

## Application

Shaft misalignment is one of the most significant and preventable contributors to premature machine failure. When a machine is placed in service with less than optimal shaft alignment, the following conditions are likely:

- Poor machine performance
- Increased power consumption
- Increased noise and vibration
- Premature bearing wear
- Accelerated deterioration of gaskets, packing, and mechanical seals
- Higher coupling wear rates
- Increased unplanned downtime

## Description

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.



## Key features

### 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

The measuring units design is an evolution of the [TKSA 51](#) alignment tool. The depth of the measuring units is much smaller, making it the smallest alignment tool on the market.

### Wide range of applications

The TKSA 71 works with a wide range of applications.

### High environmental protection

Thanks to the wireless charging, the TKSA 71 measuring units do not need a charging port. Therefore there is no opening in the housing, making the TKSA 71 a perfectly sealed measuring unit with an IP67 rating. Up to 1m in water for 30 minutes. Furthermore, both carrying cases are also IP67 rated and extremely rugged.

**Easy-to-use** with intuitive apps, guided alignment processes and explanatory videos

**Designed for professionals** with four product versions to meet different customer needs.



## Apps description

The apps are available on both iOS and Android platforms. The apps are named per function and not per product. (ex: Vertical shaft alignment). All apps are free and feature a fully functional demonstration mode that allows users to test the alignment process and app before purchasing the instrument.



### Shaft alignment

The shaft alignment app is designed for fast and intuitive alignments of horizontal shafts. Replaces the "Shaft alignment for TKSA 51" app. Compatible with TKSA 51, TKSA 71 and TKSA 71/PRO

[Click here to view Instructions for use](#)





### Soft foot

The soft foot app supports an important pre-alignment check that often prevents successful shaft alignments. The app helps the operator to identify a soft foot, choose appropriate measures to correct it.

Replaces the "Soft foot for TKSA 51" app.

Compatible with TKSA 51, TKSA 71 and TKSA 71/PRO



### Vertical shaft alignment

Used for the alignment of vertical machines. The inclinometers are disabled with this app. The user measures at the traditional 9-12-3 positions.

Compatible with TKSA 51, TKSA 71 and TKSA 71/PRO

[Click here to view Instructions for use](#)



### Spacer shaft alignment

A spacer shaft is an extra shaft between two machines. In this configuration, there will be two couplings. The measurements are the same as the horizontal alignment app. Instead of offset and angular misalignments we have two angular misalignments for spacer shafts.

Compatible with TKSA 71 and TKSA 71/PRO



### Machine train shaft alignment

This Machine train alignment app helps the user align three machines in a row. The principles are simple. First measure between machines 1 and 2. Second, measure between machines 2 and 3. Then lock two pairs of feet on any of the three machines, even if the two pairs are on different machines. The app makes all the calculations for you. Then correct and remeasure. Machine train alignment is a long process which is clearly simplified by using this app.

Compatible with TKSA 71 and TKSA 71/PRO

[Click here to view Instructions for use](#)



### Values

The values app can be used to record multiple readings of the measuring units or visualize the readings like on dial gauges.

Compatible with TKSA 71 and TKSA 71/PRO



TKSA 71D



TKSA 71D/PRO



Trolley case

## Frequently asked questions

Which other hardware can be used with the apps?

The Soft foot, Horizontal and Vertical shaft alignment apps are also compatible with the TKSA 51.

Why should I choose the PRO version of the TKSA 71?

- I want to be always ready with an all-in-one solution in one case.
- I might need the extra accessories for my jobs.
- I need extra space in the case to store other tools.
- I prefer the IP 67 trolley case, it's easy to move around.

Should I get the [TKSA DISPLAY](#) or an iPad?

All Apple and most Android devices will do a good job with the apps. We give the choice to the customer to use his own device or buy the SKP [TKSA DISPLAY](#).

What are TKSA 71D and TKSA 71D/PRO?

These are virtual kits in EDC:

TKSA 71D = TKSA 71 + TKSA DISPLAY

TKSA 71D/PRO = TKSA 71/PRO + TKSA DISPLAY

This means the display is delivered together with the shaft alignment tool.

