Comparative Measurement

TESA TPS 300 / 500 / 1000 Motorised Setting Benches

These motorised benches are specially made for display setting as well as for calibrating 2-point shop tools used to measure both internal and external dimensions up to 1000 mm.

- ✓
- 0,001 mm
- Linear 1,5 + L (mm)/ 300 µm
- 1 µm
- Holding force 240 N
- 100/240 AC – 1,5 A 50/60 Hz
- RS 232
- +10 to +40°C
- –10 to +40°C
- ✓
- Shipping packaging
- Identification number
- Inspection report
- Declaration of conformity

Benefit
A single bench can replace a wide number of setting standards such as gauge blocks or setting rings.

Technical Data

		Internal mm/*in*	External mm/*in*	mm	kg
02130001	TPS 300	0,1 ÷ 305 *(0.04 ÷ 12)*	40 ÷ 345 *(1.6 ÷ 13.5)*	610 x 300 x 270	75
02130002	TPS 500	0,1 ÷ 508 *(0.04 ÷ 20)*	40 ÷ 548 *(1.6 ÷ 21.5)*	820 x 300 x 300	90
02130003	TPS 1000	0,1 ÷ 1016 *(0.04 ÷ 40)*	40 ÷ 1056 *(1.6 ÷ 41.5)*	1330 x 340 x 340	240
On request	TPS 1500 mm, 2000 mm, 3000 mm				
Provided with the following accessories:					
02160038	Power supply 80 – 240 V, 50 – 60 Hz				
	Rubber feet (3) acting as vibration inhibitors				
02160027	AL300003 adapter mounted on the mobile stop				

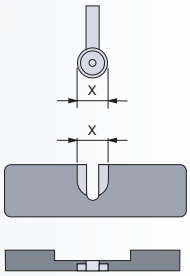
All given maximum permissible errors for a metrological characteristic (MPE) are valid for a temperature of 20° ± 0,5° C and relative humidity of 50 ±5%.

Optional Accessories For Bore Gauges

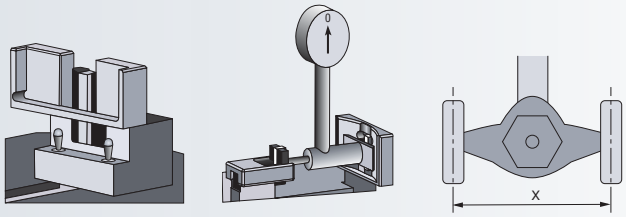
– TESA Veribor

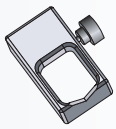
Application range 4,5 ÷ 50 mm

№	=	mm	x
02160020	A7547	4,5 ÷ 6	Ø 4,5
02160021	A7548	6 ÷ 12,5	Ø 5,8
S21050003	A7527	12 ÷ 25	Ø 9,5
02160023	A7559	25 ÷ 50	Ø 17,5

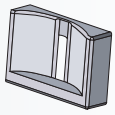


Application range 50 ÷ 550 mm

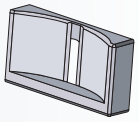




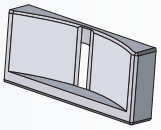
AL300003



AL30055



AL5590



AL90125

№	=	mm	x
02160024	AL30055	50 ÷ 150	30 ÷ 55
02160025	AL5590	150 ÷ 300	55 ÷ 90
02160026	AL90125	240 ÷ 550	90 ÷ 125
02160043	AL120-170		120 ÷ 170
02160044	AL170-220		170 ÷ 220

Each bench is supplied with AL300003 adapter.

– TESA YA

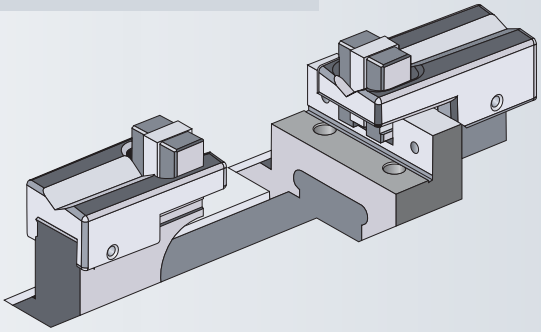
№	=	mm
02160028	A7750-A7751-A7752	6 ÷ 12,5

For IRA 2 and ETALON Caliper Gauges

Internal measuring

Nº	=	mm
02160030	A300005	10 ÷ 150

Requires 2 items.

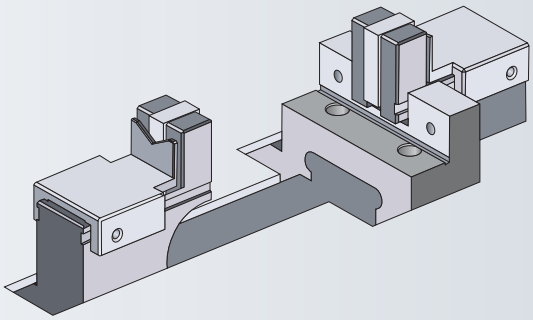


For ETALON Caliper Gauges

External measuring

Nº	=	mm
02160029	A300000	40 ÷ 60

Requires 2 items.

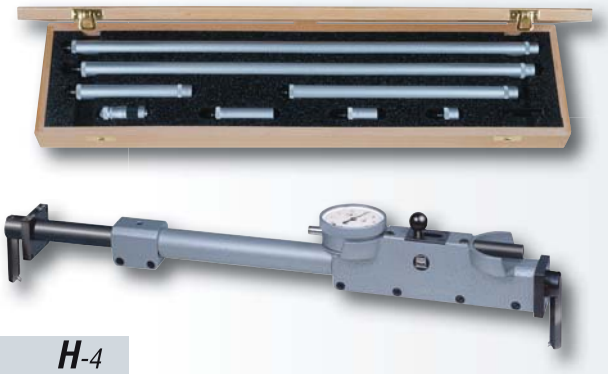


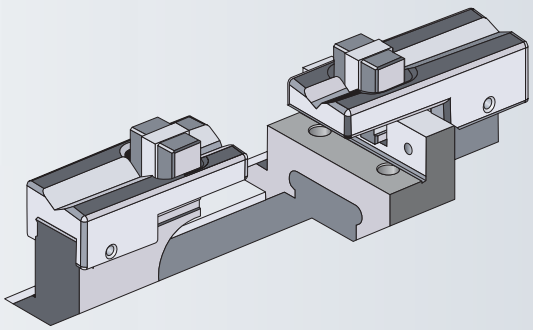
For TESA INOTEST

Comparator gauges with 2-point contact for internal and external measuring

Nº	=	mm
02160031	A300004	50 ÷ 1500

Requires 2 items

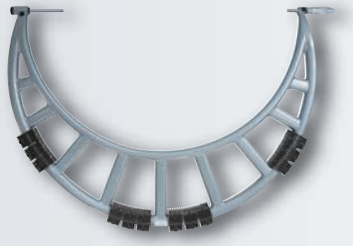


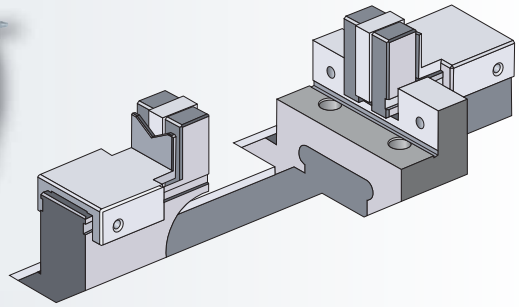


For External Micrometers

№	=	mm
02160029	A300000	40 ÷ 1500

TPS 300 requires 1 item, TPS 500 and 1000 need 2 items.

