



Technical Data

Graduation: .00001" or 0.001mm
 Counter Resolution: .001" or 0.01mm
 Character Height: .16" / 4mm
 Micrometer Head
 Travel stroke: 1" or 20mm
 Pitch: .025"/rev or 0.5mm/rev
 Hysteresis: .00004" or 1μm
 Provided with inspection certificate.

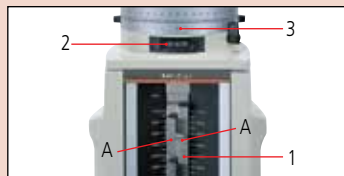
Standard Accessories

Reference Block: 11mm for 515-322
 Reference Block: .3" for 515-310, 515-311

Optional Accessories

515-112: Auxiliary block kit for bore gage (mm)
 515-119: Auxiliary block kit for bore gage (for 515-310)
 515-121: Auxiliary block kit for bore gage (for 515-311)
 ———: Riser block

Reading



Height A

1. Scale	280.	mm
2. Counter	5.67	mm
3. Thimble	0.000	mm
		285.670 mm



Height Master

SERIES 515

FEATURES

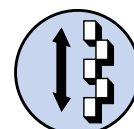
- Models with staggered arrangement of block stack have two measuring faces on the same level, one facing up and the other down (except for 515-310).
- Each height master is supplied with a gage block for zero-setting.
- Supplied in fitted wooden case.



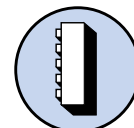
515-322



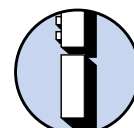
515-310



Staggered 20mm blocks (movable)



Vertical orientation



Riser block

SPECIFICATIONS

Metric

Range (H)	Order No.	Block step	Graduation	Block Pitch Accuracy	Parallelism of Block	Micrometer Head Accuracy	Mass (kg)
5 < H ≤ 310mm	515-322	20mm (staggered)	0.001mm	±1.5μm	1μm	±1μm	23

Inch

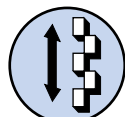
Range (H)	Order No.	Block step	Graduation	Block Pitch Accuracy	Parallelism of Block	Micrometer Head Accuracy	Mass (kg)
.2" < H ≤ 12.2"	515-310	.5" (straight)	.00001"	±.00005"	.00004"	±.00005"	23
.2" < H ≤ 12.2"	515-311	1" (staggered)	.00001"	±.00005"	.00004"	±.00005"	23

Digital Height Master

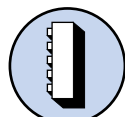
SERIES 515

FEATURES

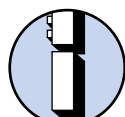
- Standard model with a digital display, featuring all essential specifications required for versatile height standard.
- With SPC output.
- Each height master is supplied with a gage block for zero setting.



Staggered 20mm blocks (movable)



Vertical orientation



Riser block



515-374

SPECIFICATIONS

Metric

Range (H)	Order No.	Block step	Resolution	Block Pitch Accuracy	Parallelism	Micrometer Head Accuracy	Mass (kg)
10 < H ≤ 310mm	515-374	20mm (staggered)	0.001mm	±1.5μm	2μm	±2μm	9.5
10 < H ≤ 460mm	515-376	20mm (staggered)	0.001mm	±2.5μm	2.5μm	±2μm	13.6
10 < H ≤ 610mm	515-378	20mm (staggered)	0.001mm	±3.5μm	2.5μm	±2.5μm	16.0

Inch/Metric

Range (H)	Order No.	Block step	Resolution	Block Pitch Accuracy	Parallelism	Micrometer Head Accuracy	Mass (kg)
.5" < H ≤ 12"	515-375	1" (staggered)	.0001" / 0.001mm	±.0001"	.00005"	±.0001"	9.5
.5" < H ≤ 18"	515-377	1" (staggered)	.0001" / 0.001mm	±.0001"	.0001"	±.0001"	13.6
.5" < H ≤ 24"	515-379	1" (staggered)	.0001" / 0.001mm	±.0001"	.0001"	±.0001"	16.0



Technical Data

Resolution (LCD): .0001" or 0.001mm
 Graduation: .0001" or 0.002mm
 Character Height .21" / 5.4mm

Micrometer Head

Travel Stroke: 1" or 20mm
 Pitch: .025"/rev or 0.5mm/rev
 Hysteresis: .0001" for all inch models
 0.002mm for 300mm models
 0.0025mm for 450 & 600mm models
 Battery: SR44 (2 pcs.), **938882**
 Battery life: Approx. 1.8 years under normal use

Function

Zero-setting, Presetting, ABS/INC switching, Data hold, Data output, inch/mm conversion (on inch/metric models only)
 Alarm: Low voltage, Counting value composition error

Standard Accessories

Reference Block: 11mm for Metric Height Master **611621-031**
 Reference Block: .6" for for Inch Height Master **611196-531**
 Provided with inspection certificate.

