

STRAIGHT THREAD INSPECTION- External Pitch Diameter



Pitch Diameter Gages- PD-8000 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-8000 Series of the Thread Diameter Measurement Gages inspects the pitch diameter of external threads ranging from 1/4" - 48". The PD-8000 gages use precision contact points that seat in the thread near the pitch line of the part during inspection.

Purpose:

Pitch Diameter is inspected to verify that the pitch cylinder of a thread is within tolerance limits. In the case of external threads, pitch diameter size is the largest 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.

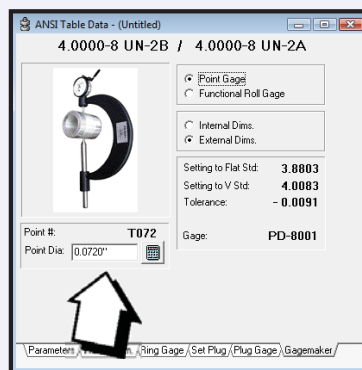
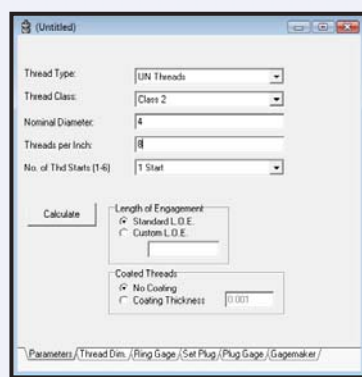


Inspect Parts on a Machine

External Thread Inspection with PD-8000 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

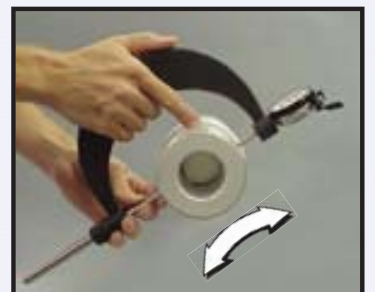
1. Inspect the contact points to ensure that they are not damaged or worn.
2. Using your fingers, screw the contact points into the threaded holes in the lower extension rod and indicator shaft. Be sure that the contact points are fully seated on the shaft.
3. To secure the contact point, open a paper 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-8000 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-8000 gage, position the lower contact point in the threads of the part.
3. Using the lower contact point as a pivot, seat the upper contact point in the threads of the part.
4. Ensure that the contact points on the PD-8000 fully engage with the threads in the part.
5. Sweep the PD-8000 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.