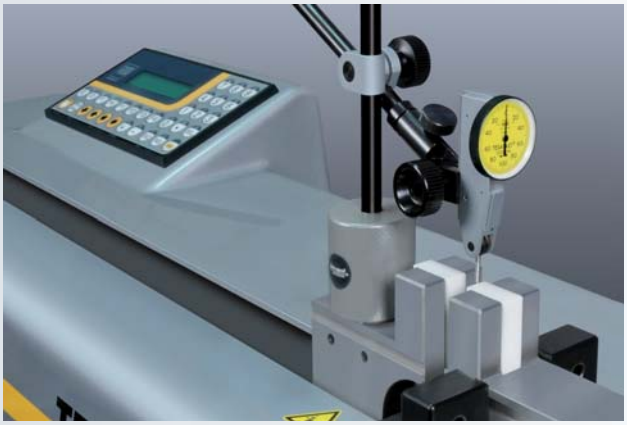




For Lever-Type Dial Test Indicators

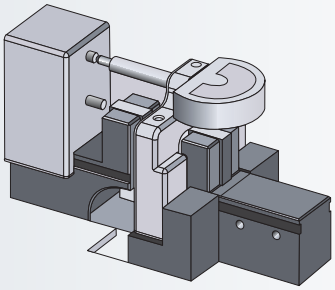
№	=
01639007	Measuring support with articulated arm

For any other shop tool, please ask your local TESA sales representative.



For Dial Gauges

№	=	mm
02160035	A300001-A300002	10 ÷ 150

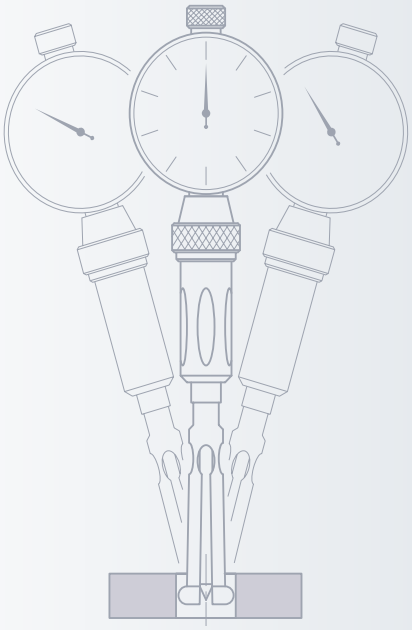


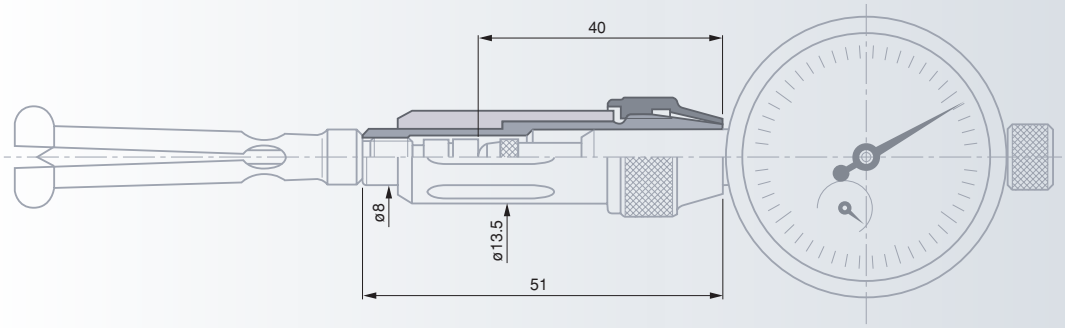
TESA YA Bore Gauges

Specially designed for small bores from 0,47 up to 12,20 mm – Check bore sizes as well as form and shape errors through 2-point measurements – Excellent repeatability.

These bore gauges have an interchangeable measuring head housing a needle as well as a clamping shank with a 8 mm diameter fixing bore for a dial gauge or any other sensor.

- Probing heads with spherical faces for through bores.
- Probing heads with faces forming a rounded edge on their front face. Used to check blind bores or short centring shoulder.
- Probing heads for deeper bores.





✓

Handgrip
With mount for shop tools with a 8 h6 dia. clamping shank

Measuring heads
See tables

See tables

Dull-chrome plated steel, hardened to ≈1000 HV 25

Measuring needles
See tables

Steel hardened to ≈ 800 HV 25

Setting rings
Nominal diameter ≤ 1,5 mm: with inserted ring in synthetic sapphire, >1,5 mm: steel, hardened to ≈780 HV 25

Reliability of the engraved size: ± 2s = 1 µm

1 µm

Complete Sets for Through Holes Measurement

№	mm
01510000	0,47 ÷ 0,97
01510100	0,95 ÷ 2,45
01510200	2,30 ÷ 6,20
01510300	6,00 ÷ 12,20

Technical data: see page H-6

Complete set includes: 1 handle No. 01540201. Measuring heads, needles and setting rings as shown in the table below. 1 TESA YR dial gauge No. 01410212 (reading to 0,01 mm, 40 mm dial dia.). 1 Extension for a 10 mm measuring insert with order No. 03540501.

Suited plastic case

Declaration of conformity

	№	mm	Measuring depth max. mm	Measuring depth min. mm	№	№	⌀ mm
	Measuring heads				*Needles*	*Setting rings*	
Set compositions:							
Set 01510000	01540401	0,47 ÷ 0,53	1,5	0,25	01540001	01540601	0,50
	01540402	0,52 ÷ 0,58	1,8	0,27	01540001	01540602	0,55
	01540403	0,57 ÷ 0,67	2,0	0,29	01540002	01540603	0,60
	01540404	0,65 ÷ 0,77	2,5	0,31	01540002	01540604	0,70
	01540405	0,75 ÷ 0,87	2,8	0,33	01540002	01540605	0,80
	01540406	0,85 ÷ 0,97	3,0	0,35	01540002	01540606	0,90
Set 01510100	01540407	0,95 ÷ 1,15	11	0,6	01540003	01540607	1,00
	01540408	1,07 ÷ 1,25	11	0,6	01540003	01540608	1,10
	01540409	1,17 ÷ 1,35	11	0,6	01540003	01540609	1,20
	01540410	1,27 ÷ 1,45	11	0,6	01540003	01540610	1,30
	01540411	1,37 ÷ 1,55	11	0,6	01540003	01540611	1,40
						01540612	1,50
	01540412	1,50 ÷ 1,90	17	0,9	01540004	01540613	1,7
	01540413	1,70 ÷ 2,15	17	0,9	01540004	01540614	2,00
	01540414	2,05 ÷ 2,45	17	0,9	01540004	01540615	2,25
Set 01510200	01540415	2,30 ÷ 2,75	22	1,2	01540005	01540616	2,50
	01540416	2,65 ÷ 3,20	22	1,2	01540005	01540617	3,00
	01540417	3,05 ÷ 3,50	22	1,2	01540005	01540618	3,25
	01540418	3,35 ÷ 3,85	22	1,2	01540005	01540619	3,50
	01540419	3,80 ÷ 4,30	22	1,2	01540005	01540620	4,00
	01540420	4,20 ÷ 5,00	40	2,0	01540006	01540621	4,50
	01540421	4,70 ÷ 5,50	40	2,0	01540006	01540622	5,00
	01540422	5,30 ÷ 6,20	40	2,0	01540006	01540623	5,75
Set 01510300	01540423	6,00 ÷ 6,80	40	2,0	01540006	01540624	6,50
	01540424	6,60 ÷ 7,50	40	2,0	01540006	01540625	7,00
	01540425	7,30 ÷ 8,15	40	2,0	01540006	01540626	7,75
	01540426	8,00 ÷ 8,80	40	2,0	01540006	01540627	8,50
	01540427	8,50 ÷ 9,40	50	2,0	01540006	01540628	9,00
	01540428	9,15 ÷ 10,00	50	2,0	01540006	01540629	9,50
	01540429	9,60 ÷ 10,80	50	3,3	01540007	01540630	10,00
	01540430	10,65 ÷ 12,20	50	3,3	01540007	01540631	11,50

Complete Sets for Measuring Blind Bores and Short Centring Shoulders

No	mm
01510400	1,50 ÷ 2,45
01510500	2,30 ÷ 6,20
01510600	6,00 ÷ 12,20

✓

Technical data: see page H-6

Complete set includes:
1 handle No. 01540201.
Measuring heads, needles and setting rings as shown in the table below.
1 TESA YR dial gauge No. 01410212 (reading to 0,01 mm, 40 mm dia.).
1 Extension for a 10 mm measuring insert with order No. 03540501.

