



## DIAL AND ELECTRONIC INDICATORS AND HOLDERS



J.W. DONCHIN CO. 4841-43 W. Chicago Ave. • Chicago, IL 60651-3224  
Ph: 773-261-2182 • Fax: 773-261-2867 • [Sales@jwdonchin.com](mailto:Sales@jwdonchin.com) • [www.jwdonchin.com](http://www.jwdonchin.com)

### DIAL & ELECTRONIC INDICATORS & HOLDERS

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### Mechanical Dial Indicators and Attachments

### Electronic Indicators

### Indicator Holders

Accurate, rugged, versatile, convenient to use and inexpensive —for these reasons and more, mechanical dial indicators with bottom plungers are the measurement workhorses of industrial production.

Electronic indicators have an unmatched ability for the accurate recording of a great amount of measurement data which is used in a variety of Statistical Process Control (SPC) operations.

The first part of this section shows our complete line of mechanical/analog dial indicators – over 180 models to give you the widest selection in the industry. Our comparison guide, following these introduction pages, has all the significant specifications to help you make your selection.

### Application Specification Factors

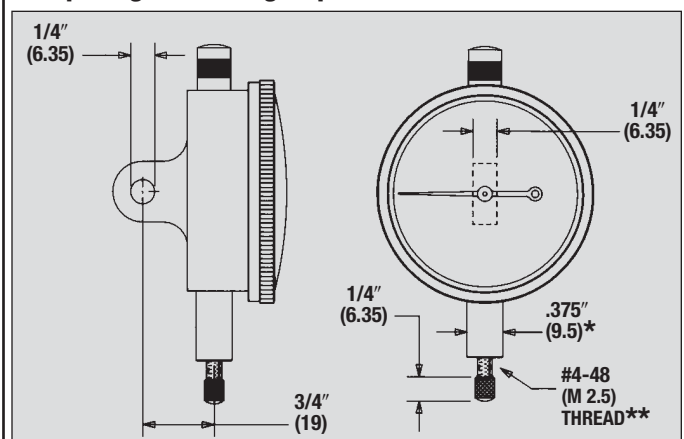
1. Regular analog styles with indicating hands are more readable than digital styles when the measurements are being visually monitored by an operator.
2. Select the dial size that gives you the readability you need. We offer five regular dial sizes which will fit most applications that have both space limitations and readability requirements.
3. Choose the accuracy and readout you need – don't select a .0001" (or 0.001mm) readout if .001" (or 0.01mm) will do your job.
4. Electronic styles are best when the measurement data needs to be collected, printed out or stored for future use.
5. Consider any special features you may need – inch or millimeter reading, special shockless movement, antimagnetic, long range, long stem, special backs, special contacts, special holders, etc. If you don't see what you need, please contact our Special Order Department. Even though we have a broad line of indicators to tackle most jobs, we also do a lot of special design, catering to the specific needs of our customers – challenge us!
6. Starrett indicators are made to American Gage Design Specifications (AGD). These specifications were developed in 1945 at the request of the U.S. Commerce Department through the National Bureau of Standards – now the National Institute of Standards and Technology (NIST). These specifications provide the dimensions to allow interchangeability between indicators of different manufacturers in fixturing. As you will see, these dimensions pertain to sizes for space consideration and for holding. Other countries have made their own design specifications which we can also furnish. However, the AGD design is probably more widely used, simply because it was the first standard created.
7. Basically, all dial indicators used worldwide fall into the following size ranges which relate to bezel diameters. Size 0 is a smaller dial indicator, having its own dimensions. Sizes 1 through 4 are AGD sizes. These sizes and the AGD dimensions

### The AGD Design Specifications

#### Bezel Diameters

	Size Group	Minimum Diameter		Maximum Diameter	
		Inch	mm	Inch	mm
	0	1"	25mm	1 3/8"	35mm
AGD	1	1 3/8"	35mm	2"	50mm
	2	2"	50mm	2 3/8"	60mm
	3	2 3/8"	60mm	3"	75mm
	4	3"	76mm	3 3/4"	95mm

### Comparing AGD Design Specifications with Others



\*There are two major differences between American Gage Design and other specifications. The first is the stem diameter. AGD specifies .375" (9.5mm) and some other standards specify an 8mm (.315") diameter. International specifications allow for either one and we can furnish both diameters. The .375" (9.5mm) diameter provides a little more protection for the rack when clamped on the stem – 8mm stems are available on any model, please specify when ordering.

\*\*The other difference is the contact thread. AGD specifies a #4-48 thread. Other standards specify a metric thread, #M2.5.

are essentially the same for all manufacturers, except as noted.

8. Accuracy – All indicators should be "loaded" 1/8-1/4 of a turn before testing or measuring. Starrett dial indicators meet or exceed all known performance specifications. Most accuracies are specified plus or minus one graduation over the full range. This basically means a 2 1/2 turn range. Longer ranges have slightly wider tolerances. Starrett indicators are at least that accurate, but we are better than that in the final critical measuring zone of "10 o'clock to 2 o'clock" from zero.

AGD specifies 2 1/3 turn indicators to cover any particular range. The reason for this is that in an effort to get the most out of the indicator, the operator "loads" it to about 1 1/3 turns and sets zero on his master. The indicator will now show the accurate deviation for a full revolution, plus or minus.



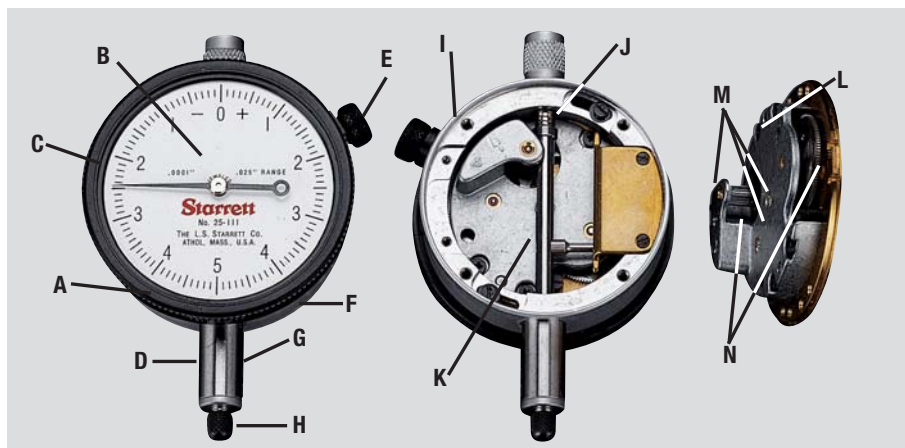
# DIAL AND ELECTRONIC INDICATORS AND HOLDERS

**Starrett®**

## Starrett Dial Indicator Design Features

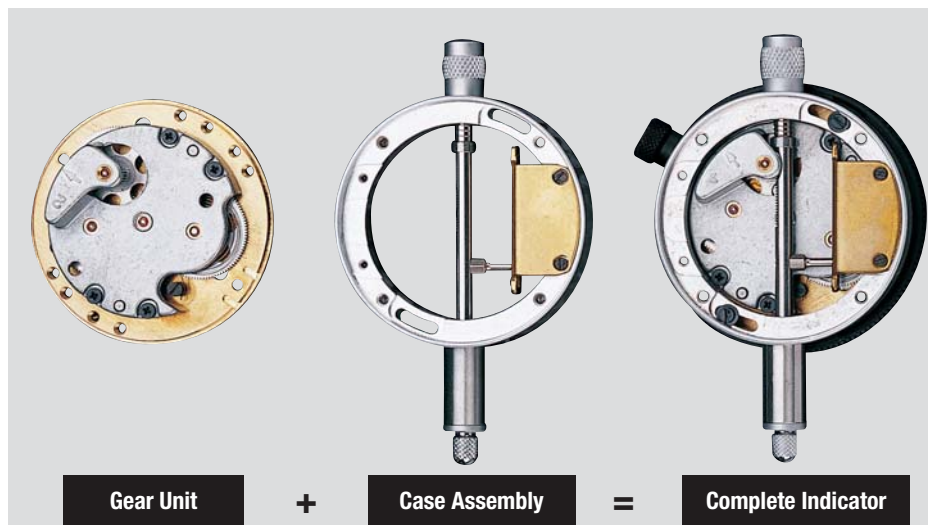
Unit construction is rugged and simple with a “universally fitting” design as shown in the photo below. (The same gear unit assembly fits the following:)

- ◆ AGD Group 2 (our No. 25 Series)
- ◆ AGD Group 3 (our No. 655 Series)
- ◆ AGD Group 4 (our No. 656 Series)
- ◆ The gear unit is constructed of a massive single bridge and plate assembly with a hardened stainless steel gear train
- ◆ All gear trains are fully jeweled for sensitivity, smoothness and life. (We do provide 1/2" and 1" range models with plain bronze bearings)
- ◆ The case is light but sturdy, with a hardened, precision stainless steel rack that rides in bronze bushings. Size Groups 0 and 1 indicators are of similar construction but smaller in size
- ◆ Hardened stainless steel bottom stems can be held in fixtures without cramping rack action
- ◆ Easy readability with the best, balanced style of graduation and number combination. (Too thick and accuracy suffers; too thin and readability suffers)
- ◆ Balanced and tapered hands are easy to follow
- ◆ Special nonshock mechanism (can be furnished on most styles) is ideal for when an indicator may be subjected to repeated and excessive shocks



- A. Sharp bezel serrations for positive grip
- B. Nonreflecting white eggshell finish on dial (millimeter models have yellow dials)
- C. Unbreakable crystal
- D. Hardened stainless steel stem
- E. Positive-acting clamp locks bezel in position
- F. No-glare satin finish on case
- G. .375" mounting diameter (all AGD models)
- H. Interchangeable contact point

- I. Four screw holes for 90° rotation of back
- J. Direct acting compression spring eliminates side friction
- K. Hardened stainless steel rack and spindle
- L. Massive bridge for rigid bearing support
- M. Replaceable low friction jewel bearings
- N. Hardened stainless steel gears and pinions





### Dials, Accessories and Options

- ◆ **Balanced or Continuous Dials** – Starrett AGD indicators are available with a balanced dial (plus on right) or a continuous dial (reading clockwise). A balanced dial is sent unless otherwise ordered

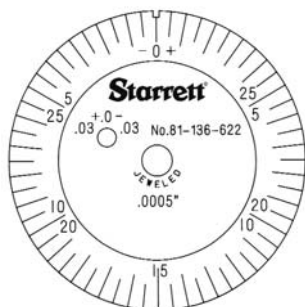


Balanced Dial



Continuous Dial

- ◆ **Plus and Minus Graduations** – Plus and minus readout – black figures read clockwise, red figures read counterclockwise, or colors reversed – are available on some No. 81 Series Dial Indicators



Dial with Plus and Minus Graduations



Dial with Special Trademark Imprint

- ◆ **Revolution Counters** – All AGD indicators with 2 1/2 revolutions can be furnished with double dial and count hand at a slight additional cost. Intermediate and long-range indicators have revolution counters
- ◆ **Special Dials** – Starrett dial indicators can be furnished with any standard dial marked with your company name or trademark. There is no charge when the indicators are purchased in lots of 25 or more. For quantities under 25, there is an additional charge. Prices are available on request
- ◆ **Antimagnetic Mechanism** – An antimagnetic mechanism can be furnished on most Series Nos. 81, 25, 655 and 656 Dial Indicators (and also on our No. 196B6 Universal Dial Indicator). This mechanism is desirable when the indicator is used near a magnetic chuck or a similar magnetic field which would disturb its operation. See individual listings for availability
- ◆ **Attachments and Accessories** – A variety of attachments and accessories are provided for mounting dial indicators on machine tools, inspection equipment and special fixtures

These include:

- ◆ Backs
- ◆ Contact Points
- ◆ Dust Guard
- ◆ Hole Attachments
- ◆ Special Nonshock Mechanism
- ◆ Spindle Travel Controls
- ◆ Stem and Back Mounting Accessories
- ◆ Tolerance and Maximum Reading Hands

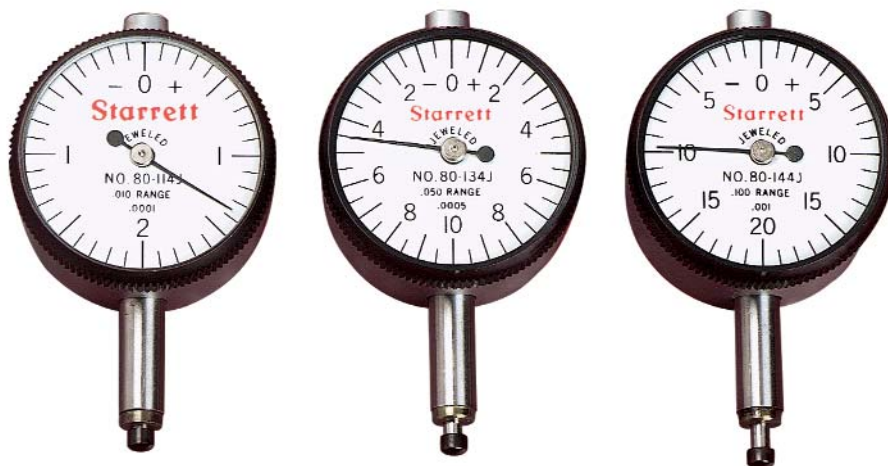




## Miniature Dial Indicators

### No. 80 Series ANSI Group 0 Ranges up to .100" 1 1/4" bezel, 7/32" stem

Similar in design to AGD dial indicators, these miniatures are built for gaging dimensions in tight places. Equipped with high precision, low friction movements, they are made in four models, all with frictionally adjustable bezels for quick, positive zero setting. No-glare, white eggshell finish dials. Black bezel, silver finish on case. Furnished with balanced dial, jeweled bearings and lug-on-center back.

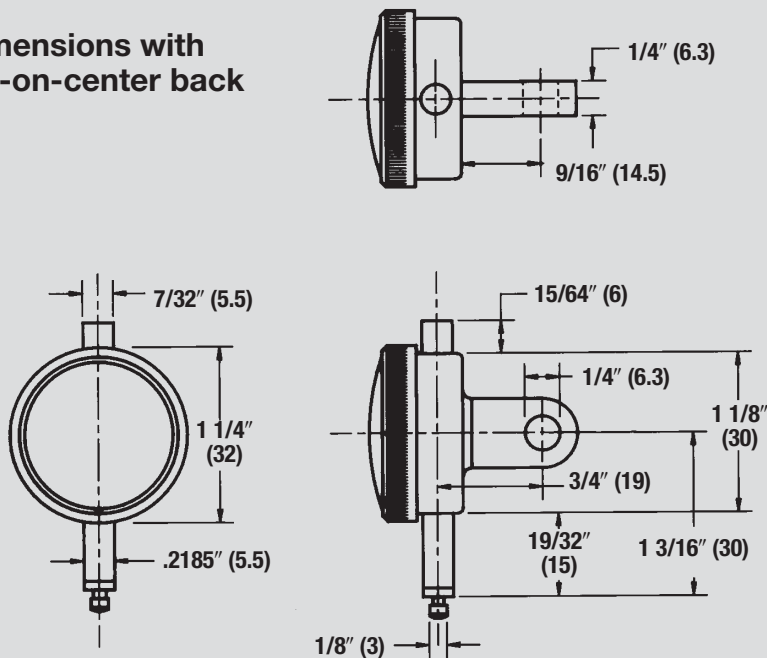


Left-to-right: No. 80-114J, No. 80-134J, No. 80-144J.



No. 80-111J.

#### Dimensions with lug-on-center back



Free drafting template available for this size. Write The L. S. Starrett Co., Athol, MA 01331.

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.0001"	.004"	.010"	0-2-0	80-114J	55891
	.010"	.025"	0-50-0	80-111J	67714
.0005"	.020"	.050"	0-10-0	80-134J	55892
.001"	.040"	.100"	0-20-0	80-144J	55893

Packed one in a box.

See following page for information on contact points and backs.

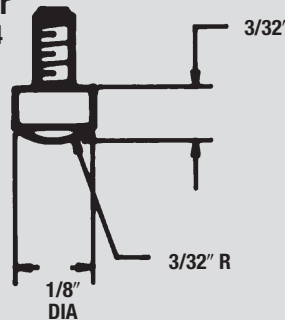


### Miniature Dial Indicator Accessories – No. 80 Series

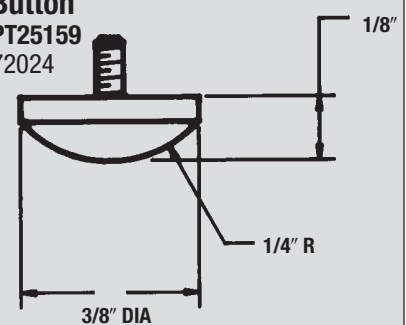
#### Contact Points

The regular contact point is furnished as standard on all No. 80 Series Dial Indicators. Button, cone and flat contact points are available individually, as listed. All have #0-80 thread.

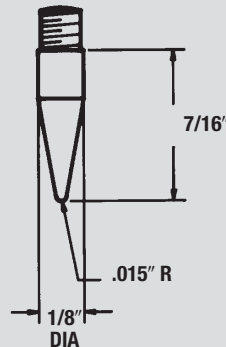
**Regular**  
PT25044  
72023



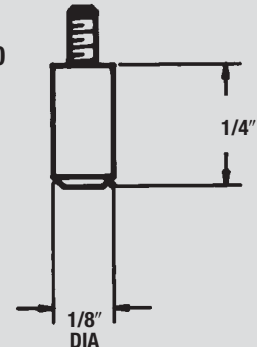
**Button**  
PT25159  
72024



**Cone**  
PT25161  
72025



**Flat**  
PT25160  
72026



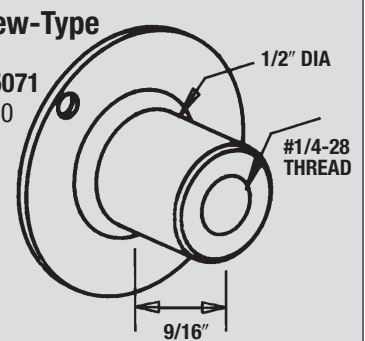
#### Backs

The lug-on-center back is furnished standard on all No. 80 Series Dial Indicators.

