

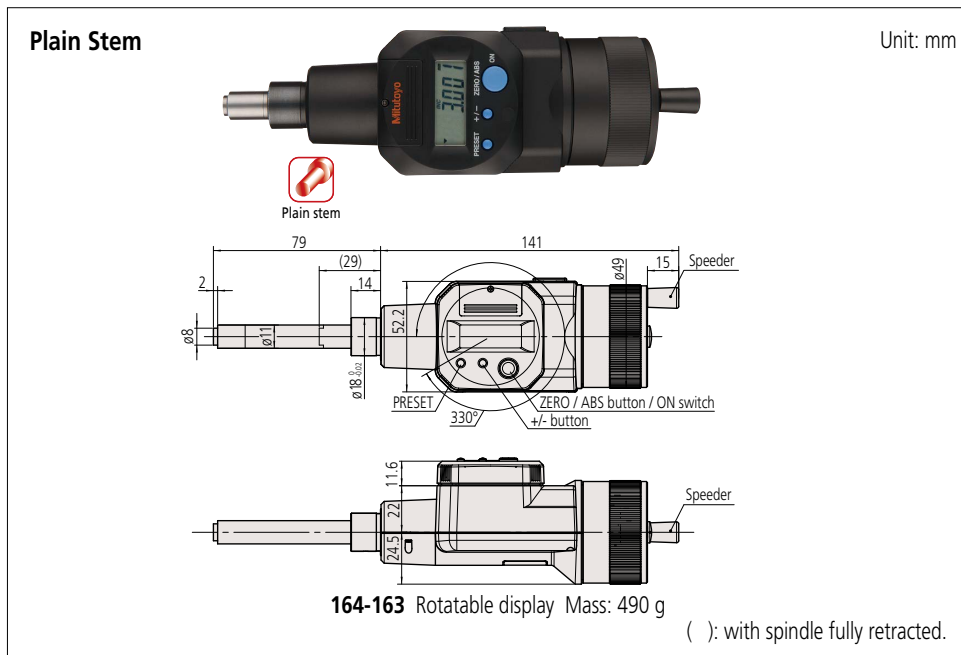
# Micrometer Head

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

## Digimatic Micrometer Heads SERIES 164, 350

- Equipped with digital display and output.
- **MHN-MX (IP65) / MXN (IP65)** are protection grade IP65, water-proof Digimatic micrometer heads.
- Allows integration into statistical process control and measurement systems for models with measurement data output connector.

### DIMENSIONS



### SPECIFICATIONS

Metric																				
Order No.	Range (mm)	Resolution (mm)	Graduation (mm)	Stem	Stem dia. (mm)	Spindle end	Graduation features	Maximum permissible error $J_{MPE}$ ( $\mu\text{m}$ )												
<b>164-163</b>	0 - 50	0.001	0.01	Plain	18	Flat (carbide tip)	Standard	±2	±3											
<b>350-251-30</b> * <sup>1</sup>	0 - 25									W/clamp nut	10	Spherical (SR4) (carbide tip)								
<b>350-252-30</b> * <sup>1</sup>													Plain	12	Flat (carbide tip)					
<b>350-253-30</b> * <sup>1</sup>																W/clamp nut	Spherical (SR4) (carbide tip)			
<b>350-254-30</b> * <sup>1</sup>																		Plain	12	Flat (carbide tip)
<b>350-281-30</b> * <sup>2</sup>																				
<b>350-282-30</b> * <sup>2</sup>				Plain	12	Flat (carbide tip)														
<b>350-283-30</b> * <sup>2</sup>										W/clamp nut	Spherical (SR4) (carbide tip)									
<b>350-284-30</b> * <sup>2</sup>												Plain	12	Flat (carbide tip)						
<b>350-261-30</b> * <sup>2</sup>															Plain	12	Flat (carbide tip)			

\*1 These models are not water-proof.

\*2 IP65 dust / water protection type. Stem diameter of IP65 type is 12 mm.

Note: For functional details of **series 350** refer to page B-8. Origin setting is by presetting.

