

**FLUKE®**

# Laser Alignment Tool

*Fluke 832*

o **Users Manual**

# Fluke 832

**On-board help**

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## Introduction






This on-board help provides information to support users of the Product.

### How to use the on-board help

The on-board help is accessed through the home screen. Tap  (**Home** icon) then the question mark icon . The on-board help is shown.

Tap the question mark icon  shown on the screen to open the related context sensitive help.



- (1) Tap  to return to the start screen.
- (2) Tap  to go back.
- (3) Tap  to go to the opening page of this on-board help.
- (4) Tap  to go forward.
- (5) Tap  to search for text in the on-board help. A search field together with an onscreen keyboard appears.
- (6) Throughout this on-board help, image thumbnails have been used. Tap the image thumbnail to enlarge the image. To zoom out and proceed, tap the enlarged image.
- (7) The navigation pane hide arrow is used to hide the navigation menu items. Tap the

arrow to hide or show the navigation menu items.

- **(8)** This screen-specific help icon is used to access the context sensitive help.



**Note**

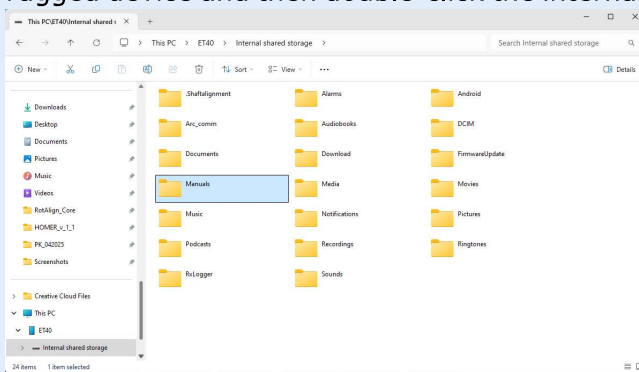
It is recommended to scroll to the bottom of the page to be able to access other related topics which are frequently used throughout the on-board help.

## Documentation




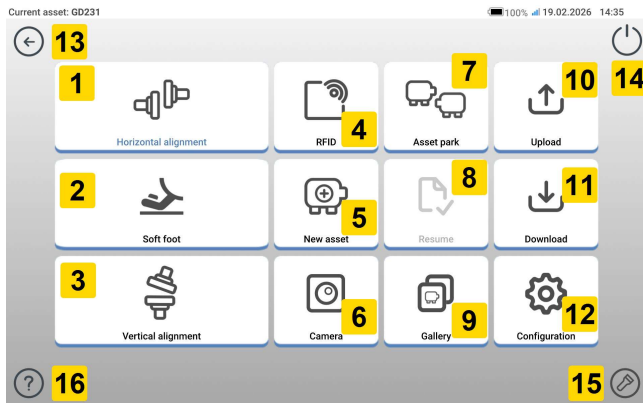
**Note**

This on-board help and other relevant and related customer documents are saved as PDF files in the folder **Manuals** within the rugged device. To access this folder, the rugged device is connected to a Windows PC. Allow the Windows PC to access the rugged device and then double-click the internal storage to access the required folder.



## Home screen

Switch the device on to show the home screen. Alternatively, tap  when in the application to show the home screen.



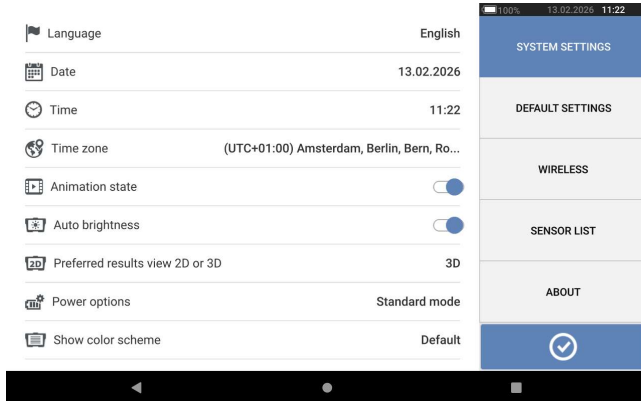
Tap the related icon to open related function:

- **1 Horizontal alignment** icon is used to access the horizontal alignment application.
- **2 Soft foot** icon is used to access soft foot measurement.
- **3 Vertical alignment** icon is used to access the vertical alignment application. If this icon is off, tap **New asset** icon (**5**) to start the vertical alignment icon.
- **4 RFID** icon is used to open assets assigned to related RFID tags.
- **5 New asset** icon is used to start a new asset (this may be a pump-motor combination).
- **6 Camera** icon is used to access the built-in camera.
- **7 Asset park** icon is used to show all saved assets and templates.
- **8 Resume** icon is used to resume last asset opened (provided it was saved) when the device is switched on.
- **9 Gallery** icon is used to show all images taken within the alignment applications.
- **10 Upload** icon is used to save asset measurements in the Cloud drive.
- **11 Download** icon is used to open asset measurements from the Cloud drive.
- **12 Configuration** icon is used to configure the alignment application settings (which include language, date, time, default settings), and access its built-in mobile connectivity. Mobile connectivity lets the device access the Cloud functionality, which lets files be shared wireless.
- **13 Back** icon is used to return to previous screen.
- **14 Power-off** icon is used to put the rugged device to sleep mode.
- **15 Flashlight** icon is used to turn the rugged device LED flash on/off.
- **16 Help** icon is used to show the on-board help file.

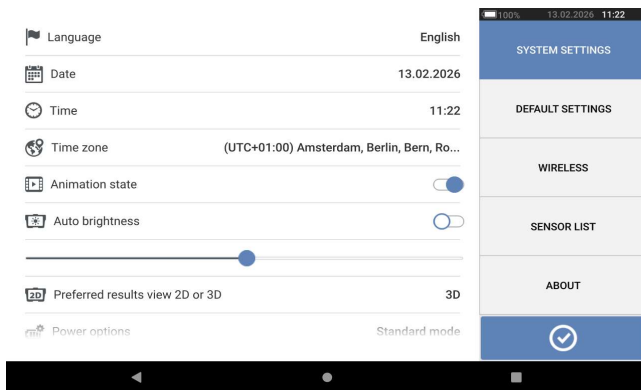
## Configuration

From the home screen, tap  the configuration icon to access these configuration items:

- **System settings** sets these items:



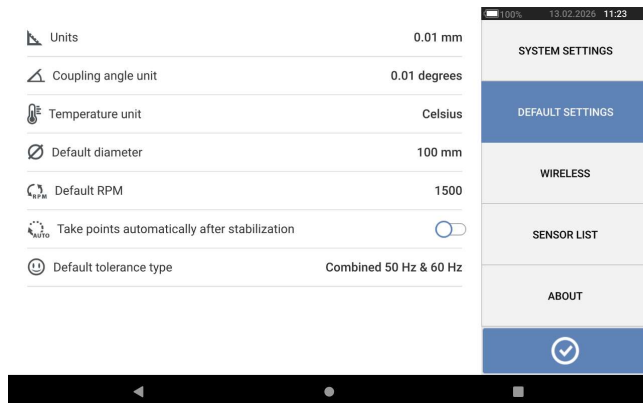
- > Language (system language); > Date; > Time; > Time zone;
- > Animation state — regulates the transition between the dimension, measure and results screens. Two options are available – fast and standard. If **Animation state** is on, the transition between screens is set to standard and therefore noticeable. If off, the transition is fast.
- > Auto brightness – adjusts the display brightness of the touch device. If **Auto brightness** is on, the display brightness adjusts automatically. If off, then the display brightness may be manually adjusted by dragging the brightness slider to the left or right. For open applications, the device brightness is controlled in display settings.



- > Preferred results view 2D or 3D
- > Power options – used to manage the power usage in the touch device. The four power modes available are: **Standard** (the display dims after 10 minutes and goes to sleep mode after 20 minutes), **Maximum** (no dimming and no sleep mode), **Presentation** (the display dims after 1 hour, but never enters the sleep mode) and **Minimum** (the display dims after 3 minutes and goes to sleep mode after 5 minutes). To get out of the sleep mode, press the power key. For open applications, the screen timeout is controlled in display settings.
- > Show color scheme – used to set display appearance either light or dark. Use the pop-up menu and select necessary appearance.

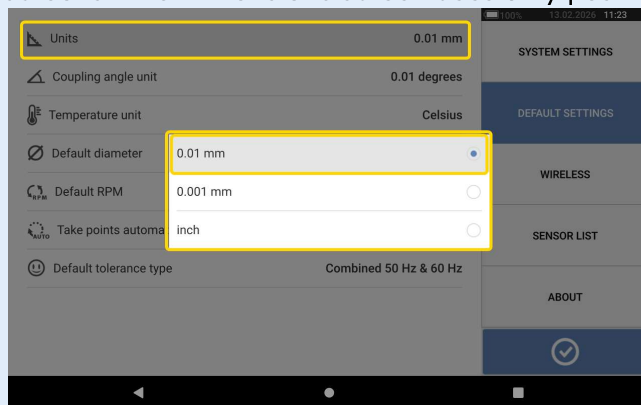
- **Default settings** are used to set units of length, angle and temperature; the default diameter may be set here. It is also used to activate or deactivate the automatic start of IntelliSweep / Sweep as well as automatic collection of measurements after stabilization, especially in point measurement modes. The type of tolerance to be used may

also be set here.



