



Bore Gage Measuring Tips

Whether to use a two-point or three-point contact measuring tool is usually a matter of preference, but there are some differences.

A two-point contact rod-type inside micrometer is usually lighter, easier to handle, and more versatile over long ranges from approximately 6-107" (150-2700mm).

Any two-point contact micrometer, regardless of range, can probe a hole better to find the geometry of that hole than a three-point contact.

Most three-point contact tools have setting rings to insure accuracy. If you desire very

close tolerance work with two-point contact inside micrometers, it is recommended that they be set to a ring gage or to an outside micrometer.

A three-point contact micrometer has an advantage in that it can be seated in position more quickly than a two-point contact tool.

Usually these tools can also be read to a finer accuracy. The three-point tool will tell the maximum true diameter that can enter the hole a little faster than a two-point contact tool.

Micrometer heads used in these tools are accurate to ± 0.0001 " or 0.002mm, but overall accuracy on tools that add rods is dependent on good practice and technique.

To insure accuracy, these practices should be followed:

- ◆ Always make sure that there are no specks of dirt between the clamping surfaces of the rods and micrometer heads
- ◆ Tighten all rods uniformly, not too tightly, not too loosely, but a fairly firm assembly
- ◆ Assembling long sections should be done vertically or, with support, horizontally
- ◆ Because temperature can affect long rods used in these tools, they should be assembled in the same environment in which they will be used

AccuBore® Electronic Bore Gages with output

No. 781XT Series

.080"-8" (2-200mm)

AccuBore® is a high-quality, trigger-activated, three-point contact bore gaging system with extended range. Its convenient single-hand operation provides speed and control. Simply squeeze the trigger, insert the gage into the bore and release the trigger for an instant reading from the large, easy-to-read digital display.

What makes AccuBore® superior to other gages are features like the mechanically-driven parallel anvils which extend simultaneously, establishing a more true alignment to the axis of the bore. This provides consistent pressure, resulting in more accurate readings than models with spring-driven contacts which are subject to pressure variations.

Speed and convenience are further enhanced by the repositionable AccuBore® indicator, which may be swiveled and rotated for left, right hand or even vertical viewing. The gage also features a set of "go/no go" lights above the readout display that quickly indicate whether a bore measurement is within a preset tolerance window.

Features

- ◆ Single-hand operation with right- and left-hand viewing flexibility
- ◆ Large, easy-to-read display
- ◆ Enhanced wear life with carbide-faced contacts – available from 1/2" to 8"
- ◆ Convenient "Go/No Go" tolerance indicator lights



No. 781XTZ-138.

- ◆ True alignment with mechanically-driven parallel anvils
- ◆ Resolution .00005" (0.001mm)
- ◆ Accuracy of up to .00015" (.004mm)
- ◆ Push button inch/metric conversion
- ◆ Preset and preset recall
- ◆ Hold, max/min and zeroing capabilities
- ◆ Blind bore measurement is standard from .50" (12.7mm) and above.
- ◆ Specialized heads available for thread, groove and other non-standard measurements on request
- ◆ Output capability for Statistical Process Control (SPC) analysis via devices such as the Starrett Nos. 772 Collector or 761 Multiplexer, or download of data directly to a PC by an RS232 connection. (Direct to PC cable available on request.)



Output jack enables collection of measurement data for SPC analysis.

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AccuBore® Electronic Bore Gages (continued)

No. 781XT Series



AccuBore® XT's indicator can be rotated, allowing easy reading from either the right or left hand, or when accessing difficult to reach holes.



Sets include gage, contacts, setting rings, instructions, certificate of calibration and a 3v lithium battery in a protective carrying case.