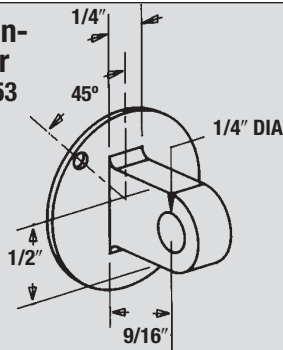
**Flat**  
PT25079  
72028



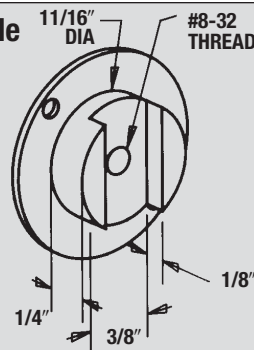
**Screw-Type Lug**  
PT25071  
72030



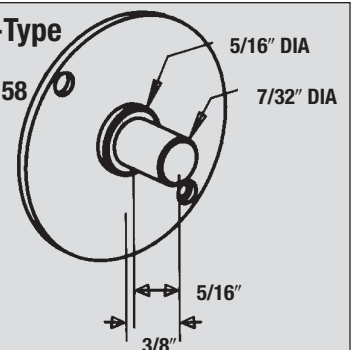
**Lug-on-Center**  
PT25053  
72027



**Adjustable Bracket**  
PT25157  
72029



**Post-Type Lug**  
PT25158  
72031



**NOTE:** Contact points and backs can be ordered individually. Order by part number/EDP number.



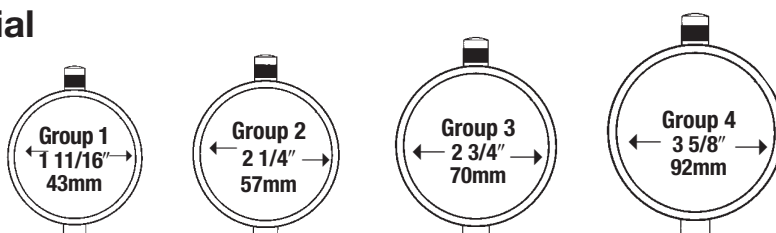


# DIAL AND ELECTRONIC INDICATORS AND HOLDERS

**Starrett®**

## Series 81, 25, 655 and 656 AGD Dial Indicators

This comparison table is an aid to help you find the indicator with the specific graduations and ranges you are looking for. Refer to the following pages for the exact catalog number and EDP number.



### Inch Reading (White Dials Furnished Standard)

Graduation	Range		Dial Reading	No. 81 Series	No. 25 Series	No. 655 Series	No. 656 Series
	One Rev.	Total					
.00005"	.006"	.015"	0-3-0		25-109		656-109
			0-6		25-209		656-209
.0001"	.006"	.015"	0-3-0		25-116		
			0-4-0		25-118	655-118	656-118
	.008"	.020"	0-8		25-218		
			0-5-0	81-111	25-111	655-111	656-111
	.010"	.025"	0-10	81-211	25-211	655-211	656-211
			+0.10 -0.10	81-111-624*			
			-0.10 +0.10	81-111-630*			
	.010"	.200"	0-5-0		25-511*	655-511*	656-511*
			0-10		25-611*	655-611*	656-611*
	.020"	.400"	0-10-0				656-517*
			0-20				656-617*
.00025"	.010"	.025"	0-5-0	81-124	25-124	655-124	656-124
			0-10	81-224	25-224	655-224	656-224
	.020"	.050"	0-10-0	81-128	25-128	655-128	656-128
			0-20	81-228	25-228	655-228	656-228
	.030"	.075"	0-15-0			655-129	656-129
			0-30			655-229	656-229
.0005"	.020"	.050"	0-10-0	81-134	25-134	655-134	656-134
			0-20	81-234	25-234	655-234	656-234
	.030"	.075"	0-15-0	81-136	25-136	655-136	656-136
			0-30	81-236	25-236	655-236	656-236
	.030"	.075"	+0.30 -0.30	81-136-622*			
			-0.30 +0.30	81-136-623*			
	.040"	.100"	0-20-0	81-138	25-138	655-138	656-138
			0-40	81-238	25-238	655-238	656-238
	.050"	.125"	0-25-0	81-131	25-131	655-131	656-131
			0-50	81-231	25-231	655-231	656-231
	.050"	.500"	0-50		25-431*		
			0-50		25-631*		

\* With revolution counter on dial.

(Continued on next page.)



### Inch Reading (White Dials Furnished Standard) (continued)

Graduation	Range		Dial Reading	Group 1	Group 2	Group 3	Group 4
	One Rev.	Total		No. 81 Series	No. 25 Series	No. 655 Series	No. 656 Series
.001"	.020"	.050"	0-10-0	81-142	25-142	655-142	656-142
			0-20	81-242	25-242	655-242	656-242
	.030"	.075"	0-15-0	81-143	25-143	655-143	656-143
			0-30	81-243	25-243	655-243	656-243
	.030"	.075"	+0.30, -0.30	81-142-628*			
			-0.30, +0.30	81-143-629*			
	.040"	.100"	0-20-0	81-144	25-144	655-144	656-144
			0-40	81-244	25-244	655-244	656-244
	.050"	.125"	0-25-0	81-145	25-145	655-145	656-145
			0-50	81-245	25-245	655-245	656-245
	.100"	.250"	0-50-0	81-141	25-141	655-141	656-141
			0-100	81-241	25-241	655-241	656-241
	.100"	.500"	0-50-0		25-341/5*	655-341/5*	656-341/5*
			0-100		25-441/5*	655-441/5*	656-441/5*
	.100"	1.000"	0-50-0		25-341*	655-341*	656-341*
			0-100		25-441*	655-441*	656-441*
	.100"	2.000"	0-100		25-2041*	655-2041*	656-2041*
		3.000"			25-3041*	655-3041*	656-3041*
		4.000"			25-4041*	655-4041*	656-4041*
		5.000"			25-5041*	655-5041*	656-5041*
		6.000"					656-6041*
		7.000"					656-7041*
		8.000"					656-8041*
		9.000"					656-9041*
		10.000"					656-10041*
		11.000"					656-11041*
		12.000"					656-12041*

### Millimeter Reading (Yellow Dials Furnished Standard)

0.001mm	0.1mm	0.25mm	0-50-0		25-151*		
			0-100		25-251*		
0.002mm	0.2mm	0.5mm	0-10-0	81-161	25-161	655-161	656-161
			0-20	81-261	25-261	655-261	656-261
0.01mm	1mm	2.5mm	0-50-0	81-181	25-181	655-181	656-181
			0-100	81-281	25-281	655-281	656-281
	1mm	10mm	0-50-0		25-381*		
			0-100		25-481*		
	1mm	25mm	0-50-0		25-781*		
			0-100		25-881*	655-881*	656-881*
	1mm	50mm	0-100		25-2081*	655-2081*	
	1mm	75mm	0-100		25-3081*	655-3081*	
	1mm	100mm	0-100		25-4081*	655-4081*	
	1mm	125mm	0-100		25-5081*	655-5081*	

\* With revolution counter on dial.

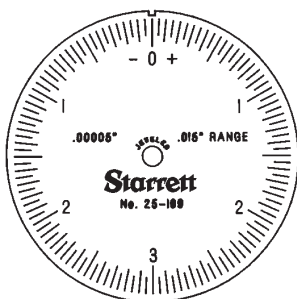


## Starrett Dial Numbering and Line Styles for Dial Indicators

These next four pages include all Starrett dial styles. (Actual size not shown.) Refer to the graduation, then range, and catalog number below the dial and then see the following pages for the specific dial reading and other indicator information. Most of the dials shown have balanced styles. Continuous dials have the same

graduations, but have consecutive numbers instead. For most indicators, the first number after the base catalog number signifies dial style. The number "1" signifies balanced dials (example: No. 25-109) and number "2" signifies continuous dials (example: No. 25-209).

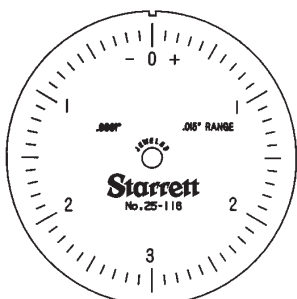
### .00005" Graduation



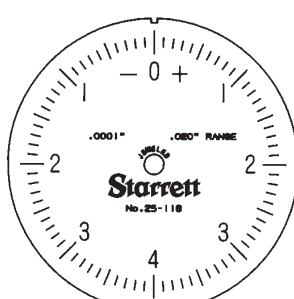
Total Range .015"

Catalog No.	No. 25-109 No. 656-109
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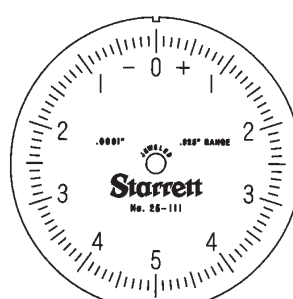
### .0001" Graduation



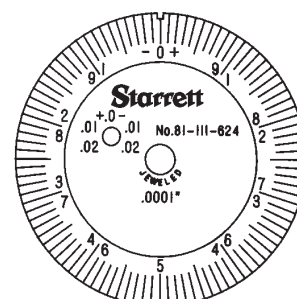
Total Range .015"



.020"

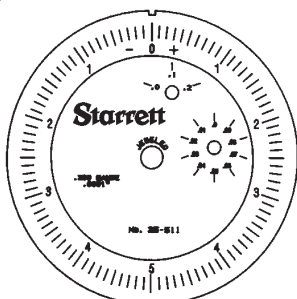


.025"

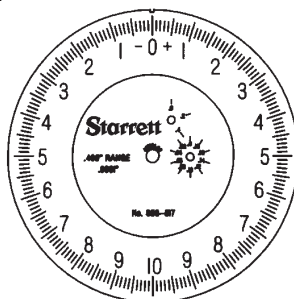


.025"

Catalog No.	No. 25-116	No. 25-118 No. 655-118 No. 656-118	No. 25-111 No. 80-111 No. 81-111 No. 655-111 No. 656-111	No. 81-111-624 (with double row figures)
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Total Range .200"



.400"

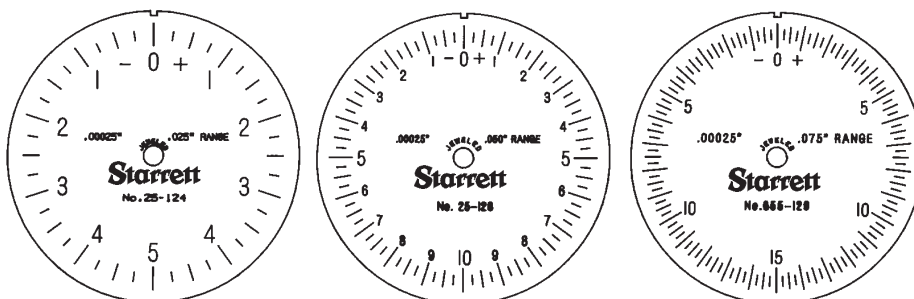
Catalog No.	No. 25-511 No. 655-511 No. 656-511	No. 656-517
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(Continued on next page.)



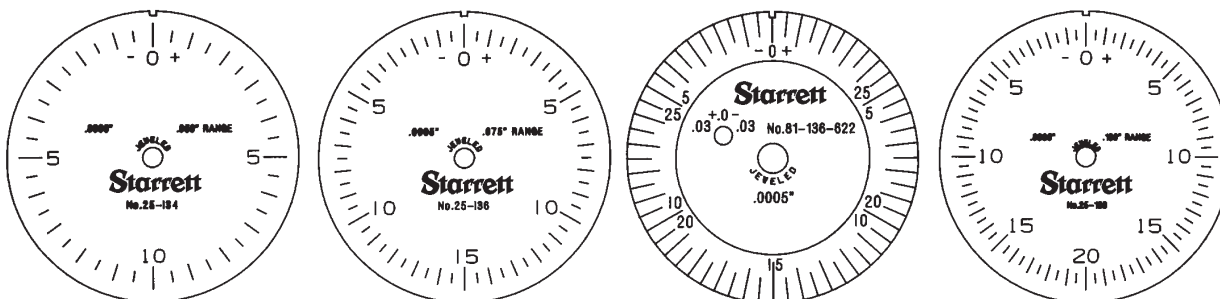
### Starrett Dial Numbering and Line Styles for Dial Indicators (continued)

#### .00025" Graduation

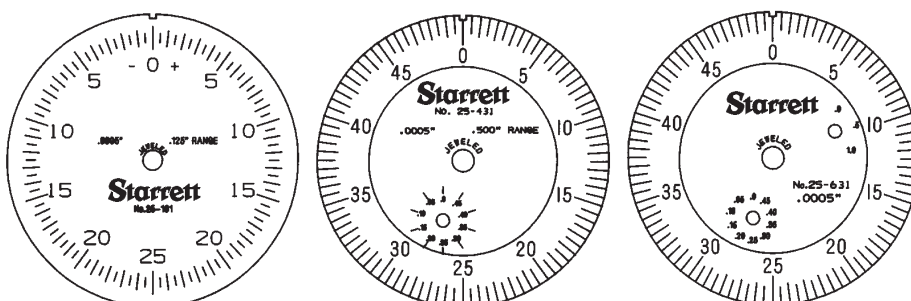


Total Range	.025"	.050"	.075"
Catalog No.	No. 81-124 No. 25-124 No. 655-124 No. 656-124	No. 81-128 No. 25-128 No. 655-128 No. 656-128	No. 655-129 No. 656-129

#### .0005" Graduation



Total Range	.050"	.075"	.075"	.100"
Catalog No.	No. 81-134 No. 25-134 No. 655-134 No. 656-134	No. 81-136 No. 25-136 No. 655-136 No. 656-136	No. 81-136-622 (with double row figures)	No. 81-138 No. 25-138 No. 655-138 No. 656-138



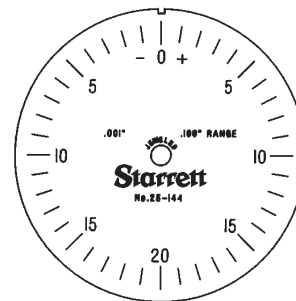
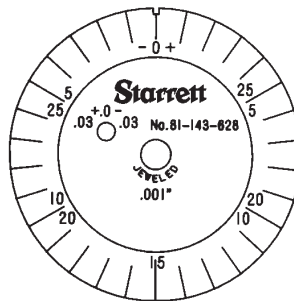
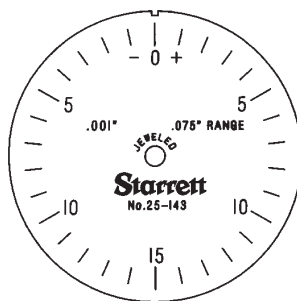
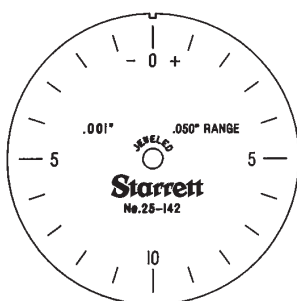
Total Range	.125"	.500"	1.000"
Catalog No.	No. 81-131 No. 25-131 No. 655-131 No. 656-131	No. 25-431	No. 25-631

(Continued on next page.)

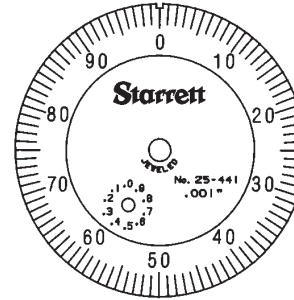
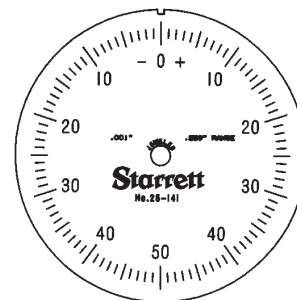
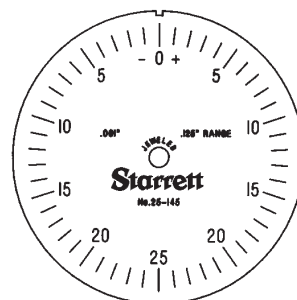


## Starrett Dial Numbering and Line Styles for Dial Indicators (continued)

### .001" Graduation



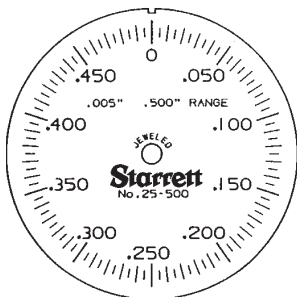
<b>Total Range</b>	<b>.050"</b>	<b>.075"</b>	<b>.075"</b>	<b>.100"</b>
<b>Catalog No.</b>	No. 81-142 *No. 25-142 *No. 655-142 *No. 656-142	No. 81-143 No. 25-143 No. 655-143 No. 656-143	No. 81-143-628 (with double row figures)	No. 81-144 *No. 25-144 *No. 655-144 *No. 656-144



<b>Total Range</b>	<b>.125"</b>	<b>.250"</b>	<b>.500", 1.000"</b>
<b>Catalog No.</b>	No. 81-145 *No. 25-145 *No. 655-145 *No. 656-145	No. 81-141 *No. 25-141 *No. 655-141 *No. 656-141	Nos. 25-441, 25-441/5 Nos. 655-441, 655-441/5 Nos. 656-441, 656-441/5

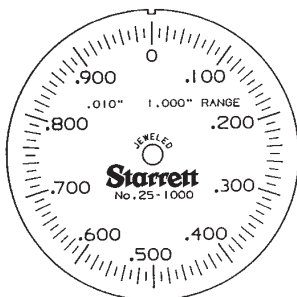
\*Also on long range models.

### .005" Graduation



<b>Total Range</b>	<b>.500"</b>
<b>Catalog No.</b>	No. 25-500

### .010" Graduation



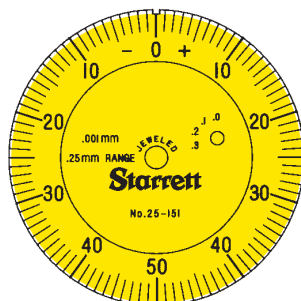
<b>Total Range</b>	<b>1.000"</b>
<b>Catalog No.</b>	No. 25-1000

(Continued on next page.)



