FIXTURLASER NXA Pro FIXTURLASER NXA Ultimate

Shaft Alignment with Geometric Measurements

Fixturlaser

ACOEM Group

When you pick up a FIXTURLASER NXA Pro system, you are holding the aggregate of more than 30 years of innovation in laser-based shaft alignment. FIXTURLASER's Alignment Intelligence ensures every maintenance professionals' job is easier to do and the best finished results are achieved.

GuideU

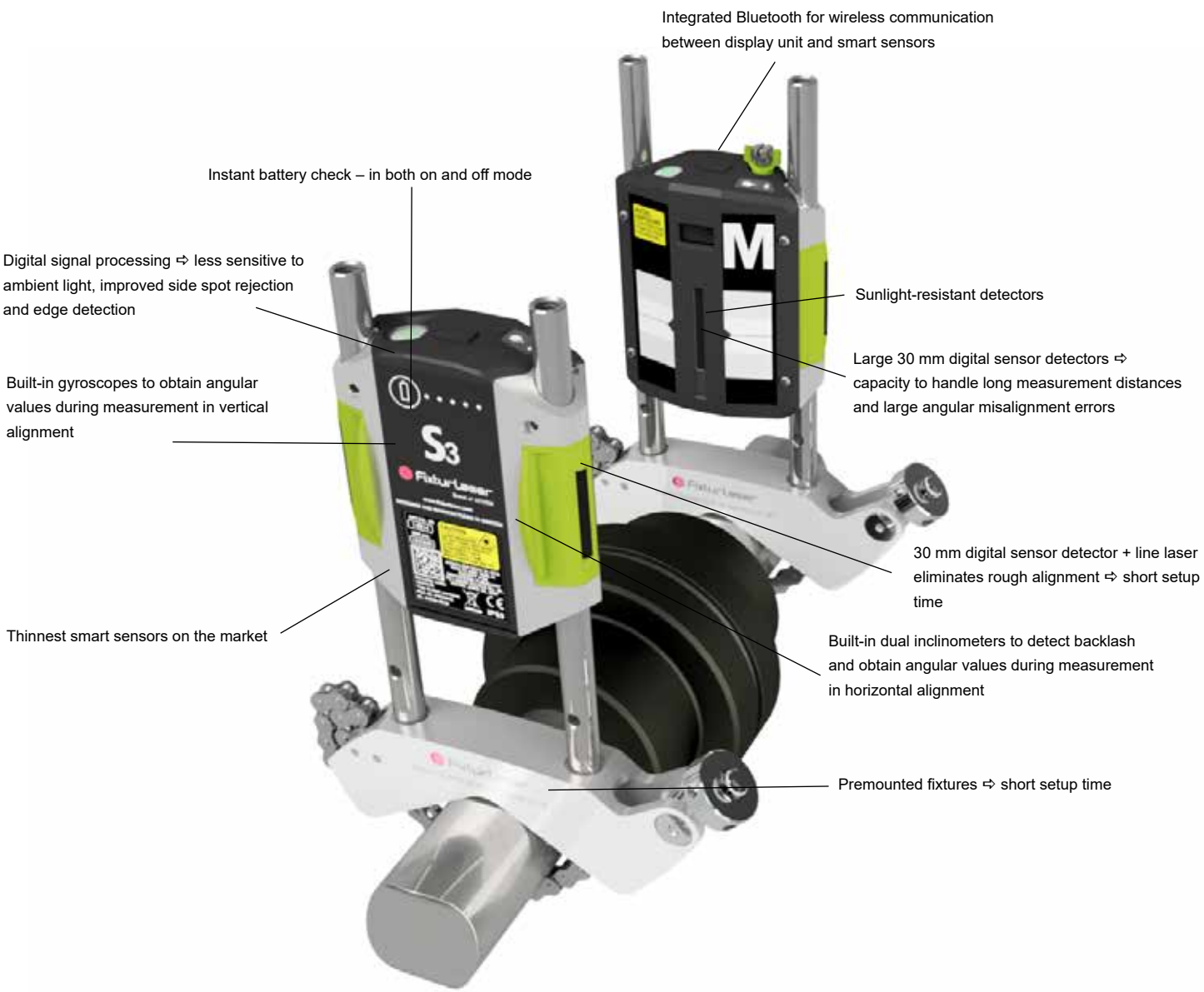
Our Graphical User Interface, Your Alignment Guide

Our patented icon-based and color-coded user interface makes it easy to measure, align, and document each job. In order to minimize the risk of operator errors, we developed an icon-driven, adaptive user interface for the FIXTURLASER NXA Pro system.

