

EXTERNAL

SUPERMICROMETER™

MODEL PC



Pratt & Whitney®
Measurement Systems, Inc.

EXTERNAL

SUPERMICROMETER™ MODEL PC

The Standard of Accuracy

Two Instruments in one

The Pratt & Whitney* External Supermicrometer** Model PC gives you the advantage of two instruments in one. It's a direct reading, high precision metrology instrument and also an electronic size comparator for continuous accuracy on the production floor. This versatile instrument uses Pratt & Whitney Measurement Systems' GageCal software to process, display, and record measurement data.

The External Supermicrometer Model PC, certified traceable to the National Institute of Standards and Technology, continues the "Standard of Accuracy" set by Francis Pratt & Amos Whitney over 150 years ago to give you the best built metrology instruments for quality control and long-life reliability.

Simple and easy to use

For direct reading measurements, set the tailstock gaging pressure. Then move the tailstock into position and clamp. Place the desired master between the tailstock and headstock anvils and bring the analog meter to the precise zero position. Enter the master's size to the software, and with a keystroke the External Supermicrometer Model PC is set to measure within the range of the spindle movement. Place the part between the anvils and move the spindle into contact until the meter pointer reads zero. Read the measurement directly from the GageCal window. A second keystroke records the measurement value in a spreadsheet or word processing document. For comparative measurements place the zero master reference between the head and tailstock anvils. Move the headstock anvil to contact the reference master and clamp in place. Rotate the headstock dial until the meter reads zero on the scale and remove the reference master. Place the workpiece between the anvils and read the deviation directly from the meter. With system accuracy to 20 millionths, repeatability to 10 millionths, and resolution to 1 millionth, the External Supermicrometer Model PC increases productivity with guaranteed accuracy and continuous high performance.

GageCal™ - PC Based Control

Powerful and resourceful, our GageCal control software sets a new standard for user-friendly calibration. By controlling the operation of the Supermicrometer Model PC and facilitating data collection, GageCal increases total measurement productivity. And with a graphics-rich user interface, you'll be amazed with how simple it is to use. We designed GageCal to be intuitive and self-teaching. So much so, that the extensive context sensitive HELP screens are seldom called



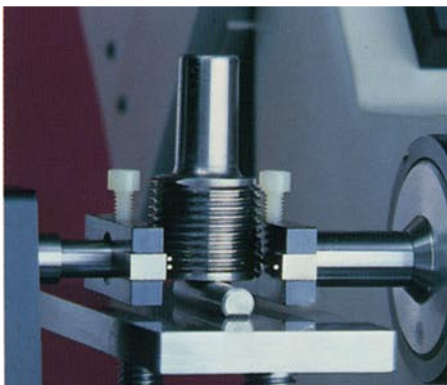
upon. The Microsoft® WINDOWS™ environment allows multitasking and data export to other programs.

Smart Spreadsheets Speed Up Data Entry

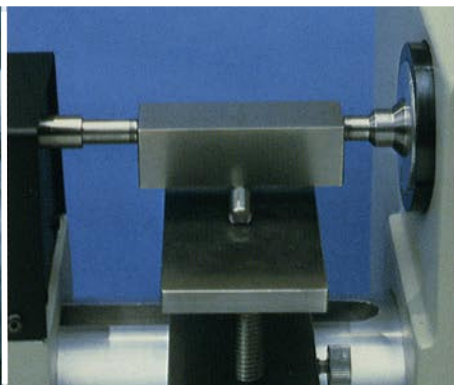
Faster measurement begins with selecting an icon (or pressing the hot key) to first master the instrument, and then calibrate your particular gages. The user can choose between pre-defined applications (Gage Blocks, Balls, Plugs, etc.) and Free Measure (for custom applications). With an application selected, dialogue boxes will continuously prompt the user for information that will build and open a "smart" spreadsheet. This "smart" spreadsheet, in the case of pre-defined applications, will automatically enter nominal sizes, tolerance bands, define best wire size for thread measurements, calculate pitch diameters, and flag out of tolerance conditions as appropriate. The operator simply chooses the class of gage (ie., X or XX), in the dialogue box, selects the appropriate cell in the "smart" spreadsheet, and clicks on the close probe icon (or presses the footswitch). GageCal displays the measurement in the "Current Reading" window and auto-matically updates the record. The data can be saved, printed in a customized report, or exported to any Windows™ based program.

