

Linear Height

SERIES 518 — High Performance 2D Measurement System

FEATURES

- Excellent accuracy of $(1.3+0.6L/600)\mu\text{m}$ with $0.1\mu\text{m}/0.5\mu\text{m}$ resolution / repeatability.
- Perpendicularity (frontal) of $6\mu\text{m}$ and straightness of $4\mu\text{m}$ are guaranteed.
- Pneumatic full / semi-floating system allows adjustment of air-cushion height.
- Basic statistical functions are provided and, additionally, RS-232C data output provides the option of evaluating measurement data externally with SPC software on a PC.
- One-key operation for running a semi-automatic measurement.
- Data entry from a Digimatic tool.
- Choice of message language in English, German, French, Spanish, Italian, Dutch, Portuguese, Swedish, Czech, Hungarian, Slovenian, Polish, Traditional Chinese*, Korean** and Japanese for user-friendly operation.

*Optional **518-341K and 518-342K only



518-341A-21



518-342A-21
(with power grip)



SPECIFICATIONS

Inch/Metric	
Order No.	Remarks
518-341A-21 / 518-342A-21*	120V w/ English manual
518-341A-22 / 518-342A-22*	120V w/ Spanish manual
518-341D-21 / 518-342D-21*	220V w/ English manual
518-341D-22 / 518-342D-22*	220V w/ Spanish manual
518-341D-23 / 518-342D-23*	220V w/ German manual
518-341D-24 / 518-342D-24*	220V w/ French manual
518-341D-25 / 518-342D-25*	220V w/ Italian manual
518-341E-21 / 518-342E-21*	220V w/ English manual
518-341DC / 518-342DC*	220V w/ Chinese manual
518-341K / 518-342K*	220V w/ Korea manual

*Power grip pre installed models

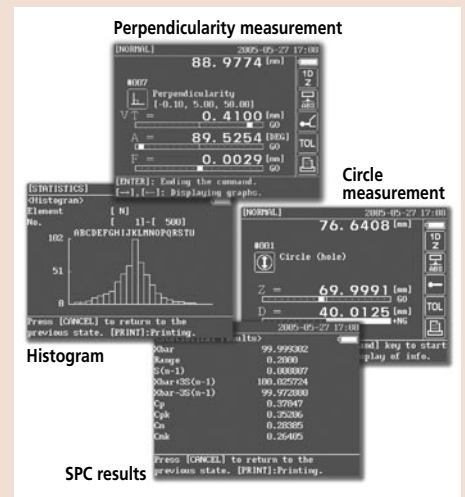


(Refer to the page 9 for details.)

Technical Data

- Measuring range: 0 - 972mm
- Slider stroke: 600mm
- Resolution: 0.0001 / 0.001 / 0.01 / 0.1mm or (switchable) 0.0001" / 0.001" / 0.01" / 0.1mm / .00001" / .0001" / .001" / .01"
- Accuracy at 20°C: $(1.3+0.6L/600)\mu\text{m}$
L = Measuring length (mm)
- Repeatability (2σ): Plane: 0.5μm, Bore: 1μm
- Perpendicularity*: 6μm
- Straightness: 4μm
- Drive method: Manual / motor (5 - 40mm/s, 7 steps)
- Measuring force: 1N
- Balancing method: Counter balance
- Floating method: Full / semi-floating with built-in air compressor
- Display: Graphic LCD (320 x 240 dot, with back light)
- Language for display: English / German / French / Spanish / Italian / Dutch / Portuguese / Swedish / Czech / Hungarian / Slovenian / Polish / Traditional Chinese (optional) / Korean (518-341K and 518-342K) / Japanese
- No. of stored programs: 50 programs (max.)
- No. of stored data: 60,000 data (max.)
- Power supply: AC adapter / battery (Ni-MH)
- Battery operation time: Approx. 5 hours (air floating & slider elevation : 25%)

*It is guaranteed when using the standard eccentric φ5 probe.