This *adaptive user interface* guides the user throughout the job in logical and easy to follow steps. It will deliver measurement and correction values based on what the system finds during the alignment process. This eliminates confusion for less-experienced users and provides ease of access throughout a measurement with the FIXTURLASER NXA Pro system.

To add to the enhanced user experience, we have given the interface a game-like 3D graphic look facilitating unmistakable interpretation of any misalignment error.

Our icon-driven, language-free alignment systems produce measurement reports easily understood by all users, regardless of their language.



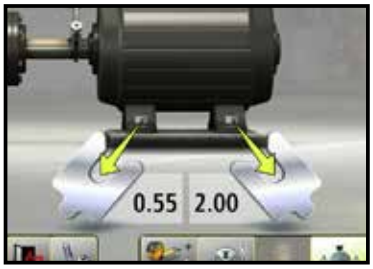
Over the years, we have remained true to our core values of Alignment Intelligence and GuideU, to drive the development of Fixturlaser shaft alignment tools and keep them ahead of the curve. This driving force has proved to be successful as we continue to deliver the most cost effective and user-friendly laser alignment systems in the industry, year after year.

Alignment Intelligence

Edge Technology for Innovative Shaft Alignment

FIXTURLASER realized an industry-first with the introduction of touch screens in 1996, and we have maintained this edge by continuing to introduce game-changing technologies that include being first to the market with:

- **3D graphics**
- **Dual digital sensor with visible line lasers**
- **Wireless communication between display unit and smart sensors**
- **Inclinometers in both smart sensors**
- **Gyroscopes in both smart sensors**
- **Gyroscopes in the display box that enable the patented walk-around OmniView™ feature in our user interface**



Adaptive User Interface Working with Smart Sensors

The FIXTURLASER NXA Pro comes with an adaptive user interface that guides you throughout the measurement and alignment of your machines. The smart sensors we have developed include the largest detectors on the market, enhancing the measurement performance to an industry-first level.

Our core values have led to the development of several industry-first functions: True Live, VertiZontal™ Moves, and OmniView™. Unique on the market for laser-based shaft alignment tools, they help our end users save time on the job, improve reliability, and (most importantly) save money.

True Live

You Always Know Your Machine's Position with a FIXTURLASER NXA Pro Alignment System

The FIXTURLASER NXA Pro will always show you the exact machine position. No doubts, no guessing games, thanks to another of our industry-first technologies, the use of two smart sensors with laser beams and inclinometers monitoring both shaft positions simultaneously.

Did you interrupt the laser beam? Or move the machine's position out of detector range? Not a problem, our smart sensors will resume with an updated machine position and always deliver live values to you.

VertiZontal™ Moves

Measure Once, Move in Two Directions

The VertiZontal™ Moves feature displays exactly how much a misaligned machine needs to be adjusted, by adding or removing shims to the machine's feet. No more re-measuring between the vertical and the horizontal phases to correct the horizontal misalignment.

This industry-first function saves time and ensures accuracy the first time around. Time savings mean cost savings for the maintenance department, the production department. In short, savings for the entire company.

OmniView™

Live Screen Orientation Changes as You Move Around the Machine

The inclusion of a gyroscope in our display box enables the system to track the user's position in relation to the machine. The user will always have the correct live screen orientation of the machine thanks to our industry-first and patented function, the OmniView™.

Fixturlaser

FIXTURLASER NXA OPTIONAL HARDWARE

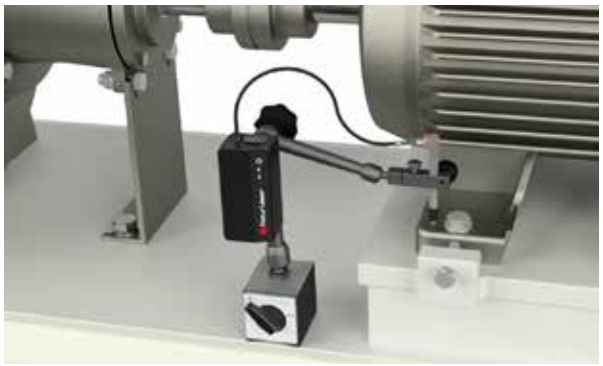
Expand Your FIXTURLASER NXA Pro Into a Versatile Maintenance Tool

We also provide optional hardware with which you easily can upscale your FIXTLASER NXA Pro. All additional applications use the same graphics driven user interface which makes it possible to perform the alignment faster than ever before.Our latest additions, the FIXTURLASER ROP and the FIXTURLASER Level, render greater versatility and a unique capability to the FIXTURLASER NXA Pro that a wider reaching maintenance tool is produced.