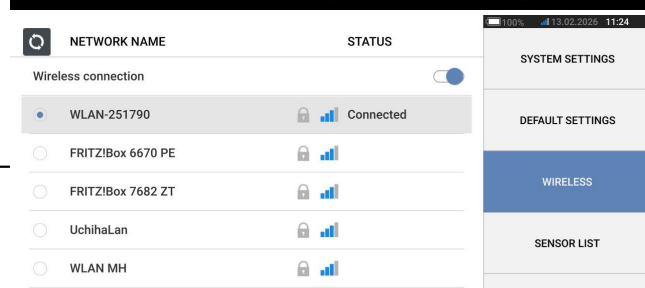
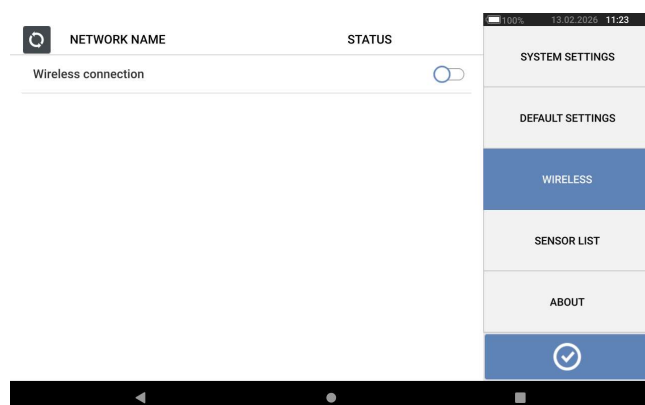
**Note**

When metric units are used, the resolution of physical quantities used in the device may be set to two (0.01 mm) or three (0.001 mm) decimal places. This measurement precision is available in Measurement, Results and Live Move screens. The Dimensions screen uses only positive integers.



The set time zone is coupled to the default RPM unless the default RPM is edited independently. If the time zone is set, for example, as Central America, the default RPM is 1800. If it is set as London, the default RPM is 1500.

- When activated, **Wireless connection** is used to connect the rugged device to available WiFi networks.

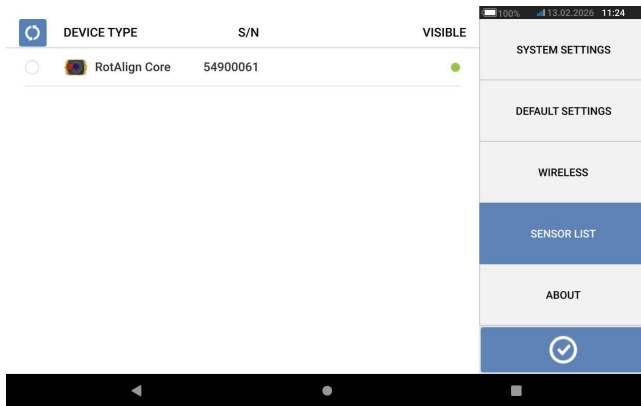




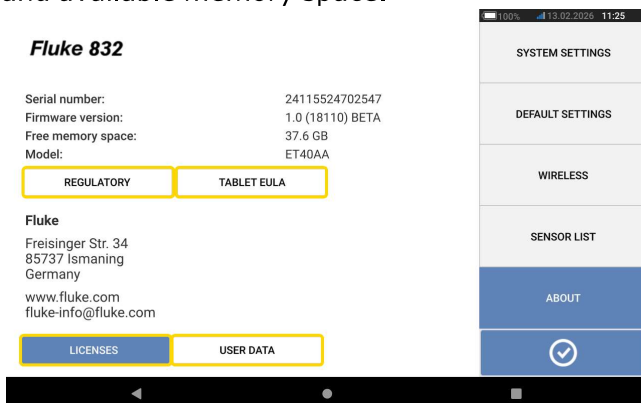
**Note**

The rugged tablet may be connected only to WiFi networks that do not open separate web browsers to login.

- **Sensor list** shows all available sensors.



- The **About** screen shows the device serial number, firmware version of the application and available memory space.



Tap **LICENSES** to see applicable GNU General Public License information.

Tap **REGULATORY** to see device regulatory markings for approved country radio certificates.

Tap **TABLET EULA** to see the device end user license agreement.

Tap **FACTORY RESET** to restore the device to its factory settings. If confirmed, all application data will be deleted, and a new PIN login must be created.

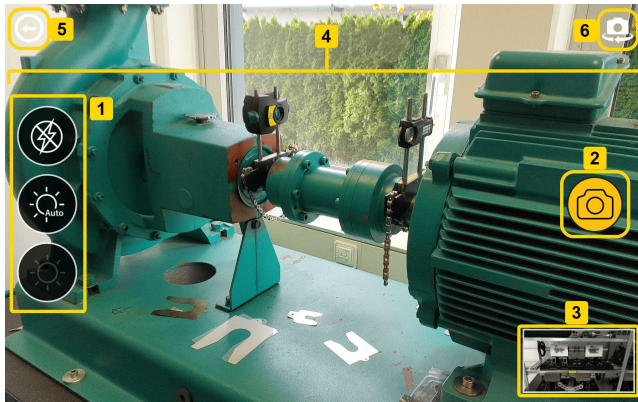
**Product features**

The Product features are:




Soft foot, Live Move (V or H), 8-point Active Clock, Static feet, Multiple feet, Quality factor, Standard deviation, Short flexible couplings, Suggested and user-defined tolerances, Spacer coupling, Thermal growth, Targets, Vertical Alignment

## Built-in camera

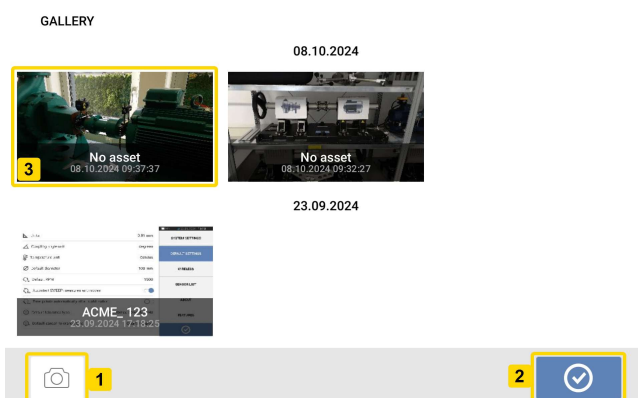
From the home screen, tap  to start the camera function.




Focus the device on the object to be photographed. The object is displayed on the screen.


- **(1)** Camera settings for indoor, outdoor and night imaging, plus automatic light setting – Tap necessary light setting icon (Flash may be turned on/off; Auto mode is for automatic light setting).
- **(2)** Tap  to take a photo of the object focused on the display.
- **(3)** Tap this location to access the device gallery. All images taken with the device are saved in this location.
- **(4)** Object to be photographed
- **(5)** Tap  to return to home screen.
- **(6)** Tap  to switch between the front- and rear-facing cameras.

## Gallery



To view all images saved in the gallery, touch then drag up or down. All images are displayed as miniatures.


- **(1)** Tap  to go back to the image settings screen where objects may be photographed.

- **(2)** Tap  to go to the home screen.
- **(3)** Tap any miniature to view the image in full scale.

To delete an image from the gallery, tap the necessary image. The image appears in full scale. Tap the trash icon **(1)** to delete the image from the gallery.



Use the arrow icons **2/3** to scroll the images in the gallery.

Tap  **(4)** to go to the gallery home screen.

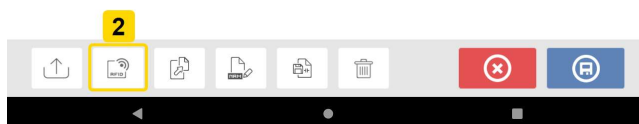
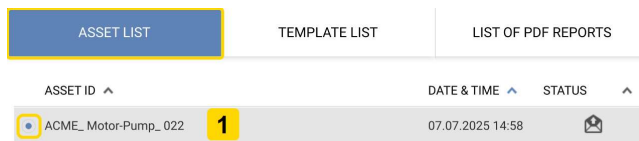
## RFID

The rugged device uses this automatic identification technology to perform these:

- Identify assets to be aligned
- Enter related assets directly into the device
- Store data and results under the correct asset automatically

### Assign a saved asset to an RFID tag

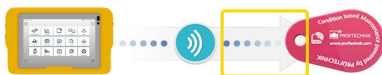
From the home screen, tap   to show assets saved.



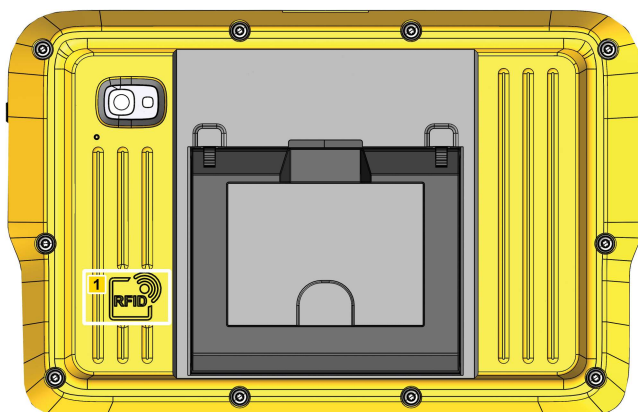
Tap the asset (**1**) that is to be assigned to the RFID tag, then tap the RFID icon (**2**).



Place device near RFID tag and wait until data is written on the RFID tag.

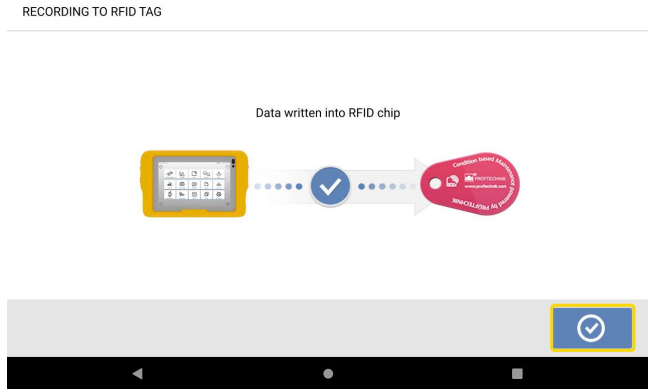



Position the rugged device such that its built-in NFC antenna is as close to the RFID tag as possible (less than a centimeter).




- **(1)** Near Field Communication (NFC) antenna symbol

As soon as data has been written on the RFID tag, the related hint is shown on the screen.




