

The AlignPRO™ system is designed to assist machine operators when measuring and adjusting load string alignment. The software monitors the output from strain gauges mounted on either flat or round alignment cells. The outputs are used to calculate bending due to angular and concentric alignment errors.

For each of these components, the direction and magnitude of the bending is displayed both numerically and graphically. When the software is used in conjunction with the Instron AlignPRO fixture, the software identifies which adjustments are required and displays in real time the effect of the adjustments, enabling accurate machine set-up in just a few minutes.

Features and Benefits

- Real-time concentricity and angularity adjustment under load
- Avoids errors being introduced by having to re-tighten load string after adjusting alignment
- AlignPRO system saves time compared to manual alignment methods
- Improves accuracy of test data by ensuring load string is correctly aligned before test
- Compact and portable electronics can be carried around the laboratory from machine to machine
- Utilizes USB technology with simple plug and play operation – no special cards or ports are required within the PC or laptop computer
- Supports both eight and twelve gauge alignment cells
- Electronics and software compatible with existing Instron® alignment fixture
- Designed to comply with the requirements of ASTM E 1012

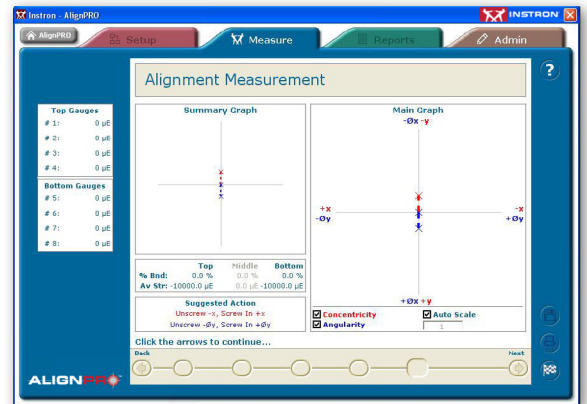
Principle of Operation

When the strain-gauged alignment cell is installed in the grips, any misalignment in the load string will cause the alignment cell to bend.

The electronics supplies each of the strain-gauges with a stable reference voltage. Each strain gauge output is fed back to a data acquisition unit and made available to the AlignPRO™ software as a real time strain signal.

The AlignPRO software combines the strain signals using calculations as specified in standards such as ASTM E 1012 and presents misalignment information both numerically and graphically on screen.

The information on the AlignPRO screen updates the strain readings constantly, allowing adjustments with the optional AlignPRO fixture to be made and read immediately. After completion of the adjustments, a report is generated.



Real-time Displays



AlignPRO Alignment Fixture

AlignPRO Software and Electronics

The AlignPRO software and electronics have been designed to utilize the latest technology to ensure both backwards compatibility and future proofing. With a simple USB connection to the PC or laptop, the AlignPRO electronics do not require additional hardware cards or further interface ports to function.

The AlignPRO software runs on any PC or laptop running Windows® 10 (32/64 bit). The software uses 'wizard' technology and guides a user through the alignment process to ensure quick and accurate alignment is achieved.

Custom alignment cell definitions can be created and stored in a local specimen database. The software also features a comprehensive reporting tool.



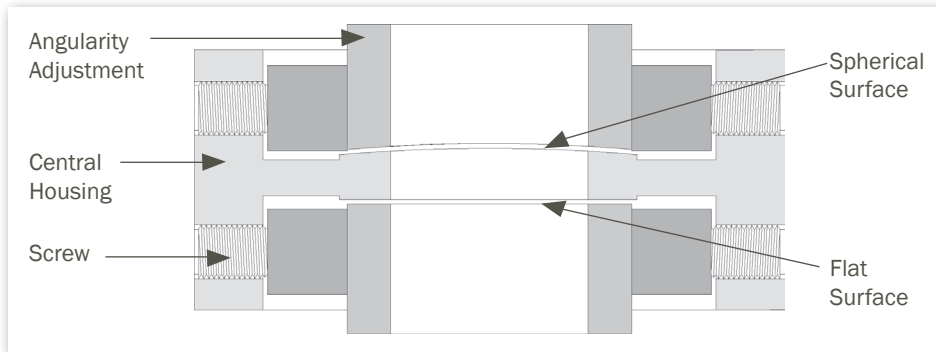
AlignPRO Alignment system

AlignPRO Fixture

The AlignPRO fixture allows the load cell and grip assembly to be aligned quickly and precisely. The fixture allows both concentric and angular misalignment to be adjusted, while the loadstring is still preloaded.

The fixture is mounted on the back of the load cell using a drawbar.

The eight screws on the fixture allow the relative positions of the upper and lower rings within the housing to be independently adjusted.



AlignPRO Fixture

Specifications

Catalog Number	Description
2910-130	AlignPRO Fixture and mounting for 100 kN (22 kip) EM Machines
2910-132	AlignPRO Fixture and mounting for 150 and 250 kN (34 and 56 kip) EM Machines
8000-082	AlignPRO Alignment Fixture and mounting for Dynamic Machines capacities up to 250 kN (56 kip)
8000-084	AlignPRO Alignment Fixture for mounting for Dynamic Machines capacities up to 500 kN (112 kip)
8000-170	AlignPRO Software and Electronics. Complete with USB Cable, Power Cable and Cable to Interface to Instron® Strain-gauged Alignment Cells
8000-171	Strain-gauged Alignment Cell, 8 Gauges, 8 mm Diameter in Gauged Section
8000-172	Strain-gauged Alignment Cell, 8 Gauges, 10 mm Diameter in Gauged Section (Compatible with 3117-031 Reverse Stress Pullrods)
8000-173	Strain-gauged Alignment Cell, 8 Gauges, flat 12 mm x 6 mm in Gauged Section
8000-174	Strain-gauged Alignment Cell, 8 Gauges. Thin flat 15 mm x 2 mm in Gauged Section

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