D480

COMPENSATION THERMAL GROWTH

TOLERANCE CHECK

40° MIN. ROTATION

2-YEAR WARRANTY

SHAFT ALIGNMENT

Quick, simple and effective!

EASY-LASER®

FOR ALL NEEDS

Every part of the Easy-Laser® systems is designed to withstand the most demanding environments and to be easy to operate when doing the measurements. The versatile design tackles all types of measurement quickly and accurately. You can measure all types of rotating machine with a measurement distance of up to 33 feet [10 metres].

All in all, Easy-Laser® provides you with many opportunities for measuring and alignment:

- SHAFT ALIGNMENT
- SHEAVE / PULLEY ALIGNMENT
- VIBRATION MEASUREMENT
- TWIST MEASUREMENT OF FOUNDATIONS
- STRAIGHTNESS MEASUREMENT

Using a single instrument, you have the potential to troubleshoot and prevent wear and breakdowns in your machines. Easy-Laser® offers what is probably the most competent and cost-effective measuring system for rotating machines on the market!

PROGRAMS AND FUNCTIONS

HORIZONTAL – For the alignment of horizontal machines by the 9–12–3 method.

SOFT FOOT – With this program you can check that the machine is resting on all its feet. Shows which foot should be corrected (if necessary).

THERMAL GROWTH COMPENSATION – Compensates for difference in thermal growth between machines. Sub-function.

TOLERANCE CHECK – Checks the offset and angle values in relation to selected tolerance. Shows graphically when the alignment is within tolerance. Sub-function.

MEASUREMENT VALUE FILTER – Advanced electronic filter for accurate results even in poor measuring conditions such as air turbulence and high vibration. Sub-function.

EASYTURN™ – For the alignment of horizontal machines. Allows complete measurement with only 40° rotation of the shafts.

CARDAN – Shows angular errors and adjustment value on cardan-shaft-coupled/centre-offset machines. (Requires accessory fixtures Cardan)

VERTICAL – For measurement of vertical and flange-mounted machines.

MACHINE TRAIN – For the alignment of between two and ten machines in line (nine couplings). The entire alignment can be followed live on the screen.

REFLOCK™ – Any pair of feet can be locked/set as a reference. Sub-function.

OFFSET AND ANGLE – Shows centre offset and angular error between two shafts, for example. Also suitable for dynamic measurements.

V 0.00
H 0.00

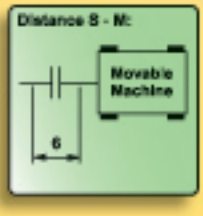
VALUES – Shows live readings from S- and M-unit. Can be used for shaft alignment, straightness measurement and dynamic measurement. Up to four detectors can be connected in series and be zeroed individually.

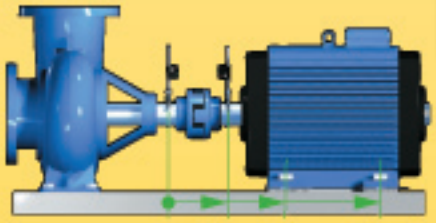
VIBROMETER – Shows vibration level in "inch/s" ["mm/s"], and bearing condition value in "g". The measurement complies with vibration standard ISO10816-3. (Requires accessory Vibrometer probe D283.)

BTA DIGITAL – For alignment of belt and chain drives. (Requires accessories BTA Digital transmitter and detector unit.)

1. WHAT THE PROGRAM NEEDS TO KNOW

The only thing you have to tell the measurement program is the distances between the measuring units and the machine feet. The measurement system takes care of the rest. Simple!

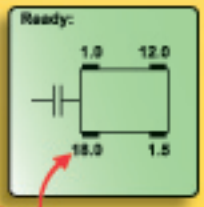




2. SOFT FOOT CHECK

Start by carrying out a soft foot check to ensure that the machine is resting evenly on all its feet. This is necessary for a reliable alignment.

After the soft foot check, you can go directly to the alignment program with all the machine's distances saved.

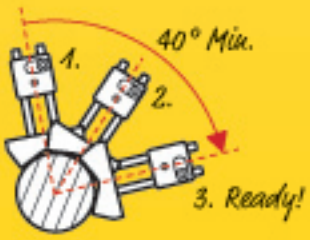


Shim this foot before alignment

3. SIMPLE MEASURING PROCEDURE

Turn shafts with measuring units to three positions.
With the EasyTurn™ program you can start the measurement anywhere on the revolution.

Press the Enter button at each position to record the value.
The measurement is ready!



DOCUMENTATION OF MEASUREMENT RESULT

When measurement is complete, you have several options for documenting the results. Choose the one that is best suited for the situation, depending, for example, on whether further analysis is needed or whether a measurement report needs to be produced. The Display unit has an RS232/USB interface for connection to a printer or PC communication.

SAVE IN THE DISPLAY UNIT
The storage memory is very large. Up to 1000 shaft alignment measurements can be saved.

