SHAFTALIGN® OS3

The efficiency of laser shaft alignment

Thirty years' laser shaft alignment

Precision shaft alignment pays back

Precision shaft alignment extends machine uptime. It contributes in more than one way towards great savings and a cleaner environment:

- Reduced energy consumption
- Reduction in bearing, seal, shaft and coupling failure
- Reduced bearing and coupling temperatures
- Reduced vibration
- No cracking or breaking of shafts
- Secure foundation bolts

Maintenance departments across industries worldwide use PRÜFTECHNIK's state-of-the-art and user-friendly systems to measure and align rotating machines.

Without overstretching your budget, SHAFTALIGN® OS3 ideally combines intuitive operation and accuracy for precision shaft alignment of machinery such as pumps, motors, gearboxes and compressors.

Expertise across all industries...






Shaft alignment fast and efficient with OS3

High technology made easy to use

OS3 technology
3-axis HD PSD
Precision built-in inclinometer using MEMS
Longer operating time
Ergonomic design
Sensor battery status warning
Bluetooth® communication
Integrated ambient light compensation
High-speed CPU/extended memory

The efficiency of laser shaft alignment

Intuitive, innovative and precise

Only three steps to the perfect alignment

SHAFTALIGN® OS3 has been constructed and manufactured for industrial applications, and can be used in extreme working conditions. The computer is dustproof and water spray resistant in accordance with IP 65. The transducer and reflector are both submersible and dustproof in accordance with IP 67.

The alphanumeric keyboard and the navigation keys ensure comfortable operation of the measurement system.

SHAFTALIGN® OS3 high resolution TFT colour display is backlit. An integrated light sensor automatically adjusts display brightness allowing easy reading of measurement values in low light environments, and extends run time.

The computer with rechargeable battery is included in the standard package. The USB interface enables easy connection to a PC and other peripheral devices such as a printer.

The system offers a variety of options to generate and archive alignment measurement reports, or to save reports directly as PDF to a memory stick.

The system's intuitive auto-flow capability guides the user step-by-step to enter machine dimensions.

Only 3 or 4 readings over a rotation angle of less than 70° are required to determine the precise alignment condition.

All relevant alignment results are displayed in one screen including the alignment status evaluation via "Smiley" and LED.

Bluetooth® Communication

The SHAFTALIGN® OS3 computer is wireless enabled.
The Bluetooth® module ensures a convenient data transmission between the measurement sensor and the SHAFTALIGN® OS3 computer or the tab@lign® alignment app.

Powerful SHAFTALIGN® OS3 features

SWEEP measurement mode (optional)

SHAFTALIGN® OS3 takes numerous readings to accurately determine the alignment condition with a shaft rotation of as little as 60°.

Active clock measurement mode

Intelligent and precise alignment due to the activated MEMS inclinometer used in this measurement mode. Measurement can be taken at any 3 (or 4) positions and the sensor angular position is automatically considered.

