

Carbon Black Dispersion Tester

Model UD-3500

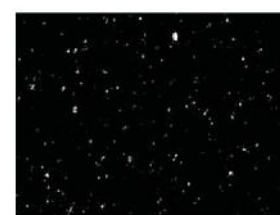


Both under-mixing and over-mixing increase costs of manufacturing processes. The Carbon Black Dispersion Tester applies advanced reflected light microscopy and digital image processing techniques to provide a quick, easy, precise, and non-subjective carbon black macrodispersion assessment for rubber compounds.

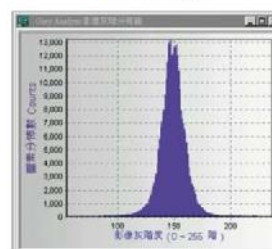
- Image input: After placing the fresh cut sample onto the aperture with spring loaded specimen holder, the UD-3500 utilizes 30-degree angle of light to illuminate the specimen and scans the surface with 100X magnification. Bi-level analysis and pixels diameter analysis would be automatically computed with the captured image.
- Super bright LED is designed as lighting source for more uniform illumination as well as higher consistency and precision.
- Grey level analysis: Image brightness would be resolved into 256 grey levels for automatic bi-level thresholds determination.
- Bi-level analysis: The captured image would be transferred into binary (black / white) image after grey level analysis with U-CAN's proprietary digital image analysis technique. With the binary image, all dispersion analysis could be quickly carried out.
- Particle and Dispersion analysis:
 - a) Particle and dispersion analysis would be carried out based on ISO 11345 (methods C, D, & E) and ASTM D7723.
 - b) Built-in 5 sets, 4 kinds of ISO Philip 10-scale standard:
 - i. Carbon black (CB) – 30X and 100X
 - ii. Reinforcing carbon black (RCB) – 100X
 - iii. Reinforcing carbon black with silica (RCB/Silica) – 100X
 - iv. Semi-reinforcing carbon black (SRCB) – 100X for automatic grading (X & Y values).
 - c) Quantitative data of % Dispersion and Z% could be calculated automatically.
 - d) Particle counts, particle diameters, particle area, particle ratio, and agglomerate counts are automatically acquired.



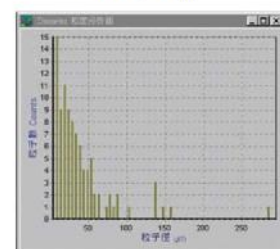
<Scanned Image>



<Binary Image>



<Gray level analysis>



<Particle analysis>

Electrical Requirements:	110V 2A or 220V 1.2A
PC System:	IBM compatible PC with Windows 7 Pre-installed U-CAN dispersion analysis software 19" LCD colour screen Colour printer
Magnification:	100X
Light Source:	Super bright LED
Dimensions:	L: 420 x W: 200 x H: 380mm
Environment:	10°C to 40°C non-condensing

- Different positions of the specimen could be sampled per the user, and the average of multiple readings would be calculated for better dispersion assessment.
- Test results can be exported to Microsoft Excel format. Users are able to edit or delete the saved data if authorized.
- Each testing results and captured image can be stored automatically.