

# SKF Shaft Alignment Tool TKSA 71

Versatility and performance for professional alignment



## TKSA 71 delivers precision and durability

Designed for professional alignment in harsh industrial environments, the TKSA 71 complements SKF's offering with a high-end shaft alignment tool. The instrument is very versatile with ultra-compact measuring units for use in extremely narrow spaces. Its dedicated software applications enable different types of alignments, including horizontal and vertical shafts, spacer shafts and machine trains. Superior alignment performance and long-term industrial durability are achieved with an innovative instrument design that offers high measurement accuracy and excellent protection against dust and water in harsh environments.



### TKSA 71 advantages:

- **Easy-to-use** - Intuitive software applications, guided alignment processes and explanatory videos
- **Wide range of applications** - Comprehensive accessories and dedicated software applications
- **Superior alignment performance** - Up to 10 m measurement distance, disturbance compensation, measurement flexibility, only 40° total rotation, automatic measurement and customised alignments with target values
- **Protection against harsh environments** - Completely sealed measuring units (IP67) to withstand dust and water
- **Ultra-compact measuring units** - Use in extremely narrow spaces
- **Robust carrying case** - Excellent protection, convenient transport and wireless in-case charging

### Complete system for your alignment needs

The TKSA 71 base model includes standard accessories for most alignment tasks. It is supplied in a rugged case that meets most airline requirements for cabin luggage.

The TKSA 71/PRO model includes additional accessories such as sliding brackets, magnetic bases and offset brackets that are useful for more demanding alignment jobs. This model is supplied in a larger, rugged trolley case.

The TKSA 71D and TKSA 71D/PRO include an additional display device with a protective cover and pre-installed apps. Both systems are ready for use without internet connection or account setup.



Measuring device: (1) Measuring units (M & S) with standard V-bracket, (2) Wireless charging pods with USB cable, (3) Tape measure  
 Standard accessories: (4) Extension chains, (5) Extension rods, (6) Mounting magnets  
 Advanced accessories: (7) Sliding brackets, (8) Offset brackets, (9) Additional extension rods, (10) Magnetic bases

# Alignment applications

The TKSA 71 functions quickly and intuitively using six software apps tailored for different alignment jobs. Designed for use without prior training, these simple-to-use apps are available free of charge for both Android and iOS platforms. Common features include comprehensive, automatic reports, export and sharing options, instructional videos within the app, built-in tolerance guidelines, 3-D live view, disturbance compensation and a fully functional demonstration mode.



### Shaft alignment

Easy and intuitive alignments of horizontal shafts with additional features including automatic measurement, minimal 40° total rotation, 9-12-3 guidance and alignment customisation with target values.



### Soft foot

Assists technician in verifying that machine is standing evenly on all four feet. The app supports the operator identifying and correcting a soft foot.



### Vertical shaft alignment

Easy and intuitive alignment of vertical shaft machines with shimming support for different bolt configurations.



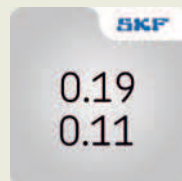
### Spacer shaft alignment

Accommodates special requirements of spacer shafts and facilitates the alignment process.



### Machine train shaft alignment

Enables operator to align three connected machines, giving a complete overview of machine train alignment and allowing the operator to select stationary feet.



### Values

Allows the shaft alignment tool to be used as digital dial gauges; operators can record absolute, zeroed and halved readings to perform customised alignments with manual calculations.

## Ordering designations

### TKSA 71

- Measuring units with wireless charging pods
- Carrying case meets most airlines' carry-on requirements
- Standard accessories

### TKSA 71D

- TKSA 71
- Protected display device for industrial use, TKSA DISPLAY

### TKSA 71/PRO

- Measuring units with wireless charging pods
- Trolley case with additional storage space
- Standard and advanced accessories

### TKSA 71D/PRO

- TKSA 71/PRO
- Protected display device for industrial use, TKSA DISPLAY

TKSA 71



TKSA DISPLAY

TKSA 71/PRO

The **TKSA 71/ACCESS** is an upgrade kit from TKSA 71 to 71/PRO that can be ordered separately and includes advanced accessories and the large trolley case.

The **TKSA DISPLAY** is an Android tablet with min 7 in. screen size, protective cover for industrial environments and pre-installed apps. The TKSA DISPLAY can also be ordered separately.

