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Starrett Co.
No. 78

BORE GAGES

NEW!

BORE GAGES

ELECTRONIC BORE GAGES



781BXT AccuBore® ELECTRONIC BORE GAGES WITH OUTPUT

.080"-8"/2-200MM

AccuBore is a high-quality, trigger-activated, two-point and 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 in the readout display that quickly indicates whether a bore measurement is within a preset tolerance.

FEATURES

- Bluetooth® capability
- 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
- 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 for .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. Download data via USB to a PC or RS232 connection.



781BXTZ-138

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 ensure 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 ensure 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



Output jack enables collection of measurement data for SPC analysis



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

BORE GAGES

781BXT AccuBore Electronic Bore Gages with Output – 2-Point Contact (.080-.250" (2-6mm) Range)

Cat. No.	EDP	Range in	mm	Accuracy in	mm	Approx Meas. Depth in	mm	Ring Diameter in	mm
781BXTZ-100	73017	.080-.100	2-2.5	.00015	.004	3/8	9	.100	2.54
781BXTZ-120	73016	.100-.120	2.5-3	.00015	.004	1/2	12	.160	4.06
781BXTZ-160	73014	.120-.160	3-4	.00015	.004	3/4	18	.200	5.08
781BXTZ-200	73012	.160-.200	4-5	.00015	.004	3/4	18	.200	5.08
781BXTZ-250	73011	.200-.250	5-6	.00015	.004	3/4	18	.200	5.08

781BXT AccuBore® Electronic Bore Gages with Output – 3-Point Contact (1/4-8" (6-200mm) Range) – Fixed Anvils

Cat. No.	EDP	Range in	mm	Accuracy in	mm	Approx Meas. Depth in	mm	Ring Diameter in	mm
781BXTZ-312	73009	1/4-5/16	6-8	.00015	.004	2-1/4	58	.3125	7.94
781BXTZ-375	73007	5/16-3/8	8-10	.00015	.004	2-1/4	58	.500	12.7
781BXTZ-500	73004	3/8-1/2	10-12.5	.00015	.004	2-1/4	58	.500	12.7
781BXTZ-625	73002	1/2-5/8	12.5-16	.00015	.004	2-3/8	62	.750	19.05
781BXTZ-750	73000	5/8-3/4	16-20	.00015	.004	2-3/8	62	.750	19.05
781BXTZ-1	73018	3/4-1	20-25	.00015	.004	2-5/8	66	.750	19.05
781BXTZ-138	73015	1-1-3/8	25-35	.00015	.004	2-5/8	66	1.375	34.93
781BXTZ-2	73013	1-3/8-2	35-50	.00015	.004	3-1/16	80	1.375	34.93
781BXTZ-258	73010	2-2-5/8	50-65	.0002	.005	3-1/16	80	2.625	65.68
781BXTZ-314	73008	2-5/8-3-1/4	65-80	.0002	.005	3-1/16	80	3.250	82.55
781BXTZ-4	73006	3-1/4-4	80-100	.0002	.005	3-3/8	85	3.250	82.55
781BXTZ-5	73005	4-5	100-125	.00025	.006	4	100	5.0	127.00
781BXTZ-6	73003	5-6	125-150	.00025	.006	4	100	5.0	127.00
781BXTZ-7	73001	6-7	150-175	.0003	.007	4	100	7.0	177.80
781BXTZ-8	72999	7-8	175-200	.0003	.007	4	100	7.0	177.80

Pistol Grip Gage Only with Indicator*

Cat. No.	EDP	Range in	mm
781BXT-250	73021	.080-.250	2-6
781BXT-750	73019	1/4-3/4	6-20
781BXT-4	73020	3/4-4	20-100
781BXT-12**	73022	4-8	100-200

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.



ELECTRONIC BORE GAGES

781BXT AccuBore® ELECTRONIC BORE GAGES

See specifications on previous pages

781BXT AccuBore Electronic Bore Gauge Set – 2-Point Contact (.080-.250" [2-6 mm] Range)

Cat. No.	EDP	Range in	mm	Number of Heads	Number of Rings
S781BXTBZ	72998	.080-.250	2-6	5	3

781BXT AccuBore Electronic Bore Gauge Sets –3-Point Contact (.250-8" [6-200mm] Range – Fixed Anvils)

Cat. No.	EDP	Range in	mm	Number of Heads	Number of Rings
S781BXTCZ	72997	.250-.375	6-10	2	1
S781BXTHZ	72992	.250-.750	6-20	5	3
S781BXTDZ	72996	.375-.750	10-20	3	2
S781BXTFZ	72995	.750-2.00	20-50	3	3
S781BXTJZ	72991	.750-4.00	20-100	6	4
S781BXTFZ	72994	2.00-4.00	50-100	3	2
S781BXTKZ	72990	4.00-6.00	100-150	2	1
S781BXTGZ	72993	4.00-8.00	100-200	4	4
S781BXTLZ	72989	6.00-8.00	150-200	2	1

Larger sizes available on special order.

Gages are also available with dial indicators on special order.

Accessories for 781BXT Electronic Internal Micrometers

Part No.	EDP	Description	Required for Initial Bluetooth® Connection	
			1 Device	> 1 Devices
PT61055	72941	770B Output Cable to USB		
PT61057	72942	770B Output Cable to USB with Footswitch		
		Free VMUX Software - 1 channel; visit starrett.com	x	
		Bluetooth® 4.0 dongle to PC VMUX Lite (1channel);	x	
PT02497	73447	VMUX standard (8 channels)		x
PT60996	72945	VMUX Standard Software (up to 32 tools)		x
PT99492	65650	Two 3-Volt Batteries, CR2032		
PT02498	73024	Bluetooth® 4.0 Indicator for 0.080-0.75" gages		
PT02499	73025	Bluetooth® 4.0 Indicator for 0.75-12" gages		

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 781XT, enabling internal measurements in deep hole bores

781BXTZ-500

S781BXTGZ

770BXTZ-250 Bore Gauge with PT24272 Depth Stop Collar



ELECTRONIC BORE GAGES

770BXT ELECTRONIC BORE GAGES WITH IP67 PROTECTION (WITH OUTPUT)

.080-12"/2-300MM

770BXT Electronic Internal Micrometers provide IP67 level of protection against coolant, water, dirt and dust in hostile shop environments. In addition, they offer extended travel, reducing the need to exchange anvils.