The display can also be purchased separately under the designation [TKSA DISPLAY](#). The D models are virtual kits assembled together at EDC, which means, EDC takes the two products and bundle them together. The “D” models stock is always kept at a low level but EDC can create new virtual kits very quickly as long as there is stock of the base products.

What are the case models?

The cases are sourced from B&W, they are all rated IP67.  
 The TKSA 71 case is the [outdoor 3000](#) model.  
 The TKSA 71/PRO case is the [outdoor 6700](#) model.  
 The cases are certified with the STANAG 4280, DEF STAN 81-41 and ATA 300 standards.  
[Case IP 67 test](#)  
[Case DEF-STAN test](#)  
[Case ATA-300 test \(German\)](#)  
  
 Third party [Drop test video \(low quality\)](#)

Technical data		
Designation	TKSA 71	TKSA 71/PRO
<b>Measuring Units (MU)</b>		
Sensors & communication	20 mm (0.8 in) 2nd gen. PSD with line laser Class 2 Inclinometer ±0.1°; Bluetooth 4.0 LE	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 m to 10 m (0.13 ft to 32.8 ft)	0.04 m to 10 m (0.13 ft to 32.8 ft)
Measuring errors	<1% +/- 10 µm	<1% +/- 10 µm
Housing material	Anodized Aluminum front and PC/ABS plastic back cover	Anodized Aluminum front and PC/ABS plastic back cover
Operating time	~8 hours, Rechargeable Li-ion battery, Wireless charging 10 min. charging for 1h usage	~8 hours, Rechargeable Li-ion battery, Wireless charging 10 min. charging for 1h usage
Dimensions	52 x 64 x 33 mm (2.1 x 2.5 x 1.3 in)	52 x 64 x 33 mm (2.1 x 2.5 x 1.3 in)
Weight	130 g (0.3 lbs)	130 g (0.3 lbs)
<b>Operating device</b>		
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)	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 AppStore or on Google Play Store	Apple AppStore or on Google Play Store
Operating system requirements	Apple iOS 9 or Android OS 4.4.2 (and above)	Apple iOS 9 or Android OS 4.4.2 (and above)
<b>Complete System</b>		
Alignment method	Alignment of horizontal and vertical shafts, 3 position measurement 9–12–3, automatic measurement, free measurement (with min. 40° rotation), soft foot, machine trains, values, spacer shafts	Alignment of horizontal and vertical shafts, 3 position measurement 9–12–3, automatic measurement, free measurement (with min. 40° rotation), soft foot, machine trains, values, spacer shafts
Live correction values	Vertical and horizontal	Vertical and horizontal
Extra features	Target values, Screen flip (plus portrait on tablets) Automatic .pdf report	Target values, Screen flip (plus portrait on tablets) Automatic .pdf report
Fixture	2x V-brackets with chains, width 15 mm (0.6 in)	2x V-brackets with chains, width 15 mm (0.6 in)
Shaft diameters	20 to 150 mm diameter (0.8 to 5.9 in) (450 mm (17.7 in) with extension chains supplied)	20 to 150 mm diameter (0.8 to 5.9 in) (450 mm (17.7 in) with extension chains supplied)
Max. recom. coupling height*	45 mm (1.8 in) with standard rods plus 120 mm (4.7 in) per set of extension rods	45 mm (1.8 in) with standard rods plus 120 mm (4.7 in) per set of extension rods
Power adapter	Wireless charging via supplied charging pads Micro USB to USB split charging cable supplied Compatible with 5V USB chargers (not included)	Wireless charging via supplied charging pads Micro USB to USB split charging cable supplied Compatible with 5V USB chargers (not included)
Operating temperature	0 °C to +45 °C (32 to 113 °F)	0 °C to +45 °C (32 to 113 °F)