Automatic evaluation of alignment

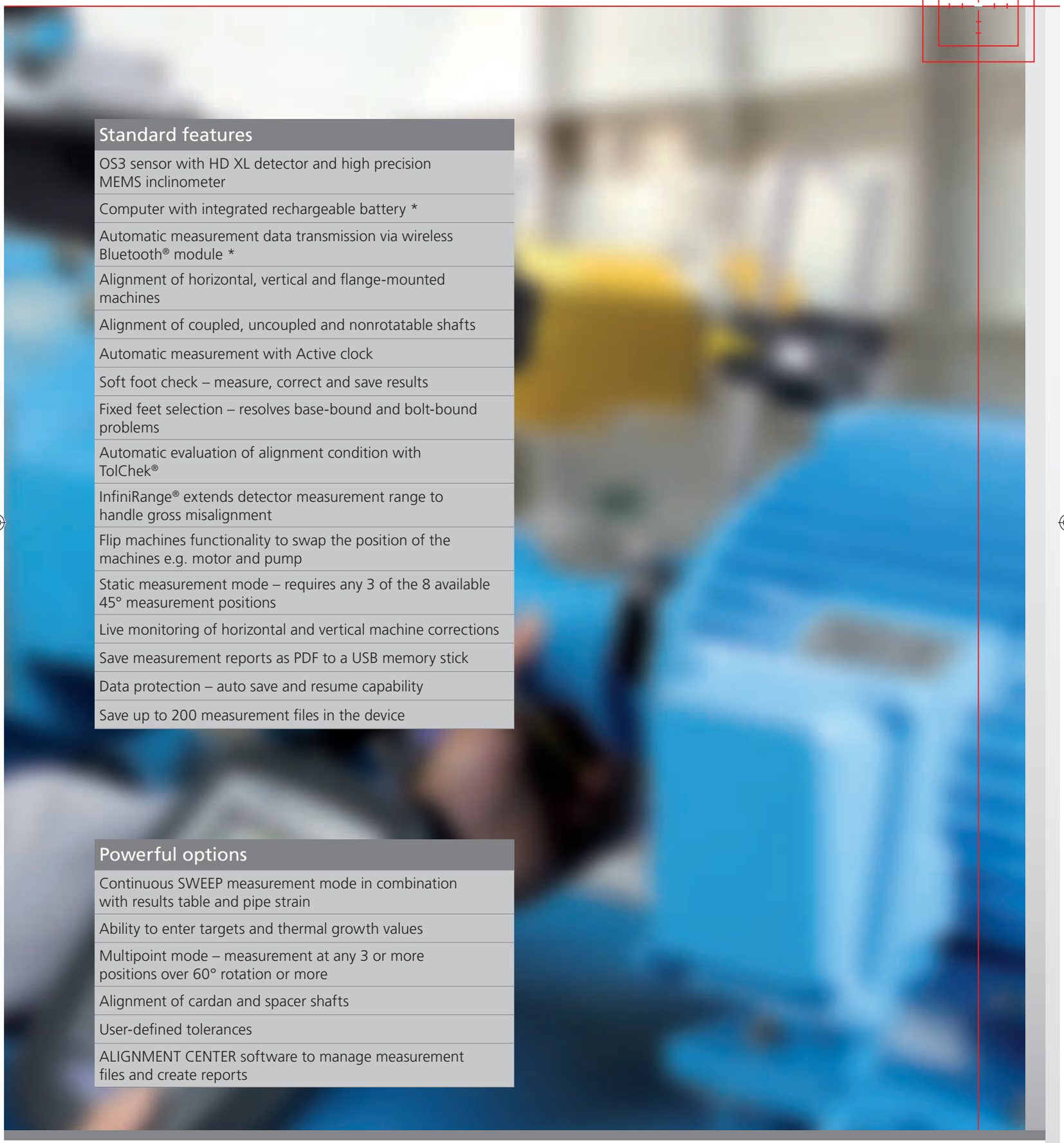
TolChek® – Dynamic tolerances evaluate the alignment condition based upon the machine RPM. The Smiley and the LED provide visual indication of the alignment condition and a live update status during machine correction.

Live Move

Both horizontal and vertical coupling and foot results are automatically calculated. The machine graphics show the direction and the correction value of feet to be moved. During Live Move, SHAFTALIGN® OS3 continuously measures the corrections. The monitored changes are displayed live on the screen.

- **Single laser technology (UniBeam)**
  Patented single laser/detector technology for easy set-up.
- **Intuitive auto-flow capability**
  The system guides the user progressively to determine the machinery alignment condition and its tolerance evaluation.
- **Active clock measurement mode**
  Intelligent and precise alignment due to the activated electronic inclinometer.
- **Bluetooth® communication enabled**
  Measurement data is transmitted wirelessly to the computer.
- **Dynamic tolerance (TolChek®)**
  Automatic evaluation of alignment condition and user-defined tolerances.
- **InfiniRange®**
  Extends detector measurement range to handle gross misalignment.
- **Live move**
  Monitoring of horizontal or vertical machine corrections.
- **Flip machines**
  Just press a key to swap the position of the machines, e.g. motor and pump.
- **Soft foot check**
  Measure, correct and save results.
- **File management**
  Save measurement files in the device and generate reports as a PDF to a USB memory stick.
- **Data protection**
  Auto save and resume capability.