770BXT-138

FEATURES

- Wide measurement range without changing anvils
- Resolution to .00005" (0.001mm)
- Large high-contrast LCD digital readout is easy to read and reduces error
- RS232, USB, wireless output
- Carbide measuring faces on sizes above 1/2" (12.5mm) diameter
- Extensions available for deep holes
- Includes instant inch/millimeter conversion and preset + and - functions
- Precision ratchet stop provides correct contact pressure for accurate readings
- Each micrometer bore gage with head comes with a wooden case, complete with setting ring, contacts, adjusting wrench, spare battery, and instructions



NEW!

BORE GAGES

780XT Electronic Internal Micrometers, 2-Point Contact (.080-.250" (2-6mm) Range)

Cat. No.	EDP	Range		Accuracy		Approx. Meas. Depth		Ring Diameter	
		in	mm	in	mm	in	mm	in	mm
770BXTZ-100	72539	.080-.100	2-2.5	.00015	.004	3/8	9	.100"	2.54
770BXTZ-120	72540	.100-.120	2.5-3						
770BXTZ-160	72541	.120-.160	3-4	.00015	.004	15/32	12	.160"	4.06
770BXTZ-200	72542	.160-.200	4-5	.00015	.004	3/4	18	.160"	4.06
770BXTZ-250	72543	.200-.250	5-6	.00015	.004	3/4	18	.200"	5.08

780XT Electronic Internal Micrometers, 3-Point Contact (1/4-12" (6-300mm) Range), Fixed Anvils

Cat. No.	EDP	Range		Accuracy		Approx. Meas. Depth		Ring Diameter	
		in	mm	in	mm	in	mm	in	mm
770BXTZ-312	72544	1/4 - 5/16	6-8	.00015	.004	2-1/4	58	.3125	7.94
770BXTZ-375	72545	5/16 - 3/8	8-10						
770BXTZ-500	72546	3/8 - 1/2	10-12.5	.00015	.004	2-1/4	58	.500	12.7
770BXTZ-625	72547	1/2 - 5/8	12.5-16	.00015	.004	2-3/8	62	.500	12.7
770BXTZ-750	72548	5/8 - 3/4	16-20	.00015	.004	2-5/8	66	.750	19.05
770BXTZ-1	72549	3/4 - 1	20-25						
770BXTZ-138	72562	1 - 1-3/8	25-35	.00015	.004	3-1/16	80	1.375	34.93
770BXTZ-2	72563	1-3/8 - 2	35-50						
770BXTZ-258	72564	2 - 2-5/8	50-65	.00020	.005	3-1/16	80	2.625	65.68
770BXTZ-314	72566	2-5/8 - 3-1/4	65-80						
770BXTZ-4	72567	3-1/4 - 4	80-100	.00020	.005	4	100	3.250	82.55
770BXTZ-5	72568	4 - 5	100-125						
770BXTZ-6	72569	5 - 6	125-150	.00025	.006	4-1/2	115	5.0	127.00
770BXTZ-7	72570	6 - 7	150-175						
770BXTZ-8	72571	7 - 8	175-200	.00030	.007	4-1/2	115	7.0	177.80
770BXTZ-9	72572	8 - 9	200-225						
770BXTZ-10	72573	9 - 10	225-250	.00030	.007	4-5/8	118	9.0	228.60
770BXTZ-11	72574	10 - 11	250-275						
770BXTZ-12	72575	11 - 12	275-300	.00035	.009	4-5/8	118	11.0	279.40

See next page for sets.

Accessories for 770BXT Electronic Internal Micrometers

Part No.	EDP	Description	Required for Initial Bluetooth® Connection	
			1 Device	> 1 Devices
PT61055	72941	770B Output Cable to USB		
PT61057	72942	770B Output Cable to USB with Footswitch		
		Free VMUX Software - 1 channel; visit starrett.com	x	
PT02497	73447	Bluetooth® 4.0 dongle to PC Vmux Lite (1channel); VMUX standard (8 channels)	x	x
PT60996	72945	VMUX Standard Software (up to 32 tools)		x
PT99492	65650	Two 3-Volt Batteries, CR2032		

See next page for sets.

IP PROTECTION

An IP number is composed of two numbers, the first referring to protection against solid objects and the second against liquids.



First number 6: Totally protected against dust

Second number 7: Protection against submersion in water under standardized conditions of pressure for 30 minutes



ELECTRONIC BORE GAGES

770BXT ELECTRONIC BORE GAGES WITH IP67 PROTECTION (WITH OUTPUT)

See specifications on previous page



770BXT Electronic Internal Micrometer Sets, 2-Point Contact (.080-.250" [2-6mm] Range)

Cat. No.	EDP	Range in	mm	Number of Heads	Number of Rings
S770BXTBZ	72576	.080-.250	2-6		

770BXT Electronic Internal Micrometer Sets, 3-Point Contact (1/4-8" [6-200mm] Range), Fixed anvils

Cat. No.	EDP	Range in	mm	Number of Heads	Number of Rings
S770BXTCZ	72577	1/4-3/8	6-10	2	1
S770BXTDZ	72578	3/8-3/4	10-20	3	2
S770BXTFZ	72579	3/4-2	20-50	3	2
S770BXTFZ	72580	2-4	50-100	3	2
S770BXTKZ	72581	4-6	100-150	2	1
S770BXTGZ	72582	4-8	100-200	4	2
S770BXTLZ	72583	6-8	150-200	2	1



S770BXTKZ



VERNIER BORE GAGES

78XT BORE GAGES

.080-12"/1-300MM

The 78XT Bore Gages feature extended travel, reducing the need to exchange anvils. The ground contact points seat the internal micrometer faster and more accurately than the spherical contacts found in other gages. These rugged and accurate internal micrometers are available individually or in economical sets from .080-12" (2-300mm).

