

# SKF lubrication solutions for food and beverage machines

Improve food safety, productivity, and worker health and safety

56%

OF PREMATURE BEARING FAILURES ARE CAUSED BY CONTAMINATION AND INADEQUATE LUBRICATION









# UP TO

LUBRICANT SAVINGS BY SWITCHING TO AUTOMATIC LUBRICATION



### Did you know?

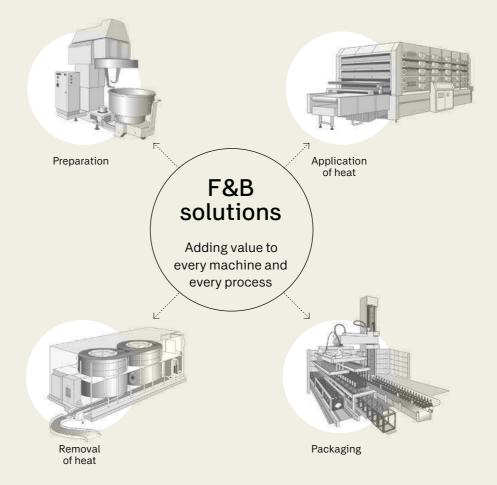
Automatic lubrication saves around 200 000 t of grease per year worldwide by reducing the lubricant waste caused by manual lubrication. This corresponds to 300 000 t CO<sub>2</sub> savings.

### Value added by lubrication

If particles, dirt and water are allowed to work their way into critical machine components, they will form a "grinding compound" that reduces components life substantially.

Maintaining a proper lubricant film is key to reducing wear and downtime. Frequent lubrication acts as a means to reduce friction effectively and it virtually keeps bushing and bearings free of penetrating contaminants.

Being a bearing manufacturing company we discover again and again, that the high importance of reliable machinery lubrication is very often misjudged.



## Lubrication solutions for food and beverage industry machinery

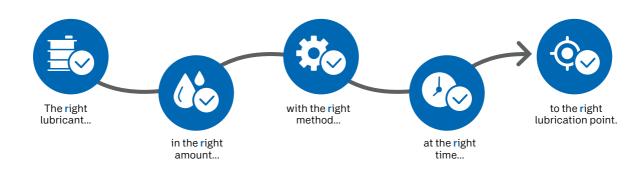
### Introduction

Reliable lubrication of machines in food and beverage industry is crucial for a smooth production process. In an industry where hygiene, efficiency and product quality are top priorities, well-lubricated systems play a central role. In food and beverage processing machines, lubricants amount to 2-3% of running costs. But 40-60% of maintenance costs come from poor lubrication. These numbers indicate the importance of reliable lubrication and appropriate lubrication practices. That's why we talk not only about lubrication but also about lubrication management as an essential part of machine operation and maintenance.

The requirements for lubricants in this industry are diverse. Not only do they have to support proper functionality of the machines, but they also have to comply with strict food compatibility regulations. Contamination, moisture, high temperatures and humidity present challenges that must be overcome with the right lubrication. In this brochure you will find lubrication solutions for food and beverage machines. We highlight the advantages of automatic lubrication systems, the improvement of food compatibility and the contribution to environmental sustainability. Discover how a professional lubrication solution can increase productivity and allow longer trouble-free uptime. Would you like to benefit from the benefits of SKF lubrication solution? Please visit: **SKF.com/lubrication** 

#### **Table of contents**

Lubricant selection 4
Manual and semi-automated lubrication
Automatic lubrication systems 8
Connected automatic lubrication systems $\dots$ 10
Mill and grinder lubrication 12
Extruder and pasta machine lubrication $\ldots 14$
Decanter, centrifuge and filter press lubrication 16
Cooking and pasteuriser machine lubrication 18 $$
Tunnel oven, dryer and roaster lubrication. $\ldots$ 20
Tunnel freezer and cooling tower lubrication $\dots$ 22
Thermoforming machine lubrication24
Roller belts and conveyor lubrication
Washing and rinsing machine lubrication $\ldots 28$
Filling and bottling machine lubrication 30
Labeling machine lubrication 32
Packaging and palletising machine lubrication . $34$
Maintenance service tools
Lubrication management 38



# It starts with a smart selection of lubricants

### SKF LubeSelect

SKF lubricants are designed for your needs and tested for performance in real applications. Our experience with bearings, lubricants and applications helps us to offer the most suitable lubricants for your application and improve your overall lubrication scheme. Testing and validating each production batch is our way to provide excellent lubricant quality around the globe. Specialized lubricant tests and continuous research in the field of lubrication help to optimize our knowledge further and support you with the right lubrication for your machines.

The app LubeSelect for SKF greases is developed by SKF and accesses a knowledge base to help you select an appropriate lubricant for a particular application.

