

Mitutoyo

Catalogue No. MAP 20



MEASURING INSTRUMENTS CATALOGUE



Mitutoyo Asia Pacific

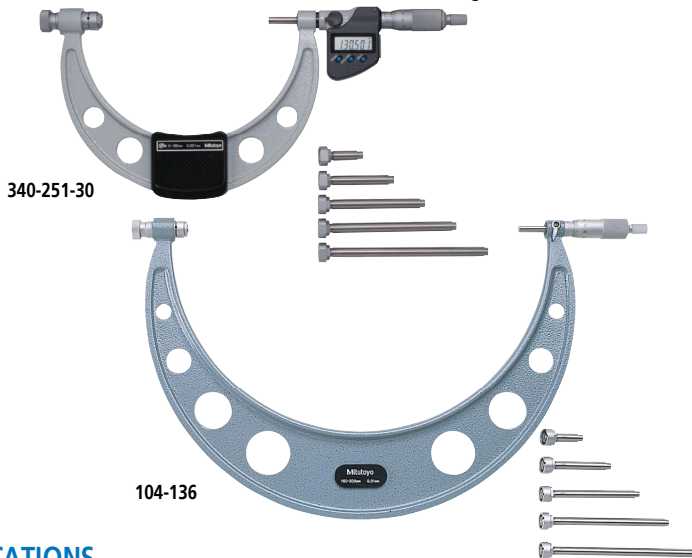
Micrometer

The origin of Mitutoyo's trustworthy brand of small tool instruments

Outside Micrometers SERIES 340, 104 — with Interchangeable Anvils

MeasurLink ENABLED
Data Management Software by Mitutoyo

- Wide measuring range with interchangeable anvils.
- Measuring face of the spindle is carbide tipped (standard model).
- IP 65 water/dust protection (340-251-30, 340-252-30, 340-351-30, 340-352-30).
- Equipped with Ratchet Stop for constant measuring force.



SPECIFICATIONS

Metric							
Order No.	Range (mm)	Resolution (mm)	Interchangeable anvils	Setting Standard		Micrometer head stroke (mm)	
				Qty	Size (mm)		
Digimatic (LCD)							
340-251-30	0 - 150	0.001	6 pcs.	5	25 - 125	25	
340-252-30	150 - 300			6	150 - 275		
340-520	300 - 400			4 pcs.	4		300 - 375
340-521	400 - 500						400 - 475
340-522	500 - 600						500 - 575
340-523	600 - 700						600 - 675
340-524	700 - 800		700 - 775				
340-525	800 - 900		800 - 875				
340-526	900 - 1000		900 - 975				

Metric						
Order No.	Range (mm)	Graduation (mm)	Interchangeable anvils	Setting Standard		Micrometer head stroke (mm)
				Qty	Size (mm)	
Analog						
104-171*	0 - 50	0.01	1 pc.	1	25	25
104-139A	0 - 100		4 pcs.	3	25 - 75	
104-135A	0 - 150		6 pcs.	5	25 - 125	
104-161A	50 - 150		4 pcs.	4	50 - 125	
104-140A	100 - 200				100 - 175	
104-136A	150 - 300		6 pcs.	6	150 - 275	
104-141A	200 - 300		4 pcs.	4	200 - 275	
104-142A	300 - 400				300 - 375	
104-143A	400 - 500				400 - 475	
104-144A	500 - 600				500 - 575	
104-145A	600 - 700				600 - 675	
104-146A	700 - 800				700 - 775	
104-147A	800 - 900				800 - 875	
104-148A	900 - 1000				900 - 975	

* The frame is fitted with a heat shield.
 Note 1: For functional details of 340-251-30, 340-252-30, 340-351-30, 340-352-30, refer to page B-8.
 Please note that origin setting of these models is by presetting.
 Optional connecting cable is available only for water-proof type (Digimatic model).
 Note 2: For functional details of 340-520 to 340-723, refer to page B-9.

MeasurLink ENABLED
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).



These marks indicate that a product has successfully passed IP65-level testing, which is carried out by the independent German certification organization TÜV Rheinland.



IP Codes (340-251-30, 340-252-30, 340-351-30, 340-352-30)

- Level 6: Dust -proof.
No ingress of dust allowed.
- Level 5: Protected against water jets.
Water projected in jets against the enclosure from any direction shall have no harmful effects.

