



Industrial Series

Excellence in High-Capacity Materials Testing





## Industrial Series - Excellence in High-Capacity Materials Testing

The trend toward high-strength, lightweight materials for the aerospace, energy, construction, and transportation industries requires materials testing systems to be durable, yet maintain precise control while generating critical test data. Software user interfaces must be easy to use, yet flexible enough to meet the increasing demands of the testing world. The Industrial Series delivers exceptional performance packaged in reliable, innovative system designs that offer superior accuracy and repeatability, improved safety, and an overall enhanced user experience.

The global expertise of Instron® came about through the merging of recognized materials testing equipment companies including Schenck, Wolpert/Amsler, Riehle, Baldwin, and SATEC™. The Industrial Series leverages this proud heritage with Instron's load cell measuring system, instrumentation, control electronics, accessories, and industry-preferred materials testing software to provide the ultimate high-capacity testing platform.



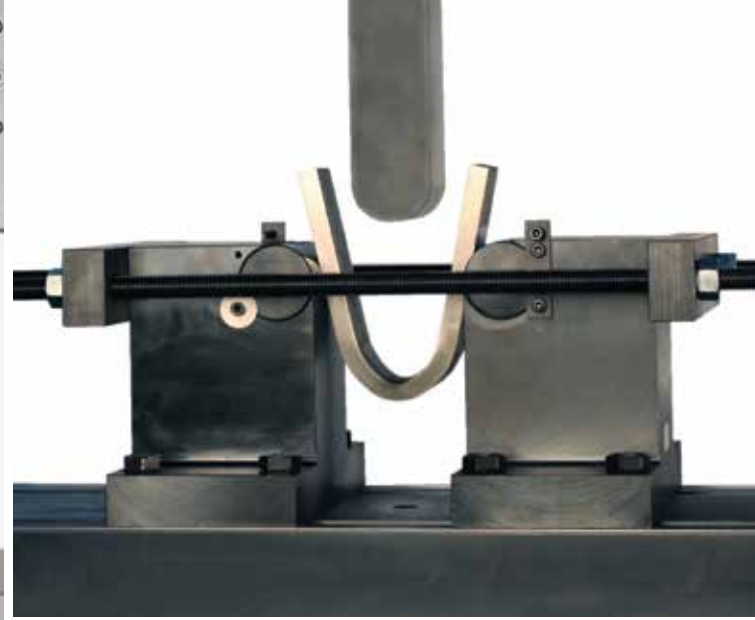
Wolpert™

**SATEC**  
Materials Testing Equipment



How will the Industrial Series meet my application needs?





Our mission at Instron® is to be recognized as the world's leader in mechanical testing instrumentation. Our goal is to provide our customers the best ownership experience by delivering the highest quality products, expert support, and world-class service. With more than 100 years in the materials testing industry, Instron Industrial Series systems are routinely used for testing all types of metals specimens including rebar, plate, pipe & tube, stranded cable, and fasteners, as well as concrete products. For the most up-to-date information on your specific application, visit Testing Solutions at [www.instron.com](http://www.instron.com).



# Industrial Series at a Glance

The Industrial Series is comprised of high-capacity, hydraulic testing systems for tension and compression applications. Ranging from 150 kN up to 3500 kN, standard models feature large diameter columns and rugged frame components for superior frame stiffness and durability. Understanding the critical importance of operator safety, these models incorporate high-quality materials, components, and craftsmanship.

## Dual Test Space Frames

Separate test spaces for tensile and compression testing

Available in capacities from 150 - 600 kN (33,750 - 135,000 lbf), the DX Model's hydraulic power supply and controller are located in the machine base. The HDX Models offer a longer test stroke and are available in 1,000 kN (225,000 lbf) and 1,500 kN (337,500 lbf) capacities.



DX Models



HDX Models



KPX Models



LX Models

## Single Test Space Frames

One test space accommodates tension or compression testing

Available in capacities from 300 - 600 kN (67,500 - 135,000 lbf), the LX Model's hydraulic power supply and controller are located in the machine base. The KPX Models offer a long test stroke and high-speed actuator and are available in capacities from 600 - 3,500 kN (135,000 - 800,000 lbf).

