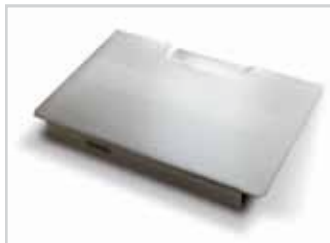


Automated Lube System Helps Automotive Parts Manufacturer Improve Product Quality While Reducing Oil Consumption by 50%



Problem:

Wolfgang Loch e.K., a leading German manufacturer of automotive parts, needed to coat metal feed stock with one of three different lubricants. A very low viscosity emulsion (3 to 5 cSt) is used for stamping or cutting and two different straight oils (viscosity ranging from 80 to 160 cSt at 40°C) are used for deep-drawing operations.

The previous lubrication system applied oil to the feed stock with felt rollers but regulating the lubrication using this method was difficult and coverage was inconsistent. The coil was often too wet or too dry. The process was messy and consumed too much oil. When Wolfgang Loch attempted to minimize oil flow, broken parts resulted. The felt rollers also needed to be replaced twice yearly, an expensive, on-going maintenance cost.

Solution:

An AutoJet® Lubrication System from Spraying Systems Co. has eliminated Wolfgang Loch's lubrication problems. The system is controlled centrally from the press and features a coil lubricator which uses both airless and air atomizing sprays to optimize lubrication.

The low viscosity emulsion lubricant is applied by six hydraulic UniJet® nozzles. Each nozzle is supplied individually by an L210-type air-actuated piston pump. The pumps are mounted in a mobile base unit. The higher viscosity oils are applied by eight JAUCO external mix air atomizing nozzles metered by an air-actuated membrane pump.



All nozzles are contained in the coil lubricator unit. An oil mist extractor is used in the coil lubricator to prevent misting and worker inhalation problems. The system also features oil recirculation to minimize overall lubricant usage. Automatic solenoid valves ensure excess oil is returned from the coil lubricator back to the correct supply tank. The oil is filtered on the suction lines to ensure no contaminants enter the system.



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Nozzles



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Control



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Analysis



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Automated Lube System Helps Automotive Parts Manufacturer Improve Product Quality While Reducing Oil Consumption by 50% – Continued

Results:

The AutoJet® Lubrication System has improved Wolfgang Loch's product quality. Scrap resulting from poor lubrication has been completely eliminated. In addition, the new system is significantly less expensive to operate. Non-contact spray lubrication has eliminated the need to replace expensive felt rollers every six months. The felt roller system was very time consuming to regulate, so the ability of the spray lubrication system to quickly and accurately reproduce a set value has significantly reduced set-up times.

Most importantly, oil consumption has been cut in half, generating a quick payback period for Wolfgang Loch.

A CLOSER LOOK AT THE SYSTEM



Base Unit

Includes two different 35-liter supply tanks for low and high viscosity oils. An air-actuated membrane pump is provided to accommodate the higher viscosity lubricating oils. Air-actuated piston pumps are used for the low viscosity lubricating emulsion.

L210/P400 Coil Lubricator

Contains six hydraulic UniJet® spray tips and eight 1/4JAUCO air atomizing nozzles, which provide even coverage of lubricant across the width of the strip. The enclosed design of the coil lubricator and its connection to an oil mist extractor prevent misting and safety problems.



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