

DRILLING WITH OR WITHOUT LUBRICATION
LAYER BY LAYER?

DO IT WITH THE MOBILE
LUBRICATION UNIT!



Bielomatik MLU

MOBILE LUBRICATION UNIT

CHARACTERISTICS

- Lubrication for sandwich materials with different layers
- Connects to all commercially available ADU's
- Start of oil supply either manually, electrically or pneumatically
- Less than 10 sec for tank replacement due to quick coupling
- Battery operation is possible
- Magnets for mounting on ferromagnetic surfaces
- Flexible hose with 5 m working radius
- Memory for various processes



HIGHLIGHTS

- A special control system automatically switches the MQL process on and off and in this way individually adapts to the relevant material requirements
- Exact shut down of oil-flow when passing through the CFRP layer leaving the drilling site dry
- Portable device for aircraft construction
- Adjustable to different layers



NAGGING QUESTIONS ABOUT SANDWICH MATERIALS ?

MLU for direct use with all
commercially available
Advanced Drilling Units!

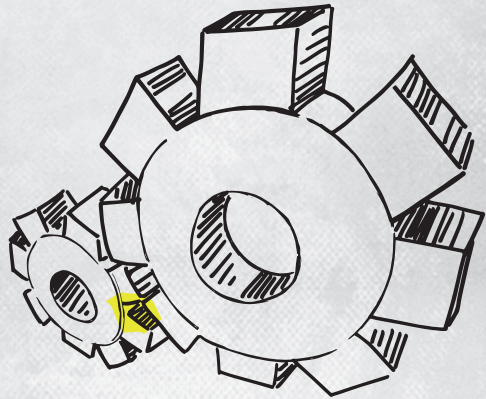
The typical sandwich materials used in aircraft construction - titanium, CFRP and aluminum - pose a particular challenge. Each material layer has special properties which require sometimes more, sometimes less or even no lubrication. And this with thousands of bores, which have to be drilled manually by means of advanced drilling units.

An aircraft manufacturer approached us with this issue and bielomatik came up with the following solution: A worldwide unique, mobile minimum quantity lubrication unit - the **Mobile Lubrication Unit**.



CONSULTING?

EASY
WITH US!



For environment- friendly and economic lubrication

Saving resources, lowering energy consumption and reducing costs:
all these are relevant topics for our customers. We help to achieve these goals!
Regardless of whether minimum quantity lubrication or central lubrication is required.
We look forward to hearing from you!

CONTACT

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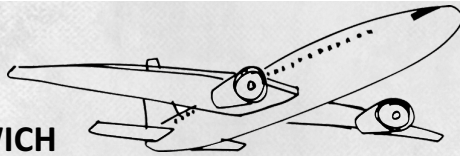
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WHO CUTS EVERY SANDWICH
ON BOARD?



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THE MOBILE
LUBRICATION UNIT!

MOBILE LUBRICATION UNIT - MLU

MLU for direct use at automatic Advanced Drilling Units

Specially for the use in the aerospace industry, bielomatik has developed a "Mobile Lubrication Unit" (MLU). This unit can be directly connected to all commercially available "Advanced Drilling Units" (ADU). A special challenge was presented by the typical sandwich materials titanium, CFRP and aluminium which are currently used in aircraft construction.

The removable 0.8 liter cartridge tank can be filled at a refilling station. An electronic system checks the battery capacity and warns via LED display if the fluid supply or the electrical energy are running low.

After starting the MLU system, oil and air (5 ml/h to 500 ml/h; 5 to 8 bar air pressure) flow through separate channels of a hose with a length of around 5 m to a mixing chamber. Here a spray is produced which is then mixed with additional air upstream of the ADU.

The MLU system can either stand on the floor or it can be attached to mounting devices with the help of strong magnets.

A special control system automatically switches the MQL process on and off and in this way individually adapts to the relevant material requirements. This means that via the time control the oil flow is shut off when passing through the CFRP layer using only air and the drilling site remains dry.



Characteristics

- 0.8 l cartridge tank
- Dosage from 5 ml/h to 500 ml/h
- Integrated control system with memory for 10 programs with 10 steps each (extendible)
- Flexible hose with 5 m working radius
- LED signal for battery or external power supply
- Battery capacity: 4.8 Ah
- Supply voltage: 100 to 240 V, 50 to 60 Hz
- Compressed air supply 5 to 8 bar
- Protection class: IP 54
- CE certified
- Program upload and PLC input start signal via M12-plug; 8-pole
- Strong magnets for mounting on ferromagnetic surfaces
- Legibly and luminous LCD display
- Preinstalled languages: German, English, French



FEATURES

- Accurate amount of oil for each layer of material
- Adjustable parameters for each layer: amount of oil, air and time
- Time-controlled oil supply
- Start of oil supply either manually, pneumatically or electrically
- Tank volumetric pump for accurate oil dosing
- Repeatable process
- Oil supply turns immediately off at the end of drilling process
- Cleaning process of part and working area significantly reduced
- Reduced stress for operator due to reduction of aerosol creation in working area
- Oil-storage control with LED feedback at 12% and 8% oil level
- Less than 10 sec for tank replacement due to quick coupling
- Various automated refill systems for 1 to 3 tanks
- Refill in less than 15 sec
- Integrated control of maintenance rate and borehole counter
- Less maintenance requirements
- Self-sustaining system, adaptable to all common ADUs
- Fast program-switch with key combination
- PC Software "MLU Scout" to parameterize and program the MLU
- Calculation of process time per material layer by feed rate and revolution speed with PC Software "MLU Scout"

EASY WITH US!

CONSULTING

FOR ECONOMICAL LUBRICATION

Saving resources, reducing the energy footprint, reducing costs: all relevant topics for our customers, and therefore relevant ingredients of our consulting.

To achieve these goals for our customers we do more than just point out strategies for more efficiency. Our commitment has a much wider scope. For example, sometimes we function as networker, coordinating all parties involved – from tool producer up to mechanical engineer and oil manufacturer, no matter if it's about minimal quantity lubrication or central lubrication.

Subject to technical changes

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