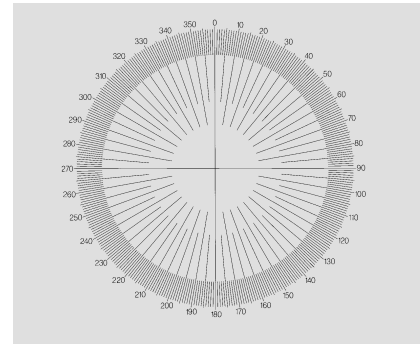


EYEPIECE GRATICULES (RETICLES)

Full Protractor – NE45

Pattern	Description	Diameter	Order Code
NE45	Full protractor scale 10mm diameter divided in degrees. Surface chrome image.	16mm	01B16227
		19mm	01B19227
		21mm	01B21227
		Special	01BSP227



PARTICLE SIZING AND DISTRIBUTION

The use of the eyepiece graticules shown in this section make it possible to analyse specimens containing particles as an alternative, or in addition to, sieving. Graticules for particle size analysis are particularly popular when there are only limited quantities of particles or where particles are smaller than 50 micron diameter. Typical substances analysed are sand grains, soil particles, plant seeds, fertilizers, abrasives, liquid droplets, pigments, pulverised coal, silica, fibres and fine dust.

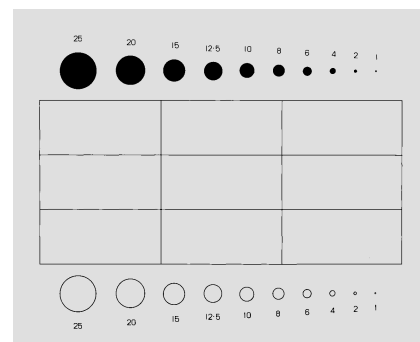
The basic principle employed is to compare particles to the globes and circles of varying sizes that appear on the graticule – dark particles being compared to solid globes, and light or transparent ones to the circles. Naturally the procedure varies with the graticule concerned, more information about which is given below.

Please note that for calibration the circles and globes will represent particles smaller in diameter by the magnification of the objective.

Patterson Globes and Circles – NG1

The graticule consists of a central rectangle, sub-divided into nine smaller rectangles with a number of increasing circles outside the top and bottom horizontal edges. The marked figures are the diameters of the circles in units. 250 units represent the horizontal length of the large rectangle. Rectangle size is 4.5mm x 2.025mm. Circle sizes in microns are 450, 360, 270, 225, 180, 145, 110, 74, 37 and 18.

Reference: H.S.Patterson and W.Cawood. Transactions of the Faraday Society, Vol. 32 Feb 1936. "The Determination of Size Distribution in Smokes." Pp. 1084-1088.



Pattern	Description	Diameter	Order Code
NG1	Patterson globes/circles. Surface chrome image.	16mm	01B16250
		19mm	01B19250
		21mm	01B21250
		Special	01BSP250

We manufacture components (encoder discs, graticules, metal foils, resolution standards) to custom design, if it is not in the catalogue please contact us for pricing information.

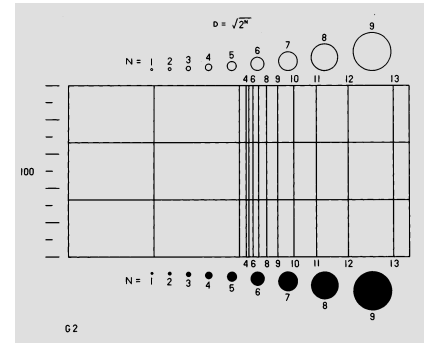
EYEPIECE GRATICULES (RETICLES)

PARTICLE SIZING AND DISTRIBUTION

Porton – NG2

The circle areas of the Porton graticules increase with Root 2 progression as do the divisions on the right hand side of the rectangle. These divisions are numbered for convenience. Rectangle size is 4.5mm x 2.25mm. Circle sizes in microns are 560, 400, 280, 200, 140, 100, 70, 50 and 35. The specimen is racked on the mechanical stage of the microscope and traverses are taken right across the deposit sizing all the particles encountered.

Reference: K.R.May, Journal of Scientific Instruments Vol. 22 Oct 1945. "The Cascade Impactor." An instrument for sampling coarse aerosols. Pp 187-195.

