

Absolute High-Accuracy Digimatic Micrometer



Series 293

This Micrometer enables 0,1µm resolution measurements and is ideal for customers who need to make highly accurate measurements with a hand-held tool (such as Gauge R & R analysis).

The Absolute High-Accuracy Micrometer offers the following benefits:

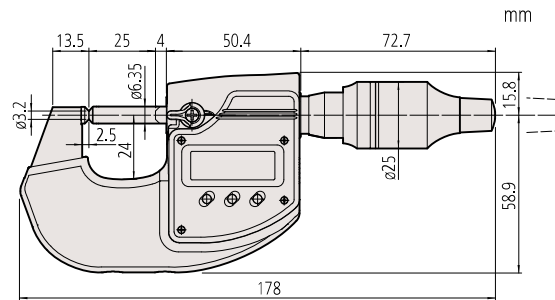
- It delivers higher accuracy without sacrificing operability, by using Mitutoyo's innovative 0,1 µm resolution ABS (absolute) rotary sensor and high accuracy screw machining technology which reduces instrumental error to just 0,5 µm.
- Its highly rigid frame and high-performance constant-force mechanism (7-9N) enable more stable measurement.



High Accuracy Micrometer with heat insulating cover (standard accessory)

Metric

No.	Range [mm]	Digital step	Instrumental error	Mass [g]	Price [€]
293-100	0-25	0,0001 mm/ 0,0005 mm (switchable)	±0,5 µm	400	1400,00



Comparative sizes:
High Accuracy-Micrometer with a highly rigid frame and a common Micrometer with a standard frame

Functions	Series 293
ON/OFF	●
Auto Power OFF after 20 min. non use	●
Low voltage alarm	●
Function lock	●
HOLD	●
Data output	●
PRESET	●
Resolution switching	●

Specifications

Accuracy	Refer to the list of specifications (excluding quantizing error)
Flatness	0,3 µm
Parallelism	0,6 µm
Measuring surface	ø3,2 mm, carbide tipped, micro-lap finish
Measuring spindle	With spindle lock, ø6,35 mm, 0,5 mm spindle pitch
Measuring force	7-9 N
Measuring system	Electromagnetic induction type ABS rotary sensor
Battery life	approx. 2 years
Power supply	Lithium battery (CR2032) x 1
Delivered	Including box, key, driver, 1 battery, heat insulating cover, certificate of inspection

Optional accessories

No.	Description	Price €
05CZA662	Digimatic cable with data switch (1 m)	74,00
05CZA663	Digimatic cable with data switch (2 m)	83,00
06ADV380B	USB Input Tool Direct cable with data switch (2 m)	115,00
02AZD790B	Connecting cable U-Wave with data switch	95,00

Consumable spares

No.	Description	Price €
05SAA217D	Lithium battery CR-2032	6,00



0,1µm digital step

Digimatic Micrometer QuantuMike IP65

Series 293

This is a micrometer with a 2mm spindle pitch, offering movement four times as fast as a standard micrometer.

The Digimatic Micrometer QuantuMike IP65 offers the following benefits:

- Faster measurement is achieved by using a coarser thread which feeds the spindle by 2mm per thimble rotation.
- It delivers approximately four times as fast as standard micrometer with 0,5mm spindle pitch.
- The device has outstanding accuracy, with only $\pm 1\mu\text{m}$ instrumental error (75mm or less measuring range models).
- The dual function offered by the ratchet on the thimble and the fast drive mechanism ensure easy single-handed or stand operation.
- Excellent resistance against water and dust (IP65 protection level) enables this micrometer to be used in machining situations that include splashing coolant fluid.