Optional Accessory

- 12AAC072:** Depth probe
- 12AAC073:** $\phi 20$ mm taper probe
- 12AAA787:** Block for calibrating probe diameter (applicable to taper probe)
- 12AAA792:** Dial indicator ($\phi 8$ mm stem) holder
- 12AAA837:** Dial indicator ($\phi 3/8$ " stem) holder
- 12AAA793:** Probe extension holder (85mm/3.3")
- 12AAB136:** $\phi 10$ mm cylindrical probe
- 932361:** Mu-checker lever head holder
- 12AAF666:** $\phi 1$ mm ball probe
- 12AAF667:** $\phi 2$ mm ruby ball probe
- 957261:** $\phi 2$ mm ball probe
- 957262:** $\phi 3$ mm ball probe
- 957263:** $\phi 4$ mm ball probe
- 12AAB552:** $\phi 10$ mm ball probe, L = 55mm
- 12AAF668:** $\phi 10$ mm ball probe, L = 82mm
- 12AAF669:** $\phi 10$ mm ball probe, L = 120mm
- 12AAF670:** $\phi 5$ mm disk probe
- 12AAF671:** $\phi 10$ mm disk probe
- 957264:** $\phi 14$ mm disk probe
- 957265:** $\phi 20$ mm disk probe
- 12AAF672:** $\phi 1$ mm ball offset probe
- 12AAF673:** $\phi 2$ mm ball offset probe
- 12AAA788:** $\phi 4$ mm ball offset probe
- 12AAA789:** $\phi 6$ mm ball offset probe
- 226116:** Test indicator ($\phi 6$ mm stem) adapter
- 226117:** M2 CMM stylus adapter
- 226118:** M3 CMM stylus adapter
- _____ : CMM ball and disk hard probes are available.
- 12AAF712:** Battery pack
- 12AAG245:** Large capacity battery pack
- 12AAF675:** Large capacity battery set
- 12AAA796:** Thermal receipt printer (220V)
- 12AAA797:** Thermal receipt printer (120V)
- 12AAA802:** Thermal receipt printing paper (10 pcs.)
- 12AAA804:** Cable for page printer (2m)
- 12AAA807:** RS-232C cable (2m/80")
- 12AAG920:** RS-232C cable (3m/118")
- 12AAH035:** USB-FDD unit



USB-FDD unit



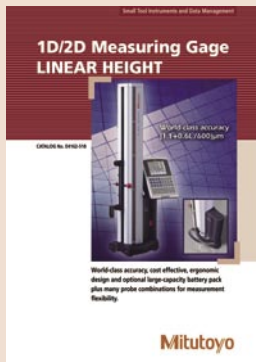
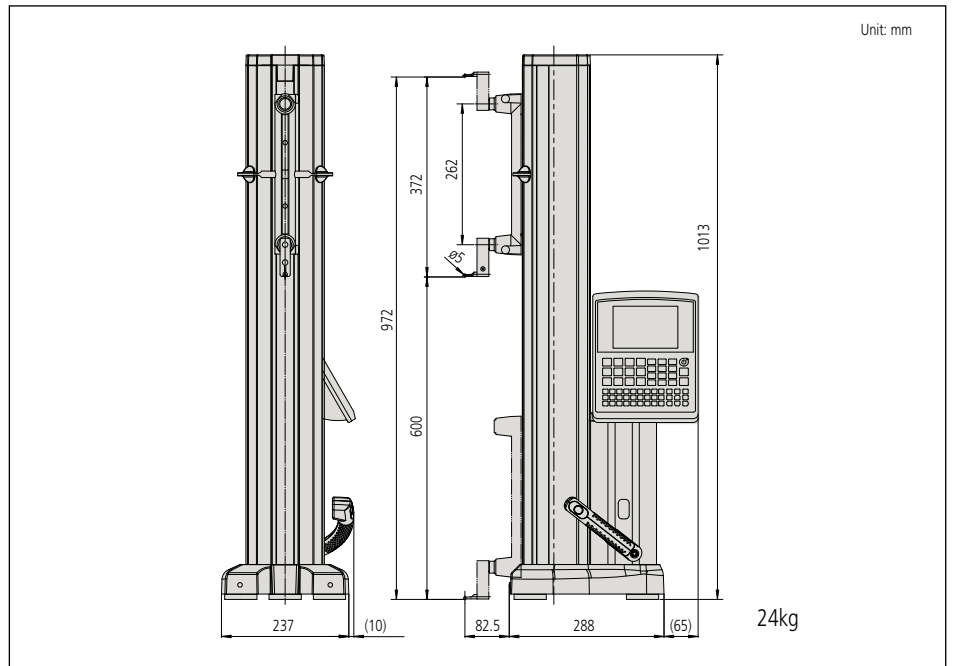
Thermal receipt printer