IP rating	IP67	IP67
Carrying case dimensions	365 x 295 x 170 mm (14.4 x 11.6 x 6.7 in)	610 x 430 x 265 mm (24 x 16.9 x 10.4 in)
Total weight (incl. case)	3.9 kg (8.6 lbs)	12.5 kg (27.6 lbs)
Calibration certificate	Supplied with 2 years validity	Supplied with 2 years validity
Case content	2x TKSA 71 Measuring Units	2x TKSA 71 Measuring Units
	2x Shaft brackets with chains and magnets	2x Shaft brackets with chains and magnets
	4x Extension rods 120 mm	8x Extension rods 120 mm
	2x Extension chains of 1 m for shaft up to 450 mm diam.	2x Magnetic Base
	1x Micro USB to USB split charging cable	2x Magnetic sliding brackets
	2x Wireless charging pads	2x Offset brackets
	1x 5m metric and imperial measuring tape	2x Extension chains of 1 m for shaft up to 450 mm diam.
	1x Certificate of calibration and conformance	2x Wireless charging pads
	1x Quick start guide (English)	1x Micro USB to USB split charging cable
	1x Industrial rugged trolley carrying case IP67	1x 5m metric and imperial measuring tape
		1x Certificate of calibration and conformance
		1x Quick start guide (English)
		1x Industrial rugged trolley carrying case IP67

### Accessories

Designation	Description
<b>TKSA 51-SPDBK</b>	1 × Spindle bracket, supplied with 2 × threaded rods of 80 mm (3.2 in.)
<b>TKSA 51-SLDBK *</b>	1 × Adjustable sliding bracket for use with shaft diameters >30 mm (1.2 in.) or bore diameters >120 mm (4.7 in.), supplied without rods
<b>TKSA 51-EXT50 *</b>	1 × Offset bracket 50 mm (2 in.), supplied with 2 × rods 80 mm (3.2 in.)
<b>TKSA MAGBASE *</b>	2 × Magnetic bases
<b>TKSA DISPLAY **</b>	1x Industrial display device (Android tablet with protective cover and pre-installed apps)
<b>TKSA 71/ACCESS ***</b>	Upgrade accessories in trolley cases containing 2x offset brackets 50 mm (2 in.), 2x adjustable sliding brackets, 2x magnetic bases and 4x threaded rods of 120mm (4.7 in.)
*	= included in TKSA 71/PRO and TKSA 71D/PRO
**	= included in TKSA 71D and TKSA 71D/PRO
***	= To upgrade TKSA 71 / TKSA 71/PRO to TKSA 71D / TKSA 71D/PRO

### Spare parts

Designation	Description
<b>TKSA 71-M</b>	1x TKSA 71 M Measuring Unit (incl. Calib. Certif.)
<b>TKSA 71-S</b>	1x TKSA 71 S Measuring Unit (incl. Calib. Certif.)
<b>TKSA 51-VBK</b>	1x Standard chain bracket incl. 80 mm (3.2 in) threaded rods & 1x standard chain 480 mm, incl. 4x magnets
<b>TKSA 51-EXTCH</b>	2x Extension chains of 1 m (3.3 ft) for shaft up to 450 mm (17.7 ft) diam.
<b>TKSA 51-ROD120</b>	4x threaded 120 mm (4.7 in) extension rods
<b>TKSA 51-ROD80</b>	4x threaded 80 mm (3.2 in) extension rods
<b>TKSA 51-SLDBK *</b>	1x Sliding adjustable bracket (no rods) for use with shaft >30 mm or bore >120 mm
<b>TKSA 51-EXT50 *</b>	1x 50mm (2 in) offset bracket with 2x rods 80 mm (3.2 in)
<b>TKSA DISPLAY **</b>	1x Industrial display device (Android tablet with protective cover and pre-installed apps)
<b>TKSA MAGBASE *</b>	2 × Magnetic bases
<b>TKSA 71-WPODS</b>	2x Wireless charging pods for TKSA 71 and 71/PRO incl. split USB cable

\* = included in TKSA 71/PRO and TKSA 71D/PRO

\*\* = included in TKSA 71D and TKSA 71D/PRO

## Technical support

This SKF Shaft Alignment Tool is supported by the Technical Support Group (TSG).

All technical support for TMEA and TKSA alignment products can be obtained from the TSG, including

- Technical questions
- Repair requests
- Warranty claims

Please visit the [SKF Technical Support Self-Help Portal](#).

For calibration and re-calibration please contact your local SKF Alignment service centre or the TSG.

Contact details and more information about calibration can be found [here](#).

See [this page](#) for more information about technical support.



Quick start guide

Instructions for use