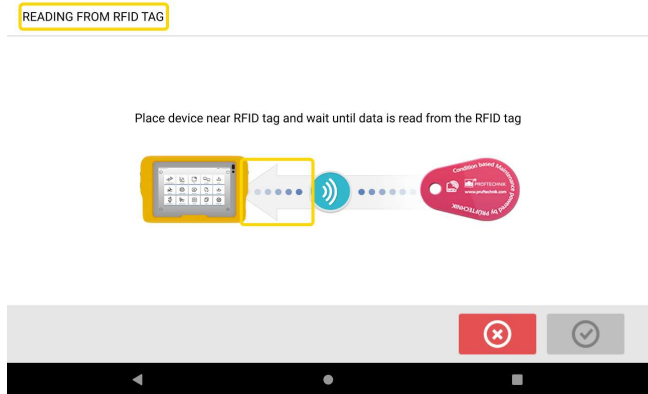
Tap  to exit the screen.



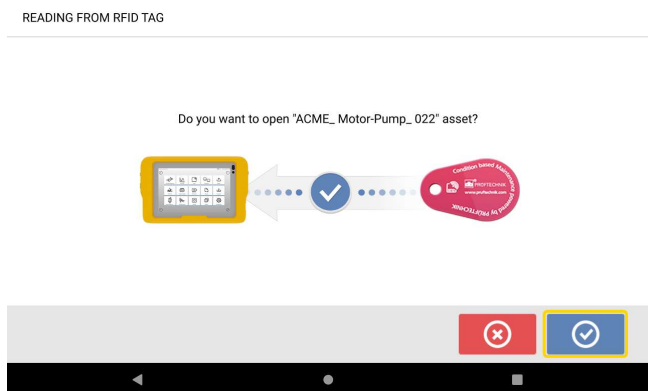
**Note**  
If however, data had already been assigned to the RFID tag, a hint to request data to be overwritten is shown.


### Open an asset measurement assigned to an RFID tag

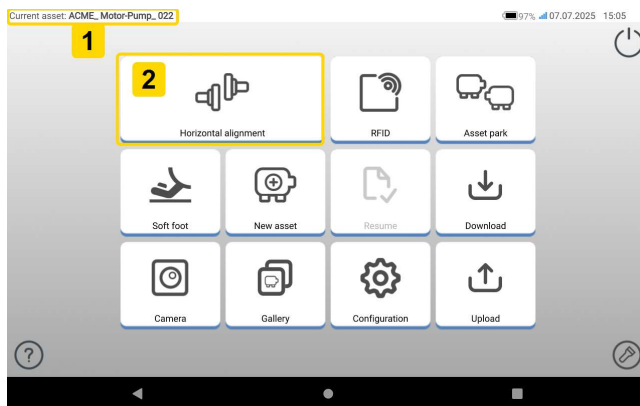
From the home screen, tap .



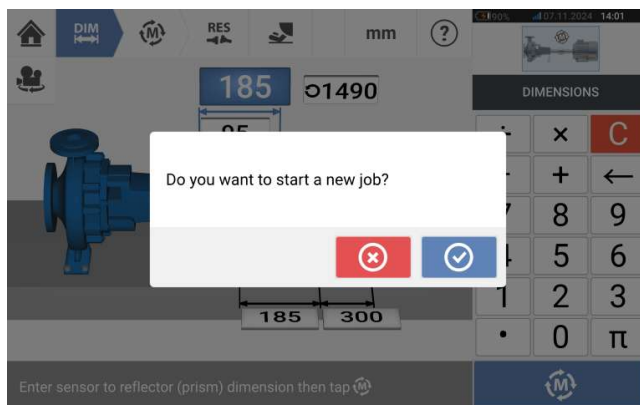
Position the rugged device such that its built-in NFC antenna is as close to the RFID tag as possible (less than a centimeter).



Tap  to open the asset measurement.



The asset name (1) is shown on the home screen. Tap the shaft alignment icon (2) to start the application.



#### Note

If however, no data had been written on the RFID tag, a hint on missing information is shown.

## Using Cloud drive

To set up the PRÜFTECHNIK Cloud drive, an ALIGNMENT RELIABILITY CENTER 4.0 (ARC 4.0) licence is required. The Cloud drive allows the sharing of up-to-date asset measurements from different devices via the PC software ARC 4.0.



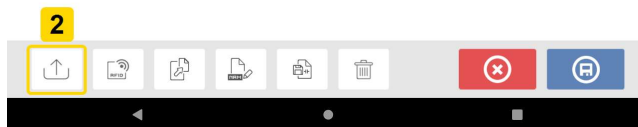
### Note

Wireless connection between the rugged device and a network must be established to enable assets to be transferred via ARC 4.0.

## Transfer an asset to the Cloud drive

After finalizing a measurement save the asset (1) then upload it to Cloud drive.

ASSET LIST	TEMPLATE LIST	LIST OF PDF REPORTS
ASSET ID ^	DATE & TIME ^	STATUS ^
<input type="radio"/> Drainage Pump 223D	11.07.2025 15:14	
<input type="radio"/> Xx22	07.07.2025 15:11	
<input checked="" type="radio"/> ACME_Motor-Pump_022	07.07.2025 14:58	

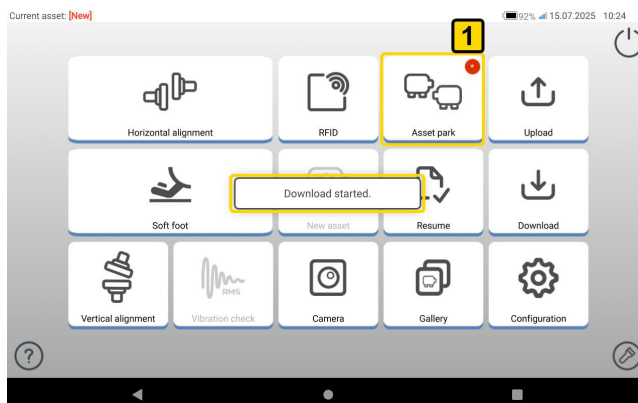


Tap the **Upload** icon (2). The asset appears in ARC 4.0 **Exchange** view with the status **complete**. Drag and drop the asset in its appropriate location on the Cloud drive.

## Download an asset from Cloud drive

From the ARC 4.0 **Exchange** view, drag and drop the desired asset into the Name pane. The asset appears with the status **ready**.

From the touch device home screen, tap the **Download** icon . The selected asset appears in the asset park (1).



Tap the **Asset park** icon to open the asset in the rugged device.

## Components

The main measuring components for shaft alignment are the rugged device, the sensor and the laser.

### Rugged device

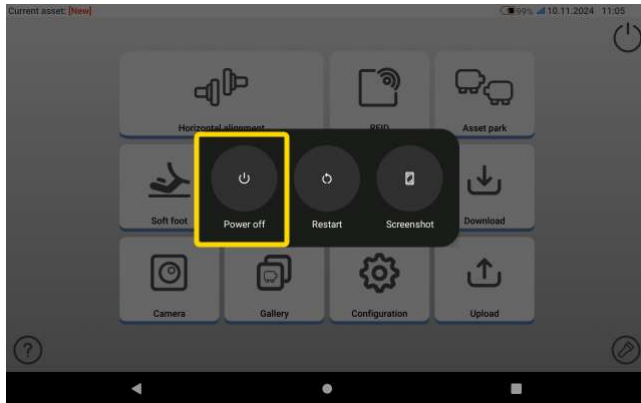


- **1** Power button – used to switch the rugged device on. Press and hold down the power key until the device turns on.
- **2** Ambient light sensor
- **3** Front camera
- **4** USB type C multipurpose connector – used to charge the rugged device or connect the tablet to auxiliary equipment such as a PC
- **5** Rear camera LED flash
- **6** Rear camera


- **7** Location of Near Field Communication (NFC) antenna
- **8** Foldable stand – used to hang device from a railing or lay it down in perfect viewing position
- **9** Protective bumper

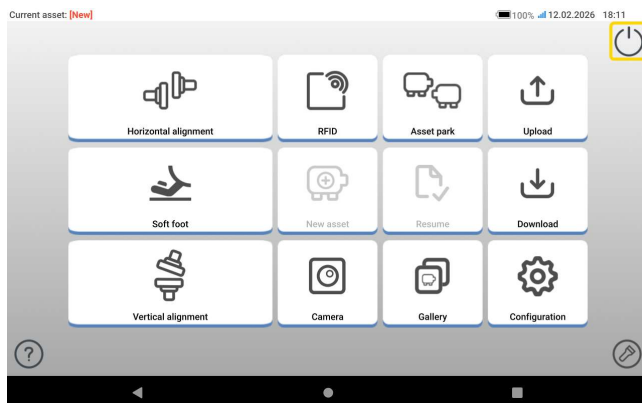
Press and hold down the power button (**1**) to switch the device on. Tap and swipe the touch screen to operate the rugged device.

Press and hold down the power button (**1**). These hints are shown on the screen.

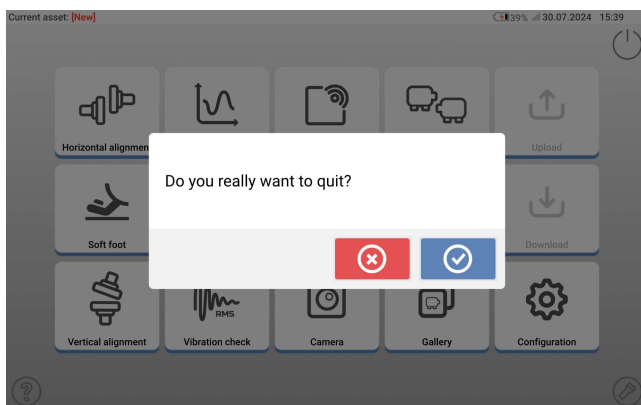



Tap the **Power off** icon to switch the rugged device off.

To exit the Shaft Alignment application, and switch the device to sleep mode, tap the power off icon (  ] shown on the home screen.



