

STRAIGHT THREAD INSPECTION- Internal Pitch Diameter



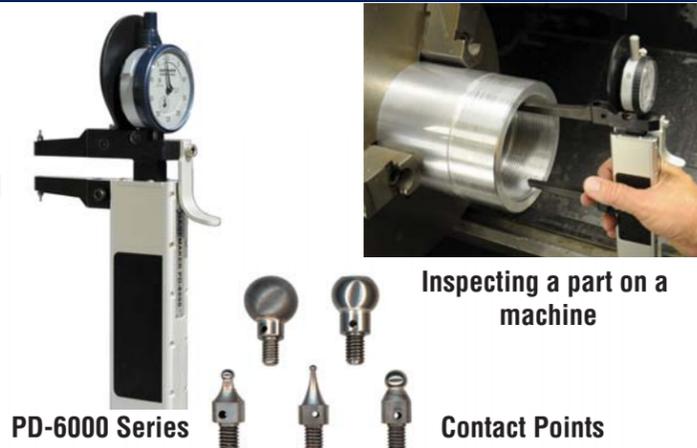
Pitch Diameter Gages- PD-6000 Series

Pitch Diameter Size:

The pitch diameter of a thread is the size at which two parts will screw together without exceeding product tolerance limits. The PD-6000 gages use interchangeable contact points that are precision ground to ANSI specifications to ensure maximum accuracy. The contact points seat in the thread at the pitch line during inspection and the gage's indicator reports measurement deviations from a nominal setting value.

Purpose:

Pitch Diameter is inspected to verify that the pitch cylinder of a thread is within tolerance limits. In the case of internal threads, pitch diameter size is the smallest size the thread can be. An acceptable pitch diameter does not guarantee that mating parts will screw together. It is important to also inspect the thread's functional size to ensure proper thread size.



Inspecting a part on a machine

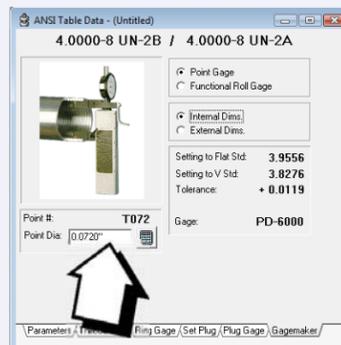
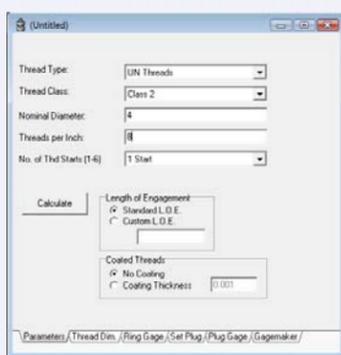
PD-6000 Series

Contact Points

Internal Thread Inspection with PD-6000 Series

Thread Disk Software

1. Start the TDWIN program.
2. Select the Thread Type and Thread Class.
3. Type the Nominal Diameter and Threads Per Inch.
4. Select the Number of Thread Starts.
5. Click the Calculate button.
6. Click the Gagemaker tab.
7. Based on the Point# displayed in the window, select the proper contact point.



Gage Setup

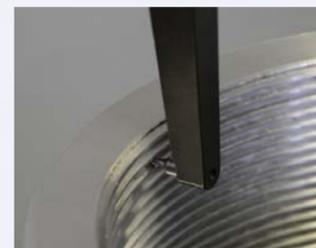
1. Inspect the contact points to ensure that they are not damaged or worn.
2. Using your fingers, screw the contact points into the threaded holes in the upper and lower arm assemblies. Be sure that the contact points are fully seated.
3. To secure the contact point, open a paper clip and insert it into the hole in the contact point's shaft. Rotate using moderate pressure to tighten the contact point.



DO **NOT** use pliers to tighten the contact points, as damage may result.

Gage Operation

1. Inspecting parts using the PD-6000 involves placing the gage on a part in order to compare the nominal pitch diameter of the gage to the actual pitch diameter of the part.
2. After zeroing the PD-6000 gage, pull the retraction lever and position the upper contact point in the second thread on the lower half of the part so that the indicator is pointed downward.
3. Trace the uppercontact point around the thread 180 degrees.
4. Release the lever to place the lower contact point in the second thread. This practice ensures that both contact points are positioned correctly.
5. Ensure that the contact points on the PD-6000 fully engage with the threads in the part.
6. Sweep the PD-6000 gage to locate the largest indicator reading on the part. Use the gauging tolerances, previously printed from the Gagemaker screen in the TDWIN software, to determine the accuracy of the diameter.



Note: Be sure that the small revolution counter on the indicator is pointing to the same number as when the gage was zeroed.