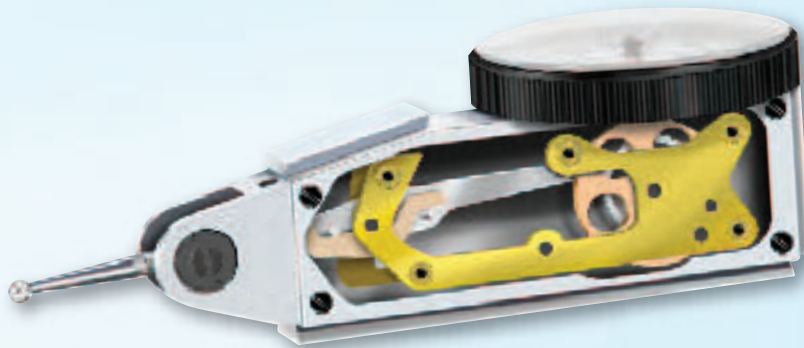


BESTEST® / TESATAST® Dial Test Indicators

All BESTEST and TESATAST indicators meet or exceed federal or DIN specifications. All BESTEST and TESATAST indicators are furnished with a certificate of accuracy and traceability. BESTEST and TESATAST indicators provide all of the following features:

- *Constant Clockwise Rotation* – Indicator pointer always rotates clockwise (whether measuring over or under) to eliminate plus or minus confusion.
- *Automatic Reversal* – Measuring is bi-directional with double lever system. No switch to interfere with movement. Measures inside, outside, over and under.
- *Swiveling Point* – Contact point can be set over 210° arc to measure hard-to-reach areas.
- *Universal Mounting* – Dovetails top, front and back for required mounting orientation and rigid set up.
- *Carbide Tip* – Furnished as standard on all BESTEST/TESATAST indicators.
- *Monobloc (precision watch) Body Design* – All pinions are mounted in jeweled bearings in an isolated assembly completely separate from outer body to maintain highest accuracies.
- *Anti-Magnetic and Corrosion Resistant* – Safe for use around magnetic chucks. Chrome plated to resist corrosion.



BESTEST® -3 and -13 Series

BESTEST -3 and -13 sets are furnished with .080" carbide contact points, a rectangular bar, swivel clamp, point wrench and a certificate of accuracy and traceability. The -3 sets with end mounted dials are furnished with a universal dovetail mounting attachment (7054) in place of the rectangular bar and swivel clamp.



599-7032-3



DIN 2270
NF E 11-053



Rotating dial

BESTEST® / TESATAST® - 5 Series (Black Face)

BESTEST -5 sets are furnished with a .080" carbide contact point, a .250" diameter extension with dovetail, point wrench and a certificate of accuracy and traceability in a durable molded case.



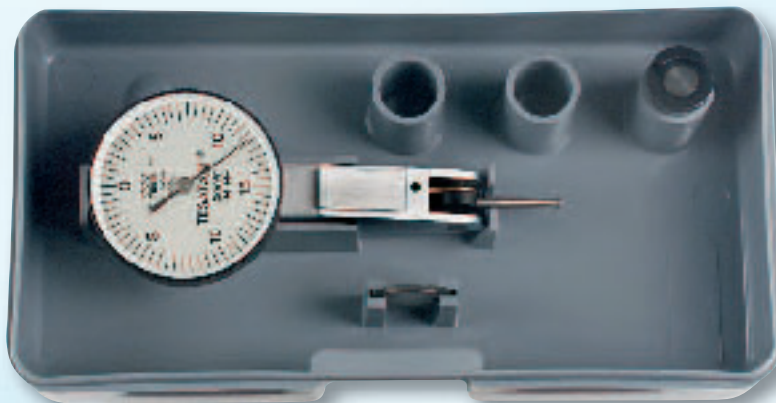
BESTEST® - 6 Series (White Face)

BESTEST -6 sets are furnished with 3 carbide contact points, .040", .080", and .120", 2 extensions with dovetail, point wrench and a certificate of accuracy and traceability in a durable molded case.