Lubricant selection criteria:

- Operation conditions like temperature, humidity
- Engineering guidelines depending on component type and geometry, speed and load
- Legal and ethical regulations



SKF LubeSelect



# Recommended market proven food grade lubricants

### LGFG 2

SKF LGFG 2 is a high performance food grade grease using complex calcium sulphonate thickener technology and a white mineral oil. It is suitable for applications subjected to high loads, wet environment and fluctuating temperatures encountered in the among others food and beverage industry.

#### Features and benefits:

- Wide temperature range
- Outstanding water resistance
   and corrosion protection
- Excellent mechanical stability
- Excellent protection against high loads and wear
- NSF ISO 21469 registered as well as Halal and Kosher certified





Discover more on SKF.com

Discover more on SKF.com

### **LFFM 100**

LFFM 100 is a high-performance synthetic chain oil specially formulated for the lubrication of chains operating in food processing and agriculture industries. It provides excellent load and anti-wear properties even in the presence of moisture and in low temperature environments.

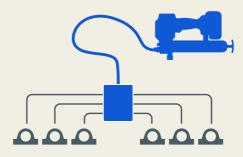
#### Features and benefits:

- Certified for food industry with: NSF H1, NSF ISO 21469, Halal and Kosher
- Especially suitable for moist and low temperature environments
- Excellent steel an copper corrosion inhibition properties
- Excellent anti-wear protection
- · Excellent oxidation stability
- Low residue formation



## Manual and semiautomated lubrication





### **Manual lubrication**

Manual lubrication of food and beverage machines is a critical maintenance practice involving the application of lubricants to various components by hand via tools such as manual or electrical operated grease guns. This is the most simple but also time-consuming way of realizing lubrication.

#### SKF offer

- Grease nipples
- Standard manual grease guns
- One-hand-operated grease guns
- Battery-driven grease guns

#### Characteristics

- Low investment costs
- Very limited number of parts needed
- No installation complexity
- Low lubrication reliability
- Big maintenance effort

### Semi-automated lubrication

A centralized approach can be realized by connecting several lubrication points to lubricant metering devices with only one manual lubrication point at the metering device inlet left for manual lubrication tools. This represents an advanced, time-saving approach of realizing machinery lubrication while allowing at the same time to set the precise dosages for each lubrication point.

#### SKF offer

- Grease guns
- Grease nipples
- · Fittings and accessories
- · Lubricant hoses and tubes
- Progressive metering devices
- Adjustable progressive metering devices

#### Characteristics

- Medium investment costs
- · Limited number of parts needed
- · Limited installation complexity
- Medium lubrication reliability
- · Limited maintenance effort

# Recommended and market proven solutions

### TLGB 1886-E

The TLGB 1886-E battery-driven grease gun offers the key features you need for tough jobs. The versatility of the two-speed design enables you to address all lubrication points with a single tool, protecting your equipment from costly repair and downtime. The tool's high-ratio gearing will move large quantities of grease quickly when needed, while its low gearing supports deliveries of up to 700 bar.

#### Features and benefits:

- High performance for intensive use
- Built-in LED illuminates the work area
- LED indicators identify loss of prime, empty cartridge or blocked fittings
- Trapped air inside of the grease gun can be easily removed with the vent valve to restore priming

### SSV

These single-block progressive metering devices reliably divide the incoming lubricant into predetermined individual quantities. SSVs can be used with high back-pressures, and they are ideally suitable for a wide range of temperatures. The maximum operating pressure is 350 bar. SSV metering devices are available with

6 to 22 outlets. Monitoring is possible via pin indicator for visual system monitoring or with a piston detector for electrical system monitoring.

#### Features and benefits:

- · Various sizes for 6 up to 22 outlets
- · Copes with high operating (back)pressures
- Available in different materials, steel and stainless steel 1.4571 (*AISI 316Ti*) and 1.4305 (*AISI 303*)
- Exact lubricant metering
- Reliable operation monitoring with optional electrical piston detectors

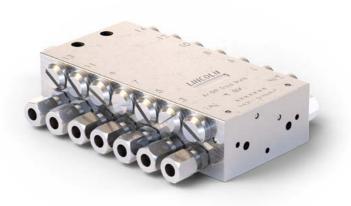




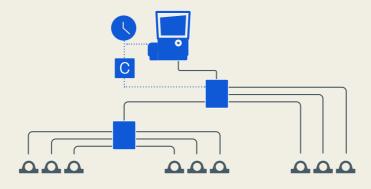
Discover more on SKF.com



Discover more on SKF.com



# Fully automated lubrication systems



Automatic lubrication means a 100% reduction of manual lubrication activities. It is realized by connecting all lubrication points via a system consisting of metering devices and lubrication lines and fittings with a central pump unit including a lubricant reservoir. This system can become also connected to an internal or external controller that enables precise and reliable, automatic machine lubrication. You will become pre-warned about low reservoir filling levels.