78XT Bore Gages, 2-Point Contact (.080-.250" Range)					
Cat. No.	EDP	Range (in)	Accuracy (in)	Approximate Measuring Depth (in)	Setting Ring Diameter (in)
78XTZ-100	68124	.080-.100	0.00015	3/8	.100
78XTZ-120	68125	.100-.120			
78XTZ-160	68126	.120-.160	0.00015	15/32	.160
78XTZ-200	68127	.160-.200	0.00015	3/4	.160
78XTZ-250	68128	.200-.250			.200
78XT Bore Gages, 3-Point Contact (1/4-12" Range)					
Cat. No.	EDP	Range (in)	Accuracy (in)	Approximate Measuring Depth (in)	Setting Ring Diameter (in)
78XTZ-312	68129	1/4-5/16			.3125
78XTZ-375	68130	5/16-3/8	.00015	2-1/4	.3125
78XTZ-500	68131	3/8-1/2			.500
78XTZ-625	68132	1/2-5/8	.00015	2-7/16	.500
78XTZ-750	68133	5/8-3/4			.750
78XTZ-1	68134	3/4-1	.00015	2-5/8	.750
78XTZ-138	67674	1-1-3/8			1.375
78XTZ-2	67675	1-3/8-2	.00015	3-1/16	1.375
78XTZ-258	67676	2-2-5/8	.00020	3-1/16	2.625
78XTZ-314	67677	2-5/8-3-1/4			
78XTZ-4	67678	3-1/4-4	.00020	4	3.250
78XTZ-5	67679	4-5	.00025	4	5.0
78XTZ-6	67680	5-6	.00025	4-1/2	5.0
78XTZ-7	67681	6-7			7.0
78XTZ-8	67682	7-8	.00030	4-1/2	7.0
78XTZ-9	67857	8-9			9.0
78XTZ-10	67858	9-10	.00030	4-5/8	9.0
78XTZ-11	67859	10-11			
78XTZ-12	67860	11-12	.00035	4-5/8	11.0

78XT Sets, 2-Point Contact (.250" Range)				
Cat. No.	EDP	Range (in)	Number of Heads	Number of Rings
S78XTBZ	68152	.120-.250	3	2
78XT Sets, 3-Point Contact (1/4-4" Range)				
Cat. No.	EDP	Range (in)	Number of Heads	Number of Rings
S78XTCZ	68153	1/4-3/8	2	1
S78XTDZ	68154	3/8-3/4	3	2
S78XTEZ	67683	3/4-2	3	2
S78XTFZ	67684	2-4	3	2



78XTZ-2

FEATURES

- Wide measurement range without changing anvils
- Resolution from .0001" (0.0025mm) on the 2-point contact tool up to 3/4" (20mm) and .00025" (0.005mm) on the 3-point contact tools ranging from 3/4"-12" (20mm - 300mm)
- Tungsten carbide measuring faces on all 3-point heads above 1/2" (12.5mm)
- Ratchet stop ensures consistent measurements
- Self-centering contacts for true readings
- Blind bore measuring capability above 1/2" (12.5mm) diameter
- Extensions available up to 6" (150mm) for deep hole measuring
- Setting rings included
- Depth stop/collar also available for .080"-.250" (1-6mm) range
- Each micrometer bore gage is furnished in a case, complete with setting ring, contacts, wrenches, and instructions



78XTZ-138 measuring a bore.



ELECTRONIC BORE GAGES

78MXT BORE GAGES

See specifications on previous page

78MXT Bore Gages, 2-Point Contact (1-6mm Range)

Cat. No.	EDP	Range (mm)	Accuracy (mm)	Approximate Measuring Depth (mm)	Setting Ring Dia (mm)
78MXTZ-1.15	68135	1-1.15	0.003	6	1
78MXTZ-1.3	68136	1.15-1.3	0.003	6	1.3
78MXTZ-1.5	68137	1.3-1.5	0.003	6	1.5
78MXTZ-1.75	68138	1.5-1.75	0.003	8	1.75
78MXTZ-2	68139	1.75-2	0.003	8	2
78MXTZ-2.5	68140	2-2.5	0.004	9	2.5
78MXTZ-3	68141	2.5-3	0.004	12	3
78MXTZ-4	68142	3-4	0.004	12	4
78MXTZ-5	68143	4-5	0.004	18	5
78MXTZ-6	68144	5-6	0.004	18	6

78MXT Bore Gages, 3-Point Contact (6-300mm Range)

Cat. No.	EDP	Range (mm)	Accuracy (mm)	Approximate Measuring Depth (mm)	Setting Ring Dia (mm)
78MXTZ-8	68145	6-8mm	0.004	58	8
78MXTZ-10	68146	8-10mm	0.004	58	10
78MXTZ-12.5	68147	10-12.5mm	0.004	58	12.5
78MXTZ-16	68148	12.5-16mm	0.004	62	16
78MXTZ-20	68149	16-20mm	0.004	62	20
78MXTZ-25	68150	20-25mm	0.004	66	25
78MXTZ-35	67861	25-35mm	0.004	66	35
78MXTZ-50	67862	35-50mm	0.004	80	50
78MXTZ-65	67863	50-65mm	0.005	80	65
78MXTZ-80	68650	65-80mm	0.005	80	80
78MXTZ-100	67864	80-100mm	0.005	100	100
78MXTZ-125	67865	100-125mm	0.006	115	125
78MXTZ-150	67866	125-150mm	0.006	115	150
78MXTZ-175	67867	150-175mm	0.007	115	175
78MXTZ-200	67868	175-200mm	0.007	115	200
78MXTZ-225	67869	200-225mm	0.008	118	225
78MXTZ-250	67870	225-250mm	0.008	118	250
78MXTZ-275	67871	250-275mm	0.009	118	275
78MXTZ-300	67872	275-300mm	0.009	118	300

78MXT Sets, 2-Point Contact (2-6mm Range)

Cat. No.	EDP	Range (mm)	Number of Heads	Number of Rings
S78MXTAZ	68155	2-3	2	1
S78MXTBZ	68156	3-6	3	2

78XT Sets, 3-Point Contact (6-100mm Range)

Cat. No.	EDP	Range (mm)	Number of Heads	Number of Rings
S78MXTCZ	68157	6-10	2	1
S78MXTDZ	68158	10-20	3	2
S78MXTFZ	67873	20-50	3	2
S78MXTFZ	67874	50-100	3	2