Suited plastic case

Declaration of conformity

	Measuring heads	mm	Measuring depth max. mm	Measuring depth min. mm	Needles	Setting rings	⌀ mm
Set compositions:							
Set 01510400	01540501	1,50 ÷ 1,90	17	0,3	01540009	01540613	1,75
	01540502	1,70 ÷ 2,15	17	0,3	01540009	01540614	2,00
	01540503	2,05 ÷ 2,45	17	0,3	01540009	01540615	2,25
Set 01510500	01540504	2,30 ÷ 2,75	22	0,3	01540010	01540616	2,50
	01540505	2,65 ÷ 3,20	22	0,3	01540010	01540617	3,00
	01540506	3,05 ÷ 3,50	22	0,3	01540010	01540618	3,25
	01540507	3,35 ÷ 3,85	22	0,2	01540010	01540619	3,50
	01540508	3,80 ÷ 4,30	22	0,2	01540010	01540620	4,00
	01540509	4,20 ÷ 5,00	40	0,5	01540011	01540621	4,50
	01540510	4,70 ÷ 5,50	40	0,5	01540011	01540622	5,00
	01540511	5,30 ÷ 6,20	40	0,5	01540011	01540623	5,7
Set 01510600	01540512	6,00 ÷ 6,80	40	0,5	01540011	01540624	6,50
	01540513	6,60 ÷ 7,50	40	0,5	01540011	01540625	7,00
	01540514	7,30 ÷ 8,15	40	0,5	01540011	01540626	7,75
	01540515	8,00 ÷ 8,80	40	0,5	01540011	01540627	8,50
	01540516	8,50 ÷ 9,40	50	0,5	01540011	01540628	9,00
	01540517	9,15 ÷ 10,00	50	0,5	01540011	01540629	9,50
	01540518	9,60 ÷ 10,80	50	1,0	01540012	01540630	10,00
	01540519	10,65 ÷ 12,20	50	1,0	01540012	01540631	11,50

Special Executions

Available upon request:

- Measuring heads with tungsten carbide tipped measuring faces.
- Measuring heads for uncommon inspection job.
- Measuring heads for through holes and deeper bores covering other application ranges.
- Tungsten carbide measuring needles.
- 125, 250, 500, 750 and 1000 mm depth extensions.

Technical data: see page I-8

Declaration of conformity

Optional Accessories for TESA YA Bore Gauges

Measuring stand for stationary use.

01639009	INTERAPID UA 30 measuring stand
Must be equipped with:	
01610201	UK 25 sliding arm
01640000	UAZ 10 depth stop

TESA VERIBOR Light Bore Gauge

Two-point contact gauge made to measure bores and form errors – Self-centring – Can equally be used with a dial gauge, precision indicator or any other sensor type having a 8 h6 dia. clamping shaft.

✓

Measuring bolts and anvils in steel, hardened to 60 HRC ±2 and 63 HRC ±3, respectively.

Mount for a sensor having a 8h6 dia. clamping shaft

2 µm

4 µm

Set including 1 single TESA VERIBOR Light plus 1 set of interchangeable fixed inserts covering the whole application range.

Wooden case

Declaration of conformity

No		mm	Bolt travel, mm	Measuring depth, mm
05710090	TESA Veribor Light	18 ÷ 35	1,30	176
05710091	TESA Veribor Light	35 ÷ 60	1,40	178
05710092	TESA Veribor Light	50 ÷ 150	1,40	178
05710093	TESA Veribor Light	18 ÷ 150	1,30 / 1,40	176 / 178

Dial gauge not included.

✓

See tables

Measuring bolts and anvils fitted with tungsten carbide ball tips

Mount for a sensor having a 8 h6 dia. clamping shaft

2 µm (VERIBOR alone)

± 2s = 0,5 µm (VERIBOR alone)

TESA VERIBOR Bore Gauges

Proven construction and high reliability over decades – Able to take 2-point measurements on bores from 4,5 up to 550 mm – Detect form and shape errors – Gauge body with a 8 mm diameter clampingn bore for a dial gauge, precision indicator or any other sensor.

- High repeatability through the circular reversing element inside the gauge, virtually free from clearance.
- Gauge body made of invar steel to prevent the measurement results from being affected by hand warmth transfer.
- Centring shoe ensuring a correct alignment of the gauge into the bore to be checked.
- Tungsten carbide ball tips for high resistance to wear.

TESA VERIBOR without dial gauge

✓

Set including 1 single TESA VERIBOR Light plus 1 set of interchangeable fixed inserts covering the whole application range.

Wooden case

Declaration of conformity

NP	mm
05710012	4,5 ÷ 6
05710013	6 ÷ 12,5
05710014	12 ÷ 25
05710015	25 ÷ 50
05710016	50 ÷ 150
05710018	50 ÷ 300
05710017	240 ÷ 550

TESA VERIBOR with dial gauge

					mm
	05710054	05710061			4,5 ÷ 6
	05710055	05710062			6 ÷ 12,5
	05710056	05710063			12 ÷ 25
			05710057	05710064	25 ÷ 50
			05710058	05710065	50 ÷ 150
			05710059	05710066	50 ÷ 300
			05710060	05710067	240 ÷ 550

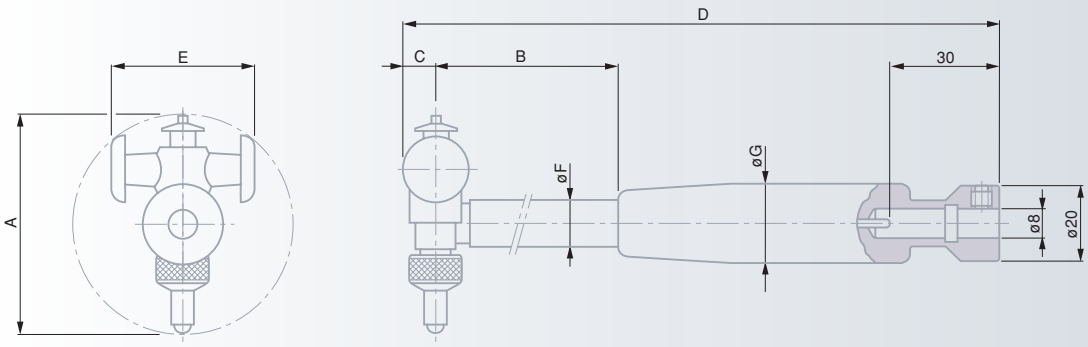
Provided with a TESA dial gauge

	01412010	01412510	01412310	01412511
mm	40	40	58	58
mm	0,01	0,001	0,01	0,001

Full set including 1 single TESA VERIBOR Light plus 1 set of interchangeable fixed inserts covering the whole application range, 1 dial gauge as shown in the table opposite, 1 dial gauge guard.