TESATAST®

Every TESATAST is furnished with a .080" (2 mm) carbide contact point, a .310" (8 mm) diameter extension with dovetail, a point wrench and a certificate of accuracy and traceability in a durable molded case.



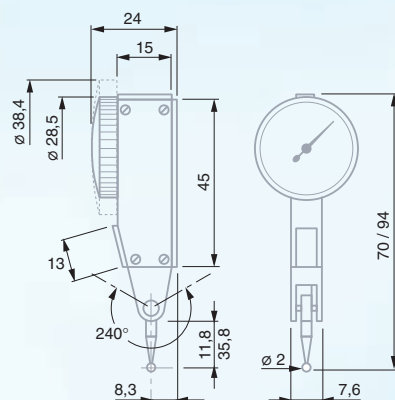
BESTEST®/ TESATAST® Dial Test Indicators (Lever-Type)

These lever-type dial test indicators are especially intended for use on the shop floor or in the inspection room – Ideally suited for comparative measurements on a surface plate, for instance – Determine form, shape and positional deviations, as well as axial and runout errors.

- Bi-directional measuring with automatic reversal inside the movement.
- Continuous clockwise pointer rotation providing error-free reading.
- Insensitive to magnetic fields.
- Jeweled movement with 7 rubies.
- Ball-bearing lever system with measuring insert swiveling through to 240°.
- Very low measuring force.
- Full-metal construction giving exceptional durability.
- Monobloc housing with 3 countersunk dovetail attachments.

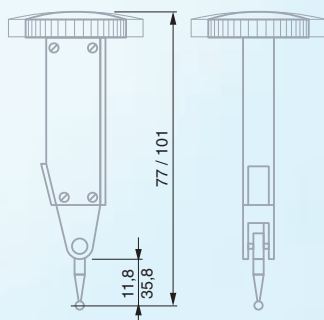
Top Mounted Models

Well-proven lever-type dial test indicators with dial face mounted parallel to the insert's axis.



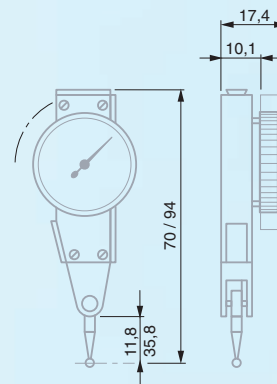
End Mounted Models

Lever-type dial test indicators with dial face mounted at right angle to the insert's axis.



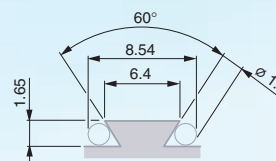
Side Mounted Models

Lever-type dial test indicators with dial face mounted parallel to the insert's axis, but on the flat side of the dial housing.



Technical Data

		 .001"/ 0.02 mm	 .0005"/ 0.01 mm	 .00005"/ 0.002 mm
	Deviation span	.001"/ 27 µm	.0004"/ 10 µm	.0001"/ 2 µm
	Deviation span within the local measuring span	.0005"/ 12 µm	.0002"/ 5 µm	.00005"/ 1 µm
	0.20 mm			
	0.10 mm			
	0.02 mm			
	Total deviation span	.0012"/ 31 µm	13 µm	3.5 µm
	Repeatability limit	.00016"/ 4 µm	.00012"/ 3 µm	.00005"/ 1 µm
	Max. hysteresis	.00016"/ 4 µm	.00012"/ 3 µm	.00006"/ 1.5 µm
	Measuring force with the following measuring inserts			
	12.53 mm long		0.15 N	0.15 N
	36.53 mm long	0.06 N	0.06 N	





LCD,
5 digits + sign

Digit height:
.24 in / 6 mm

Zero-setting

Max. perm.
error: 10 μ m

Repeatability:
1 μ m

Hysteresis:
3 μ m

01830001
max. 0.05 m/s

01830002
max. 0.15 m/s

Number of
measurements:
9/s

Operating tem-
perature range:
41 °F to 104 °F
+5 °C to +40 °C

Lithium battery,
3V, type CR
2032

Autonomie
> 4000 hours

RS-232

01830001
2.57 oz
01830002
2.65 oz

EN 61326-1

Degree of
protection
IEC 529: IP65

Supplied
in a plastic
case with:
1 insert with a .0787 in /
2 mm dia. No. 01860202
1 wrench No. 01860307
1 .315 in / 8 mm dia.
mounting rod No.
01840105