Specifications

Individual – 2-Point Contact .080-.250" (2-6mm) range

Range		Accuracy	Approx Meas. Depth		Ring Diameter		Catalog No.	EDP No.
Inch	mm	Inch/mm	Inches	mm	Inches	mm		
.080-.100	2-2.5	.00015/.004	3/8	9	.100	2.54	781XTZ-100	68159
.100-.120	2.5-3						781XTZ-120	68160
.120-.160	3-4		1/2	12	.160	4.06	781XTZ-160	68161
.160-.200	4-5						781XTZ-200	68162
.200-.250	5-6		3/4	18	.200	5.08	781XTZ-250	68163

Individual – 3-Point Contact 1/4-8" (6-200mm) range – fixed anvils

1/4 – 5/16	6-8	.00015/.004	2 1/4	58	.3125	7.94	781XTZ-312	68164
5/16 – 3/8	8-10				.500	12.7	781XTZ-375	68165
3/8 – 1/2	10-12.5				.500	12.7	781XTZ-500	68166
1/2 – 5/8	12.5-16		2 3/8	62	.750	19.05	781XTZ-625	68167
5/8 – 3/4	16-20				.750	19.05	781XTZ-750	68168
3/4 – 1	20-25	.0002/.005	2 5/8	66	1.375	34.93	781XTZ-1	68651
1 – 1-3/8	25-35				2.625	65.68	781XTZ-138	67685
1-3/8 – 2	35-50				3.250	82.55	781XTZ-2	67686
2 – 2-5/8	50-65		3 1/16	80	5.0	127.00	781XTZ-258	67687
2-5/8 – 3-1/4	65-80				7.0	177.80	781XTZ-314	67688
3-1/4 – 4	80-100	.00025/.006	3 3/8	85			781XTZ-4	67689
4 – 5	100-125						781XTZ-5	67690
5 – 6	125-150						781XTZ-6	67691
6 – 7	150-175	.0003/.007	4	100			781XTZ-7	67692
7 – 8	175-200						781XTZ-8	67693

Pistol Grip Gage Only With Indicator*

Range		Catalog No.	EDP No.
Inch	mm		
.080-.250	2-6	781XTP-250	68705
1/4-3/4	6-20	781XTP-750	68706
3/4-4	20-100	781XTP-4	68707
4-12	100-300	781XTP-12**	68708

Set – 2-Point Contact .080-.250" (2-6 mm) range

Range		Number of Heads	Number of Rings	Catalog No.	EDP No.
Inch	mm				
.080-.250	2-6	5	3	S781XTBZ	68169

Larger sizes available on special order.

Gages are also available with dial indicators on special order.

* Does not include heads, rings, etc.

**Heads above 8" available on special order.

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AccuBore® Electronic Bore Gages (continued) No. 781XT Series

Sets – 3-Point Contact .250-8" (6-200mm) range – fixed anvils

Range		Number Of Heads	Number Of Rings	Catalog No.	EDP No.
Inch	mm				
.250-.375	6-10	2	1	S781XTCZ	68170
.250-.750	6-20	5	3	S781XTHZ	68658
.375-.750	10-20	3	2	S781XTDZ	68171
.750-2.00	20-50	3	3	S781XTEZ	67694
.750-4.00	20-100	6	4	S781XTJZ	67697
2.00-4.00	50-100	3	2	S781XTFZ	67695
4.00-8.00	100-200	4	4	S781XTGZ	67696
4.00-6.00	100-150	2	1	S781XTKZ	67698
6.00-8.00	150-200	2	1	S781XTLZ	67699

Accessories

Description	Part No.	EDP No.
Cable Link to 772 Data Collector, 761 Multiplexer	PT61340	65648
Starrett Module #4 for 772 Data Collector, 761 Multiplexer	PT61285	65647
Two 3-volt Batteries, No. CR2032	PT99492	65650

Larger sizes available on special order.

Gages are also available with dial indicators on special order.



Extensions from 2 1/2-6" can be added to the No. 781XT Series, enabling internal measurements in deep hole bores.

Extensions

Catalog No.	EDP No.	Ext. Size		Fits Models	Model Size	
		Inches	mm		Inches	mm
78/782F	65484	2.5	63	78XT/780XT/781XT/782XT-312-375	1/4-5/16	6-8
78/782G	65485	3	75	78XT/780XT/781XT/782XT-375-500	3/8-1/2	10-12.5
78/782H	65486	4	100	78XT/780XT/781XT/782XT-625-750	1/2-3/4	12.5-20
78/782J	65487	6	150	78XT/780XT/781XT/782XT-1 thru 2	3/4-2	20-50
78/782K	65488	6	150	78XT/780XT/781XT/782XT-2 thru 12	2-12	50-300