FIXTURLASER ROP

The FIXTURLASER ROP is a battery-powered displacement probe connecting wirelessly via Bluetooth to the Fixturlaser NXA Pro display unit. It can be used for:

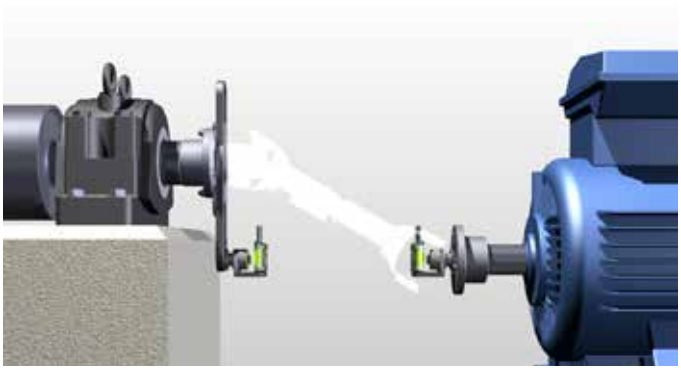
- Checking bent shafts
- Checking bearing clearances
- Thermal growth on machine casings
- Checking movements due to pipe strain
- Axial and radial runout checks on flanges
- Checking movements on machine feet (soft foot)
- Eccentric or skewed mounting of coupling hubs



FIXTURLASER Offset

The FIXTURLASER Offset fixtures and software provide a straightforward way to eliminate angular misalignment of cardan shafts.

Use the FIXTURLASER NXA Pro together with the FIXTURLASER Offset, and you will be able to precision align any offset mounted machine as fast as you align any other shafts.



FIXTURLASER Level

The FIXTURLASER Level is a battery-powered two-axis measuring sensor that connects wirelessly via Bluetooth to the FIXTURLASER NXA Pro display unit.

It can be used:

- as a digital level
- for measuring angular softfoot
- for levelling machines or machine parts during installation.

FIXTURLASER OL2R™

The FIXTURLASER OL2R™ fixtures offer a patented and cost-effective solution for measurements of dynamic movements in critical machines within industries, where large temperature differences or other disruptive factors exist.

Poor alignment is one of the leading contributors to premature rotating machinery failure, often because of dynamic movements. Make sure that your machines are in and stay in perfect health by using the FIXTURLASER OL2R™ fixtures!

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FIXTURLASER NXA SOFTWARE & FEATURES

FIXTURLASER NXA Pro / FIXTURLASER NXA Ultimate

Horizontal Shaft Alignment
Determines and corrects the relative position of two horizontally mounted machines that are connected, such as a motor and a pump, so that the rotational centers of the shafts are collinear.

Vertical Shaft Alignment
Determines and corrects the relative position of two vertically or flange mounted machines that are connected, such as a motor and a pump, so that the rotational centers of the shafts are collinear.

Machine Train™ Alignment
Align a set-up of more than two rotating machines that are connected to each other.

FIXTURLASER OL2R™
Provides you with machine unique target values to be used for compensation during shaft alignment of critical machines.

FIXTURLASER Offset
Provides you with shaft alignment of horizontally and vertically mounted machines with offset drive shaft.

Softcheck™
Checks if there is a soft foot condition, i.e. when the motor is not resting firmly on all its feet.

Target Values
Pre-set target values used in your alignment work when you have to compensate for the machine's thermal expansion.

Sensor Display
Shows the raw values from connected sensors to determine a stable set-up and/or detect any possible movements of the set-up during the measurement process.

Hot Check™
Target values obtained by measuring in cold condition and then in hot condition to determine the machine's thermal expansion.

Target Values Clock
Pre-set target values expressed as dial indicator readings used in your alignment work when you have to compensate for the machine's thermal expansion.

