

ETALON POLO Horizontal Measuring Bench

A giant for small sizes – Specially designed for the control of measuring and test equipment in compliance with ISO 9000.

- Application range from 0 up to 100 mm for external dimensions or 2,5 up to 110 mm for internal dimensions – 50 mm measuring span.
- Resolution to 0,001 or 0,0001 mm – Metric/Inch conversion.
- Maximum permissible error of 0,5 μm .
- Measuring force from 0 to 4 N.
- Comes with a calibration certificate issued by the supplier.



Shipping packaging



Identification number



In-house calibration certificate



Calibration of Standards

- Cylindrical test pins
- Setting standards with cylindrical, plane-parallel measuring faces
- Threaded reference gauges (calibrated using the 3-wire method)
- Setting masters
- Setting rings

Calibration of Plug Gauges

- Limit plug gauges
- Plug gauges «GO»
- Plug gauges «NOT GO»
- Plain plug gauges
- Ring gauges «GO»
- Ring gauges «NOT GO»
- Threaded plug gauges



ETALON POLO
Measuring Bench



0 to 100 mm for external dimensions
• 10 to 110 mm with standard accessories

• 2,5 to 110 mm with optional accessories



50 mm measuring span



Max. perm. error within the measuring span:
0,5 µm with standard accessories



0,1 µm



0 to 4 N



Opto-electronic measuring system with incremental glass scale, type LIF – HEIDENHAIN



8,0 · 10⁻⁵ /°C



Tilting range of the floating table
± 0,5°



See in the drawing
• shortest distance A = 0 mm
• longest distance A = 11,5 mm



19,0 kg net net
(main part alone without table)
2,8 kg net (floating table)
2,1 kg net (fixed table)



10°C to 40°C



-10°C to 40°C



EN 50081-1
EN 50082-2
EN 61000-4-2
EN 61000-4-4



Calibration of Hand-Held Tools

- Dial gauges
- Precision indicators
- Dial test indicators (lever-type)
- Electronic probes



ETALON POLO with Floating Resting Table



05939001

ETALON POLO measuring bench with floating resting table and HEIDENHAIN computing counter ND 281 included.

Consists of the following main components:

05919002

1 Main part

Application range 0 to 100 mm for external dimensions or 10 to 110 mm for internal dimensions (with standard accessories). 50 mm measuring span.

Base plate with measuring unit and mounting block for the fixed measuring stops fitted with a stop pin; measuring unit equipped with a spindle as well as opto-electronic system featuring an incremental glass scale. Stop pin and spindle have both a mounting bore for a 6,5 mm dia. measuring insert; attachment for the stops and measuring device allowing the table to be moved vertically, and then tilted for inside measurements. Also with adjust system for the measuring force.

05969024

1 Pair of standard measuring inserts for external dimensions

With a 6,5 mm dia. tungsten carbide flat face, already mounted.

05969015

1 Floating resting table

Already mounted, also interchangeable. Used for positioning parts in the measuring direction when inspecting internal dimensions. Includes a stainless steel plate, hardened and ground, mounted on ball bearings. 200 x 100 mm table surface area, also with mount for the limit stops.

05969029

1 HEIDENHAIN computing counter ND 281

Up/down computing counter with alphanumeric LED display, resolution to 0,001 or 0,0001 mm. Switchable from metric to inch. Captures both extreme values with output of the difference between these values. Value classification capability. RS 232 data output.

Supplied with the following standard accessories:

05969020

1 Pair of standard inserts for internal dimensions from 10 mm

Stainless steel measuring face, hardened and ground. Ball tip section R = 2,5 mm. M4 locking screw.

05969030

1 Dust cover



ETALON POLO with Fixed Resting Table



05939000 ETALON POLO measuring bench with fixed resting table and HEIDENHAIN computing counter ND 281 included

Consists of the following components:

- 05919002** 1 Main part
As described on the previous page.
- 05969024** 1 Pair of standard measuring inserts for external dimensions
With a 6,5 mm dia. carbide flat measuring face, already mounted.
- 05969014** 1 Fixed resting table
Already mounted, also interchangeable. Used for internal measurements. Includes a stainless steel base plate, hardened and ground. Table surface 200 x 100 mm. Also with stop clamp for positioning the workpiece.
- 05969029** 1 HEIDENHAIN computing counter ND 281
Up/down computing counter with alphanumeric LED display, resolution to 0,001 or 0,0001 mm. Switchable from metric to inch. Captures both extreme values with output of the difference between these values. Value classification capability. RS 232 data output.

