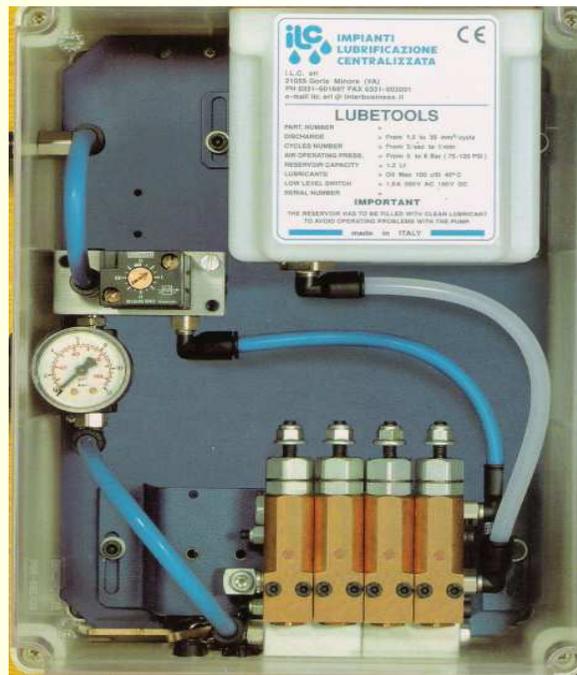


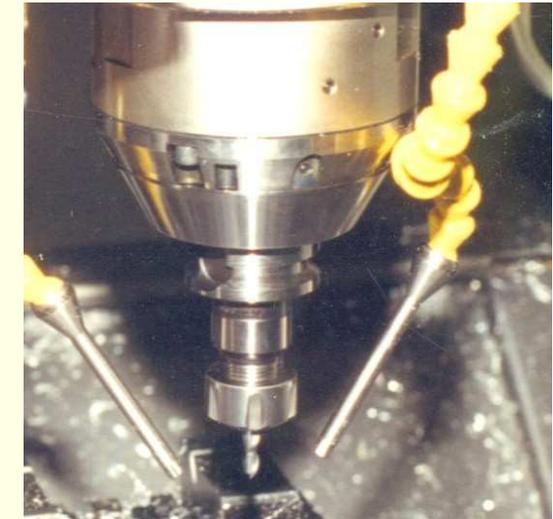


Minimum Quantity Coolant Systems (MQC)



Flood

Clean your machine, shop floor, environment and save money with MQC



MQC

Biodegradable high performance cutting fluid form High Gain

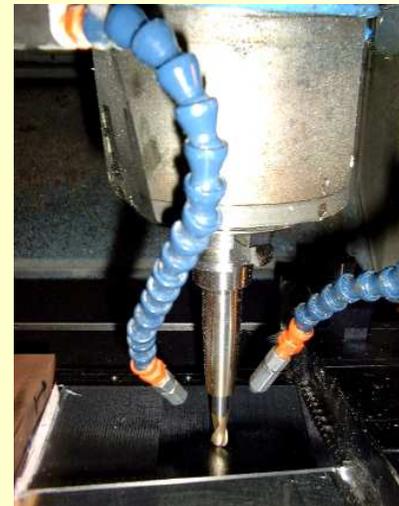
High Gain EAL 315 is a high quality, anti wear, environmentally friendly cutting fluid designed to rapidly biodegrade. It is made from a high viscosity vegetable fluid and contains non toxic additives to improve wear protection, oxidation stability and corrosion resistance

Benefits of MQC delivery system and oil EAL 315

- All round metal machining capabilities
- Higher productivity
- Improved surface finish
- Higher cutting feeds and speeds
- Extended tool life
- Zero cleansing and disposal costs
- Leaves dry machine, swarf and workpiece
- Profitable dry swarf recycling
- Clean atmosphere no fogging or smells
- Environmentally acceptable, readily biodegrades if accidentally spilt
- Minimises damage to the ecosystem if accidental spillage occurs

EAL 315 oil is an Exxon Mobil product supplied to High Gain for MQC applications

High Gain delivery systems are made by ILC from Italy



High speed milling of manganese bronze



Milling of mould tool



Technology

MQC permits dramatic cost savings whilst protecting workers and the workplace environment. Savings result from improved surface finish, longer tool life, clean workplace environment and zero waste disposal costs.

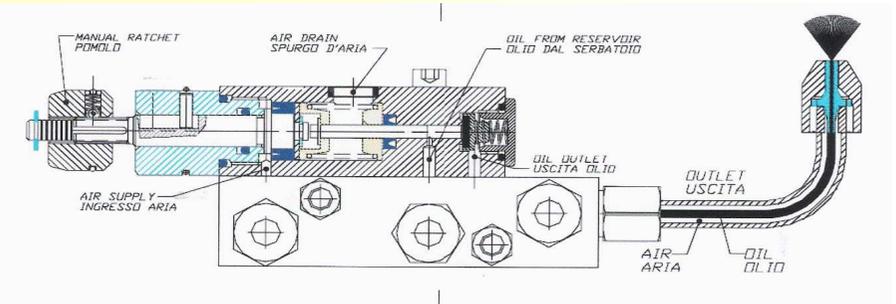
This relatively new technology is gaining acceptance as a cost saving and environmentally friendly option in place of wet flood cooling technology.

