English version

Automatic Lubrication systems and Components

DropsA

ABOUT DROPSA

Company Profile

Since 1946 DropsA has been producing centralized lubrication systems and components developing many ideas and products that have shaped our industry.

Today our innovation is ever present showcasing new products and technology to the global market.

Mission & Values

- Develop high performance simple-to-use products that address customer applications in a cost effective manner.
- Maximize customer profitability and productivity by offering cutting edge technology in systems, components and operation.
- Provide quick response times, installation and support to customers operating both at a local and global level.
- Maintain excellent standards to all customer locations worldwide with our network of DropsA companies and specialized distribution channels.
- Establish a global presence with exceptional support.

Research & Development

Our dedicated product R&D facility includes all the latest tools for developing products: advanced 3D solid modeling, CAD/CAM, Rapid prototyping and 3D Printing capabilities, Finite Element Modeling (FEM) and Computational Fluid Dynamics (CFD).

Environmental reliability, testing facilities and product life cycle testing equipment allow our engineers to develop and test new products and technology.

DropsA products conform to worldwide machine safety and emissions standards. We hold numerous world-wide patents. Additionally, we have specialized resources to develop hazardous area compatible products to ATEX or API standards.

Quality

DropsA was the first lubrication company in Italy accredited with ISO9001 in 1995.

Our quality system is the basis for the management and governance of all processes inside and outside our organization.

Continuous investments have been made in all aspects of product design and manufacture to continually increase the reliability of our products with harsh environmental testing. Design and process controls, FMEA , capability studies and environmental testing all assist in creating a robust high quality product.

From 2012 DropsA implemented real time monitoring of all production machinery, assembly and testing stations allowing data and results to be collected and analyzed for quality advancement and full traceability of parts.

ABOUT DROPSA

Production

All our production and assembly facilities operate under extensive quality monitoring and product tracking to ensure both the highly efficient machining and assembly of products to exacting specifications.

Our machining and automated assembly production facility based near Milan, Italy, is equipped with some of the most advanced manufacturing systems in the industry operated around-the-clock with real time updating and monitoring.

DropsA's own Minimal Quantity Lubrication (MQL) near dry machining technology has been applied across our machining facilities allowing substantial progress in productivity and elimination of water based coolant from metal cutting operations. The result is an energy efficient and environmentally friendly production facility. The entire production facility is internet-enabled, which allows our manufacturing engineers to monitor production machines and assembly lines in real time from any location.

Continuous investments in automated assembly lines have meant production components are produced at globally competitive costs whilst maintaining outstanding quality and first class performance standards.

Systems Solutions

Products & Applications

DropsA applications cover an extensive range of solutions for different industries.

Experience and attention to new technologies, materials and processes, allow us to focus on demands coming from specific industry segments which, in turn, enables us to offer efficient customized solutions quickly and easily to customers with the use of our modular core technology concept.

- Steel and aluminium
- Mining
- Paper Industry
- Machine Tools
- Chain and Conveyor Lubrication
- Earth Moving Vehicle
- Energy
- Marine and Offshore
- Chassis, Vehicle

TOTAL LOSS OIL AND FLUID GREASE

System 33V - Single Line Injectors

Used in many applications, total loss oil and fluid grease lubrication involves creating a thin oil-film between moving parts which is renewed at regular intervals by an automated lubrication system.

A key user of such technology is the machine-tool industry. An important development of these applications has been the ability to use very high viscosity oils or fluid greases as a replacement. Our push-lock system allows further reduction in installation cost.

33V Injectors

Injectors DL32 - DL33

Pump Packages

DropsA has developed a wide range of standard electric, pneumatic and hydraulic pump packages suitable for Oil loss systems.

A custom design service is available to tailor pump packages to specific customer requirements.

DropsA OptiLev patented solid-state optical level monitoring system is the ideal solution for oil and fluid grease systems.

Smart3

Single Line Restrictor

An alternative to the 33V for entry level low cost manual system, the 01 System consists of meter units (calibrated 'orifices') that balance the distribution line pressure and proportion oil from the pump across the meter units.

A Smile pump with an "01 System" represents one of the lowest priced entry level centralized lubrication systems on the market today whilst providing high reliability and functionality.

GREASE LUBRICATION

Grease lubrication has a wide field of application ranging from small machines such as woodworking machinery to large heavy industry such as steel plants or paper mills.