### Starrett Dial Numbering and Line Styles for Dial Indicators (continued)

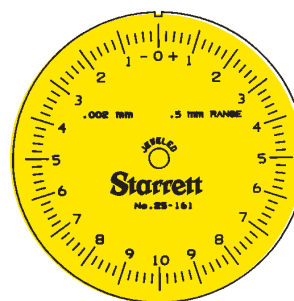
#### 0.001mm Graduation



Total Range 0.25mm

Catalog No. No. 25-151

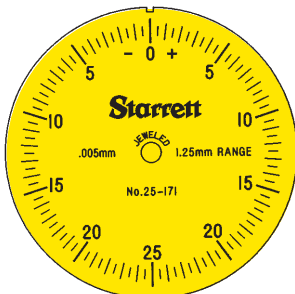
#### 0.002mm Graduation



Total Range 0.5mm

Catalog No. No. 81-161  
No. 25-161  
No. 655-161  
No. 656-161

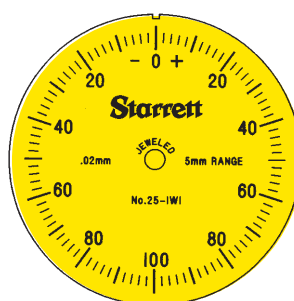
#### 0.005mm Graduation



Total Range 1.25mm

Catalog No. No. 25-171

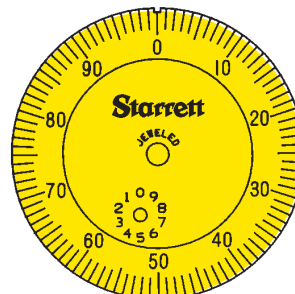
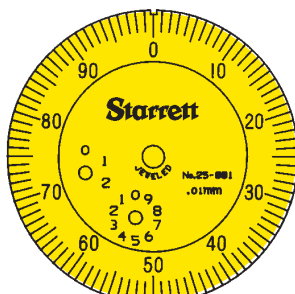
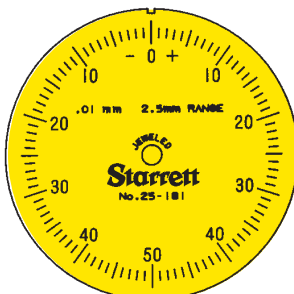
#### 0.02mm Graduation



Total Range 5.0mm

Catalog No. No. 25-1W1

#### 0.01mm Graduation



Total Range	2.5mm	25mm	10mm	50, 75, 100, 125mm
Catalog No.	No. 81-181 No. 25-181 No. 655-181 No. 656-181	No. 25-881 No. 655-881 No. 656-881	No. 25-381	No. 25-2081 No. 25-3081 No. 25-4081 No. 25-5081





# DIAL AND ELECTRONIC INDICATORS AND HOLDERS



## Dial Indicators

### No. 81 Series AGD Group 1

Ranges up to .250" and 2.5mm

These Indicators have a shockless, hardened steel gear train and jewel bearings. They are furnished with a lug-on-center back. Antimagnetic and special nonshock mechanisms are options available for all models. For more information on these and other attachments, accessories and contact points, refer to the end of the AGD Dial Indicator listings. For dial styles, see previous pages. For dimensions, see next page.



No. 81-141J.



No. 81-161J.

Packed one in a box.

## Inch Reading

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.0001"	.010"	.025"	0-5-0	<b>81-111J</b>	53378
			0-10	<b>81-211J</b>	53414
.00025"	.010"	.025"	0-5-0	<b>81-124J</b>	53384
			0-10	<b>81-224J</b>	53416
	.020"	.050"	0-10-0	<b>81-128J</b>	53386
			0-20	<b>81-228J</b>	53418
.0005"	.020"	.050"	0-10-0	<b>81-134J</b>	53390
			0-20	<b>81-234J</b>	53422
	.030"	.075"	0-15-0	<b>81-136J</b>	53392
			0-30	<b>81-236J</b>	53424
	.040"	.100"	0-20-0	<b>81-138J</b>	53398
			0-40	<b>81-238J</b>	53426
	.050"	.125"	0-25-0	<b>81-131J</b>	53388
			0-50	<b>81-231J</b>	53420
.001"	.020"	.050"	0-10-0	<b>81-142J</b>	53402
			0-20	<b>81-242J</b>	53430
	.030"	.075"	0-15-0	<b>81-143J</b>	53404
			0-30	<b>81-243J</b>	53432
	.040"	.100"	0-20-0	<b>81-144J</b>	53408
			0-40	<b>81-244J</b>	53434
	.050"	.125"	0-25-0	<b>81-145J</b>	53410
			0-50	<b>81-245J</b>	53436
	.100"	.250"	0-50-0	<b>81-141J</b>	53400
			0-100	<b>81-241J</b>	53428

## Millimeter Reading

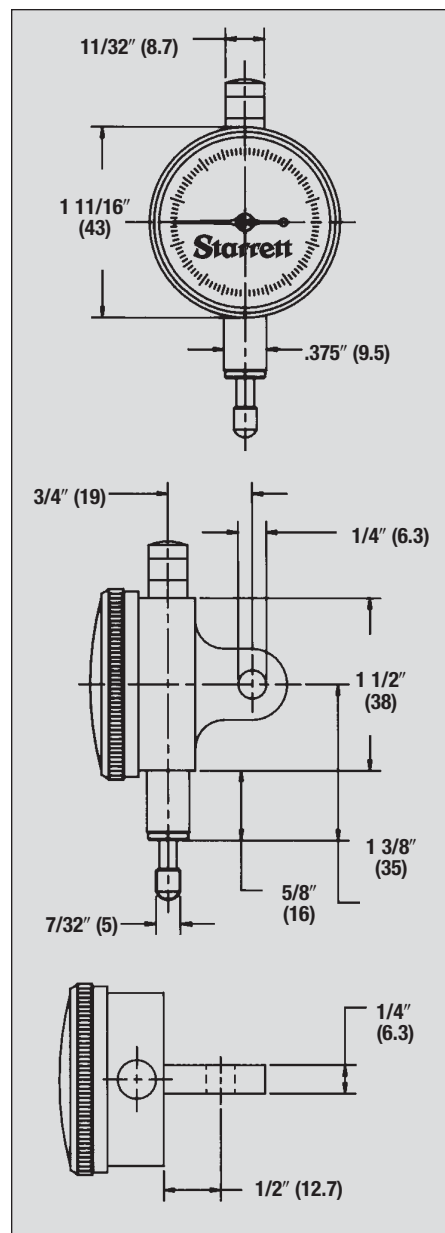
Graduation	Range		Dial Reading	Stem Dia.	Catalog No.	EDP No.
	One Rev.	Total				
0.002mm	0.2mm	0.5mm	0-10-0	.375"	<b>81-161J</b>	56043
				8mm	<b>81-161J-8</b>	64643
			0-20	.375"	<b>81-261J</b>	56045
				8mm	<b>81-261J-8</b>	64644
0.01mm	1.0mm	2.5mm	0-50-0	.375"	<b>81-181J</b>	53412
				8mm	<b>81-181J-8</b>	64645
			0-100	.375"	<b>81-281J</b>	53438
				8mm	<b>81-281J-8</b>	64646



### Dial Indicators

#### No. 81 Series with double row figures AGD Group 1 Ranges up to .075"

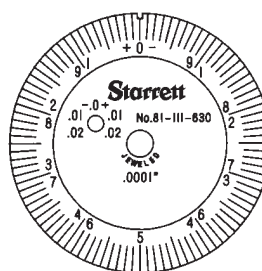
These indicators have the exact same features as our No. 81 Series on the previous page, except the dials have double-row figures, as illustrated on the right, and they cannot be specified with a special nonshock mechanism.



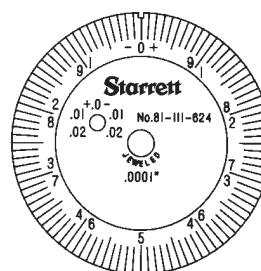
Free drafting template available for this size.  
Write The L.S. Starrett Co., Athol, MA 01331.



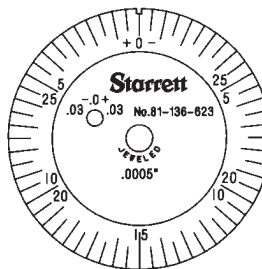
No. 81-111-624J.



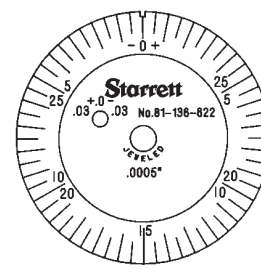
81-111-630J



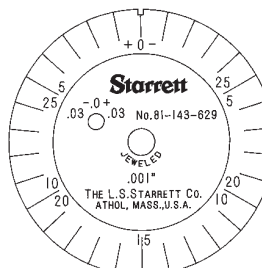
81-111-624J



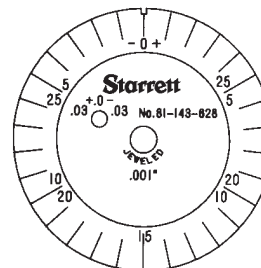
81-136-623J



81-136-622J



81-143-629J



81-143-628J

Graduation	Dial Reading	Figures		Range		Catalog No.	EDP No.
		Direction	Color	One Rev.	Total		
.0001"	+0-10	Clockwise	Black	.010"	.025"	81-111-624J	53380
	-0-10	Counter-clockwise	Red				
	+0-10	Counter-clockwise	Black			81-111-630J	53382
	-0-10	Clockwise	Red				
.0005"	+0-30	Clockwise	Black	.030"	.075"	81-136-622J	53394
	-0-30	Counter-clockwise	Red				
	+0-30	Counter-clockwise	Black			81-136-623J	53396
	-0-30	Clockwise	Red				
.001"	+0-30	Clockwise	Black	.030"	.075"	81-143-628J	53406
	-0-30	Counter-clockwise	Red				
	+0-30	Counter-clockwise	Black			81-143-629J	66666
	-0-30	Clockwise	Red				

Packed one in a box.

**NOTE:** Other models with double-row figures can be furnished by request.



## Dial Indicators

### No. 25 Series

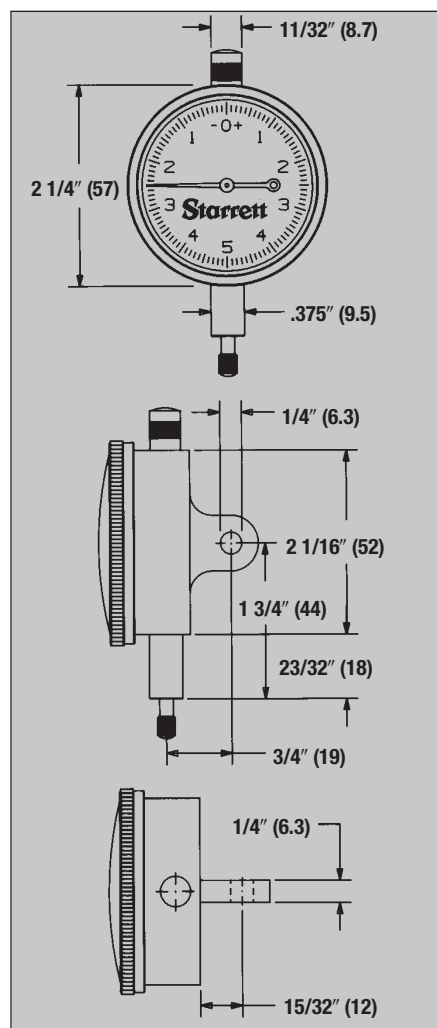
### AGD Group 2

Ranges up to 1" and 25mm

These indicators have a shockless, hardened steel gear train and jewel bearings, except where noted. They are furnished with a lug-on-center back. Anti-magnetic mechanism is optional for all models. Special nonshock mechanism is available for all models except Nos. 25-109, 25-209 and 25-116. For more information on these and other attachments, accessories and contact points, refer to the end of the AGD Dial Indicator listings. For dial styles, see previous pages.



Left, No. 25-111J; right, No. 25-161J.



### Inch Reading Models with Jewel Bearings

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.00005"	.006"	.015"	0-3-0	<b>25-109J</b>	53222
			0-6	<b>25-209J</b>	53254
.0001"	.010"	.006"	0-3-0	<b>25-116J</b>	53225
			0-4-0	<b>25-118J</b>	53226
		.025"	0-8	<b>25-218J</b>	53257
			0-5-0	<b>25-111J</b>	53223
			0-10	<b>25-211J</b>	53255
			0-5-0	<b>25-511J</b>	53299
.00025"	.020"	.010"	0-10	<b>25-611J</b>	53301
			0-5-0	<b>25-124J</b>	53228
		.050"	0-10	<b>25-224J</b>	53259
			0-10-0	<b>25-128J</b>	53230
.0005"	.050"	.020"	0-20	<b>25-228J</b>	53261
			0-10-0	<b>25-134J</b>	53234
		.075"	0-20	<b>25-234J</b>	53265
			0-15-0	<b>25-136J</b>	53236
			0-30	<b>25-236J</b>	53267
		.100"	0-20-0	<b>25-138J</b>	53238
			0-40	<b>25-238J</b>	53269
		.125"	0-25-0	<b>25-131J</b>	53232
				<b>25-231J</b>	53263
			0-50	<b>25-431J</b>	53292
.001"	.020"	.050"		<b>25-631J</b>	53304
			0-10-0	<b>25-142J</b>	53242
			0-20	<b>25-242J</b>	53273

Free drafting template available for this size.  
Write The L.S. Starrett Co., Athol, MA 01331.

Packed one in a box.



### Inch Reading Models with Jewel Bearings (continued)

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.001"	.030"	.075"	0-15-0	<b>25-143J</b>	53244
			0-30	<b>25-243J</b>	53275
	.040"	.100"	0-20-0	<b>25-144J</b>	53246
			0-40	<b>25-244J</b>	53277
	.050"	.125"	0-25-0	<b>25-145J</b>	53248
			0-50	<b>25-245J</b>	53279
	.100"	.250"	0-50-0	<b>25-141J</b>	53240
			0-100	<b>25-241J</b>	53271
		.500"	0-50-0	<b>25-341/5J</b>	53285
			0-100	<b>25-441/5J</b>	53293
		1.000"		<b>25-441/5J W/SLC*</b>	66864
			0-50-0	<b>25-341J</b>	53287
			0-100	<b>25-441J</b>	53295
				<b>25-441/J W/SLC*</b>	66863

### Inch Reading Models with Plain Bearings

.001"	.100"	.500"	0-50-0	<b>25-341/5P</b>	53286
			0-100	<b>25-441/5P</b>	53294
		1.000"	0-50-0	<b>25-341P</b>	53288
			0-100	<b>25-441P</b>	53296

### Millimeter Models with Jewel Bearings

Graduation	Range		Dial Reading	Stem Dia.	Catalog No.	EDP No.
	One Rev.	Total				
0.001mm	0.1mm	0.25mm	0-50-0	.375"	<b>25-151J</b>	67644
				8mm	<b>25-151J-8</b>	68646
			0-100	.375"	<b>25-251J</b>	68118
				8mm	<b>25-251J-8</b>	68647
0.002mm	0.2mm	0.5mm	0-10-0	.375"	<b>25-161J</b>	53250
				8mm	<b>25-161J-8</b>	64651
			0-20	.375"	<b>25-261J</b>	53281
				8mm	<b>25-261J-8</b>	64652
0.02mm	2.0mm	5.0mm	0-100-0	.375"	<b>25-1W1J</b>	68642
0.005mm	0.5mm	1.25mm	0-25-0	.375"	<b>25-171J</b>	68643
0.01mm	1.0mm	2.5mm	0-50-0	.375"	<b>25-181J</b>	53252
				8mm	<b>25-181J-8</b>	64653
			0-100	.375"	<b>25-281J</b>	53283
				8mm	<b>25-281J-8</b>	64654
		10mm	0-50-0	.375"	<b>25-381J</b>	53289
				8mm	<b>25-381J-8</b>	64655
			0-100	.375"	<b>25-481J</b>	53297
				8mm	<b>25-481J-8</b>	64656
		25mm	0-50-0	.375"	<b>25-781J</b>	53305
				8mm	<b>25-781J-8</b>	64657
			0-100	.375"	<b>25-881J</b>	53307
				8mm	<b>25-881J-8</b>	64658

### Dial Indicator Sets

#### No. 253 Series

##### Inch and Millimeter Reading

These sets provide in one handy, compact kit three No. 25 Series Dial Indicators to handle most gaging jobs at a minimum cost. Sets are ideal for tool and die shops, machine shops and toolrooms having occasional work where a heavy investment in dial indicators would not be practical. The indicators are furnished with jewel bearings.



No. S253Z.

#### Inch Set

Description	Catalog No.	EDP No.
Set of 3 Inch Reading Dial Indicators: Nos. 25-111J, 25-131J and 25-441J	<b>S253Z</b>	51218

#### Millimeter Set

Set of 3 Millimeter Reading Dial Indicators: Nos. 25-161J, 25-181J and 25-881J	<b>S253MZ</b>	56283
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\* Includes redemption card for Standard Letter of Certification (SLC).

Sets furnished in attractive, protective case. Packed one in a box.





## Dial Indicators

### No. 655 Series

### AGD Group 3

Ranges up to 1" and 25mm

These indicators have a shockless, hardened steel gear train and jewel bearings. They are furnished with a lug-on-center back. Antimagnetic and special nonshock mechanisms are options available for all models. For more information on these and other attachments, accessories and contact points, refer to the end of the AGD Dial Indicator listings. For dial styles, see previous pages. For dimensions, see next page.



Left, No. 655-111J; right, No. 655-161J-8.

