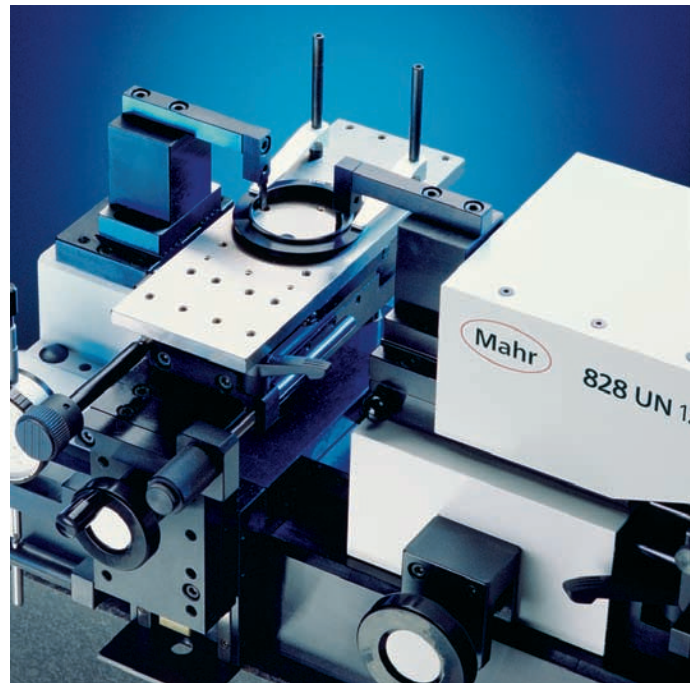


828 UN Universal Length Measuring Instrument



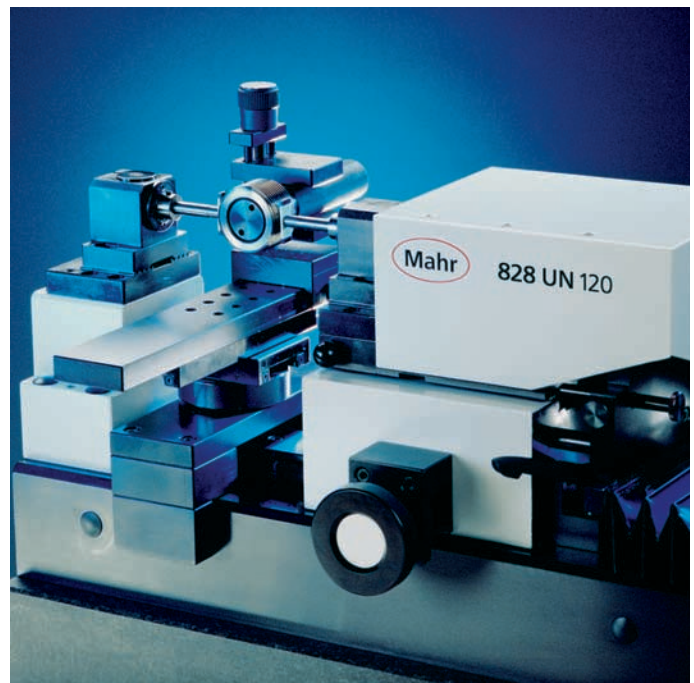
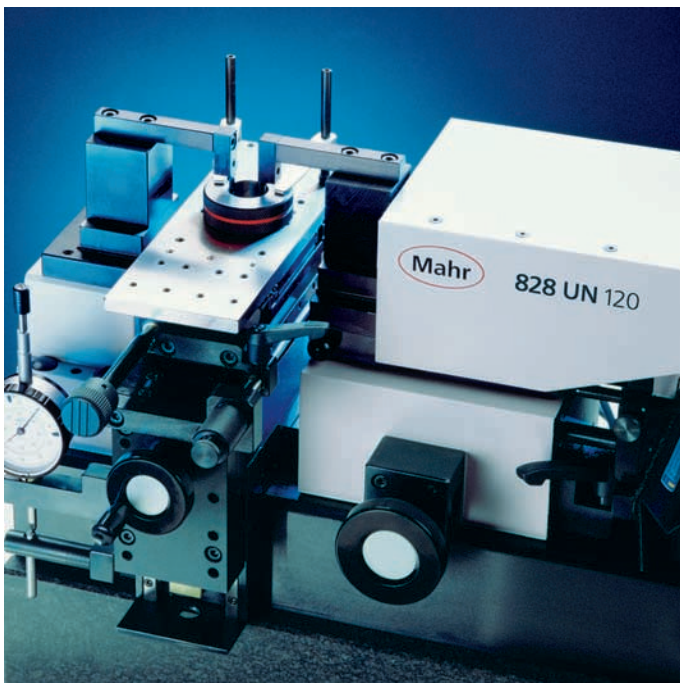
Features