Wooden case

Declaration of conformity



A mm	mm	B mm	C mm	D mm	E mm	F mm	G mm
4,5 ÷ 6	0,35	74	2	138	3,3	3,8	16
6 ÷ 12,5	0,5	93	2,6	156	4,3	4,9	16
12 ÷ 25	0,9	106	4,5	194	7,8	7,9	19
25 ÷ 50	1,3	140	6	228	16	8	19
50 ÷ 150	1,4	173	10	279	36	12	23
50 ÷ 300	1,4	173	10	279	36/66	12	23
240 ÷ 550	1,6	227	14	347	112	18	28

Special Versions

Available on request:

- TESA VERIBOR for blind bores and centring shoulders.
- TESA VERIBOR elbow-shaped for hard-to-reach bores.
- Handtools for measuring the distance between two plan-parallel surfaces.
- Handtools for inspecting gear pitch diameters.

Optional Accessories for TESA VERIBOR Bore Gauges

Set of extensions

For extending the application range of VERIBOR No. 05710016, 05710058 and 05710065 up to 300 mm dia.

No		mm
05740001		
Consisting of:		
1 Centring shoe		
3 Extensions		50 mm

Depth extensions (not pictured)

To be mounted on each tool shaft from diameters ≥ 25 to ≤ 550 mm for depth increase (Size B – Drawing on page H-12).

No	mm
05760026	250
05760027	500
05760028	750
05760029	1000

Dial gauge guard

Protects the dial gauge against shocks. Also prevents the dial from being inadvertently rotated.

No	mm
05760012	Ø 40
05760013	Ø 58

Cable holder

Used for the probe cable. To be mounted at the end of the gauge shaft.

No
05760014

INTERAPID IRA 2

The finest precision gauge for measuring by comparison – Performs two- or three-point measurement depending on the used accessory – Suitable for verifying through holes, blind bores, grooves, undercuts or slots with plan-parallel faces, among others.

- Wide application range from 10 up to 150 mm.
- Ideal in design, light in weight, easy to handle.
- Built-in indicator to 0,01 mm with fine setting.
- Centring arm for 2-point measurement.

✓

0,01 mm or 0.0005 in

10 ÷ 150 mm 0.375 ÷ 6 in

± 0,20 mm or ± 0.008 in

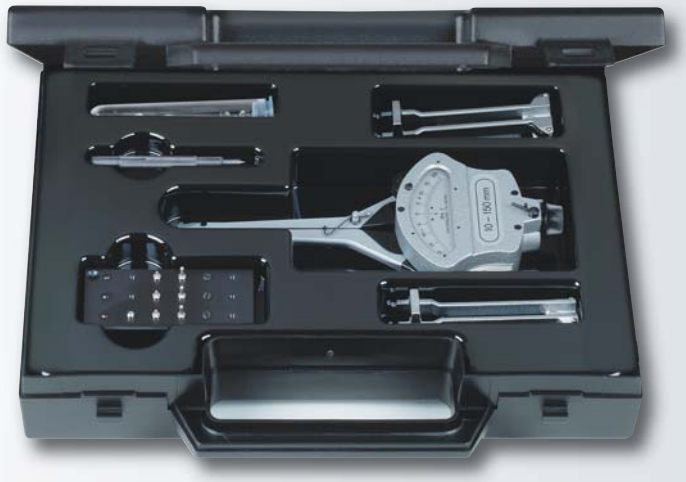
10 mm arm clearance

Hardened seel or tungsten carbide tipped measuring faces as listed in the table

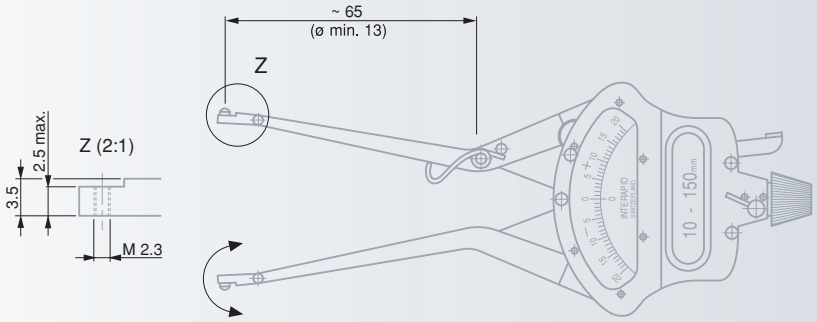
3,5 N

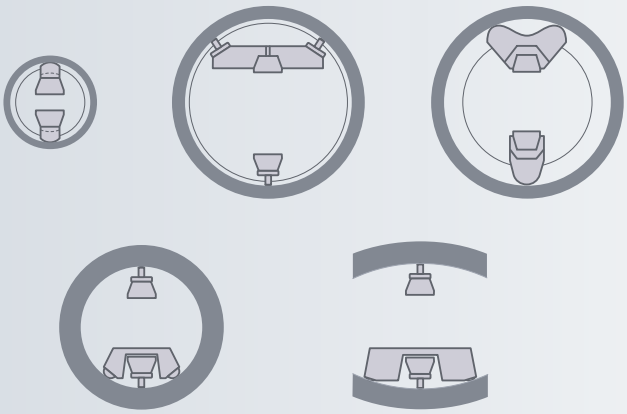
Suited plastic case

Declaration of conformity

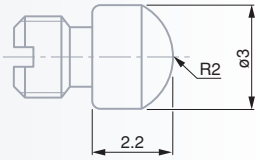


Nº mm	=	Nº in
079105704	**INTERAPID IRA 2**	***079108640***
Supplied with the following standard accessories:		
079105667	3 Steel inserts, hardened (order number for 1 item)	***079105697***
079105668	3 Short steel inserts, hardened (order number for 1 item)	***079105698***
079105669	3 Long steel inserts, hardened (order number for 1 item)	***079105699***
079112126	2 Adjustable contact arms for bores ≥ 6 mm	***079112126***
079110111	1 Small insert holder for 3-point measurement	***079110113***
079110110	1 Large insert holder for 3-point measurement	***079110112***
079108502	1 Centring arm for bores 15 ÷ 30 mm	***079108504***
079108503	1 Centring arm for bores 30 ÷ 150 mm	***079108505***
079105694	1 Screwdriver with special design	***079105694***
079111401	**INTERAPID IRA 2 md** Same as INTERAPID IRA 2, but furnished with the measuring inserts listed below instead of those in steel with order No. 079105667 or 079105697.	***079111402***
079105756	3 Tungsten carbide inserts (order number for 1 item)	***079105759***

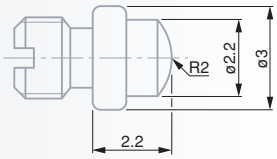




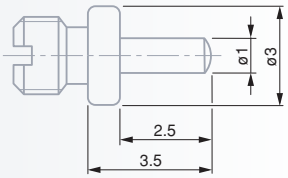
079105667



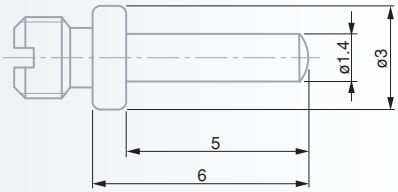
079105756



079105668



079105669



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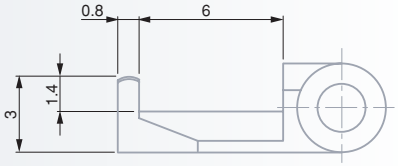
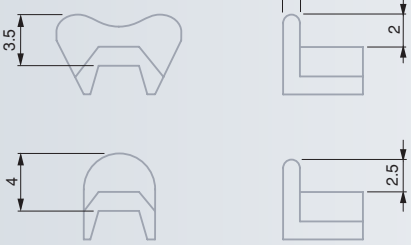


Optional Accessories

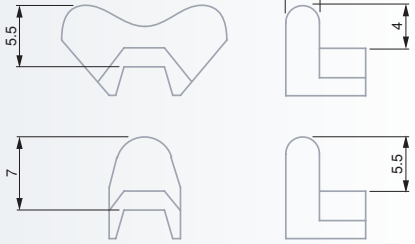
№	=
079112051	Set = 2 small inserts (1-point contact) 1 small insert (2-point contact)
079112052	Set = 2 large inserts (1-point contact) 1 large insert (2-point contact)
079108830	Handle

✓ Chrome plated, hardened steel

079112051



079112052

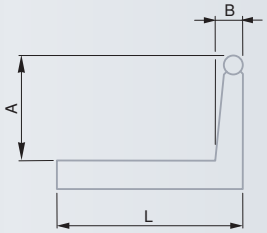


ETALON Caliper Gauges

for Internal or External Dimensions – Reading to 0,01 or 0,02 mm

Long-lasting precision movement – No gear transmission – Tungsten carbide measuring faces for high wear-resistance – Concentric pointer for sure reading of the millimetres – Lifting lever for the gauge legs.

