

Tool Reviews

By

James P Crombie

I have used a lot of tools and tooling over my years in a machine shop, and have given recommendations to friends and colleges when asked.

I decided to record some of my purchases with tests and evaluations here.

- My first choice on a review is the new digital indicator from [Lee Valley Tools](http://www.leevalley.com), pn 88N32.05 price \$75.50cnd

This is a 0-1" or 0-25mm depending on how you are measuring. The unit is quite a bit bigger than a normal dial indicator unit and a lot heavier.

Dimensions are aprox 2.25"wd x 2"dp x 7" lg. The unit is die cast metal with a plastic bezel. The display is large and easy to read with characters aprox .45" high. The front of the bezel has 3 controls, IN/MM, ON/OFF and a ZERO button. On top of the bezel are two covers, one for the battery(SR44 1.5v) and a second for an external connector for a remote display. There are no mention of the connector in the instructions or the catalog, no suprise there as Lee Valley is mainly a woodworking tool company and would be of no use to the intended customer they serve. I have seen these displays elsewhere but I can not say if they would work with this particular model.

- I did my tests using a Mitutoyo 12" comparator stand and a set of Gage Blocks and used a Mitutoyo #2904 0-1" .001 dial indicator as a reference. I measured and recorded every .050 and checked my zero setting before and after every measurement. The specification for the indicator state – Resolution - .0005" /.01mm - Total Tolerance - .0012" /.03mm - Repeatability - .0005" /.01mm
- I found the repeatability quite good, but the tolerance was out by a bit in some cases (max of .002) but most reading were within the range.

Gage Blocks	Lee Valley Indicator	Deviation	Control – Mitutoyo Indicator	Chinese Import Indicator
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0.0500	0.049	0.001	0.050	0.050
0.1000	0.0985	0.0015	0.100	0.1005
0.1500	0.1485	0.0015	0.150	0.150
0.2000	0.199	0.001	0.200	0.2005
0.2500	0.248	0.002	0.250	0.250
0.3000	0.2985	0.0015	0.300	0.3005
0.3500	0.3485	0.0015	0.350	0.350
0.4000	0.399	0.001	0.400	0.400
0.4500	0.4485	0.0015	0.450	0.450
0.5000	0.4985	0.0015	0.500	0.5005
0.5500	0.5485	0.0015	0.550	0.5505
0.6000	0.599	0.001	0.600	0.601
0.6500	0.6485	0.0015	0.650	0.6505
0.7000	0.699	0.001	0.700	0.701
0.7500	0.7485	0.0015	0.750	0.7505
0.8000	0.7995	0.0005	0.800	0.801
0.8500	0.849	0.001	0.8495	0.8505
0.9000	0.8995	0.0005	0.9505	0.901
0.9500	0.949	0.001	0.9505	0.9505
1.0000	0.9995	0.0005	0.999	1.001

- As you can see the test unit is fairly consistant in it deviation and is only out of it stated tolerance in one area. But repeatability was quite good and if you are using the unit for comparity measurements then it is quite acceptable, especially if calibrated with a gage block first.
- Pros – good value for what you get – easy to use – large easy to read display.
- Cons – large – heavy – does not come with mounting stem for lug on back.

Click on a picture for a larger version.

