

NEW

CPS Disc Centrifuge UHR

SETS A NEW STANDARD IN HIGH RESOLUTION PARTICLE SIZE MEASUREMENT

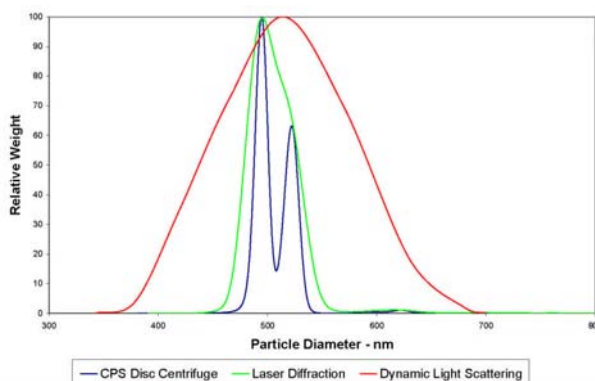


Key features:

- Higher Resolution
- Quiet Operation
- Improved Solvent Resistant Disc
- Added Operating Flexibility

Higher Resolution¹

The detector beam optics have been modified to produce a more narrow beam where it passes through the sample. The beam takes the form of a short arc (rather than a straight line) with a radius that matches the radius of rotation where the beam passes through the disc. With radius matching, the effective width of the beam is further reduced. For most measurements, effective resolution is improved by 100 % compared to earlier versions of the CPS Disc Centrifuge. The reported peak width for a perfectly narrow sample can be as low as 1% of the mode diameter, so the CPS Disc Centrifuge UHR contributes almost nothing to the reported distribution. For spherical or near spherical particles, the reported distribution is very close to a perfect representation of the true distribution.



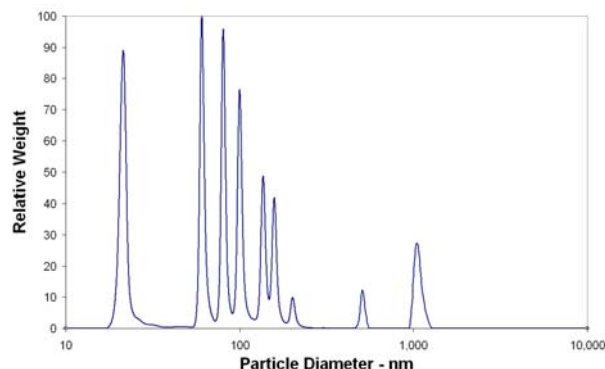
Quiet Operation

The UHR model uses an improved air flow pattern that reduces cooling fan noise, and has added sound insulation plus a double wall construction to reduce noise from the centrifuge motor and the rotating disc. Audible noise power at the front of the instrument (dB A-scale) is reduced to ~1/6 of the level of earlier CPS Disc Centrifuge models. In most laboratories, noise from the CPS Disc Centrifuge UHR is barely above (or even below) the background noise level.

Improved Solvent Resistant Disc

The UHR model comes with a standard solvent resistant disc made from CR-39 polymer. The new disc resists attack by virtually all organic solvents and water based liquids. CR-39 polymer is resistant to scratching, will not yellow with age, and has clarity approaching that of optical grade glass. The improved optical quality of the disc eliminates scattering and distortion of the detector beam by the disc, and so maintains improved resolution from the more narrow beam.

Added Operating Flexibility



The improved resolving power of the UHR model means that many analyses of very small diameter samples can be measured in a much shorter time, by trading a slight reduction in resolution for a shorter analysis. For example, the sedimentation depth can often be reduced by a factor of two, which reduces run time by a factor of two. The loss in resolution (for example a minimum reportable peak width of 3% of the mode diameter instead of 1.5%) is quite small, and remains far better than any other particle sizing method, while the analysis time falls.

¹ This resolution is approximately 10 to 50 times better than the best available with other particle sizing methods, such as laser diffraction, optical/electrozone counters, and photon correlation spectroscopy (PCS/DLS).