#### SKF offer

- · Electrically or hydraulically driven lubrication pumps
- · Control and monitoring devices
- · Lubricant metering devices
- Lubricant lines and fittings

#### Characteristics

- · Virtually maintenance free
- Higher lubrication reliability lubrication while machine is running
- Adjustable lubrication cycles
- Monitoring possibilities automatic control of the reservoir filling level incl. low level alarm

# Recommended and market proven solutions

### EDL1

EDL1 is an innovative dosage and pressure-booster pump of unmatched simplicity. It is designed to increase input pressures of at least 2 bar (29 psi) up to a maximum of 280 bar (4060 psi). Utilizing progressive metering devices, the EDL1 has been developed for usage in a sectional system as well as in large machines with different lubrication requirements at varying distances. Because lubricant is supplied by means of filling pumps or pressurized cartridges, the device provides flexibility and self-sufficient function, even in remote locations.

#### Features and benefits:

- · Easy to use
- Protection class IP 65
- Integrated control board for both impulse- and time-controlled lubrication
- · Potential-free contacts notify of lubrication failure

### CLK

The CLK airless oil projection system is the simple, reliable, and easy-to-install solution for lubricating the roller chains of industrial conveyors. The system comprises a central unit with a reservoir, automatic system, and volumetric pump for delivering a precise quantity of lubricant through projection nozzles to each point of friction of moving chain links. None of the system components is in mechanical contact with the chain, thereby eliminating any risk of wear and potential build-up of dirt. All components are corrosion-resistant. Nozzles and pipework are suitable for high temperatures (200 °C/400 °F).

#### Features and benefits:

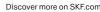
- · Inductive sensor based reliable chain lubrication
- Compact solution incl. pump, reservoir, control unit, pipes, fittings and nozzles
- · Easy and intuitive setting of pump configuration





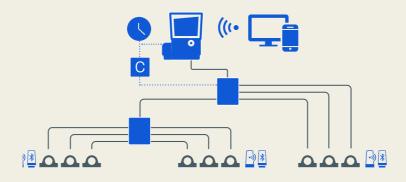
Discover more on SKF.com







## Connected automated lubrication systems



Connected or intelligent lubrication systems mean you are aware of all machinery lubrication-related data in real-time. You have access to lubrication-related statistics such as lubricant consumption or lubrication cycles e.g. so you can align smartly with all collected machinery data to optimize machine performance and availability.

#### Characteristics

- Virtually maintenance free
- Higher lubrication reliability lubrication while machine is running
- Adjustable lubrication cycles
- Monitoring possibilities automatic control of the reservoir filling level incl. low level alarm
- Data collection and lubrication related statistics
- Remote control and accessibility

#### SKF offer

SKF eLube is a new generation of connected automatic lubrication solutions – a complete line of smart and user-friendly components that you combine in a system to fit your needs best.

SKF eLube can help you identify issues at a glance, track machine health data, get early warning of potential failures and take preventive action. Connect it to a cloud and receive machine performance insights based on data from both your lubrication system and your bearings.

SKF eLube products are compact, fit-for-purpose and easy to integrate into your equipment.



Discover more on SKF.com

## Smart monitoring at its easiest

### **CLP Smart**

Features and benefits:

• Compact lubrication pump for small progressive grease lubrication systems



Discover more on SKF.com

- Three operation modes (time, counter and progressive cycle controlled)
- Remote monitoring, control and setting using the SKF eLube App

### P253 Smart

#### Features and benefits:

- Powerful lubrication pump with up to three pump elements and a range of reservoir sizes
- For oil and grease applications
- Remote monitoring, control and setting using the SKF eLube App



Discover more on SKF.com



### SKF eLube app

Using the SKF eLube app allows users to determine lubricant levels and pump functions remotely. There is no need to stop the machine or physically access the pump to check lubricant levels, for instance. This can save time and also reduce the risk of accidents. Wireless access to pump information helps to spot problems – such as a blocked line or low lubricant levels – very quickly. Remedial action can then be taken immediately to avoid damage to the bearing.

#### Features and benefits:

- · Easy and intuitive setting of pump configuration
- · Share settings via email and WhatsApp
- · Clear visual indication of operational status
- Early warning of potential failures to take preventive action
- Log book functionality

Available on:



# Mills and grinders for grains, spices or meat

In order for grain to be carefully ground with roller mills, solid power transmission is required from the drive through the gearbox to the grinder. All mechanical components involved must be optimally supported and the bearings must be reliably lubricated so that these machines do not fail due to bearing damage. SKF bearings and lubrication systems help roller mills work even more reliably by reducing friction and wear. In addition, good lubrication also noticeably saves energy and increases the service life of the entire machine.