Text Editor
In the text editor, a text can be written, edited and saved separately.

Machine-Defined Data
Information such as entered distances, measurement method, target values and tolerances are saved in a template.

Softcheck™ ROP
Possible to measure directly on the foot and obtain exact shim values to eliminate the softfoot condition.

Sensor Display ROP
Possible to use for different applications where you want to use the readings from the displacement probe.

MaxMin ROP
Possible to measure the displacement of an object to a rotational center.

Sensor Display Level
Possible to measure in two-axes an object's angle towards gravity or to measure an obejct's relative angular deviation.

FIXTURLASER NXA Ultimate

Straightness
With the straightness application, straightness can be measured in two axes. The laser beam is used as reference and the deviation in distance between the laser beam and the measurement object is measured in two or more positions, with the use of the receiver.

Circular Flatness
A laser plane is used as reference in the circular flatness application. The deviation in distance between the laser plane and the measurement object is measured in one or more positions with the use of the receiver.

Rectangular Flatness
The rectangular flatness measurement program uses a laser plane as reference. The deviation in distance between the laser plane and the measurement object is measured in one or more positions with the use of the receiver.

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TECHNICAL SPECIFICATION - FIXTURLASER NXA System With Case

FIXTURLASER NXA Pro / FIXTURLASER NXA Ultimate

Weight (including standard parts):	7,7 kg (17 lbs)
Dimensions:	415 mm x 325 mm x 180 mm (16 in x x 13 in x 7 in)

Display Unit

Weight:	1,2 kg (2,6 lbs) with battery
Dimensions:	224 mm x 158 mm x 49 mm (4,9 in x x 6,2 in x 1,9 in)
Environmental protection:	IP 65 (Dust tight and protected against water jets)
Display size:	6,5” (165 mm) diagonal (133 x 100 mm)
Gyroscope:	6-Axis MEMS Inertial Motion Sensor with drift compensation and automatic field calibration.
Operating time:	10 hours continuous use (with 50% LCD backlight)
Quick battery charging time (system off, room temperature):	1 hour charge – 6 hours operating time

Digital Laser Sensors

Weight:	192 g (6,8 oz) with battery
Dimensions:	92 mm x 77 mm x 33 mm (3,6 in x x 3,0 in x 1,3 in)
Environmental protection:	IP 65 (Dust tight and protected against water jets)
Measurement distance:	Up to 10 m
Detector:	Second generation digital sensor
Detector length:	30 mm (1,2 in)
Detector resolution:	1 µm
Measurement accuracy:	0,3% ± 7 µm
Gyroscope:	6-Axis MEMS Inertial Motion Sensor with drift compensation and automatic field calibration
Operating time:	17 hours continuous use (measuring)
Inclinometer:	Dual High Performance MEMS inclinom-eters
Inclinometer accuracy:	±0,2°
Inclinometer resolution:	0,01°

Shaft Brackets

Shaft diameter:	Ø 20 – 450 mm (1 in – 6.9 in)
Rods:	4 pcs 85 mm and 4 pcs 160 mm (extendable to 245 mm)

FIXTURLASER NXA Ultimate

R2 Sensor (receiver)

- Weight: 172 g (6.7 oz)
- Dimensions: 94 x 50 x 44 mm (3.7 x 2.0 x 1.7 in)
- Detector: Dual-axis PSD
- Detector size: 20 mm x 20 mm (0.8 in x 0.8 in)
- Measurement accuracy: 1% ± 3 µm
- Inclinometer resolution/accuracy: 0,01°/±0,1°
- Communication range 10 m (33 ft)
- Operatting time 8 hours

T21 Transmitter

- Housing Material: Anodized aluminum
- Operating Temp: 0 to 50°C (32 to 122°F)
- Storage Temp: -20 to 70°C (-4 to 158°F)
- Weight: 1150 g
- Laser class: Class 2
- Dimensions: 100 x 103 x 109 mm (3.9 x 4.1 x 4.3 in)
- Measuring distance: Up to 20 meters (66 feet)
- Laser sweep flatness: ±0,02 mm/m
- Angular prism accuracy: ±0,02 mm/m
- Power supply: 2 batteries type LR6
- Operating time: 15 hours continuously

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FIXTURLASER NXA Ultimate

The Ultimate Measurement Tool for Optimal Machine Conditions

The name says it all, with the FIXTURLASER NXA Ultimate you have covered any kind of angle of your machinery that needs to be covered; shaft alignment and geometry in one package.