PRINT
Quickly print all measurement data locally with the battery operated thermal printer. This is useful, for example, if you don't want to connect to a PC.

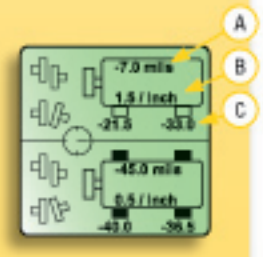
4. THE RESULT IS CLEARLY DISPLAYED

Offset, Angular values and Shim and Adjustment values are clearly displayed. Both horizontal and vertical values are shown "live", which makes it easy to adjust the machine.

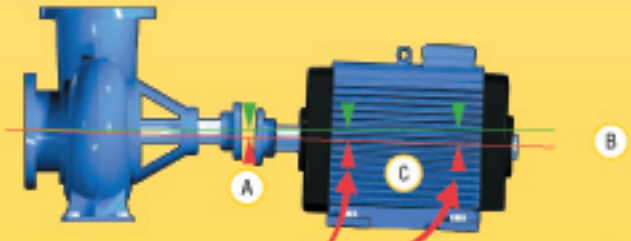
A. Offset value

B. Angular value

C. Shim/Adjustment value.
Live direction indicated by filled machine feet symbols.



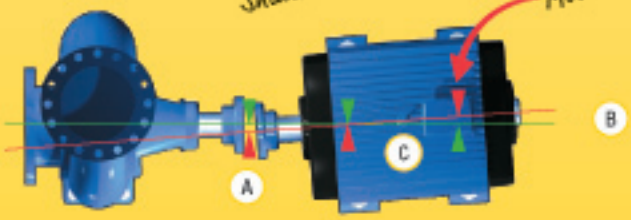
VERTICALLY



HORIZONTALLY

Shim!

Move!

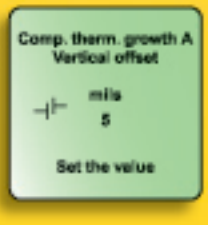


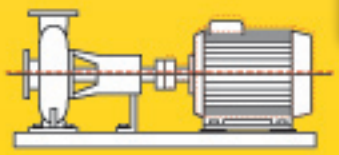
5. THERMAL GROWTH AND TOLERANCE CHECK

The measurement results can be checked against predefined tolerance tables or values that you determine yourself. In this way you see immediately whether the alignment is within the approved tolerance.

Filled coupling symbols, indicating that alignment is within tolerance.

A pump and a motor often expand differently when changing from a cold to a hot state (operating temperature). Using the Thermal Expansion Compensation function, the measurement system calculates the correct shim and adjustment values in these cases too.

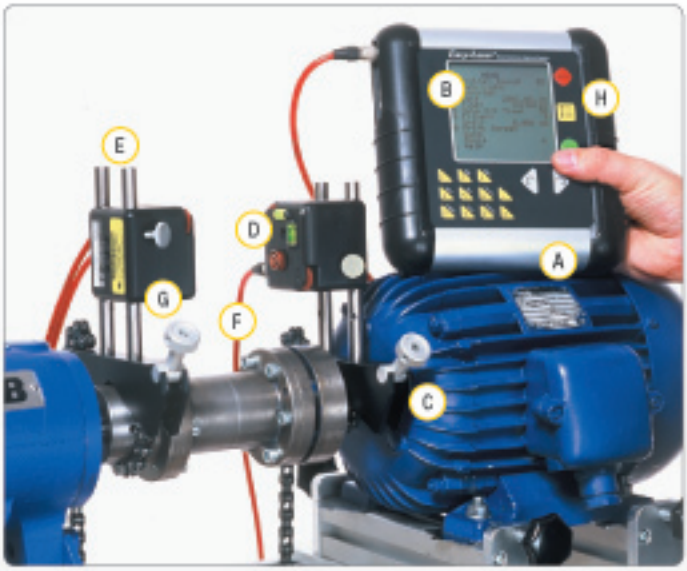




TRANSFER DATA TO PC
With the EasyLink™ program for Windows® (included), you can produce professional reports with both measurement data and pictures, export to spreadsheets such as Excel®, etc.

RUGGED DESIGN

The rugged aluminium and stainless steel design guarantees stable measurement values and reliable alignment even in the harshest of environments. Double rods for the measuring units and stable chain shaft fixtures are other features making this a high performance system.



A. Display unit made of anodized aluminium.

B. Clear, backlit LCD display. Easy to read even in poor light conditions.

C. Universal shaft brackets with chains.

D. Clear spirit levels in both units for quick and accurate positioning.

E. Double rods for each unit, made of stainless steel.

F. Cables with Push/Pull connectors.

G. Small, lightweight measuring units made of aluminium.

H. All settings are easy to reach from the main menu.

I. Durable membrane keyboard with all characters.

J. Countersunk connectors, well protected against external damage.

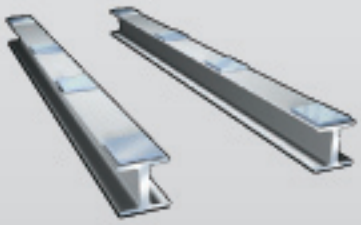
K. The unit is powered by four standard R14(C) batteries. Long operating time.