- 0,01 mm or 0,02 mm
- Tungsten carbide measuring faces
- Models with reading to 0,01 mm = 30 µm 0,02 mm = 60 µm
- Models with reading to 0,01 mm = 20 µm 0,02 mm = 40 µm
- Suited plastic case
- Identification number
- Inspection report with a declaration of conformity



External Short Leg Caliper Gauges

	mm	mm	**A** mm	**B** mm	**L** mm
07919000	0 ÷ 10	0,01	9,3	3,0	39,7

External Long Leg Caliper Gauges

	mm	mm	**A** mm	**B** mm	**L** mm
07919009	0 ÷ 20	0,02	9,3	3,0	87

Internal Short Leg Caliper Gauges

	mm	mm	**A** mm	**B** mm	**L** mm
07919015	5 ÷ 15	0,01	1,1	1,5	39,7
07919016	10 ÷ 20	0,01	3,3	1,5	39,7
07919017	15 ÷ 25	0,01	4,0	1,8	39,7

Internal Long Leg Caliper Gauges

	mm	mm	**A** mm	**B** mm	**L** mm
07919023	10 ÷ 30	0,02	3,3	1,8	87
07919024	20 ÷ 40	0,02	7,0	2,5	87
07919025	30 ÷ 50	0,02	9,75	2,8	87
07919026	40 ÷ 60	0,02	9,75	2,8	87

INTERAPID Thickness Gauges

These gauges with a frame are specially made to measure the thickness of plastic parts as well as hard and soft materials such as glass, wood, paper, rubber, metal sheets etc. – All models have a dial that can be rotated for zero setting.

✓
15 mm throat depth
37 mm dial diameter
10 mm
Non-interchangeable inserts
40 µm (dial gauge)
Suited plastic case
Declaration of conformity

Small-size models, reading to 0,1 m

With open inserts when not in use

№		mm	mm		mm
074115586		0 ÷ 10	0,1	flat	Ø 6,35
074115587		0 ÷ 10	0,1	flat	Ø 10

✓
40 mm dial diameter
1 mm
Non-interchangeable, retractable measuring inserts.
0,7 N
15 µm (dial gauge)
Suited plastic case
Declaration of conformity

Small-size models, reading to 0,01 mm

№	mm	№	mm	mm	mm		mm
074115629	18	**074115633**	45	0 ÷ 10	0,01	flat	Ø 6,35
074115630	18	**074115634**	45	0 ÷ 10	0,01	flat	Ø 10

✓
50 mm throat depth
57 mm dial diameter
1 mm
Non-interchangeable, retractable measuring inserts.
≈ 1,2 N
15 µm (dial gauge)
Cardboard box
Declaration of conformity

Models with roller-type measuring inserts, reading to 0,01 mm

№	mm	mm	Ø mm	Length mm	Side discs
			Roller-type inserts		
074115647	0 ÷ 5	0,01	8,4	8,7	●
074115648	0 ÷ 5	0,01	8,4	8,7	—

Regular Models, reading to 0,01 mm

- ✓
- 57 mm dial diameter
- 1 mm
- Interchangeable, retractable measuring inserts
- ≈ 1 N
- 40 µm (dial gauge)
- Cardboard box
- Declaration of conformity

mm 50	mm 100				
N°	N°	mm	mm		mm
074115642	**074115649**	0 ÷ 10	0,01	flat	Ø 30
074115643	**074115650**	0 ÷ 10	0,01	flat	Ø 20
074115644	**074115651**	0 ÷ 10	0,01	flat	Ø 10

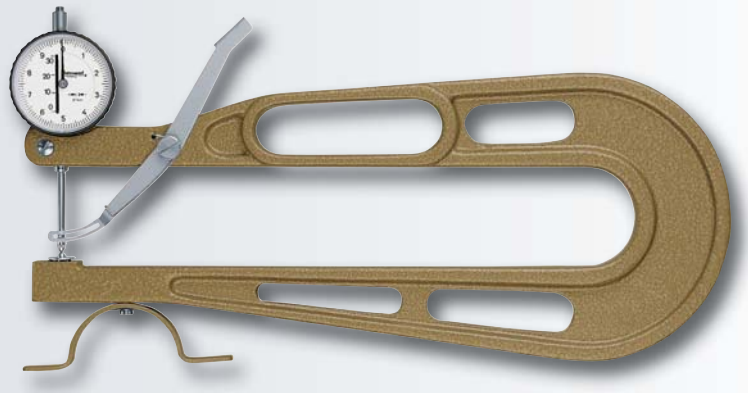
Measuring insert available upon request.

Models with deep throat, reading to 0,01 mm

- ✓
- 57 mm dial diameter
- 1 mm
- Interchangeable, retractable measuring inserts
- ≈ 2 N
- 15 µm (dial gauge)
- Cardboard box
- Declaration of conformity

mm 0 ÷ 10	mm 0 ÷ 30					
		mm	mm		mm	Paired inserts
074115654	**074115659**	0,01	200	flat	Ø 30	**074115734**
074115655	**074115660**	0,01	200	flat	Ø 20	**074115735**

Models with deeper throat, reading to 0,1 mm



- ✓
- 57 mm dial diameter
- 10 mm
- With foot for stationary use
- Interchangeable, retractable measuring inserts
- ≈ 2 N
- 40 µm (dial gauge)
- Cardboard box
- Declaration of conformity

mm 400					
	mm	mm		mm	Paired inserts
074115624	0 ÷ 30	0,1	flat	Ø 30	**074115734**
074115625	0 ÷ 30	0,1	flat	Ø 20	**074115735**
074115626	0 ÷ 30	0,1	flat	Ø 10	**074115731**
074115628	0 ÷ 30	0,1	spherical	Ø 5	**074115733**

Model for laminated plies, reading to 0,001 mm

№		mm	mm		mm
074115664	0 ÷ 1	0,001	flat	Ø 6,35

✓
30 mm throat depth. Highly stable frame with heat insulating handle.
57 mm dial diameter
0,2 mm
Non-interchangeable, retractable measuring inserts.
≈ 2 N
5 µm (dial gauge)
Cardboard box
Declaration of conformity

Models with reading to 0,1 mm

With open inserts when not in use

mm 0 ÷ 20	mm 0 ÷ 30					
№	№	mm	mm		mm	Paired inserts
074115599	**074115604**	0,1	50	flat	Ø 30	074115686
074115600	**074115605**	0,1	50	flat	Ø 20	074115687
074115601	**074115606**	0,1	50	flat	Ø 10	074115726
074115602	**074115607**	0,1	50	convex	Ø 10	074115727
074115603	**074115608**	0,1	50	spherical	Ø 5	074115728

✓
57 mm dial diameter
10 mm
Interchangeable measuring inserts
40 µm (dial gauge)
Cardboard box
Declaration of conformity

Hardened steel

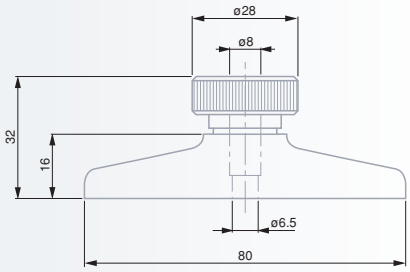
Finely lapped measuring faces.
Mount with clamp for a dial gauge or a probe.