#### Components that require reliable lubrication:

UP TO

16

LUBRICATION

**POINTS\*** 

- · Drive shaft bearings
- · Conveyor bearings

This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

## Mill and grinder lubrication solutions

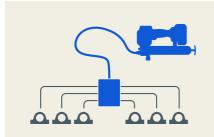


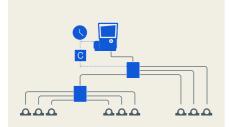


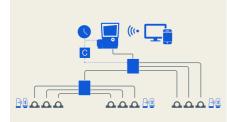


Product name	Description
LGFG 2	KP2N-30 general purpose food grade grease
LGFQ 2	KP1/2N-40 high load food grade grease









Manual	lubrication
i iaiiaa.	abiloation

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
P203	electrically driven oil/grease pump
CLP	electrically driven compact grease pump
SSV	progressive metering device

#### Connected automatic lubrication system components

Product name	Description
CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSV	progressive metering device
SSVD	adjustable progressive metering device





SKF Lincoln Offe



SKF Lincoln Offe



SKF Lincoln Offer



13

## Industrial extruders and pasta machines

Extrusion is a versatile and efficient food processing technique. In order for the viscous to solid mass to be continuously pressed through an opening or nozzle with a defined shape, considerable forces and reliable machine parts are indispensable. The thrust force required for this is generated mechanically, for example, by a movable piston or the rotation of screw conveyors, which places special demands on bearing mountings and bearing lubrication. SKF lubrication solutions support the reliability of extruder by reducing wear, down time and extending bearing service life times.

#### Components that require reliable lubrication:

UP TO

25

LUBRICATION

**POINTS\*** 

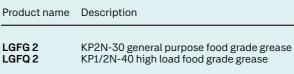
- Molding and screw conveyor bearings
- Planetary roller bearings
- Double screw bearings
- Drive shaft bearings
- Piston bearings
- Linear guides
- \* This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

## Industrial extruder lubrication solutions

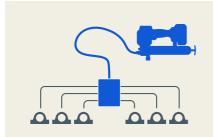


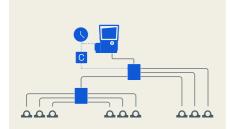


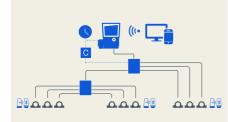












Manual	lubrication

Product name Description

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication Product name Description

Tiouuctiname	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
SSV	progressive metering device

#### Connected automatic lubrication system components

Product name	Description
CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pum
SSV	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offe



SKF Lincoln Offer



SKF Lincoln Offer

pump



The continuous separation of solids using centrifugal force in the decanter not only requires a reliable drive, but also optimal power transmission and solid main shaft bearings. Liquids as well as dust and dirt put considerable strain on these components and quickly lead to failures and downtime. Equipped with the right SKF bearings, seals and lubrication systems, this problem becomes addressed and changed to optimal performance and service life of the entire machine. If this is not enough, SKF also offers filter and cleaning systems such as the RecondOil Box for gear oils.

#### Components that require reliable lubrication:

UP TO

LUBRICATION

**POINTS\*** 

2

- · Gears and gear box bearings
- · Main shaft bearings
- Drive bearings

This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

## Decanter and centrifuge lubrication solutions

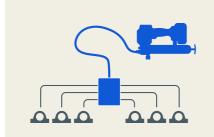


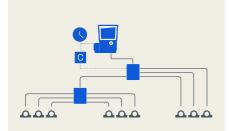


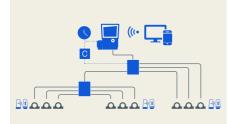


Product name	Description
LGFG 2	KP2N-30 general purpose food grade grease
LGFQ 2	KP1/2N-40 high load food grade grease









Product name Description

	· · ·
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun

#### Semi-automatic lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
SSVC	progressive metering device

#### Connected automatic lubrication system components

Product name Descript	ion
-----------------------	-----

**CLP Smart** 

SSVC

SSVD

electrically driven connected grease pump P253 Smart electrically driven connected oil/grease pump progressive metering device adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offe



SKF Lincoln Offer



#### 17

# Industrial cooking and pasteuriser machines

Industrial cooking and pasteurization machines are crucial in the food industry to ensure the safety and shelf life of products such as dairy products, mixed drinks e.g.. These machines require reliable lubrication to ensure their proper functioning and longevity. Further benefits of lubrication are: friction gets reduced, heat can be dissipated better, corrosion protection is improved, the service life of the machine can be extended and efficiency can be increased.