780MXTZ-150 in case



ADDITIONAL OPTIONS FOR 781B, 770B, 78 BORE GAGES

SPARE MEASURING HEADS

Cat. No.	EDP	Range (in)
HEAD100	73075	0.080-0.100
HEAD120	73078	0.100-0.120
HEAD160	73080	0.120-0.160
HEAD200	73082	0.160-0.200
HEAD250	73083	0.200-0.250
HEAD312	73085	1/4-5/16
HEAD375	73087	5/16-3/8
HEAD500	73090	3/8-1/2
HEAD625	73092	1/2-5/8
HEAD750	73094	5/8-3/4
HEAD1	73073	3/4-1.0
HEAD138	73079	1-1-3/8
HEAD2	73081	1-3/8-2
HEAD258	73084	2-2 5/8
HEAD314	73086	2-5/8-3-1/4
HEAD4	73088	3-1/4-4
HEAD5	73089	4.0-5.0
HEAD6	73091	5.0-6.0
HEAD7	73093	6.0-7.0
HEAD8	73095	7.0-8.0
HEAD9	73096	8.0-9.0
HEAD10	73074	9.0-10.0
HEAD11	73076	10.0-11.0
HEAD12	73077	11.0-12.0

SPARE SETTING RINGS

Cat. No.	EDP	Range (in)
RING100	73097	0.1000
RING160	73100	0.1600
RING200	73101	0.2000
RING312	73103	5/16
RING500	73106	1/2
RING750	73108	3/4
RING138	73099	1-3/8
RING258	73102	2-5/8
RING314	73104	3-1/4
RING5	73105	5
RING7	73107	7
RING9	73109	9
RING11	73098	11



INREACH EXTENSIONS FOR 770B, 781B, 781 BORE GAGES

Extensions from 2-1/2 - 6" can be added to both the 770BXT and 78XT, enabling internal measurements in deep hole bores (Multiple extensions can also be used).

Internal Extensions						
Cat. No.	EDP	Ext. Size in	mm	Fits Models	Model Size in	mm
78/782F	65484	2.5	63	78XT/770BXT/781BXT-312-375	1/4-3/8	6-10
78/782G	65485	3	75	78XT/770BXT/781BXT-375-500	3/8-1/2	10-12.5
78/782H	65486	4	100	78XT/770BXT/781BXT-625-750	1/2-3/4	12.5-20
78/782J	65487	6	150	78XT/770BXT/781BXT-1 thru 2	3/4-2	20-50
78/782K	65488	6	150	78XT/770BXT/781BXT-2 thru 12	2-12	50-300



78-782J with 770BZ-2

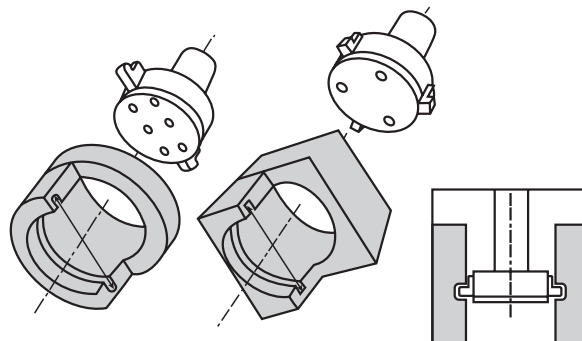


SPECIAL BORE GAGE MEASURING HEADS

We offer several configurations of special purpose measuring heads for 780, and 781 Bore Gages, available by special order. Some, but not all, of these will also work with the 78 Bore Gages.

GROOVE MEASURING HEADS

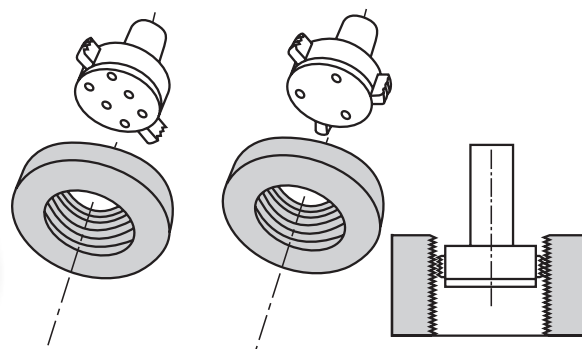
- **Groove.** Available as a 2-point system for ovality measurement.
- Various 2-point anvil forms available with diameters from .080-12" (2-300mm).
- **Grooves.** Available as a 3-point system
- Various 3-point anvil forms available for diameters from .250-12" (6-300mm).



THREAD MEASURING HEADS

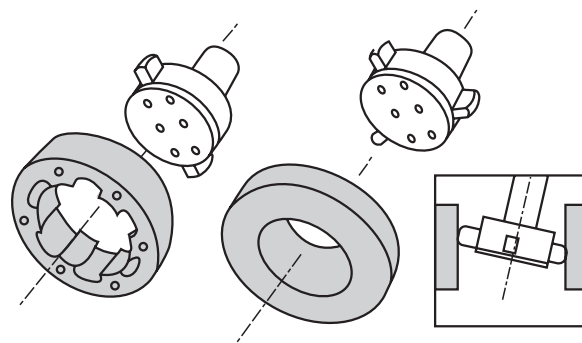
Thread Measuring Heads are available as two point system from 8 to 5/16" (M4-8mm) and three point system from 3/8"-12" (9.5-300mm). Most forms available including UNC, UNF, UNJ, UNS, Buttress, Acme, Multi-start, LH and RH.

- **Thread.** Thread forms available as a 3-point system.
- **Internal.** To measure effective (functional) diameter, pitch diameter.
- Available as two point system from 8 to 5/16" (M4-8mm) Available as three point system from 3/8"-12" (9.5-300mm).
- Most forms available including UNC, UNF, UNJ, UNS, Buttress, Acme, Multi-start, LH and RH.



SPHERICAL RADIUS MEASURING HEADS

- **Spherical Radius.** Available as 2-point to measure ovality or with 3-point contact.
- Available with diameters from .236-3.93" (6-100mm).
- **3-Point Spherical.** Available in .118-12" (3-300mm) range.
- Gives good repeatability even when somewhat out of line with bore center.