QuantuMike®



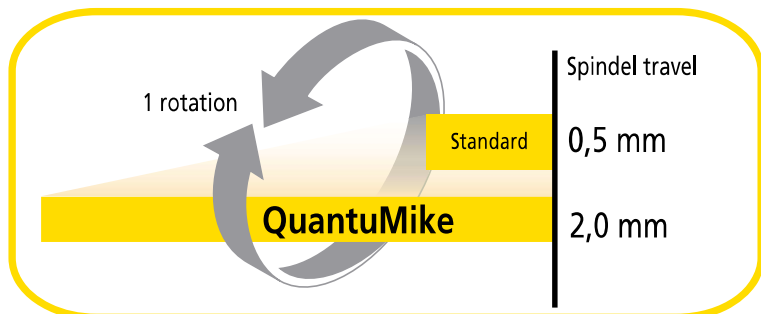
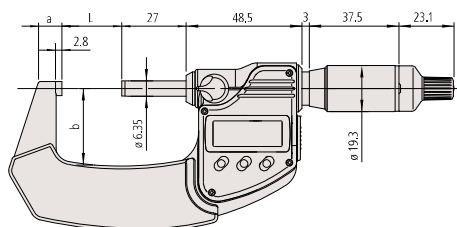
293-140



Coloured ratchet caps

Metric

No.	Range [mm]	Accuracy [μm]	Data output	L [mm]	a [mm]	b [mm]	Mass [g]	Price [€]
293-140	0-25	± 1	●	0	9	25	265	290,00
293-145	0-25	± 1	●	0	9	25	265	205,00
293-141	25-50	± 1	●	25	9,8	32	325	358,00
293-146	25-50	± 1	●	25	9,8	32	325	282,00
293-142	50-75	± 1	●	50	12,6	47	465	433,00
293-147	50-75	± 1	●	50	12,6	47	465	338,00
293-143	75-100	± 2	●	75	14	60	620	493,00
293-148	75-100	± 2	●	75	14	60	620	383,00



Dust- and Waterproof IP65
www.mitutoyo.com
ID: 4811202400



Only for 0-25, 25-50 mm

Functions	Series 293
ORIGIN (until 100 mm)	●
ZERO/ABS	●
Auto Power OFF after 20 min. non use	●
Low voltage alarm	●
Function lock	●
HOLD	●

Specifications

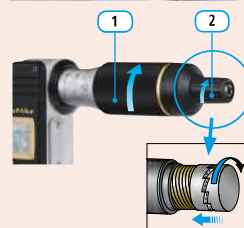
Accuracy	Refer to the list of specifications (excluding quantizing error)
Digital step	0,001 mm
Flatness	0,3 μm
Parallelism	1 μm for models up to 50 mm 2 μm for models up to 100 mm
Measuring surfaces	carbide-tipped, micro-lap finish
Measuring spindle	With spindle lock, $\phi 6,35\text{mm}$, 2 mm spindle pitch
Measuring force	7-12 N
Battery life	approx. 1,2 year
Delivered	Including box, key, 1 battery, setting standard (from 25 mm upward), certificate of inspection (0-50 mm range)

Optional accessories

No.	Description	Price €
05CZA662	Digimatic cable with data switch (1 m)	74,00
05CZA663	Digimatic cable with data switch (2 m)	83,00
02AZD790B	Connecting cable U-Wave with data switch	95,00
06ADV380B	USB Input Tool Direct cable with data switch (2 m)	115,00
04GAA900	Red ratchet cap	4,00
04GAA901	Yellow ratchet cap	4,00
04GAA902	Green ratchet cap	4,00
04GAA903	Blue ratchet cap	4,00
04AAB208	Grey ratchet cap	4,00

Consumable spares

No.	Description	Price €
938882	Battery SR44	6,00
04GAA899	Black ratchet cap	4,00



1 : Ratchet on thimble
2 : Ratchet on speeder

Digimatic Micrometer IP65 Metric

Series 293

This metric micrometer offers outstanding accuracy, with and without data input, and is highly robust.

The Digimatic Micrometer IP65 Metric offers the following benefits:

- Outstanding accuracy with just $\pm 1\mu\text{m}$ instrumental error (75mm or less measuring range models).