Supplied with the following standard accessories:

- 05969016** 1 Pair of standard inserts for internal dimensions from 10 mm
- 05969030** 1 Dust cover

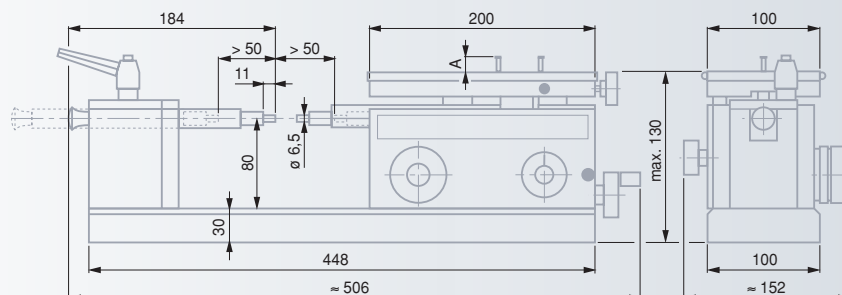
Workpiece Inspection

External dimensions

- Stepped shafts
- Cutting tools
- Cylindrical pins
- Ball tips
- Grooves
- Short centring shoulders
- Threads (measured according to the 3-wire method)

Internal dimensions

- Through bores
- Blind bores
- Centring grooves
- Slots
- Sliding guides



HEIDENHAIN ND 281B Computing Counter



Up/down counter with inside data processing and output



Alphanumeric LED display, 9-decade plus sign.

Auxiliary display for 14 measuring functions.



0,001 mm or 0,0001 mm
0.0001 in or 0.00001 in



10 mm



RS 232



0°C to 45°C



-30°C to 70°C



75%



100 to 240 Vac
(-15% to +10%),
48 to 62 Hz



239 x 85 x 224 mm
(W x H x D)



≈ 1,5 kg



IP40
(IEC 60529)



Noise acuteness
to grade 4
(VDE 0843,
Parts 2 and 4)



EN 55022,
class B



Standard Accessories

Available according to the model supplied.

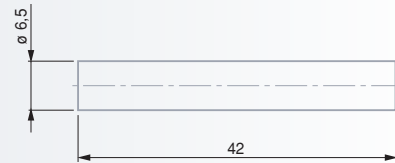


- 05969024** 1 Pair of standard measuring inserts for external dimensions
6,5 mm dia. carbide inserts with a flat face
- Standard measuring inserts for internal dimensions from 10 mm**
5 mm dia. inserts with stainless steel measuring face, hardened. M4 locking screw.
- 05969020** 1 Pair of inserts for use with the floating table
No. 05960015, H = 20 mm.
- 05969016** 1 Pair of inserts for use with the fixed table
No. 05969014, H = 12,5 mm.

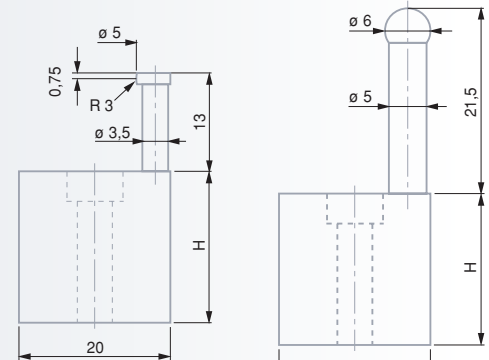
Optional Accessories



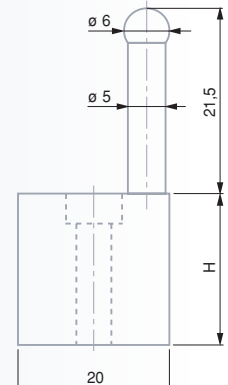
- Measuring inserts for internal measurement using the floating resting table**
Height H = 20 mm. M4 locking screw.
- 05969021** 1 Pair for internal dimensions from 2,5 mm
Barrel-shaped inserts with a 1,2 mm dia. carbide ball tip.
- 05969023** 1 Pair for internal dimensions from 5 mm
Fitted with a 1,5 mm dia. carbide ball tip.
- 05969022** 1 Pair for internal dimensions from 13 mm
Fitted with a 6 mm dia. carbide ball tip.
- Measuring inserts for internal measurements using the fixed resting table**
Height H = 12,5 mm. M4 locking screw.
- 05969017** 1 Pair for internal dimensions from 2,5 mm
Barrel-shaped inserts, with a 1,2 mm dia. carbide ball tip.
- 05969019** 1 Pair for internal dimensions from 5 mm
Fitted with a 1,5 mm dia. carbide ball tip.
- 05969018** 1 Pair for internal dimensions from 13 mm
Fitted with a 6 mm dia. carbide ball tip.
- 05969028** 1 Pair for external dimensions
Tungsten carbide flat measuring face, D = 2 mm.
- 05969027** 1 Pair for external dimensions
Tungsten carbide flat measuring face, D = 8 mm.
- Attachments for the measuring inserts**
05969025 with mounting thread G = M2,5
05969026 with mounting thread G = 1/48 in
- Inserts with special design** available on request
Inserts with M2,5 thread, see both pages E-51 and E-52
- Wires** for thread measurement, see page B-26.



