

TUBING & CASING THREAD INSPECTION- External Pitch Diameter



Thread Pitch Diameter Gage- MRP-1000/2000

Pitch Diameter:

Pitch diameter is the most critical measurement in matching threads. Since pipe is not perfectly round, measuring dimensional changes across the face of connectors is critical in determining the proper fit of the connector.

Purpose:

The MRP Gages inspect the pitch diameter and ovality of internal and external tapered threads. The MRP includes three models, which gives the gage its versatility. The different rail sizes allow each MRP model to measure a specific range of diameters from 1 1/2"-20".



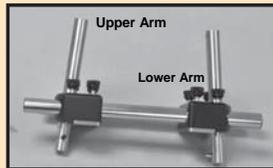
External Thread Pitch Inspection with MRP-1000/2000

Gage Setup

1. To assemble the gage, slide the rails into the upper and lower blocks as shown. Tighten the locking knobs on both the upper and lower blocks to secure them to the rails.



2. Insert the arms into the upper and lower blocks. Be sure the upper and lower arms are positioned properly, as shown, before continuing with the gage setup.



3. Insert the indicator into the upper arm. Using a 7/64" hex wrench, tighten the set screw in the upper arm to secure the indicator.



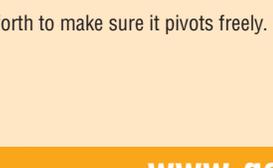
4. Thread each pivot shoe into the upper and lower arms of the gage.



5. Align each pivot shoe parallel with the groove on each arm.



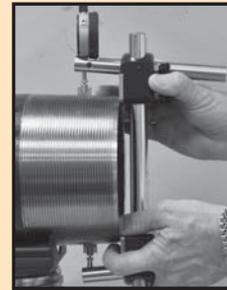
6. Tighten the binder nut to secure. Be careful not to over-tighten the binder nut, which may cause damage to the indicator.



7. Move the pivot shoe back and forth to make sure it pivots freely.

Gage Operation

1. After zeroing the MRP gage on the standard, place the gage on the connector so the wear pad rests on the face of the connector and the pivot shoes ride on the crests of the threads.



2. Ensure that the pivot shoes on the MRP gage are properly positioned on the threads in the part.

3. Using the lower shoe as a pivot, sweep the MRP gage back and forth to locate the largest indicator reading on the part. You may want to refer to the MRP Inspection Tolerance Guidelines to determine the accuracy of the diameter.



4. Rotate the gage 90 degrees and sweep for the largest reading again. If your second reading is greater or less than the first, sweep 180° around the part to find the largest and smallest values.



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

5. To calculate the part's diameter, add the largest diameter reading to the smallest diameter reading and divide the total by 2.

6. Determining ovality requires locating the largest and the smallest diameter readings on the part and subtracting the smallest reading from the largest reading. Ovality readings are always positive.

7. The industry standard for ovality is .003" x the outside diameter of the pipe, up to 13.375", & .004" x the outside diameter for 19"-20". For example, a 7 inch LTC ovality standard would equal .021".

8. To receive critical settings instantly, use the TDWIN TAPER software on your computer.