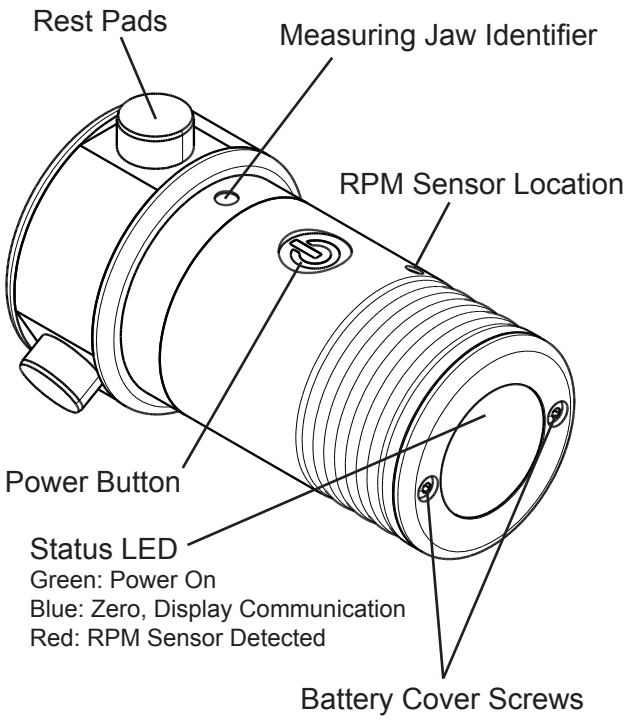
Introduction

Thank you for your Wireless Chuck Force Gauge purchase. Please take a few minutes to read this instruction manual carefully to familiarize yourself with the operation of the unit. These instructions should be kept with the gauge so that they can be referred to when needed.

The chuck force gauge is designed to measure the holding forces created by a chuck. The wireless sensor can be used for either static (non-rotating) or dynamic (rotating) measurements. When rotating, the sensor can also measure RPM (Revolutions Per Minute).

WARNING: When using the gauge for dynamic measurements, it is critical that the sensor is firmly clamped parallel to the rotating axis of the machine. All guards, doors and other safety devices typically used on a machine must be present and used. As with any workpiece held in the chuck, serious injury can result if the sensor should be ejected during rotation.

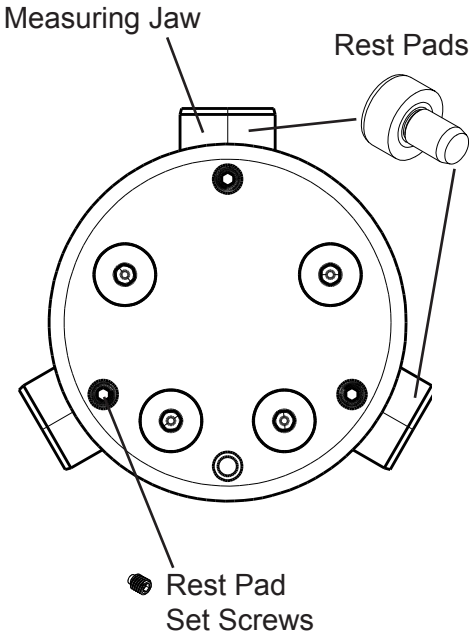
Sensor Overview



Setting up the Sensor

Depending on the model, the Wireless Sensor can be configured for 2, 3, or 4 jaw operation by installing Rest Pads in the appropriate locations. Secure all the pads with the Rest Pad Set Screws with the included 2 mm hex wrench. Do not overtighten.

When configured with the standard included Rest Pads, the measuring diameter is approx. 72 mm (2.83 inches) for sensor 495.205.072.003 and 125 mm (4.92 inches) for sensor 495.205.125.004. For larger diameters and other types of chucks, specialty Rest Pads and Extension Rings are available, as well sensors designed for smaller chucks.



Specifications

Clamping Diameter (with standard rest pads):
495.205.072.003: 72 mm / 2.83 in.
495.205.125.004: 125 mm / 4.92 in.
Measuring range: 0-90,000 N / 0-20,000 lbf per jaw
Environmental Protection: While the sensor has basic protection from dust, etc., the unit should be kept clean and dry to prevent damage to internal components.

Do not remove the aluminum housing or sensor. No user-serviceable parts are inside.

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Wireless Sensor Operation

The wireless chuck force gauge is designed for use with our standard Wireless Display. Power on and (if desired) configure the display as described in instruction manual 461.110M.

Use the Power Button to turn on the sensor. Initially the Status LED will be purple. Once a connecion is established, the Status LED will turn green.

The sensor measures force on the Measuring Jaw, indicated by a green dot on the sensor body. When clamping the sensor, always ensure the Rest Pad at this location is in contact with one of the chuck's jaws.

The sensor measures force on one jaw. To calculate the total holding force, multiply the measured force by the number of jaws.

Example: Using a 3-jaw chuck, displayed force is 30,000 N. This means total force is 30,000 x 3, or 90,000 N.

Measuring RPM

To measure RPM, the included Magnetic Wand must be placed in close proximity to the RPM Sensor Location (approx. 10 mm or 1/4 inch from the red dot on the sensor housing). When the Magnetic Wand is detected, the Status LED on the sensor will turn red. The magnetic wand is designed to fit a standard 3/8 inch indicator holder for easy positioning. An 8mm diameter wand is also available.

When measuring RPM, it is critical that the sensor is clamped securely and with minimal runout to prevent damage to the sensor. Using an insertion depth control ring is recommended.

Zeroing the Display

The sensor will automatically zero on powerup. If needed, the sensor can be re-zeroed at any time by pressing the Zero button on the display. The Status LED will briefly turn blue to indicate the command was received.

When peak force display is enabled, pressing the Zero button will also reset the stored peak value.

Battery Replacement

The sensor uses a standard 9V battery. To replace the battery, remove the two Battery Cover Screws with the included 2mm hex wrench. Ensure that the screws are tightened securely to retain the battery during dynamic operation. Rechargeable batteries can be used if preferred.

Calibration

Calibration every 12 months is recommended. Please contact us for further information.

Included Items

Item (Part Number)	Quantity Incl.
Wireless Sensor (495...)	1
Wireless Display (461.110)**	1
Standard Rest Pads*	3 or 4
Rest pad set screws*	4 or 6
2 mm hex wrench	1
Magnetic Wand	1
Extra battery cover screws	2
Chuck Force Sensor Manual 495.050M	1
Sensor certificate of accuracy	1
Wireless Display Manual 461.110M**	1

** May be installed in the sensor; quantity depends on number of positions on sensor.*

*** Only included in complete kits.*

Available Accessories

- **Rest pad extension kits:** for clamping on larger diameters, or for soft jaws machined to a specific diameter.
- **Insertion depth control rings:** allows for insertion depth control and ensuring perpendicular clamping.

Contact us for more information.

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