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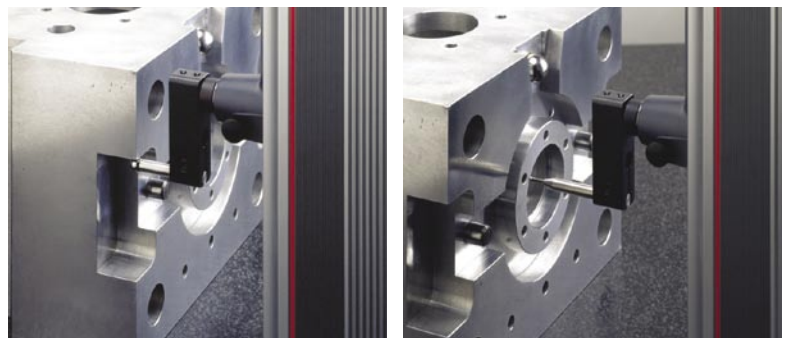
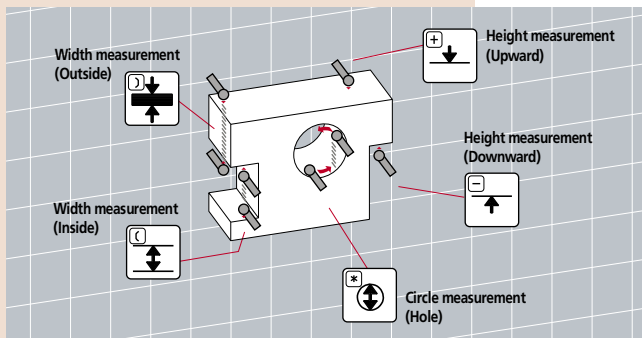
Printer ON/OFF
Contents to Be Printed : All Results to a
Command Name:
Point
W0001
X = 1.000 Y = 2.000
Circle
W0002
X = 1.999 Y = 2.001
D = 2.000 F2= 0.002
Circle-Point Distance
R1,2
W0003
LD= 0.597 LL= 1.997
LB= 0.003 ZD= 0.997
VD= -0.001
Start Pitch Measurement
Pitch
W0004
LD= 1.000 ZD= 1.000
VD= 0.000 AC= 18.2506
Pitch
W0005
LD= 0.999 ZD= 0.999
VD= 0.001 AC= 18.2506
    