SHAFTALIGN® OS3 at a glance



Standard features
OS3 sensor with HD XL detector and high precision MEMS inclinometer
Computer with integrated rechargeable battery *
Automatic measurement data transmission via wireless Bluetooth® module *
Alignment of horizontal, vertical and flange-mounted machines
Alignment of coupled, uncoupled and nonrotatable shafts
Automatic measurement with Active clock
Soft foot check – measure, correct and save results
Fixed feet selection – resolves base-bound and bolt-bound problems
Automatic evaluation of alignment condition with TolChek®
InfiniRange® extends detector measurement range to handle gross misalignment
Flip machines functionality to swap the position of the machines e.g. motor and pump
Static measurement mode – requires any 3 of the 8 available 45° measurement positions
Live monitoring of horizontal and vertical machine corrections
Save measurement reports as PDF to a USB memory stick
Data protection – auto save and resume capability
Save up to 200 measurement files in the device

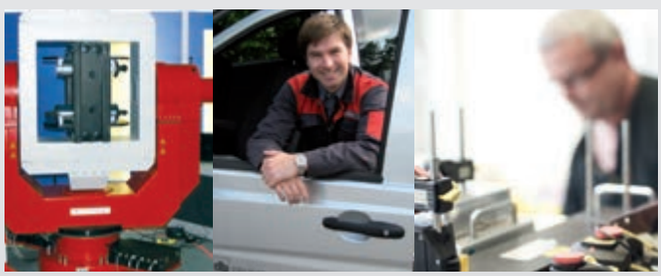
Powerful options
Continuous SWEEP measurement mode in combination with results table and pipe strain
Ability to enter targets and thermal growth values
Multipoint mode – measurement at any 3 or more positions over 60° rotation or more
Alignment of cardan and spacer shafts
User-defined tolerances
ALIGNMENT CENTER software to manage measurement files and create reports

SHAFTALIGN® OS3 technical data

Computer	
CPU	Intel XScale PXA270 running at 520 MHz
Memory	64 MB RAM, 64 MB Flash
Display	Type: TFT, transmissive (sunlight-readable), 65 535 colours, backlit LED
	Integrated light sensor for automated adjustment of the brightness to the display according to the lighting conditions hence extending battery life
	Resolution: 320 x 240 Pixel; Dimensions: 89 mm [3,5“] diagonal
	Keyboard elements: Navigation cursor cross with up, clear and menu keys; Alphanumeric keyboard with dimensions, measure and results, soft foot and move hard keys
LED indicators	Multicolour LED for laser status and alignment condition
	Multicolour LED for battery status
Power supply	Disposable batteries: 5 x 1.5 V IEC LR6 (“AA“) with typical operating time of 9 hours (based upon an operating cycle of 33% measure-ment, 33% computation and 33% ‘sleep‘ mode)
	Integrated Lithium-ion rechargeable battery: 7.4 V / 2.6 Ah (for optional computer) with typical operating time of 17 hours (based upon an operating cycle of 33% measurement, 33% computation and 33% ‘sleep‘ mode)
External interface	USB host & USB slave
	Integrated wireless communication, Class 1, transmitting power 100mW
	RS232 (serial) for transducer
	AC adapter/charger socket
Environmental protection	IP 65 (dustproof and water spray resistant), shockproof
	Relative humidity 10% to 90%
Temperature range	Operation: -10°C to 50°C [14°F to 122°F]
	Storage: -20°C to 60°C [-4°F to 140°F]
Dimensions	Approx. 220 x 165 x 45 mm [8.7“ x 6.5 x 1.8“]
Weight	742 g [1.64 lb]
CE conformity	EC guidelines for electric devices (73/23/EEC) and those relating to electromagnetic compatibility (2004/108/EC) are fulfilled

Services and customer support

- High-tech alignment lab
- Customized product training
- Machinery service – worldwide
- Calibration and repair