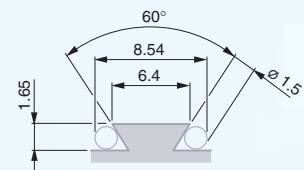
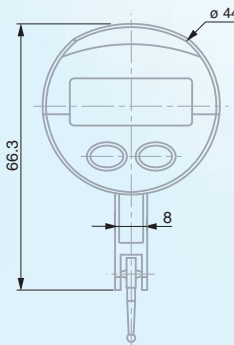
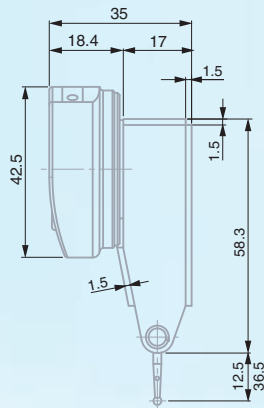
Identification
number

Declaration of
conformity

TESA IP65 Electronic Dial Test Indicators (Lever-Type)

All the mechanical advantages of a dial test indicator, with a digital reading and a durable IP65 compliant design.

- Patented inductive measuring system
- Analog and numerical indication
- Numerical interval .0005/.00005 in / 0.01/0.001 mm
- Selectable scale division: 10, 20, 50 μ m/1, 2, 5 μ m
- IP65 compliant – Water and coolant resistant
- Inch/metric conversion
- RS-232 data output combined with external power supply
- Displayed measuring modes (NOR/MIN/MAX/MAX-MIN)
- Automatic shut down
- Compatible with all TESATAST accessories



(Diagram dimensions shown in mm)

			in	mm	mm	Insert	N ($\pm 15\%$)
01830001	29015		.0005/.00005	0.01/0.001	0.8	12.5	0.13
01830002	29016		.0005/.00005	0.01/0.001	0.5	36.5	0.07

Accessories

01961000	29552	3V lithium battery, 190 mAh, type CR 2032	
04761060	29551	RS-232 connection cable with external power supply	
Compatible with TESATAST measuring inserts and accessories, page E-47			

Top Mounted Dials

BESTEST indicators with top mounted dials are supplied with a rectangular bar, swivel clamp, contact point wrench and a certificate of accuracy and traceability in a fitted case. Contact points for models on this page are 1/2" (12.5 mm) long. Carbide tips are .080" (2 mm) diameter. Available with either 1" (28 mm) or 1-1/2" (38 mm) diameter dials.

TESATAST indicators are supplied in a plastic case with .080" (2 mm) ball-end carbide contact point, 1 key for fixing the point, 1 extension w/dovetail .31" (8 mm) diameter, an instruction leaflet and a test certificate.



DIN 2270
NF E 11-053



Rotating dial



599-7032-3



599-7030-13



18.20006



Dial
Dia.



Inch Reading (± 0.0001 " Repeatability, ± 0.0005 " Calibration Accuracy)

599-7029-3	45977	18.20010	40507	.001 in	.030 in	1 in	0-15-0
599-7030-3	45978	18.20006	40503	.0005 in	.030 in	1 in	0-15-0
599-7031-3	45979	18.20007	40504	.0005 in	.030 in	1-1/2 in	0-15-0

Inch Reading (± 0.00002 " Repeatability, ± 0.0001 " Calibration Accuracy)

599-7032-3	45980	18.20011	40508	.0001 in	.008 in	1 in	0-4-0
599-7023-3	46400	18.20012	40509	.0001 in	.008 in	1-1/2 in	0-4-0
599-7033-3	45981	18.20013	40510	.00005 in	.008 in	1-1/2 in	0-4-0

Metric Reading (± 0.002 mm Repeatability, ± 0.01 mm Calibration Accuracy)