Geometry with the Fixturlaser NXA Ultimate

With the FIXTURLASER NXA Ultimate, you have all the functions for laser shaft alignment of its sibling, the FIXTURLASER NXA Pro, as well as a laser based geometry system characterized by its user friendliness and versatility, such as:

- Flatness measurements on foundations and machine beds to obtain optimal prerequisites for machine installations. Measurements can be done on foundation with both rectangular and circular configurations.
- Straightness measurements on machine beds, guideways, or support structures, are also available with the Fixturlaser NXA Ultimate.

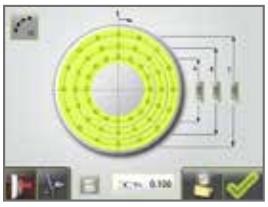
Geometric Applications

Rectangular Flatness

Typical applications are measurements of e.g. machine beds and machine foundations. For the latter application, it is particularly beneficial to combine flatness measurement with shaft alignment when installing rotating machinery. First you check the foundation's surface for possible irregularities, a so called pre-alignment check. If any, correct these. Install the machine and check for possible misalignment with a laser based shaft alignment tool like the FIXTURLASER NXA system.
The program allows for up to 150 points (10 x 15) to be measured.

Circular Flatness

The program allows for up to three circles with 99 points on each circle to be measured.
A typical application is the measurement of flanges and machine



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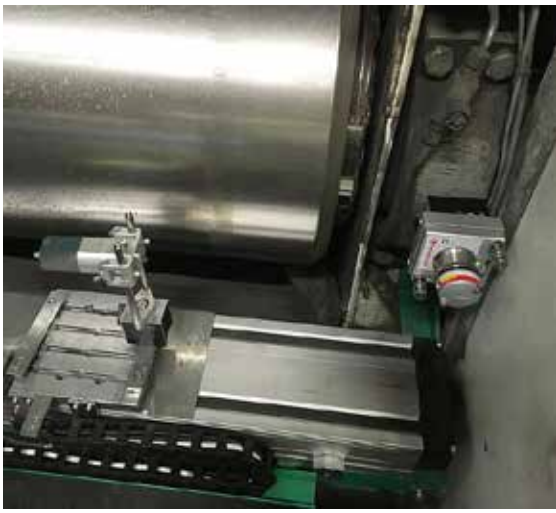
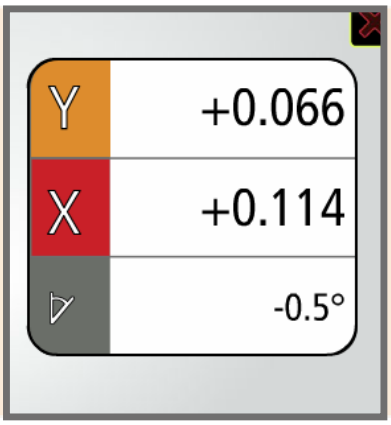
Straightness

The straightness application is measured in one or two axes, where the laser beam is used as reference. The program allows for up to 99 points to be measured.Typical applications are measurements of machine guides, machine beds, machine guideways, guide rails, and bore alignment.

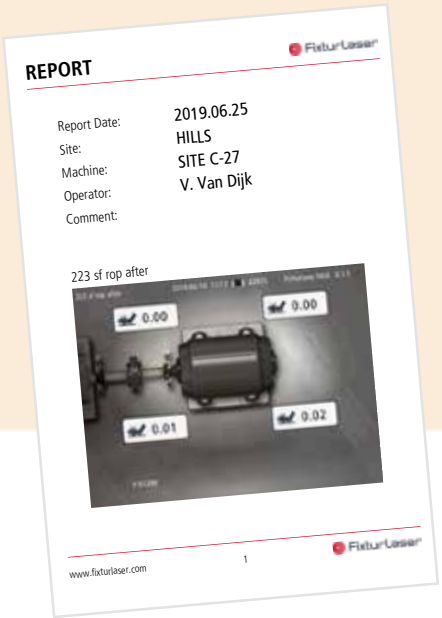




True Live

You Always Know Your Machine's Position with the FIXTURLASER NXA Ultimate

The FIXTURLASER NXA Ultimate delivers live values during measurement and simultaneous live adjustment, in both vertical and horizontal orientation (X and Y values), during the adjustment process. Measurement results are in micron resolution.



