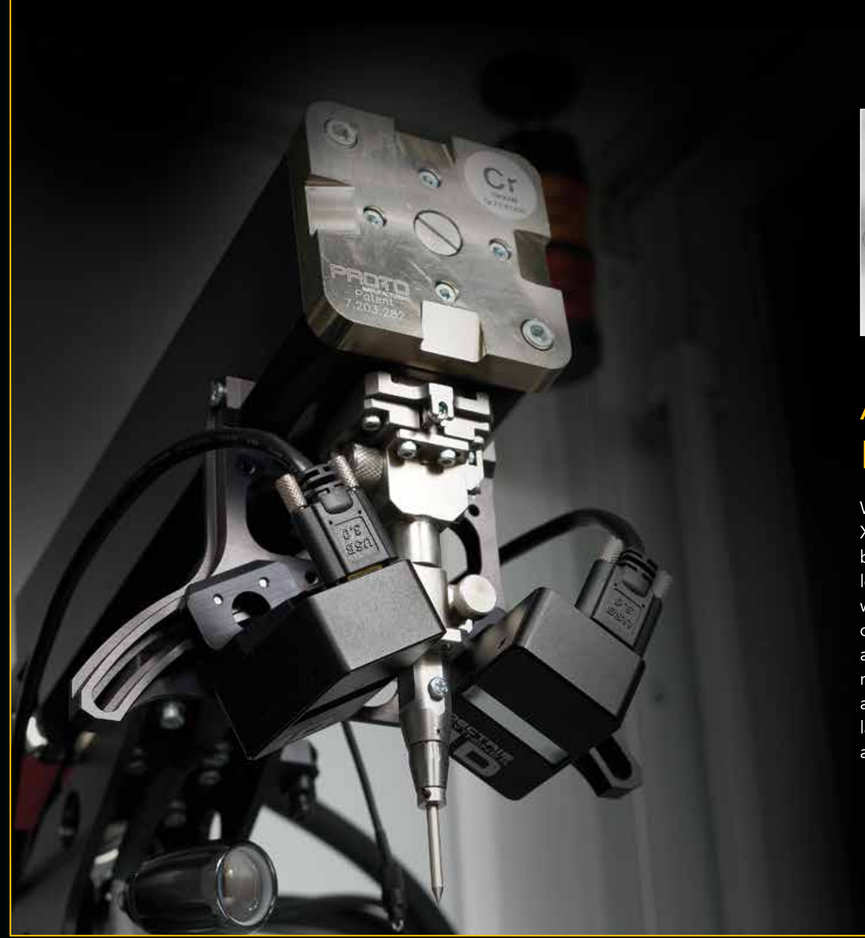
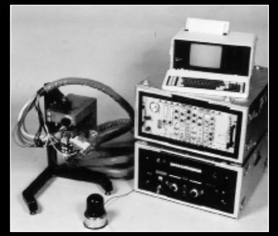
PROTO

roboXRD

ROBOTIC SYSTEM

Residual Stress & Retained Austenite Measurement





A HISTORY OF EXCELLENCE

With over 30 years specializing in XRD technology, Proto is proud to be recognized as a world-class leader in x-ray diffraction. In 1982, we developed our first x-ray diffraction residual stress system and have since expanded our residual stress and retained austenite product line to include laboratory, portable, ultra-portable, and robotic measurement systems.