A hint that requires confirmation before the device goes to sleep mode is shown.



Tap  to confirm selection.

## Device interface

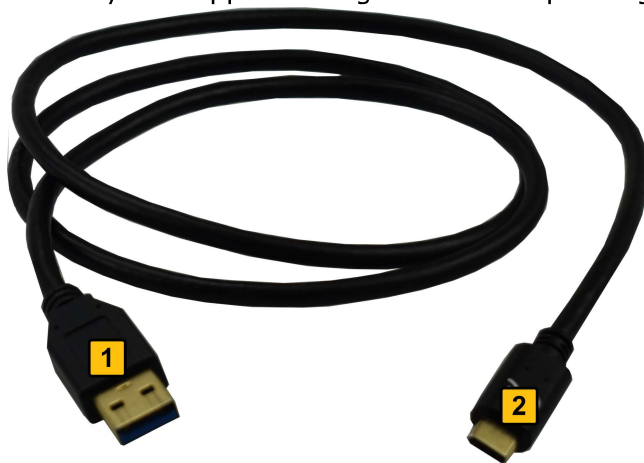


The rugged device's multipurpose connector (**4**) is used to charge the device and connect it to a PC. When connected to a PC, data may be transferred from the tablet or a device firmware update may be performed.

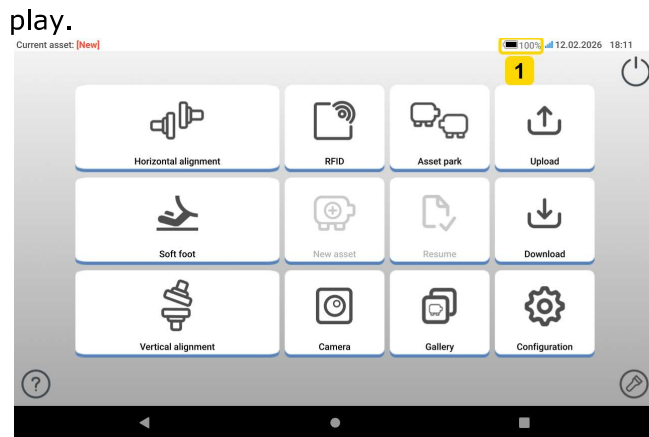
## Charge the battery

Charge the battery before using the rugged device for the first time or when the tablet has been unused for extended periods.

Use only the supplied charger and corresponding USB C to USB A cable.



- Connect the standard USB A end (**1**) to the supplied USB charger.
  - Plug the USB C end (**2**) to the rugged device's multipurpose connector.
  - Connect the USB charger to mains supply.
  - When fully charged, disconnect the charger from the rugged device, and then unplug the charger from the mains supply.
- The charge capacity is shown by the power icon (**1**) on the top right corner of the dis-



## Core components

### Core laser

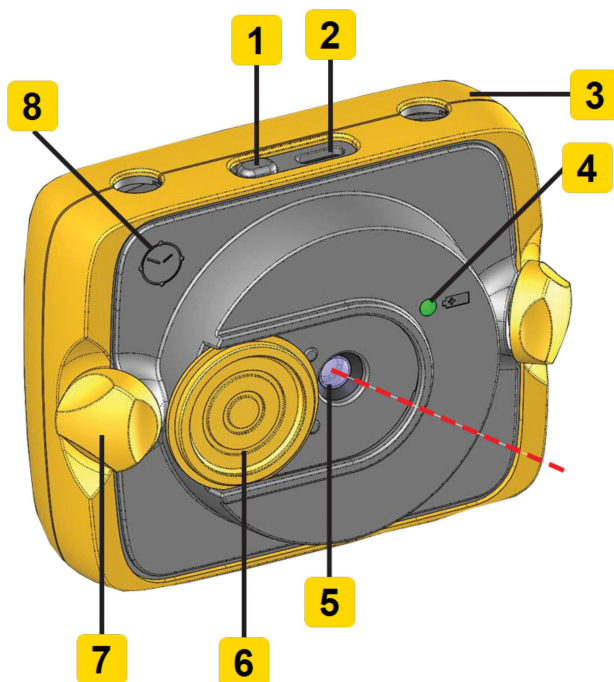
The semiconductor laser diode emits a ray of red light (wavelength 630 – 640 nm) which is visible where it strikes a surface. The Class 2 laser beam is emitted with a diameter of approx. 5 mm (3/16").

Press and hold the On/Off switch briefly to turn the laser on. The battery status LED lights red.



#### WARNING

With the laser on, DO NOT stare into the laser beam!



**1:** On/Off push button switch; **2:** USB C port; **3:** Rubber housing; **4:** Battery capacity LED; **5:** Laser emission aperture; **6:** Sliding laser dust cap in open position; **7:** Locking knob; **8:** Reference clock face

The laser beam is fixed. At setup, the laser unit can be moved vertically on the support posts and finely rotated on the shaft to ensure perpendicular incidence on the sensor lens.

The laser is water and dust resistant (IP 65). The internal optics and electronics are internally sealed, preventing possible contamination.

The battery status, rotational angle, temperature, and serial number of the laser unit are transmitted through the laser beam to the sensor. This information is then relayed to the rugged device.

The laser unit is powered by a 3.7 V, 4.7 Wh lithium-ion rechargeable battery, which is attached to the laser unit and must be charged using only the supplied charger/adaptor.



**CAUTION**

As the battery becomes depleted, the color of the battery status LED changes from green (full) to yellow (half full) to red (empty).  
Make sure the laser unit is fully charged before you start an alignment job. If the laser unit is not in use for a long time, store it in a cool, dry, and well-ventilated area.



**CAUTION**

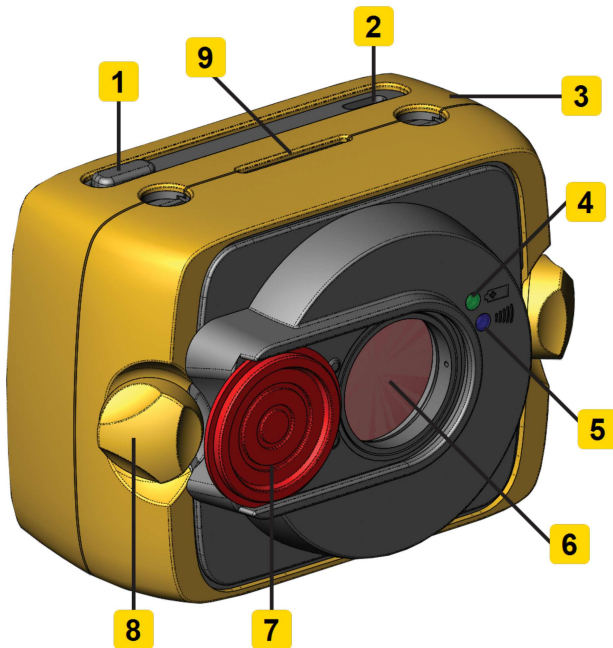
Do not remove the housing hex head screws under any circumstances. This action will void all warranty coverage.

**Core sensor**

The sensor has built-in Bluetooth. It contains two position detectors that measure the exact position of the laser beam as the shafts rotate. The sensor also has an electronic inclinometer to measure shaft rotation.

Two indicator LEDs are on the front of the sensor. The upper LED shows laser beam adjustment and charging status. It lights red, orange, or green depending on the current function. The lower LED shows Bluetooth communication status. It lights blue when scanning and when communication is established.

The sensor is powered by an internal 3.7 V, 4.7 Wh lithium-ion rechargeable battery.



**1:** On/Off push button switch; **2:** USB C port; **3:** Rubber housing; **4:** Laser beam adjustment and charging LED; **5:** Bluetooth communication LED; **6:** Scratch-resistant lens; **7:** Sensor dust cap in open position; **8:** Locking knob; **9:** Distance marking

## Sensor LEDs

Activity	Laser beam adjustment and charging LED	Bluetooth communication LED
Switch on	Lights up red for 1 second, then red or green (depending on the battery capacity) for another second, then continues to blink red	Lights up blue for 1 second then turns off
Laser beam adjustment	Blinks red when laser is OFF Blinks orange when laser is in END position Blinks green when laser centered or in 'laser OK' position	Blinks blue when scanning and when Bluetooth communication is established
Charging	Blinks fast green during fast charge (0% - 90%) Blinks slowly green when charge is > 90% Lights steady green when charge is 100%	

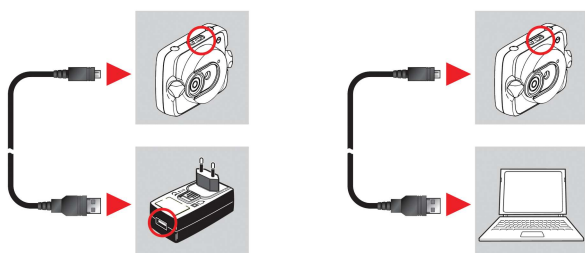
## Charge sensor and/or laser

The sensor and/or laser can be charged via the mains supply or a PC.

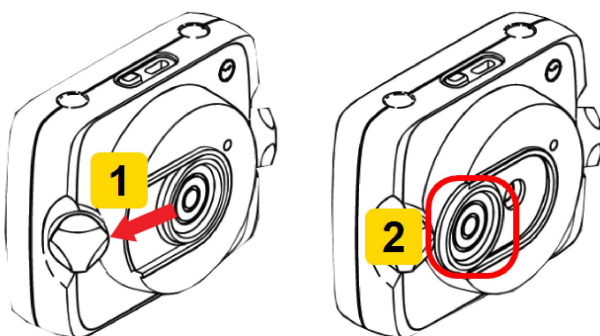


### Note

Charging via the mains supply is faster.



## Open the sensor/laser aperture



- **(1)** Slide the dust cap in the direction shown by the bold red arrow.
- **(2)** Dust cap in its open position highlighted in red.