Inch/Metric																				
Order No.	Range (in)	Resolution	Graduation	Stem	Stem dia. (in)	Spindle end	Graduation features	Maximum permissible error $J_{MPE}$ (in)												
<b>164-164</b>	0 - 2	0.00005 in/ 0.001 mm	0.001 in/ 0.01 mm	Plain	0.709	Flat (carbide tip)	Standard	±0.0001	±0.00015											
<b>350-351-30</b> * <sup>1</sup>	0 - 1									W/clamp nut	0.375	Spherical (SR4) (carbide tip)								
<b>350-352-30</b> * <sup>1</sup>													Plain	0.5	Flat (carbide tip)					
<b>350-353-30</b> * <sup>1</sup>																W/clamp nut	Spherical (SR4) (carbide tip)			
<b>350-354-30</b> * <sup>1</sup>																		Plain	0.5	Flat (carbide tip)
<b>350-381-30</b> * <sup>2</sup>																				
<b>350-382-30</b> * <sup>2</sup>				Plain	0.5	Flat (carbide tip)														
<b>350-383-30</b> * <sup>2</sup>										W/clamp nut	Spherical (SR4) (carbide tip)									
<b>350-384-30</b> * <sup>2</sup>												Plain	0.5	Flat (carbide tip)						
<b>350-361-30</b> * <sup>2</sup>															Plain	0.5	Flat (carbide tip)			

\*1 These models are not water-proof.

\*2 IP65 dust / water protection type. Stem diameter of IP65 type is 12 mm.

Note: For functional details of **series 350** refer to page B-8. Origin setting is by presetting.



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



Dust- and Water-Protected  
www.tuv.com  
ID 000040191

Applicable models:  
**350-28X-30, 350-261-30, 350-38X-30 and 350-361-30**

### IP Codes (series 350\*)

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

- Battery for **series 350**  
SR44 (1 pc.), **938882** for initial operation checks (standard accessory)
  - Battery for **series 164**  
SR44 (2 pcs.), **938882** for initial operation checks (standard accessory)
  - Battery life: Approx. 2.4 years under normal use (for **350-XXX**)  
Approx. 1.8 years under normal use (for **164-163, 164**)
  - Length standard: Electromagnetic rotary sensor  
Spanner (**301336**), 1 pc. (for **350-XXX**)  
Screwdriver (**05CAA952**), 1 pc. (for **164-163, 164**)
- \* IP65 dust/water protection type

### Functions (series 164)

**Origin point setting** (ABS measurement system): Resets the ABS origin at the current spindle position to the minimum value of the measuring range and switches to ABS mode.

**Zero-setting** (INC measurement system):

A brief press on the ZERO/ABS button sets display to zero at the current spindle position and switches to the incremental (INC) measuring mode. A longer press resets to the ABS measuring mode.

**Data output:**

Equipped with output port for transferring measurement data to a Statistical Process Control (SPC) and measurement system.

**Auto power ON / OFF:**

The reading on the LCD disappears after this instrument is idle for about 20 minutes, but the reading and measurement mode are retained. Turning the spindle causes the reading on the LCD to reappear.

**Error alarm:**

In case of an overflow on the LCD or a computing error, an error message appears on the LCD and the measuring function stops. This prevents an instrument from giving an erroneous reading. Also, when the battery voltage drops to a certain level, the low-battery-voltage alarm annunciator appears well before the micrometer becomes unusable.

### Optional Accessories

- Connecting cables for **series 164**  
1 m: **959149**  
2 m: **959150**
- USB Input Tool Direct  
**USB-ITN-C** (2 m): **06AFM380C 02AZD790C** 160 mm  
For foot switch: **02AZE140C**
- Connecting cables for **series 350**  
1 m: **05CZA662**  
2 m: **05CZA663**
- USB Input Tool Direct  
**USB-ITN-B** (2 m): **06AFM380C**

