

IMPORTANT! ALWAYS READ THE SAFETY INSTRUCTIONS IN THE MAIN MANUAL (PART.NR.05-0100) BEFORE USING THE MEASUREMENT SYSTEM.

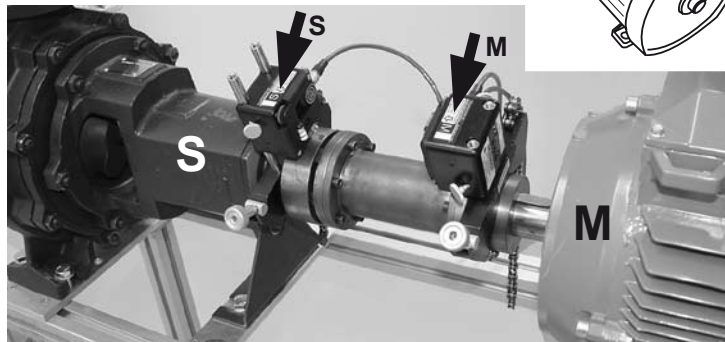
1. MOUNTING THE MEASURING UNITS

Important!

S-unit on stationary machine.
M-unit on movable machine.

Face the stationary machine (S) from the movable machine (M).

Then 9 o'clock is to the left as shown on the picture.



The units are mounted with standard shaft brackets. Labels facing away from coupling.

2. START THE MEASUREMENT SYSTEM

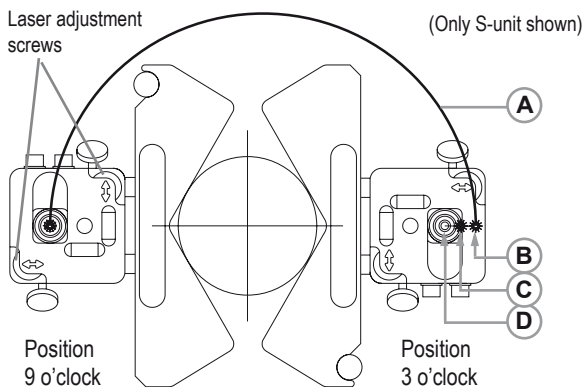
Press to start the measurement system.

The Program list is displayed. Go to page two with . Choose appropriate program for your application. Recommended is to start program 13, Softfoot. (A program must be started to light up the laser beam.) Then make a rough alignment if needed (step 3), or go to step 4, Entering the distances, before continuing with step 5.

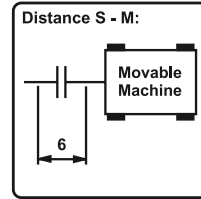
PROGRAM MENU	
21 S	11 Horizontal
22 S	12 EasyTurn
23 S	13 Softfoot
24 C	14 Cardan
25 F	15 Vertical
26 S	16 Offset and angle
27 P	17 Values
28 F	18 Machine train
29 B	19 Vibrometer
<-- More -->	

3. ROUGH ALIGNMENT

1. Turn shafts with measuring units to the 9 o'clock position. Aim the laserbeams at the centre of the closed targets.
2. Turn shafts with measuring units to the 3 o'clock position. (A=The arc described by the laserbeam from the M-unit during turning. B=The laser hits outside the detector area.)
3. Check where the laser hits, then adjust the beam half the distance towards the centre of the target (C).
4. Adjust the movable machine so that the laserbeam hits the centres of both the targets (D).
5. Open the targets before the measurement. Done.



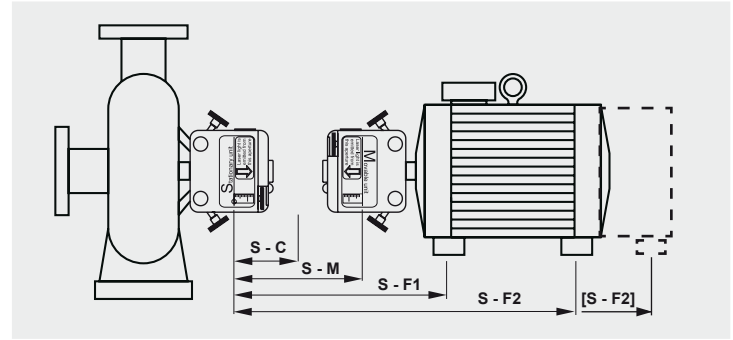
4. ENTERING THE DISTANCES



Type the distances in by using the numerical keys.