MQC can be delivered externally via 2 or 3 nozzles directed towards the cutting zone or internally via a spindle rotary joint

MQC is effective for all milling, drilling, tapping, broaching and metal forming technologies.

Process delivery is effected from an adjustable metering pump delivering a minimal amount of oil through an internal capillary tube which travels inside an air pressurised outer tube. The pressurised air is then mixed in a precise mixing nozzle providing a high velocity jet of air oil mixture directed to the actual cutting zone. Contact of the air oil mix with the tool provides both cooling and lubrication to the cutting process. The air oil mix is consumed during the cutting process leaving dry work pieces, clean swarf, and a clean sharp cutting edge to the tool or milling cutter.

A delivery metering pump is shown below



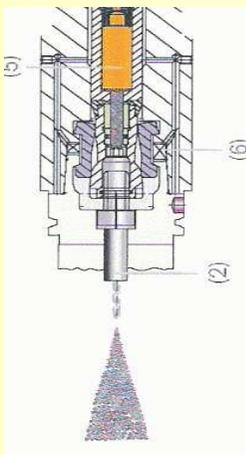
Cost Benefits

This typical analysis from a tool and die milling machine provides an indication of the MQC operating costs from which the huge cost savings over flood cooling can be assessed.

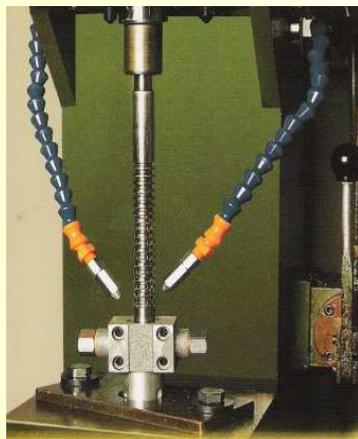
2 nozzle system;

- Oil usage: 150 hours per litre of oil
- Oil cost : £ 10 per litre
- Coolant cost : less than 7 pence per hour plus air cost

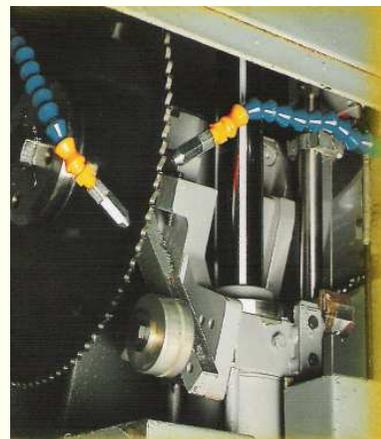
Added savings result from increased tool life, better surface finish, and zero waste disposal costs



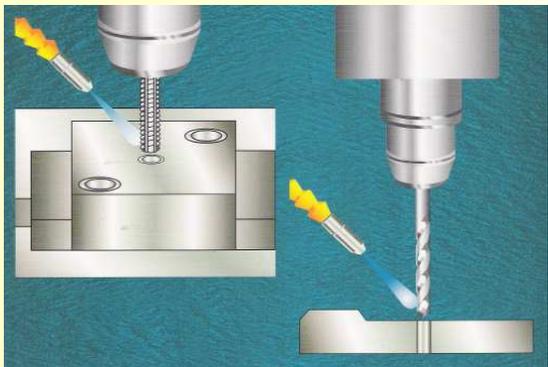
Through spindle MQC



Broaching



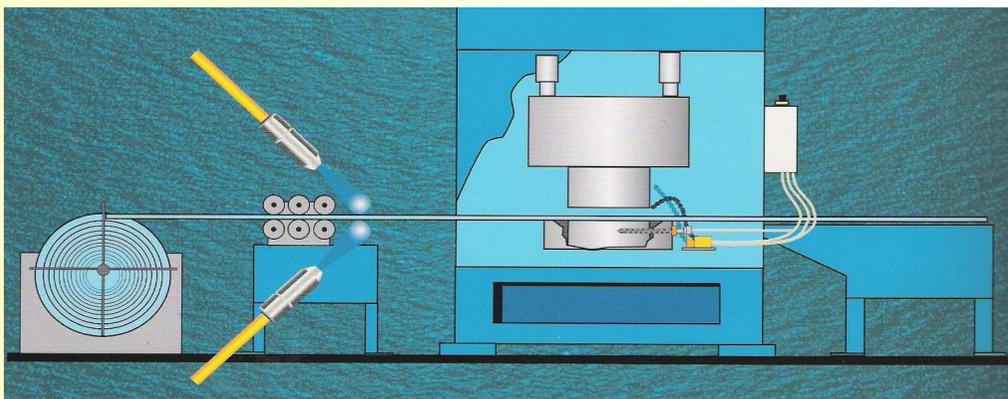
Circular sawing



Drilling and tapping



Conventional and high speed milling



All metal forming and punching operations