## Instron® Performance

At the core of the Industrial Series lies advanced technology and modern design. Precision load cells, sophisticated control electronics, eco-friendly power supplies, and advanced grip designs combine to form a superior testing system.

Are testing efficiency and operator safety important in your lab?

Designed with an open front, the hydraulic grips and crossheads provide an efficient gripping solution. Specimens can be loaded without joggling the actuator or adjustable crosshead. Jaw faces cover a wide range of specimen sizes and are prevented from extending outside the grip or crosshead.

- Improved operator safety with fully visible specimen engagement
- Efficient loading and removal of test specimens and jaw faces







### Are you concerned about data integrity?

Critical load data is measured directly from the center of the loading axis by a precision strain gauge load cell system. Load data is unaffected by actuator friction allowing the hydraulic drive system to be sealed.

- Accurate and repeatable load readings over the entire travel of the load frame
- Hydraulic system protected from contamination
- Load readings less susceptible to off-center specimen loading



### Does your application require precise machine control?

The Industrial Series control electronics offer unsurpassed responsiveness. An integrated 5900 control platform provides high speed, closed-loop servo control, and data acquisition on Load, Extension, and 3 optional input channels. Standard features include a single-range measuring system, Ethernet communications, and automatic calibration and recognition of transducers.

- Accurate control on any available measurement channel including strain
- Real-time capture of quick test events, such as yield behavior or specimen failure
- Fast and reliable communication between load frame and PC



### Would you like to save on energy costs?

The V-Series variable pressure pumping system supplies pressure on demand. During the test, the pump output increases as the testing load is increased. Between tests, the system remains at a low idle pressure. The V-Series also provides operating pressure for the hydraulic grips.

- Reduced heat generation, noise levels, maintenance, and operational costs
- Improved operator safety from lower pressure external supply lines
- No need for a secondary grip pumping unit

# Discover the Power of Testing at Your Fingertips...

The Productivity Panel, Grip Controls, and Software offer the user convenient, easy-to-use features.

## 5900 Productivity Panel

Adjustable user control panel provides multiple function keys and displays that allow the operator to interact with the testing system before, during, and after the test. While working at the load frame, users can perform common testing functions, as well as view key test information, such as live measurement data and calculation results, without returning to the computer workstation.

### View Real-Time Data and Results

Constantly monitor vital measurements and real-time results throughout the test, on the 4 user-defined live displays.

### 4 User-Defined 'Soft Key' Buttons

Toggle display to enable a variety of operator initiated test actions.

### Protect your Specimen

Specimen protect prevents the load from exceeding a set threshold — protecting your valuable specimens from damage.