#### Components that require reliable lubrication:

UP TO

**Z**.()

LUBRICATION

**POINTS\*** 

- · Gears and gear box bearings
- Drive and drive shaft bearings
- Pumps and valve bearings
- Conveyor bearings
- Chains

\* This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

# Cooking and pasteuriser lubrication solutions

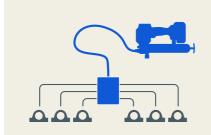


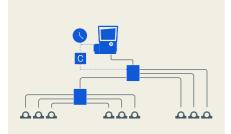


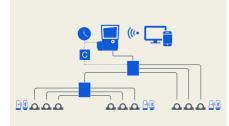


Product name	Description
LGFG 2	KP2N-30 general purpose food grade grease
LGFQ 2	KP1/2N-40 high load food grade grease
LFFT 220	high temperature (250 °C) food grade chain oil









#### Manual lubrication

Product name	Description
LAGN 120 TLGB 1886-E 1134 1142 1154	grease fitting kit (120 conical fittings) 20V Li-ion PowerLuber, 1 battery pistol-grip grease gun lever-action grease gun dual-output lever-action grease gun

#### Semi-automatic lubrication

Product name Description

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
ETP	electrically driven compact greaser
CLP	electrically driven compact grease pump
EDL1	electrically driven grease booster pump
P203	electrically driven oil/grease pump
SSV	progressive metering device
CLK	electrically driven oil chain lubrication kit

#### Connected automatic lubrication system components

CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSV	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer



19

UP TO 25 LUBRICATION POINTS\*

# Tunnel ovens, dryers and belt roasters

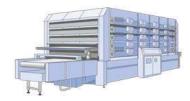
In many processes in the food industry there is the challenge of baking, drying or roasting food. These machines need to be lubricated in order to function efficiently and reliably. It's not just about reducing friction, but also about increasing efficiency by reducing unplanned downtime, maintaining food safety and improving worker safety. Many lubrication points, e.g., in tunnel ovens, dryers and roasters are not possible to access during operation and are therefore easily overlooked in recurring maintenance procedures whereas automatic lubrication systems provide lubricant to all points while the asset is in full production mode.

#### Components that require reliable lubrication:

- Door mechanisms, sliders or flaps
- · Gears and gear box bearings
- Drive shafts bearings
- · Conveyor bearings
- Fan bearings
- Chains

<sup>&</sup>lt;sup>+</sup> This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

## Oven, dryer and roaster lubrication solutions

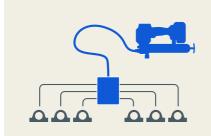


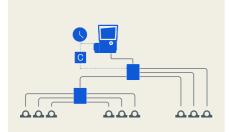


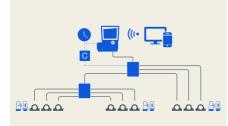


Product name Description KP2N-30 general purpose food grade grease KP1/2N-40 high load food grade grease high temperature (250 °C) food grade chain oil LGFG 2 LGFQ 2 **LFFT 220** 









#### Manual lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication

Product name Description

Product name Description

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

	Description
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
SSVC	progressive metering device
CLK	electrically driven oil chain lubrication kit
OCL-M	shaft driven oil chain lubrication kit

Connected automatic lubrication system components

CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSVC	progressive metering device
SSVD	adjustable progressive metering device





SKF Lincoln Offer

SKF Lincoln Offe



SKF Lincoln Offer



UP TO 30 LUBRICATION POINTS\*

## Tunnel freezers and cooling towers

In order to cool food efficiently and gently, and thus maintain the quality and shelf life of the products, sophisticated machines and systems are required. In addition to the size of the machine, energy consumption and efficiency are increasingly playing a decisive role in profitability. Energy losses due to unnecessary friction as well as downtime due to failing bearings and chains are a nightmare for operators. SKF lubrication for chains and bearings support the reliable operation of these machines and increase the service life.

#### Components that require reliable lubrication:

- Drive and drive shaft bearings
- · Conveyor belt bearings
- Pump bearings
- Fan bearings
- · Chains

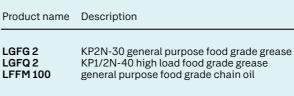
<sup>+</sup> This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

# Freezer and cooler lubrication solutions

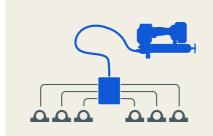


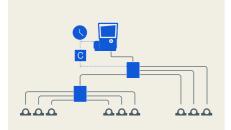


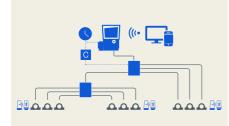












Manual	lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication

Product name Description

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
P203	electrically driven oil/grease pump
CLP	electrically driven compact grease pump
EDL1	electrically driven grease booster pump
SSV	progressive metering device
CLK	electrically driven oil chain lubrication kit

Connected automatic lubrication system components

CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSV	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer





Industrial thermoforming machines are essential tools that contribute to efficient, reliable, and customized packaging solutions for the food industry and beyond. These machines are designed with hygiene in mind, making them easy to clean and suitable for food safety requirements. Reliable lubrication enhances thermoforming machine performance, extends component life, and contributes to consistent, high-quality output. Well-lubricated bearings, gears, and chains experience less wear, reducing the need for frequent replacements. In addition food grade lubricants help ensure compliance with hygiene regulations.

