

Description

These Precision Engineers Levels are high accuracy engineers and machinists levels that combine high sensitivity, rapid leveling and optimum vial quality in a robust design for professional users. The precision ground vials are manufactured in high quality stand to ensure a fast stabilization time, and highly accurate and repeatable readings. The level features a precision ground granite base with flat and prismatic 'V' surfaces. This high quality granite base eliminates traditional issues of corrosion, denting and distortion which ensures accuracy can be maintained over the life of the product. The novel vial mounting and adjustment mechanism is highly rigid and yet easy to adjust. The rigidity ensures it is minimally affected by impacts and temperature variation which means it can be used straight from the box with confidence. The level comes in two lengths (120mm and 200mm) with three sensitivity options (0.1mm/m, 0.05mm/m and 0.02mm/m.) These levels are designed, manufactured and tested to the highest standard.

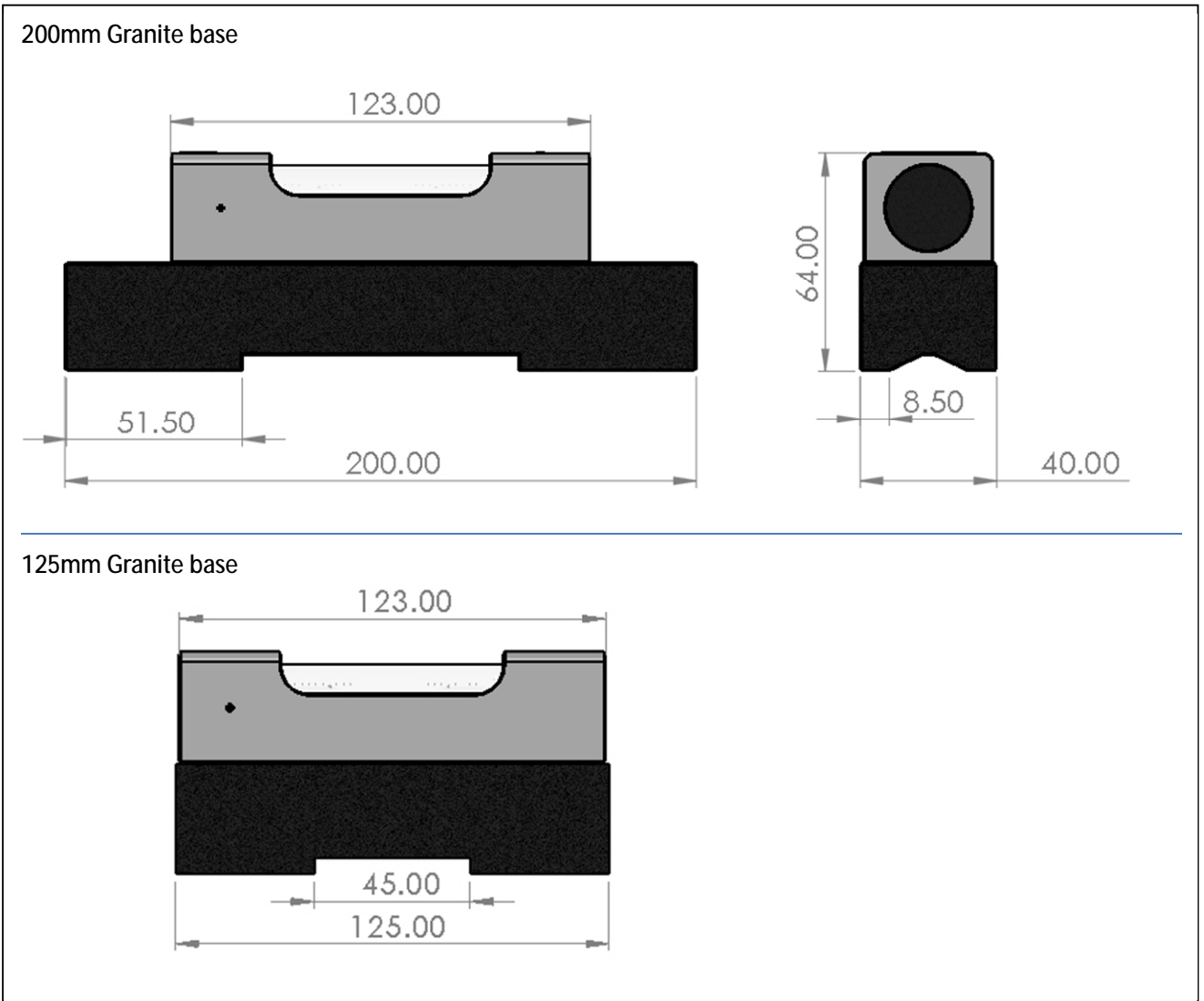
Features

- * Optimized vial design and manufacturing ensures fast stabilization time and excellent bubble contrast for improved readability
- * Precision ground granite base with flat and prismatic 'V' surfaces can be used for leveling flat and cylindrical surfaces.
- * The granite base will not corrode or distort and cannot be dented which ensures it will maintain precision over the life of the product.
- * Two base length options: 125mm and 200mm
- * Three sensitivity options: 0.02mm/m, 0.05mm/m, 0.1mm/m
- * An ultra fine yet highly rigid adjustment mechanism allows for simple recalibration, and ensures a high level of stability over time, temperature and shocks and impacts
- * All spares are available to purchase as well as a repair and recalibration service
- * Supplied in a protective aluminum carry case with foam inserts
- * Wide operating temperature range -5 to +45°C



Precision Engineers Level with Ground Granite Base

Specification	Value	Unit	Notes
Sensitivity per Division	0.02 0.05 0.1	mm/m	The level comes in three different sensitivity options. The sensitivity is the gradient required to move the bubble by one of the 2mm divisions
Length - PEL-125 - PEL-200	125 200	mm	The time taken for the bubble to reach it's final position after placing on the measurement surface
