



OPEN GEAR LUBRICATION

The importance of open gear lubrication



PROVEN QUALITY. LEADING TECHNOLOGY.

THE IMPORTANCE OF OPEN GEAR LUBRICATION

OPEN GEAR OPERATING CONDITIONS AND CHALLENGES

Operating Conditions

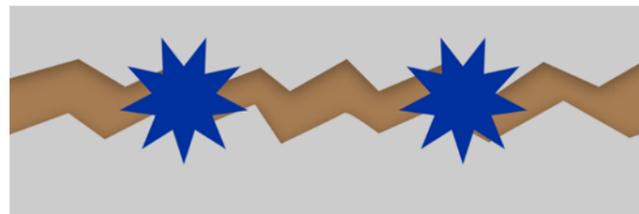
- High temperatures
- Low/medium sliding velocities
- High loads (shock loads)
- Contaminated environment (dust)
- High vibrations
- Misalignments

Main challenges

- Exposure to stress and wear leads to expensive downtime
- Challenging inspections
- CAPEX of \$0.1-1.0m for new girth gear/pinion
- 6 to 12 months lead time

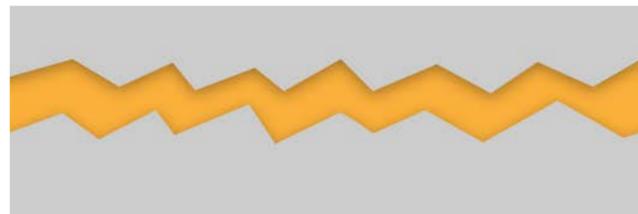


IMPORTANCE OF ADEQUATE LUBRICATION



Reduces friction

- Lubricant serves as protective film on gear parts
- Allows smooth sliding of moving parts
- Avoids direct metal-to-metal contact



Adequate lubrication is a form of preventive maintenance

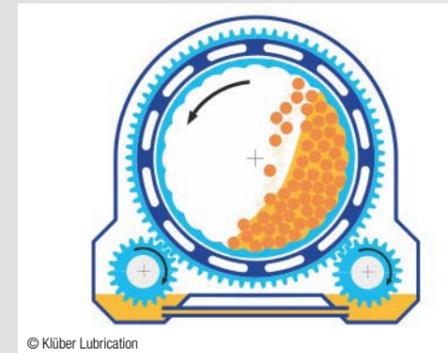
- Avoids expensive and time-consuming unexpected shutdowns
- Keeps machines running efficiently and extends machine lifetime

OPEN GEAR LUBRICATION TECHNIQUES

LUBRICATION TECHNIQUES

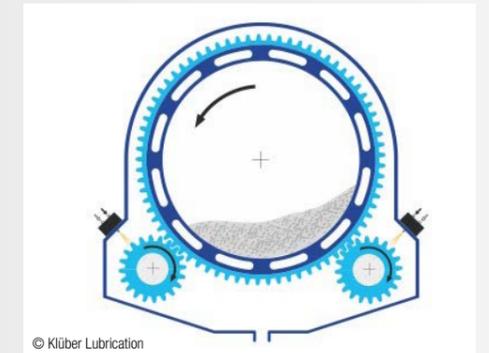
Immersion lubrication

- Continuous lubrication method
- Rotating components dipped in lubricant bath
- Transfer lubricant to other rotating parts of the gear
- Can include a recirculating pump system
- Found in mills and kilns



Spray lubrication

- Automatic application of lubricant while the machine is in operation
- **The right amount of lubricant at the right time and in the right place**
- Intermittent lubrication



SPRAYING - HOW IT WORKS

- **Intermittent**, spray lubrication
- Controller **sends a signal to start a pump which supplies lubricant to a metering valve**
- Metering valves direct the lubricant **to a nozzle that sprays lubricant using air pressure**
- After the lubricant is sprayed, the system shuts off **until the next lubrication cycle**

MODULAR SOLUTIONS

KEY FEATURES



PUMPS

Electric, work smoothly with high pumpability at low temperatures, adjustable Amp and pump speed. Pneumatic, heavy-duty, 7-year warranty
Pneumatic elevator drum (optional)



METERING DIVIDER VALVES

Built-in durability (zinc-iron plating stands up to harsh environments)
Output to meet your needs (0.2 cc per stroke output) and to dispense the exact amount
Easy to extend, connect and install



CONTROLLER

IP69K outdoor rated
Real-time system reporting (Data log), smart device and mobile App.
Work with interval, precise and regular lube event



SPRAY GUN

Unique spray pattern with transparent and high viscosity lubricants
No over-spraying thanks to the needle close when lube events end