```

Sample of printout

DIMENSION AND MASS



Refer to the Linear Height leaflet (E4162) for more details.



QM-Height

SERIES 518 — High Precision ABSOLUTE Digital Height Gage

FEATURES

- Newly developed high accuracy and high resolution ABSOLUTE linear encoder for position detection.
- Easy reference icon keys.
- Possible to measure inside / outside diameter via unique process (detect the circle apex and process by tracing measurement).
- Various types of optional probes are available.
- Large size LCD with back light.

- GO/±NG judgment is performed by setting the upper and lower tolerances. If a judgement result is out of tolerance, the display backlighting changes from green to red, so tolerance judgment can be made at a glance.



518-224



- Slider elevation knob (for travel) / wheel (for measurement).
- With SPC and RS-232C output.



(Refer to the page 9 for details.)

Technical Data

Measuring range: 0 - 465mm or 0 - 715mm
 Slider stroke: 350mm or 600mm
 Resolution: 0.001 / 0.005mm or 0.001 / 0.005mm / .00005" / .0001" / .0002"
 Accuracy at 20°C*: $\pm(2.8+5L/1000)\mu\text{m}$
 L = Measuring length (mm)
 Repeatability (2 σ): 1.8 μm
 Perpendicularity**: 6 μm (0 - 350mm), 13 μm (0 - 600mm)
 Guiding method: Roller bearing
 Drive method: Manual
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder
 Measuring force: 1.6 \pm 0.5N
 Display: LCD
 Power supply: AC adapter (optional) / battery (LR6 x 4)
 Battery operation time: Approx. 260 hours***
 (approx. 6 hours when using back light)

* It is guaranteed when using the standard eccentric $\phi 5$ probe.
 ** It is guaranteed when using a lever head (MLH-321) or Mu-Checker (M-411)
 *** 260 hours (using back light in the power saving mode)
 6 hours (using back light in the full-time turn-on mode)

SPECIFICATIONS

Metric	
Range	Order No.
0 - 350mm	518-220 / 518-224*
0 - 600mm	518-222 / 518-226*

*Model with setting block for ball probe (12AAA715)

Inch/Metric	
Range	Order No.
0 - 14"	518-221 / 518-225*
0 - 24"	518-223 / 518-227*

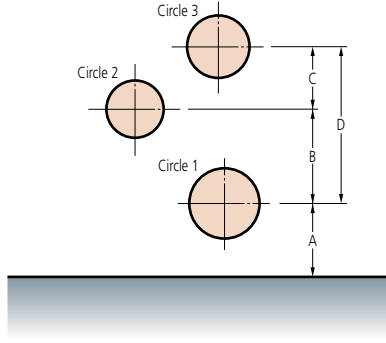
*Model with setting block for ball probe (12AAA715)

Optional Accessory

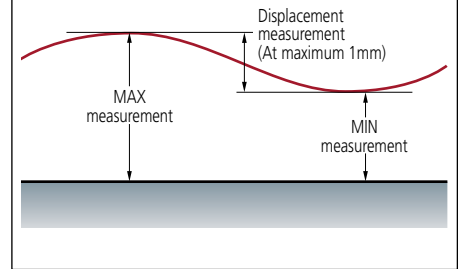
- 12AAC072:** Depth probe
- 12AAA792:** Dial indicator (ø8mm stem) holder
- 12AAA837:** Dial indicator (ø3/8" stem) holder
- 12AAA793:** Probe extension holder (85mm/3.3")
- 12AAF667:** ø2mm ruby ball probe
- 957261:** ø2mm ball probe
- 957262:** ø3mm ball probe
- 957263:** ø4mm ball probe
- 12AAB552:** ø10mm ball probe, L = 55mm
- 12AAF670:** ø5mm disk probe
- 12AAF671:** ø10mm disk probe
- 957264:** ø14mm disk probe
- 957265:** ø20mm disk probe
- 12AAA788:** ø4mm ball offset probe
- 12AAF394:** ø5mm ball offset probe
- 12AAA789:** ø6mm ball offset probe
- 226116:** Test indicator (ø6mm stem) adapter
- 05HZA173:** Scriber
- 264-504:** DP-1VR
- 936937:** SPC cable (1m)
- 965014:** SPC cable (2m)
- 526688:** AC adapter (100V)
- 526688A:** AC adapter (120V)
- 526688D:** AC adapter (220V)
- 526688E:** AC adapter (240V/220V)

Circle pitch measurement

The length A, B, C and D can be determined by measuring circles 1 to 3 once each, using the memory of measuring data together with the calculation function. (A maximum of nine circle measurement data can be saved.)



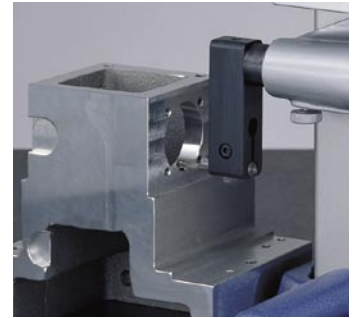
Maximum / minimum and displacement measurement



Height measurement



Inside diameter measurement



DIMENSION AND MASS