### Inch Reading

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.0001"	.010"	.008"	0-4-0	<b>655-118J</b>	53507
		.025"	0-5-0	<b>655-111J</b>	53505
			0-10	<b>655-211J</b>	53537
		.200"	0-5-0	<b>655-511J</b>	53615
			0-10	<b>655-611J</b>	53617
.00025"	.010"	.025"	0-5-0	<b>655-124J</b>	53509
			0-10	<b>655-224J</b>	53539
	.020"	.050"	0-10-0	<b>655-128J</b>	53511
			0-20	<b>655-228J</b>	53541
	.030"	.075"	0-15-0	<b>655-129J</b>	53513
.0005"	.020"	.050"	0-30	<b>655-229J</b>	53543
			0-10-0	<b>655-134J</b>	53517
	.030"	.075"	0-20	<b>655-234J</b>	53587
			0-15-0	<b>655-136J</b>	53519
	.040"	.100"	0-30	<b>655-236J</b>	53589
			0-20-0	<b>655-138J</b>	53521
	.050"	.125"	0-40	<b>655-238J</b>	53591
			0-25-0	<b>655-131J</b>	53515
			0-50	<b>655-231J</b>	53585

Packed one in a box.

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### Dial Indicators

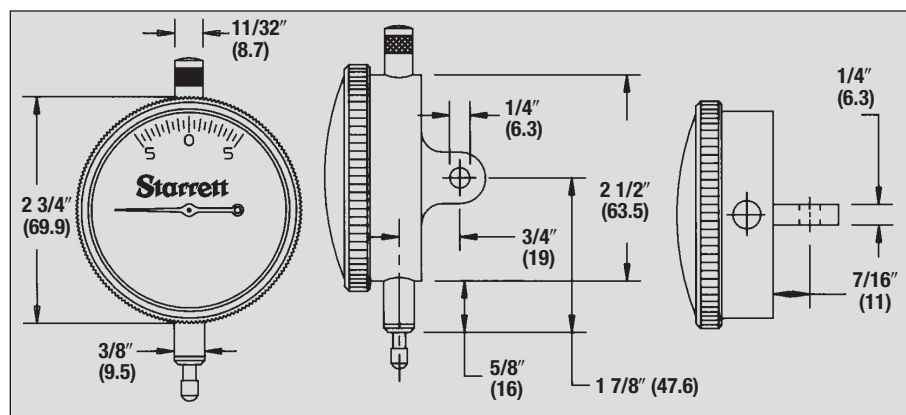
#### Series No. 655 (continued)

#### Inch Reading (continued)

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.001"	.020"	.050"	0-10-0	<b>655-142J</b>	53525
			0-20	<b>655-242J</b>	53595
	.030"	.075"	0-15-0	<b>655-143J</b>	53527
			0-30	<b>655-243J</b>	53597
	.040"	.100"	0-20-0	<b>655-144J</b>	53529
			0-40	<b>655-244J</b>	53599
	.050"	.125"	0-25-0	<b>655-145J</b>	53531
			0-50	<b>655-245J</b>	53601
	.100"	.250"	0-50-0	<b>655-141J</b>	53523
			0-100	<b>655-241J</b>	53593
		.500"	0-50-0	<b>655-341/5J</b>	53607
			0-100	<b>655-441/5J</b>	53611
		1.000"	0-50-0	<b>655-341J</b>	53609
			0-100	<b>655-441J</b>	53613

#### Millimeter Reading

Graduation	Range		Dial Reading	Stem Dia.	Catalog No.	EDP No.
	One Rev.	Total				
0.002 mm	0.2 mm	0.5 mm	0-10-0	.375"	<b>655-161J</b>	53533
				8 mm	<b>655-161J-8</b>	64659
			0-20	.375"	<b>655-261J</b>	53603
				8 mm	<b>655-261J-8</b>	64660
0.01 mm	1.0 mm	2.5 mm	0-50-0	.375"	<b>655-181J</b>	53535
				8 mm	<b>655-181J-8</b>	64661
			0-100	.375"	<b>655-281J</b>	53605
				8 mm	<b>655-281J-8</b>	64868
		25 mm	0-100	.375"	<b>655-881J</b>	56229
				8 mm	<b>655-881J-8</b>	64869



Packed one in a box.

Free drafting template available for this size. Write The L.S. Starrett Co., Athol, MA 01331.





## Dial Indicators

### No. 656 Series

#### AGD Group 4

Ranges up to 1" and 25mm

These indicators have a shockless, hardened steel gear train and jewel bearings. They are furnished with a lug-on-center back. Antimagnetic mechanism is optional for all models. Special nonshock mechanism is available for all models except Nos. 656-109 and 656-209. For more information on these and other attachments, accessories and contact points, refer to the end of the AGD Dial Indicator listings. For dial styles, see previous pages. For dimensions, see next page.



Left, No. 656-111J; right, No. 656-161J-8.

### Inch Reading

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.00005"	.006"	.015"	0-3-0	<b>656-109J</b>	53661
			0-6	<b>656-209J</b>	53694
.0001"	.008"	.020"	0-4-0	<b>656-118J</b>	53664
			0-5-0	<b>656-111J</b>	53662
	.010"	.200"	0-10	<b>656-211J</b>	53695
			0-5-0	<b>656-511J</b>	53791
			0-10	<b>656-611J</b>	53795
			0-10-0	<b>656-517J</b>	53793
.00025"	.010"	.025"	0-5-0	<b>656-124J</b>	53666
			0-10	<b>656-224J</b>	53697
	.020"	.050"	0-10-0	<b>656-128J</b>	53668
			0-20	<b>656-228J</b>	53699
	.030"	.075"	0-15-0	<b>656-129J</b>	53670
			0-30	<b>656-229J</b>	53701

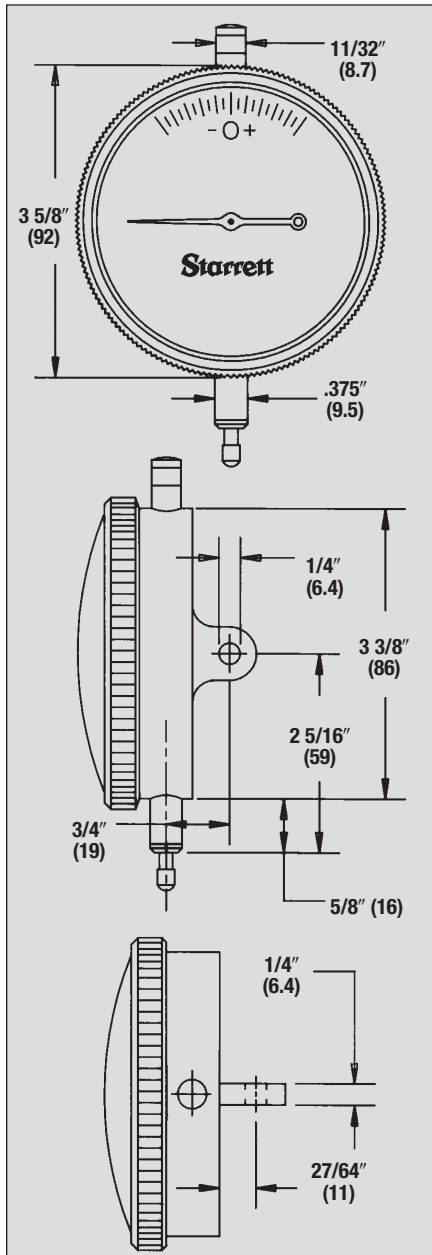
Packed one in a box.

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### Dial Indicators

#### No. 656 Series (continued)



Free drafting template available for this size.  
Write The L.S. Starrett Co., Athol, MA 01331.

#### Inch Reading (continued)

Graduation	Range		Dial Reading	Catalog No.	EDP No.
	One Rev.	Total			
.0005"	.020"	.050"	0-10-0	<b>656-134J</b>	53674
			0-20	<b>656-234J</b>	53705
			0-15-0	<b>656-136J</b>	53676
	.030"	.075"	0-30	<b>656-236J</b>	53707
			0-20-0	<b>656-138J</b>	53678
			0-40	<b>656-238J</b>	53709
.001"	.040"	.100"	0-25-0	<b>656-131J</b>	53672
			0-50	<b>656-231J</b>	53703
	.050"	.125"	0-10-0	<b>656-142J</b>	53682
			0-20	<b>656-242J</b>	53713
			0-15-0	<b>656-143J</b>	53684
	.100"	.250"	0-30	<b>656-243J</b>	53715
			0-20-0	<b>656-144J</b>	53686
			0-40	<b>656-244J</b>	53717
	.500"	1.000"	0-25-0	<b>656-145J</b>	53688
			0-50	<b>656-245J</b>	53719
			0-50-0	<b>656-141J</b>	53680
			0-100	<b>656-241J</b>	53711
	.500"	1.000"	0-50-0	<b>656-341/5J</b>	53783
			0-100	<b>656-441/5J</b>	53787
			0-50-0	<b>656-341J</b>	53785
			0-100	<b>656-441J</b>	53789

#### Millimeter Reading

Graduation	Range		Dial Reading	Stem Dia.	Catalog No.	EDP No.
	One Rev.	Total				
0.002mm	0.2mm	0.5mm	0-10-0	.375"	<b>656-161J</b>	53690
				8mm	<b>656-161J-8</b>	64870
			0-20	.375"	<b>656-261J</b>	53779
				8mm	<b>656-261J-8</b>	64871
0.01mm	1.0mm	2.5mm	0-50-0	.375"	<b>656-181J</b>	53692
				8mm	<b>656-181J-8</b>	64872
			0-100	.375"	<b>656-281J</b>	53781
				8mm	<b>656-281J-8</b>	64873
		25mm	0-100	.375"	<b>656-881J</b>	56234
				8mm	<b>656-881J-8</b>	64874

Packed one in a box.



## Dial Indicators with long range

### Nos. 25, 655, 656 Series 2-5" ranges

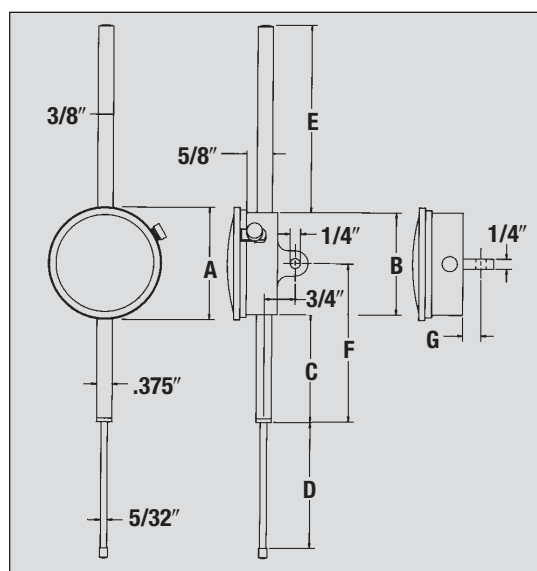
These indicators have a shockless, hardened steel gear train and are furnished with jewel bearings and lug-on-center backs unless otherwise ordered.

- ◆ Conforms to AGD specifications except for range
- ◆ Stem cap supplied as standard – top lift available when specified
- ◆ Furnished with continuous reading double dial with direct reading count hands



No. 25-2041J.

Packed one in a box.



**NOTE:** Not available with special nonshock mechanism. Antimagnetic mechanism available on special order. For other attachments, accessories and contact points, refer to the end of the AGD Dial Indicator listings.

### Approximate Dimensions

Catalog No.	A	B	C	D	E	F	G
25-2041J	2 1/4"	2 1/16"	1 13/16"	2 1/16"	3 3/32"	2 7/8"	15/32"
655-2041J	2 3/4"	2 1/2"	1 5/8"	2 1/16"	3 3/32"	2 7/8"	7/16"
656-2041J	3 5/8"	3 3/8"	1 1/4"	2 1/16"	3 3/32"	3"	27/64"
25-3041J	2 1/4"	2 1/16"	2 13/16"	3 1/16"	4 9/16"	3 7/8"	15/32"
655-3041J	2 3/4"	2 1/2"	2 5/8"	3 1/16"	4 9/16"	3 7/8"	7/16"
656-3041J	3 5/8"	3 3/8"	2 1/4"	3 1/16"	4 9/16"	4"	27/64"
25-4041J	2 1/4"	2 1/16"	3 13/16"	4 1/16"	6"	4 7/8"	15/32"
655-4041J	2 3/4"	2 1/2"	3 5/8"	4 1/16"	6"	4 7/8"	7/16"
656-4041J	3 5/8"	3 3/8"	3 1/4"	4 1/16"	6"	5"	27/64"
25-5041J	2 1/4"	2 1/16"	4 13/16"	5 1/16"	7 1/4"	5 7/8"	15/32"
655-5041J	2 3/4"	2 1/2"	4 5/8"	5 1/16"	7 1/4"	5 7/8"	7/16"
656-5041J	3 5/8"	3 3/8"	4 1/4"	5 1/16"	7 1/4"	6"	27/64"

Graduation	Range	Dial Reading	Revs. of Hand	AGD Group	Bezel Diameter	Catalog No.	EDP No.
.001"	2.000"	0-100	20	2	2 1/4"	25-2041J	53309
				3	2 3/4"	655-2041J	53619
				4	3 5/8"	656-2041J	53799
	3.000"		30	2	2 1/4"	25-3041J	53310
				3	2 3/4"	655-3041J	53620
				4	3 5/8"	656-3041J	53800
	4.000"		40	2	2 1/4"	25-4041J	53311
				3	2 3/4"	655-4041J	53621
				4	3 5/8"	656-4041J	53801
	5.000"		50	2	2 1/4"	25-5041J	53312
				3	2 3/4"	655-5041J	53622
				4	3 5/8"	656-5041J	53802



### Metric Dial Indicators with long range

#### Nos. 25, 655 Series 50-125mm ranges

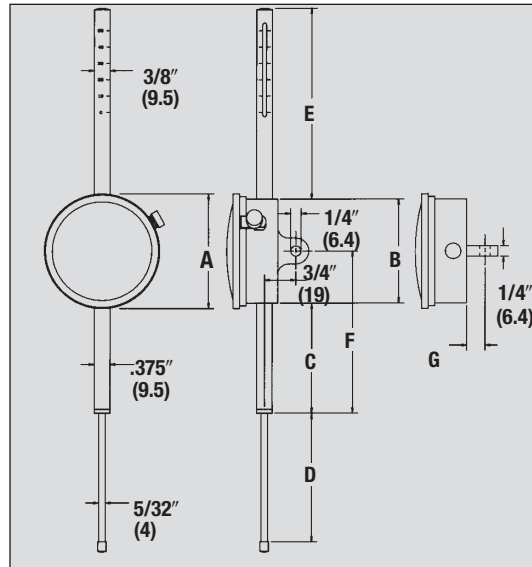
These indicators have a shockless, hardened steel gear train and are furnished with jewel bearings and lug-on-center backs unless otherwise ordered.

- ◆ Conforms to AGD specifications except for range
- ◆ Furnished with continuous reading double dial
- ◆ Direct readout accomplished by
  - (1) graduated top tube which indicates each 10mm of spindle travel,
  - (2) revolution counter which indicates each 1mm full turn of the indicator hand, and
  - (3) indicator hand which shows each 0.01mm of spindle movement



No. 655-2081J.

Packed one in a box.



**NOTE:** Not available with special nonshock mechanism. Antimagnetic mechanism available as special order. For contact points, attachments and accessories, refer to the end of the AGD Dial Indicator listings.

#### Approximate Dimensions Inch and Millimeter

Catalog No.	A	B	C	D	E	F	G
<b>25-2081J</b>	2 1/4" 57mm	2 1/16" 52mm	1 13/16" 46mm	2 1/16" 52mm	3 3/32" 79mm	2 7/8" 73mm	15/32" 12mm
<b>655-2081J</b>	2 3/4" 70mm	2 1/2" 63.5mm	1 5/8" 41mm	2 1/16" 52mm	3 3/32" 79mm	2 7/8" 73mm	7/16" 11mm
<b>25-3081J</b>	2 1/4" 57mm	2 1/16" 52mm	2 13/16" 71mm	3 1/16" 78mm	4 9/16" 116mm	3 7/8" 98mm	15/32" 12mm
<b>655-3081J</b>	2 3/4" 70mm	2 1/2" 63.5mm	2 5/8" 67mm	3 1/16" 78mm	4 9/16" 116mm	3 7/8" 98mm	7/16" 11mm
<b>25-4081J</b>	2 1/4" 57mm	2 1/16" 52mm	3 13/16" 81mm	4 1/16" 103mm	5 61/64" 151mm	4 7/8" 124mm	15/32" 12mm
<b>655-4081J</b>	2 3/4" 70mm	2 1/2" 63.5mm	3 5/8" 92mm	4 1/16" 103mm	5 61/64" 151mm	4 7/8" 124mm	7/16" 11mm
<b>25-5081J</b>	2 1/4" 57mm	2 1/16" 52mm	4 13/16" 122mm	5 1/16" 129mm	7 1/4" 184mm	5 7/8" 149mm	15/32" 12mm
<b>655-5081J</b>	2 3/4" 70mm	2 1/2" 63.5mm	4 5/8" 117.5mm	5 1/16" 129mm	7 1/4" 184mm	5 7/8" 149mm	7/16" 11mm

Graduation	AGD Group	Stem Diameter	Range	Dial Reading	Revs. of Hand	Catalog No.	EDP No.
0.01mm	2	.375" 9.5mm	50mm	0-100	50	25-2081J	56225
	3					655-2081J	56230
	2		75mm		75	25-3081J	56226
	3					655-3081J	56231
	2		100mm		100	25-4081J	56227
	3					655-4081J	56232
	2		125mm		125	25-5081J	56228
	3					655-5081J	56233



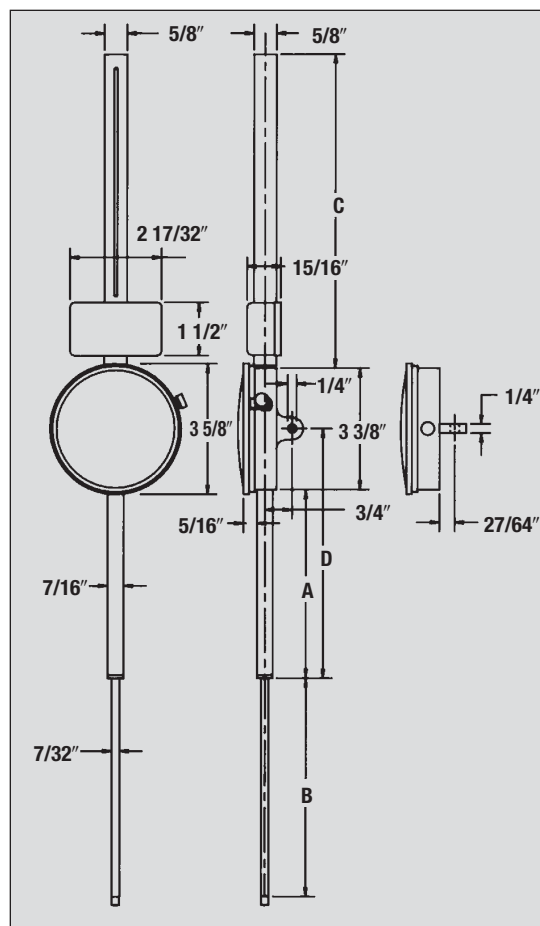
## Dial Indicators with extra-long range

### No. 656 Series AGD Group 4 6-12" ranges

These indicators have a shockless, hardened steel gear train and are furnished with jewel bearings and lug-on-center backs unless otherwise ordered.

