

SERIES 542 — Slim Type LG200



See video from here

Mitutoyo

- Slimmer body with approx. 1/5 cross section compared with **542-190 (LG100)**.
- High-accuracy gage head suitable for in-line and in-laboratory use.
- Assures the expected repeatability (2σ) in the full measurement range and the narrow-range precision.
- Protection grade IP67G with sliding durability of 100 million times and more*¹ and adoption of highly oil-resistant materials.
- *¹ Actual value from in-house tests.
- It can be connected to a compact counter (**EJ** counter) suitable for in-line use or building into a device or a multifunctional counter (**EH** counter)*² suitable for use in measurement rooms.
- *² A conversion plug is required.



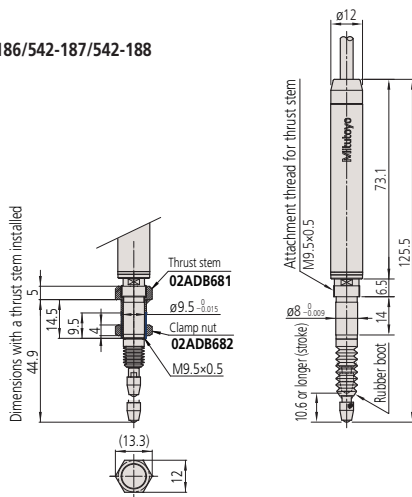
SPECIFICATIONS

Order No.	542-188	542-187	542-186
Measuring range	10 mm / .4"		
Resolution	0.1 μm / 5 uinch (0.8 + L/50) μm L=arbitrary measuring length (mm)	0.5 μm / .000020"	1 μm / .000050"
Measuring accuracy (20 °C)	(1.5 + L/50) μm L=arbitrary measuring length (mm)		
Small range accuracy	0.5 μm (Arbitrary 20 μm range)		
Repeatability: 2 σ (20 °C)	0.3 μm		
Measuring force	Contact point downwards	0.8 N or less	
	Contact point horizontal	0.75 N or less	
	Contact point upwards	0.7 N or less	
Position detection method	Optical transmission-type Linear encoder		
Maximum response speed	400 mm/s	1500 mm/s	
Output signal	90° phase difference, differential square wave (RS-422A equivalent)		
Minimum edge intervals	250 ns (4 MHz)		500 ns (2 MHz)
Output signal pitch	0.4 μm	2 μm	4 μm
Mass	Approx. 210 g		
Contact point	ø3 mm carbide-tipped (fixing screw: M2.5 (P=0.45)×5), standard contact point 901312		
Stem	ø8 mm		
Bearing	Linear ball type		
Output cable length	Approx. 2.5 m (directly from casing)		
Connector	Plug: HR10A-10P-10P (HIROSE), Compatible receptacle: HR10A-10R-10S (HIROSE), Compatible connector: HR10A-10J-10S (HIROSE)		
Operating temperature (humidity) ranges	0 to 50 °C (RH 20 to 80%, non-condensing)		
Storage temperature (humidity) ranges	-10 to 60 °C (RH 20 to 80%, non-condensing)		
Standard Accessories	Wrench for contact point: 538610		

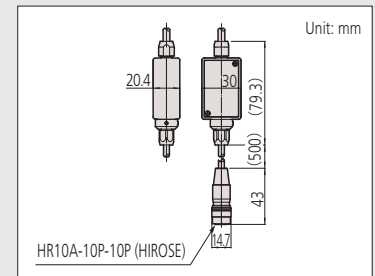
DIMENSIONS

542-186/542-187/542-188

Unit: mm
25.4mm=1"



Connector



Optional Accessories

- Air lifter: **02ADE230**

Note 1: Required air pressure: 0.2 to 0.4 MPa
(With a 0.1 μ m resolution type: 0.2 MPa)

Note 2: Spindle extends when air is supplied.



- Rubber boot: **21HAA331** (spare)
- Thrust stem set: **02ADB680**
(Thrust stem: **02ADB681**, Clamp nut: **02ADB682**)
This is a combination of thrust stem and a clamp nut.
- Spanner wrench: **02ADB683**
If required spanner wrench is required for tightening.
If using multiple gages, a thrust stem set is required for each gage and one spanner wrench.

Thrust stem set/Spanner Wrench



- Extension cable
5 m: **21HZA197**
10 m: **21HZA198**
20 m: **21HZA199**
Note 3: Connectable up to 3 pieces, 20 m at maximum.
- Conversion Plugs / Cables
Plug connection to EH-101P/102P: **21HZA195**
Plug connection to EH-102Z: **21HZA196**
Cable connection to EH-101P/102P: **21HZA260**
Cable connection to EH-102Z: **21HZA261**
Note: Connectable to EH-102Z but the function of reference point detection is disabled.

Custom order example

- Measuring force change
- Cable length change (less than 2 m)
- Connector change