## Mounting components

### Mount brackets



#### Note

The Product is delivered with fully assembled brackets with both the sensor and the laser already assembled. In this case, the bracket holding the laser is mounted on the shaft on the left side of the couplings or the solid coupling hub on the left side (usually stationary machine). The bracket assembly holding the sensor is mounted on the shaft on the right side of the couplings or the solid coupling hub on the right side (usually moveable machine).

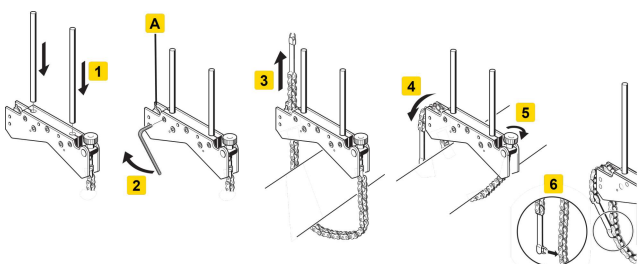
Mount the brackets on either side of the coupling on either the shafts or on the solid coupling hubs, and both at the same rotational position.

To get the highest possible measurement accuracy, and to avoid damage to equipment, obey these instructions:



#### CAUTION

Ensure that the brackets fit solidly onto their mounting surfaces! Do not use self-constructed mounting brackets, or modify the original bracket configuration supplied by Fluke (for example, do not use support posts longer than those supplied with the bracket).



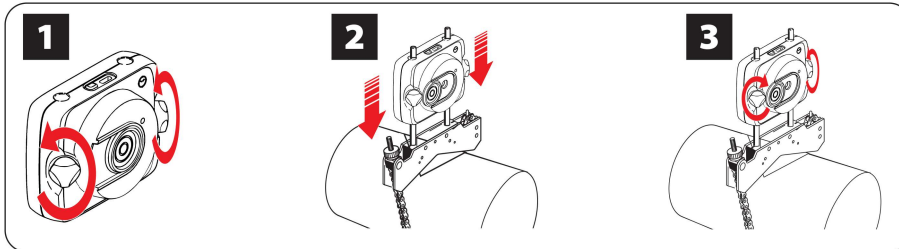
- Choose the shortest support posts which will still allow the laser beam to pass over or through the coupling. Insert the support posts into the bracket..
- Fasten them in place by tightening the hex screws on the sides of the bracket frame.
- Place the bracket on the shaft or coupling, wrap the chain around the shaft and feed it through the other side of the bracket: if the shaft is smaller than the width of the bracket frame, insert the chain from the inside of the bracket as shown in the diagram; if the shaft is larger than the bracket width, insert the chain into the frame from the outside.
- Catch the chain loosely on the anchor peg (**A**).
- Turn the bracket thumbscrew to tighten the assembly onto the shaft.
- Clip the loose end of the chain back onto itself.

The bracket should now be tight upon the shaft. Do not push or pull on the bracket to check, since this could loosen its mounting.

To remove the brackets, loosen the thumbscrew, then remove the chain from its anchor peg.

## Mount sensor and laser

Mount the sensor on the support posts of the bracket fixed on the shaft of the right machine (usually moveable machine), and the laser on the support posts of the bracket fixed on the shaft of the left machine (usually reference machine) – as viewed from normal working position. Before mounting both sensor and laser, make sure these are done:



The yellow locking knobs should be loose enough (**1**) to allow the sensor slide onto the support posts (**2**).

Fix both sensor and laser onto their respective support posts. Tighten the yellow locking knobs (**3**).

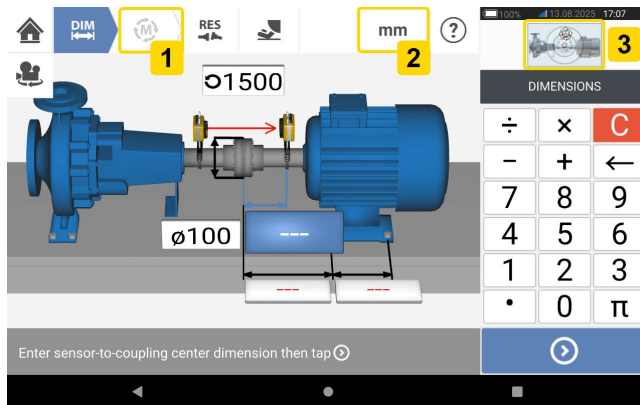
Ensure that the laser can pass over or through the coupling and is not blocked.

Both sensor and laser should be at the same height, as low as possible, yet just high enough for the beam to clear the coupling flange. They should also visually appear to be rotationally aligned to each other.


Make the final adjustments; loosen the brackets slightly if necessary, then rotate them and tighten them again.

## Dimensions

From the home screen, tap  the horizontal alignment icon to access the dimensions screen.




- **(1)** Grayed out icons are disabled within the active screen. The **Measure** icon is enabled after all dimensions have been entered.
- **(2)** Tap the measurement units icon **mm** to set necessary units. The icon toggles between **inch** and **mm**.
- **(3)** Tap the slider on the mini train icon to open the triple **Train Manager / Train Setup / Train Fixation** screen.  
**Note:** See section on train setup and fixation for details. Train Manager is described in machine train alignment.

Tap the dimension fields and enter all required dimensions. Alternatively, tap  to proceed to enter next dimension. Dimensions are entered only when the dimension field is highlighted blue.



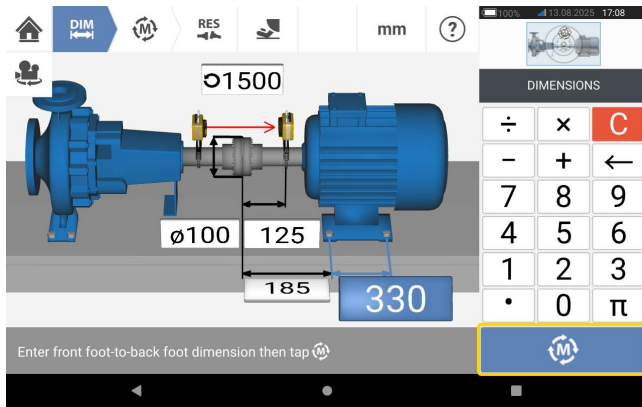
### Note


If units are set to Imperial system, inch fractions may be entered as follows: For  $\frac{1}{8}$ " enter  $1/8 = 0.125$ "; For  $10 \frac{3}{8}$ " enter  $10 + 3/8 = 10.375$ ".  
 The coupling diameter value may be determined by entering the measured circumference of the coupling and dividing the value by  $\pi$  (pi) ( $= 3.142$ ). For example  $33"/\pi = 10.5$ "; Or  $330 \text{ mm}/\pi = 105 \text{ mm}$

The rotate machine view icon  is used to rotate the view of the machines and mounted components on the display.

Machine and coupling properties are edited when the related machine or coupling is tapped.

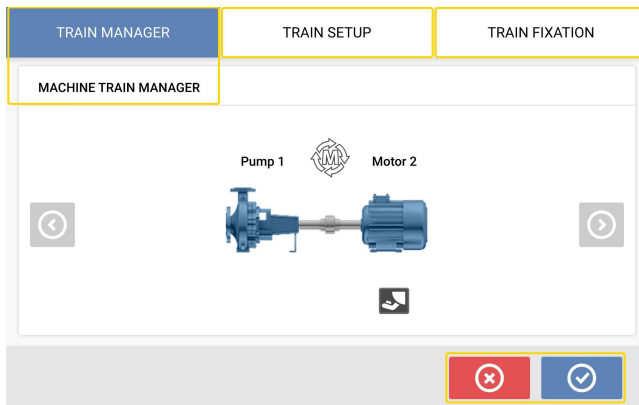
When all required dimensions have been entered, the **Measure** icon  is shown.



Tap  to proceed with measurement.

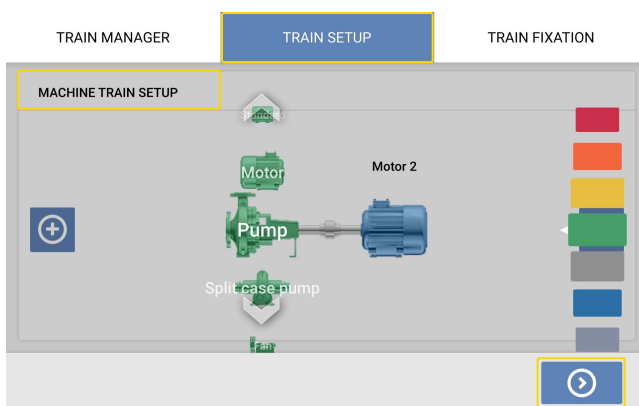
### Train setup and fixation


The mini train icon with slider is available in the dimensions, measure and results screens. Tap the slider to open the triple **Train Manager / Train Setup / Train Fixation** screen.




Tap either **TRAIN SETUP** or **TRAIN FIXATION** to open related screen. Alternatively, tap either  or  to return to previous screen.

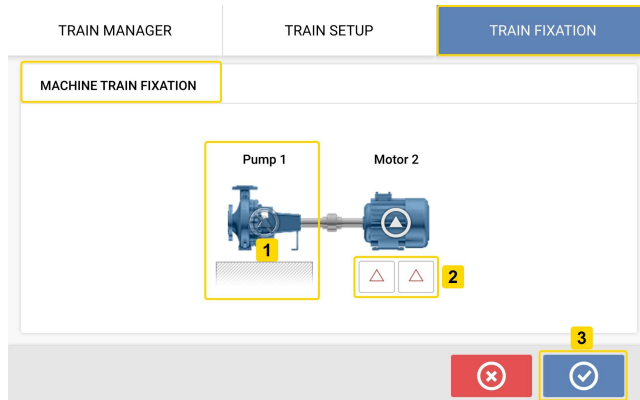
If **TRAIN SETUP** is selected, the machine train setup screen can be used to select necessary machine and coupling types. Machinery color can also be selected.