The large section of pump packages together with many custom design options allows any grease lubrication to be developed reliably and cost-effectively. The most popular systems used for grease lubrication are Dual Line and Progressive Dividers.

Dual Line 02 System

The modular design pioneered by DropsA allows easy configuration and expansion of the system. Active components can be substituted during maintenance without the need to disrupt the interconnecting pipe-work.

Found traditionally on more complex heavy industrial machinery such as steel plants, the key characteristics of the Dual Line System are simplicity and reliability particularly in harsh environmental conditions. Dual Line Systems often can exceed 60 meters in length.

Bravo & Bravo FP

DM-DMM-DMG-DMF

DL1

234700 & 400200 Series | Cannon Pump | Sumo Atex & Sumo | Minisumo

SMX

nano Progressive

SMP-SMPM

Ultrasensor

Progressive Divider System 26

The Progressive Divider distributes the flow of a pump into separate 'progressive outlets' by the use of a progressive spool arrangement.

Positive lubrication feedback for all of the points can be achieved by monitoring one outlet with a cycle sensor.

Dedicated and affordable electronic control and monitoring equipment such as the 'VIP5 Controller' are available to monitor and control the complete operation of a progressive system. SMX Progressive Dividers are also available in 316 stainless steel.

Serie 201

Locopump

Blue Grease

Deluxe battery grease gun

PoliPump

PoliPump Multioutlet

The easy package for small greasing applications.

A recent addition to the DropsA product range it allows users to create instant out-of-the-box grease lubrication systems for previous manual or semi-automatic lubrication applications. It can feed up to 35 lubrication points and can be operated by either main connected power or from a battery pack.

It is easy to use and does not require specialized engineering knowledge to apply. Ideal for both particular one-off systems as well as complex low cost high volume applications.

RECIRCULATING OIL

The key to a good oil recirculating lubrication system is the precise regulation and exact monitoring of the lubricant supply to each lubrication point. DropsA has developed patented world leading technology to achieve this with remote diagnostics to ensure that the oil recirculation system is always operating at peak efficiency.

Concept of Oil-Recirculation

Oil re-circulation involves a continuous oil flow to the lubrication points. This oil is controlled both in quantity and temperature, it is collected by drains piping and returned to a supply tank. The oil is therefore "re-circulated" back to the point.

When the oil flows through the lubrication point it does not only act as a lubrication agent but also removes a large amount of heat from the bearing or lubrication area. The oil is then transported away and back to the lubrication tank.

Oil re-circulation is used extensively in the power industry and pulp and paper industry allowing for increases in operating speed and performance thanks to the fast change-over of lubricant that removes heat and provides full-oil immersion lubrication.

Engineering & Project Management

Oil Recirculation systems are often singular and specifically engineered for a particular application. Therefore having a partner that can assist in each phase of the project is important. DropsA is beside the customer during all phases of development with the provision of site survey, pump station design, manufacture, installation and turn-key implementation of oil re-circulation systems.

Line Pump

Gear Pump

Flowmaster System

The new patented Flowmaster device developed by DropsA has an ingenious flow-adjustment system that allows precise regulation at low as well as high flow-rates.

This is thanks to a specifically developed regulating spindle allowing for a single regulating system rather than a "coarse" and "fine" system as on previous versions. The volumetric nature of the rotating satellite also means that you can always be certain of the exact volume being circulated.

This volumetric reading can also be combined with a servo motor system that allows the flowmaster to maintain exact flow parameters even if there is variation of pressure of viscosity (due to temperature changes). It also means manual intervention is removed, the user can remotely set and monitor the device.

One last but important new feature of this device is the ability to by-pass flow from the measuring module allowing the unit to be removed and maintained without the requirement to shutdown the system.

Fact - Flow Automatic Control Technology

The new Touch-screen FACT controller allows the simultaneous monitoring of a large number of FLOWMASTERS.

It also allows users to monitor historical trends in flow and provides remote diagnostic to ensure that the oil-recirculation system is always operating at peak efficiency.

AIR/OIL LUBRICATION

Air/Oil Lubrication consists of an Air Stream, that normally operates continuously, used to provide cooling to the lubrication point and as a transport medium to carry small quantities of oil to the lubrication point.