On-Site Evaluation and Report of Results

On-site evaluation of measurement results means that you can process saved measurement results in order to choose the best reference. This will result in as few corrections as possible.
With the feature Best Fit, you have the option to allow the system to calculate a reference line or plane, which illustrates the best fit, i.e. the least deviation for each measurement point in relation to the reference line or plane that has the least deviation of the measurement points.
The PDF report function provides a fast on site reporting available for converting saved measurement reports into PDF files.
This eliminates the need to take a laptop PC on site.

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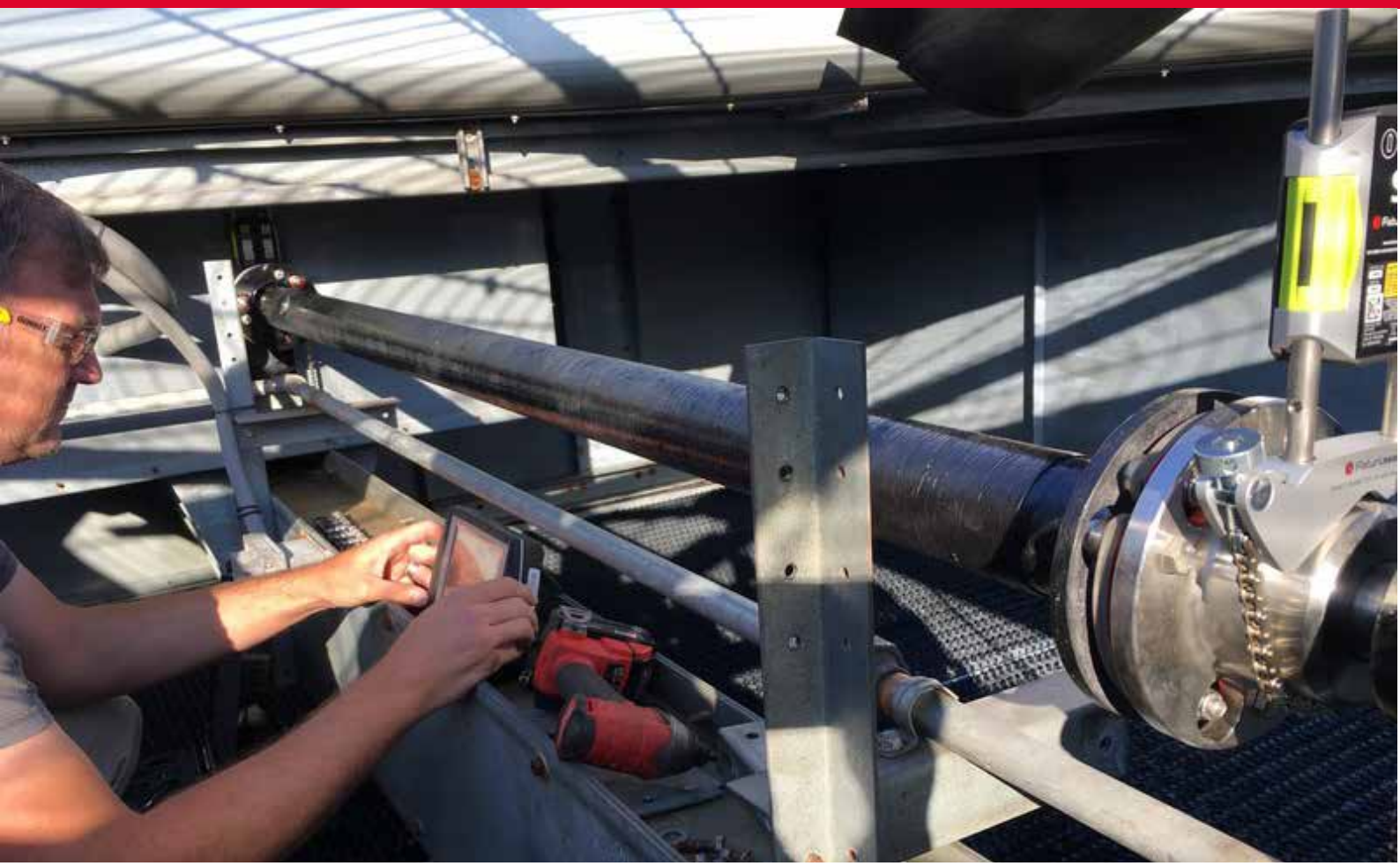

Express Mode™ method for handsfree measurements

In the Express Mode method, the alignment condition can be calculated by recording three points while rotating the shafts at least 60°. After recording the I st point, the other points are taken automatically when the shafts are rotated to a new position and are kept in position for more than 2 seconds.