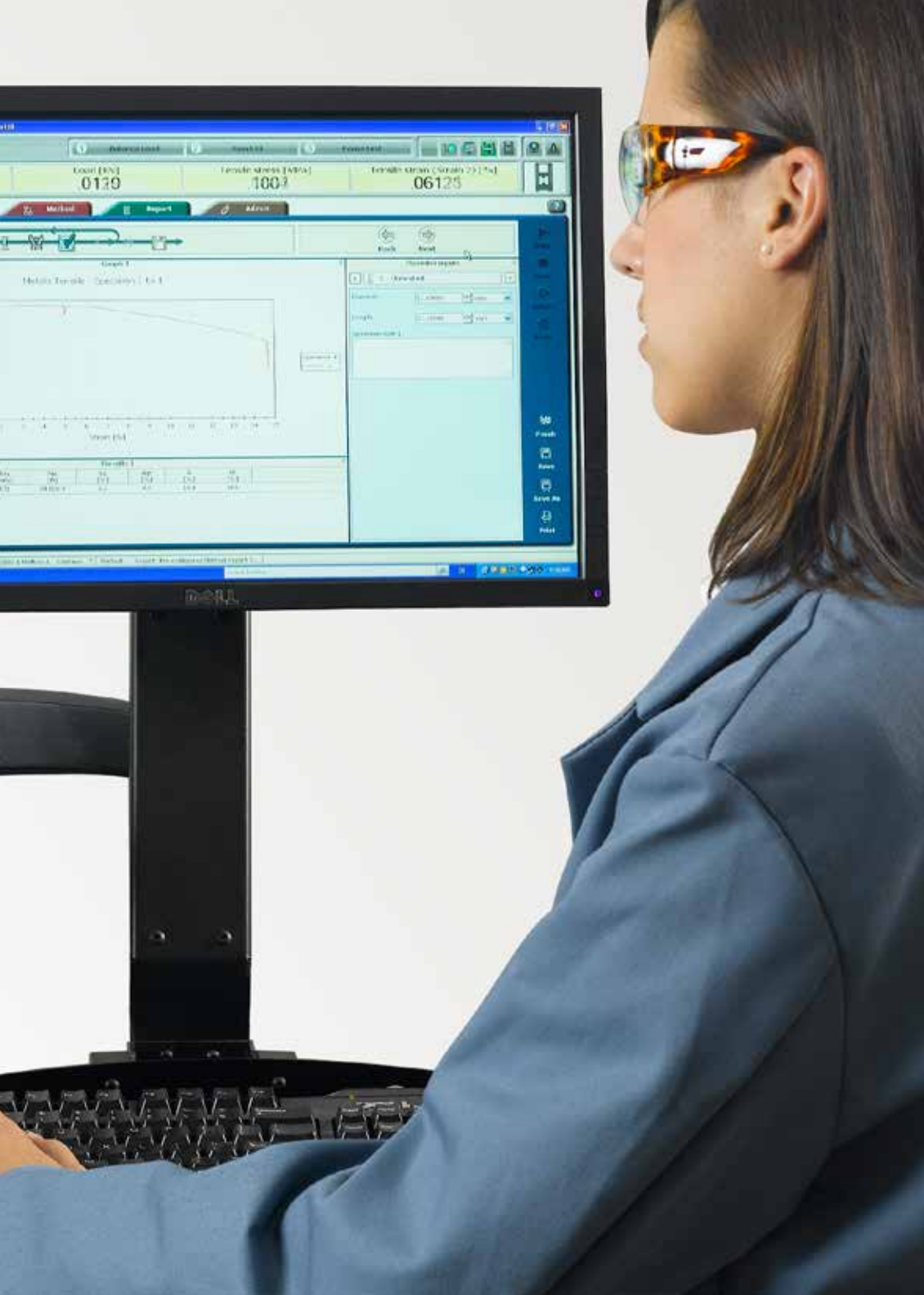
### Precise Positioning

The fine position adjustment wheel moves the actuator in very small increments, allowing operators to load specimens without the risk of overload.

## Hydraulic Grip Controls

Hydraulic grips are provided with an intelligent control handset for operator productivity and safety. This ergonomic handset features a separate 3-position switch for each grip and a magnetic back for convenient operator placement.





## Materials Testing Software that is Simple, Yet Powerful

Instron® materials testing software packages offer operators and system administrators the best user experience.

### Materials Testing Standards

Prebuilt test templates and methods, as well as configurable calculations and test control, provide the confidence needed to comply with the latest testing standards.

### Quality Control

Stored test method settings and control parameters allow different operators to run tests with the same accuracy and repeatability.

### Research

Choose from an extensive set of powerful calculation algorithms or create your own; establish custom servo-control parameters for demanding testing applications.

### Efficiency and Throughput

Run common tensile, compression, flex, or proof tests with a click of the mouse and automatically archive test results.

### Results and Reports

After generating valuable data, leverage a variety of reporting tools and network connectivity for results distribution.

# Accessories

Industrial Series systems can be extended with various accessories to meet the changing needs of your laboratory. Standard accessories — grips, fixtures, and instrumentation — may be fit to your system to perform common materials tests including tensile, compression, bend/flex, and shear. Customized fixtures are also available for specialized testing applications.



1500 kN Hydraulic Wedge Grips with AutoX Extensometer



Interlocked Enclosure Prevents Operator from Entering the Test Space During Testing



- a** Bend/Flex Fixtures and Loading Mandrels
- b** Fastener Testing Fixtures
- c** Spherical and Plane Compression Platens
- d** Rigid and Spherical Adapters
- e** Grip Jaws for Hydraulic Wedge- and Side-Action
- f** Shear Fixtures
- g** Extensometers

# Support for the Life of Your Equipment

Instron® is one of the largest suppliers of materials testing machines in the world. Our reliable testing systems are supported by a global team with the resources to ensure you receive the assistance you need.



