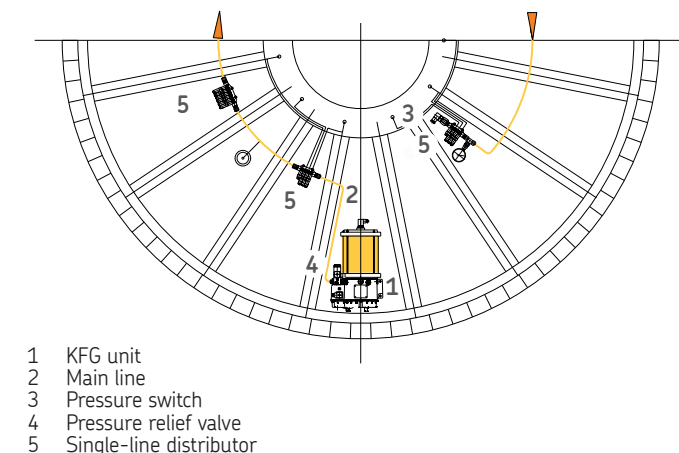
The pressure relief valve is switched. After the main line has been single-line distributors, the pump unit is now prepared for another lubrication cycle.

Functional description of SKF single-line systems with KFGS pump unit

The general functional description for single-line systems with a KFG pump unit also applies for the design with KFGS pump control. The control unit integrated into the pump housing allows the following additional configuration, monitoring and connectivity options:

- Interval time and contact time can be adjusted independently, including on monitored systems
- Recording of remaining intervals and remaining lubrication times
- Recording of fault times (diagnostics memory on KFGC)
- Data backup in case of voltage failure
- Non-volatile memory with PIN code protection
- Connectivity for pressure switch
- Fill level monitoring, lubrication cycle and fault notification remain on display in case the level falls below minimum

*Example
Single-line system with rotary KFG single-line pump unit, VR single-line distributors and pressure switch*



WINDLUB components

Pump unit of the KFG series with relief valve and fill level control

- Pump units are fully functional in rotary application (360°)
- Sturdy design with 1 to 3 pump elements
- Delivery volume of 0.8 to 5.0 cm³/min per pump element
- Operating voltage 230 V AC (24 V DC)
- Reservoir volume of 2 kg to 15 kg
- Compact and reliable
- High-pressure technology with grease follower plate and therefore suitable for standard greases up to NLGI Grade 2 and low working temperatures
- Available with optional electronic control
- Control unit with memory and system monitoring function
- Equipped on request with CAN bus control for integrating in machine controls
- Extensive accessories program with pressure relief valves, fill level switches, etc.
- Available with optional replaceable reservoir

Associated brochure

1-3034-US Reservoir pump units of the KFG (S) (C) series



Single-line distributors of the VR series

- Equipped with 3, 6 or 9 outlets and visual stroke monitoring; other sizes available on request
- Rated metering volume of 0.1 to 1.3 cm³/stroke
- Innovative, extremely compact design with quick connector technology, high pressure resistance (315 bar) and high relief pressure (30 or 70 bar) guarantee:
 - High operational reliability when using stiff greases at low working temperatures
 - Long service life, even when using complex lubricants
 - Allows use of longer main lines with smaller dimensions
 - Reduced assembly costs

Associated brochure

1-0998-US VR Piston Distributor



Please note the important information about product usage on the back cover.

Order No. 1-3036-EN

Subject to change without notice! (07/2009)

Important product usage information

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 (1013 mbars) 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.

Brochure notes

1-2003-EN Centralized Lubrication Fears no Heights

1-0302-EN Lubrication Pinion

1-0303-EN Lubricant Collector

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