Technical Data

- Spindle feed error: 3 µm/0.00015 in
- Flatness
Measuring range 0 to 300: 0.6 µm
Measuring range 300 to 1000: 1.0 µm
- Parallelism
Measuring range 0 to 75: 2 µm
Measuring range 75 to 150: 3 µm
Measuring range 150 to 1000
(2+R/100) µm, R=max. range (mm) (fraction rounded up)

Inch/Metric						
Order No.	Range (in)	Resolution	Interchangeable anvils	Setting Standard		Micrometer head stroke (in)
				Qty	Size (in)	
Digimatic (LCD)						
340-351-30	0 - 6	0.00005 in/ 0.001 mm	6 pcs.	5	1 - 5	1
340-352-30	6 - 12			0.0001 in/ 0.001 mm	6	
340-720	12 - 18	12 - 17				
340-721	18 - 24	18 - 23				
340-722	24 - 30	24 - 29				
340-723	30 - 36	30 - 35				

Inch							
Order No.	Range (in)	Interchangeable anvils	Graduation (in)	Setting Standard		Micrometer head stroke (in)	
				Qty	Size (in)		
Analog							
104-165	0 - 2	1 pc.	0.0001	1	1	1	
104-149	0 - 4	4 pcs.		3	1 - 3		
104-137	0 - 6	6 pcs.		5	1 - 5		
104-162	2 - 6	4 pcs.		4	2 - 5		
104-150	4 - 8				4 - 7		
104-138	6 - 12	6 pcs.		6	6 - 11		
104-151	8 - 12	4 pcs.		4	8 - 11		
104-152	12 - 16				12 - 15		
104-201	12 - 18	6 pcs.		0.001	6		12 - 17
104-153	16 - 20	4 pcs.			4		16 - 19
104-202	18 - 24	6 pcs.			6		18 - 23
104-154	20 - 24	4 pcs.			4		20 - 23
104-155	24 - 28						24 - 27
104-203	24 - 30	6 pcs.			6		24 - 29
104-156	28 - 32	4 pcs.			4		28 - 31
104-204	30 - 36	6 pcs.			6		30 - 35
104-157	32 - 36	4 pcs.			4		32 - 35
104-158	36 - 40						36 - 39
104-205	36 - 42	6 pcs.	6	36 - 41			

Technical Data

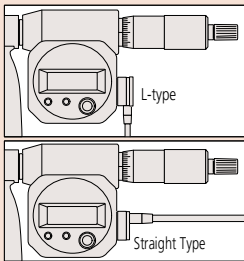
- Battery for series 340
340-251-30, 340-252-30,
340-351-30, 340-352-30: SR44 (1 pc.)
340-520 to 340-526
340-720 to 340-723: SR44 (2 pcs.)
938882, for initial operational checks (standard accessory)
- Battery life: Approx. 2.4 years under normal use
 (for series **340-2XX, 340-3XX**)
 Approx. 1.8 years under normal use
 (for series **340-5XX, 340-7XX**)
- Length standard: Electromagnetic rotary sensor (for series **340**)
- Standard accessories: Spanner (**301336**), 1 pc.
 (for maximum measuring range up to 300 mm (12 in))
 Spanner (**200154**), 1 pc.
 (for maximum measuring range 400 mm (16 in) or over)

Optional Accessories

- Connecting cables for
340-251-30, 340-252-30, 340-351-30 and 340-352-30
- USB Input Tool Direct
USB-ITN-B (2 m): **06AFM380B**
- SPC cables for **U-WAVE-T** w/data switch (160 mm):
02AZD790B
 For foot switch: **02AZE140B**

Wireless Data Output* U-WAVE™

- U-WAVE-TM 264-622** (IP67 type)
264-623 (Buzzer type)
- U-WAVE-TMB** Transmitter
Mitutoyo Bluetooth® U-WAVE
264-626 (IP type)
264-627 (Buzzer type)
 Refer to page A-16 for details.
- Connecting unit for **U-WAVE-TM/TMB**
02AZF310 (IP67/buzzer type common specification)
 Refer to pages A-16 and A-18 for details
 * Only **340-251-30, 340-252-30, 340-351-30 and 340-352-30** can be attached
- Connecting cables for
340-5XX, 340-7XX
 Recommended cables:
 L-Type (does not interfere with operating the thimble.)
 1 m: **04AZB512**
 2 m: **04AZB513**
 Straight type (may interfere with operating the thimble.)
 1 m: **959149**
 2 m: **959150**