#### Components that require reliable lubrication:

UP TO

50

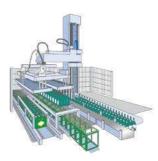
LUBRICATION

**POINTS\*** 

- · Gears and gear box bearings
- Drive shafts bearings
- Conveyor bearings
- Linear guides
- Chains

\* This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

# Thermoforming machine lubrication solutions





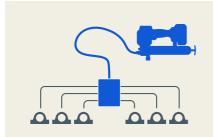


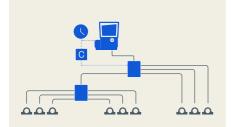
Product name	Description
LGFG 2	KP2N-30 general purpose food grade grease
LGFQ 2	KP1/2N-40 high load food grade grease
LFFM 100	general purpose food grade chain oil
LFFT 220	high temperature (250 °C) food grade chain oil

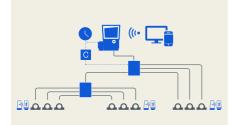


SKF Lincoln Offer









#### Manual lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
ETP	electrically driven compact greaser
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
SSV	progressive metering device
CLK	electrically driven oil chain lubrication kit

#### Connected automatic lubrication system components

Product name	Description
CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSV	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer

# Industrial roller belts and conveyors

Conveyors are a crucial part of many food and beverage production processes. They are installed between different production steps. Due to hygiene regulations, these are cleaned regularly - often with high-pressure cleaners. But water, steam and dirt lead to accelerated corrosion and wear. Lubrication counteracts these negative effects, significantly reduces friction and corrosion, saves energy, extends the service life of bearings, belts and chains and minimizes wear. Finally, food-grade lubricants help maintain high hygiene standards.

#### Components that require reliable lubrication:

UP TO

1000

LUBRICATION

**POINTS\*** 

- · Drive motors and gearboxes
- · Guides and sliding surfaces
- Bearings and rollers
- · Belts and chains

This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

# Roller belt and conveyor lubrication solutions





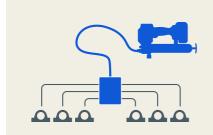


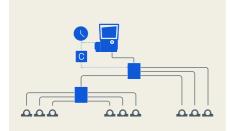
 Product name
 Description

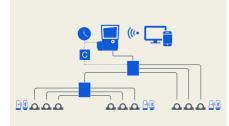
 LGFG 2
 KP2N-30 general purpose food grade grease general purpose food grade chain oil dry film lubricant for pet bottle conveyors











M	1
manual	lubrication

Product name Description

	· · · · · · · · · · · · · · · · · · ·
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication Product name Description

Product name Description

Product name Description

LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
EDL1	electrically driven grease booster pump
Lubrigun	air-operated barrel pump for sectional systems
SSV	progressive metering device
CLK	electrically driven oil chain lubrication kit

Connected automatic lubrication system components



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer



ир то **100** 

LUBRICATION

**POINTS\*** 

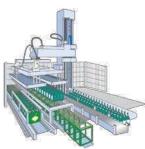
# Washing and rinsing machines

Washing and rinsing machines are an essential component of many food and beverage processes, providing a quick and efficient means of cleaning the packaging and the product. These machines are subjected to a significant degree of wear and tear, and lubrication is a critical component in their maintenance to ensure their continued operation. Automated lubrication systems have the potential to increase machine availability. These systems provide the appropriate quantity of lubricant at the correct intervals, minimizing friction and wear while optimizing bearing and machinery service life.

#### Components that require reliable lubrication:

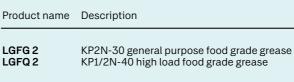
- · Guides and sliding surfaces
- · Drive and shaft bearings
- Rollers, belts and chains
- Worm wheel bearings
- · Gears and gearboxes
- · Piston bearings
- Chains
- \* This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

## Washing/rinsing machine lubrication solutions



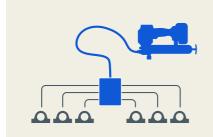


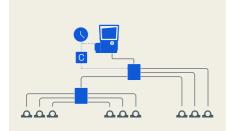


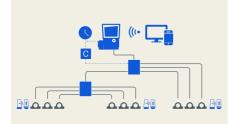












#### Manual lubrication . .

Product name	Description
LAGN 120 TLGB 1886-E 1134 1142 1154	grease fitting kit (120 conical fittings) 20V Li-ion PowerLuber, 1 battery pistol-grip grease gun lever-action grease gun dual-output lever-action grease gun

ь ...

#### Semi-automatic lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSVC	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
CLP	electrically driven compact grease pump
EDL1	electrically driven grease booster pump
P203	electrically driven oil/grease pump
SSVC	progressive metering device

#### Connected automatic lubrication system components

Product name	Description
CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSVC	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offe



SKF Lincoln Offe



SKEL incoln Offer



## Industrial filling and bottling machines

Whether it is beer, juice, soup or dairy products filling machines are the heart of countless filling systems in food and beverage production. Centralized, automatic lubrication systems (ALS) have the potential to increase machine availability. Automated lubrication that takes place while bearings are rotating also improves the distribution of lubricant. These systems provide the appropriate quantity of lubricant at the correct intervals, minimizing friction and wear and optimizing bearing and machinery service life.