- ◆ Use anywhere a long reach is needed – positioning of stops, measuring travel of slides and cam throws, and use in deep slots or holes
- ◆ Conforms to AGD specifications except for range, stems and contact point
- ◆ Top stem graduated in 1" increments, called out by red colored pointer
- ◆ Furnished with continuous reading double dial with direct reading count hand

**NOTE:** Not available with special nonshock mechanism. Antimagnetic mechanism available as special order. For contact points, attachments and accessories, refer to the end of the AGD Dial Indicator Section.



#### Dimensions

Catalog No.	A	B	C	D
<b>656-6041J</b>	5 1/4"	6 1/16"	8 3/4"	6 15/16"
<b>656-7041J</b>	6 1/4"	7 1/16"	9 3/4"	7 15/16"
<b>656-8041J</b>	7 1/4"	8 1/16"	10 3/4"	8 15/16"
<b>656-9041J</b>	8 1/4"	9 1/16"	11 3/4"	9 15/16"
<b>656-10041J</b>	9 1/4"	10 1/16"	12 3/4"	10 15/16"
<b>656-11041J</b>	10 1/4"	11 1/16"	13 3/4"	11 15/16"
<b>656-12041J</b>	11 1/4"	12 1/16"	14 3/4"	12 15/16"

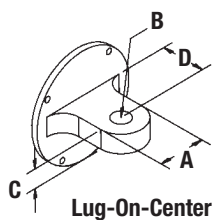
No. 656-6041J.

Graduation	AGD Group	Dial Diameter	Range	Dial Reading	Revs. of Hand	Catalog No.	EDP No.
.001"	4	3 5/8"	6.000"	0-100	60	<b>656-6041J</b>	53803
			7.000"		70	<b>656-7041J</b>	53804
			8.000"		80	<b>656-8041J</b>	53805
			9.000"		90	<b>656-9041J</b>	53806
			10.000"		100	<b>656-10041J</b>	53807
			11.000"		110	<b>656-11041J</b>	53808
			12.000"		120	<b>656-12041J</b>	53809

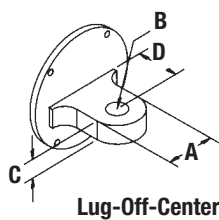
Packed one in a box.



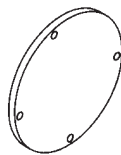
### AGD Dial Indicator Backs



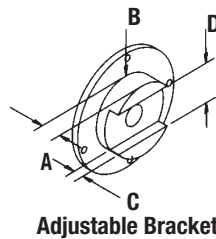
Lug-On-Center



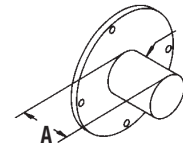
Lug-Off-Center



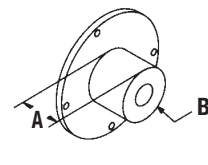
Flat



Adjustable Bracket



Post-Type Lug



Screw-Type Lug

Type	Fits Starrett Indicator Series No.	Part No.	EDP No.	Dimensions								
				A		B		C		D		
				Inch	mm	Inch	mm	Inch	mm	Inch	mm	
*Lug-On-Center	81	PT06836-1	70856	5/8"	16mm	1/4"	6.3mm	1/4"	6.3mm	1/2"	12.7mm	
	25, 2600	PT07206-1	70960							15/32"	12mm	
	655	PT06966-1	70888							7/16"	11mm	
	656	PT07317-1	70980							27/64"	10.7mm	
**Lug-Off-Center	81	PT06836	70855							1/2"	12.7mm	
	25, 2600	PT06608-1	70770							15/32"	12mm	
	655	PT06966A	71996							7/16"	11mm	
	656	PT07317A	71997							27/64"	10.7mm	
**Flat	81	PT24921	67295									
	25, 2600	PT06608J	70774									
	655	PT06878J	70873									
	656	PT06903J	71995									
Flat (Plastic)	81	PT24921	67295									
	25, 2600	PT26160	67405									
†Screw-Type Lug (#1/4-20 Thread)	81	PT24074	72482	1/2"	12.7mm	5/8"	16mm					
	25, 2600	PT24076	72483									
	655	PT24078	72484									
	656	PT24080	72485									
†Screw-Type Lug (#3/8-24 Thread)	81	PT06836S	72223									
	25, 2600	PT06608E	70772									
	655	PT06878E	72224									
	656	PT06903E	72225									
†Screw-Type Lug (#1/4-28 Thread)	81	PT24073	72486									
	25, 2600	PT24075	72487									
	655	PT24077	72488									
	656	PT24079	72489									
†Post-Type Lug	81	PT06836F	70857	1 1/4"	32mm	1/2"	12.7mm					
	25, 2600	PT06608F	70773									
	655	PT06878F	71992									
	656	PT06903F	71994									
†Adjustable Bracket (#1/4-20 Thread)	81	PT06836M	70859	1/4"	6.3mm	7/8"	22mm	1/8"	3mm	1/2"	12.7mm	
	25, 2600	PT06608M	70776			1 1/4"	32 mm					
	655	PT06878M	70874									
	656	PT06903M	70882									

\* Regularly furnished on all listed indicators at no extra charge.

\*\* When specified, available on all listed indicators at no extra charge.

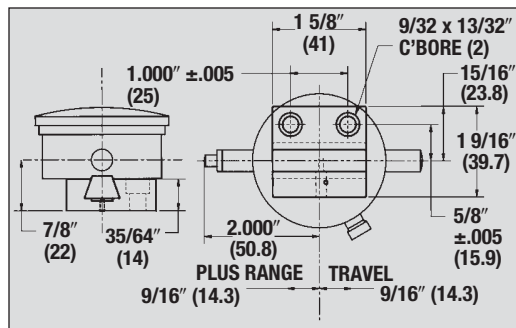
† NOTE: When specified, available at extra charge on all listed indicators. Backs for special requirements are also available; priced on application.





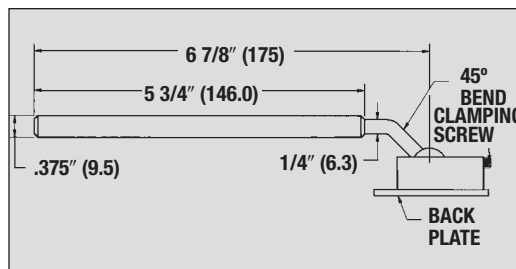
## Backs with adjustable mounting bracket

## No. 674 Series



Fits Starrett Series	Catalog No.	EDP No.
No. 81	<b>674-1</b>	66374
Nos. 25, 2600	<b>674-2</b>	52892
No. 655	<b>674-3</b>	52893
No. 656	<b>674-4</b>	52894

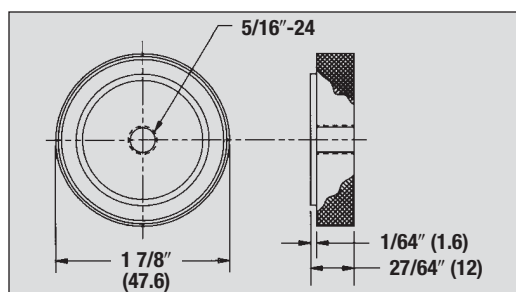
## Universal Backs No. 672 Series



<b>Fits Starrett Series</b>	<b>Catalog No.</b>	<b>EDP No.</b>
Nos. 25, 2600	<b>672-2</b>	52887
No. 655	<b>672-3</b>	52888
No. 656	<b>672-4</b>	52889

## Magnetic Backs

## No. 676 Series



<b>Fits Starrett Series</b>	<b>Catalog No.</b>	<b>EDP No.</b>
No. 81	<b>676-1</b>	<b>56647</b>
Nos. 25, 2600	<b>676-2</b>	<b>56648</b>
No. 655	<b>676-3</b>	<b>56649</b>
No, 656	<b>676-4</b>	<b>56650</b>



### AGD Indicator Attachments/Accessories

#### Indicator Hole Attachment

##### No. 670 Series

These hole attachments make it possible to measure the inside of holes and other surfaces that cannot be reached with the regular indicator spindle. Both attachments have a .375" (9.5mm) diameter hole to fit all indicators made to AGD standards and can be securely clamped to the indicator stem. The ball end on the swivel arm which contacts the work is 1/8" (3mm) in diameter.



Range (Approx.)		For Hole Depths to:		Catalog No.	EDP No.
Inch	mm	Inch	mm		
3/8"	9.5mm	13/16"	20mm	<b>670A</b>	52884
9/16"	14mm	1 11/16"	42mm	<b>670B</b>	52724

#### Universal Attachment

##### No. 671

This Universal Attachment is for use with indicators having standard AGD .375" (9.5mm) stem diameters. It clamps on the indicator stem and its movement is transmitted through the contact point to the indicator. Furnished with two interchangeable arms, one straight for measuring internal surfaces and one angular for measuring at right angles to the indicator spindle.



Range (Approx.)	Catalog No.	EDP No.
1/8" (3mm)	<b>671</b>	52886

#### Special Nonshock Mechanism

**NONSHOCK**

Starrett dial indicators have hardened, stainless steel gears, pinions and racks for maximum resistance to shock. Where the rack is subject to repeated, severe and/or excessive mechanical shocks, many Starrett AGD dial indicators may be ordered with a special nonshock mechanism. Based on a positive-loaded, split gear assembly, this simple device protects indicator accuracy, prolongs life, and reduces service costs.

When ordering, specify "N/S" after the dial indicator catalog number.

**NOTE:** Not available on the following indicators: Nos. 25-109, 25-209, 2600 and 2700 series; Nos. 656-109, 656-209 and all other indicators with 2" (50mm) range and above.



## AGD Indicator Contact Points and Accessories

Any of the contact points listed here can also be used with the Nos. 650, 651 Series and with the 196 Series Indicators by using the No. 196R Adapter

### Extra-Length Regular-Style Contact Points with round or flat ends 1/4"-4" (6-100mm)

All Starrett AGD indicators are regularly furnished with 1/4" (6.3mm) length interchangeable contact points. Available in standard lengths to 4" (100mm). Diameter is 13/64" (5mm), with a #4-48 screw thread. Made from high grade steel, hardened and ground. Other lengths are also available – priced on application. Available with round or flat ends as listed.

### Regular-Style Carbide Contact Points with round or flat end

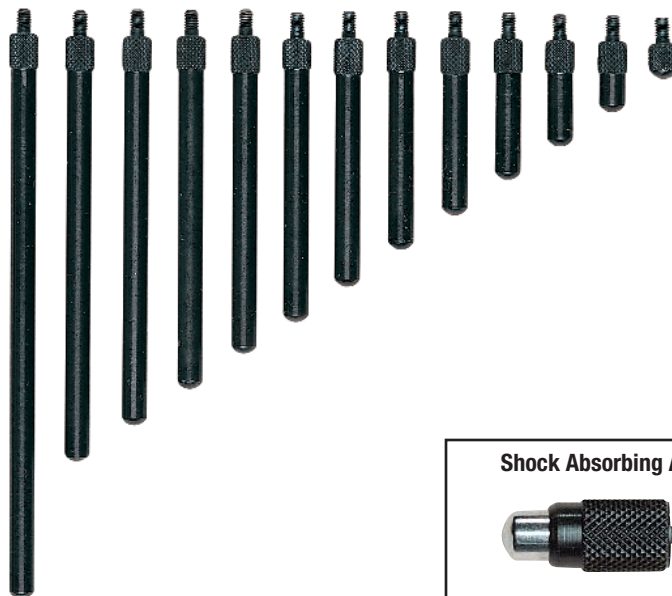
Two round points are available in standard lengths. 1/4" (6.3mm), PT08399-X (EDP 66053) – or – 1/2" (13mm), PT06677-X (EDP 66054). One flat point is available in standard length; 1/4" (6.3mm), PT10453-X (EDP 66068). Interchangeable points have a #4-48 screw thread. Longer lengths can be easily obtained by adding contact point extensions (see next page). Other sizes also available by request.

### Shock Absorbing Anvil No. 28 / EDP No. 50199

Anvil replaces the regular contact point on any AGD indicator, protecting its movement against mechanical shock. Any sudden impact telescopes the anvil into the body of the unit against an internal spring. Acts as a solid contact point when the indicator is used normally. Furnished with #4-48 AGD standard screw thread.

### Flat-End Steel Points

The flat-end contact points have hardened steel contact surfaces, ground flat and lapped. They are furnished with a #4-48 screw thread for use on any AGD indicator.



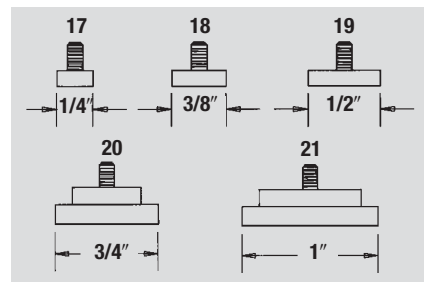
Shock Absorbing Anvil

### Extra-Length Contact Points, Regular Style

Length		Rounded End		Flat End	
Inch	mm	Part No.	EDP No.	Part No.	EDP No.
1/4"	6.3mm	PT07215	70965	PT10453	72048
1/2"	13mm	PT06677	70823	PT09560	71260
3/4"	19mm	PT06677A	70824	PT09560A	71261
1"	25mm	PT06677B	70825	PT09560B	71262
1 1/4"	32mm	PT06677C	70826	PT09560C	71263
1 1/2"	38mm	PT06677D	70827	PT09560D	71264
1 3/4"	44mm	PT06677E	70828	PT09560E	71265
2"	50mm	PT06677F	70829	PT09560F	71266
2 1/4"	57mm	PT06677G	70830	PT09560G	71267
2 1/2"	63mm	PT06677H	70831	PT09560H	71268
2 3/4"	70mm	PT06677J	70832	PT09560J	71269
3"	75mm	PT06677K	70833	PT09560K	71270
4"	100mm	PT10459	71327		

### Flat-End Steel Points

Diameter		Style No.	Part No.	EDP No.
Inch	mm			
1/4"	6.3	17	PT06632-17	70804
3/8"	9.5	18	PT06632-18	70805
1/2"	12.7	19	PT06632-19	70806
3/4"	19	20	PT06632-20	70808
1"	25	21	PT06632-21	70807





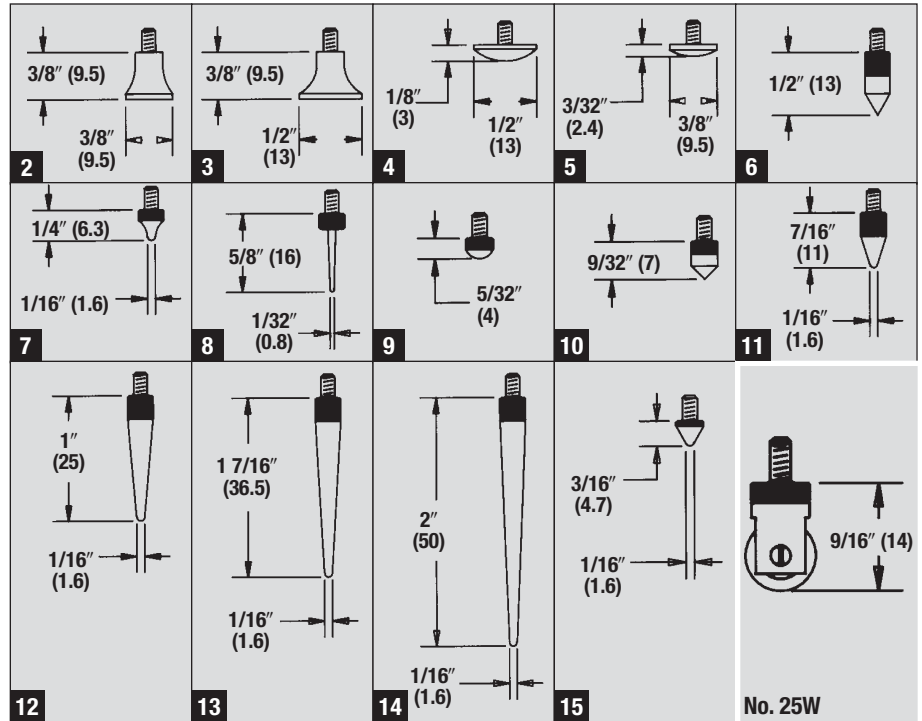
### AGD Indicator Special Contact Points and Accessories

#### Special Form Contact Points

Starrett Special Contact Points are furnished in fourteen shapes. Knurled diameter is approximately 13/64" (5mm). All have #4-48 screw thread and can be used on any AGD indicator. Other special shapes are available on special order.

Carbide, sapphire, diamond or teflon-coated contact points are also available by request.

