

## Fineness of Grind Gauges

**M**any types of solid materials must be ground or milled into finer particles for dispersion in appropriate liquid vehicles. The physical properties of the resulting dispersions, often called “grinds”, depend not only on the actual size of the individual particles, but also on the degree to which they are dispersed.

The Fineness Gauges are used to indicate the fineness of grind or the presence of coarse particles or agglomerates in a dispersion. It does not determine particle size or particle size distribution.

Grind gauges are used in controlling the production, storage, and application of dispersion products produced by milling in the paint, plastic, pigment, printing ink, paper, ceramic, pharmaceutical, food and many other industries.

The Fineness Gauges is a flat steel block in the surface of which are one or two flat-bottomed grooves varying uniformly in depth from a maximum at one end of the block to zero near the other end. Groove depth is graduated on the block according to one or more scales used for measuring particle size.

The degree of dispersion is indicated in Microns ( $\mu\text{m}$ ) or Hegman (H). The Hegman scale ranges from 0 to 8 with numbers increasing as the particle size decreases.

**0 Hegman =100 microns particle size**

**4 Hegman =50 microns particle size**

**8 Hegman =0 microns particle size**

The gauge and its scraper are made of hardened stainless steel and have one or two grooves with a graded slope (dependent on the model chosen), graduated in microns, mils, NS (Hegman), Biuged controls precisely every gauge and ensure it has a tolerance of  $\pm 2\mu\text{m}$  (both of upper plan and nether plan flatness is less than  $3\mu\text{m}$ ).

It confirms the below standards: **ISO 1524, ASTM D 3333, ASTM D 1210, ASTM D 1316, DIN EN 21524. And all gauges come with Claibration Certificate.**

### Procedure

Place a slight excess of sample in the deep end of the groove, and with the straight-edge scraper provided, draw the sample toward the shallow end of the groove. Ratings are in term of the point on the scale where the oversize particles, or furrows made by them, first appear in substantial concentration.



Description	Order Information	Groove Size (L×W,mm)	Ranges ( $\mu\text{m}$ )	Overall dimension (mm)	Graduation ( $\mu\text{m}$ )	Number of Grooves	Unit
Single-Channel Grind Gauge	BGD 241/0	140×12.5	0–15	170×50×13	0.75	1	$\mu\text{m}/$ Hegman
	BGD 241/1	140×12.5	0–25	170×50×13	1.25	1	
	BGD 241/2	140×12.5	0–50	170×50×13	2.5	1	
	BGD 241/3	140×12.5	0–100	170×50×13	5	1	
	BGD 241/4	140×12.5	0–150	170×50×13	7.5	1	
Double-Channel Grind Gauge	BGD 242/0	140×12.5	0–15	175×65×13	0.75	2	$\mu\text{m}/$ Hegman/ Mils
	BGD 242/1	140×12.5	0–25	175×65×13	1.25	2	
	BGD 242/2	140×12.5	0–50	175×65×13	2.5	2	
	BGD 242/3	140×12.5	0–100	175×65×13	5	2	
Wide-Channel Grind Gauge	BGD 244/1	140×37	0–25	175×65×13	1.25	1	$\mu\text{m}/$ Hegman
	BGD 244/2	140×37	0–50	175×65×13	2.5	1	
	BGD 244/3	140×37	0–100	175×65×13	5	1	