599-7030-13	45984	18.10005	40491	0.01 mm	0.8 mm	28 mm	0-0.4-0
599-7031-13	45985	18.10006	40492	0.01 mm	0.8 mm	38 mm	0-0.4-0

Metric Reading (± 0.0004 mm Repeatability, ± 0.002 mm Calibration Accuracy)

599-7032-13	45986	18.10009	40495	0.002 mm	0.2 mm	28 mm	0-100-0
599-7033-13	45987	18.10010	40496	0.002 mm	0.2 mm	38 mm	0-100-0



DIN 2270
NFE 11-053



Rotating dial

End Mounted Dials

All BESTEST indicators with end mounted dials come with contact points 1/2" long with a carbide tip .080" diameter, a No. 599-7054 universal dovetail mounting attachment, a contact point wrench and a certificate of accuracy and traceability in a fitted case.



							Dial Dia.			
Inch Reading										
599-7037-3	50437	18.20204	40514	.0005 in	.030 in	1 in	0-15-0	±.0001 in	.0005 in	
599-7024-3	46406	18.20304	40516	.0001 in	.008 in	1-1/2 in	0-4-0	±.00002 in	.0001 in	
599-7038-3	50436	-	-	.00005 in	.008 in	1-1/2 in	0-4-0	±.00002 in	.0001 in	
Metric Reading										
-	-	18.10204	40500	0.01 mm	0.8 mm	28 mm	0-0.4-0	±0.002 mm	±0.01 mm	
-	-	18.10304	40502	0.002 mm	0.2 mm	38 mm	0-100-0	±0.0004 mm	±0.002 mm	

All TESATAST indicators are supplied in a plastic case with .08 in (2 mm) ball-end carbide contact point, 1 key for fixing the point, 1 extension w/dovetail .31 in (8 mm) diameter, an instruction leaflet and a test certificate.

Side Mounted Dials

BESTEST indicators with side mounted dials. Contact points are 1/2" long. Carbide tip is .080" diameter. Ideal for height gages, and transfer gages. Supplied with a rectangular bar, swivel clamp, contact point wrench, and a certificate of accuracy and traceability in a fitted case.



							Dial Dia.			
Inch Reading										
599-7021-3	50566			.0005 in	.030 in	1-1/2 in	0-15-0	±.0001 in	±.0005 in	
		18.20014	40511	.0005 in	.030 in	1 in	0-15-0	±.0001 in	±.0005 in	
599-7022-3	50567			.00005 in	.008 in	1-1/2 in	0-4-0	±.00002 in	±.0001 in	
		18.20015	40512	.0001 in	.008 in	1 in	0-4-0	±.00002 in	±.0001 in	
Metric Reading										
		18.10011	40497	0.01 mm	0.8 mm	28 mm	0-0.4-0	±0.002 mm	±0.01 mm	
		18.10013	40499	0.002 mm	0.2 mm	28 mm	0-100-0	±0.0004 mm	±0.002 mm	

Easy Reading Console Faces

BESTEST® - 5 Series (Black Face)

Easy-to-read, satin-black, "jet console" face, BESTEST® indicators with high visibility orange hand. BESTEST -5 sets are furnished with a .080" carbide contact point, a .250" diameter extension with dovetail, point wrench and a certificate of accuracy and traceability in a durable molded case.



DIN 2270
NF E 11-053



Rotating dial

		 in	 in	 Dial Dia. (in)		 Inserts (in)
599-7029-5	51732	.001	.030	1	0-15-0	1/2
599-7030-5	51733	.0005	.030	1	0-15-0	1/2
599-7031-5	51734	.0005	.030	1-1/2	0-15-0	1/2
599-7032-5	51737	.0001	.008	1	0-4-0	1/2
599-7033-5	51738	.00005	.008	1-1/2	0-4-0	1/2
599-7034-5	51735	.0005	.020	1	0-10-0	1-7/16
599-7035-5	51736	.0005	.020	1-1/2	0-10-0	1-7/16



DIN 2270
NF E 11-053

Rotating dial

BESTEST® -6 and -14 Series (White Face)

BESTEST -6 and -14 sets are furnished with 3 carbide contact points, .040", .080" and .120", one 1/2" long x .25" diameter extension with dovetail, one 1/2" long x .22" diameter extension with dovetail, a contact point wrench and a certificate of accuracy and traceability in a durable molded case.



