Thread Gages, External Variable Gages

The gages on the following pages meet all of the specific thread characteristic measuring requirements of ANSI/ASME Systems 21, 22, and 23 and MIL-S-7742 and MIL-S-8879 "Other" and "Safety Critical" inspection levels.

These easy-to-use gages provide accurate, repeatable, and reproducible measurements. They can all be changed from size to size in less than 3 minutes. Electronic digital readouts are standard, which eliminates reading errors and allows these gages to be connected to computerized data collection systems for maximum inspection efficiency.

"TRI-ROLL" External Thread Gage

This gage is ideally suited to thread measuring applications where the gage is to be dedicated to only one thread size or is used to measure a narrow range of sizes. This gage comes in a number of different frame sizes providing a total measurement range of #0-80 (M1.6) through 6" (M150). Each frame size will cover 2 to 4 standard thread diameters in both inch and metric sizes. For example, the #4 frame size covers #10, #12, l/4" and 5/16" sizes. This design is best suited to manufacturing applications.

The "TRI-ROLL" Gage is a three roll, 120 degree contact position design. The following gaging roll types are available:

Thread Characteristic	Roll Type	ANSI/ASME #
Functional Diameter (UNR)	3	4.3
Functional Diameter (UNJ)	3 "J"	4.3 Modified
Pitch Diameter (cone & vee)	4	4.5
Minor Diameter	Minor	5.2
Lead & Flank Angle	Differential	4.8
Runout (P.D. to major)	Runout	4.7

A different set of gaging rolls is required for each thread size to be measured.

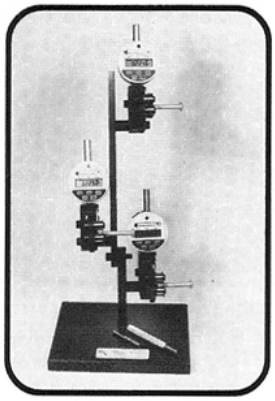
"TRI-ROLL" Gages are set with Gage Class "W" single end, full form, threaded setting plugs. Users having ring gage setting plugs can use them if only the full formed section is used. For the greatest measuring accuracy always set the "TRIROLL" Gage using the calibrated size of the setting plug instead of the nominal size marked on its handle.

The result of a long form Gage Repeatability and Reproducibility Study of the TRI-ROLL Gage was 15% with functional diameter gaging rolls and 20% with pitch diameter gaging rolls.

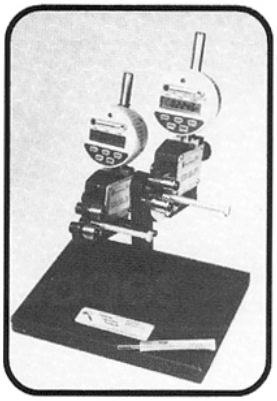
TRI-ROLL Gages with Base, Frame and Electronic Indicator with S.P.C. output:

Inch	Metric	Single Frame Unit*
#0 thru #1	M1	TRU-100E
#2 thru #3	M2 thru 2.5	TRU-101E
#4 thru #8	M3 thru M4	TRU-102E
#10 thru 5/16	M5 thru M6	TRU-103E
3/8 thru ½	M8 thru M12	TRU-104E
9/16 thru ¾	M14 thru M16	TRU-105E
7/8 thru 1-1/8	M20 thru M24	TRU-106E
1-1/4 thru 1-1/2	M30 thru M38	TRU-107E
1-5/8 thru 1-7/8	M39 thru M47	TRU-108E
2 thru 2-1/4	M48 thru M56	TRU-109E

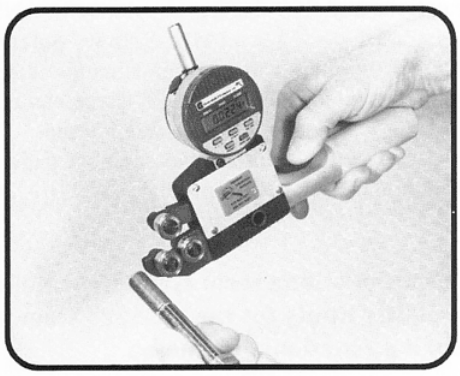
* NOTE: Double Frame Unit, TRU-2XX, Triple Frame Unit, TRU-3XX



Triple Stand Tri-Roll Gage for measuring pitch diameter, functional diameter and minor diameter



Double Stand Tri-Roll Gage for measuring pitch diameter and functional diameter.



Handheld Tri-Roll Gage

Greenslade & Company, Inc.