DIAL BORE GAGES

3089 DIAL BORE GAGES

The 3089 Dial Bore Gages offer precision, a full compliment of features and excellent value.

3089 Dial Bore Gages			
Cat. No.	EDP	Measuring Range	Probe Depth
3089Z-131-715J	12456	0.7-1.5"	6"
3089Z-131-1424J	12457	1.4-2.4"	6"
3089Z-131-26J	12458	2-6"	6"
3089M-181-35J	72948	18-35mm	300mm
3089M-181-50J	72949	35-50mm	300mm
3089M-181-160J	72950	50-160mm	300mm
3089 Dial Bore Gage Sets			
Cat. No.	EDP	Measuring Range	Set Includes
3089Z-131-26J	13016	0.7-6"	3089Z-131-715J, 3089Z-131-1424J, 3089Z-131-26J
S3089MZ-181-160J	13015	50-160mm	3089M-181-35J, 3089M-181-50J, 3089M-181-160J
3089 Dial Bore Gage Accessories			
Cat. No.	EDP	Description	
3089-RS36B	72969	Bore gage setter with 36 Grade B gage blocks	



3089Z-131-26J



3089-RS36B



3089Z-131-26J

Probes

FEATURES

- Ergonomic design with non-slip insulating grip
- Carbide contacts for extended wear
- 2-point contact
- All anvils laser marked for easy selection
- Gage chart for quick and easy anvil selection
- Includes sturdy aluminum case with cutouts for gage and all accessories
- Resolution: .0005"

NEW!

BORE GAGES



DIAL BORE GAGES

82, 82M DIAL BORE GAGES

.107-1.565"/2.7-39.75MM

Dial bore gages are available in convenient sets or with individual probes and dial indicators. Each set consists of a dial indicator, a body and actuating rod, two adjusting wrenches and the probes as specified below.

The head may be ordered separately (includes dial indicator, body, and two adjusting wrenches). Individual probes can also be ordered as listed. All probes are furnished with an actuating rod. These gages are also available with electronic indicators by special order.

Measurements are taken by comparison so some type of set master should be used as a reference standard. We recommend setting as close to the hole being measured as possible, and this can be easily done with gage blocks or with a micrometer. We can also furnish master setting rings by request.

- The split-ball contact is self-centering and the two-point contact makes the gage useful for detecting hole geometry problems like taper, bell-mouth and out-of-roundness
- Reads to .0001" and 0.002mm
- Useful for controlling approach to tolerance without removing the workpiece from a machine
- Interchangeable probes are hard chrome plated and polished
- Sets furnished in attractive, protective case.

A Sets Individual Probes Only for 82 and 82M Bore Gages

Cat. No.	EDP	Range in	mm
82A2	66015	.107-.140	2.7-3.55
82A3	66016	.139-.172	3.55-4.35
82A4	66017	.171-.203	4.35-5.15
82A5	66018	.202-.234	5.15-5.95
82A6	66019	.233-.266	5.9-6.76

B Sets Individual Probes Only for 82 and 82M Bore Gages

Cat. No.	EDP	Range in	mm
82B2	66020	.217-.281	5.5-7.15
82B3	66021	.279-.344	7.1-8.75
82B4	66022	.342-.405	8.7-10.3
82B5	66023	.403-.469	10.25-11.9
82B6	66024	.467-.532	11.9-13.5
82B7	66025	.530-.594	13.5-15.1

C Sets Individual Probes Only for 82 and 82M Bore Gages

Cat. No.	EDP	Range in	mm
82C2	66028	.560-.690	14.2-17.5
82C3	66029	.685-.815	17.4-20.7
82C4	66030	.810-.940	20.6-23.9
82C5	66031	.935-1.065	23.75-27.05
82C6	66032	1.060-1.190	26.9-30.2
82C7	66033	1.185-1.315	30.1- 33.4
82C8	66034	1.310-1.440	33.3-36.6
82C9	66035	1.435-1.565	36.5-39.75

All probes come complete with actuating rod.



82 Dial Bore Gages

Complete Sets	Heads	EDP	Total Range	Number of Probes	Range Each Probe	Max. Bore Depth	Graduation
Cat. No.	EDP	Cat. No.	EDP				
82AZ	55791	82AB1	66013	5	.107-.140"; .139-.172"; .171-.203"; .202-.234"; .233-.266"	13/16"	.0001"
82BZ	55792	82AB1	66013	6	.217-.281"; .279-.344"; .342-.405"; .403-.469"; .467-.532"; .530-.594"	1-1/2" 1-3/4"	.0001"
82CZ	55793	82C1	66026	8	.560-.690"; .685-.815"; .810-.940"; .935-1.065"; 1.060-1.190"; 1.185-1.315"; 1.310-1.440"; 1.435-1.565"	2-1/2" 5"	.0001"

82M Dial Bore Gages

Complete Sets	Heads	EDP	Total Range	Number of Probes	Range Each Probe	Max. Bore Depth	Graduation
Cat. No.	EDP	Cat. No.	EDP				
82MAZ	66010	82MAB1	66014	5	2.7-3.55mm; 3.55-4.35mm; 4.35-5.15mm; 5.15-5.95mm; 5.95-6.76mm	20.6mm	0.002 mm
82MBZ	66011	82MAB1	66014	6	5.5-7.15mm; 7.1-8.75mm; 8.7-10.3mm 10.25-11.9mm; 11.9-13.5mm; 13.5-15.1mm	38mm 44mm	0.002 mm
82MCZ	66012	82MC1	66027	8	14.2-17.5mm; 17.4-20.7mm; 20.6-23.9mm 23.75-27.05mm; 26.9-30.2mm; 30.1-33.4mm; 33.3-36.6mm; 36.5-39.75mm	63mm 125mm*	0.002 mm

* Includes insertion of gage body into bore.



DIAL BORE GAGES

84A, 84MA DIAL BORE GAGES

1-1/2 – 12-1/8"/38-317.5MM

These fractional bore gages allow for bore measurements beyond the size range of our 82 Bore Gage.

They are comparison gages and should be set with a master ring gage, gage blocks with parallel jaws, outside micrometers or vernier calipers. Ring gages are available by request, quoted by application. Good practice is to set the gage to zero, as near to the desired dimension as possible.