Dial
Dia.



Inch Reading (± 0.0001 " Repeatability, ± 0.0005 " Calibration Accuracy)

599-7030-6 25925 .0005 in .030 in 1 in 0-15-0

599-7031-6 25926 .0005 in .030 in 1-1/2 in 0-15-0

Inch Reading (± 0.0002 " Repeatability, ± 0.0001 " Calibration Accuracy)

599-7032-6 25929 .0001 in .008 in 1 in 0-4-0

599-7023-6 25923 .0001 in .008 in 1-1/2 in 0-4-0

Metric Reading (± 0.001 mm Repeatability, ± 0.01 mm Calibration Accuracy)

599-7030-14 25927 0.01 mm 0.8 mm 28 mm 0-0.4-0

599-7031-14 25928 0.01 mm 0.8 mm 38 mm 0-0.4-0

Metric Reading (± 0.0002 mm Repeatability, ± 0.002 mm Calibration Accuracy)

599-7032-14 25930 0.002 mm 0.2 mm 28 mm 0-100-0

Extra Long Contact Points

BESTEST indicators with top mounted dials. Contact points are 1-7/16" long. Carbide tip is .080" diameter. Supplied with a rectangular bar, swivel clamp, contact point wrench and a certificate of accuracy and traceability in a fitted case.

All TESATAST indicators are supplied in a plastic case with .080" (2 mm) ball-end carbide contact point, 1 key for fixing the point, a .31" (8 mm) diameter extension with dovetail, an instruction leaflet and a test certificate.



DIN 2270
NF E 11-053



Rotating dial



Dial
Dia.



Top Mounted Inch Reading (± 0.001 " Repeatability, ± 0.0005 " Calibration Accuracy)

599-7034-3	45982	18.20008	40505	.0005 in	.020 in	1 in	0-10-0
599-7035-3	45983	18.20009	40506	.0005 in	.020 in	1-1/2 in	0-10-0

Vertical/End Inch Reading (± 0.001 " Repeatability, ± 0.0005 " Calibration Accuracy)

-	-	18.20205	40515	.0005 in	.020 in	1 in	0-10-0
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Side Mount Inch Reading (± 0.001 " Repeatability, ± 0.0005 " Calibration Accuracy)

-	-	18.20016	40513	.001 in	.020 in	1-1/2 in	0-40-0
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Top Mounted Metric Reading (± 0.002 mm Repeatability, ± 0.01 mm Calibration Accuracy)

-	-	18.10007	40493	0.01 mm	0.5 mm	28 mm	0-0.25-0
-	-	18.10008	40494	0.01 mm	0.5 mm	38 mm	0-0.25-0

Vertical/End Metric Reading (± 0.002 mm Repeatability, ± 0.01 mm Calibration Accuracy)

-	-	18.10205	40501	0.01 mm	0.5 mm	28 mm	0-0.25-0
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Side Mount Metric Reading (± 0.002 mm Repeatability, ± 0.01 mm Calibration Accuracy)

-	-	18.10012	40498	0.02 mm	0.2 mm	38 mm	0-0.1-0
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BESTEST® Universal Test Indicators

Full jewelled movement in a universal indicator



599-7739



44892



A. Inch Indicator Set complete with case

599-7739-10

45705

B. Metric Indicator Set complete with case

Components for Indicator Set (Inch and Metric)

599-7739-1

44893

C. Swivel for Posts .312" diameter and mounting rods .220" to .250" diameter

599-7739-2

44894

D. Clamp: 1-5/16" range and 1/4-28 threaded hole

599-7739-3

44895

E. Hole Attachment w/ Indicator Mounting Hole .375" dia. and finger 7/32" dia. w/ 1-7/8" reach

599-7739-4

44896

F. Bar: 5-5/16" long x 3/8" thick x 3/4" high w/ tapped thru holes at top, bottom and both sides of front and one tapped hole at back end for attaching Holding Rods