THE MOST ACCURATE, RELIABLE, AND MODULAR XRD RESIDUAL STRESS SYSTEMS IN THE WORLD

LEADERS IN RESIDUAL STRESS TECHNOLOGY

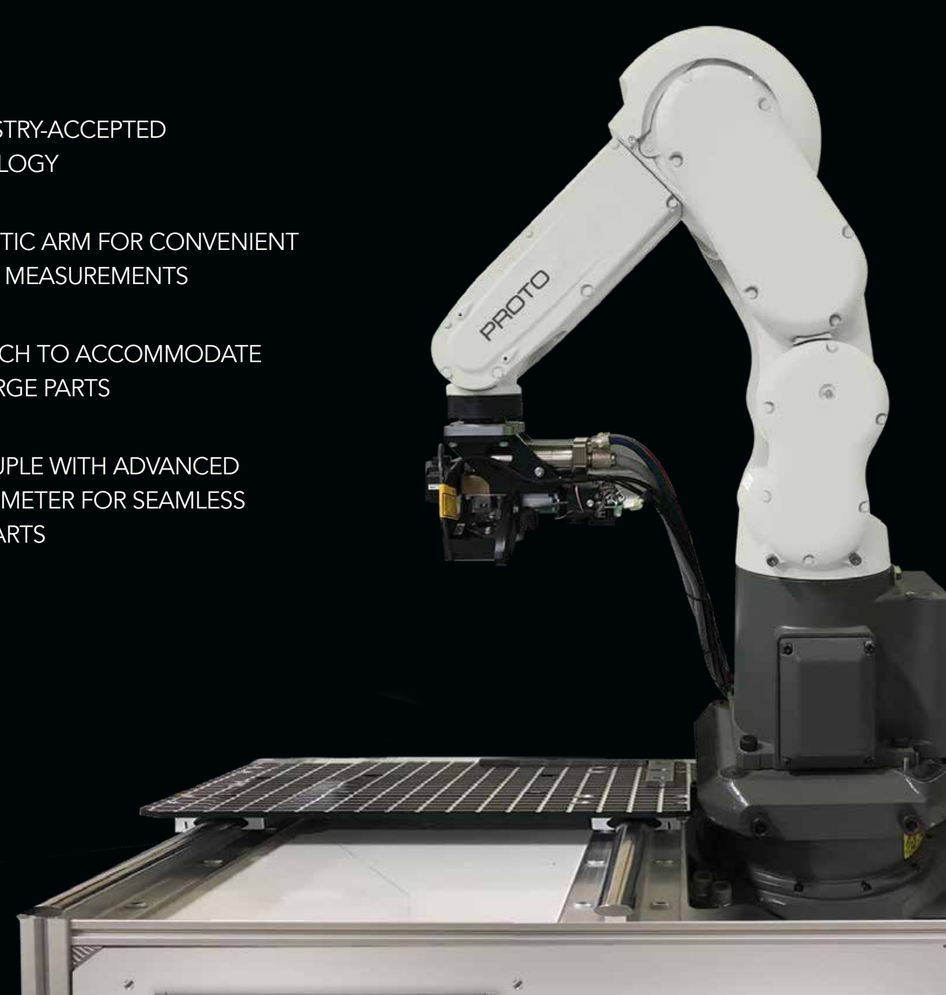
With a dedicated team of residual stress measurement technicians and experts, Proto supplies instruments to universities, laboratories, and manufacturers in numerous sectors around the world. Our patented technology and advanced software keep us at the forefront of the residual stress industry, allowing us to provide customers with efficient, customizable systems to optimize their measurements.

roboXRD

The roboXRD is an innovative solution for flexible residual stress measurements. Adapted from our highly popular iXRD platform, the roboXRD takes residual stress measurements to the next level. With a reach of 1210 mm, the system's six-axis robot allows for easy, accurate measurements on both small and large parts.

Flexible configuration options make it possible for residual stress measurements to be collected at a variety of angles, ensuring that you always get the data you need. Thanks to its compatibility with the LP 100 Profilometer, advanced residual stress mapping can be effortlessly incorporated into your part characterization.

- PROVEN, INDUSTRY-ACCEPTED $SIN^2\Psi$ TECHNOLOGY
- FLEXIBLE ROBOTIC ARM FOR CONVENIENT AND EFFICIENT MEASUREMENTS
- EXTENSIVE REACH TO ACCOMMODATE SMALL AND LARGE PARTS
- ABILITY TO COUPLE WITH ADVANCED LP 100 PROFILOMETER FOR SEAMLESS MAPPING OF PARTS



FEATURES & CAPABILITIES

The roboXRD features a compact 300 W self-contained control unit. With integrated high-voltage supply, x-ray tube cooling, motor control, system electronics, and a display panel for kV, mA, and interlocks, this system provides everything you need to run measurements safely and reliably.

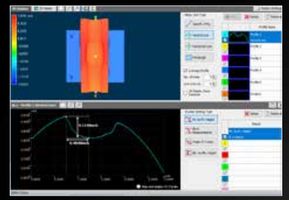
HIGH-SPEED PHOTON COUNTING DETECTORS
Direct detection of x-rays using advanced silicon strip technology.

X-RAY TUBES
Robust fine-focus metal/ceramic x-ray tubes produced in house by Proto. Optimized for residual stress measurements.

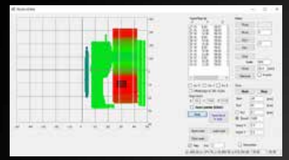
SAFETY FEATURES
Compliant with ANSI N43.2 regulations. X-ray and shutter beacons, barrier screens, and optional enclosures provide full radiation protection.