- Universal one-coordinate measuring instrument for accurate internal and external measurements.
- Most suitable for testing plug gages, ring gages, snap gages, internal and external thread gages, dial gages, spline gears etc.
- In production/manufacturing the most accurate measurement of precision components.
- The system of serration grip for quickly exchanging the accessories secures ultimate precision in repeatability and makes the unit even more efficient in practical use. A further advantage of the new serration grip system is the identical measuring range for external and internal measurements.
- Standard Mahr calibration certificate
All universal length measuring instruments are supplied with a Mahr calibration certificate. We also offer regular maintenance calibration of the instruments as service. Traceability to DKD standards is ensured for all measuring devices used.

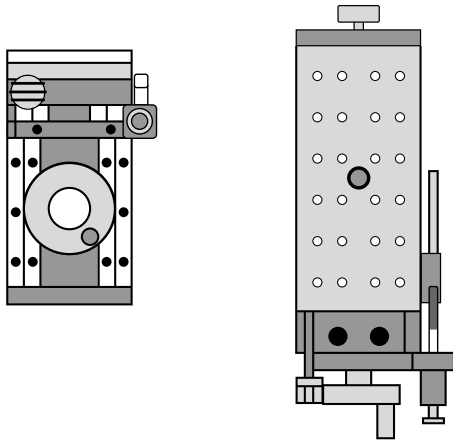


Applications

- Measurement of a limit plug gage located on a self-centering support (top left)
- Internal measurement: distance ring for objectives (top right)
- Inspection of dial gages (on the right)
- External measurement: thread plug gage (bottom right)
- Internal measurement on plain ring gages with one pair of calipers (bottom left)



Accessories



Accessories – Universal measuring tables

height adjustable, adjustable rectangular to the measuring axis and levelling of the table surface.

Note: The universal measuring table will be needed for external or internal measurements, e.g. checking of rings, bores or internal threads!

Universal measuring table for 828 UN 120

height adjustable, quick and fine adjustment of table movement rectangular to the measuring axis, floating table or fix (table surface 220 x 80 mm)

floating and lock-type (support area 220 x 80 mm/ 8.67 x 3.15 in)

Order No. 5350122 (UNM.120UM)

Universal measuring table for 828 UN 320

height adjustable, quick and fine adjustment of table movement rectangular to the measuring axis, floating table or fix (table surface 360 x 80 mm)

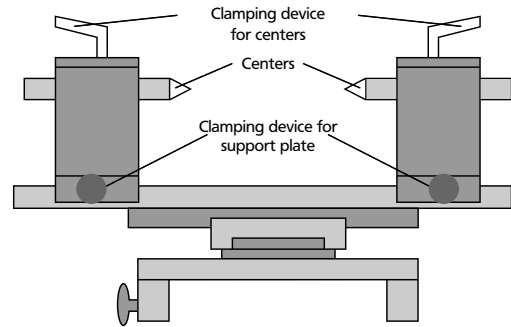
floating and lock-type (support area 360 x 80 mm/ 14.18 x 3.15 in)

Order No. 5350322 (UNM.320UM)

Table surface is coated to be wear resistant!

