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## Welcome to the June 2006 issue of the Instron® Materials Testing Accessories e-newsletter

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#### Product Feature:

- VersaChannel

#### Application Article:

- Grip Types and Suitable Applications: Part 3 of 3
- Specimen Gripping Solutions and Grip Care: Part 3 of 3

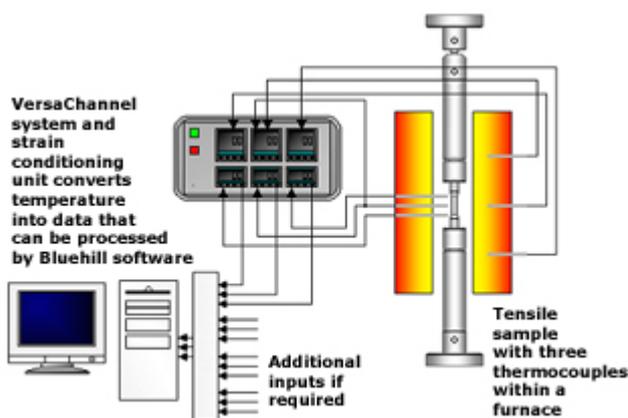
### Product Feature: VersaChannel

#### What does VersaChannel do?

- VersaChannel allows you to increase the number of electronic input signals to your Instron testing machine.

#### How does it do it?

- Electronic signals can be generated by mechanical movement of an LVDT or by thermal differentials within metals, e.g. thermocouples.
- These signals feed into the VersaChannel box and via a signal-conditioning unit, which converts the signals into a format understood by the Instron machine.
- The data is then accessed via Bluehill® software and results analysed.



### VersaChannel Input Types

#### Single-Ended Input

- Providing 16 possible inputs, it's a circuit that responds to the voltage from one input terminal and ground.

#### Differential Input

- This circuit actively responds to the difference between two terminals, rather than the difference between one terminal and ground.

#### When to Use Single-Ended or Differential Inputs

- Differential inputs provide a more stable reading when Electromagnetic Interference (EMI) or Radio Frequency Interference (RFI) is present. Therefore, it is recommended to use them whenever noise is present. This is especially true when measuring thermocouple, strain gauge and bridge type pressure sensor inputs, since they produce very small signals that are very susceptible to noise.
- Single-ended inputs are lower in cost and provide twice the number of inputs for the same size wiring connector, since they require only one analog input per channel and one ground shared by all inputs. Differential inputs require a signal input for each channel and one common shared ground. Single-ended inputs save connector space, cost and are easier to install.

#### For further details please follow the links below:

- [Bluehill 2 software](#)
- [VersaChannel](#)

### Application Article: Grip Types and Suitable Applications - Part 3 of 3

Selecting the best gripping solution has a number of aspects to it. In particular, the specimen must be held in a way that prevents slippage and jaw breaks, and ensures axially of the applied force. However, there are other considerations such as productivity and ease of use that may make one design better suited to your needs. Some grip applications are determined by particular testing standard requirements making the grip choice straightforward.

For many tests you can use general purpose accessories. General purpose grips and fixtures have the advantage of being able to grip a wide variety of specimen types and materials, using differing jaw faces, alignment fixtures, etc. Below are examples

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### Related Links

- [FREE Accessory Catalog](#)
- [Sign up](#) for other Instron newsletters

### Future Events

- Deformation and Fracture of Materials Conference: Balikov Institute Moscow, 13-16 November 2006
- Materials Testing Seminar: Polish Institute of Transport Studies Warsaw, September 2006
- SHANGHAITEX 2006 (Shanghai, China) 5-8 July
- 5th World Congress of Biomechanics, Munich July 29th - August 4th 2006

of grip types and possible applications.

### Hydraulic Side Action Grips

- Static, tensile and tension cyclic test capability
- Suitable for wires, reinforced bar metal, alloys, composite and plastic materials
- Round, hexagonal and flat specimen geometry capability



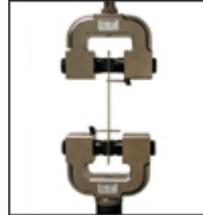
### Mechanical Wedge Action Grips

- Static, tensile and tension cyclic test capability (not suitable for high-cycle fatigue testing)
- Suitable for wires, plastics, metals and elastomers
- Flat or round specimen geometry capability



### Screw Action Grips

- Static, tensile and tension-tension cyclic test capability (not suitable for high-cycle fatigue)
- Suitable for thin sheets, films, foils, threads, plastic tapes, fine wires, fabric and soft materials
- Round (wire) and flat with or without shoulder tab end specimen geometry capability



### Application Specific Accessories

- Instron also provides a number of specialized gripping solutions including textile cord and yarn, adhesive tensile and peel fixtures, [compact tension](#), biomedical, burst and puncture, composite, fasteners, foam compression, food, friction, flexure, wood, paper and spring. In addition, there are a wide selection of inserts and faces for both general purpose and application specific grips.



## Specimen Gripping Solutions and Grip Care -Part 3 of 3

### Golden rules for Reliable Gripping

- Regularly clean and lubricate moving parts with the correct grades of lubricant as advised by the manufacturer. This is especially important for wedge action grips.
- Periodically inspect the grip system for defects such as cracks or leaks in hoses.
- Periodically verify that pressure gauges are accurate and registering air or oil pressure to the system.
- Replace jaw faces when the surfaces become worn, damaged or contaminated.
- Do not use more gripping force than necessary to provide reliable, slip-free gripping.
- Old grips don't necessarily work with new materials or specimens. You may find that special grips or different jaw face surfaces are required.

### For more information on Accessories

Please submit an [online request](#) or call us at +1 800 473 7838 (US only) or +44 1494 456815 (Europe only)

Are you testing something a little different? Do you think more people should know about it? Would you like to submit an article for possible publication in the Instron accessories newsletter? If so, please [submit your story](#).



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