

TUBING & CASING THREAD INSPECTION- Internal Pitch Diameter



Thread Pitch Diameter Gage- MRP-1000/2000 Series

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".



MRP-1000



MRP-2000

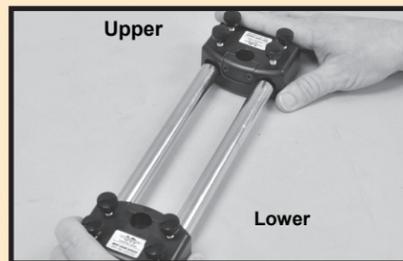
TDWIN Taper Setup Sheet

TDWIN Taper Setup Sheet	
Part #	Part Name
MRP-1000	MRP-1000
MRP-2000	MRP-2000
MRP-3000	MRP-3000
MRP-4000	MRP-4000
MRP-5000	MRP-5000
MRP-6000	MRP-6000
MRP-7000	MRP-7000
MRP-8000	MRP-8000
MRP-9000	MRP-9000
MRP-10000	MRP-10000
MRP-11000	MRP-11000
MRP-12000	MRP-12000
MRP-13000	MRP-13000
MRP-14000	MRP-14000
MRP-15000	MRP-15000
MRP-16000	MRP-16000
MRP-17000	MRP-17000
MRP-18000	MRP-18000
MRP-19000	MRP-19000
MRP-20000	MRP-20000

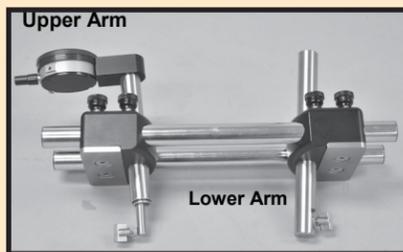
Internal Thread Pitch Inspection with MRP-1000/2000 Series

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, as shown. Be sure that the arms snap into position and that the arms align with the ball on the inside of each block.



3. Install the contact point on the indicator stem.



4. 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.



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



6. Align each pivot shoe parallel with the groove on each arm and tighten to secure.

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.

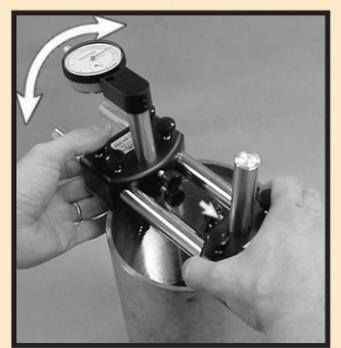


2. Ensure that the pivot shoes on the MRP gage are properly positioned on the threads in the part.

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.