#### Components that require reliable lubrication:

UP TO

LUBRICATION

**POINTS\*** 

5

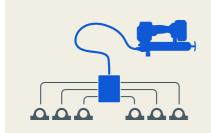
- · Guides and sliding surfaces
- · Drive and shaft bearings
- Rollers, belts and chains
- Worm wheel bearings
- · Gears and gearboxes
- · Piston bearings
- Chains
- \* This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

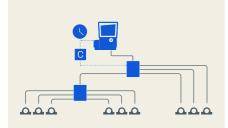
## Filling/bottling machine lubrication solutions

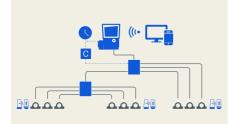












Lubricants	
Product name	Description
LGFG 2	KP2N-30 general purpose food grade



grease



SKF Lincoln Offer



SKF Lincoln Offe



SKEL incoln Offer





#### **LAGN 120** TLGB 1886-E 1134

1142

1154

Product name Description

Manual lubrication

grease fitting kit (120 conical fittings) 20V Li-ion PowerLuber, 1 battery pistol-grip grease gun lever-action grease gun dual-output lever-action grease gun

#### Semi-automatic lubrication Product name Description

LAGN 120grease fitting kit (120 conical fittings)TLGB 1886-E20V Li-ion PowerLuber, 1 batterySSVCprogressive metering deviceSSVDadjustable progressive metering deviceH (hoses)customized and pre-filled high-pressure hoseT (tubes)customized and pre-filled plastic tube	

#### Automatic lubrication system components

Product name	Description
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
EDL1	electrically driven grease booster pump
Lubrigun	air-operated barrel pump for sectional systems
SSVC	progressive metering device

UP TO

50

LUBRICATION

**POINTS\*** 

## Industrial labeling machines

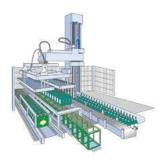
Industrial labeling machines play a critical role in various manufacturing sectors, ensuring product identification and traceability. The importance of these machines is not small, as a labelling machine shut down may cause a full production process stop. To maintain peak performance and extend the service life, proper lubrication is essential. Automatic lubrication systems offer multiple benefits, including improved efficiency, reduced downtime, cost savings, and enhanced equipment life cycle.

#### Components that require reliable lubrication:

- · Guides and sliding surfaces
- · Drive and shaft bearings
- Rollers, belts and chains
- Worm wheel bearings
- · Gears and gearboxes
- Chains

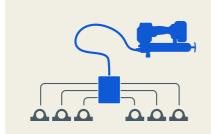
<sup>\*</sup> This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

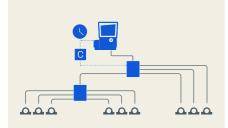
## Labeling machine lubrication solutions

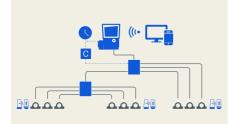












#### Lubricants

 Product name
 Description

 LGFG 2
 KP2N-30 general purpose food grade grease general purpose food grade chain oil

#### Manual lubrication

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication Product name Description

LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
SSV	progressive metering device
CLK	electrically driven oil chain lubrication kit

Connected automatic lubrication system components

Product name	Description
CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSV	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer



SKF Lincoln Offer

UP TO

60

LUBRICATION

**POINTS\*** 

# Packaging and palletising machines

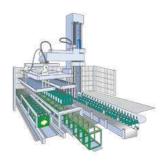
There is an increasing need for automation in industrial packaging. Packaging covers many different sub-processes as opening, closing, pack in second and third container before the palletizing process is starting. Flexibility is a crucial factor and the ability to quickly adjust a machine to different package sizes and shapes make these machines little superstars of automation. Small wonder that lubrication, but especially automatic lubrication systems here also offer all automation benefits, including improved efficiency, reduced downtime, cost savings, and enhanced equipment's service life. Lubrication is boosting machine performance at its best as it reduces friction and wear.

#### Components that require reliable lubrication:

- · Linear guides and chains
- · Drive and shaft bearings
- · Belt drive bearings
- · Elevating chains
- Gears

This is a medium average value. The exact number of lubrication points varies depending on the manufacturer and model.