599-7739-5

44897

G. Holding Rod: .312" x 5" long

599-7739-6

44898

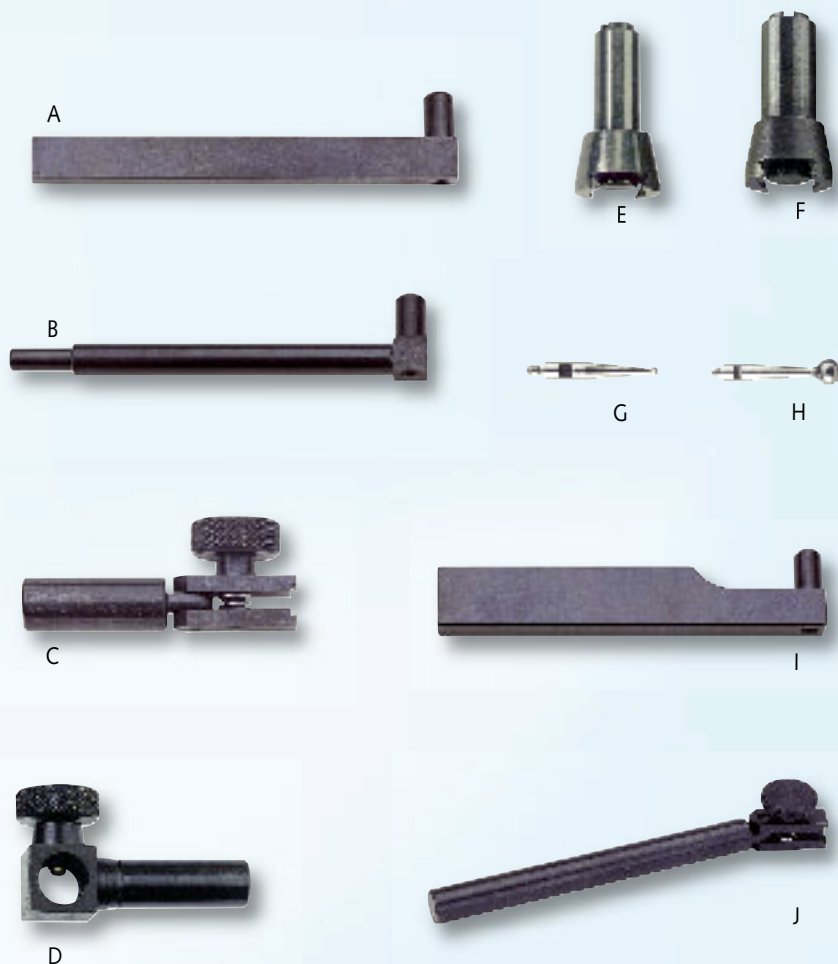
H. Holding Rod: .312" x 3" long

599-7739-9999

44899

I. Fitted Case for indicator and accessories

Dial Test Indicators - BESTEST® Accessories



Components for Accessory Set

599-7046	44861	A. Rectangular bar 3/16" thick x 5/16" high x 3" long with .220" diameter stud
599-7048	44863	B. Round bar 7/32" diameter with .163" stepped end; .220" diameter stud; 2-7/8" long
599-7042	44857	C. Swivel support (short) 3/8" diameter x 1" long shank
599-7043	44858	D. Angle attachment 3/8" hole with 3/8" diameter x 1" long shank
599-7052	44867	E. Extension with dovetail .220" diameter x 1/2" long shank
599-7053	44868	F. Extension with dovetail .250" diameter x 1/2" long shank
599-7030-40	44827	G. Carbide ball contact point .040" diameter x 1/2" long
599-7030-120	44829	H. Carbide ball contact point .120" diameter x 1/2" long
599-7041	44856	Complete set of accessories (A-H above)

Additional Accessories

599-7047	44862	I. Rectangular bar: Furnished with all front-mounted BESTEST indicators. 1/4" thick x 1/2" high x 3" long with .220" diameter stud
599-7044	44859	J. Swivel support (long): 3/8" diameter x 3-5/8" long shank

Universal Clamp

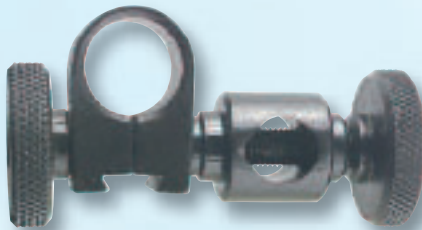
For mounting indicator on dovetail. 7/32" hole in swivel. Dovetail end has 7/32" hole and 5/32" hole adjacent to the dovetail. For use on Interapid 312 style indicators.