Only for 0-25, 25-50 mm

Functions	Series 293
ORIGIN (until 100 mm)	●
ZERO/ABS	●
2 x PRESET (over 100 mm)	●
Auto Power OFF after 20 min. non use	●
Low voltage alarm	●
Function lock	●
HOLD	●

Specifications

Accuracy	Refer to the list of specifications (excluding quantizing error)
Digital step	0,001 mm
Scale	Thimble and sleeve satin chrome finish, $\varnothing 18$ mm
Flatness	0,3 μm
Parallelism	1 μm for models up to 50 mm 2 μm for models up to 100 mm 3 μm for models up to 175 mm 4 μm for models up to 275 mm 5 μm for models over 300 mm
Measuring surfaces	carbide-tipped, micro-lap finish
Measuring spindle	With spindle lock, $\varnothing 6,35$ mm, spindle pitch 0,5 mm
Measuring force	5-10 N
Battery life	approx. 2,4 years for models up to 100 mm 1,2 years for >100mm
Delivered	Including box, key, 1 battery, setting standard (from 25 mm upward) certificate of inspection (0-50mm range)

Optional accessories

No.	Description	Price €
05CZA662	Digimatic cable with data switch (1 m)	74,00
05CZA663	Digimatic cable with data switch (2 m)	83,00
02AZD790B	Connecting cable U-Wave with data switch	95,00
06ADV380B	USB Input Tool Direct cable with data switch (2 m)	115,00

Consumable spares

No.	Description	Price €
938882	Battery SR44	6,00



Improved Battery Life (approx. 8700 hrs)



293-234-30 with ratched thimble



293-230-30 with ratched stop



293-252-10

Metric With ratchet stop

No.	Range [mm]	Accuracy [μm]	Data output	L [mm]	a [mm]	b [mm]	c [mm]	Mass [g]	Price [€]
293-230-30	0-25	± 1	●					270	258,00
293-240-30	0-25	± 1	●					270	188,00
293-231-30	25-50	± 1	●					330	319,00
293-241-30	25-50	± 1	●					330	262,00
293-232-30	50-75	± 1	●					470	
293-242-30	50-75	± 1	●					470	317,00
293-233-30	75-100	± 2	●					625	449,00
293-243-30	75-100	± 2	●					625	360,00
293-250-10	100-125	± 2	●	132,8	5,3	16,7	76,5	600	551,00
293-251-10	125-150	± 2	●	158,2	5,7	18,8	91	740	567,00
293-252-10	150-175	± 3	●	183,6	6,1	19,1	102	800	582,00
293-253-10	175-200	± 3	●	208,8	6,3	18,2	115	970	592,00
293-254-10	200-225	± 3	●	234,2	6,7	16,8	127	1100	603,00
293-255-10	225-250	± 4	●	258	5,5	18	139	1270	613,00
293-256-10	250-275	± 4	●	284	6,5	18	152	1340	623,00
293-257-10	275-300	± 4	●	309	6,5	18	166	1540	639,00

Metric With ratchet thimble

No.	Range [mm]	Accuracy [μm]	Data output	Mass [g]	Price [€]
293-234-30	0-25	± 1	●	270	288,00
293-244-30	0-25	± 1	●	270	199,00
293-235-30	25-50	± 1	●	330	355,00
293-245-30	25-50	± 1	●	330	272,00
293-236-30	50-75	± 1	●	470	433,00
293-246-30	50-75	± 1	●	470	360,00
293-237-30	75-100	± 2	●	625	489,00
293-247-30	75-100	± 2	●	625	411,00

Digimatic Micrometer IP65 Metric

Series 293 - Micrometers in set

This metric micrometer offers outstanding accuracy, with and without data input, and is highly robust.

The Digimatic Micrometer IP65 Metric offers the following benefits:

- With data output.

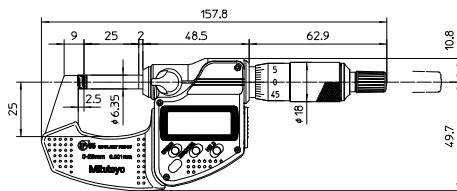


only for 0-25mm,
25-50mm

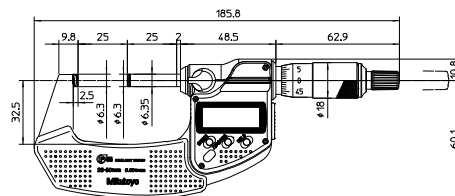


293-963-30

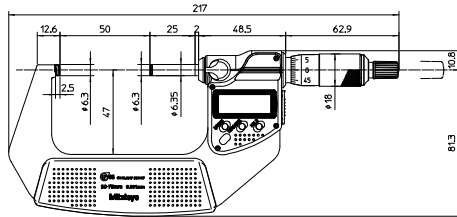
Metric		Set/With ratchet stop		
No.	Range [mm]	Data output	Set combination	Price [€]
293-966-30	0-50	●	293-230-30 / 293-231-30 + setting standard 25 mm made of ceramics	572,00
293-962-30	0-75	●	293-230-30 / 293-231-30 / 293-232-30 + setting standard 25 mm and 50 mm	979,00
293-963-30	0-100	●	293-230-30 / 293-231-30 / 293-232-30 / 293-233-30 + setting standard 25 mm, 50 mm and 75 mm	1390,00