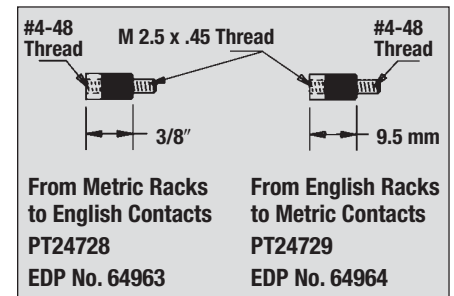
Style No.	Part No.	EDP No.
2	PT06632-2	70790
3	PT06632-3	70791
4	PT06632-4	70792
5	PT06632-5	70793
6	PT06632-6	70794
7	PT06632-7	70795
8	PT06632-8	70796
9	PT06632-9	70797
10	PT06632-10	70798
11	PT06632-11	70799
12	PT06632-12	70800
13	PT06632-13	70801
14	PT06632-14	70802
15	PT06632-15	70803



#### Roller Contact Point No. 25W/EDP No. 53916

This contact has a small, hardened roller 3/8" (9.5mm) in diameter for continuous gaging of moving material where the material movement is at a slow speed. Contact has #4-48 screw thread and substitutes for the regular contact point provided on Starrett and other AGD indicators. Furnished with a knurled check nut for positioning the contact on the indicator spindle. See inset drawing above.

#### AGD Contact Adaptors



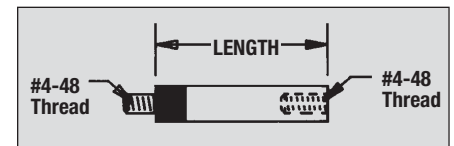
#### Contact Point Set No. 25R/EDP No. 50153

14 points with #4-48 screw thread to fit AGD indicators: a regular 1/4" (6.3mm) long point; 9 special form points; a No. 28 Shock Absorbing Anvil; and 3 extra long points 1/2", 3/4" and 1" (13, 19, 25mm) long. High grade steel, hardened and ground. All points are mounted on a convenient aluminum ring for safe keeping and easy selection.



No. 25R.

#### AGD Contact Point Extensions



Length	Part No.	EDP No.
1/2"	PT21697-1/2	64632
1"	PT21697-1	64633
2"	PT21697-2	64634
3"	PT21697-3	64635
4"	PT21697-4	64636





## AGD Indicator Accessories Split Collets

### No. 25 SC Series English and Metric Threads

For mounting AGD indicators with 3/8" (9.5 mm) or 8 mm stems in gaging and work location fixtures, these collets simplify fixture mounting. Screw the collet into the fixture or into our No. 648 Depth Gage Base, insert the indicator into the collet and tighten it in place with the hexagonal nut. Internal collet fingers grip the stem with equal pressure to eliminate spindle binding. Made of steel with black finish. Overall length of collet and threads is 1".



Left-to-right: Nos. 25SC14 and 25SC38.

#### English Thread

Thread Size	Thread Length	Hole for Indicator Stem	Catalog No.	EDP No.
3/8-24NF	9/32" (7mm)	.375" (9.5mm) Diameter to 1/2" (12.7mm) Depth; 1/4" (6.3mm) Diameter through Hole	<b>25SC14</b>	50155
1/2-20NF		.375" (9.5mm) dia. through Hole	<b>25SC38</b>	50156
1/2-32UN		.375" (9.5mm) dia. through Hole	<b>25SC38B</b>	55995

#### Metric Thread

M12 x 1.75	7mm	8mm Diameter through Hole	<b>25SC8M</b>	64885
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## Depth Gage Bases with Stem Collet

### No. 648 Series

Bases are for mounting AGD indicators to measure depths. Indicators with .375" (9. mm) stems will fit the stem collet furnished with the base (No. 25SC38). Indicators with 8 mm stems need the split bushing No. 25MSB to adapt to the stem collet. Longer contacts or extensions may be required.

Base Size	Catalog No.	EDP No.
4" (100mm)	<b>648-4</b>	65850
6" (150mm)	<b>648-6</b>	65851
8" (200mm)	<b>648-8</b>	65852



## Split Bushings

Split bushings fit over the indicator stem to increase the overall diameter for mounting in fixtures.



Split Bushing.

#### Fit Starrett No. 80 Series Miniature Dial Indicators

Length	Diameter		Catalog No.	EDP No.
	Inside	Outside		
1/2"	.219"	.375"	<b>80SB</b>	56008

#### Fit Starrett AGD English Indicators

1/2"	.375"	.500"	<b>25SB</b>	50154
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#### Fit Starrett AGD Metric Indicators

12.7mm	8mm	9.5mm	<b>25MSB</b>	56007
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## Threaded Stems

Threaded stems on Starrett indicators with a .375" (9.5mm) diameter stem up to 1" (25mm) range (except long stem models) are available at additional cost. A threaded stem is often desirable for attaching the indicator to machine tools or fixtures. A 3/8-24 thread is furnished unless otherwise specified.



Threaded Stem.



### AGD Indicator Accessories

#### Long Stem Dial Indicators

Starrett Nos. 81, 25, 2600, 655 and 656 Indicators through the 1" (25mm) range can be furnished with long stems up to 12" (300mm). These are especially useful for gaging in deep holes or where obstructions prevent the use of regular indicators. Specify stem length from outside case diameter when ordering.

**NOTE:** Long stems not available on No. 80 Series Miniature Dial Indicators.

#### Range Limit Cap

**No. 25LC**  
**EDP No. 50152**

The Range Limit Cap replaces the stem cap furnished on most Starrett Series Nos. 81, 25, 2600, 655 and 656 AGD Indicators, preventing the possible error of a complete revolution. It can be adjusted to limit an indicator's measuring range any amount up to 3/8" (9.5mm).

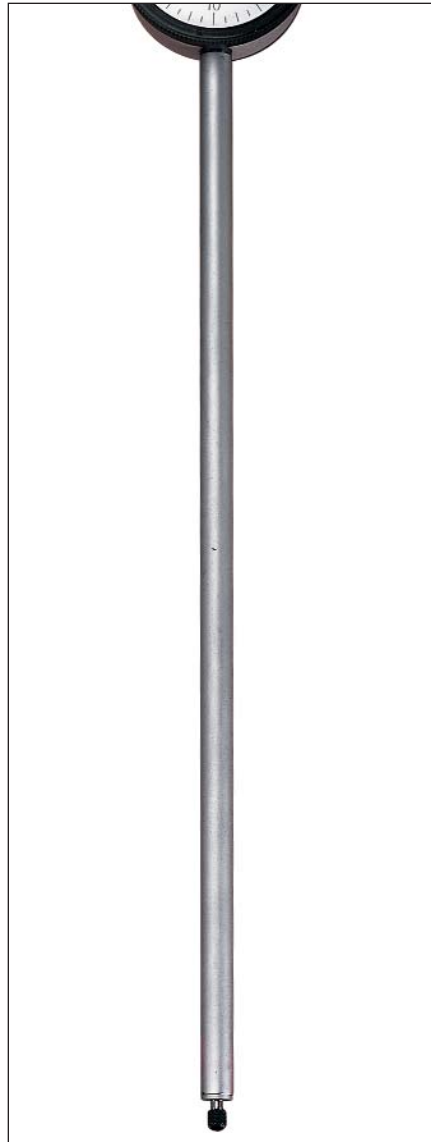
#### Lever Control

Fits only indicators with a case stem cap.

**No. PT99356**  
**EDP No. 72088**

Handy attachment mounts in place of the stem cap and is interchangeable on most Starrett Series Nos. 81, 25, 2600, 655 and 656 AGD Indicators up to 1" or 25mm range. Pressing down the lever lifts the spindle; releasing it lets the spindle contact the work. Easy to install in the left or right hand position using a screwdriver and an open end wrench. If ordered on a new indicator, specify left or right hand position. (Furnished at left unless otherwise ordered.)

**NOTE:** .500", 1.000", 10mm or 25mm indicators must be originally ordered with case stem cap to be used with cam type lifting levers. No extra charge for case stem cap.



Long stem.

#### Top Lift

A knurled grip allows the spindle to be manually lifted and returned by spring action to contact the work. Furnished in place of the stem cap on .500", 1.000", 10mm and 25mm range indicators.

No extra charge on AGD indicators up to 1" (25mm) range; over 1" (25mm) range, priced on request. To order, specify "with Top Lift" after the indicator catalog number.

**NOTE:** Will not fit on No. 2700 Series Indicators.



Range cap.



Top lift.



Lever control.



Dust guard.

#### Rubber Dust Guard

Protects the rack of AGD Indicators from foreign matter under adverse gaging conditions. Made in lengths to fit Nos. 81, 25, 2600, 655 and 656 Indicators up to 1" (25mm) range.

Indicator Range	Part No.	EDP No.
.400", .500", 1.000" (10mm, 12.7mm, 25mm)	PT09545	71256
Ranges under .400" (10mm)	PT09763	71289





## AGD Dial Indicator

### Tolerance Hands

Starrett dial indicators may be ordered with crystal-mounted or bezel-mounted tolerance hands for visually checking the limits of any given dimension.

**Crystal-mounted hands**, both colored red, are positioned under the crystal and are individually adjustable through 360° by turning concentric knurled knobs on the outside of the crystal. Available for all Series Nos. 81, 25, 655 and 656 AGD Dial Indicators.

**Bezel-mounted hands**, both colored red, rotate inside the bezel. They are mounted outside the crystal and are independently adjustable through 360°. Available for Nos. 81 and 25 Series AGD Indicators only.

**New Snap-on bezel-mounted hands**, two hands colored red, are easily mounted on the outside of the bezel and are adjustable through 360°. Available for Starrett No. 25 Series AGD Indicators only. Order No. PT99513 (EDP No. 66038).



Indicators with (left) Snap-on bezel-mounted hands; (middle) Crystal-mounted hands; and (right) with bezel-mounted hands.

### Maximum Hand

This red-colored hand records the maximum position reached by the indicator hand within a single revolution. Mounted under the crystal, it has a small nib at its point. The indicator hand contacts the nib, advancing the maximum hand which remains in position when the indicator hand returns to its at-rest position. To reset the maximum hand, turn the knurled knob mounted outside the crystal.



Maximum Hand in at-rest position with indicator hand, left. In recording position, right.

To order Tolerance or Maximum Hands, specify the indicator catalog number followed by the name of the type of hand desired.



### Indicator Testers

**No. 716** 0-1"

**No. 716M** 0-25mm

With direct reading capability to .0001" or 0.002mm, these gages provide a rapid means for calibrating both AGD and dial test indicators for linearity and repeatability through ranges up to 1" or 25mm. This tester design is unlike others because it can be swung to any position between vertical and horizontal by loosening a large hand knob which fastens the gage assembly to the base.

In addition, the micrometer head can be turned on its axis and its scale positioned to suit the operator's convenience by loosening a single set screw. Tensioned locking screws prevent tipping of both the gage assembly and the indicator holding clamp during set-up and adjustment.

The micrometer head is our No. 469 Series super-precision head with reverse reading capability. When testing a Series No. 2600 or No. 2700 Electronic Indicator, a .000050" graduated head is advisable, available on special order.

An indicator mounting attachment holds dovetail mount indicators, AGD indicators with 3/8" (9.5mm) stems and indicators with a holder that has a 3/16" (4.7mm) shank. Unit also has a fine adjustment to zero the indicator.



No. 716.



Dial test indicator is held in place by an offset attachment.



Checking AGD dial indicator.

#### 0-1" Range

Micrometer Head Graduation	Description	Catalog No.	EDP No.
.0001"	Tester with carbide faced spindle, Indicator Mounting and Offset Attachment	716X	67228

#### 0-25mm Range

0.002mm	Tester with carbide faced spindle, Indicator Mounting and Offset Attachment	716MX	67229
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**NOTE:** Also available on special order with resolution to .000050" or 0.001mm.

#### Accessory

Description	Catalog No.	EDP No.
Indicator Mounting Attachment Only	PT26009	65102

Packed one in a box.



## Electronic Indicators

### No. 2600 Series AGD Group 2

Ranges up to 1" and 25mm

This series of indicators is available in two versions; one with basic functions and one with full functions for complete SPC compatibility.

#### Features and Benefits Common to Both Versions:

- ◆ Conform to the dimensions of AGD size Group 2
- ◆ Available with either a .375" (9.5mm) stem or an 8mm (.315") stem. Furnished with .375" (9.5mm) stem unless otherwise ordered
- ◆ 1" (25mm) range
- ◆ Readout available to .0005" and 0.01mm
- ◆ A large, right-sized, easy-to-read LCD digital readout, surrounded by a rotating black bezel
- ◆ Furnished with lug-on-center back
- ◆ Starrett-designed electronics microprocessor
- ◆ Output to Starrett SPC Plus® system components on most models
- ◆ Utilizes standard indicator accessories and holding devices
- ◆ Battery powered and portable
- ◆ Rugged, sealed enclosure makes them F.F.F. (factory floor friendly)

#### No. 2600 Basic Indicator Action Features

- ◆ Instant inch/mm conversion
- ◆ Zero at any position
- ◆ Plus/minus control to indicate direction
- ◆ ON/OFF control with automatic off after one hour of nonuse. (Zero references will not be lost from memory)



Left, No. 2600-0 basic model; right, No. 2600-8 Full-Function Indicator.

#### No. 2600 Full-Function Indicator Action Features

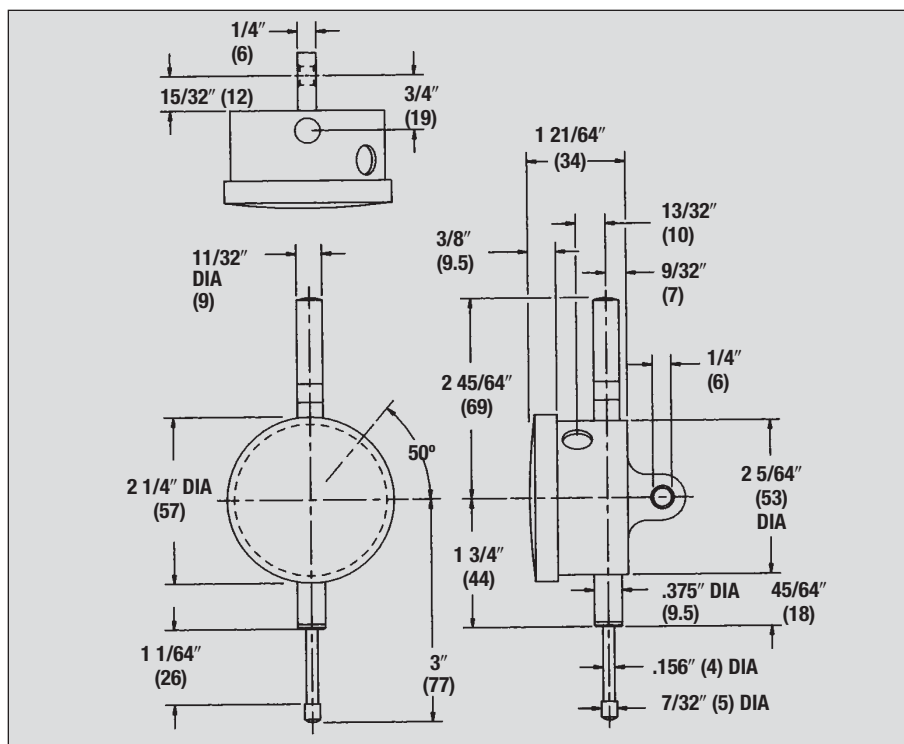
- ◆ Bezel rotates the reading for convenient positioning
- ◆ Instant inch/mm conversion
- ◆ Zero at any position
- ◆ Ability to retain and return reading to the original zero reference (zero absolute [ABS])
- ◆ Plus/minus control to indicate direction
- ◆ Min/Max/TIR – Min/max mode is used to retain the lowest and highest readings in a group, and TIR gives the difference between them
- ◆ Limits mode to enter low and high limits for tolerance control. This is easily done by the shift control to enter the proper function
- ◆ Preset is used to install any reading at any point in the display and is also done with the new shift control
- ◆ ON/OFF control with automatic off after one hour of nonuse. (Zero references will not be lost from memory)
- ◆ Output jack allows data transmission to the following peripherals for SPC analysis, data collection and hard copy documentation
  - Starrett No. 772 Series Advanced Data Collection Systems
  - Starrett No. 761 Series Data Multiplexers
  - Works well with Starrett DataSure™ Wireless Data Collection System
  - Other devices that support RS232C



### Electronic Indicators

#### No. 2600 Series

#### AGD Group 2 (continued)



#### Basic Models

Resolution		Output	Catalog No.	EDP No.
Inch	mm			
.001"	0.01mm	No	<b>2600-7</b>	66041
.0005"	0.01mm	No	<b>2600-0</b>	65593
.0005"	0.01mm	Yes	<b>2600-1</b>	64886

#### Full Function Models

.001"	0.01mm	Yes	<b>2600-8</b>	66042
.0005"	0.01mm	Yes	<b>2600-4</b>	64889

#### Accessories and Cables

Description	Part No.	EDP No.
Adaptor from No. PT22938 Cable to IBM-PC (RS232C)	<b>PT61768</b>	66454
Shielded Cable to Starrett No. 761 Data Multiplexer and No. 772 Series Data Collector Modules and No. PT61768 Adaptor	<b>PT22938</b>	64059
Spindle Lifting Cable	<b>PT26263</b>	66043
One 3-Volt Battery No. CR2450	<b>PT61120</b>	65446

#### Specifications

Range		Resolution		Accuracy	
Inch	mm	Inch	mm	Inch	mm
1"	25mm	.001"	0.01mm	±.001"	±0.03mm
		.0005"			

#### Output Format

4,800 BAUD, seven data bits, even parity, one stop bit, ASCII data.

Transmission is exactly 16 characters followed by a carriage return and a line feed.





## WISDOM® Electronic Indicators

### No. 2700 Series AGD Groups 2, 3 and Rectangular

Ranges up to 4" and 100mm

This is our most versatile line of electronic indicators, available in three styles, in addition to a remote display and accompanying probe series.

All indicators feature a glass scale design with an unsurpassed accuracy of  $\pm$  two resolutions when measuring from a known standard. All have rugged, sealed enclosures as well.

American designed and manufactured.

### WISDOM Basic Series

#### ◆ User Selectable Resolutions:

All available resolutions can be utilized in the same indicator, provided they are coarser than the resolution of the purchased model.