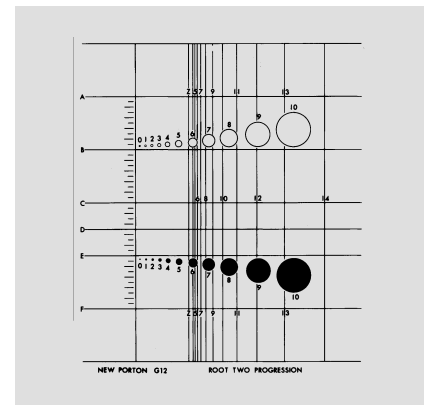


Pattern	Description	Diameter	Order Code
NG2	Original Porton globes/circles. Surface chrome image.	16mm	01B16251
		19mm	01B19251
		21mm	01B21251
		Special	01BSP251

New Porton – NG12

The NG12 is particularly useful since the array of globes and circles are conveniently close to where the particles pass. At the end of each band of the sample the mechanical stage is traversed vertically to take in the next band until the whole sample has been covered.

Reference: K.R.May, Journal of Scientific Instruments Vol. 42 1965. "A New Graticule for Particle Counting and Sizing." Pp 500-501.



Pattern	Description	Diameter	Order Code
NG12	Modified Porton pattern globes/circles. Surface chrome image.	16mm	01B16253
		19mm	01B19253
		21mm	01B21253
		Special	01BSP253

EYEPIECE GRATICULES (RETICLES)

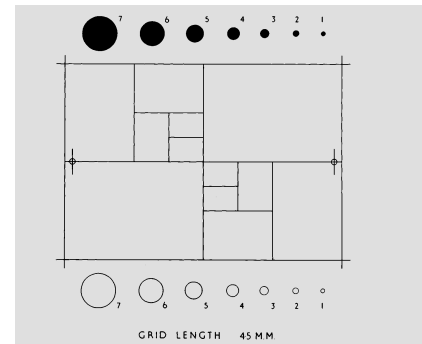
PARTICLE SIZING AND DISTRIBUTION

British Standard Graticule – NG10

In this graticule the circle areas double progressively, hence the diameters alter by Root 2, so that the size classes can form a continuation of the standard series of sieves for particle sizing. Each particle is assigned to a size class defined by two adjacent circles which represent the size limits of that class. Thus the distribution of size is obtained in terms of the diameter of circles having the same projected area as the particles. This method will cover particles in the range 150 micron to 0.38 micron. The size distributions with respect to their number and weight are determined separately. Final results are calculated as cumulative percents.

Originally designed by the National Coal Board for use in coal mining.

References: B.S.3625/B.S.3260



Pattern	Description	Diameter	Order Code
NG10	British Standard (BS3625/BS3260) globes & circles. Surface chrome image.	16mm	01B16252
		19mm	01B19252
		21mm	01B21252
		Special	01BSP252

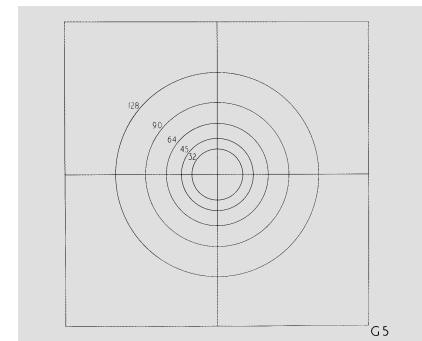
Fairs – NG5

Designed to extend the sizing range of globe and circle graticules.

Example: Used in conjunction with NG2 the overall size range = 128:1. The circles increase by 2.

Note. Both graticules would have to be used with the same microscope, eyepiece and objective.

Reference: G.L Fairs Chem Ind. 1943 Vol. 62. Pp 374-378. "The Use Of The Microscope In Particle Size Analysis."

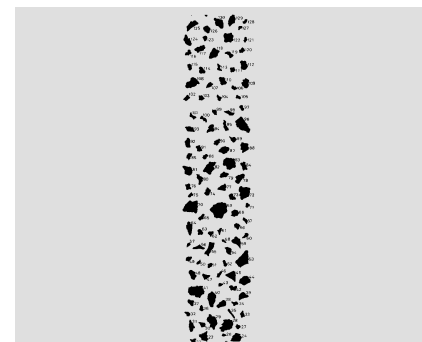


Pattern	Description	Diameter	Order Code
NG5	Fairs. Grid length 4mm. Glass sandwich.	16mm	01A16077
		19mm	01A19077
		21mm	01A21077
		Special	01ASP077

Particle Analysis Test Slide – SG7

Ideal for staff training, this has 100 particles of various shapes and sizes. Each shape is numbered. Designed for comparing various shapes and sizes, and as a means for logging and communicating this information.

Pattern	Description	Diameter	Order Code
SG7	Test slide for particle sizing. Surface chrome image	16mm	02A00422
		Special	02ASP422



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