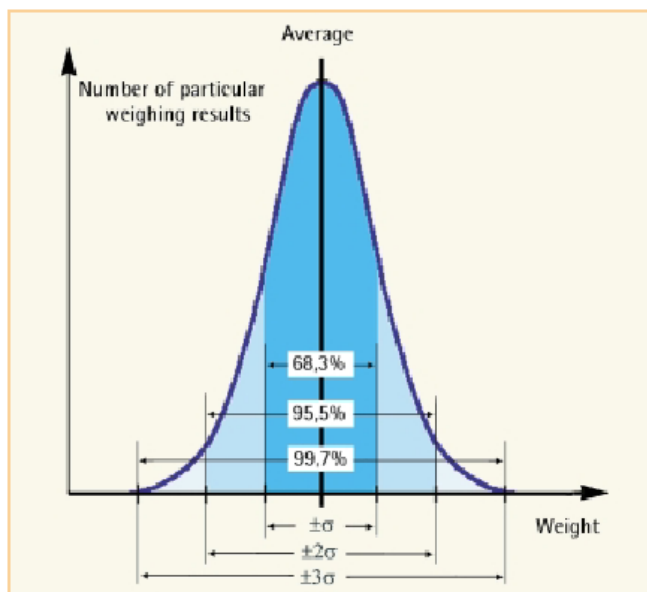


WEIGH AHEAD

Weighing News From Sartorius

What balance is right for me?

Well, that is an interesting question. For many people, the balance they buy depends on the capacity and the readability of the balance. Others need a specific applications program or a feature such as below balance weighing. But for Pharmaceutical laboratories compliant with the USP (United States Pharmacopeia) it's the "Measurement Uncertainty" or minimum sample quantity. This is the USP guideline which determines the minimum sample weight you can weigh on a particular balance.



The standard deviation s is used to evaluate a balance with regard to its reproducibility. For a confidence interval of $\pm 3\sigma$, 99.7% of the values measured lie within these limits around the mean. (Pertch, T.- GIT Lab Journal Volume 7, 2003 pp 90-92)

Measurement uncertainty is defined by the USP (section <41> Weights and Balances) as three times the standard deviation divided by the amount weighed. This should not exceed 0.001 (0.1%). This should be determined experimentally using the appropriate class weights as defined in the USP and performing at least 10 replicates of that weight.

WEIGH AHEAD

Weighing News From Sartorius

From the technical specifications of our balances, we can estimate what the minimum sample quantity will be for each balance. (** Minimum Sample Weight is based on manufacturer's specified data)

Model	Readability	Reproducibility	Linearity	Minimum Sample Weight**
SE2	0.0001 mg	0.00025 mg	0.00075 mg	0.75 mg
ME5	0.001 mg	0.001 mg	0.003 mg	3 mg
CPA2P	0.001 mg	0.001 mg	0.003 mg	3 mg
ME36S	0.001 mg	0.002 mg	0.006 mg	6 mg
CPA2P-F	0.001 mg	0.002 mg	0.006 mg	6 mg
ME235P	0.01 mg	0.015 mg	0.045 mg	45 mg
CPA225D	0.01 mg	0.02 mg	0.06 mg	60 mg
ME235S	0.01 mg	0.025 mg	0.075 mg	75 mg
ME254S	0.1 mg	0.07 mg	0.021 mg	210 mg
LA230S	0.1 mg	0.1 mg	0.3 mg	300 mg
CPA423S	0.001 g	0.001 g	0.003 g	3 g
CPA4202S	0.01 g	0.01 g	0.03 g	30 g
CPA8201	0.1 g	0.1 g	0.3 g	300 g
LA2200	0.1 g	0.05 g	0.15 g	150 g
CPA34000	1 g	0.5 g	1.5 g	1500 g

To assist our customers in determining the minimum sample quantity for their balances, Sartorius has incorporated this calculation on the Genius Series of balances. This new feature, called SQmin, will soon be available on many Sartorius semi-micro, micro and ultra-micro balances.

For more information, contact the Product Specialists at 1-800-635-3906

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