Provided without dial gauge

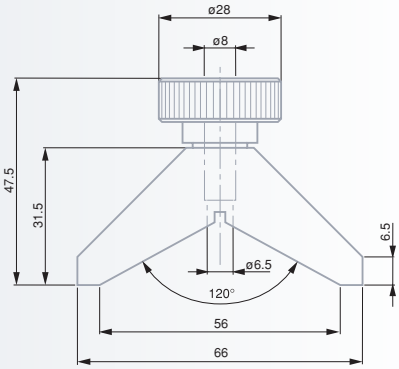
Cardboard box

Declaration of conformity

Dial Depth Gauges, Type PF1



№		mm	Mount mm
01639046	Flat base	80 x 16	Ø 8

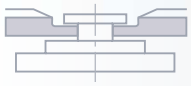


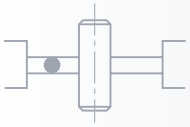
№		mm	Width mm	Mount mm
01639047	V-base	10 ÷ 100	120° 16	Ø 8

INTERAPID Small Bench SHE.30 or SHE.35

The ideal solution for precise inspection of small part series dedicated to watchmaking and precision mechanics – Fast in measuring and easily adaptable to changes from a workpiece-type to another – Wide choice of measuring inserts specially designed for the broadest variety of metrology applications.

INTERAPID SHE.30 for External Dimensions


03360300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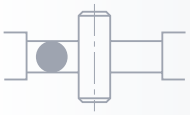
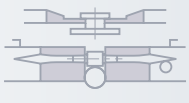

03360302


03360307

№	=	
03330004		**INTERAPID small measuring bench SHE.30 for external dimensions**, without measuring inserts
Tungsten carbide tipped measuring inserts available in pairs		
03360300		Flat measuring face, 3,5 mm long, 0,4 mm thick
03360301		Cylindrical insert with a flat measuring face, 1,2 mm diameter
03360302		Cylindrical insert with a flat measuring face, 2 mm diameter
03360307		Knife-edged measuring face, 3,5 mm long, 0,05 mm thick, 40°

Inserts with special design available upon request.


B 124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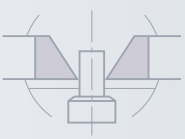
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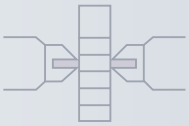
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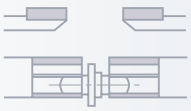
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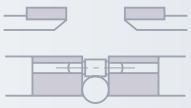
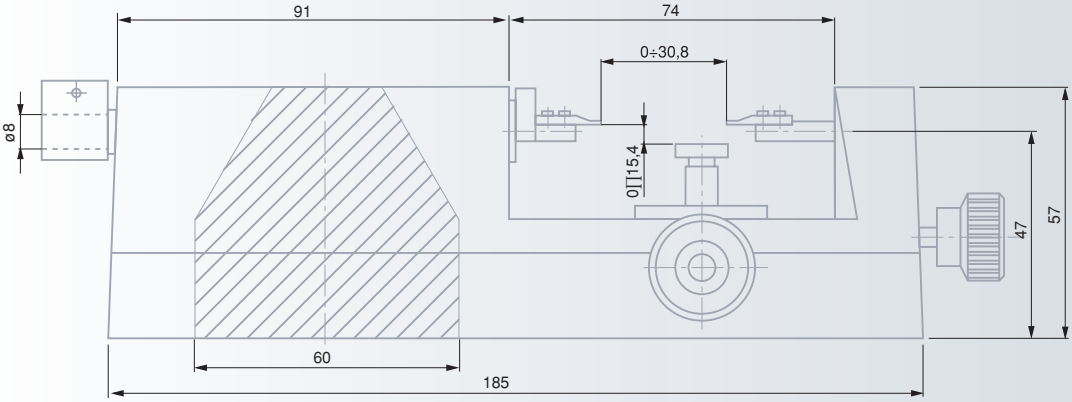

B 133


B 152


B 151



✓

0 to 30 mm

Mobile measuring bolt mounted on a plain bearing, also fitted with a semi-circular releasing disc plate.

Measuring inserts supplied in pairs. One is tighten on the measuring bolt, the other on the fixed anvil using one indexing pin with 1 mm dia. and two M1,4 clamping screws.

Resting table with vertical and lengthwise adjustment facility
Table surface area:
24 x 9,5 mm.
Setting range:
15 mm upright,
14 mm lengthwise.
With tightening screws.

Sensor
(must be ordered separately), e.g. dial gauge, electronic or precision indicator, analogue or digital probe with a 8 mm dia. shaft.

Main body in cast iron. Other parts in hardened and ground steel.

Produced by used sensor. The SH.30 model has no spring-loaded measuring force.

Accuracy is usually influenced by the measuring instrument as well as both flatness and parallelism of the measuring faces of used inserts.

Clamping precision
Tolerance in flatness of both clamping faces: 0,05 mm.
Tolerance for the axial position of both indexing pins against bolt axis: 0,05 mm.
Tolerance for the parallel position of the table surface against bolt axis: 0,05 mm.

Also see drawing

2,1 kg

Shipping packaging

Declaration of conformity

INTERAPID SHE.35 for Internal Dimensions

✓

30 mm

8 up to 38 mm (standard accessory)

Mobile measuring bolt mounted on a plain bearing, also fitted with a retracting ball-shaped handle.

Measuring inserts supplied in pairs. Can be exchanged. Provided with a 4 mm dia. fixing shaft.

Height adjustable resting table
Table surface area: 40 x 70 mm.
Setting range: 8 mm.
1 tightening screw.
Sensor (must be ordered separately), e.g. dial gauge, electronic or precision indicator, analogue or digital probe with a 8 mm dia. clamping shaft.

Main body in cast iron. Other parts in hardened and ground steel.
Inserts with carbide measuring faces.

Produced by used sensor. The bench has no spring-loaded measuring force.

Accuracy is usually influenced by the measuring instrument as well as the type of used inserts.

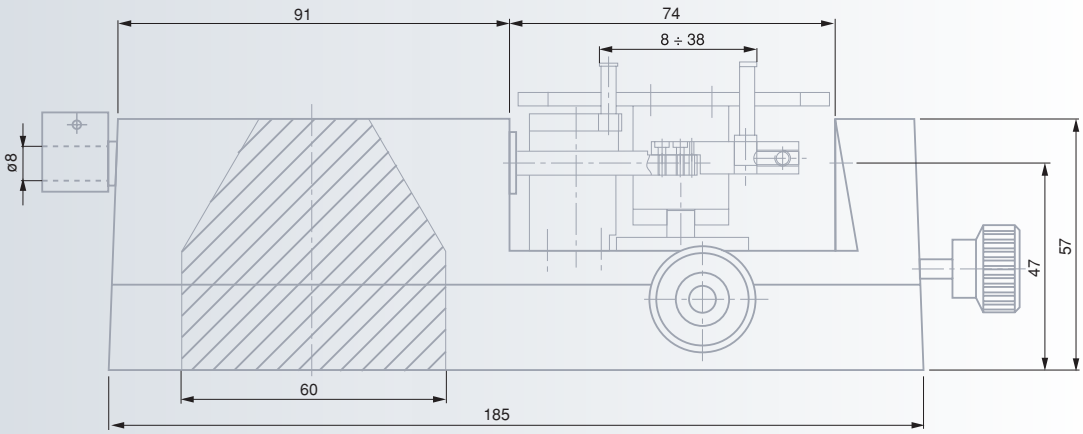
2,3 kg

Shipping packaging

Declaration of conformity

03330006	**INTERAPID small bench SHE.35 for internal dimensions**, with measuring inserts included.	8 ÷ 38 mm

Inserts with special design also available on request



TESA QUICK-CONTROL C2 for Stationary Use

This versatile shop tool allows 2-point measurement of part series using one mobile insert coupled with the sensor plus another fixed one fitted with a clamp for mounting any dial gauge, precision indicator or axial probe having a 8 mm dia. clamping shaft.

