

Lever Probes – Series 420 and 499

Probes for use with TESA or MERCER electronic equipment

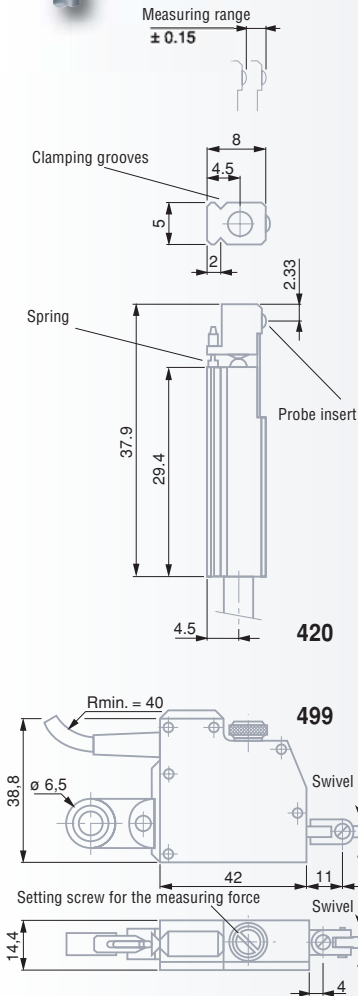
Probe series 420

- Very short body that can be recessed into a fixture or a plug gauge.
- Probe insert mounted on leaf springs.

Probe series 499

- Parallel guiding of the measuring bolt moving in both probing directions.
- Interchangeable probe insert. Any of those having a varying length can equally be used with no influence on the leverage.
- Used where probes with measuring bolt moving lengthwise cannot easily be handled.
- Without switch-over feature for the probing direction.

Compatible with measuring equipment from other makers (page N-14).



Measuring range (mm) N*

Series 420 – Miniature lever probes

96420004	96420001	± 0,15	1,8 ± 0,4
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Series 499 – Lever probes with parallel guiding

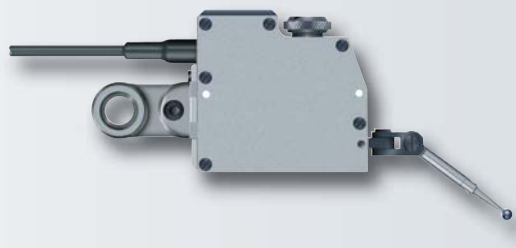
96499007	96499004	± 0,5	0,02 ÷ 0,2**
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Accessories for probe series 499

		mm	mm
03238401	Measuring insert	0,8 carbide	12,3
03238402	Measuring insert	1,6 carbide	12,3
03238403	Measuring insert	3,2 carbide	12,3
03238411	Measuring insert	0,8 carbide	37,7
03238412	Measuring insert	1,6 carbide	37,7
03238413	Measuring insert	3,2 carbide	37,7
01840105	Cylindrical clamp	8	

For other clamping items, report to page F-6.

* Nominal values at electrical zero. Valid in static measuring.
** Adjustable with both the probe housing and lever lying horizontally.



		Lower stop of the measuring insert***, adjustable from... to ex-factory			mm	µm	%****	Technical data sheets
		mm	mm	mm				
420	TESA	—	—	-0,225	0,525	0,5	0,3	F96420004
420	MERCER	—	—	-0,225	0,525	0,5	0,3	F96420001
499	TESA	0,6	0	0,6	1,2	0,25	0,6	F96499007
499	MERCER	0,6	0	0,6	1,2	0,25	0,6	F96499004

*** Distance from electrical zero.
**** Linearity related max. perm. errors; within either of both measuring spans of 0,3 mm (measuring range ±0,15 mm) and 1 mm (measuring range ±0,5 mm).

- ✓
 - DIN 32876 Part 1
 - See in tables
 - Lever probes usable in any position
 - Series 420 with a clamping groove.
- Leaf-spring mounted articulation.

Series 499:
2 dovetails with mounting lug or clamping rod.
Probe insert on a leaf-spring bearing. 2 x 90° friction clutches for smooth displacement of the probe insert.
Triple protection against damages in both probing directions.