## Contents

### TKSA 71

2 × TKSA 71 measuring units (M & S)  
2 × Standard V-brackets with chains 480 mm (18.9 in.), rods 80 mm (3.1 in.) and magnets  
2 × Extensions chains 1m (3.3 ft.)  
1 × USB to Micro USB split charging cable  
2 × Wireless charging pads  
1 × Measuring tape 5 m (16.4 ft.)  
1 × Printed certificate of calibration and conformance  
1 × Printed quick start guide (English)  
4 × Extension rods 120 mm (4.7 in.)  
1 × Rugged carrying case (IP67), 365 × 295 × 170 mm (14.4 × 11.6 × 6.7 in.)

### TKSA 71/PRO

2 × TKSA 71 measuring units (M & S)  
2 × Standard V-brackets with chains 480 mm (18.9 in.), rods 80 mm (3.1 in.) and magnets  
2 × Extensions chains 1m (3.3 ft.)  
1 × USB to Micro USB split charging cable  
2 × Wireless charging pads  
1 × Measuring tape 5 m (16.4 ft.)  
1 × Printed certificate of calibration and conformance  
1 × Printed quick start guide (English)  
8 × Extension rods 120 mm (4.7 in.)  
2 × Magnetic bases (TKSA MAGBASE),  
2 × Sliding brackets (TKSA 51-SLDBK)  
2 × Offset brackets 50 mm (2 in.)  
1 × Large, rugged trolley case (IP67), 610 × 430 × 265 mm (24 × 16.9 × 10.4 in.)

## Technical data

### Designation

### TKSA 71 and TKSA71/PRO

Sensors and communication	20 mm (0.8 in.) 2nd gen. PSD with line laser Class 2. Inclinometer ±0.1°; Bluetooth 4.0 LE"
System measuring distance	0,04 to 10 m (0.13 to 32.8 ft.)
Measuring errors / displayed resolution	<1% ±10 µm / 10 µm (0.1 mil)
Operating time and charging	~8 hours, rechargeable Li-ion battery, 10 min. wireless charging for 1 hour usage
Measuring unit dimensions / weight	52 × 64 × 33 mm (2.1 × 2.5 × 1.3 in.) / 130 g (4.6 oz.)
Operating device	TKSA DISPLAY, Galaxy Tab Active and iPad mini recommended, iPad 3rd generation, iPod touch 5th generation, iPhone 4S, Galaxy S4 or above (all not included)
Software / App update	Apple App Store or on Google Play Store
Operating system requirements	Apple iOS 9 or Android OS 4.4.2 (and above)
Alignment applications	Horizontal shaft alignment, vertical shaft alignment, soft foot, spacer shaft alignment, values, machine train shaft alignment
Alignment method	3 position measurement with guided 9–12–3 positions, free measurement (min. 40° total rotation), automatic measurement, disturbance compensation, target alignment values
Live correction values	Vertical and horizontal machine position correction
Extra features	Guided alignment measurements, 3-D live view, screen flip, comprehensive automatic PDF reports
Shaft diameters	20 to 150 mm diameter (0.8 to 5.9 in.), up to 450 mm (17.7 in.) with included extension chains
Max. recom. coupling height	45 mm (1.8 in.) with standard rods, plus 120 mm (4.7 in.) per set of extension rods
IP rating	IP67
Total weight (incl. case)	TKSA 71: 3,9 kg (8.6 lb), TKSA 71/PRO: 12,5 kg (27.6 lb)



The SKF Shaft Alignment Tool TKSA 71 has achieved high user satisfaction in wind turbines where its compact, lightweight design has helped technicians to carry the instrument up the tower and perform alignments in very narrow spaces. In general industrial applications, technicians benefit from the tool's versatility and ease of use, instantly becoming familiar operating the tool and performing machine alignment. Developed especially for demanding alignment tasks, the TKSA 71 provides superior performance in vertical shaft and machine train alignments.

[skf.com](http://skf.com) | [mapro.skf.com](http://mapro.skf.com) | [skf.com/alignment](http://skf.com/alignment)

© SKF is a registered trademark of the SKF Group.  
App Store is a service mark of Apple Inc. registered in the US and other countries.  
Android and Google Play are trademarks of Google Inc.

© SKF Group 2016  
The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

PUB MP/S2 16827 EN · September 2016