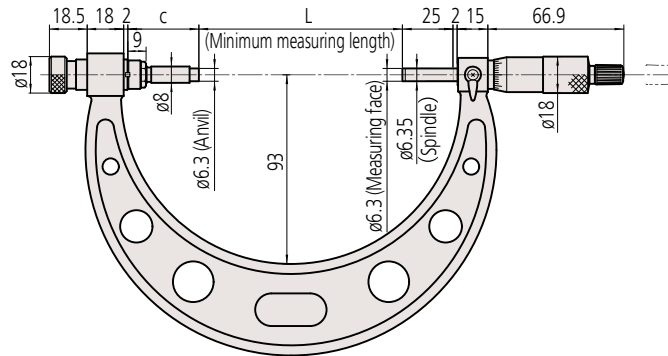
Refer to page A-27 for detailed information about recommended cables.



DIMENSIONS

104-135A

Unit: mm

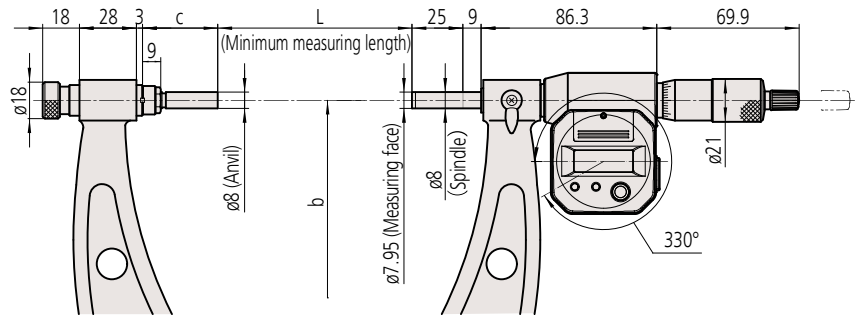


Interchangeable Anvil

Range	L: Range (mm)						
	0 - 150 mm models	0 - 25	25 - 50	50 - 75	75 - 100	100 - 125	125 - 150
Range	150 - 300 mm models	150 - 175	175 - 200	200 - 225	225 - 250	250 - 275	275 - 300
	Order No.	303950	303951	303952	303953	303954	303955
	c: Overall length (mm)	135	110	85	60	35	10
	Interchangeable anvil	M1	M2	M3	M4	M5	M6

Range	L: Range (mm)				
	300 - 325	325 - 350	350 - 375	375 - 400	
Range	400 - 500 mm models	400 - 425	425 - 450	450 - 500	
Range	500 - 600 mm models	500 - 525	525 - 550	550 - 575	
Range	600 - 700 mm models	600 - 625	625 - 650	650 - 675	
Range	700 - 800 mm models	700 - 725	725 - 750	750 - 775	
Range	800 - 900 mm models	800 - 825	825 - 850	850 - 875	
Range	900 - 1000 mm models	900 - 925	925 - 950	950 - 975	
	Order No.	304001	304002	304003	304004
	c: Overall length (mm)	87	62	37	12
	Interchangeable anvil	M3	M4	M5	M6

Over 400 mm up to 1000 mm



Range	L: Range (mm)					b
	300 - 325	325 - 350	350 - 375	375 - 400	400 - 500	
Range	400 - 500 mm models	400 - 425	425 - 450	450 - 475	475 - 500	273
Range	500 - 600 mm models	500 - 525	525 - 550	550 - 575	575 - 600	332
Range	600 - 700 mm models	600 - 625	625 - 650	650 - 675	675 - 700	382
Range	700 - 800 mm models	700 - 725	725 - 750	750 - 775	775 - 800	430
Range	800 - 900 mm models	800 - 825	825 - 850	850 - 875	875 - 900	480
Range	900 - 1000 mm models	900 - 925	925 - 950	950 - 975	975 - 1000	530
	Order No.	304001	304002	304003	304004	
	c: Overall (mm)	87	62	37	12	
	Interchangeable anvil	M3	M4	M5	M6	