Series 499 with Interchangeable insert fitted with a 10 BA coupling thread.
2 m long cable.
DIN 45322 connector.

- Stainless steel probe body, hardened (series 420). Dull-chrome plated housing (series 499).
- Tungsten carbide ball tip
- Moved mass 2,5 g (series 420) or 10,6 g (series 499)
- Force increase 0,2 N/mm (420) 0,25 N/mm (499)
- Highest mechanical frequency 10 Hz
- 0,025 µm/ °C for series 420 or 0,25 µm/ °C for series 49
- 0°C to 60°C
- 40°C to 60°C
- IP40 (IEC 60529)
- Series 499 along with a 3,2 mm dia. probe insert (No. 03238403) plus lug (No. 03238013)

- Shipping packaging
- Identification number

TESA GT 31 Lever Probes

Models with inclinable probe insert for measuring in two directions – Well suited for use where probes with measuring bolt moving lengthwise can not be conveniently operated.

- Ball-bearing balanced lever.
- Interchangeable probe insert fitted with a tungsten carbide ball tip, inclinable through to 180°.
- Automatic reversal of the probing direction while that of the indication remains unchanged.
- Protected against shocks by 2 safety clutches.
- One-piece housing provided with 2 dovetails.



DIN 32876 Part 1

± 0,3 mm

Lever probe usable in any position

2 dovetail attachments. Both lower and upper stops are fixed.

Probe inserts with removable stainless steel shaft. Also with a 2 mm carbide ball tip.

For all other inserts, see under optional accessories on next pages.

2 m long cable.

5-pin DIN 45322 connector.

All-metal housing, matt-chromium finish

Moved mass 12 g

13 kHz (± 5%) feeding frequency. Highest mechanical frequency to 25 Hz

20 ± 0,5°C

5°C to 60°C

80%

IP40 (IEC 60529)

Equipped with a 2 mm dia. probe insert (No. 03260410) plus a 8 mm dia. fixing shaft No. 01840105.