## You can count on us

- Represented in more than 160 countries, speaking 40 different languages
- Global support provided by more than 250 factory-trained Service Engineers
- ISO 17025 accredited on-site and laboratory calibration and verification services are offered throughout Europe, North America, Brazil, Australia, China, Japan, Korea, Singapore, India, Thailand, and Taiwan



## We are only a phone call away

- Technical support hotline accessible anywhere in the world
- Expert consultants provide tailored solutions to meet your testing needs
- Preventative Maintenance, calibration & verification services, repair, system refurbishment & updates, re-location services, training, and parts



## Resources at your fingertips • [www.instron.com](http://www.instron.com)

- Our *Testing Solutions* section provides answers to your most current testing challenges
- Access to our complete online Accessories catalog



## Stay at the forefront of materials science

- Utilize the expertise of our Applications Engineering Laboratory or Custom Engineered Solutions Group for the latest technological advances in materials testing
- Our state-of-the-art Calibration Laboratories and on-site service delivery teams offer a comprehensive range of accredited calibration and verification services complying with ASTM, ISO, and Nadcap standards: Force, Speed, Strain (extensometers), Displacement, Impact, Temperature, Torque, Creep, Strain Gauge Channel, Hardness, and Alignment.
- Verification of CEAST instruments is available.

We build more than testing systems; we build relationships.



# Technical Highlights



DX Models



HDX Models



KX Models



KPX Models



LX Models

## Dual Test Space

## Single Test Space

Model		150DX	300DX	600DX	1000HDX	1500HDX	600KX/KPX	1000KX/KPX	1500KX/KPX	2000KPX	3500KPX	300LX	600LX
Capacity	kN	150	300	600	1000	1500	600	1000	1500	2000	3500	300	600
	kgf	15000	30000	60000	100000	150000	60000	100000	150000	200000	350000	30000	60000
	lbf	33750	67500	135000	225000	337500	135000	225000	337500	450000	800000	67500	135000
Maximum Test Speed	mm/min	76	76	76	100	114	203	203	203	203	102	152	76
	in/min	3	3	3	3.9	4.5	8	8	8	8	4	6	3
Actuator Stroke	mm	152	152	152	254	305	508	610	610	610	660	305	305
	in	6	6	6	10	12	20	24	24	24	26	12	12

For detailed system specifications visit [www.instron.com](http://www.instron.com) and search on frame model.

## Custom Designs

Available in higher capacities or in different configurations, such as horizontal or compression-only frames.