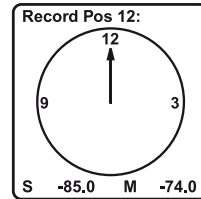
Confirm each distance with

[Redo with]



5. SOFT FOOT CHECK

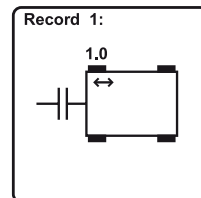
The result from this measurement program displays the difference between tightened and loosened bolt. You can go from softfoot check directly to the Horizontal or EasyTurn™ shaft alignment program and keep the entered machine distances.



1. Turn to position 12. Adjust the beams. Open the targets.

Confirm

[Back]



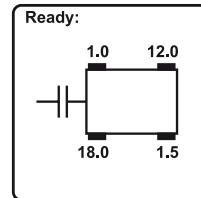
2. Release and tighten first bolt.

Confirm

Redo step 2 for each of the other feet (foot 2-4).

[If desired, zero set with]

[Back]



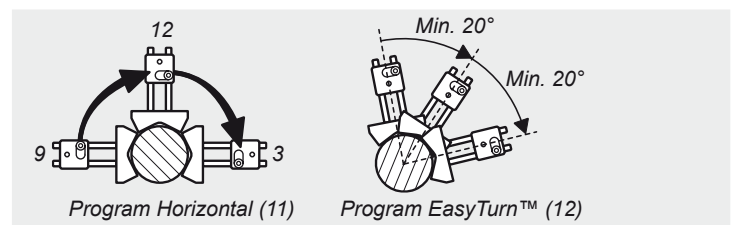
3. The result for all feet are displayed. Shim the foot/feet with the highest value.

[Remeasure]

[To go directly to alignment, and keep the entered distances, press]

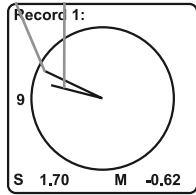
6. MEASUREMENT PROCEDURE

With Program Horizontal (11) the measuring units with shafts are positioned 9, 12 and 3 o'clock. This means that you turn the shafts a total of 180°. With Program EasyTurn™ (12) you can start with the measuring units anywhere on the revolution. The smallest angle possible between the measurement positions is 20°. NOTE! Check in each position (9, 12, 3) that the laser beam hits the detector area.



6. MEASUREMENT PROCEDURE (continued)

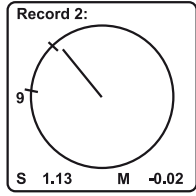
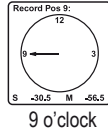
S and M unit marks



1. First reading (EasyTurn™: arbitrary position. Alt. Horizontal: 9 o'clock). Place the measuring units so that the marks are on top of each other (or almost on top). Adjust the laserbeams to the closed targets. Open the targets.

Confirm value

[Back]

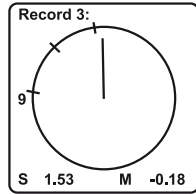


2. Second reading. Turn the shafts at least 20° in any direction (displayed as small marks on the circle). Alt. Horizontal: 12 o'clock.

Confirm

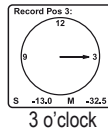
[Show/hide M-angle mark with]

[Redo first value]



3. Third reading. Similar to second reading. Turn shafts beyond the 20° mark. Alt. Horizontal: 3 o'clock.

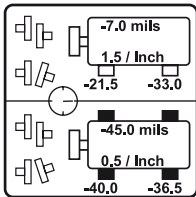
Confirm



7. MEASUREMENT RESULT

Recommended procedure: first position the measuring units with shafts 12 o'clock and shim according to the feet values (live). Then position the units 3 o'clock (or 9) and adjust sideways (live values).

*Horizontal values updates continuously.

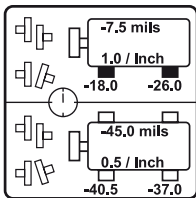


4. The result is displayed. Horizontal and vertical positions for the movable machine are shown both digitally and graphically.

[By pressing when the measurement values are displayed, a new S-F2 distance can be entered for a third pair of feet. New F2-values (adjustment and shimming) will be calculated for this pair of feet and displayed.]

[Press to do a new measurement from the 9 o'clock position]

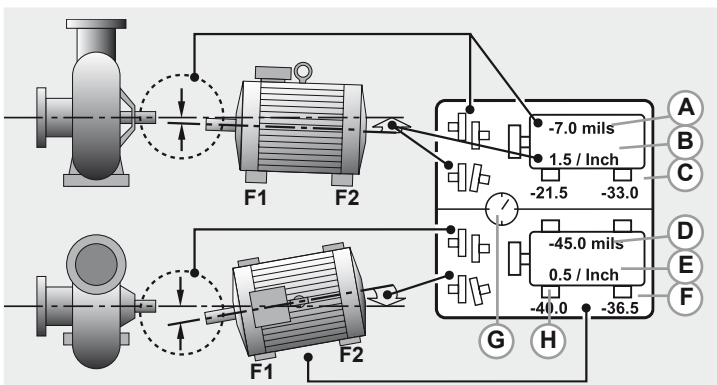
*Vertical values updates continuously.