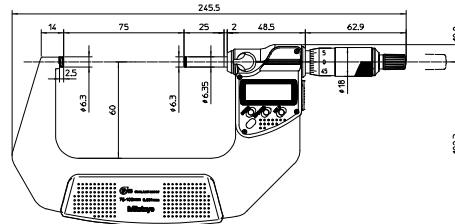
0 - 25 mm



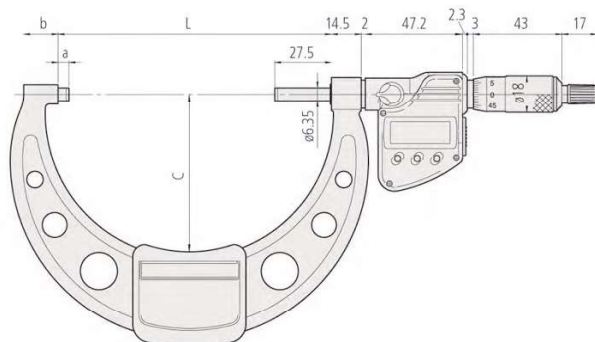
25 - 50 mm



50 - 75 mm



75 - 100 mm



Ratchet stop type over 100 mm

Functions	Series 293 - Micrometers in set
ORIGIN (until 100 mm)	●
ZERO/ABS	●
Auto Power OFF after 20 min. non use	●
Low voltage alarm	●
Function lock	●
HOLD	●

Specifications

Accuracy	See individual types
Digital step	0,001 mm
Scale	Thimble and sleeve satin chrome finish, ø18 mm
Flatness	0,3 µm
Parallelism	1 µm for models up to 50 mm 2 µm for models up to 100 mm
Measuring surfaces	carbide-tipped, micro-lap finish
Measuring spindle	With spindle lock, ø 6,35 mm, spindle pitch 0,5 mm
Measuring force	5-10 N
Battery life	approx. 2,4 years
Delivered	Including box, key, batteries, setting standard (from 25 mm upward) certificate of inspection (0-50 mm range)

Optional accessories

No.	Description	Price €
05CZA662	Digimatic cable with data switch (1 m)	74,00
05CZA663	Digimatic cable with data switch (2 m)	83,00
02AZD790B	Connecting cable U-Wave with data switch	95,00
06ADV380B	USB Input Tool Direct cable with data switch (2 m)	115,00

Consumable spares

No.	Description	Price €
938882	Battery SR44	6,00

Digimatic Micrometer 300-500 mm

Series 293

The Digimatic Micrometer 300-500mm has a measuring range of 300-500mm and offers the following benefits:

- The micrometer's 330° rotatable display unit enables easy reading in all measurement positions.
- 300-500mm measuring range.

Functions	Series 293
ZERO/ABS	●
Auto Power OFF after 20 min. non use	●
Low voltage alarm	●
HOLD	●
Data output	●

Specifications

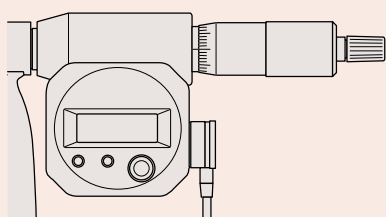
Accuracy	Refer to the list of specifications (excluding quantizing error)
Digital step	0,001 mm
Scale	Thimble and sleeve satin chrome finish
Flatness	0,6 μm
Parallelism	5 μm for models up to 375 mm 6 μm for models up to 475 mm 7 μm for models up to 500 mm
Measuring surfaces	Carbide tipped, micro lap finish
Measuring spindle	with spindle lock, ø 8 mm, single pitch 0,5 mm
Measuring force	10-14 N
Battery life	approx. 1,8 years
Delivered	Including box, setting standard, key, 2 batteries