Gages are well balanced, easy to use and have the following features:

- Can be easily held to inspect bores and hole sizes without removing the workpiece
- An adjustable range screw and two centralizing plungers provide accurate, three-point contact for tool alignment in larger bores
- All contacts and centralized plungers are hardened tool steel for wear and spring-loaded for sensitivity
- The housing and knurled handle are aluminum for light weight and good balance
- Dial indicators have jewel bearings for sensitivity
- Bore depths are also available up to 12" (300mm) in 1" (25mm) increments on special order
- Furnished in finished wood case
- Available with longer reach lengths, carbide contacts or electronic indicators with output capability from our special order division



84AZ-111-5

84MAZ-161-6

BORE GAGES

84A Dial Bore Gages (1-1/2 - 12-1/2" Range)

Cat. No.	EDP	Total Range with Extension	Ext.	Range Each Extension (inches)	Max. Bore Depth	Plunger Travel	Indicator Grad.
84AZ-111-4J	00026	1-1/2-3"	12	1.500-1.625", 1.625-1.750", 1.750-1.875", 1.875-2.000", 2.000-2.125", 2.125-2.250",	3"	.020"	.0001"
84AZ-134-4J	00030			2.250-2.375", 2.375-2.500", 2.500-2.625", 2.625-2.750", 2.750-2.875", 2.875-3.000"			
84AZ-111-5J	00027	3-5-1/16"	11	3.000-3.187", 3.187-3.375", 3.375-3.562", 3.562-3.750", 3.750-3.937", 3.937-4.125",	6"	.030"	.0001"
84AZ-134-5J	00031			4.125-4.312", 4.312-4.500", 4.500-4.687", 4.687-4.875", 4.875-5.062"			
84AZ-111-6J	00028	5-8"	4	5.000-5.750", 5.750-6.500", 6.500-7.250", 7.250-8.000"	6"	.030"	.0001"
84AZ-134-6J	00032						
84AZ-111-7J	00029	8-12-1/2"	3	8.000-9.500", 9.500-11.000", 11.000-12.500"	7"	.030"	.0001"
84AZ-134-7J	00033						

84MA Dial Bore Gages (38.1 - 317.5mm Range)

Catalog No.	EDP	Total Range with Extension	Ext.	Range Each Extension (mm)	Max. Bore Depth	Plunger Travel	Indicator Grad.
84MAZ-161-4J	00034	3.175-76.2mm	12	38.1-41.28mm, 41.28-44.45mm, 44.45-47.62mm, 47.62-50.8mm, 50.8-53.98mm, 53.98-57.15mm, 57.15-60.32mm, 60.32-63.5mm, 63.5-66.68mm, 66.68-69.85mm, 69.85-73.02mm, 73.02-76.2mm	75mm	0.51mm	0.002 mm
84MAZ-181-4J	00038						
84MAZ-161-5J	00035	76.2-128.58mm	11	76.2-80.96mm, 80.96-85.72mm, 85.72-90.49mm, 90.49-95.25mm, 95.25-100.01mm, 100.01-104.78mm, 104.78-109.54mm, 109.54-114.3mm, 114.3-119.06mm, 119.06-123.82mm, 123.82-128.58mm	150mm	0.76mm	0.002 mm
84MAZ-181-5J	00039						
84MAZ-161-6J	00036	127-203.2mm	4	127-146.05mm, 146.05-165.1mm, 165.1-184.15mm, 184.15-203.2mm	150mm	0.76mm	0.002 mm
84MAZ-181-6J	00040						
84MAZ-161-7J	00037	203.2-317.5mm	3	203.2-241.3mm, 241.3-279.4mm, 279.4-317.5mm	175mm	0.76mm	0.002 mm
84MAZ-181-7J	00041						



BORE GAGE SYSTEMS

AccuPlug™ BORE GAGES

The AccuPlug consists of interchangeable indicators, handles, plugs, extensions and depth stops for a custom bore gage built specifically for your application needs.

The robust, easy to use AccuPlug range is designed to give the operator greater speed of use, unmatched measuring accuracy and superb repeatability, especially in harsh shop-floor environments. Advanced hand held ergonomics allied to an ingenious mechanical/electronic system render AccuPlug the easiest to operate Starrett bore gaging system to date. The flexible nature of the AccuPlug™ range means that they can be supplied fitted with easy to read electronic indicators (ideal for automatic data collection) or conventional analogue indicators.



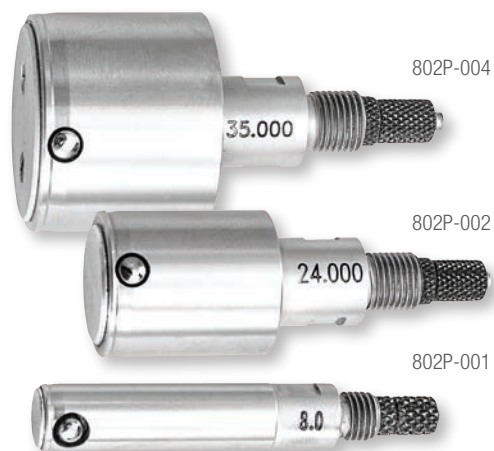
FEATURES

- Ranges from 0.2362 - 11.0236" (6 - 280mm)
- Tough, robust construction
- Easy-to-use
- High accuracy dedicated plug-gages
- Flexible, modular
- Hand-held measurement
- Cost-effective
- High visibility display
- Protective indicator shroud (with some indicators)
- All setting rings supplied as standard with UKAS calibration certificates
- Repeatability: $\leq 1\mu\text{m}$
- Setting by means of a setting ring
- Quick and reliable measurement
- 2 - point measurement as standard
- Blind bore available
- Depth-stops available
- Extensions available for deeper bores
- Guide chamfer for easy entry into bore
- High durability, long-life plugs and contacts
- Easy to clean
- Plug body coatings: Hard-chrome (standard), T.i.N, Plain steel
- Measuring contacts: Tungsten carbide (standard), hard-chrome, ruby, ceramic



