

System Specifications

PRECIBALANCE ELECTRONICS



- Compatible with industry standard ICP type accelerometer
- 2 Channel unbalance measurement.
- 90-4000 RPM balancing speed. Higher speeds available on request.
- PNP / TTL input for RPM sensor. Compatible with industry standard sensors.
- 90-230VAC 50/60Hz power supply
- Selectable grade of balancing from G1, G2.5 and above.
- Job should run at stable speed
- Weight - 1200 grams
- Size - 390 mm x 160 mm x 40 mm

RPM Sensor - Standard supply specification



- Fiber optic laser sensors are used to provide electrical noise immunity from VFDs, inverters and other equipment. Compatible with industry standard units

Accelerometer - Standard supply specifications

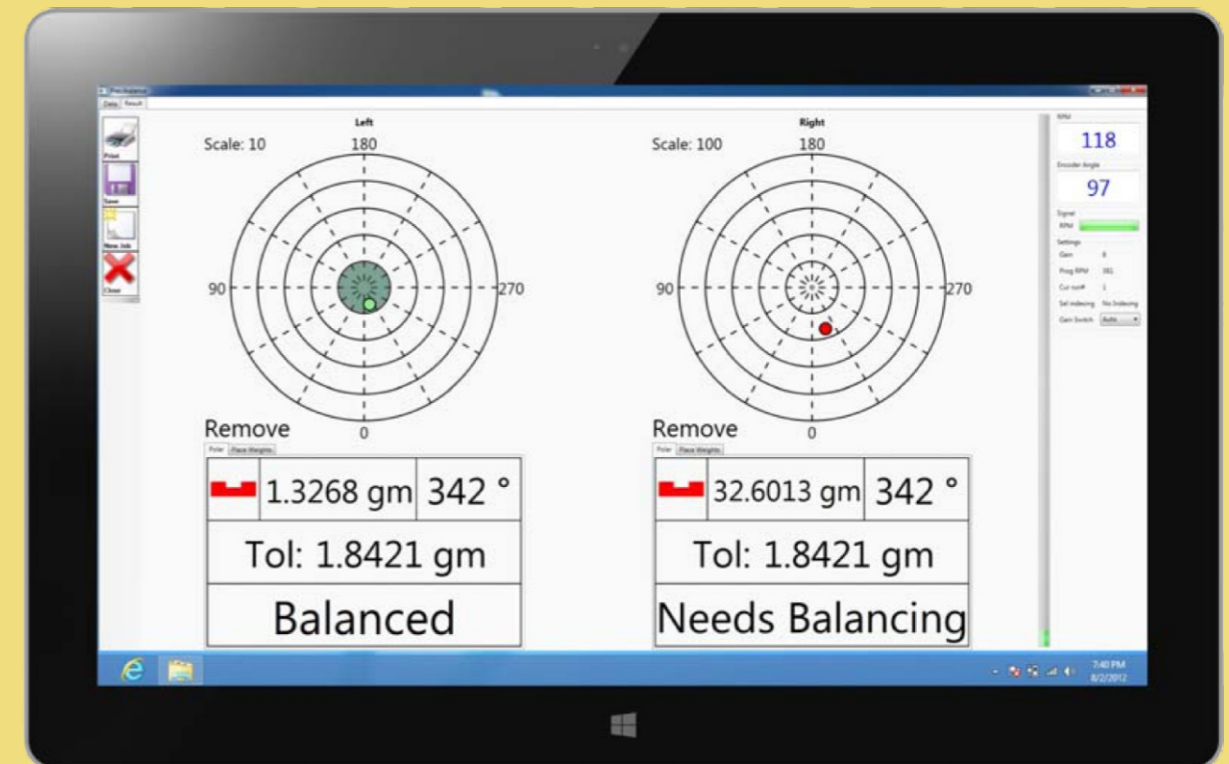


- ICP Compatible output
- 100 mV/g sensitivity nominal
- Mil C5015 connector
- Built-in charge amplifier

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PRECIBALANCE SITE BALANCER MODEL PSB-15W



PSB-15W is the latest generation of portable measuring instrument to measure unbalance at site and balance either in single or two plane.

The main causes of vibration are unbalance, bent shaft, misalignment and bad bearings.

Except unbalance, other causes can be detected by physical inspection using simpler tools.

The users need an instrument to measure unbalance that is simple to operate.