[Press to select tolerance to check against the measured result.]

[Press to set values for thermal growth compensation.]

[Press for Live values in Horizontal program (see G below).]



Vertical:
A. Offset value
B. Angular value
C. Adjustment values (Shim values)

Horizontal:
D. Offset value
E. Angular value
F. Adjustment values

G. Indicator for measurement direction, that in the EasyTurn™ program shows the real position of the units.

Note! In the Horizontal program the indicator shows how the units have to be positioned for live values. This is because the Horizontal program doesn't use the electronic inclinometers to detect the position of the units.

H. *The foot symbols are filled for that direction (horizontal or vertical) in which the measurement values are updated live.

Note! Be sure that the units are positioned in the right direction (3 or 12 o'clock).

(8. TOLERANCE CHECK)

The measurement result can be checked towards tolerance value table. This is based on the speed of the machine. When the alignment is within tolerance, the left part of the coupling symbol is filled. This also works live.

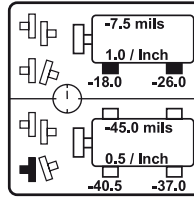
TOLERANCES	
Speed	0-1000 rpm
Offset	3.5 mils
Angle	0.9 mils/inch
<- more ->	

1. Select Speed range.

No tolerance values are displayed from the start (the function is disabled every time the measurement system is started).

Press or to select speed range. The tolerances are displayed at the same time.

Confirm Speed range



2. The result is displayed with filled coupling for values which are within tolerance.

(In the example to the left the horizontal angular value is within tolerance.)

(9. SAVE)

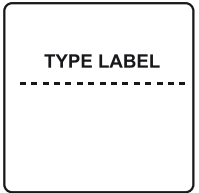
1. The measurement result is displayed (see above).

2. Press the Menu button

3. Press (Store)

4. Type your description (Max. 20 characters).

5. Finish and save



MAIN MENU

Press corresponding numeric key to change or execute settings. Only available choices are shown.

A. Shows the number of measuring units/detectors connected.
B. Number of measurements stored.
C. Battery condition is shown as a series of *, Max. at H and Min. at L.

MENU	
Unit (s) found:	02 A
1 Back Light	
2 Contrast	
3 Date:	2004.01.06
4 Time:	10:03
5 Auto Off Time:	30
6 Filter:	05
7 Unit:	0.5 mils
8 Print Screen	
9 Send	
0 Store	14 B
. Help	
Battery	L ***** H C

- Toggle the Backlight of the display between On and Off.
- Each touch changes the Contrast of the display to one of ten steps.
- Set the current Date in the system clock.
- Set the current Time in the system clock.
- Set the time until Auto-Off between 10 and 99 minutes. 00 disables Auto-Off.
- Set Measurement Filter Value between 0 and 30.
- Toggle the units of measurement: 0.1, 0.01, 0.001 mm: 5, 0.5, 0.05 mils: 5, 0.5, 0.05 thou.
- Print the previous screen on a connected printer.
- Send the measurement result to a connected printer or PC.
- Store and Restore measurement results.
- Help: Shows available program choices at each step.
- Return.

PROBLEM SOLVER, MAINTENANCE

Cleaning – For the best measurement result, always keep the equipment clean and the optics at the detector and laser very clean from dirt and fingerprints. Use a dry rag for cleaning.

Batteries – The system is powered by four R14 (C) batteries. Most types of batteries can be used, even rechargeable, but alkaline will give the longest operating time. If the system will not be used for a long time, the batteries must be taken out.

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A. The system will not start:</p> <ol style="list-style-type: none"> 1 Do not let go of the On-button too quickly. 2 Check that the battery poles are facing the correct side according to the labels. 3 Change batteries. <p>B. The laser does not light up:</p> <ol style="list-style-type: none"> 1 Check the connectors. 2 Change batteries. | <p>C. No measurement values are displayed:</p> <ol style="list-style-type: none"> 1 See B 2 Open the target. 3 Adjust the laser to the detector. <p>D. Unstable measurement values:</p> <ol style="list-style-type: none"> 1 Tighten the screws at the fixtures etc. 2 Adjust the laser away from the PSD edge. 3 Increase the filter setting (function 6 in the Main menu). |
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