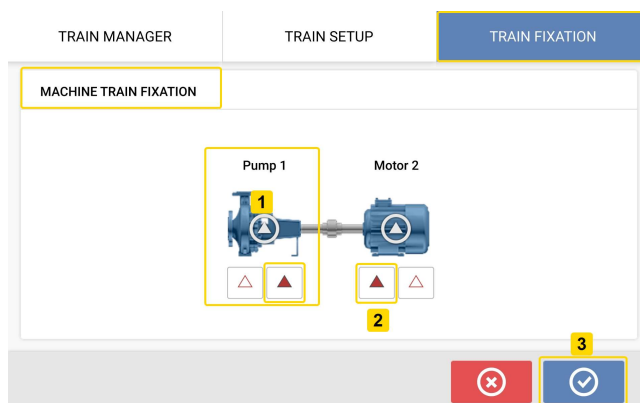
Tap machine or coupling to be specified. If a machine is selected, both machine and color carousels appear. If coupling is selected, only the coupling carousel appears. Use the carousels to specify machine or coupling type, and the machine color. Only one element can specified at a time. After an element has been defined, tap  then proceed to select the next

element. When all machine train elements have been defined, tap  to return to the screen from where the triple **Train Manager / Train Setup / Train Fixation** screen was initially opened.


If **TRAIN FIXATION** is selected, the machine train fixation screen can be used to fix and unfix machine feet pairs or entire machine. This solves machine bolt-bound problems.



In this example, the pump has no feet (**1**) and is permanently fixed. The motor feet pairs (**2**) are unfixed and therefore movable. Tap  (**3**) to return to the screen from where the triple **Train Manager / Train Setup / Train Fixation** screen was initially opened.



To make a machine permanently fixed, tap the symbol (**1**) at the center of the machine. To undo this action, tap the symbol (**1**) again. When a machine is unfixed feet are shown. To fix any machine feet pair tap the necessary feet pair. Fixed feet pairs are shown marked red (**2**).

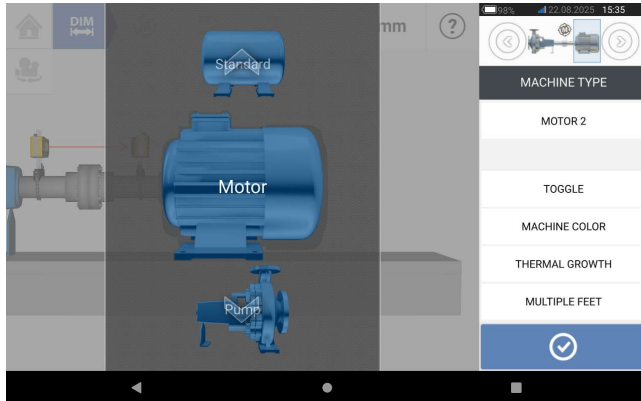
If feet pair are redefined, then machine dimensions must be adjusted. Tap  to open the dimensions screen and enter necessary dimensions.


## Machine properties

These lifelike machine graphics are available:

1. Generic standard machine;
2. Motor;
3. Pump;
4. Split case pump;
5. Fan;
6. Center hung fan;
7. Blower;
8. Compressor;
9. Gearbox;
10. Rotor gearbox;
11. Diesel engine;
12. Generator;
13. Gas turbine;
14. Shaft with no supports;
15. Shaft with a single support;
16. Shaft with two supports

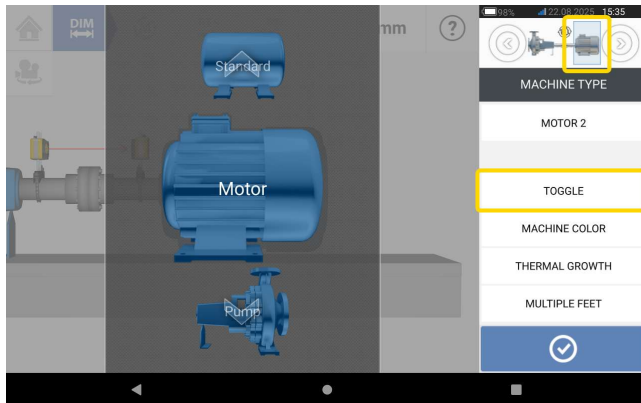
From the dimensions screen, tap the machine to show the respective machine carousel.



Swipe the machine carousel up or down and select necessary machine. Position necessary machine at the centre of the carousel then tap  to confirm selection and return to the dimensions screen.

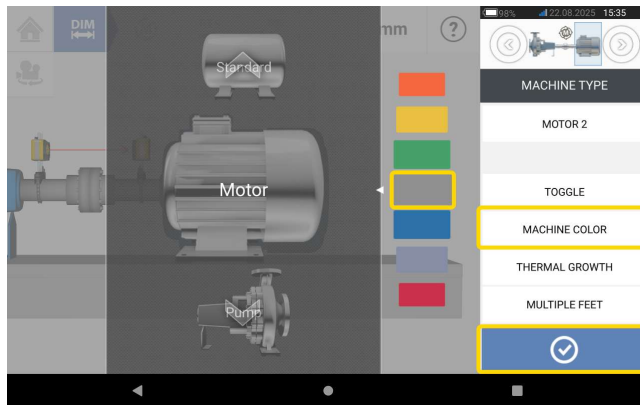
## Toggle


**Toggle** is used change the orientation of the selected machine along the shaft axes. In the next example, the motor has been flipped so as to connect the non-drive side to the coupling.



## Machine colour

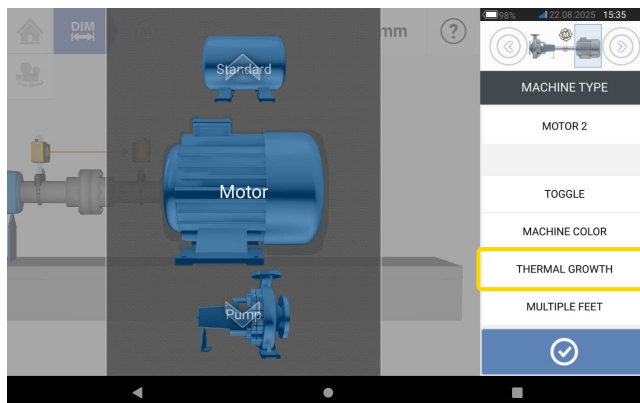
Tap **Machine Color** to select the necessary machine colour. A colour palette is shown.



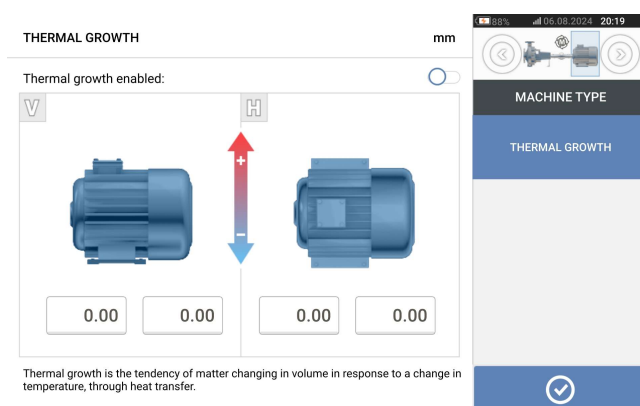
Swipe the colour palette up or down to select the necessary colour then tap  to confirm selection and return to the dimensions. The machines now have the correct colour.

## Thermal growth


Thermal growth is the movement of shaft centerlines associated with or due to a change in machinery temperature between the idle and operating conditions.

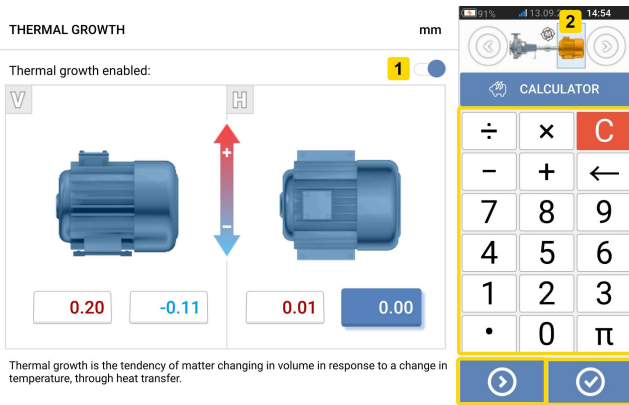




With machine carousel shown, tap the item **Thermal Growth**. The thermal growth screen is shown.



Thermal growth values can be entered only when machine feet have been defined.

To enter any specified thermal growth value at the required foot position, tap the related value box then proceed to enter the thermal growth value. Use the onscreen keyboard. Cycle through the value boxes using . Alternatively, tap the necessary foot position.

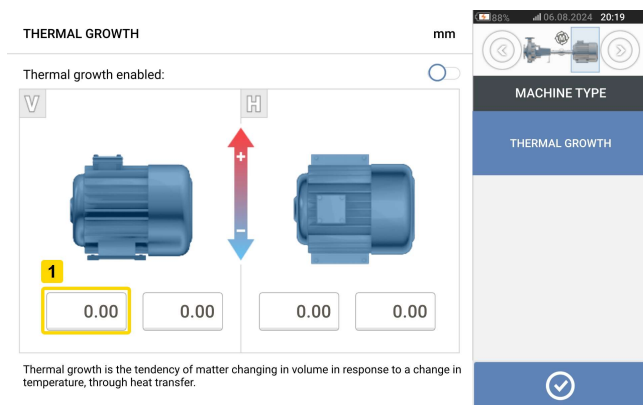


Tap or swipe the icon  to the right (1). Thermal growth values are switched on. When thermal growth values are on, the related machine within the mini train inset at the top-right corner is shown in orange (2). After thermal growth values have been entered, tap  to proceed.