**Example:** selecting an indicator with the finest .00005"/0.00mm base resolution means you have all eight remaining resolutions "below" this which are usable in that model. If you select an indicator with a .001"/0.02mm base resolution, it will be your only available resolution for that model.

- ◆ 10 resolutions and 5 measuring ranges available (see specifications)
- ◆ Instant inch/mm conversion
- ◆ Plus or minus travel direction
- ◆ Maximum Reading Hold
- ◆ Zero the tool at any position of the spindle
- ◆ Rotating bezel
- ◆ Auto Off: After 10 minutes of nonuse. When Auto Off is engaged, an hourglass figure appears at the left side of the display
- ◆ Serial number: Indicators are furnished with individual serial number labels, coded with date for traceability
- ◆ Three power sources – operate by battery, A/C adaptor or through data port
- ◆ The output jack allows data transmission, either through a traditional wire or by connecting to a Starrett DataSure™ Wireless Data Collection System end node



Left, No. F2730-0; right, No. 2720-4.

- ◆ Output data can be used by a variety of peripherals for analysis, data collection and hard copy documentation, including:

- ◆ Starrett No. 772 Series Advanced Data Collection Systems
- ◆ Starrett No. 761 Series Data Multiplexers
- ◆ Other devices that support RS232C

### WISDOM Plus Series

These models have all the features and functions of the Basic Series, plus the following:

- ◆ Preset mode to install any reading at any point in the display. Reading is retained even if the indicator is turned off
- ◆ T.I.R.: Displays the difference between the highest and lowest values reached
- ◆ Tolerancing: Permits the entering of high and low tolerances. When tolerances are exceeded, the display will flash. Numbers are retained even if the indicator is turned off
- ◆ Minimum reading hold
- ◆ Hold button to freeze display: Displays and holds the reading after the measurement has been taken
- ◆ Feature lock: Unique feature locks user selections so that a wrong button push will not change your settings



Above: regular and oversized models.

### WISDOM-OEM Indicators:

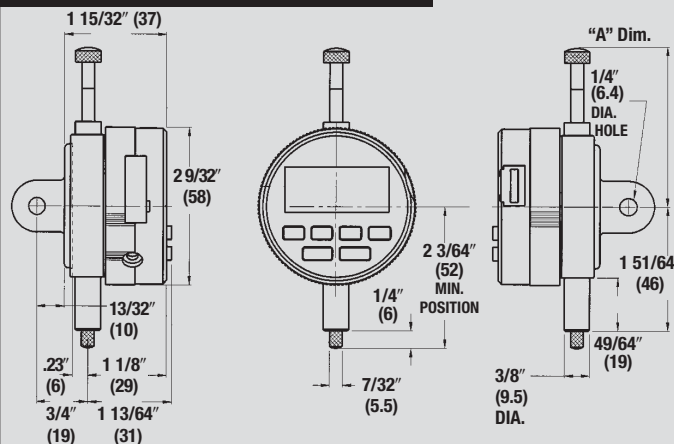
Starrett can customize WISDOM models to meet your needs. Any combination of features found in WISDOM Basic or Plus Series can be furnished. In addition, units can be designed with features such as:

- ◆ Special measuring ratios like 2:1, 4:1, etc.
- ◆ Other units of measurement (cm, lb., etc.)
- ◆ Custom LCDs, graphics
- ◆ Varying the auto-off after nonuse time (Example: 45 minutes vs. 10 minutes)

See specifications, next two pages.

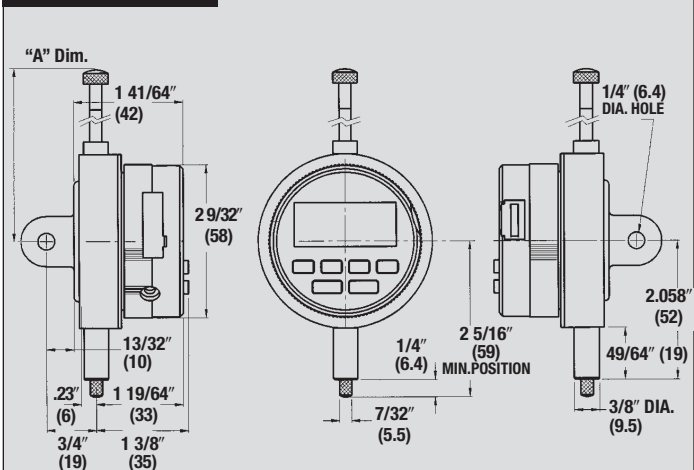


### .250"/6mm and .600"/15mm Models



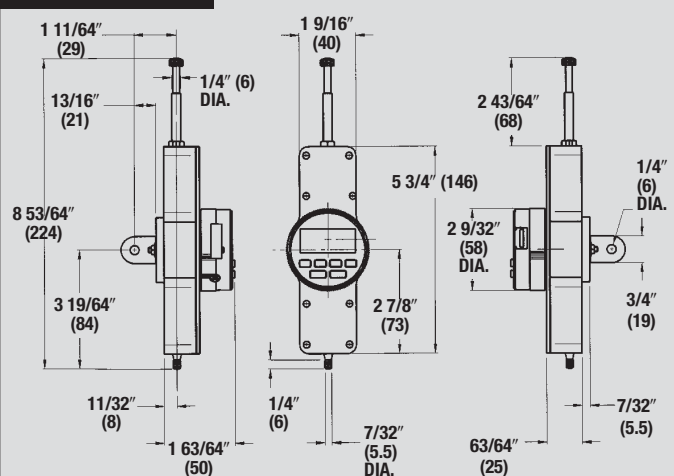
Travel		"A" Dimension	
Inch	mm	Inch	mm
.600"	15mm	2 13/32"	61mm
.250"	6.4mm	2 1/16"	52mm

### 1"/25mm Models

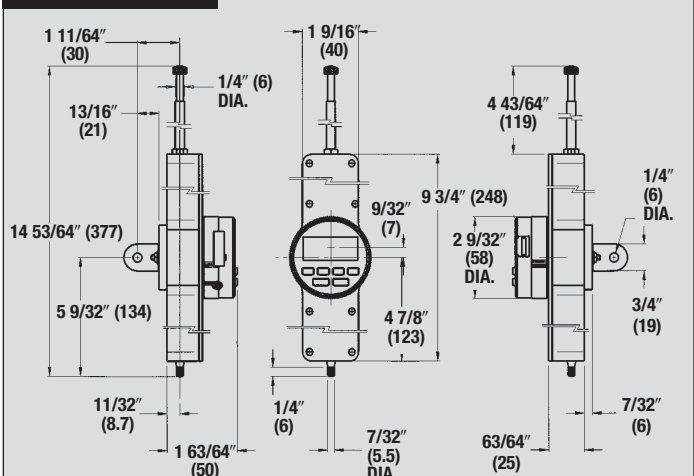


Travel		"A" Dimension	
Inch	mm	Inch	mm
1"	25.4mm	2 7/8"	73mm

### 2"/50 mmModels



### 4"/100mm Models



## WISDOM® Series Remote Displays and Probes

These displays with probes will make absolute, incremental and/or comparative measurements and implement all the features of WISDOM Plus Indicators. System is ideal where viewing and operation ease are required. It is also suitable for any stand-alone gaging application.

- ◆ Remote display is a rugged enclosure with a 5/8" (16mm) high, easy-to-view LCD readout
- ◆ Power sources include 110V 50/60hz, or battery operated (without backlight)
- ◆ Probe and display can be separated by a distance of up to 6' (1.8 meters)
- ◆ Cable is hard wired to the probe and has a jack for convenient connection to the remote display box
- ◆ Readout box can be elevated for desired viewing



No. R2760-1.

See specifications on next page.





## WISDOM No. 2700 Series Indicators\*\* (continued)

Range		Resolution		No. of Resolutions Avail.	AGD/Case	Basic Series In/mm		Plus Series In/mm		Basic Series mm Only		Plus Series mm Only	
Inch	mm	Inch	mm			Cat. No.	EDP No.	Cat. No.	EDP No.	Cat. No.	EDP No.	Cat. No.	EDP No.
.250"	6	.00005"	0.001	10	AGD-2	<b>2710-0</b>	65810	<b>F2710-0</b>	65830			<b>F2710-0M</b>	66515
		.0001"	0.002	8		<b>2710-1</b>	65811	<b>F2710-1</b>	65831				
		.00025"	0.005	6		<b>2710-2</b>	65812	<b>F2710-2</b>	65832				
		.0005"	0.01	4		<b>2710-3</b>	65813	<b>F2710-3</b>	65833				
		.001"	0.02	2		<b>2710-4</b>	65814	<b>F2710-4</b>	65834				
.600"	15	.00005"	0.001	10	AGD-2	<b>2720-0</b>	65815	<b>F2720-0</b>	65835	<b>2720-0M</b>	67140		
		.0001"	0.002	8		<b>2720-1</b>	65816	<b>F2720-1</b>	65836			<b>F2720-1M</b>	66516
		.0005"	0.01	4		<b>2720-3</b>	65817	<b>F2720-3</b>	65837	<b>2720-3M</b>	66508	<b>F2720-3M</b>	66517
		.001"	0.02	2		<b>2720-4</b>	65818	<b>F2720-4</b>	65838			<b>F2720-4M</b>	66518
1.0"	25	.00005"	0.001	10	AGD-3	<b>2730-0</b>	65819	<b>F2730-0</b>	65839	<b>2730-0M</b>	67106	<b>F2730-0M</b>	66519
		.0001"	0.002	8		<b>2730-1</b>	65820	<b>F2730-1</b>	65840	<b>2730-1M</b>	67107	<b>F2730-1M</b>	66520
		.0005"	0.01	4		<b>2730-3</b>	65821	<b>F2730-3</b>	65841				
		.001"	0.02	2		<b>2730-4</b>	65822	<b>F2730-4</b>	65842				
2.0"	50	.0001"	0.002	8	Rectangular	<b>2740-1</b>	65824	<b>F2740-1</b>	65844	<b>2740-1M</b>	67141	<b>F2740-1M</b>	66522
		.0005"	0.01	4		<b>2740-3</b>	65825	<b>F2740-3</b>	65845	<b>2740-3M</b>	66509		
		.001"	0.02	2		<b>2740-4</b>	65826	<b>F2740-4</b>	65846			<b>F2740-4M</b>	66521
4.0"	100	.0001"	0.002	8		<b>2750-1</b>	65827	<b>F2750-1</b>	65847	<b>2750-1M</b>	67142	<b>F2750-1M</b>	66523
		.0005"	0.01	4		<b>2750-3</b>	65828	<b>F2750-3</b>	65848	<b>2750-3M</b>	66510		
		.001"	0.02	2		<b>2750-4</b>	65829	<b>F2750-4</b>	65849			<b>F2750-4M</b>	66524

## WISDOM Series Remote Displays

Resolution		Power	In/mm		mm Only	
Inch	mm		Cat. No.	EDP No.	Cat. No.	EDP No.
.00005"	0.001	110 Volt	<b>R2762-0</b>	65878	<b>R2762-0M</b>	66514
		Battery	<b>R2763-0</b>	65879	<b>R2763-0M</b>	67149
.0001"	0.002	110 Volt	<b>R2760-1</b>	65876	<b>R2760-1M</b>	67147
		Battery	<b>R2761-1</b>	65877	<b>R2761-1M</b>	67148

## Remote Display Probes

Range		Resolution		In/mm		mm Only	
Inch	mm	Inch	mm	Cat. No.	EDP No.	Cat. No.	EDP No.
.250"	6	.00005"	0.001	<b>P2711-0</b>	65870	<b>P2711-0M</b>	66511
		.0001"	0.002	<b>P2711-1</b>	65871		
.600"	15	.00005"	0.001	<b>P2721-0</b>	65872	<b>P2721-0M</b>	66512
		.0001"	0.002	<b>P2721-1</b>	65873	<b>P2721-1M</b>	67146
1.0"	25	.00005"	0.001	<b>P2731-0</b>	65874	<b>P2731-0M</b>	67144
		.0001"	0.002	<b>P2731-1</b>	65875	<b>P2731-1M</b>	67145
2.0"	50	.0001"	0.002	<b>P2741-1</b>	65978	<b>P2741-1M</b>	67143
4.0"	100	.0001"	0.002	<b>P2751-1</b>	65979		

\*Other backs, styles and accessories also available by request. To order contact points individually, see previous pages.

\*\*Other ranges and resolutions available on request.

## Accessories, Power Source, Cables

Description	Part No.	EDP No.
A/C Adaptor, 110-Volt	<b>PT26413</b>	65880
Replacement Zinc Air Batteries, 4-Pack	<b>PT26404</b>	65884
Replacement Lithium Battery, 1-Pack (req. 2)	<b>PT61120</b>	65446
Cable to Module PT61490, to Connect to Starrett 772 Data Collectors and 761 Multiplexers	<b>PT61489</b>	65904
Cable for WISDOM Indicator to WISDOM Remote Display	<b>PT26415</b>	65882
Cable to RS232 (IBM PC/Compatible)	<b>PT26441</b>	65893
Cable to M.T.I. Collectors and Processors	<b>PT26546</b>	66048
6' Extension Cable	<b>PT05679</b>	68752

## Backs/Lever\*

Flat Back	<b>PT26406</b>	65886
Offset Lug Back	<b>PT26407</b>	65887
Adjustable Lug Back	<b>PT26411</b>	65891
Adjustable Back	<b>PT26408</b>	65888
Post-Type Back	<b>PT26409</b>	65889
Screw Bracket Back	<b>PT26410</b>	65890
Adjustable Mounting Bracket Back	<b>PT26848</b>	66293
Lifting Lever	<b>PT26405</b>	65885



NEW

### Electronic Indicators

#### No. 3600 Series

#### AGD Group 2

Ranges up to .500" and 12.7mm

No. 3600 Series Electronic Indicators have simple, powerful, easy-to-use functions, all at an attractive price. Versions are available for inch/metric and metric only.

#### Features

- ◆ Large, easy-to-read LCD
- ◆ AGD group 2 size
- ◆ Range: .500" or 12.7mm
- ◆ Resolution: .0005" or .01mm
- ◆ Power On / Off button
- ◆ Reverse travel ( $\pm$  control indicates direction)
- ◆ Zero setting at any position
- ◆ Long battery life
- ◆ 3/8" diameter stem for inch/mm model (8mm on metric-only model)
- ◆ 4-48 spindle thread on inch/mm model (M2.5 X .45 thread on metric-only model)
- ◆ Lug-on-center back + additional flat back
- ◆ Dust cap
- ◆ Plastic storage case with clear cover



#### Inch/mm

Range		Resolution		Catalog No.	EDP No.
Inch	mm	Inch	mm		
.500	12.7	.0005	0.01	3600-5	68813

#### Metric-Only

	12.7		0.01	3600M-5	68918
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#### Accessory

Description	Catalog No.	EDP No.
SR44 Battery	PT61918	67169



## Magnetic Base Indicator Holders

Starrett offers a full line of indicator holders and stands to meet the requirements of a wide variety of applications.

Four of these are applicable to Dial and Electronic Indicator applications, and are also used with Test Indicators.

These models are detailed in the Test Indicator Section. Please refer to the appropriate page number for information about these models.



## No. 657 Series

Base has three precision ground, magnetic contact surfaces. Grips horizontally, vertically or upside down. V-step holds base to round surfaces. Extra #1/4-20 tapped hole in one side of base (not shown) for mounting post.

Available with or without Starrett AGD Dial Indicators: inch reading No. 25-131J (graduation .0005", dial reading 0-25-0, range .125") or millimeter reading No. 25-181J (graduation 0.01mm, dial reading 0-50-0, range 2.5mm). Other indicators can be furnished on request.

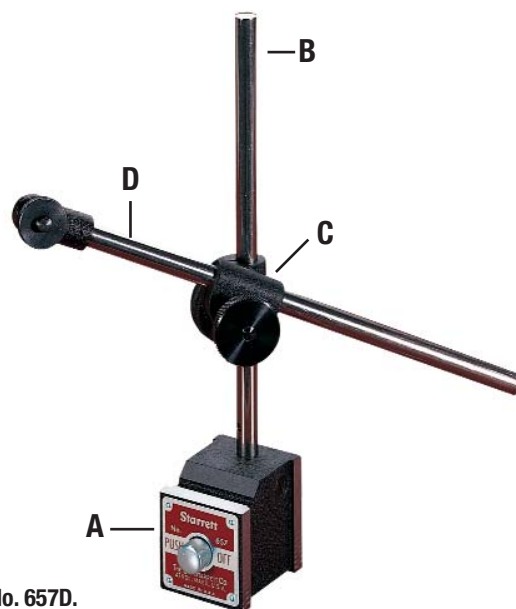
**A. No. 657P Magnetic Base –**  
1 15/16" x 1 5/8" x 1 7/8"  
(50 x 40 x 48mm) deep. Push button on/off switch for one-hand operation.

**B. No. 657G Upright Base Post –**  
3/8" (9.5mm) diameter x 7 7/16" (190mm) length overall.

**C. No. 657H Swivel Post Snug –**  
Allows universal indicator adjustment – up-and-down, any vertical angle, for a complete 360°. Two 3/8" (9.5mm) holes.

**D. No. PT06784-A Gage Holding Rod –**  
3/8" x 9 1/2" (9.5 x 240mm) with clamping mechanism for gripping the indicator lug back (see photo below).

**E. and F. Nos. 57S and 58S Universal Snugs –** Adapt various scribers and indicator shanks to rods and posts.



### Base Holder Assembly and Individual Components

Photo Key	Description	Catalog No.	EDP No.
	Magnetic Base, Upright Post Assembly Including Post, Swivel Post Snug and Gage Holding Rod	<b>657D</b>	52749
<b>A</b>	Magnetic Base Only	<b>657P</b>	52757
<b>B</b>	Upright Base Post Only	<b>657G</b>	52753
<b>C</b>	Swivel Post Snug Only	<b>657H</b>	52785
<b>D</b>	Gage Holding Rod with Clamp Mechanism	<b>PT06784-A</b>	52755
<b>E</b>	Universal Snug with 5/16" and 3/8" Hole Dia.	<b>57S</b>	50296
<b>F</b>	Universal Snug with 1/4", 5/16" and 3/8" Hole Dia.	<b>58S</b>	56613

### Sets Including Magnetic Base, Upright Post Assembly and AGD Dial Indicators

Description	w/Finished Wood Case		Without Case	
	Catalog No.	EDP No.	Catalog No.	EDP No.
Base and Upright Post Assembly with Inch Reading Indicator No. 25-131J	<b>657EZ</b>	52751	<b>657E</b>	52750
Base and Upright Post Assembly with Millimeter Reading Indicator No. 25-181J	<b>657MEZ</b>	56358	<b>657ME</b>	56357



Clamp mechanism grips indicator lug back.



