



Oracle

Thinking **inside** the box

The next wave in fluid management



www.oraclefms.co.uk

Jemtech (UK) Ltd. is an innovative solutions provider, well recognised and highly-respected by precision component manufacturers in the UK and Ireland for its high-performance Blaser Swiss-lube metal-cutting fluids. This knowledge and expertise in managing metalworking fluids for customers have been instrumental in developing the **Oracle...the latest in fluid management technology.**

Seeing is believing.

Metalworking fluids acting as either a lubricant... or a coolant...or a method of evacuating chips from the cutting zone, are an integral and critical part of the metal-cutting process.

When managed carefully they deliver significant advantages to the end user e.g. increased productivity...improved process efficiency and reliability...reduced costs...and safer working environment etc.

Conversely, if poorly managed the opposite is true.

To help manufacturers get the best and the most from their metalworking fluids requires a new approach to fluid management.

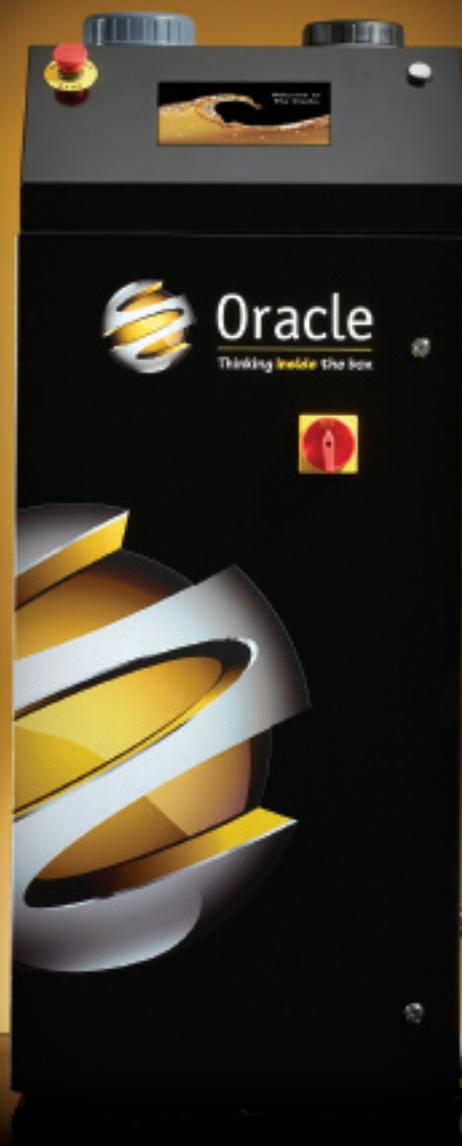
This new approach, with its emphasis on automation and on providing manufacturers with a constant supply of accurate and reliable 'live' data on the condition and as a consequence, the future performance, of their metalworking fluids ensures a greater degree of control over their processes.

Oracle - the next wave in fluid management - provides manufacturers with a proven, automated and cost-effective solution that allows real-time condition monitoring of metalworking fluids in a machine tool's sump, and the ability to access this information quickly and effortlessly to aid decision making and make their processes more secure.*

Oracle ensures that all metal fluid activity is captured, recorded and reported including:

- the last machine clean out,
- fluid maintenance interventions and a full service history,
- data on tramp oil skimmers and extraction systems.

Additionally, and as a low cost option, the condition and consumption of other machine tool oils (e.g. slideways, hydraulic and spindle) can also be captured and reported on by the Oracle system.



The Oracle: Designed, developed, manufactured, serviced and supported in the UK.



Oracle

Thinking **inside** the box

Welcome to ORACLE

Oracle removes the human dimension from fluid management and control. Interfaced with an individual machine tool, each Oracle unit operates independently - automatically monitoring and controlling fluid conditions in the machine's sump, and storing this information in the cloud for easy retrieval and display on the unit's dashboard, with remote access from PCs and tablets.

The Oracle concept was designed and developed by Jemtech in partnership with the Manufacturing Technology Centre (MTC) in Coventry over a two year period.

The ORACLE process

When a machine tool needs refilling (topping up) with metalworking fluid, a probe located in the sump sends an alert message to the Oracle unit signalling that additional fluid is required. The Oracle system then becomes active. It measures

current fluid concentration levels in the sump and, operating within pre-defined fluid volume and concentration parameters, automatically calculates and fills the sump to the desired levels.

Simultaneously Oracle also monitors and records existing pH and concentration levels, adjusting both where necessary, as well as capturing and recording current fluid conductivity and temperature data.

All data is stored for future reference and, when accessed, is presented in simple and easy-to-understand graphical and tabular formats. (Specific data such as fluid usage and costs, can be extracted quickly in a cvs file, to help reporting and decision making.)

The adjustments made to metalworking fluids in a machine tool's sump occur frequently and incrementally to ensure fluids are held within desired tighter tolerance levels.



Oracle automatically monitors, reacts and adjusts...and then reports on the condition of metalworking fluid in the sump, to improve your performance.



Oracle: see the advantages

- No human intervention means less errors and reduced costs
- Natural extension of sump life due to maintenance occurring within tighter tolerances
- Lower fluid consumption and reduced waste
- Increased tool life and reduced tool breakage
- Lower work-piece scrap rate
- Increased machine up time
- Improved component quality
- Greater process security
- Automatic data capture
- Contributes to a safer working environment

Oracle...automatically

- Maintains sump performance and level for maximum efficiency
- Mixes fluids to the optimum droplet size
- Maintains a fluid's correct pH and concentration in the sump
- Ensures that pre-set tight tolerances are achieved
- Collects and records data:
 - pH
 - Concentration
 - Temperature
 - Conductivity
 - Consumption

Oracle technical details

- Patented Technology
- 240v power source
- Mains water supply
- 50 litre concentrate tank
- 12 litre additive tank
- Producing between 900 - 9,000 of mixed coolant between reservoir fill ups
- Trade Mark registered
- 4 bar pump

Oracle: summary

- Round the clock monitoring and reporting
- Live data capture and monitoring of customer's systems at Jemtech's mission control – during office hours

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Due to the many different metalworking fluids in use, and their make up, we are only able to guarantee the integrity of Oracle (sensors, probes, software etc.), when used in conjunction with Jemtech approved metalworking fluids.