Optional Accessories

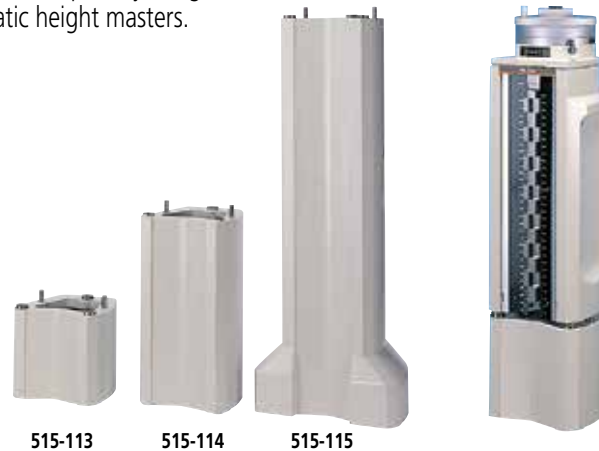
515-111: Auxiliary block kit for bore gage (mm)
515-120: Auxiliary block kit for bore gage (inch)
 —: Riser block (see page E-27.)
959149: SPC cable (40" / 1m)
959150: SPC cable (80" / 2m)
050019: Fitted mahogany case for 12" / 300mm model
050059: Fitted mahogany case for 18" / 450mm model
 24" / 600mm model

Riser Blocks

SERIES 515

FEATURES

- These riser blocks are specially designed for standard/digimatic height masters.



515-113

515-114

515-115

SPECIFICATIONS

Metric			
Height	Order No.	Accuracy of height	Mass (kg)
150mm	515-113	$\pm 0.6\mu\text{m}$	5.7
300mm	515-114	$\pm 1.0\mu\text{m}$	11.3
600mm	515-115	$\pm 2.0\mu\text{m}$	31

Inch			
Height	Order No.	Accuracy of height	Mass (kg)
6"	515-116	$\pm 20\mu\text{in}$	5.7
12"	515-117	$\pm 40\mu\text{in}$	11.3
24"	515-118	$\pm 80\mu\text{in}$	31

Auxiliary Block Kit

SERIES 515 — for Bore Gage

FEATURES

- Used for efficient zero-setting of dial bore gages and tubular inside micrometers (18 - 150mm) on a Height Master.

Bore gage zero-setting



515-112

SPECIFICATIONS

Metric	
Order No.	Applicable height master
515-110	Universal Height Master
515-111	Digimatic Height Master
515-112	Height Master

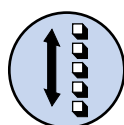
Inch	
Order No.	Applicable height master
515-119	Universal Height Master, Height Master (515-310)
515-120	Digimatic Height Master
515-121	Height Master (515-311)

Universal Height Master

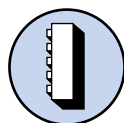
SERIES 515 — Use in Vertical and Horizontal Orientation

FEATURES

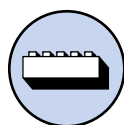
- The Universal Height Master is designed for both vertical and horizontal orientations, providing a wide range of applications, such as accuracy checking of machine tool table movements.
- Fitted wooden case supplied.



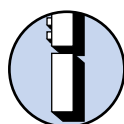
Single-row 10mm blocks (movable)



Vertical orientation



Horizontal orientation



Riser block

515-520

SPECIFICATIONS

Metric

Range (R)	Order No.	Block step	Graduation	Block Pitch Accuracy	Parallelism of Block	Micrometer Head Accuracy	Mass (kg)
$5 < R \leq 610\text{mm}$	515-520	10mm (straight)	0.001mm	$\pm 1.5\mu\text{m}$	$1.0\mu\text{m}$	$\pm 1.2\mu\text{m}$	42
$5 < R \leq 1010\text{mm}$	515-523	10mm (straight)	0.001mm	$\pm 3.5\mu\text{m}$	$2.5\mu\text{m}$	$\pm 1.5\mu\text{m}$	63.5

Inch

Range (R)	Order No.	Block step	Graduation	Block Pitch Accuracy	Parallelism of Block	Micrometer Head Accuracy	Mass (kg)
$.2" < R \leq 18.2"$	515-512	.5" (straight)	.00001"	$\pm .00005"$	.00006"	$\pm .00004"$	42
$.2" < R \leq 24.2"$	515-510	.5" (straight)	.00001"	$\pm .0001"$	.00006"	$\pm .00004"$	50
$.2" < R \leq 40.2"$	515-513	.5" (straight)	.00001"	$\pm .00015"$	.00008"	$\pm .00006"$	63.5



Technical Data

Graduation: 0.001mm or .00001"
 Counter Resolution: .001" or 0.01mm
 Character Height: .16" / 4mm
 Block arrangement: Straight arrangement

Micrometer Head

Travel stroke: 1" or 20mm
 Pitch: .025"/rev or 0.5mm/rev
 Hysteresis: .00004" / 1.2μm up to 24.2" / 610mm
 .00006" / 1.5μm for 40.2" / 1010mm

Block pitch accuracy: $\pm 1.5\mu\text{m}$ ($0 < R \leq 310\text{mm}$)
 $\pm 2.5\mu\text{m}$ ($310 < R \leq 610\text{mm}$)
 $\pm 3.5\mu\text{m}$ ($610 < R \leq 1010\text{mm}$)

Parallelism of blocks: $1.0\mu\text{m}$ ($0 < R \leq 310\text{mm}$)
 $2.5\mu\text{m}$ ($310 < R \leq 1010\text{mm}$)

Provided with inspection certificate.