PSB-15W can be used at site wherein unbalance is the main cause of vibration.

Single or two plane balancing is available enabling the user to handle wide range of jobs.

The Bluetooth connectivity is a standard feature along with balancing program in Windows enabling the user to use off the shelf man machine interfaces like Phones, Laptops, Tablets and Pcs.

PSB-15W is designed to be in service for many years. Software upgrades will be provided in line with change of hardware and OS free of cost to all users of PSB-15W.

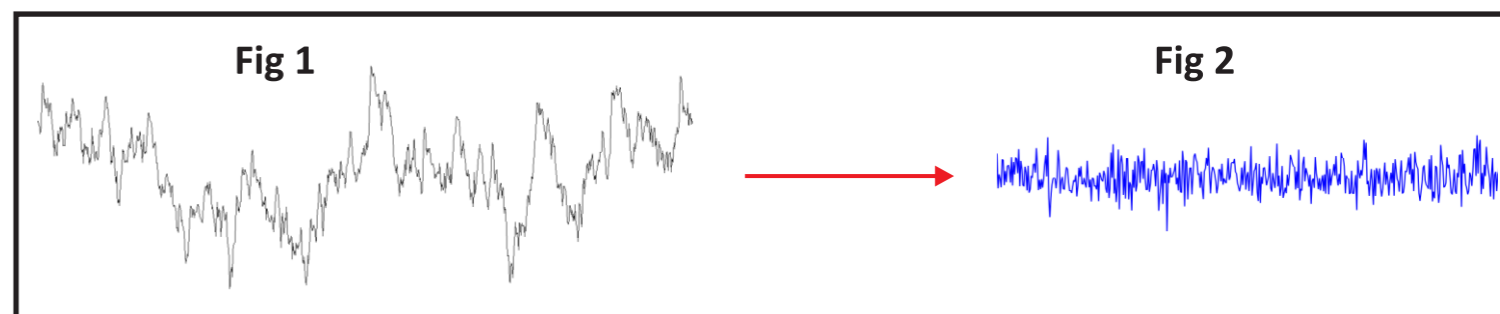


Fig 1 shows vibration signature where in unbalance is dominant factor generating the vibration.

Fig 2 shows the vibration signature on a balanced system.

Precibalance

Data

Result

Job Name:

ID Fan

New Job

Delete

See Log

Units of Measurement

mm

gm

cm

oz

in

Indexing: No Indexing

Connected to: COM1

Balancing RPM

758

☐ Manually Enter RPM

No Wt Calibrated RPM -1

Signal

RPM

Gain

-1

Prog RPM

-1

Cur run#

0

Sel indexing

No Indexing

Gain Switch

Auto

Left Plane

Radius:

60

mm

Tolerance:

1.0000

gm

Correction:

Remove

50

ISO Calculator

Service speed:

1440

rpm

Weight of the comp:

1

Kg

ISO Grade:

2.5

Residual Unbalance:

0

g-mm

Compute

Load

Right Plane

Radius:

60

mm

Tolerance:

1.0000

gm

Correction:

Remove

50

Job Calibration

Reset Calibration

Follow the instructions below and the tabs on the right to calibrate. Calibration valid only for same type job mounted similarly at same RPM

Use the tabs to record the readings. Click on a tab and fill the data. Take readings waiting until progress fills. Repeat for all tabs. Then Click Store Values to compute the calibration values. Use Same RPM for the trials and readings.

Progress

Store Values

Without Trial Mass

Left Trial Mass

Right Trial Mass

Remove all trial masses and run only the rotor.

Toggle

RECORD

 to Start / Stop recording

Signal Left: 104.4 mV @ 110°

Signal Right: 172.5 mV @ 287°

Precibalance

DataResult

Job Name: ID Fan

Units of Measurement

mmgm
cmoz
in

Indexing: No Indexing

Connected to: COM1

Left Plane

Radius: 60 mm

Tolerance: 1.0000 gm

Correction: Remove

50

Balancing RPM

758

☐ Manually Enter RPM

No Wt Calibrated RPM -1

ISO Calculator

Service speed: 1440 rpm

Weight of the comp: 1 Kg

ISO Grade: 2.5

Residual Unbalance: 0 g-mm

ComputeLoad

Signal

RPM

Settings

Gain -1

Prog RPM -1

Cur run# 0

Sel indexing No Indexing

Gain Switch Auto

Right Plane

Radius: 60 mm

Tolerance: 1.0000 gm

Correction: Remove

50

Job CalibrationReset Calibration

Follow the instructions below and the tabs on the right to calibrate. Calibration valid only for same type job mounted similarly at same RPM

Use the tabs to record the readings. Click on a tab and fill the data.
Take readings waiting until progress fills. Repeat for all tabs.
Then Click Store Values to compute the calibration values.
Use Same RPM for the trials and readings.