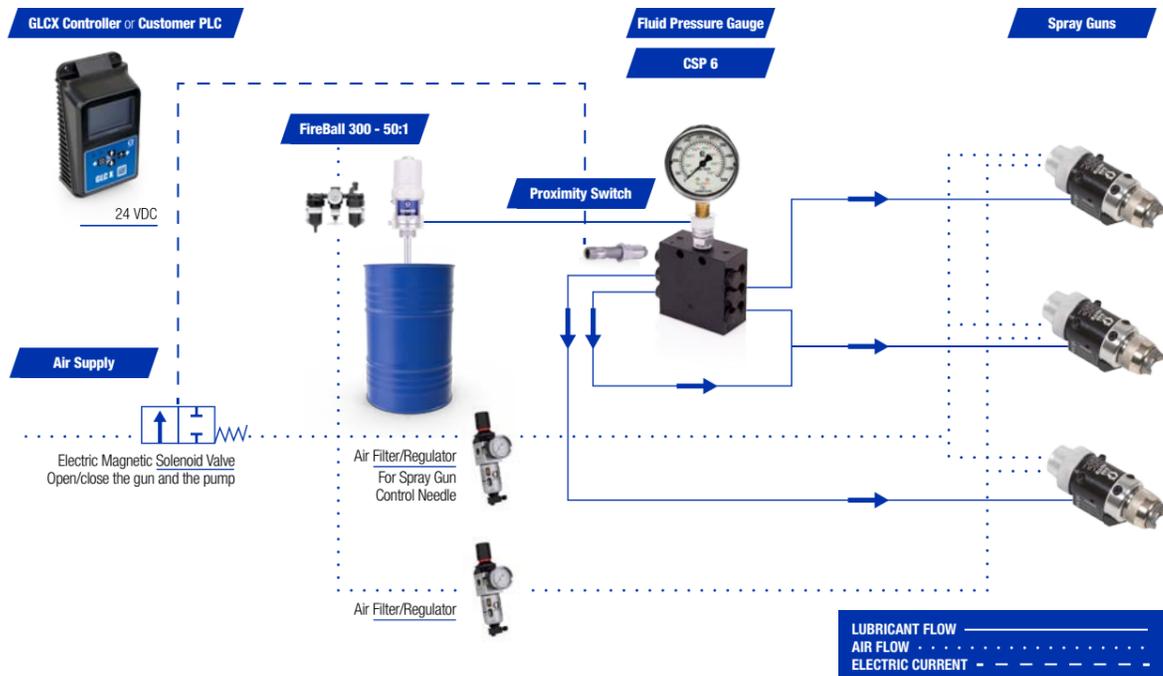


PROXIMITY SWITCH

Magnetically-operated sensing devices for sending system data to the controller or PLC.

OPEN GEAR SPRAY LUBRICATION

SYSTEM SET UP



OPEN GEAR SPRAY LUBRICATION

PACKAGES

Pneumatic pump Pneumatic PLC pump



Electric pump Electric PLC pump



Spray Guns



Divider valve



Fluid connection



Air connection



Pump kit

Choose whether you want a pneumatic or electric pump, and if you want to control the spray system with the help of the Graco GLC X Controller or your own PLC.

Pump kit components:

- Pneumatic Fire-Ball 300 50:1 or Electric Dyna-Star Pump
- GLC X Controller or PLC adapted kit
- Hoses and fittings
- Other accessories for a successful installation

Spray kit

Just tell us the gear width and we will inform you how many spray guns are required to lubricate your open gear. PerformAA Spray Guns are very flexible; with up to three Spray Guns we can cover gear widths from 150 mm to 950 mm.

Spray kit components:

- CSP Divider Valve with Proximity Switch
- Air-Assisted PerformAA Spray Guns
- Hoses and fittings
- Other accessories for a successful installation

PART NUMBER	PART DESCRIPTION
25V529	Pump Kit; Pneumatic
25V530	Pump Kit; Pneumatic, PLC
25V531	Pump Kit; Electric
25V532	Pump Kit; Electric, PLC
241663	Drum Elevator

PART NUMBER	PART DESCRIPTION
25V533	Spray Kit; 150mm - 320mm
25V534	Spray Kit; 320mm - 550mm
25V535	Spray Kit; 550mm - 950mm
2000425	Kit, Spray Gun / manifold

*Kits do not include: metal frame to mount the spray guns, air hose connecting to the spray panel, and to the pump
**Grease High Pressure Hose included in the kit is a 25 meter field installable 8,6 mm OD hose. This should be cut-to-length during the installation.

CONDITIONS FOR OPTIMISED RESULT

Lubrication system set-up needs to be performant:
smart custom-made design is essential

High-end components are essential:
robust from pump till nozzle



ONE-STOP SOLUTION

- Complete system: pump, metering valves, controller, fittings, nozzles, etc.
- Runs for years with minimal maintenance



EASY TO USE

- Programmable with remote operation
- Lubricant level monitoring
- No clogging nozzles
- Less operator intervention



PROVEN RELIABILITY

- Withstands heavy conditions
- Consistent long-term performance
- Extends the life of the gear



EXPERTS IN SPRAYING

- Always right dosage
- Always right time
- Excellent spray pattern



COST-EFFICIENT

- Less lubricant usage
- Less repair costs (material & manpower)
- Less shutdown time



A+ SERVICE

- Superior customer service
- Training online & via tutorials
- Extended 10-year pneumatic pump warranty



OUR BRAND PROMISE TO YOU

Since 1926, **innovation**, **quality** and **A+ Service** have been at the centre of Graco.

Experience Innovation

Our focus on innovation results in products and equipment that lead the industry with technologically-advanced features, pioneering design, high performance and unparalleled reliability. In short, innovation is how you get better products!

Building Quality

You're investing in high-quality products built to last for years of reliable service. Moreover, we partner with our customers to better understand how you're deploying our products in the field, then use your experiences to improve performance and durability.



A+ service, every time

You'll see A+ Service in action when you contact any of our support services options no matter where you are in the world. We'll listen to your situation and work methodically to resolve it as quickly as we can. We are guided by a mindset of integrity and a customer service view centred on collaboration and relationships, not transactions.



We're here to answer questions and help address your needs:

www.graco.com/contact

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