	
74.108603	41663

Universal Swivel Clamp

Dovetail opposite 3/8" mounting hole and V-side hole with clamp screw for range 1/8" to 1/4".



	
599-7055	44870

Swivel Clamp

3/8" and 7/32" dia. mounting holes. Dovetail opposite 3/8" hole. For use with all front-mounted dial BESTEST/TESATAST indicators.



	
599-7045-1	51853

Universal Dovetail Attachment

Supplied with vertical top-mounted dial BESTEST indicators. Fits all BESTEST indicators and dovetail-mounting electronic gage heads. Chrome plated. Shank is 1/4" diameter x 2-1/2" long (to center of ball).



599-7054



44869

Lug-Back Bracket

Dovetail fits all BESTEST indicators and dovetail-mounting electronic heads. Mounting slot is 1/4".



599-980-10



44740

Combination BESTEST Indicator Axial Support

Used for mounting indicator on dovetail or rod. Hinges on support allow indicator to be positioned for best orientation to workpiece. Support mounting stem is 3/8". Tool length is 5-1/4".



74.106931



41656

Contact Points

Contact points of different lengths are not interchangeable because any change in length of point radically changes the magnification of the indicator. Be sure to replace or interchange only with points of the same length. Points of the same length but having different tip diameters are completely interchangeable.



599-7030-15



599-7051



599-7030-40



599-7034-40



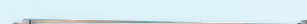
599-7050



599-7034-80



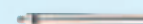
599-7030-80



599-7036-80



599-7049



599-7034-120



599-7030-120

Ruby Tip Contact Points



599-7030-40R



599-7030-80R



599-7030-120R



599-7034-80R



599-7034-120R



Length x Tip Dia. (in / mm)

Ball Material

For use with BESTEST indicators 599-7021, 7022, 7023, 7024, 7029, 7030, 7031, 7032, 7033, 7037, and 7038 inch and metric models:

599-7030-15	45702	1/2 x .015 / 12.5 x 0.4	Carbide
599-7030-40	44827	1/2 x .040 / 12.5 x 1	Carbide
599-7050	44865	1/2 x .040 / 12.5 x 1	Steel
599-7030-80	44828	1/2 x .080 / 12.5 x 2	Carbide
599-7049	44864	1/2 x .080 / 12.5 x 2	Steel
599-7030-120	44829	1/2 x .120 / 12.5 x 3	Carbide
599-7051	44866	1/2 x .120 / 12.5 x 3	Steel

For use with 599-7034 and 599-7035 BESTEST indicators:

599-7034-40	44841	1-7/16 x .040 / 37 x 1	Carbide
599-7034-80	44842	1-7/16 x .080 / 37 x 2	Carbide
599-7036-80	44847	1-7/16 x .080 / 37 x 2	Steel
599-7034-120	44843	1-7/16 x .120 / 37 x 3	Carbide

Ruby Tip Contact Points

599-7030-40R	24694	1/2 x .040 / 12.5 x 1	Synthetic Sapphire
599-7030-80R	24695	1/2 x .080 / 12.5 x 2	Synthetic Sapphire
599-7030-120R	24696	1/2 x .120 / 12.5 x 3	Synthetic Sapphire
599-7034-80R	24697	1-7/16 x .080 / 37 x 2	Synthetic Sapphire
599-7034-120R	24698	1-7/16 x .120 / 37 x 3	Synthetic Sapphire

Contact point thread size is M1.4 x 0.3

Dial Test Indicators - TESATAST® Accessories

Styli are available with various ball tip diameters and lengths in either hard-chrome plated or carbide ball tips.