THE WORLD'S MOST ADVANCED RESIDUAL STRESS MAPPING TECHNOLOGY

STRESS-VERSUS-DEPTH PROFILING
With the LP 100 Profilometer, users can obtain depth measurements of a part, allowing for the creation of residual-stress-versus-depth profiles.



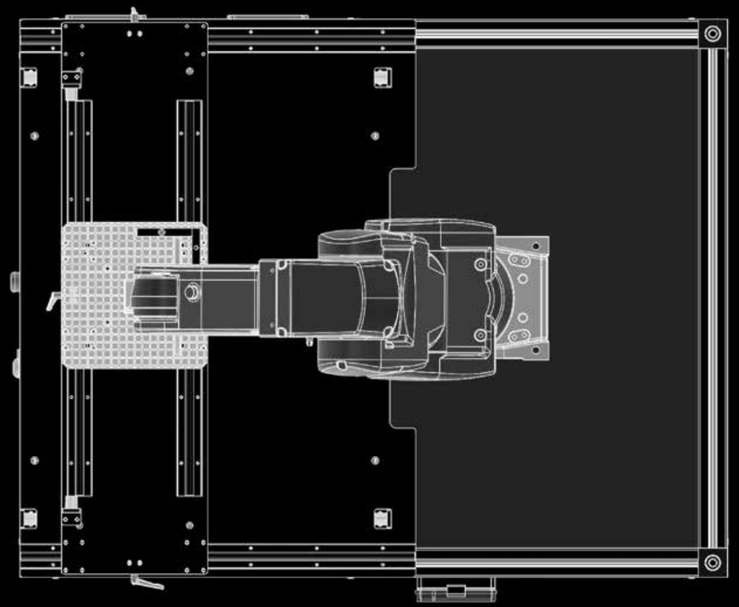
ADVANCED RESIDUAL STRESS MAPPING
The LP 100 system can also be used to create maps using Cartesian coordinates, which can then be inputted into Proto's stress mapping software.



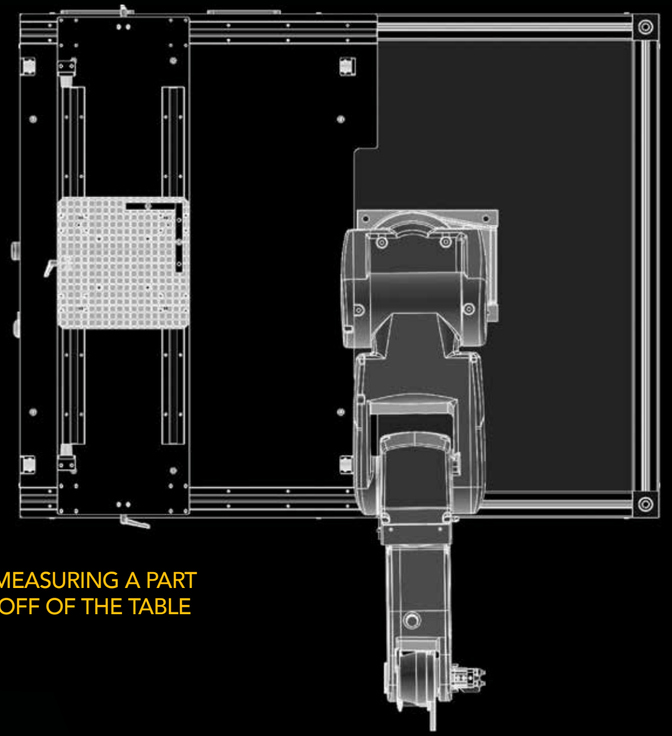
roboXRD SPECIFICATIONS	
Arm Length	1210 mm
Degrees of Freedom	6 axes
Arm Span	910 mm
Phi Rotation	0-340 deg
Software Package	PROTO XRDWIN RS
Accuracy	10 microns
Power Requirements	90-240 VAC, 50/60 Hz, single phase

Proto Manufacturing engages in continuous research and development; therefore, specifications in this publication are subject to change. Please call for details. Various items and methods in this brochure are covered by patents or patents pending.

CONFIGURATIONS & ENCLOSURES



USING THE TABLE TO MEASURE A PART



MEASURING A PART OFF OF THE TABLE

MEASURING A PART WITHIN AN ENCLOSURE

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TECHNOLOGY THAT DELIVERS ACCURATE RESULTS