Guaranteed Service/A2LA Accredited Calibration

Pratt & Whitney offers a full one-year warranty and service personnel who receive factory training to provide you with fast, experienced product support and calibration services meeting ISO 17025 standards. We've built the External Supermicrometer PC to exacting standards of accuracy to guarantee you years of high productivity, reliability and product integrity. Our reputation as well as yours depends on it.



Measuring pitch diameter of a thread plug gage



Setup for a comparative measurement



Measuring a cylindrical plug gage

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 **Supermicrometer is a trademark of Pratt & Whitney® Measurement Systems, Inc.

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■ Heavy-Duty Cylindrical Bed

The chromium-plated cylinder ensures long life and performance integrity. The rack and pinion drive with positive lock feature assures square and parallel orientation of the measuring anvils while eliminating movement during the measuring cycle.

■ Adjustable Pressure Tailstock

Our exclusive Electrolimit® Tailstock offers adjustable pressure from 2 to 48 ounces. The unique friction-free mounting of the gaging reference finger provides a friction-free system for smooth, guaranteed reliability. The Electrolimit LVDT transducer provides high reliability and optimum performance.

■ Carbide-Tipped Measuring Spindles

The non-rotating measuring spindles have long life, corrosion-free lapped anvils and are calibrated to assure repeatable and reproducible results.

■ Elevating Table

Adjustability permits measurement of various part diameters and allows for presentation of the part to the instrument in a non-influencing manner. More than one table may be used for large or heavy parts.

■ PC Control with our GageCal™ Software

WINDOWS™ based, mouse-driven control software with “Smart” spreadsheets reduces data entry, eliminates transcription errors and speeds up measurements. GageCal™ software allows the current reading display to be logged into any WINDOWS™ based program.

■ Calibrated Analog Meter

Establishes the reference zero for taking direct measurements from the digital display. The meter also has an inch/metric calibrated scale for use in determining size deviation from a setting master.

■ Digital Inch Module

Divides the inch into .000001 in. increments for high resolution. Specially manufactured on precision equipment, the lead screw moves the spindle longitudinally to the measuring position.



Laptop or desktop computer is included.

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SPECIFICATIONS

Accuracy	20 microinches	0.5 micron
Repeatability	10 microinches	0.3 micron
Resolution	1 microinch	0.025 micron
Direct Reading Range	1 in.	25.4 mm
Measuring Range*	10 in.	254 mm
Measuring Pressure	2-48 ozf	56-1360 gf
Bed Diameter	3.75 in.	95 mm
Spindle Centerline to Top of Elevating Table	2.12 in.	54 mm
Bench Space	25.5 x 11.5 in.	65 x 30 cm
Weight (approximate)	150 lbs.	68 kg.
Anvil Surface	Carbide	Carbide
Electrical Requirements	110/120V 2A 60Hz	220/240V 1A 50Hz
Tailstock Meter Type	Zero center	Zero Center
Tailstock Meter Graduations:		
Direct Reading	20 microinches/div (±0.0005 in. scale)	0.5 micron/div (±0.0125 mm scale)
Comparator Reading	10 microinches/div (±0.0002 in. scale)	0.25 micron/div (±0.005 mm scale)
*Larger size ranges are available up to 40 inches.		

WARRANTY POLICY

Any part which, under normal operating conditions in the plant of the original purchaser, proves defective in material or workmanship within one (1) year from the date of shipment as determined by **Pratt & Whitney's** inspection, will be repaired free of charge, f.o.b. factory Bloomfield, Connecticut, provided that the product has been properly installed, maintained and operated within the limits of rated and normal usage.



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