- Quick, easy, dependable and precise measurement (repeatability to 2 µm without the use of the sensor).
- Robust construction, easy to mount and to use.
- Adjustable measuring force.
- Measures workpieces with plan-parallel, cone-shaped or cylindrical surfaces, grooves, through holes and blind bores, short centring shoulders and wall thickness. Also serves to check diameters on gear teeth.
- Detects form and positional errors, i.e. roundness, concentricity and coaxiality.

✓
Hardened steel inserts
Lapped measuring faces
2 µm (QUICK-CONTROL alone)
Adjustable from 0 up to10 N. Can be reversed from «neutral» to internal or external measuring
Suited plastic case
Identification number
Declaration of conformity

TESA QUICK-CONTROL 160 C2

Main tool version within the C2 range. Measures mean to small or even very small dimensions (see below for details).

No		mm	*in*	mm	*in*
		Internal dimensions		*External dimensions*	
03330024	**QUICK-CONTROL 160 C2**	30 ÷ 120	*1.19 ÷ 4.72*	0 ÷ 90	*0 ÷ 3.54*
Provided with the following accessories:					
03360022	1 Steady insert holder, short.				
03360027	1 Pair of long inserts for internal/external diameters, through holes, blind bores, grooves and slots with max. depth to 3,7 mm, max. height to 25 mm.				
03360026	1 additional insert, as above but short. For use instead of the long one when measuring at low height.				
Option 1– For small dimensions					
03360065	1 Pair of long inserts with a 8 mm dia.clamping shaft, 6 mm dia. probing head.	22 ÷ 120	*0.87 ÷ 4.72*	0 ÷ 90	*0 ÷ 3.54*
Option 2 – For smaller dimensions					
03360031	1 Pair of inserts for checking very small bores.	11.5 ÷ 60	*0.46 ÷ 2.36*	0 ÷ 90	*0 ÷ 3.54*
03360024	1 Pair of adapters for 5 mm dia. inserts. For use at probing points with a 8 mm dia.				
03360032	1 Pair of raising blocks used to scale down the width of the slot lying in the middle of the upper tool table.				

✓

Hardened steel inserts

Lapped measuring faces

2 µm (QUICK-CONTROL alone)

Adjustable from from 0 up to10 N. Can be reversed from «neutral» to internal or external measuring

Suited plastic case

Identification number

Declaration of conformity

TESA QUICK-CONTROL C3 for Stationary Use

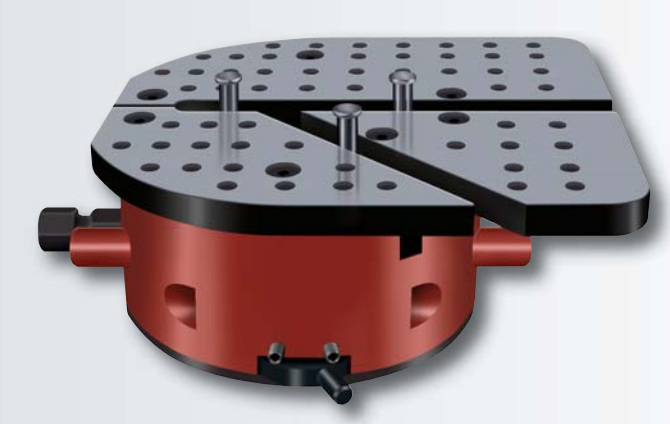
Having the same features and capabilities as TESA QUICK-CONTROL C2, this model also provides an extra transverse insert.

Both mobile and fitted inserts are used for 2-point measurements. The third one moves transversally, thus enabling a correct positioning of the workpiece, without the need for locating the culmination point. This insert also allows workpiece diameter and form errors to be measured at the same time.

TESA QUICK-CONTROL 160 C3 AL

Main version within the C3 tool range for mean to small dimensions.

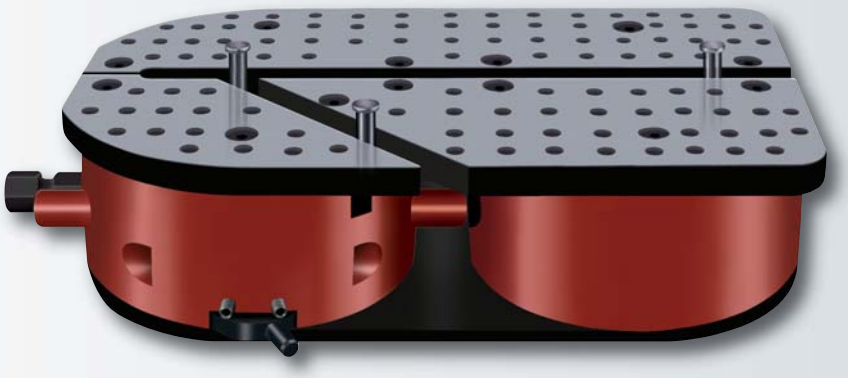
With a mounted stop-like insert that can be moved in the 45° V-slot.



Nº		mm	in	mm	in
		Internal dimensions		*External dimensions*	
03330026	**QUICK-CONTROL C3 AL**	32 ÷ 120	*1.26 ÷ 4.72*	0 ÷ 90	*0 ÷ 3.54*
Provided with the following accessories:					
03360067	1 Mobile standard insert, 10 mm dia. spherical probing head				
03360068	Pair of standard inserts for fixed holder, 10 mm dia. spherical probing head, L = 36 mm				
03360069	1 Fixed insert holder				
03360070	1 Fixed stop holder				
Option 1 – For small dimensions					
03360066	3 long inserts with a 8 mm clamping shaft, 6 mm dia. probing head.	25 ÷ 120	*0.99 ÷ 4.72*	0 ÷ 90	*0 ÷ 3.54*

TESA QUICK-CONTROL 160 C3 JS

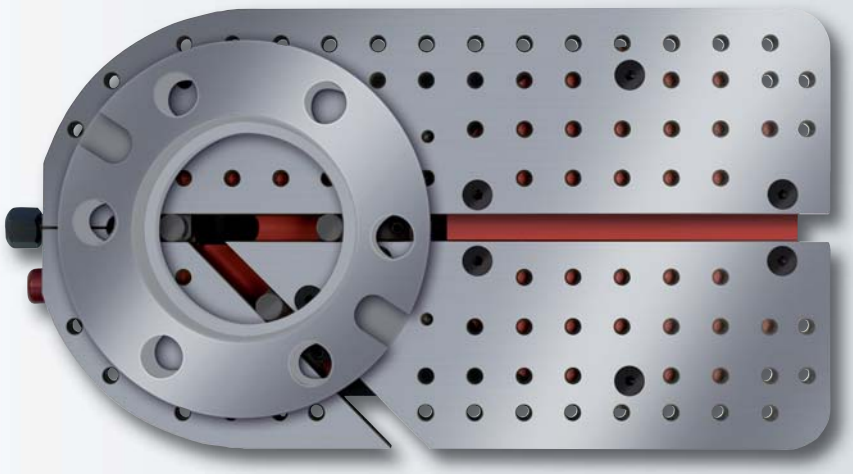
Identical to TESA QUICK-CONTROL 160 C3 AI, but with extended application range.