The oil-injected into the air stream at regular intervals coats the surfaces to be lubricated and reduces friction and wear.

DropsA Vip4: Series of products

These small all-enclosed devices are ideal for use on small systems and offer fully integrated control and monitoring in a single compact package. Typical applications: High Speed Bearings, Spindle Lubrication in machine tool, Micro-Spray Coating applications, Gear Lubrication, Chain Lubrication and Cleaning.

The Vip4 Air System offers one of the most compact and feature rich air/oil systems available for spindles and it is able to achieve a significantly reduced amount of lubricant dispensing and monitoring via a unique differential magnetic field monitoring concept.
Positive feedback is a must for such systems!

A variant of the Vip4 Air, specifically aimed at Chain or Conveyor application can be used in any application where the lubrication cycle is not time driven but impulse driven.

On a typical chain application, a sensor connected to the Vip4Chain monitors the number of links passing across the lubrication nozzle and fires a micro quantity of oil onto the point thus increasing chain or conveyor life without lubricant wastage that can drip off the chain and contaminate the industrial process.

DropsA Air/Oil satellite system for steel industry

DropsA has a completely modular approach to designing large air-oil systems used primarily in the steel Industry. A centralized Oil feed-line is used to develop pressure at the satellite stations that periodically inject oil into a continuous air stream. Each satellite station monitors the oil and air outbound to the lubrication point and contains local indications that allow the user to see at a glance that everything is working smoothly.

The satellite stations are cabled back to the central touch screen control system with a signal network cable eliminating the requirement for expensive cabling runs. Every distributed instrument and control can be viewed and adjusted from the central touch screen.

Downstream of the satellite a Splitter tube system is then used to divide the air-oil mixture into appropriate quantities for the bearing and seals being lubricated.

NEAR DRY MACHINING (MQL)

The aim of near dry machining is to replace traditional coolant and pure oil flood systems in a machining environment with an accurately controlled compressed air stream which carries minimal quantities of oil lubrication in an "aerosol" format to the cutting surface.

Minimal Quantity Lubrication (MQL) & Near Dry Machining

Lubricating Aerosol is transported to the cutting surface by way of two methodes:

- **External Lubrication:**
  Oil is transported via an external nozzle to the cutting surface placed in the vicinity of the tool and workpiece.
- **Internal or "Through-the-tool" Lubrication:**
  Oil is transported through internal lubrication holes in the cutting tool.

Dropsa has developed revolutionary technology for both of these processes.
The MiQueL and MKD Dual are the latest developments along with earlier products such as the Grip or Vip4Tool family.

The Benefit of Dropsa Near-Dry Machining Technology

- Reduce work cycle times, generally by 25% to 80%.
- Increased tool life thus increasing time among replacements.
- Better surface finish and tolerance can be achieved.
- Eliminate coolant – make your plant more environmentally friendly.
- Parts finish machining with a fine rust inhibiting oil coating – not coolant contamination.
- Water and oil consumption drastically reduced.
- Side-by-side implementation parallel to existing coolant system gives you peace of mind and maximum flexibility.
- MKD DUAL uses patented Auto-adaptive technology eliminating complex and continual adjustment between tool change.

ECO-FRIENDLY MACHINING

MiQueL is designed for near dry machining lubrication for machine tools, machine for cut and fold sheet metal and steel mills, it can be used on all the systems that need a calibrate lubrication and a functions control. It is possible to insert up to 8 interconnected elements that, at any time, can be excluded or activated singularly through an integrated electrovalve.

Air/Oil modular systems MiQueL EXT (External Pump source version), are centralized minimal lubrication modules engineered with a separate pressurized reservoir or external lubricant pump. All the MiQueL technology can be easily deployed around your applications.

MKD Dual is designed in particular for internal lubrication processes. This exclusive unit can generate a thin film of aerosol mixture which is delivered directly to the tool cutting point by using the existing fluid distribution channels found on most machines.

The Dropsa Mql Application Consultation

Implementation Process

- Customer selects Manufacturing Part/Process to convert to MQL.
- Dropsa analyze current Manufacturing Process.
- Identify tooling and machine weak points and potential improvement.
- Design MQL compatible tooling and coatings to optimize application results.
- Monitor tool life for improvement versus traditional coolant systems.
- Follow up MQL training on client's machine operators to render customer fully autonomous in present and future MQL applications and tooling design.

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