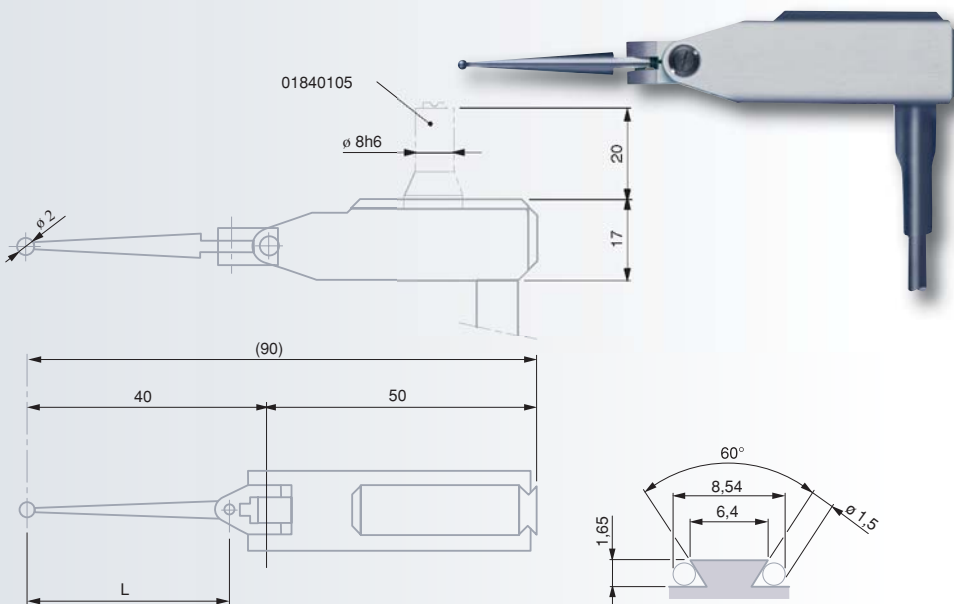
Shipping packaging

Identification number

Declaration of conformity

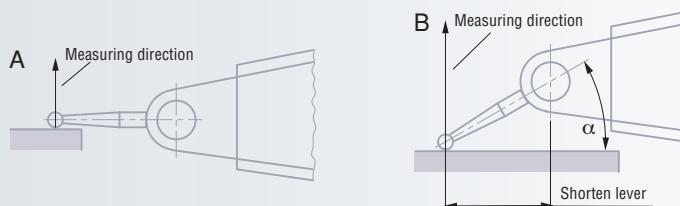
No	GT 31	Measuring range (mm)	N*
03210802	GT 31	± 0,3	0,1 (standard)
03210801	GT 31	± 0,3	0,02
03210803	GT 31	± 0,3	0,2

* Nominal value at electrical zero; max. deviation ± 25%. Valid with both probe housing and lever lying horizontally, as well as in static measuring.



GT 31	mm	µm	µm	µm*	Technical data sheets
0,7	0,1	0,25	0,2 + 50 · L ²	03200266	

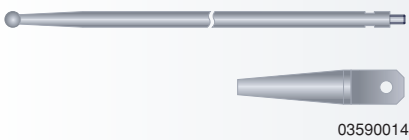
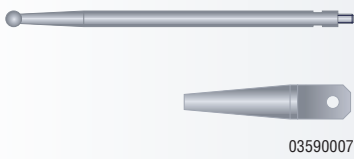
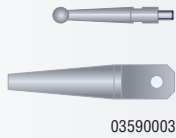
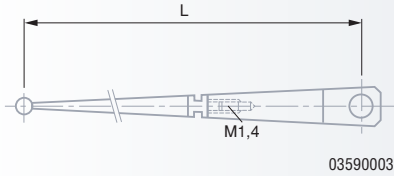
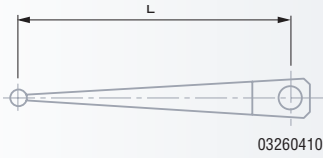
* Linearity related max permissible errors (L in mm).



Note:

With the insert lying parallel to the workpiece surface (Fig. A), the leverage is 1:1. Therefore, no correction of the measured values is needed. Any other position (angle α , Fig. B) will change the effective length of the lever, so that read values must be corrected. With regard to this, also report to the instructions for use that came with your electronic probes.





Accessories for TESA Probes GT 31

Probe inserts



Ball tip mm

Lever - amplification

Length L in mm

Standard probes with a one-piece shaft

03260402	1	1 : 1	32
03260410	2	1 : 1	32
03260403	3	1 : 1	32

Special probes with a two-piece shaft

03590002	1	1 : 1	32
03590003	2	1 : 1	32
03590004	3	1 : 1	32
03590005	4	1 : 1	32

03590006	1	1 : 2	72
03590007	2	1 : 2	72
03590008	3	1 : 2	72
03590009	4	1 : 2	72

03590010	1	1 : 3	112
03590001	2	1 : 3	112
03590011	3	1 : 3	112
03590012	4	1 : 3	112

03590013	1	1 : $\sqrt{10}$	118,49
03590014	2	1 : $\sqrt{10}$	118,49
03590015	3	1 : $\sqrt{10}$	118,49
03590016	4	1 : $\sqrt{10}$	118,49



03240100

Fixing brackets

Features both a dovetail and cylindrical bore.

03260414

Cable for probe constant alteration

Allows the probe constant to be modified at zero using the probe insert with a 1 mm dia. ball tip.



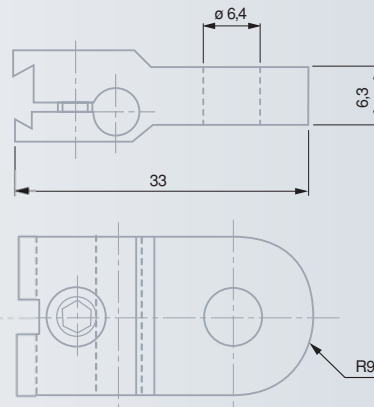
Stainless steel insert holder, tungsten carbide ball tip



Shipping packaging



Shipping packaging



03240100