- ✓
- Hardened steel inserts
- Lapped measuring faces
- 2 µm (QUICK-CONTROL alone)
- Adjustable from 0 up to10 N. Can be reversed from «neutral» to internal or external measuring
- Suited plastic case
- Identification number
- Declaration of conformity

No		mm	in	mm	in
		Internal dimensions		*External dimensions*	
03330027	**QUICK-CONTROL 160 C3 JS**				
Provided with the following standard accessories:					
03360067	1 Mobile standard insert, long, 10 mm dia. spherical probing head	32 ÷ 190 (3 points) 32 ÷ 275 (2 points)	*1.26 ÷ 7.48 (3 points)* *1.26 ÷ 10.8 (2 points)*	0 ÷ 170 (3 points) 0 ÷ 245 (2 points)	*0 ÷ 6.69 (3 points)* *0 ÷ 9.65 (2 points)*
03360068	Pair of standard inserts for fixed stop and support, 10 mm dia. spherical probing head, L = 36 mm				
03360069	1 Fixed insert holder				
03360070	1 Fixed stop holder				

The option 1 for small dimensions can also be used on the model 160 C3 JS.



✓
Hardened steel inserts
Lapped measuring faces
2 µm (QUICK-CONTROL alone)
Adjustable from 0 up to10 N. Can be reversed from «neutral» to internal or external measuring
Suited plastic case
Identification number
Declaration of conformity

TESA QUICK-CONTROL 160 C3 90 ST2

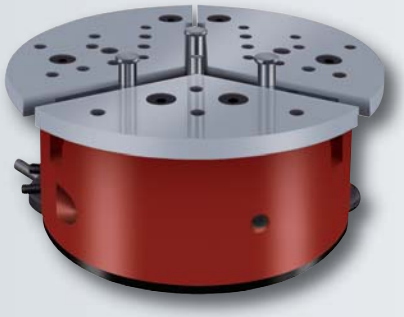
Special model for small and very small dimensions. Features a mounted stop-like insert fitted in the 90° V-slot. Also adjustable.

№		mm	in	mm	in
		Internal dimensions		*External dimensions*	
03330028	**QUICK-CONTROL 160 C3 90 ST2**	10 ÷ 80	*0.4 ÷ 3.14*	0 ÷ 55	*0 ÷ 2.16*

Provided with the following standard accessories:

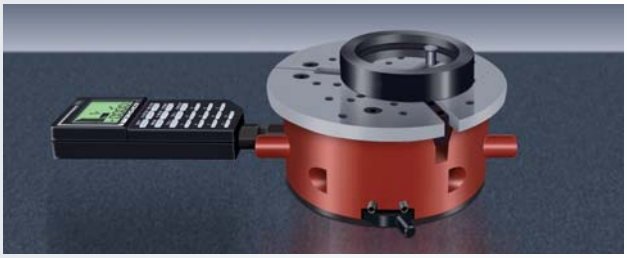
03360072	1 Fixed insert holder for adapter
03360073	1 Fixed insert holder for the third point and adapter
03360074	3 Adapters
03360075	3 Long inserts with as 5 mm dia. shaft
03360067	1 Mobile standard insert, 10 mm dia. probing head
03360068	1 Pair of standard inserts for fixed holder, 10 mm dia. spherical probing head, L = 36 mm

✓
Hardened steel inserts
Lapped measuring faces
2 µm (QUICK-CONTROL alone)
Adjustable from 0 up to10 N. Can be reversed from «neutral» to internal or external measuring
Suited plastic case
Identification number
Declaration of conformity



TESA QUICK-CONTROL 160 C3 120

Measures internal and external dimensions with 2-point contact. Features one mobile and two fixed inserts lying 120° apart. Specially designed for bore measurement. Uses 2 setting rings matching both upper and lower limit values of the toleranced size for display setting and calibration. Recommended sensor: DIGICO 1 precision indicator with order No. 01930000.



Various pairs of inserts and accessories available upon request.

№		mm	in	mm	in
		Internal dimensions		*External dimensions*	
03330029	**QUICK-CONTROL 160 C3 120**	≥ 25	*≥ 0.99*	≤ 80	*≤ 3.15*

Provided with the following standard accessories:

03360067	1 Mobile standard insert, Ø 10 mm dia. spherical probing head
03360068	1 Pair of standard inserts for fixed holder, 10 mm dia. spherical probing head, L = 36 mm
03360022	2 Fixed insert holders, short

TESADIA Plug Gauge

Easy-to-handle plug gauge for 2-point or 3-point measurement on cylindrical bores – Ideal for blind bores and short centring shoulders with diameters ranging from 2,98 up to 250 mm.

- Features a built-in probe that can be connected to a TESA's electronic unit, e.g. TESATRONIC or TESA Interface Box BP 880.
- Specially suited for recurrent dimensional inspection of medium and large-sized batches of parts in the shop floor as well as for receiving and final inspection.
- Equipped with a guiding cylinder that renders unnecessary swinging the plug gauge to find the culmination point. Self-centring and self-aligning.

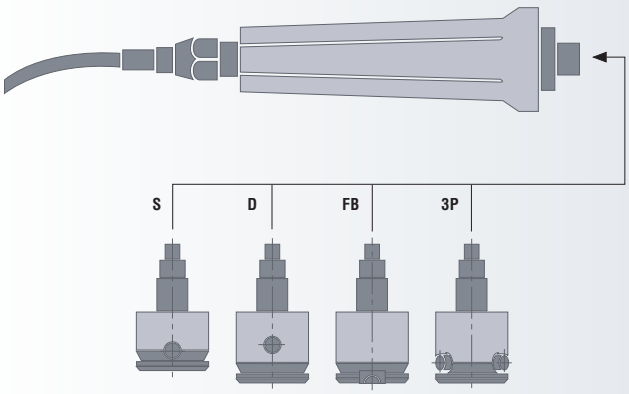
05560221	Handle with built-in GT21 axial probe
05560228	Handle alone

You may ask for a quotation for plug gauges with their own setting rings as well as for the electronic unit.

Specify nominal dimension along with both upper and lower limits of size as well as workpiece material.

Handle

- With built-in TESA GT 21 axial probe.
- Mechanical device for fine adjustment, stress-relieved probe cable.
- Possible connection of a TESA GT 21 compatible probe from another source.



S 2-point plug gauge in standard execution for through holes
D 2-point plug gauge with longer guiding cylinder for through holes
FB Plug gauge for blind bores
3P 3-point plug gauge for through holes

Plug Gauge

- Equipped with both a measuring head and guiding cylinder.
- Uses the measuring needle with reversal wedge at one end to transfer the sweeping movement of the measuring insert to the axial probe.
- Houses a guiding cylinder having a special profile for unrestrainedly introduction of the plug gauge into the bore to be measured. No locking, no tilting.
- Choice of gauging contacts offering optimum adaptation to the parts to be checked, i.e.:

– tungsten carbide tipped (not suited for non-ferrous metal alloy);
– hard-chrome plated (partially suited for non-ferrous metal alloy);
– ruby contacts (suited for non-ferrous metal alloy);
– diamond contacts (suited for soft light alloy);
– synthetic contacts (suited for polished surfaces).

✓

Measuring faces: see opposite

Plug gauges with built-in probe.
- 2-point model: 1%
- 3-point model: 3%

These percentages refer to the measuring span of each plug gauge

Plug gauges with built-in probe.
- 2-point model: ≤ 1 µm
- 3-point model: ≤ 2 µm

Plug gauges with built-in probe: ≤ 0,4 µm

0,3 to 1,2 N according to relevant model

10° C to 35° C

-25° C to 55° C

Declaration of conformity