Progress

Store Values

Without Trial MassLeft Trial MassRight Trial Mass

Stop rotor. Remove other testweights and insert trial weight at selected plane.
Fill data below. Start rotor. Press record to store values

Toggle RECORD to Start / Stop recording

Trial Weight: 102 gm 0 °

Signal Left: 154.4 mV @ 110°
Magnitude Change Left: 54 %

Signal Right: 210.1 mV @ 334°
Magnitude Change Right: 32 %

ProceedExit

| Precibalance | | | |
|---|--|---|--|
| Data Result | | | |
| Job Name: ID Fan | | New Job Delete See Log | |
| Units of Measurement <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; width: 30px; height: 30px; background-color: #c8e6c9; text-align: center;">mm</div> <div style="border: 1px solid black; padding: 2px; width: 30px; height: 30px; background-color: #c8e6c9; text-align: center;">gm</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; width: 30px; height: 30px; background-color: white; text-align: center;">cm</div> <div style="border: 1px solid black; padding: 2px; width: 30px; height: 30px; background-color: white; text-align: center;">oz</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Indexing: No Indexing ▼ Connected to: COM1 </div> | | Balancing RPM <div style="font-size: 48pt; color: blue; text-align: center; margin: 10px 0;">758</div> <input type="checkbox"/> Manually Enter RPM No Wt Calibrated RPM -1 ISO Calculator Service speed: 1440 rpm Weight of the comp: 1 Kg ISO Grade: 2.5 ▼ Residual Unbalance: 0 g-mm <div style="display: flex; justify-content: center; gap: 10px;"> Compute Load </div> | |
| Left Plane Radius: 60 mm Tolerance: 1.0000 gm Correction: Remove ▼ 50 ▼ | | Right Plane Radius: 60 mm Tolerance: 1.0000 gm Correction: Remove ▼ 50 ▼ | |
| ⌂ Job Calibration Reset Calibration <p>Follow the instructions below and the tabs on the right to calibrate. Calibration valid only for same type job mounted similarly at same RPM</p> <div style="display: flex; align-items: center;"> <div style="flex-grow: 1;"> Use the tabs to record the readings. Click on a tab and fill the data. Take readings waiting until progress fills. Repeat for all tabs. Then Click Store Values to compute the calibration values. Use Same RPM for the trials and readings. </div> <div style="border: 1px solid gray; padding: 5px; width: 200px;"> <div style="display: flex; border-bottom: 1px solid gray;"> Without Trial Mass Left Trial Mass Right Trial Mass </div> <div style="padding-top: 5px;"> Stop rotor. Remove other testweights and insert trial weight at selected plane. Fill data below. Start rotor. Press record to store values Toggle RECORD to Start / Stop recording Trial Weight: 102 gm 0 ° <div style="display: flex; justify-content: space-between; font-size: small;"> Signal Left: 168.7 mV @ 28° Magnitude Change Left: 68 % Signal Right: 241.8 mV @ 348° Magnitude Change Right: 50 % </div> <div style="display: flex; justify-content: center; gap: 10px; margin-top: 5px;"> Proceed Exit </div> </div> </div> </div> | | | |

Left

Scale: 10

Remove

| Plot | Place Weight |
|----------------|-----------------|
| | 1.3268 gm 342 ° |
| Tol: 1.8421 gm | |
| Balanced | |

Right

Scale: 100

Remove

| Plot | Place Weight |
|-----------------|------------------|
| | 32.6013 gm 342 ° |
| Tol: 1.8421 gm | |
| Needs Balancing | |

Signal: 118
Encoder Angle: 97
Signal:
Settings: Gain: 8, Prog RPM: 382, Cur rpm: 1, Set indexing: No Indexing, Gain Switch: Auto

In case balancing is not satisfactory at this level,
you need to repeat all the four steps again, retaining the balancing already done.