



# DT100DL - Dispersancy Tester of In-Service Engine Oils

The requirement for machinery and oil condition monitoring is becoming ever more apparent as maintenance costs increase while production capacity and equipment performance are maximized.

Monitoring the amount of soot in diesel engine lubricant oil is important but more important is to measure the dispersancy of the oil. This gives important information on the residual capacity of the oil in service to keep carbon soot in suspension and prevent sludge formation. Depletion of detergent and dispersant additives leads to rapid agglomeration and deposition of soot onto machine surfaces. It can increase wear and damage engine components. In addition water or glycol contamination can quickly knock out dispersancy performance even without an increase in soot load.

The DT100DL helps to check on the health of lubricant oil in service and alert when oil degradation starts to compromise the engine durability.



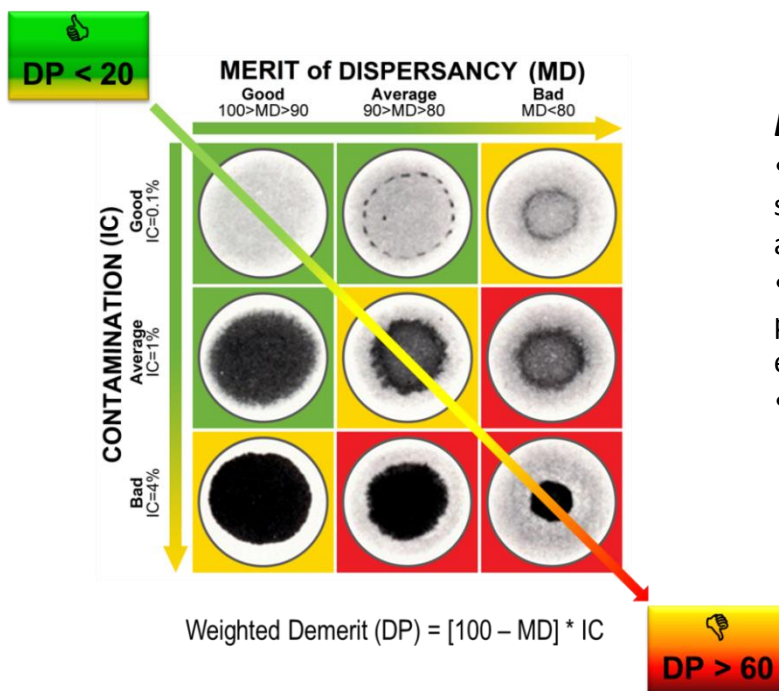
## Applications

- Oil Conditioning Monitoring (OCM)
- Oil testing laboratories
- Engine test laboratories
- Fleet maintenance
- Construction or Mining sites
- On-board Ship
- Lubricant Research and Development

## Benefits

- Unique instrument able to simultaneously quantify dispersancy and soot content
- Ideal for trend analysis in OCM programs and diagnosis on diesel engines
- Easy to use

Method:  
ASTM D7899



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## Method

- 1 - A precise amount of oil is deposited on a piece of a specific filter paper held level and not resting on a surface.
- 2 - The filter paper is placed in an oven set at 80°C for 1 hour. The oil wicks across the paper.
- 3 - Dispersancy characteristics of the oil are judged by how far the oil drop spreads, how large the central sooty area is, and how homogeneous the opacity of the spot is in comparison with a theoretical reference diameter of 32mm.

## Reporting

The DT100DL is the only instrument that automatically and simultaneously measures contamination index (content of sooty insoluble material in the oil) and provides unique information on oil dispersancy. This unique information helps to justify corrective actions and maintenance planning decisions. It is an integral part of the OCM programs for in-service lubricants.

The DT100DL takes a spot image with a built-in digital camera. In seconds, the software scans and analyzes all the different areas of the oil spot and automatically calculates the quantitative quality parameters of motor oil in service:

- **The dispersancy (MD)** representing the capacity of the oil to maintain the insoluble in suspension. It is expressed by an index from 100 (ideal) to 0 (no dispersancy)
- **The contamination index (IC)** representing the percentage of insoluble matters present in the oil.
- **The combined performance rating (DP)** which is a mathematical combination of both IC and MD parameters. The DP is very useful to follow-up oil degradation in oil condition monitoring program.

The DT100DL has been designed to satisfy needs of OCM laboratories. It is an easy-to-use and robust analyzer equipped with enhanced quality and communication features. A laboratory technician can perform on-site calibration in minutes using a standard calibration tool supplied with the instrument. The DT100DL complies with modern QA/QS laboratory practices.

For additional information:

## AD Systems

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The DT100DL tester is offering versatile electronic data storage features eliminating paper reports archiving. The spot images can be stored on USB storage devices and sent to local networks (LIMS) with an Ethernet interface. In addition, the sample ID can be automatically incorporated into the spot bitmap image. The spot is easily identified making it ideal for quality process documentation, reporting and electronic archiving. Versatile communication protocol is configurable for the specific requirements of each laboratory. The DT100DL can export test results in Excel or text formats.

## Ordering information

<b>DT100DL</b> Dispersancy Tester of in-service engine oil according to ASTM D7899	P/N: AA110-002
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The equipment is delivered with a set of 100 filter papers, 5 sets of filter paper supports, 1 calibration kit, user manual in English or in French.

Test parameters	Measurement limits
Dispersancy (MD)	100 (good) to 0 (very poor)
Contamination index (IC)	0.1 to 5%
Combined Performance Rating (DP)	0 (good) to 200 (very poor)

Technical points	Description
Duration of spot analysis	Few seconds per spot
Max spot diameter	Up to 45mm
Positioning of the spot	Visual centering with guide
Imaging system	color CCD camera
Light source	Dual lighting - backlight and front light LED panels
Calibration of imaging system	Special calibration tool (delivered with the unit)
Results storage	Unlimited, depends on external USB storage device capacity
Spot image storage	B&W image in backlight Color image in front light
Data output	2 x USB, LAN connectivity by Ethernet RJ45, optional printer
Dimensions (mm)	W x D x H = 305 x 487 x 390
Weight	20 kg
Electrical	115 to 230V - 2 A - 50/60 Hz

We reserve the right to alter specifications without notification

Your local distributor:

Distributed in Canada by:  
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