Optional Accessories

- 900574*:** Supporting base for vertical operation
 Mass: 3kg
 (*supplied as a standard for **515-523** and **515-513**)
- 515-112:** Auxiliary block kit for bore gage (mm)
515-119: Auxiliary block kit for bore gage (inch)



Using in horizontal orientation



Supporting base



Technical Data

Measuring range (R): Refer to the list of specifications.
 Block pitch accuracy:
 $\pm 1.2\mu\text{m}$ ($0 < R \leq 310\text{mm}$)
 $\pm 1.8\mu\text{m}$ ($310 < R \leq 610\text{mm}$)
 $\pm 2.5\mu\text{m}$ ($610 < R \leq 1010\text{mm}$)
 $\pm 4.0\mu\text{m}$ ($1010 < R \leq 1510\text{mm}$)
 Parallelism of blocks:
 $1.0\mu\text{m}$ ($0 < R \leq 450\text{mm}$)
 $1.5\mu\text{m}$ ($450 < R \leq 1010\text{mm}$)
 $2.0\mu\text{m}$ ($1010 < R \leq 1510\text{mm}$)
 Provided with inspection certificate.

High-Accuracy Check Master HMC-H

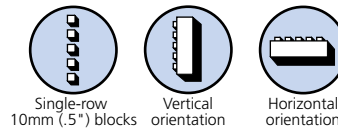
SERIES 515

FEATURES

- Designed to check the accuracy of table movements of machine tools and calibrate CMMs. Permanently wrung stack of gage blocks is housed in a rigid frame.
- Can be used in either vertical and horizontal orientation.
- Fitted wooden case supplied.

Specifications for Ceramic Check Master:

- Each measuring block is made of zirconia-based ceramic that requires no anti-corrosion treatment for measuring faces.
- Free from deterioration and dimensional changes over time.



Single-row
10mm (.5") blocks

Vertical
orientation

Horizontal
orientation



515-743

515-742

515-740

SPECIFICATIONS

Metric

Range (R)	Order No.		Pitch		Accuracy of block pitch for the range shown below as measured from the bottom block				Length	Parallelism	Mass (kg)
	Steel	Ceramic	P	P	up to 300mm	300-600mm	600-1000mm	1000-1500mm			
300mm	515-740	515-760	20mm	10mm	$\pm 1.2\mu\text{m}$	—	—	—	331mm	$1\mu\text{m}$	3.6
450mm	515-741	515-761	20mm	10mm	$\pm 1.2\mu\text{m}$	$\pm 1.8\mu\text{m}$	—	—	482mm	$1\mu\text{m}$	5.4
600mm	515-742	515-762	20mm	10mm	$\pm 1.2\mu\text{m}$	$\pm 1.8\mu\text{m}$	—	—	631mm	$1.5\mu\text{m}$	7.2
1000mm	515-743	515-763	20mm	10mm	$\pm 1.2\mu\text{m}$	$\pm 1.8\mu\text{m}$	$\pm 2.5\mu\text{m}$	—	1037mm	$1.5\mu\text{m}$	12.0
1500mm	515-744	515-764	20mm	10mm	$\pm 1.2\mu\text{m}$	$\pm 1.8\mu\text{m}$	$\pm 2.5\mu\text{m}$	$\pm 4.0\mu\text{m}$	1546mm	$2\mu\text{m}$	18.0

Inch

Range (R)	Order No.		Pitch		Accuracy of block pitch for the range shown below as measured from the bottom block				Length	Parallelism	Mass (kg)
	Steel	Ceramic	P	P	up to 12"	12-24"	24-40"	40-60"			
12"	515-730	515-750	1"	.5"	$\pm 50\mu\text{in}$	—	—	—	13.0"	$40\mu\text{in}$	3.4
18"	515-731	515-751	1"	.5"	$\pm 50\mu\text{in}$	$\pm 70\mu\text{in}$	—	—	19.0"	$40\mu\text{in}$	5.2
24"	515-732	515-752	1"	.5"	$\pm 50\mu\text{in}$	$\pm 70\mu\text{in}$	—	—	25.0"	$60\mu\text{in}$	6.9
40"	515-733	515-753	1"	.5"	$\pm 50\mu\text{in}$	$\pm 70\mu\text{in}$	$\pm 100\mu\text{in}$	—	41.0"	$60\mu\text{in}$	11.5
60"	515-734	515-754	1"	.5"	$\pm 50\mu\text{in}$	$\pm 70\mu\text{in}$	$\pm 100\mu\text{in}$	$\pm 158\mu\text{in}$	61.5"	$80\mu\text{in}$	17.3

Optional Accessories

601167: Supporting base for vertical operation

Dimensions: 14.2" (W) x 8.7" (D) x 8.3" (H)
 360mm (W) x 220mm (D) x 210mm (H)

Mass: 3kg



Supporting base