More than 24 hours continuous operation!

MEASURE STRAIGHTNESS OF FOUNDATIONS

Easy-Laser® D480 is a measurement and alignment system for rotating machinery such as motors and pumps, gearboxes, etc.

In addition to shaft alignment programs, there are also programs for measuring straightness and twisting of foundations, for example. This means that the system is extremely suitable both for the establishment of new installations and for continuous maintenance work.



EASY-LASER®

SYSTEM D480

Part No. 12-0422

1 Display unit D279 (with 14 measurement programs)
1 Protective case
2 Cables with Push/Pull connectors
2 Measuring units (S, M)
2 Sets of rods for measuring units
2 Shaft brackets with chains
2 Extension chains
1 Measuring tape
1 Manual
1 EasyLink™ Windows® program + PC cable and USB converter *Data base software included!*
Delivered in robust aluminium framed carrying case with contoured foam insert.

TECHNICAL SPECIFICATIONS

System	
Measurement distance	Up to 33 feet [10 m]
Temperature range	32–122°F [0–50°C]
Relative humidity	10–85%
Weight (complete system)	15.6 lbs [7.1 kg]
Carrying case	WxHxD: 16"x12"x4" [420x320x110 mm]
Measuring units (S, M)	
Type of laser	Diode laser
Laser wavelength	635–670 nm, visible red light
Laser safety class	Class 2
Laser output power	< 1 mW
Resolution	0.05 mils [0.001 mm] *High resolution!*
Measurement error	<1% ±1 digit
Type of detectors	PSD 0.39" sq [10x10mm]
Spirit levels	Resolution 0.5°
Inclinometers	Electronic inclinometers, 0.1° resolution
Thermal sensors	±1° C accuracy
Protection	No influence from ambient light
Housing material	Anodized aluminum
Dimensions	WxHxD: 2.36"x2.36"x1.97" [60x60x50 mm]
Weight	7 oz [198 g]
Display unit	
Type of display	Backlit dot matrix LCD. 2.87"x2.87" [73x73 mm]
Displayed resolution	Changeable; 5, 0.5, 0.05 mils/thou; 0.1, 0.01, 0.001mm
Battery	4 x 1.5 V R14 (C)
Operating time	24–48 hours depending on connected equipment
Storage memory	1000 shaft alignment measurements *Large memory!*
Output port	RS232 for printer and PC communication
Keyboard	Membrane alphanumeric multi function
Settings	Value filtering, Contrast and Unit (mil/thou/mm) etc.
Housing material	Anodized aluminum / ABS-plastics
Dimensions	WxHxD: 7.1"x7.1"x1.8" [180x180x45 mm]
Weight	2.8 lbs [1250 g]
Shaft brackets	
Fixture	V-fixture for chain, width 0.71" [18 mm]
Material	Anodized aluminum
Shaft diameter	∅ 3/4"–18" [20–450 mm] with standard chains
Rods	
Material	Stainless steel
Length	2.36" and 4.72" [4x60 mm and 8x120 mm]
Cables	
Type	With Push/Pull connectors
Length	6.5 feet [2 m]

Accessories

1. Magnetic brackets	Part No. 12-0413	For axial mounting on e.g. flange, shaft or coupling.
2. Thin chain brackets	Part No. 12-0037	Width 0.47" [12 mm]. With chains.
3. Sliding brackets	Part No. 12-0039	For non-rotatable shafts. Min. ∅ 2.36" [60 mm].
4. Magnetic base	Part No. 12-0013	For direct mounting on e.g. coupling or shaft.
5. Offset bracket	Part No. 01-0076	For axial displacement of meas. units on bracket.
6. Cardan brackets	Part No. 12-0125	For alignment of cardan/offset mounted machines.
7. Printer	Part No. 03-0032	Portable thermal printer incl. cable and charger.
8. Extension cable	Part No. 12-0108	Length 16.5 feet [5 m] (Not pictured)

EXPANDABILITY

D283 VIBROMETER PROBE
For measuring vibration level (mm/s, inch/s) and bearing condition (g-value).
Part No. 12-0283

D160 BTA DIGITAL
For measurement and alignment of belt drives. Complete system with display unit.
Part No. 12-0411

ACCESSSORIES

This product complies with: SS-EN60825-1-1994, 21 CFR 1040.10 and 1040.11

CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
DIODE LASER
1 mW MAX OUTPUT AT 635-670 nm
CLASS II LASER PRODUCT

CE 05-0422

2
2 YEAR WARRANTY

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