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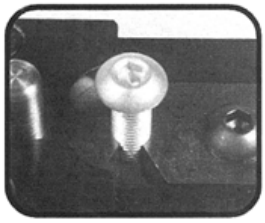
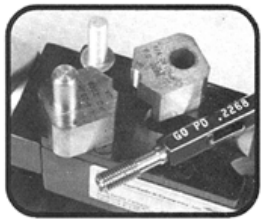
Thread Gages, External Variable Gages

X-180™

Segment External Thread Gage
(ANSI/ASME Gage #4.1)



Functional Diameter Segments



One setting plug and set of segments are required for each thread size.

The "X-180" Gage is of the two-segment, 180 degree contact design. The single frame size covers #2 (M2) through 3/4" (M 18).

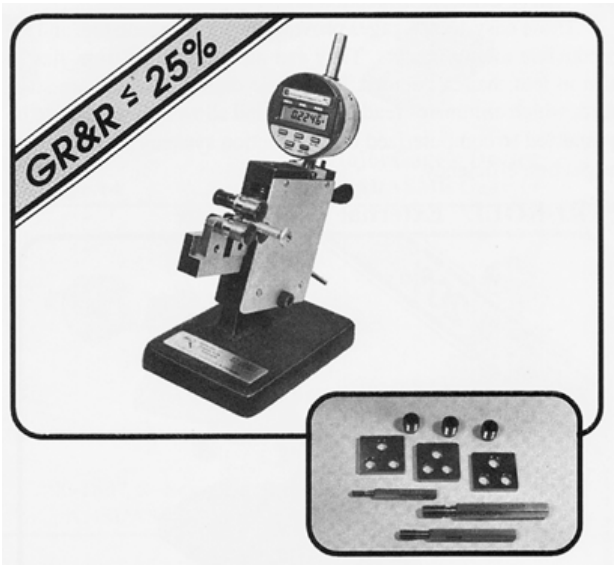
This design can be used to measure functional diameter in all specifications and 180 degree circularity in ANSI/ASME System 23 and MIL-S-7742 and MIL-S-8879 "Safety Critical" inspection. A different set of gaging segments is required to measure each thread size. The "X-180" Gage can be changed from one size to another in less than one minute.

The use of the three roll or two segment gage design to measure functional diameter is optional in ANSI/ASME, MILS-7742 and MIL-S-8879.

The result of a long form Gage Repeatability and Reproducibility Study for the "X-180" Gage was 11 % for measuring functional diameter.

X-120®

Adjustable Tri-Roll Thread Gage



"X-120" Adjustable Tri-Roll Thread Gage
Patent #4,974,327

The "X-120" Gage is the same basic design as the "TRIROLL" Gage, having three rolls which contact the thread at 120 degrees apart. The differences are that the "X-120" gage is much more widely adjustable and fewer gaging rolls are required because only one set of rolls is needed for each TPI (threads per inch). There are two gage frame sizes; small, #4 (M3) through 1" (M24) and large, 1-1/8" (M30) through 2" (M50).

The thread size can be changed in less than three minutes by simply loosening four screws, adjusting the gaging roll axis pin position with a screw diameter template, retightening the four screws, attaching the gaging rolls, and setting the gage with the threaded setting master.

The "X-120" Gage is best suited for use in incoming and final inspection. The following gaging rolls are available:

Thread Characteristic	**ANSI/ASME #**
Functional Diameter	4.3
Pitch Diameter (cone & vee)	4.5
"VARIMINOR" (minor diameters 32 TPI & less)	5.2 Variable

The "X-120" Gage is set with a Class "W", single end, threaded plug gage.

The result of a long form Gage Repeatability and Reproducibility Study for the "X-120" Gage was 17% with functional diameter gaging rolls and 25% with pitch diameter gaging rolls.

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Fixed Limit External Thread Gages

Thread Ring Gages and Setting Plugs

Greenslade supplies a full line on inch and metric fixed limit, adjustable ring gages and the associated setting plugs.

Standard Inch Gages:
Standard Inch gages are available in classes 2A and 3A in sizes from #0-80 through 2 ½-12 . Inch gages are manufactured according to the requirements of ASME B1.2.

Standard Metric Gages:
Standard metric gages are available in classes 6g and 6h in sizes from M1.6 through M50. Metric gages are manufactured according to the requirements of ASME B1.16M unless otherwise specified. Metric gages can also be provided according to ISO and JIS specifications upon request.

Special Inch and Metric Gages:
Non-standard ring and setting plug gages can be supplied according to specific customer requirments In both inch and metric sizes.

Calibration:
All Greenslade thread gages come with ISO 17025, A2LA Accredited calibration certificates at no additional charge.

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