18.60201



18.60211



18.60202



18.60212



18.60203



18.60213

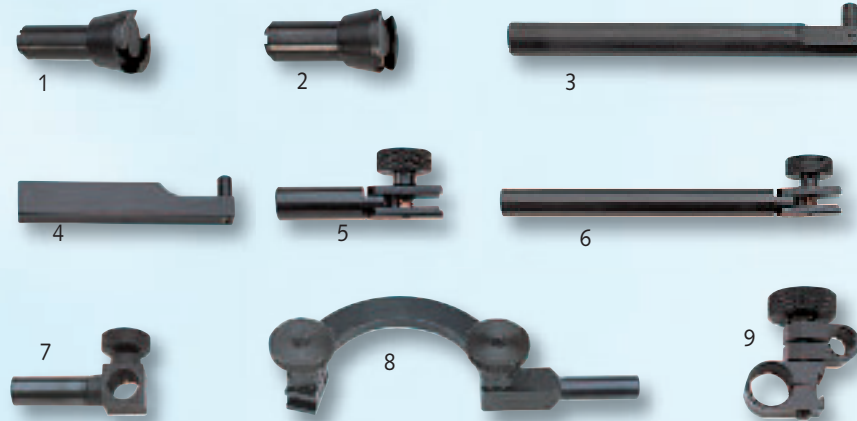
*Hard-chrome**Carbide*Ball Tip
in/mm

in/mm

18.60101	40542	18.60201	40548	.04 / 1	.5 / 12.5
18.60102	40543	18.60202	40549	.08 / 2	.5 / 12.5
18.60103	40544	18.60203	40550	.12 / 3	.5 / 12.5
18.60112	40546	18.60211	40551	.04 / 1	1.5 / 36.5
18.60113	40547	18.60212	40552	.08 / 2	1.5 / 36.5
		18.60213	40553	.12 / 3	1.5 / 36.5

Note: Same point for both inch and metric instruments

TESATAST Accessories



Fixing shanks and supports for clamping the TESATAST in the measuring position.

Dovetail shanks:

18.50104	40533	18.40104	40522	1. 7/32 in (8 mm) x .5 in (12 mm)
18.50105	40534	18.40105	40523	2. 1/4 in (8 mm) x .5 in (12 mm)

Rod shank:

18.50202	40535	18.40202	40524	3. 3/8 in (8 mm) dia. x 3.5 in (80 mm)
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Oblong section shank:

18.50203	40536	18.40203	40525	4. 1/2 in x 1/4 in x 3 in (13 x 6 x 75 mm)
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Swivel shanks:

18.50404	40537	18.40404	40526	5. 3/8 in (8 mm) dia. x 1 in (25 mm)
18.50405	40538	18.40405	40527	6. 3/8 in (8 mm) dia. x 3.5 in (90 mm)

Angle shanks:

18.50406	40539	18.40406	40528	7. 3/8 in (8 mm) dia. x 1 in (25 mm)
18.40501	40529	18.40501	40529	8. Centering support with shank 3/8 in (8 mm) dia. x 1 in (25 mm) clamping by dovetail and 3/16 in (4 mm) bore
18.60401	40557	18.60401	40557	9. Fixing clamp, double

Sets and additional accessories:

18.50001	40531	18.40001	40519	Set of accessories consisting of: 18.60101 stylii, 18.60102 stylii, 18.60103 stylii, 18.60307 key holder, 18.50104 dovetail shank or 18.40104 dovetail shank, 18.50105 dovetail shank or 18.40105 dovetail shank, 18.60308 case
18.50100	40532	18.40100	40521	Set of accessories consisting of: 18.60401 clamp, 18.50202 shank or 18.40202 shank, 18.50203 support or 18.40203 support, 18.50404 shank or 18.40404 shank, 18.50405 shank or 18.40405 shank, 18.50406 shank or 18.40406 shank, 18.60608 case
18.50703	40540	18.40703	40530	Set similar to 18.50101 or 18.40101 but with centering support 18.40501 in addition, in case 18.60702
18.60307	40555	18.60307	40555	Stylus key