BORE GAGE SYSTEMS

AccuPlug™ BORE GAGES



AccuPlug™

Regular Bore*

Cat. No.	in	mm	Thread
802P-001	0.2362-0.7874	6-20	M6 x 0.75
802P-002	0.5906-0.9843	15-25	M10 x 1
802P-003	0.9843-1.3780	25-35	M10 x 1
802P-004	1.3780-1.7717	35-45	M10 x 1
802P-005	1.7717-2.3622	45-60	M10 x 1
802P-006	2.3622-3.1496	60-80	M10 x 1
802P-007	3.1496-3.9370	80-100	M10 x 1
802P-008	3.9370-4.9213	100-125	M10 x 1
802P-009	4.9213-5.9055	125-150	M10 x 1
802P-010	5.9055-6.8898	150-175	M10 x 1
802P-011	6.8898-7.8740	175-200	M10 x 1
802P-012	7.8740-8.8583	200-225	M10 x 1
802P-013	8.8583-9.8425	225-250	M10 x 1
802P-014	9.8425-11.0236	250-280	M10 x 1

Blind Bore*

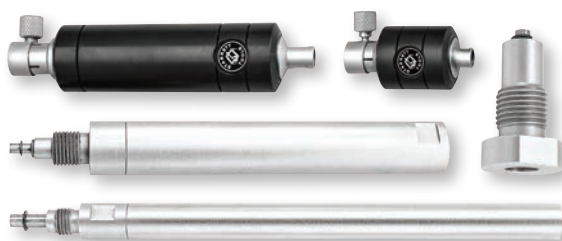
Cat. No.	in	mm	Thread
802BB-001	0.2362-0.7874	6-20	M6 x 0.75
802BB-002	0.5906-0.9843	15-25	M10 x 1
802BB-003	0.9843-1.3780	25-35	M10 x 1
802BB-004	1.3780-1.7717	35-45	M10 x 1
802BB-005	1.7717-2.3622	45-60	M10 x 1
802BB-006	2.3622-3.1496	60-80	M10 x 1
802BB-007	3.1496-3.9370	80-100	M10 x 1
802BB-008	3.9370-4.9213	100-125	M10 x 1
802BB-009	4.9213-5.9055	125-150	M10 x 1

*See Technical Specifications for plug ranges.

Indicators

Cat No.	EDP	Description
2900-4	09983	0.0005"/.001mm Electronic Indicator, Full Function, 3/8" Stem
2900-4M	09988	0.001mm Electronic Indicator, Full Functions, 8mm Stem
F2720AD	49500	0.0005"/.001mm Electronic Indicator, Full Function with TIR Runout and Hold Function, 3/8" Stem, Analog Digital Display
F2720ADM	49504	0.0005"/.001mm Electronic Indicator, Full Function with TIR Runout and Hold Function, 8mm Stem, Analog Digital Display
647	00001	0.0005" Mechanical Indicator with 3/8" Stem
647M	00002	0.001mm Mechanical Indicator with 8mm Stem
M 10 Thread	M 6 Thread	Mini Electronic Indicator
802H10MI-001	802H6MI-001	With Shroud and M10 Holder Short 8mm Stem
802H10MI-002	802H6MI-002	With Shroud and M10 Holder Long 8mm Stem





Accessories

M 6 Thread

Cat No.	Description
802H6-001	M6 Holder Short 3/8" Stem
802H6-002	M6 Holder Long 3/8" Stem
802H6-003	M6 Holder Short 8mm Stem
802H6-004	M6 Holder Long 8mm Stem
802E6-001	M6 100mm Extension

M 10 Thread

Cat No.	Description
802H10-001	M10 Holder Short 3/8" Stem
802H10-002	M10 Holder Long 3/8" Stem
802H10-003	M10 Holder Short 8mm Stem
802H10-004	M10 Holder Long 8mm Stem
802E10-001	M10 100mm Extension

Setting Rings

Cat. No.	Diameter Range	
	in	mm
802RX-001	0.2362-0.3937	6-10
802RX-002	0.3937-0.7874	10-20
802RX-003	0.7874-0.9843	20-25
802RX-004	0.9843-1.1811	25-30
802RX-005	1.1811-1.5748	30-40
802RX-006	1.5748-1.9685	40-50
802RX-007	1.9685-2.3622	50-60
802RX-008	2.3622-2.7559	60-70
802RX-009	2.7559-3.1496	70-80
802RX-010	3.1496-3.5433	80-90
802RX-011	3.5433-3.9370	90-100
802RX-012	3.9370-4.5276	100-115
802RX-013	4.5276-5.1181	115-130
802RX-014	5.1181-5.7087	130-145
802RX-015	5.7087-6.2992	145-160
802RX-016	6.2992-6.6929	160-170
802RX-017	6.6929-7.0866	170-180
802RX-018	7.0866-7.4803	180-190
802RX-019	7.4803-7.8740	190-200
802RX-020	7.8740-8.2677	200-210
802RX-021	8.2677-8.6614	210-220
802RX-022	8.6614-9.0551	220-230
802RX-023	9.0551-9.4488	230-240
802RX-024	9.4488-9.8425	240-250
802RX-025	9.8425-10.2362	250-260
802RX-026	10.2362-10.6299	260-270
802RX-027	10.6299-11.0236	270-280

*Available with purchase of AccuPlug™

Depth Stop

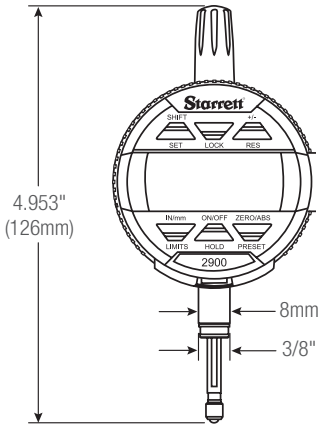
Cat. No.	Diameter Range	
	in	mm
802DS-001	2.3622-0.3347	6-8.5
802DS-002	0.3347-0.5118	8.5-13
802DS-003	0.5118-0.6890	13-17.5
802DS-004	0.6890-0.9843	17.5-25
802DS-005	0.9843-1.2795	25-32.5
802DS-006	1.2795-1.5748	32.5-40
802DS-007	1.5748-1.8701	40-47.5
802DS-008	1.8701-2.1654	47.5-55
802DS-009	2.1654-2.4606	55-62.5
802DS-010	2.4606-2.7559	62.5-70
802DS-011	2.7559-3.0512	70-77.5
802DS-012	3.0512-3.3465	77.5-85
802DS-013	3.3465-3.6417	85-92.5
802DS-014	3.6417-3.9370	92.5-100