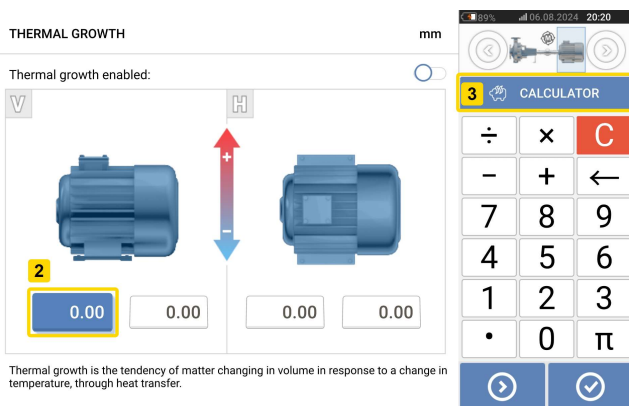
### Thermal growth calculator

The calculator is used to calculate thermal growth compensation if no other values are available. Thermal growth is calculated from the material coefficient of linear thermal expansion, expected temperature difference and length of the shaft centerline from the shim plane.

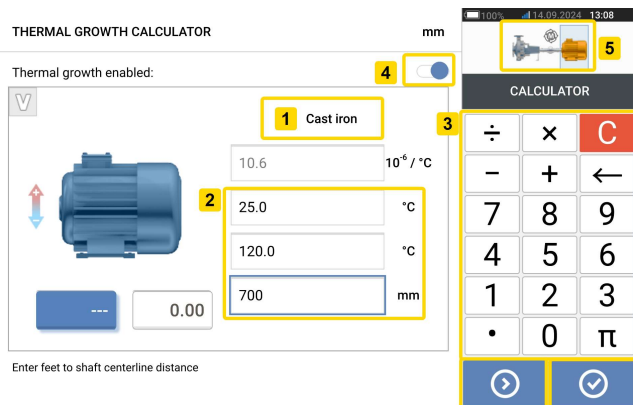
With the thermal growth screen shown, tap value box of feet pair (1) where thermal growth is to be entered.



The box is highlighted (2), and the **Calculator** tab (3) is shown.



Tap **Calculator** tab (3) to open the thermal growth calculator screen.

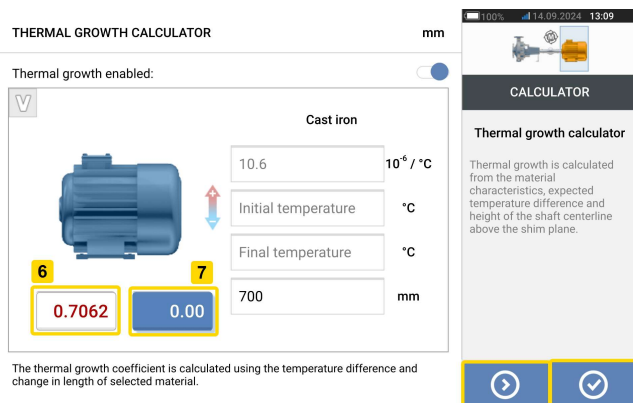


Tap **(1)** and select machine material. The related linear thermal expansion is shown. Enter the three values **(2)** necessary to calculate the thermal growth value for the selected feet pair. Use the onscreen keyboard **(3)**. The three values are:

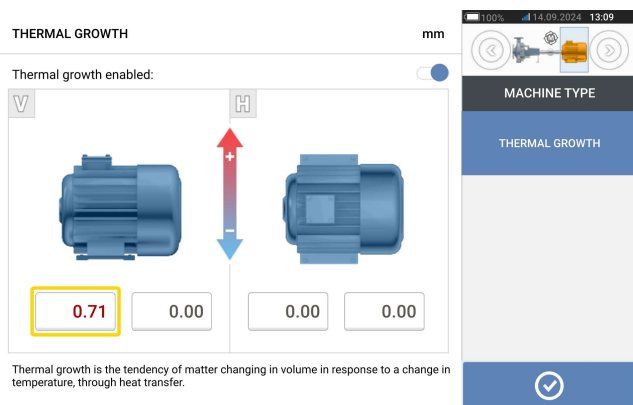
- Ambient temperature (initial temperature)
- Machine running temperature (final temperature)
- Distance from machine base (or shimming plane) to the shaft centerline (length)

With thermal growth values on **(4)**, the related machine within the mini train inset at the top-right corner appears in orange **(5)**.

Tap **(6)** to simultaneously show the calculated thermal growth value for the related feet pair **(7)** and toggle to the next feet pair **(7)**.



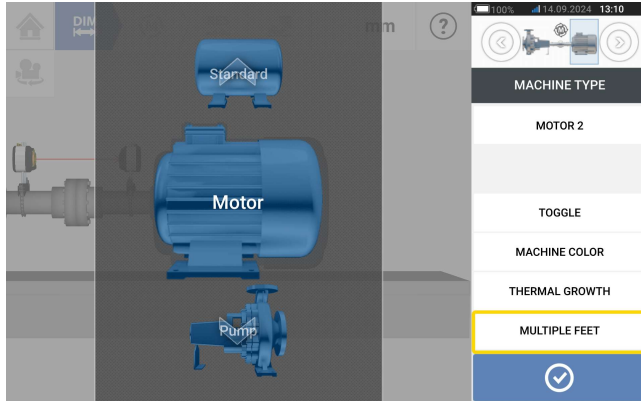
Tap **(8)** to return to the thermal growth.



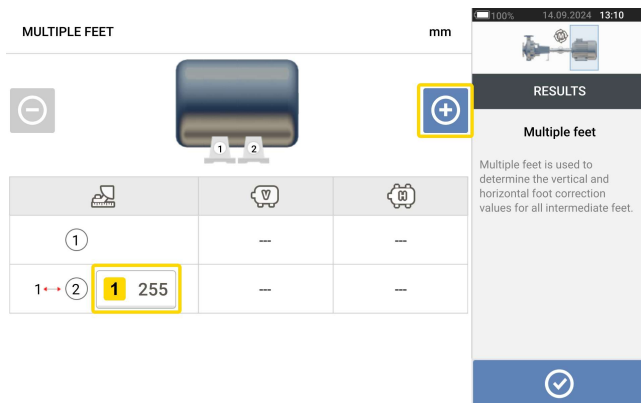
## Multiple feet

The item **Multiple feet** is used to determine foot corrections in a multiple feet machine, and is therefore available also in the result screen.

The dimension between the feet is defined in the multiple feet screen. Tap **Multiple feet** to show the screen.




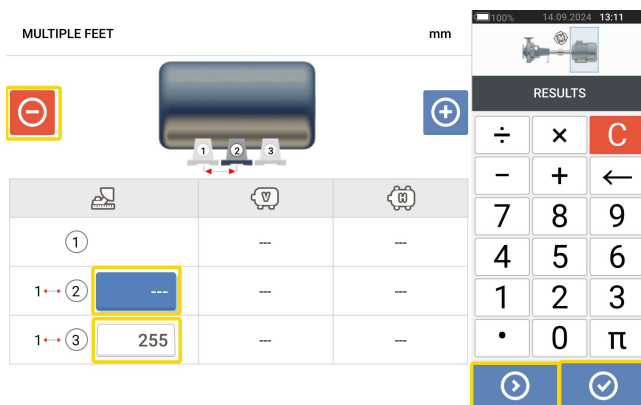
If the dimension between the front feet and the back feet (1) has already been entered, it will be shown in the multiple feet screen.





### Note

The intermediate machine feet are not displayed in the dimension screen.

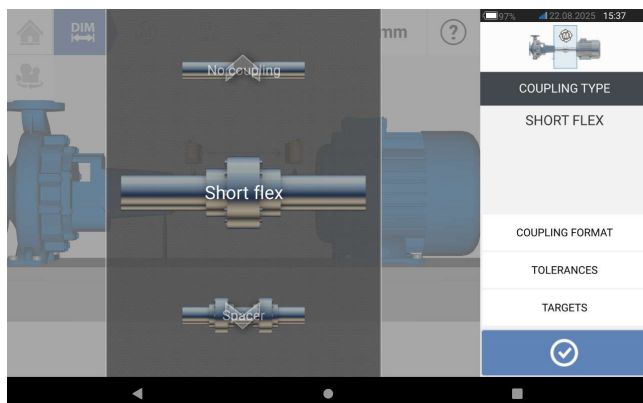
Tap  to add any intermediate feet.



- The intermediate feet pair is added after the front feet.
- Enter this dimension in the row that appears.
- Tap  to delete intermediate feet, if necessary.
- Tap  to exit the multiple feet screen.

## Coupling properties

From the dimensions screen, tap coupling to access coupling carousel.

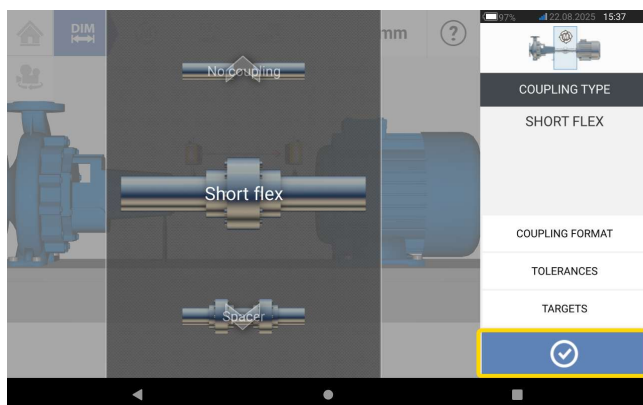


Swipe the carousel up or down and select necessary coupling type. These coupling types are available for selection:

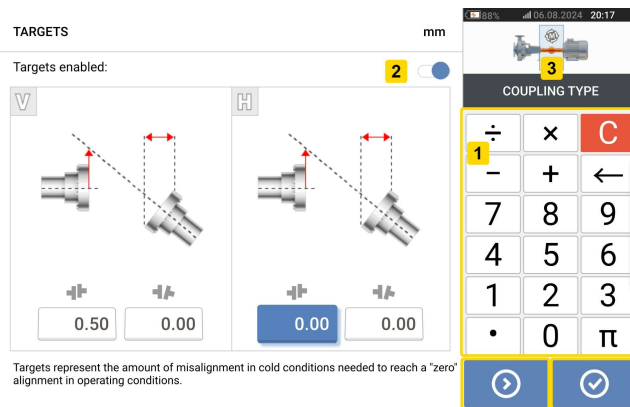
- Short flex — These couplings feature fitted transmission elements with play (such as teeth, claws or bolts) or elastic connecting elements like rubber 'tires' or springs.
- Spacer shaft — When the coupling halves are joined by a spacer element, its length must be entered.
- Single plane — The coupling halves are bolted directly together. Loosen the bolts before taking measurements, since they would otherwise distort the true alignment condition.
- No coupling — This coupling format is intended for use with CNC machines. In this format, the length between the two shafts must be entered. The measurement mode for this coupling format is IntelliPoint.