Transducer	
	Measurement principle: Coaxial, reflected laser beam
	Environmental protection: IP 67 (submersible, dustproof)
	Ambient light protection: Optical and active electronic digital compensation
	Storage temperature: -20°C to 80°C [-4°F to 176°F]
	Operating temperature: -10°C to 55°C [14°F to 131°F]
	Dimensions: approx. 107 x 70 x 49 mm [4 1/4“ x 2 3/4“ x 2“]
	Weight: approx. 177 g (6 1/2 oz.]
Laser	Type: Semiconductor laser diode
	Wave length: 670 nm (red, visible)
	Safety class: Class 2 according to IEC 60825-1:2007
	Beam power: < 1 mW
	Beam divergence: < 0.3mrad
	Safety precautions: Do not look into laser beam
Detector	Measurement area: unlimited, dynamically extendible (U.S. Patent 6,040,903)
	Resolution: 1µm (0.04 mil), Accuracy (avg): > 98 %
Inclinometer	Measurement range: 0° to 360°
	Resolution: 0,1°
	Inclinometer error: ± 0,30% full scale

Reflector	
	Type: 90° roof prism; Accuracy (avg): > 99%
	Environmental protection: IP 67
	Storage temperature: -20°C to 80°C [-4°F to 176°F]
	Operating temperature: -20°C to 60°C [-4°F to 140°F]
	Dimensions: approx. 100 x 41 x 35 mm [4“ x 1 5/8“ x 1 3/8“]
	Weight: approx. 65 g [2 1/2 oz.]

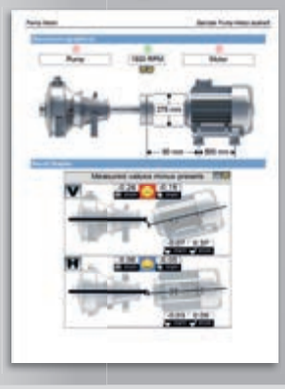
Bluetooth® module	
Class 1 connectivity, transmitting power	100 mW
Transmission distance	Up to 30 m [98 ft.] direct line of sight
Complies with	FCC rules part 15
LED indicators	1 LED for wireless communication, 3 LEDs for battery status
Power supply	Batteries 2 x 1.5 V IEC LR6 (“AA“)
Operating time	17 hours typical use (based upon an operating cycle of 50% measurement, 50% standby)
Operating temperature	-10°C to 50°C [14°F to 122°F]
Environmental protection	IP 65 (dustproof and water spray resistant), shockproof
Dimensions	Approx. 81 x 41 x 34 mm [3 1/8“ x 1 11/16“ x 1 5/16“]
Weight	Approx. 133 g [4.7 oz.] including batteries and cable

Carrying case	
	Standard: ABS, drop tested 2 m [6 1/2 ft])
	Case dimensions: approx. 470 x 400 x 195 mm [18 1/2“ x 15 3/4“ x 7 3/4“]
	Weight, including all standard parts: approx. 5.8 kg [12.8 lb]

ALIGNMENT CENTER Software

Manage your alignment data the most convenient way

ALIGNMENT CENTER



ALIGNMENT CENTER is a Windows® based common PC software platform for all current PRÜFTECHNIK alignment systems and applications.
In a nutshell, you can use ALIGNMENT CENTER to manage your measurement files in a central database. Map your plants and share files across users.
Use the two-way communication to transfer files from your PC to the device and back.

ALIGNMENT CENTER is a PC software used for preparing, analyzing, organizing and archiving measurement files.

Set-up	Archiving	Analysis and reporting
Create user specific templates to suit the measurement job	Backup measurement files and restore	Display results in 2D or 3D depending on the application
Set up file information to include file and user names, company, plant and area	Organize files in a tree structure with unlimited hierarchy	Evaluate results using the measurement table
Prepare file in advance on a PC and transfer to the device	Store any type of document in the tree structure	Customize measurement reports with company information e.g. logo
Transfer measurement results from the device back to the PC	Comprehensive database search	Simulate measurement results by entering manual values
	Import and export data	Enter user-defined tolerances
	Manage measurement files and other file types	Convert dial gauge readings

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