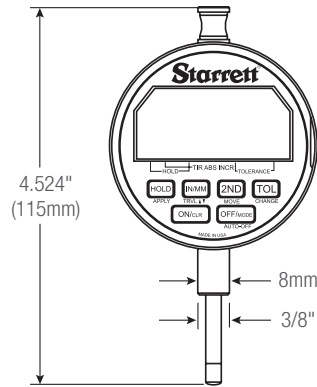
BORE GAGE SYSTEMS

AccuPlug™ BORE GAGING TECHNICAL SPECIFICATIONS

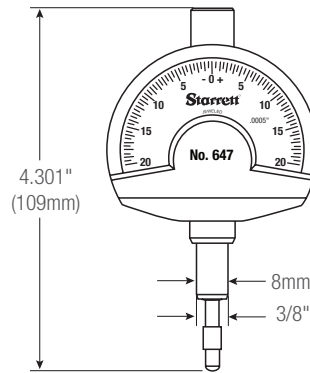
INDICATOR UNITS 8MM AND 3/8"



2900-4 and 2900-4M

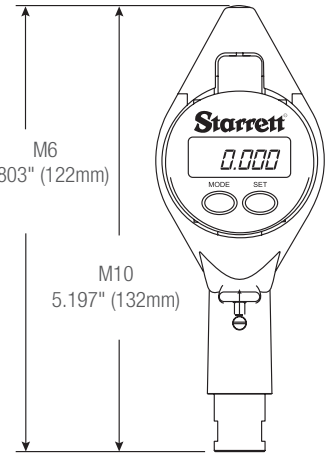


F2720AD and F2720ADM



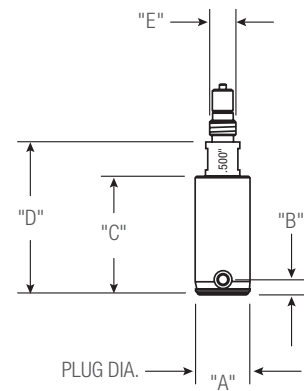
647 and 647M

MINI INDICATOR UNITS

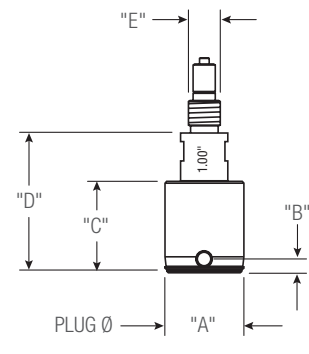


Mini indicator with shroud,
short handle - M6 and M10

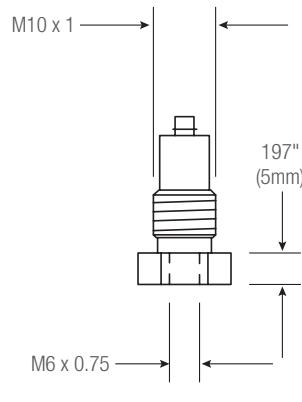
AccuPlugs



M6 AccuPlug

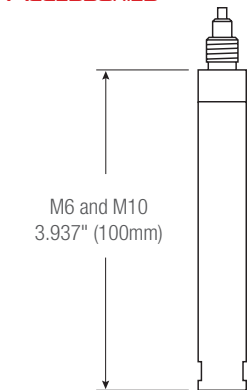


M10 AccuPlug

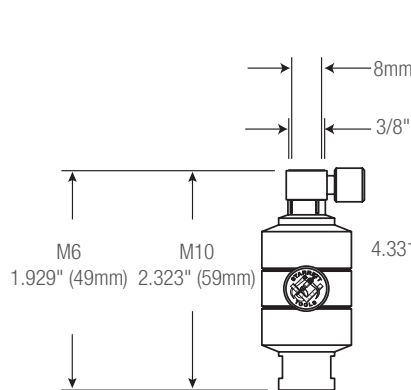


M6 to M10 Adapter

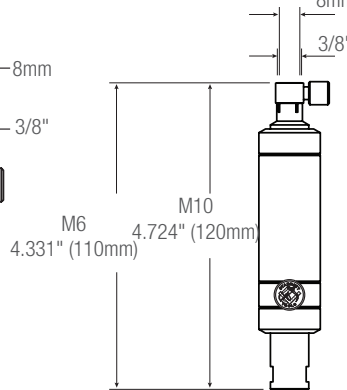
ACCESSORIES



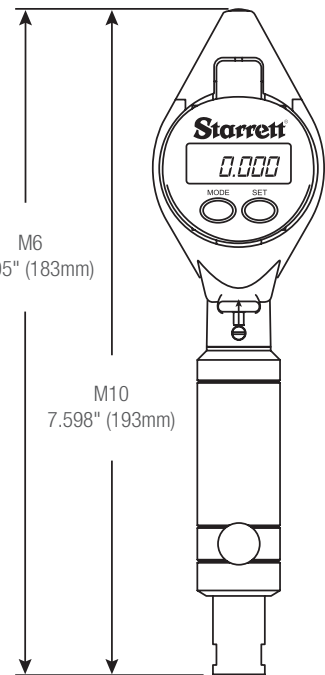
100mm Extension - M6 and M10



Short holder M6 and M10
with 3/8" or 8mm stem



Long holder M6 and M10
with 3/8" or 8mm stem



Mini indicator with shroud,
long handle - M6 and M10

AccuPlug Dimension Specifications

Plug Diameter "A"		Range		B		C		D		E
in	mm	in	mm	in	mm	in	mm	in	mm	
0.2362-0.7874	6-20	.006	0.15	.138	3.5	1.063	27	1.378	35	M6 x 0.75
0.5906-1.7717	15-45	.008	0.20	.177	4.5	1.102	28	1.713	43.5	M10 x 1
1.7717 - 2.756	45-70	.008	0.20	.217	5.5	1.102	28	1.732	44	M10 x 1
2.756-11.0236	70-280	.008	0.20	.217"	5.5	1.378	35	1.732	44	M10 x 1

