

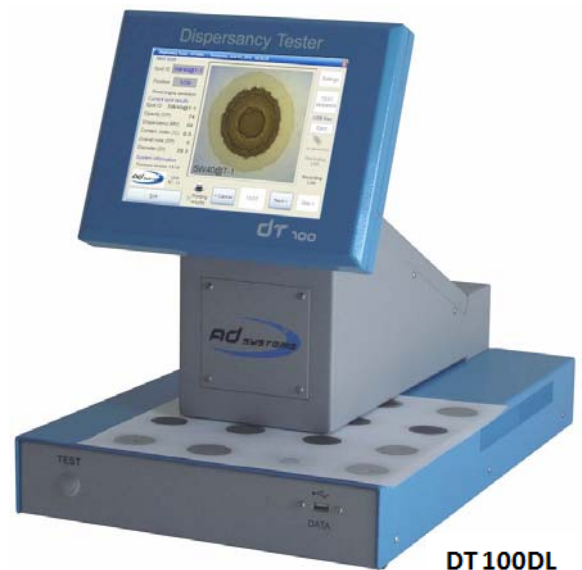
Oil Condition Monitoring (OCM) Dispersancy Tester – DT 100 Series

Dispersancy measurement

Soot content quantification

Removes all arbitrary aspect
of manual method

Easy to use

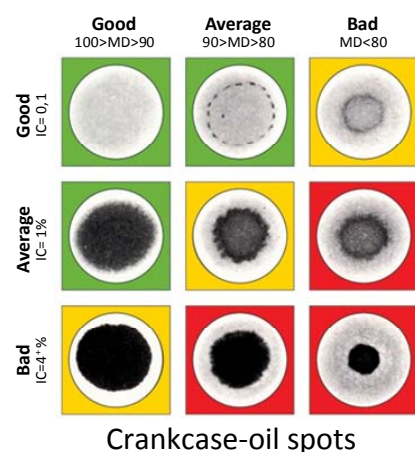


DT 100DL

The requirement for machinery and oil condition monitoring is becoming evermore 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.

DT 100 helps to check on the health of lubricant oil in service and alert when oil degradation starts to compromise the engine durability.



Benefits

The DT 100 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 helping in justified pro-active actions and maintenance planning decisions.

The DT 100 has been developed in cooperation with a lab dedicated in Oil Conditioning Monitoring (OCM).

The method is primarily intended for the analysis of automotive and marine diesel engines lubricants.

Applications

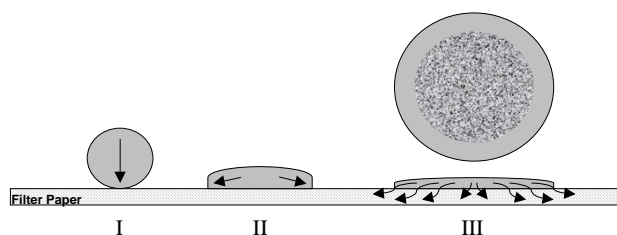
Health statement of diesel engines:

- Transportation fleet (town buses, mining trucks, locomotives, cars)
- Construction equipment
- Stationary diesel engines
- Marine engines
- etc.



Method

The spot method (or blotter test) was developed a long time ago as a simple and efficient way to assess oil quality.



Phase I - 20 micro liters of oil are sampled with a micro-pipette and injected onto a filter paper; a batch of oil spots can be prepared at the same time

Phase II - the drop spreads on the paper. To accelerate the process the filter sheet is placed in an oven at 80°C for 1 hour

Phase III – The DT 100 analyses each oil spot. **Dispersancy characteristic** of the oil is judged by how far oil drop spreads, how big the central sooty area is and how homogeneous the opacity of the spot is. The distribution of the different zones will reflect the quality of the oil in service.

This method has been improved and automated by using digital imaging technique. This new technique removes all the arbitrary aspect of the manual method offering significant increase in accuracy and repeatability of measurements.

The DT100 instrument takes the spot image by built-in digital camera. In couple of seconds the sophisticated software scans and analyses all different areas of the spot and calculates automatically the essential quality parameters of motor oil:

- 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.

Operation

The DT 100 is easy to use, robust analyzer equipped with enhanced quality and communication features.

The user friendly versatile software helps to satisfy specific requirements of each laboratory.

The DT 100 is instantly ready for use after switch-on. The LED light source provides long life service and convenience of use.

Lab technician can perform on-site calibration in a couple of minutes using standard calibration tool supplied with every instrument.

Results documentation

The DT 100 tester is offering versatile electronic data storage features eliminating paper reports archiving. The DT 100 can export test results in Excel or text formats. Spot images and measurement data can be stored on USB stick, saved in local network or printed. The spot bitmap images can be taken in backlighting mode (DT 100) or in front lighting (DT 100DL).

The DT 100DL (Dual Light) is equipped with additional front light source and color camera. It offers the possibility of recording color spot pictures as it is seen by human eyes. In addition, with the DT 100DL 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.

Ordering information

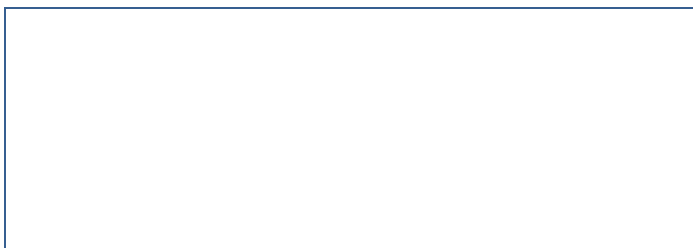
DT 100 Dispersancy Tester	P/N: AA110-001
DT 100DL Dispersancy Tester with dual light and color camera	P/N: AA110-002

Test parameter	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	DT 100: monochrome CCD DT 100DL : color CCD camera
Light source	DT 100: LED backlight panel DT 100DL: 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	DT 100 : B&W image in backlight DT 100DL: 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:



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