## Packaging machine lubrication solutions





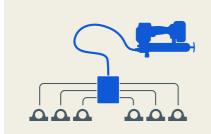


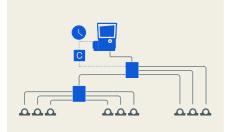
Lubricants

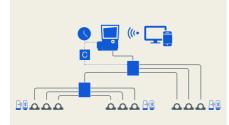
Product name Description

LGFG 2 **LFFM 100**  KP2N-30 general purpose food grade grease general purpose food grade chain oil









Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
1134	pistol-grip grease gun
1142	lever-action grease gun
1154	dual-output lever-action grease gun

#### Semi-automatic lubrication

Product name Description

Product name	Description
LAGN 120	grease fitting kit (120 conical fittings)
TLGB 1886-E	20V Li-ion PowerLuber, 1 battery
SSV	progressive metering device
SSVD	adjustable progressive metering device
H (hoses)	customized and pre-filled high-pressure hose
T (tubes)	customized and pre-filled plastic tube

#### Automatic lubrication system components

Product name	Description
ETP	electrically driven compact greaser
CLP	electrically driven compact grease pump
P203	electrically driven oil/grease pump
SSV	progressive metering device
PTL201	pneumatically driven cartridge pump
CLK	electrically driven oil chain lubrication kit

Connected automatic lubrication system components

CLP Smart	electrically driven connected grease pump
P253 Smart	electrically driven connected oil/grease pump
SSV	progressive metering device
SSVD	adjustable progressive metering device



SKF Lincoln Offer



SKF Lincoln Offe



SKF Lincoln Offer



### Maintenance service tools – to support predictive maintenance

Experienced maintenance technicians know and appreciate the advantages of reliable tools. What counts is that a solution has proven in practice. SKF and Lincoln lubrication tools and equipment for food and beverage equip maintenance service teams with most reliable solutions that allow for more efficient work.

### A wide portfolio is waiting to be discovered by you:

- Greases and chain oils in various containers
- · Grease nipples, couplings and fittings
- · High-pressure hoses, pipes and plastic tubes
- · Hose reels for varying lengths and diameters
- · Manuel and battery driven grease guns
- Refilling and lubricant barrel pumps

# Selected maintenance service team solutions

### Mobile grease pumps

A full range of manual and air-operated grease pumps are designed to empty standard 18, 50 or 180 kg (*39*, *110 or 400 lb*) lubricating grease drums. Can be connected directly to the greasing points, also suitable for centralized grease lubrication systems. Tested and approved for SKF lubricating greases. Easy to install and ready for use since pumps are supplied with all necessary items including tubing.

#### Features and benefits:

- Full range; pumps available for 18, 50 or 180 kg (*39, 110 or 400 lb*) grease drums
- High pressure; maximum 500 bar (7 250 psi)
- Easy to install; all necessary items as well as a 3 500 mm (137 in) of hose are included





Discover more on SKF.com

## Ultrasound lubrication checker

Designed for maintenance technicians, the TLGU 10 uses ultrasonic technology to improve manual re-lubrication. When connected to a grease gun, the intuitive device helps a technician to dispense the correct amount of lubricant into a bearing. By overcoming the problems associated with over- or under-lubrication, it can help to extend bearing life. The device is recommended for a range of bearing applications including electric motors, pumps, fans, compressors and conveyors.

#### Features and benefits:

- Easy to use The TLGU 10 is supplied as a kit. Combining sound with visual displays helps the technician to re-lubricate with maximum accuracy.
- Saves cost the added accuracy improves the reliability of a customer's assets.





Discover more on SKF.com

### Become a trained lubrication manager

### Lubrication training

Lubrication should be considered a skilled job and treated as such. That is why SKF offers dealers and customers a range of different online and classroom training courses to better disseminate knowledge of friction management and lubrication technology and to introduce the latest trends and solutions.

In addition to basic courses on lubrication systems, we are also happy to offer training on special topics such as lubricant selection, storage, transfer, applications and lubricant preparation.

#### Contact us!

As an introduction to the topic, we are pleased to offer best-practice videos and tutorials for lubrication on our web page. Have a look!



Best practices!

# Discover the benefits of lubrication management

Lubrication management plays a vital role in the reliability and efficiency of machinery and equipment. It is a proactive maintenance strategy that, when executed correctly, can help prevent breakdowns, reduce downtime, lower maintenance costs, and extend the lifespan of equipment. It involves the systematic application and control of lubricants to reduce friction, heat, and wear between moving parts, ultimately extending the life of equipment and ensuring its optimal performance.

With a thought-through lubrication management approach, we can organize resources properly, improve reliability effectively, reduce inefficiencies and costs and increase safety and environmental compliance. To better understand this complex topic, we recommend following the lubricant through its lifetime.

This is what we call the lubricant life-cycle. Discover lubrication insights on our website.



Lubrication Management





#### The lubricant life-cycle

#### skf.com | skf.com/lubrication

® SKF, LINCOLN, RECONDOIL and ELUBE are registered trademarks of AB SKF (publ).

© SKF Group 2024. All rights reserved. Please note that this publication may not be copied or distributed, in whole or in part, unless prior written permission is granted.

Every care has been taken to ensure the accuracy of the information contained in this publication, but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

PUB P2/LS 19801 EN · April 2024

Certain image(s) used under license from Shutterstock.com.