Optional accessories

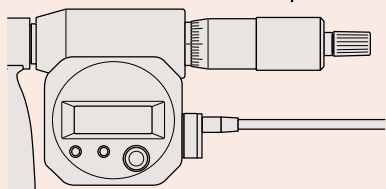
No.	Description	Price €
04AZB512	Digimatic cable with data switch (1 m)	75,00
04AZB513	Digimatic cable with data switch (2 m)	85,00
959149	Digimatic cable with data switch (1 m)	38,00
959150	Digimatic cable with data switch (2 m)	44,00
02AZD790C	U-WAVE Data Cable with data switch	90,00
06ADV380C	USB Input tool Direct cable with data switch (2 m)	100,00

Consumable spares

No.	Description	Price €
938882	Battery SR44	6,00



Cable orientation downwards
04AZB512, 04AZB513



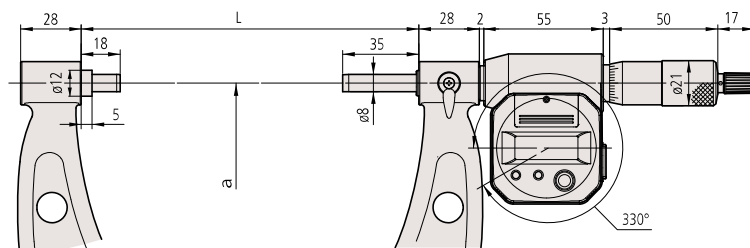
Cable orientation in thimble direction
959149, 959150



293-582

Metric

No.	Range [mm]	Accuracy [μm]	L [mm]	a [mm]	Mass [g]	Price [€]
293-582	300-325	±6	353	187	2000	752,00
293-583	325-350	±6	378	199	2150	762,00
293-584	350-375	±6	403	212	2300	773,00
293-585	375-400	±7	428	224	2450	783,00
293-586	400-425	±7	453	236	2600	793,00
293-587	425-450	±7	478	248	2750	803,00
293-588	450-475	±8	503	261	2900	814,00
293-589	475-500	±8	528	273	3100	824,00



The display is 330° rotatable

Digimatic Micrometer

Series 293

This standard model Digimatic Micrometer is an affordable device that offers the following benefits:

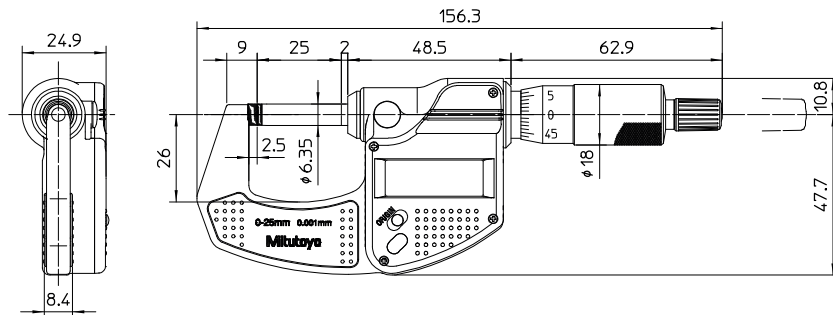
- Cost-effective with simplified functionality for standard applications.
- Without data output.
- It is available with a ratchet stop or friction thimble for a constant measuring force.



293-821-30

Metric With ratchet stop

No.	Range [mm]	Accuracy [μm]	Mass [g]	Price [€]
293-821-30	0-25	± 2	275	144,00



Functions	Series 293
ORIGIN	●
Auto Power OFF after 20 min. non use	●
Low voltage alarm	●

Specifications

Accuracy	Refer to the list of specifications (excluding quantizing error)
Digital step	0,001 mm
Scale	Thimble and sleeve satin chrome finish $\varnothing 18$ mm
Flatness	0,3 μm
Parallelism	2 μm
Measuring surfaces	Carbide tipped, micro-lap finish
Measuring spindle	$\varnothing 6,35$ mm, spindle pitch 0,5 mm
Measuring force	5-10 N
Battery life	approx. 2,4 years (approx. 8700 hours)
Delivered	Including box, key, 1 battery Certificate of inspection

Consumable spares

No.	Description	Price €
938882	Battery SR44	6,00