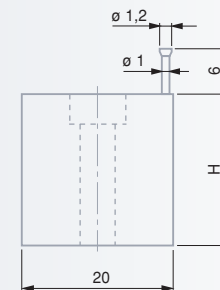
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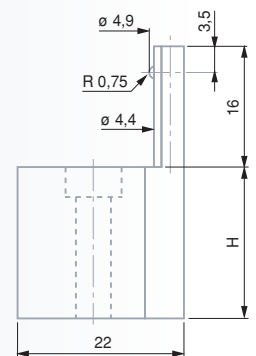
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05969018-22



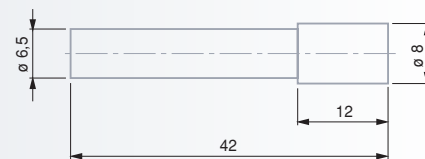
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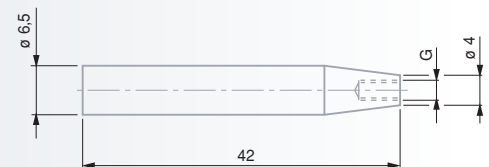
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05969028



05969027

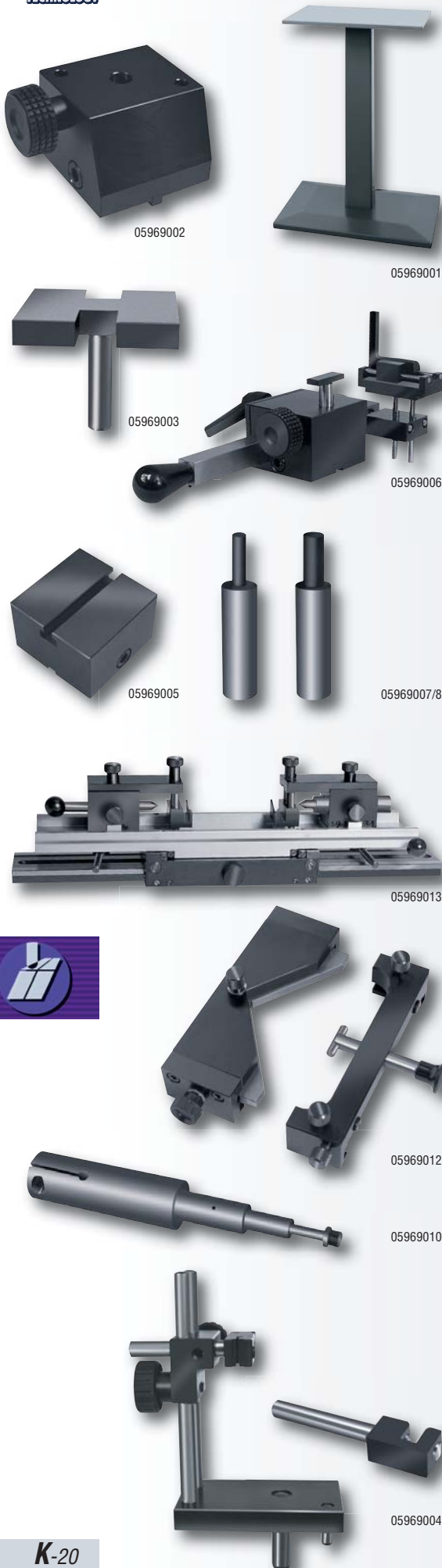


05969025/26



- 05969000** Bench stand with swivelling plate
For raising the measuring bench from horizontal to vertical position. Accommodates a clamp lever. Length (upright): 295 mm, mass ≈ 20 kg.





05969001

Base for the computing counter

For heightening the HEIDENHAIN computing counter ND 281 up to 380 mm, mass 5,2 kg.

05969002

Intermediate resting block

Features a 10 mm dia. mounting bore for:

- resting table No. 05969003
- Holder No. 05969004 for a dial test indicator (lever-type)

05969003

Supporting plate

Used for external measurement. 60 x 60 mm surface area with recesses. Hardened, ground steel. Also with a 10 mm dia. fixing pin.

05969006

Resting device

Allows external measurement of long test pieces with diameters up to 60 mm. Mounting block with height adjustable resting table, 11 mm wide. 10 mm dia. fixing bore for the resting pins No. 05969007 and 05969008. Mobile device for the support of workpieces having varying lengths. 2 resting angles movable crosswise or vertically.

Resting rods

Used together with resting device No. 05969006. Hardened and ground steel. 10 mm dia. body.

05969007

Bearing surface D = Ø 3 mm

05969008

D = Ø 6 mm

05969013

Floating mount device

For prismatic parts with diameters up to 30 mm and max. length of 100 mm. Main plate includes 2 adjustable centre supports mounted on a ball bearing. 60° support points. Also with height adjustable vees, removable. 120° vee angle.

05969005

Intermediate resting block

Used in conjunction with the floating mount device No. 05969013.

05969012

Centring device

Allows to search for the transverse culmination point against the measuring direction. Used with either of both fixed or floating table No. 05969014 or 05969015. Prismatic stop adjustable trans-versely, max. diameter 110 mm. Counterpressure piece finished with cylindrical stop pins.

Clamping rods

For clamping the instruments to be calibrated such as dial gauges or precision indicators.

05969010

For fixing shafts with a 8 mm dia.

05969011

$\frac{3}{8}$ in dia.

05969004

Holder for a dial test indicator (lever-type)r

Provided with 2 dovetail clamps, TESAST-type or in compliance with BS 2795:1981.

05969009

Spindle for calibrating dial gauges, dial test indicators and the like

Setting range = 50 mm,
1 spindle rotation = 0,5 mm



Shipping packaging