### 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** (IP67 type) **264-627** (Buzzer type)  
Refer to page A-10 for details.
  - Connecting unit for **U-WAVE-TM/TMB 02AZF310** (IP67/buzzer type common specification)  
Refer to pages A-10 and A-12 for details.
- \* Cannot be used with **164-163** and **164-164**

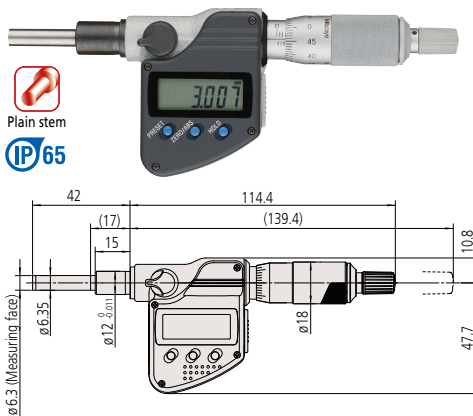
## Technical Data

- Measuring face  
Material: Carbide  
Hardness: 90 HRA or more  
Lapped
- Scale finishing:  
Satin-chrome plated

## DIMENSIONS

### Plain Stem

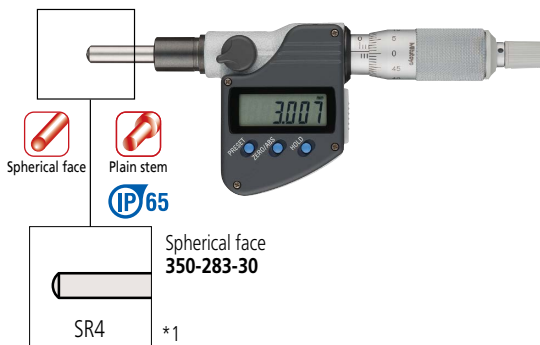
Unit: mm



**350-281-30** (Stem dia. 12 mm, water-proof type) Mass: 230 g

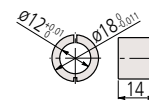


Equipped with a non-rotating device  
**350-261-30**  
(Stem dia. 12 mm, water-proof type)  
Mass: 235 g



Spherical face  
**350-283-30**

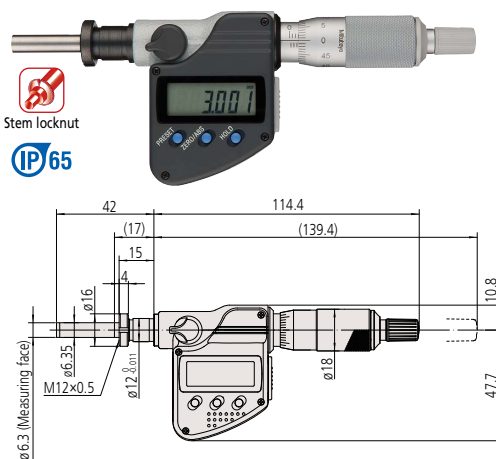
SR4 \*1



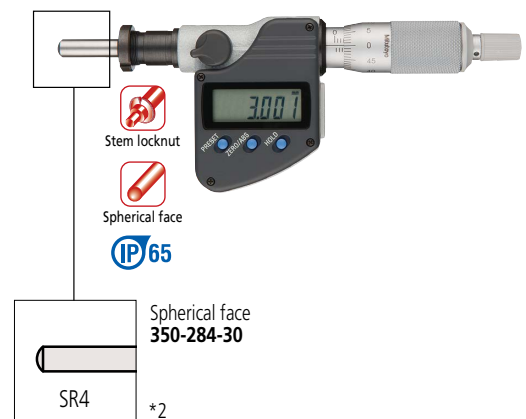
Bush (standard accessory)  
**350-261-30**

\*1 Other dimensions are the same as **350-281-30**.  
( ): with spindle fully retracted.

### Stem locknut



• Fixture thickness: 11.5 mm  
**350-282-30** (Stem dia. 12 mm, equipped with locknut, water-proof type) Mass: 230 g



Spherical face  
**350-284-30**

SR4 \*2

\*2 Other dimensions are the same as **350-282-30**.  
( ): with spindle fully retracted.