### Heavy-Duty Magnetic Base Indicator Holder with rotary on/off switch. Furnished with or without Starrett AGD Dial Indicators

#### No. 659 Series

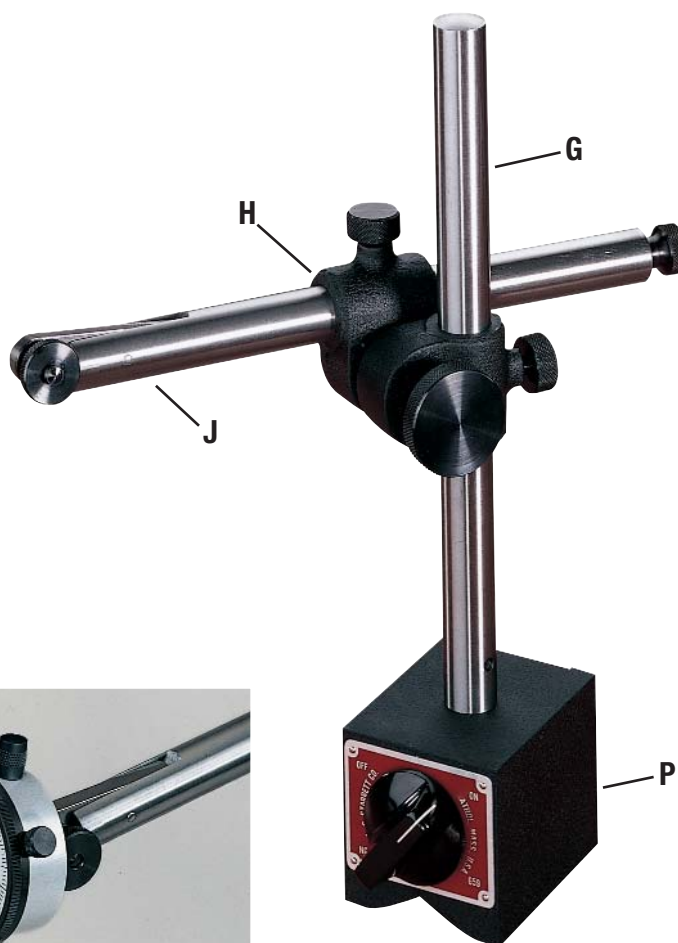
This holder has a powerful magnetic base that attaches to flat surfaces or on round work up to 5" (125mm) in diameter by a form-ground involute vee for accurate seating. It has approximately twice the holding power of our No. 657 Magnetic Base and has a rotary on/off switch.

A post snug with two 3/4" (19mm) gripping holes positions the dial indicator at any height and at any vertical angle and allows for 360° rotation of the gage rod. After locking the gage in place, the final indicator setting is made by an independent fine adjustment at the back end of the gage rod.

A second tapped hole (3/8"-24) in one side of the base is for mounting the post horizontally or adding another post for multiple inspection work. The base is furnished with a threaded adaptor, making it possible to use the No. 657 Series Magnetic Base post and attachments. Base and snug have a black wrinkle finish with precision ground contact surfaces.

Available with or without Starrett AGD Dial Indicators: inch reading No. 25-131J (.0005" graduation) or millimeter reading No. 25-181J (0.01mm graduation). Other mechanical AGD indicators are available on request. Electronic indicators, Nos. 2600 and 2700 Series, are also available on request.

Both the upright post and the gage rod are approximately 9 3/8" (238mm) long and 3/4" (19mm) in diameter.



No. 659A. Inset, No. 659A with No. 25-111J.

#### Base Holder Assembly and Individual Components

Photo Key	Description	Catalog No.	EDP No.
	Magnetic Base, Upright Post Assembly Including Post, Snug, Gage Rod with Clamp and Fine Adjust, and Thread Adaptor, without Case	<b>659A</b>	56687
	Complete Assembly (Above) in Case	<b>659AZ</b>	55947
<b>P</b>	Magnetic Base, Including Thread Adaptor	<b>659P</b>	55949
<b>G</b>	Upright Base Post Only	<b>659G</b>	56688
<b>H</b>	Swivel Post Snug Only with Two 3/4" (19mm) Gripping Holes	<b>PT16846</b>	71597
<b>J</b>	Gage Holding Rod Only, Including Clamp Mechanism and Fine-Adjustment	<b>PT08903</b>	72032
	Thread Adaptor Only	<b>PT18318</b>	72040

#### Sets, Including Magnetic Base, Upright Post Assembly and AGD Dial Indicators

Description	Catalog No.	EDP No.
Base and Upright Post Assembly with Inch Reading Indicator No. 25-131J in Case	<b>659BZ</b>	55948
Base and Upright Post Assembly with Millimeter Reading Indicator No. 25-181J in Case	<b>659MBZ</b>	64892

Packed one in a box.





## Inspection Holder and Starrett AGD Dial Indicators

### No. 665 Series

This is the most versatile dial indicator holder with an extremely stable base (**A**) that is 8 1/2" (215mm) long x 2 1/4" (57mm) wide at the bottom. It can inspect workpieces on the top surface of the ground base or within a working area defined by the 8" (200mm) upright base post (**B**) and the 9 1/2" (238mm) long gage-holding rod (**C**). The base post can be conveniently located anywhere along the 8 1/2" (215mm) T-slot in the base.

This tool can be held in a vise or by a bolt in a machine T-slot coming up through one of the two 3/8" (9.5mm) holes in the base and fastening down on the top surface.

A great variety of mechanical AGD indicators and electronic indicators, Nos. 2600 and 2700 Series, are available on request.

#### D. Swivel Post Snug No. 665D

Snug has a .375" (9.5mm) hole for the gage holding rod and a .465" (11.8mm) hole for the upright post. Also comes with the No. 665L Reducing Bushing that can reduce the .465" (11.8mm) hole to 3/8" (9.5mm).

#### E. Base Reference Guide No. 665E

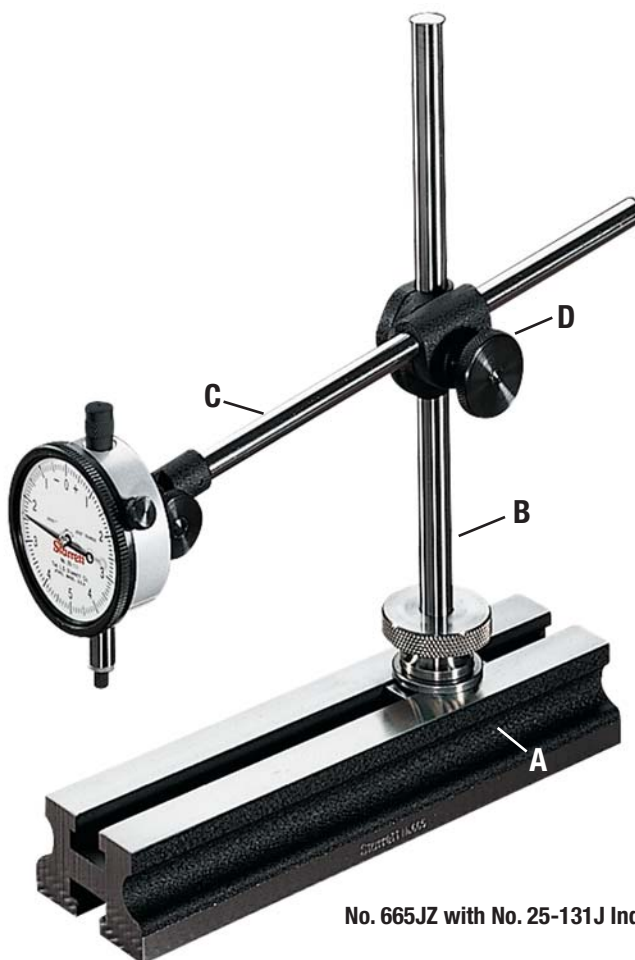
**(Optional)** – Guide is used to check parts or surfaces from straight or angular surfaces by use of the radiused guide stop. This fits into the T-slot in the bottom of the base and is fastened at right angles to the length.

Push up to a radius surface or slide along a radius surface.

#### F. Square Keyway Guide No. 665F

**(Optional)** – This guide can also be referenced from a square edge, a T-slot or a keyway with at least a 1/2" (12.7mm) width. Has square edges and is fastened at right angles to the length.

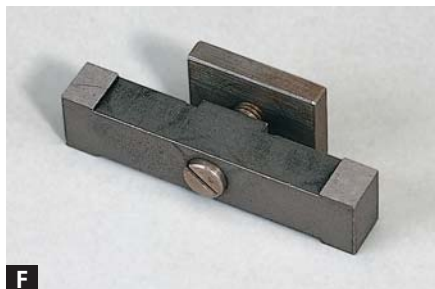
Push up to a square edge or slide along a square edge.



No. 665JZ with No. 25-131J Indicator.



E



F

(Continued on next page.)



### No. 665 Series (continued)

There are three very useful inspection combinations that can be made by removing the complete swivel post snug and gage holding rod and using them as follows:

#### G. Clamp No. 665G

Take the clamp and put the clamp post into the snug and lock it. Now this combination can be used to clamp the gage holding rod and the indicator into hard-to-reach places for inspecting jigs, fixtures, lining up work on centers and machine tables.

The clamp has a 3" (75mm) capacity and a post with an approximately 5 3/4" (145mm) length. The clamp post is .464" (11.8mm) diameter that fits into the regular swivel post snug No. 665D.

There are three other clamp post diameter options available – No. 665G-3/8 is a 3/8" (9.5mm) diameter clamp post that can be used in the regular swivel post snug No. 665D with the addition of the No. 665L reducing bushing. The Nos. 665G-5/16 (7.9mm) and 665G-1/4 (6.3mm) can be used with other snugs to hold an indicator.

#### H. Tool Post Holder No. 665H

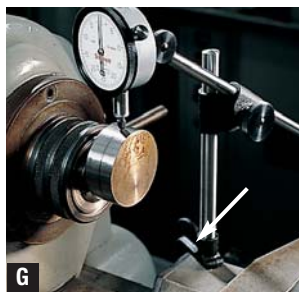
Put one end of the offset arm into the swivel post snug No. 665D (with the No. 665L reducing bushing in it). Then put this rectangular tool post holder No. 665H onto the other arm. This combination now allows for a good, tight setup in lathe tool posts and other machine setups.

#### I. Offset Arm No. 665G-1

Another very popular measuring combination is to put the reducing bushing (which is furnished) into the snug and then put one leg of the offset arm into it. Now the tool can be used in a 3/8" (9.5mm) chuck or collet to sweep a large area.

#### J. Reducing Bushing No. 665L

Bushing has a .465" (11.8mm) O.D. and a .375" (9.5mm) I.D.



### Individual Components

Key	Description	Catalog No.	EDP No.
A*	Base Only	665A	52783
B*	Upright Base Post .464" x 8" (11.8 x 200mm) with Clamp Mechanism	665B	52784
C*	Gage Holding Rod 3/8" x 9 1/2" (9.5 x 240mm) with Clamp Mechanism	PT06784-A	52755
D*	Swivel Post Snug with .465" and 3/8" (11.8 and 9.5mm) holes with No. 665L Reducing Bushing	665D	52754
E	Base Reference Guide	665E	52787
F	Square Keyway Guide	665F	52788
G*	Clamp with .464" x 5 3/4" (11.8 x 146mm) Post	665G	52792
	Clamp with 1/4" (6.3mm) Diameter Post	665G-1/4	52793
	Clamp with 5/16" (7.9mm) Diameter Post	665G-5/16	52794
	Clamp with 3/8" (9.5mm) Diameter Post	665G-3/8	52795
H*	Tool Post Holder Approximately 1" x 7/16" (25 x 11mm)	665H	52790
I*	Offset Arm 3/8" (9.5mm) Diameter 3" and 5 1/2" (75 and 140mm) Arms	665G-1	52789
J*	Reducing Bushing Only (for Swivel Post Snug) .465" (11.8mm) O.D. .375" (9.5mm) I.D.	665L	52756

### Inspection Sets with AGD Dial Indicators

Description	Catalog No.	EDP No.
Complete with Components * and No. 25-131J Inch Reading Indicator in Case	665JZ	56275
Complete with Components * and No. 25-181J Millimeter Reading Indicator in Case	665MJZ	56276

Packed one in a box.





## Dial Comparators with granite base

**No. 675GJ**

**No. 675GMJ**

Extremely rugged and universally adjustable to any position, these gages are well suited for inspection, layout, checking and lineup operations anywhere in the shop. All settings are individually made without disturbing others.

These versatile stands allow the indicator to be positioned at any height within the capacity of the upright base post – 360° both horizontally and vertically.

The indicator can also be moved lengthwise within the capacity of the 3/4" x 9 7/8" (19 x 250mm) horizontal gage-holding rod.

A special feature of this tool is the sensitive, fine-adjustment at the end of the gage rod. The fine-adjustment range is approximately 1/4" (6.3mm).

A 1/4" (6.3mm) steel indicator contact point is provided, but contact points in other lengths and materials are also available – see previous accessory pages.

This holder has a Starrett Grade-A Crystal Pink Granite base that is 8" x 12" x 2" (200 x 300 x 50mm), and is finished to an overall tolerance of .0001" (0.0025mm).



### Complete Units

Dial Indicator Specifications*				With Granite Base	
Graduation	Dial Reading	Range	Indicator No.	Catalog No.	EDP No.
.0005"	0-25-0	.125"	25-131J	<b>675GJ</b>	55964
0.01mm	0-50-0	2.5mm	25-181J	<b>675GMJ</b>	56129

\*For complete specifications see previous pages.

### Individual Components

Description	Catalog No.	EDP No.
Granite Base, Upright Base Post and Gage Holding Rod, Including Clamp Mechanism and Fine-Adjustment	<b>675G</b>	66051
Gage Holding Rod Only, Including Clamp Mechanism and Fine-Adjustment	<b>PT08903</b>	72032
Swivel Post Snug Only with Two 3/4" (19mm) Gripping Holes	<b>PT16846</b>	71597

**NOTE:** Available with special nonshock mechanism or without indicator.  
Any Starrett AGD Dial or Electronic Indicator can be interchanged with indicators listed. Please specify when ordering.



**No. 675G with No. F2710-1 Electronic Indicator.**



No. 653J.



No. 653GJ.

### Dial Comparators

#### No. 653 Series with cast iron base, inch and mm reading

#### No. 653G Series with granite base, inch and mm reading

These bench-type comparator gages are ruggedly built for in-process and final inspection work.

The dial indicator can be adjusted vertically and locked in any position. A sliding ring with locking screw below the beam permits swinging the indicator to either side. The ring also acts as a safety device, preventing the beam from accidentally dropping. There is a fine adjustment on the beam for final indicator setting.

The hand lifting lever on the indicator raises the spindle and releases it to contact the work. A left hand lever is furnished unless specified otherwise.

Both gages have a maximum vertical capacity of 9 1/4" (235mm) and a throat depth of 5" (125mm) and a vertical indicator fine adjustment of up to 1/2" (12.7mm). Post diameter is 1 1/2".

**No. 653 Series** have a ribbed, precision ground cast iron base measuring approximately 8" x 9" (200 x 225mm).

**No. 653G Series** have a Starrett Grade A, Crystal Pink Granite base, measuring 8" x 12" x 2" (200 x 300 x 50mm). Base is finished to an overall tolerance of .0001" (0.0025mm).

#### Complete Units

Dial Indicator Specifications*				With Cast Iron Base		With Granite Base	
Graduation	Dial Reading	Range	Indicator No.	Catalog No.	EDP No.	Catalog No.	EDP No.
.001"	0-50-0	.250"	655-141J	653J	52737	653GJ	55966
0.01mm		2.5mm	655-181J	653MJ	56146	653GMJ	56127

\*For complete specifications see previous pages.

#### Individual Components

Description	Catalog No.	EDP No.
Comparator with Cast Iron Base, without Indicator	653	55917
Comparator with Granite Base, without Indicator	653G	56646

**NOTE:** Available with special nonshock mechanism or without indicator.

**Any Starrett AGD Dial or Electronic Indicator can be interchanged with indicators listed.**  
Please specify accordingly.



## Dial Bench Gages

### No. 652 Series with sliding table and fine-adjustment

These compact gages are used for bench or beside-the-machine inspection of small parts and materials. The hand lever is pressed down to lift the spindle and released to contact the work under uniform pressure. Gages are furnished with left hand lever unless specified otherwise. The dial can be rotated for zero setting and located in place with the bezel clamp.

The 652 has a ground and lapped table that can be adjusted vertically and locked in position. A sliding ring below a table bracket can also be locked in position permitting the table to swing to either side. Final setting of the table is made by a fine-adjusting screw.

Size Specifications	Inch	mm
Maximum Vertical Capacity	1 3/4"	44mm
Maximum Throat Depth	1 5/8"	40mm
Table Diameter	2"	50mm
Table Fine-Adjustment	1/8"	3mm
Base Diameter	5"	125mm



No. 652JZ.

Dial Indicator Specifications*					
Graduation	Dial Reading	Range	Indicator No.	Catalog No.	EDP No.
.0005"	0-25-0	.125"	25-131J	<b>652JZ</b>	52733
0.01mm	0-50-0	2.5mm	25-181J	<b>652MJZ</b>	52734

\*For complete specifications see previous pages.

**NOTE:** All gages can be furnished with tolerance hands; special nonshock mechanism; special sizes and shapes of contact points and tables. Available by request.

Furnished in case. Packed one in a box.

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