Technical Data

828	UN 120	UN 320
Height adjustment [mm (in)]	48 (1.89)	48 (1.89)
Transverse adjustment from the center [mm (in)]	± 30 (1.18)	± 30 (1.18)
Inclination angle [°]	± 4	± 4
Maximum load [kg (lbf)]	18 (39.69)	18 (39.69)
Supporting area [mm (in)]	220 x 80 (8.67 x 3.15)	360 x 80 (14.18 x 3.15)



Accessories – Floating Support, self-centering

self centering for one pair of support blocks or one symmetrical clamping device.

Support blocks (UNM.SPI00)

for the measurement of parts with centres. Symmetrical clamping device (UNM.SYM00) for the measurement of parts without centres.

Floating support 828 UN 120, UN 320 (UNM.SUP00)

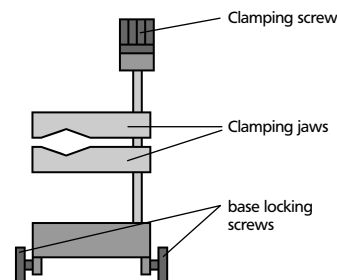
to accept one pair of centre blocks (UNM.SPI00) or one symmetrical clamping device, maximum width between centres 200 mm (7.8")

Order No. 5350221 (UNM.SUP00)

Supports blocks, 1 pair, for 828 UN 120, UN 320

for the measurement of parts between centres, centre height 50 mm (1.9"), including 60° centre tips.

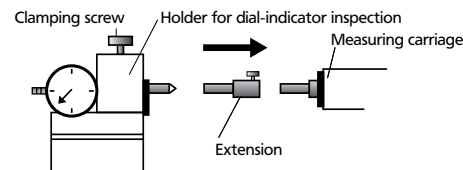
Order No. 5350222 (UNM.SP100)



Symmetrical clamping device for 828 UN 120, UN 320

Center height 50 mm (1.97 in), to hold cylindrical testpieces without center holes

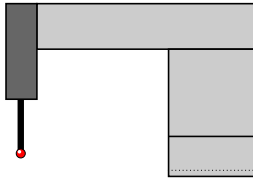
Order No. 5350223 (UNM.SYM00)



Holder for testing dial gages

The holder consists of a standard reduction bushing and an extension. The maximum measuring path on a dial gage amounts to 100 mm (4 in).

Order No. 5350230 (UNM.020MU)

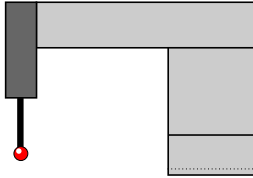


Ruby ball, dia. 1 mm (.039 in) Serration profile

Probe with ruby ball dia. 1 mm (.039 in)

This probe enables you to perform internal measurements on plain testpieces from dia. 1.5 mm (.059 in) on. The probe consists of a 1 mm (.039 in) ruby ball, holder, and serration grip

**Order No. 5350224
(UNM.001MT)**

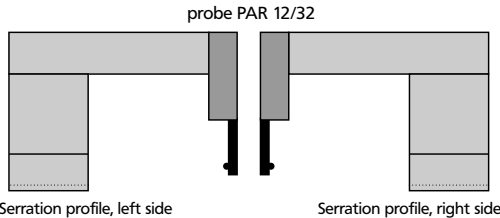


Ruby ball,
dia. 3 mm (.118 in) Serration profile

Probe with ruby ball dia. 3 mm (.118 in)

This probe enables you to perform internal measurements on plain testpieces from dia. 3.5 mm (.138 in) on. The probe consists of a 3 mm (.118 in) ruby ball, holder, and serration grip.