Division Size	2	s	The distance between each division
Cross Vial	Yes		
Operational Temperature Range	-5 to 45	°C	
Storage Temperature Range	-20 to 60	°C	
Base flatness	3	µm	The maximum flatness deviation across the flat feet
Parallelism	5	µm	The maximum deviation of parallelism of the V surfaces



Calibrate Engineers Level Instructions

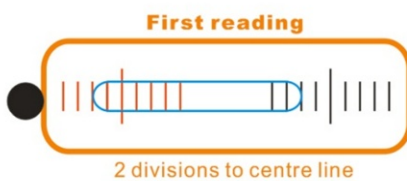
- If the level and the surface are set level, then the bubble will be central on both readings.
- If the level is set level, but the bearing surface is out of level, then the bubble will move in the same direction off-center when the level is turned through 180°. The surface can then be adjusted by this amount.
- If the bearing surface is set level, and the level is out of level, then the bubble will move in different direction off-center when the level is turned through 180°. The level can then be adjusted to read level.
- If the readings are different, then both the level and the surface need to be adjusted.

An adjustable flat surface is required to calibrate an engineer's level. It must be within the range of the level you are calibrating, but not need to be perfectly level. Pls following steps:

- Clean the bearing surface, remove any dirt or dust. Then place the level onto the bearing surface ready for inspection.
- Note the position of the bubble after it has settled, wait time can be up to 10 seconds and then turn the level by 180°, keeping place back onto the surface in the same position as before.
- Note again the position of the bubble after it has settled.

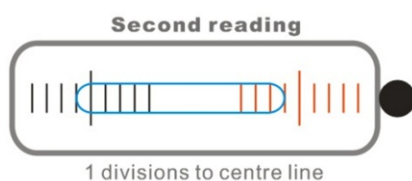
2 Example as following for reference:

- If the first bubble reading was 2 divisions to the Centre line, and the second reading when rotated through 180° was 1 divisions to the Centre line:

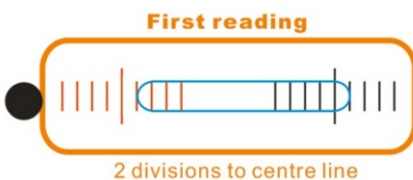


The error in the level is half of the total error = $(1+2)/2 = 1.5$ divisions.,

The error in the surface is half of the difference = $(2-1)/2 = 0.5$ divisions.



- If the first bubble reading was 1 divisions to the Centre line, and the second reading when rotated through 180° was 4 divisions to the Centre line:



The error in the level is half of the total error = $(1+4)/2 = 2.5$ divisions.,

The error in the surface is half of the difference = $(4-1)/2 = 1.5$ divisions.