Tripoint TM method

In the Tripoint method, the alignment condition can be calculated by taking three points while rotating the shaft at least 60°. In this method, all points are taken manually.

Clock TM method

In the Clock method, machinery positions are calculated by taking three points with 180° of rotation. The Clock method is useful when comparing the measurement results with traditional alignment methods using dial gauges and reversed rim method. The method can also be used when the machines are standing on non-horizontal foundations or when the shafts are not coupled.

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More Time Saving Functions

PDF Report
Fast on site reporting available converting saved measurement reports into PDF files. This eliminates the need to take a laptop PC on site.

Feetlock™
Solution to solve base-bound and/or bolt-bound machines.

Memory Manager
Measurements can be organized in folders and subfolders. Single measurements and/or complete data structures can be copied to a USB stick.

Resume Function
A power management feature with an integrated resume function that will automatically save all critical data, when it goes into energy saving mode or if the battery goes flat. It will automatically resume to where you left, off, when you turn the system back on again.

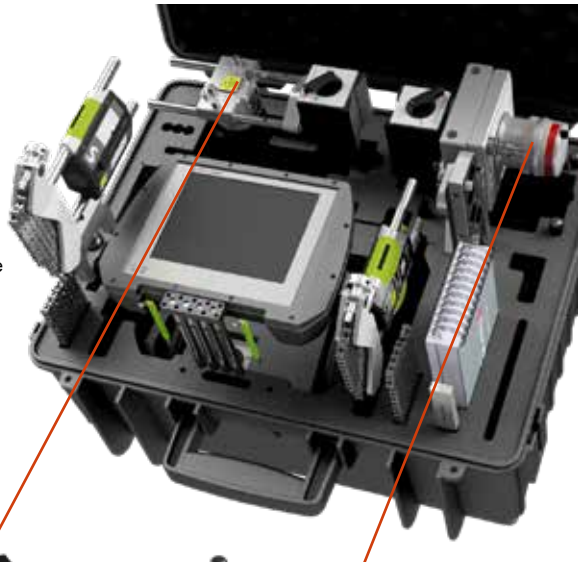
Express Navigation
When you select which points to measure, you will find that the highlighted measurement point is surrounded by its neighbor points enabling you to choose them without exiting the measurement screen.

The FIXTURLASER NXA Pro Package

Display unit
2 pcs of digital smart sensors
2 pcs of complete V-brackets
2 pcs of magnetic V-brackets
2 pcs of chains 8 mm 60 links
Rod kit
Extension fixture, 49 mm
Magnetic base
Tape measure 5 m
2 pcs of angled universal tools
USB stick
Charger for display unit and sensors

The FIXTURLASER NXA Ultimate Package

Display unit
2 pcs of digital smart sensors
2 pcs of complete V-brackets
2 pcs of magnetic V-brackets
2 pcs of chains 8 mm 60 links
Rod kit
Extension fixture, 49 mm
Magnetic base
R2 sensor/receiver
Turnable sensor holder on magnetic base
T21 transmitter with mounting magnet
2 pcs of angled tools
Tape measure 5 m
USB stick
Chargers for display unit and sensors



Fixturlaser

ACOEM AB is a global player and leader in developing innovative, user friendly equipment for shaft alignment. By helping industries worldwide to become perfectly aligned, and eliminating anything that might not be, we minimize unnecessary wear and production stoppages. This will ultimately make our customers more profitable and our environment more sustainable.

LIFETIME WARRANTY

CAUTION

ISO 9001
ISO 14001

*Limited lifetime warranty! For more information, contact your local dealer.

Fixturlaser NXA Patents:
SE 524 366, SE 537 833
US 7312871, US 7460977, US 10060719
EU 2836788

Other patents pending.

acoem

P.O. Box 7, SE - 431 21 Mölndal, SWEDEN
Tel: +46 31 706 28 00, Fax: +46 31 706 28 50
E-mail: info.se@acoem.com www.fixturlaser.com

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