



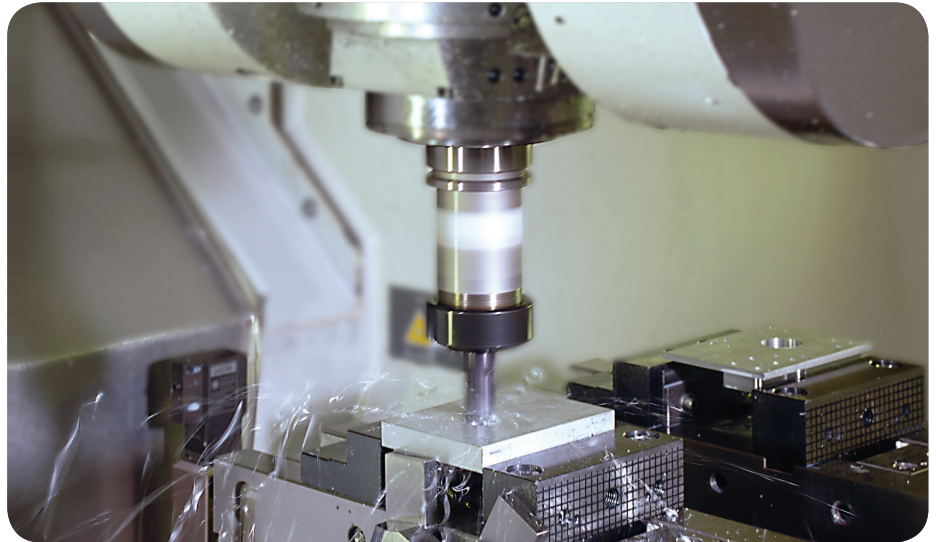
# SKF solutions for machining operations



## Environmental benefits

- Lowers CO<sub>2</sub> emissions
- Reduces energy consumption
- Reduces the amount of water needed

**The use of minimal quantity lubrication significantly reduces process costs and protects the environment.**



## Improve ecological and economic efficiency with SKF LubriLean

Utilizing SKF LubriLean minimal quantity lubrication (MQL) instead of traditional cooling systems on production lines allows for simple, efficient and environmentally friendly operations. LubriLean eliminates the need for complicated wet machining when performing cutting operations by applying an aerosol lubricant to the cutting edge of the tool in the exact amount required. Lubricant consumption using MQL is measured in milliliters per hour rather than liters per minute.

Dry machining is becoming more prevalent because workpiece-related

costs for cooling lubricants can be several times higher than tool costs. In addition, handling cooling lubricants is becoming a burden to employers and the environment, as stricter regulations are enacted.

Many production operations are being converted with MQL technology. Because it is possible to alternate use of wet and dry machining on a single machine, SKF LubriLean makes it possible to gradually convert a company's range of machines to MQL technology.

SKF BeyondZero solutions can help reduce CO<sub>2</sub> emissions, preserve limited resources and protect the environment from the use and spread of toxic substances. For more details, including documentation of reduced environmental impact, visit [www.beyondzero.com](http://www.beyondzero.com)



# Replace traditional wet processing with LubriLean

## Operational benefits\*

- Extends the service life of the cutting tool
- Increases productivity with higher cutting speed
- Reduces maintenance costs
- Enables better machining surface and quality
- Reduces energy consumption and CO<sub>2</sub> emissions

## Operational features\*

- Generates aerosol without power; driven by venturi principle
- Provides faster cutting speeds
- Requires fewer system components
- Uses less lubricant
- Requires no filtering or recirculation of coolant

\* Compared to a traditional cooling system

## MQL systems increase cutting output, quality and productivity

Developed for machine tool applications such as milling, rolling, drilling, tapping, broaching, reaming, boring and forming, LubriLean minimal quantity lubrication systems can reduce machining costs by up to 90 percent. With this type of system, effective lubrication between the tool and the workpiece is accomplished by an aerosol formed by finely dispersed droplets of oil in an air stream.

Because of their small size, the droplets have hardly any inertia or rate of fall, making it possible to transport the aerosol over long distances, via sharp deflections or through high-speed rotating tool spindles without demixing. This way, all of the lubricant particles are

fed to the tool's cutting edge. Increased productivity is achieved due to faster cutting speeds and longer tool life. Plus, there is no need to condition or dispose of cooling lubricants.

Numerous SKF customers are reporting positive results since installing the SKF LubriLean minimal quantity lubrication system. A German automobile manufacturer equipped with an MQL system for its cylinder head machining has reduced lubricant consumption by 98 percent, water consumption by 90 percent and energy consumption by 54 percent, resulting in 46 percent lower CO<sub>2</sub> emissions.



© SKF and LubriLean are registered trademarks of the SKF Group.

™ BeyondZero is a trademark of the SKF Group.

© SKF Group 2014

The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) 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. Any cost savings and revenue increases in this publication are based on results experienced by SKF customers and do not constitute a guarantee that any future results will be the same.

PUB LS/S7 14621 EN · April 2014

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