## Americas

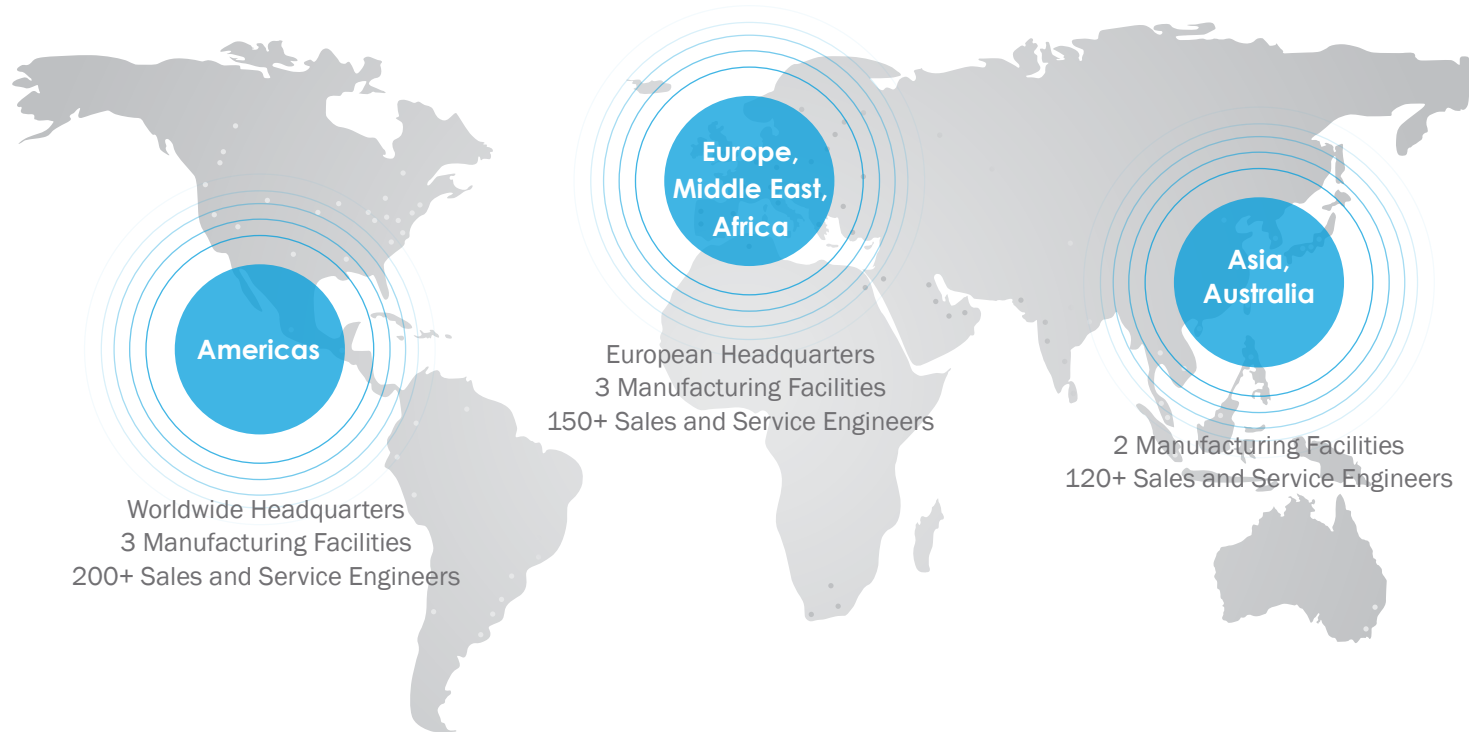
Brazil +55 11 4689 5480  
Canada +1 905 333 9123  
Central America +1 781 575 5000  
Mexico +1 781 575 5000  
South America +1 781 575 5000  
United States +1 800 877 6674/1 781 575 5000

## Europe, Middle East, Africa

Africa +44 1494 456815  
Belgium +32 495 26 6627  
France +33 1 39 30 66 30  
Germany +49 6151 3917 457  
Ireland +44 1494 456815  
Italy +39 011 9685 511  
Luxembourg +32 495 26 6627  
Middle East +44 1494 456815  
Netherlands +31 610 898 286  
Nordic Region +44 1494 456815  
Spain +34 93 594 7560  
Switzerland +0800 561 550  
Turkey +90 0 216 5621052  
United Kingdom +44 1494 456815

## Asia, Australia

Australia +61 3 9720 3477  
China +86 21 6215 8568  
India +91 44 2 829 3888  
Japan +81 44 853 8530  
Korea +82 2 552 2311/5  
Singapore +65 6586 0838  
Taiwan +886 35 722 155/6  
Thailand +66 2 513 8751/52



**Americas**  
Worldwide Headquarters  
3 Manufacturing Facilities  
200+ Sales and Service Engineers

**Europe, Middle East, Africa**  
European Headquarters  
3 Manufacturing Facilities  
150+ Sales and Service Engineers

**Asia, Australia**  
2 Manufacturing Facilities  
120+ Sales and Service Engineers

For additional country contacts visit [www.instron.com/locations](http://www.instron.com/locations)

# Global Support that is Local to You

Instron® has a global infrastructure that is local to you and remains committed to being the leader in mechanical testing instrumentation.

[www.instron.com](http://www.instron.com)



Worldwide Headquarters  
825 University Avenue, Norwood, MA 02062-2643 USA  
+1 800 564 8378 • +1 781 575 5000

Industrial Products Group  
900 Liberty Street, Grove City, PA 16127 USA  
+1 800 726 8378 • +1 724 458 9610

European Headquarters  
Coronation Road, High Wycombe, Bucks, HP12 3SY UK  
+44 1494 464646

Instron is a registered trademark of Illinois Tool Works Inc. (ITW). Other names, logos, icons and marks identifying Instron products and services referenced herein are trademarks of ITW and may not be used without the prior written permission of ITW. Other product and company names listed are trademarks or trade names of their respective companies. Copyright © 2014 Illinois Tool Works Inc. All rights reserved. All of the specifications shown in this document are subject to change without notice.