**Order No. 5350225
(UNM.003MT)**

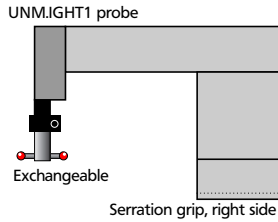


Serration profile, left side Serration profile, right side

Calipers (pair) for internal measurements

These calipers enable you to perform internal measurements on plain testpieces from dia. 7.5 mm (.295 in) or dia. 30 mm (1.182 in) (depending on the caliper) on. The pair consists of a left-hand and a right-hand caliper.

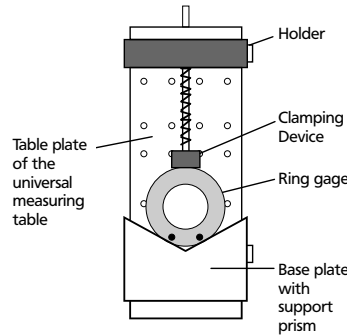
**Order No. 5350226 (UNM.PAR12)
Order No. 5350227 (UNM.PAR32)**



Measuring Probe (UNM.IGHT1)

for high-precision measurement of internal threads with exchangeable 828 gke measuring anvils. A Millitron indicating instrument (e.g. 1240) is required in addition.

**Order No. 5350242
(UNM.IGHT1)**



Exchangeable 828 gke measuring anvils for measuring different thread forms and sizes

For testing the flank diameter of inner threads. Available individually or as a set. 12 measuring anvils with ruby or carbide balls housed in a wooden box. Ball diameter 0.455 mm to 4 mm (.018 in to .16 in), nominal values as Mahr standard series.

Special sizes available on request.
Order No. 5350112 (complete set)

V-block holder for internal measurements

fast clamping device for ring gages, this device is used together with the universal measuring table, ring gages or components are held and replaced easily by V-block without using any other clamping means, the ring gage to be measured is located by the springloaded clamping device. Checking of ring gages of similar diameters is faster and more efficient.

This fast clamping device allows easy and fast changing of the pieces to be measured. If the setting ring is turned 90° for a complete check the reversal point is generally maintained or only needs minimum adjustment.

In combination with the pair of measuring jaws UNM.PAR12, UNM.PAR32 and the universal measuring table UNM.120UM/ UNM.320UM the ring gages can be changed very quickly.

Order No. 5350229 (UNM.PRISP)

828 UN Technical Data

828	Order No.	UN 120 5350121	UN 320 5350321
Reference temperature 20°C (68°F)			
Units metric/inch		selectable	selectable
Measuring range external measurement	[mm/in]	0-120/0-4.72 nom.	0-320/0-12.59 nom.
Measuring range internal measurement	[mm/in]	1.5-120/0.059-4.72	1.5-320/0.059-12.59
Internal thread measurement from metric	[mm/in]	M 6 to max. Ø 80/3.15	M 6 to max. Ø 200/7.87
Max. measuring uncertainty	[mm (in)]	0.0003 mm/120 mm (.000012 in/4.728 in)	0.0005 mm/320 mm (.0002 in/12.61 in)
Measuring accuracy (L = measuring length)	[µm]	(0.18 + L/1,000)	(0.18 + L/1,000)
Measuring probe height	[mm/in]	136/5.35	136/5.35
Repeatability ± 1 digit, according to resolution	[µm]	e.g. ± 0.02	e.g. ± 0.02
Measuring force, adjustable (digital display)	[N/oz.]	0-12/0-43	0-12/0-43
Probe (carbide)	[mm/in]	Ø 7.5/0.29	Ø 7.5/0.29
Data interface		V24/RS 232 C	V24/RS 232 C
Voltage	[V AC]	85 ... 264	85 ... 264
Dimensions (L x W x H)	[mm/in]	570 x 225 x 400/ 22.4 x 8.86 x 15.75	770 x 225 x 400/ 30.3 x 8.86 x 15.75
Weight	[kg/lb.]	100/220	182/401