## Targets


Targets are misalignment values specified as an offset and an angle in two perpendicular planes ( horizontal and vertical) and used to compensate for dynamic loads.





With coupling carousel shown, tap the item **Targets** to open the coupling targets screen.



The shown coupling format depends on the type of coupling selected.

To enter any target specifications at the coupling, tap the related value box then proceed to enter the target value. Use the onscreen keyboard (1) which comes into view when any one of the four value boxes is tapped. Use  to cycle through the value boxes. Alternatively, tap the necessary value box.

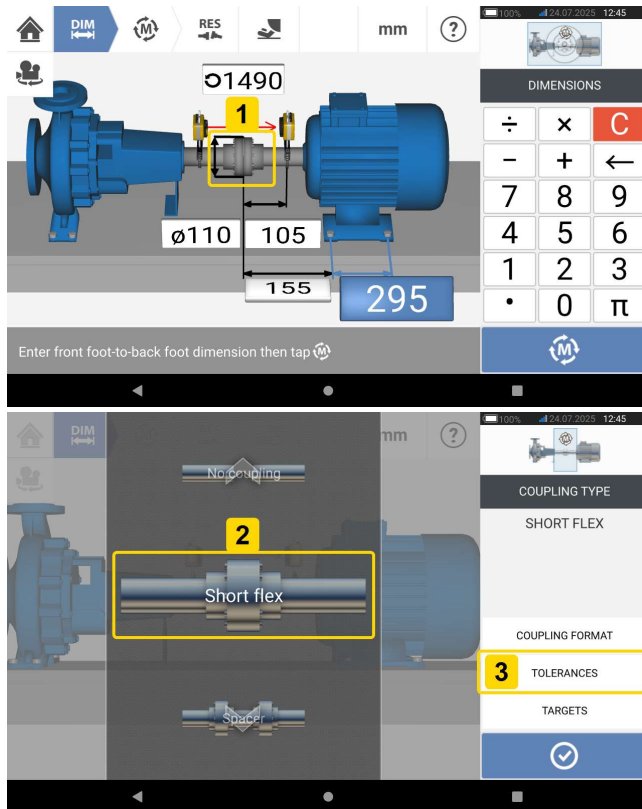
Tap  (2) to activate target specification values. When target values are enabled, the coupling (3) within the mini train inset at the top-right corner appears in orange. After target values have been entered, tap  to proceed.

## Tolerances

Alignment quality is evaluated through comparison with tolerances based upon entered machine dimensions and RPM.

The tolerance ranges are compiled as tables according to type of coupling, coupling format, and diameter (for the gap value) as well as RPM. When the coupling type is spacer, the tolerance table values are determined by the length of the spacer shaft and the RPM.

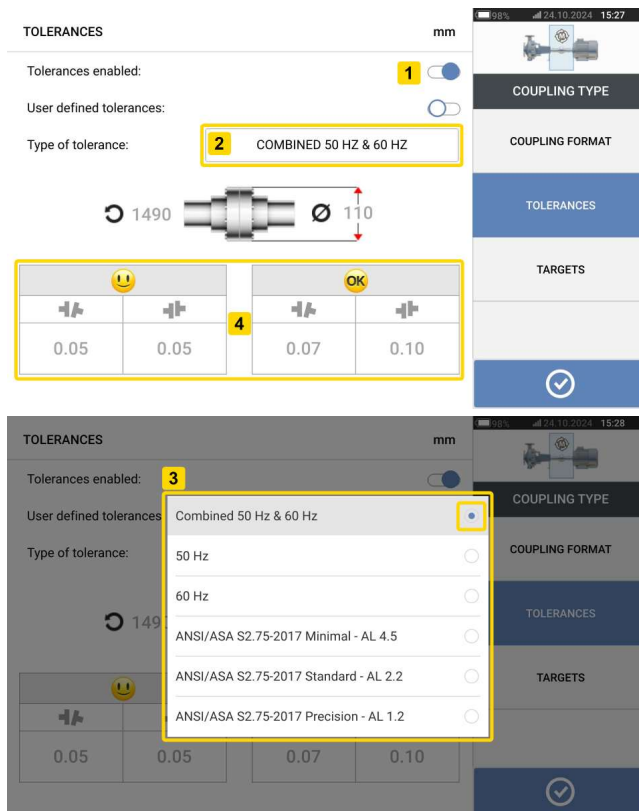
Tolerances are accessed via the dimensions screen.



Tap the coupling (1), then use the carousel that appears to select the necessary coupling type (2). Tap **TOLERANCES** (3) to access the coupling tolerance table.

### Available tolerance tables

The available tolerance tables are based on machine operating frequency.



Swipe the icon (1) to the right to enable tolerances. Tap (2) to select wanted type of tolerance. A pop-up menu (3) with available tolerances is shown. Tap necessary type to show the related tolerance table (4).

## ANSI standard specification tolerances

The Acoustical Society of America (ASA) developed shaft alignment tolerances for both short flex and spacer couplings on standard rotating machinery. These tolerances are an approved American National Standards Institute (ANSI) specification, and are grouped into three tiers (minimal, standard and precision).

## User defined tolerances

The image shows two screenshots of a mobile application interface for setting tolerances. The top screenshot shows the 'TOLERANCES' section with 'Tolerances enabled' and 'User defined tolerances' both turned on. A yellow box highlights the 'Asymmetric tolerances' toggle, which is also turned on. Below this, a technical drawing of a coupling is shown with a tolerance table. The table has two columns, both containing the value '0.00'. A yellow box highlights the table, and a yellow circle with the number '3' is next to it. The bottom screenshot shows the same 'TOLERANCES' section, but with 'Asymmetric tolerances' turned off. The tolerance table now shows '0.02' in the first column and '0.08' in the second column. A yellow box highlights the table, and a yellow circle with the number '5' is next to it. To the right of the screenshots is a vertical navigation menu with options: 'COUPLING TYPE', 'COUPLING FORMAT', 'TOLERANCES', and 'TARGETS'. The 'TOLERANCES' option is highlighted in blue. Below the menu is a numeric keypad with a yellow box around it and a yellow circle with the number '4' next to it. The keypad includes a red 'C' button for clearing, a left arrow, and a checkmark button at the bottom right.

Swipe the icon (1) to the right to enable user defined tolerances. Asymmetric tolerances (2) can be activated only when user defined tolerances are enabled. In asymmetric tolerances, the tolerance values for the two coupling planes are not the same. Tap (3) to edit user defined tolerances using the onscreen keyboard (4). The edited values are then shown (5).

## Asymmetric and symmetric tolerances

The image displays two screenshots of a mobile application interface for setting tolerances on a mechanical part. The part is a shaft with a diameter of 110 mm and a length of 1490 mm.

**Top Screenshot (Symmetric Tolerances):**

- TOLERANCES:** mm
- Tolerances enabled:
- User defined tolerances:
- Asymmetric tolerances:  (labeled **1**)
- The tolerance table (labeled **2**) shows symmetric values: 0.02 for horizontal and 0.08 for vertical.
- Navigation menu: COUPLING TYPE, COUPLING FORMAT, TOLERANCES, TARGETS.

**Bottom Screenshot (Asymmetric Tolerances):**

- TOLERANCES:** mm
- Tolerances enabled:
- User defined tolerances:
- Asymmetric tolerances:  (labeled **3**)
- The tolerance table (labeled **4**) shows asymmetric values: 0.00 (horizontal), 0.08 (vertical), 0.02 (horizontal), and 0.00 (vertical).
- Navigation menu: COUPLING TYPE, COUPLING FORMAT, TOLERANCES, TARGETS.

When asymmetric tolerances have not been enabled (**1**), the shown specified tolerances (**2**) are symmetric. The gap and offset tolerances for both horizontal and vertical planes are identical.

If asymmetric tolerances are enabled (**3**) all four specified values are shown (**4**).


## Tolerance table based on coupling format

**TOLERANCES** mm

Tolerances enabled:

User defined tolerances:

Type of tolerance: COMBINED 50 HZ & 60 HZ



<b>1</b>		<b>OK</b>	
$\pm 0.05$	$\pm 0.05$	$\pm 0.07$	$\pm 0.10$

98% 24.10.2024 15:27

COUPLING TYPE

**3** COUPLING FORMAT

TOLERANCES

TARGETS


✓

**TOLERANCES** mm | °

Tolerances enabled:

User defined tolerances:

Type of tolerance: COMBINED 50 HZ & 60 HZ



<b>2</b>		<b>OK</b>	
$\triangle 0.03$	$\pm 0.05$	$\triangle 0.04$	$\pm 0.10$

97% 24.10.2024 15:35

COUPLING TYPE


**3** COUPLING FORMAT

TOLERANCES

TARGETS

✓

For the same type of tolerance, RPM, and coupling diameter, the tolerances value differ according to the coupling format selected. Coupling format **(1)** is gap/offset for short flex coupling, and **(2)** is angle/offset for short flex coupling. Tap **COUPLING FORMAT (3)** to change format.



**Note**

There are no tolerance tables for consolidated spacer shaft coupling formats. Consolidated formats consider the spoolpiece or jackshaft as an extension of either the right or left shaft.