



Agilent Technologies

Optical Balance Procedure for the Unbalanced Diode Error on the G1362A Refractive Index Detector

This document is believed to be accurate and up-to-date. However, Agilent Technologies, Inc. cannot assume responsibility for the use of this material.
The information contained herein is intended for use by informed individuals who can and must determine its fitness for their purpose.

Optical Balance

When the sample and reference cells both contain the same liquids an equal amount of light should fall on each light receiving diode, the diode balance will equal 0. If this balance of light needs to be corrected the optical balance procedure can be used.

Diode balance is calculated as follows;

Diode Balance

$$\text{diodebalance} = \frac{(\text{diode1} - \text{diode2})}{(\text{diode1} + \text{diode2})}$$

Where:

diode1 = signal proportional to the amount of light falling on diode 1

diode2 = signal proportional to the amount of light falling on diode 2

Optical balance adjustment is a manual procedure where the position of the light beam falling on the light receiving diode is adjusted using the zero glass adjustment screw.

NOTE

The detector will become not-ready when the diode balance value falls outside the range - 0.5 to + 0.5.

NOTE

Both sample and reference cell must be purged with the solvents to be used before optical balance is performed.

The Optical Balance Procedure

When required	When light falling on light receiving diodes is out of balance.
Tools required	Flat-head screwdriver.
Parts required	None.

Steps

- 1 Purging the sample and reference cells.
- 2 Start optical balance.
- 3 Adjust optical balance.

Purging the Sample and Reference Cells

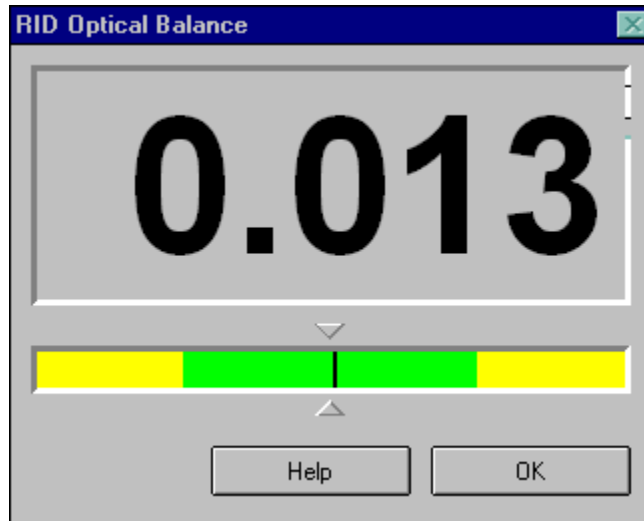
- 1 Switch the purge valve to the On position.
- 2 Purge the sample and reference cells for around 10 minutes with the solvents to be used.
- 3 Switch the purge valve to the Off position

Start Optical Balance

- 1 From the user interface start the RID optical balance (see Figure 21).
ChemStation: *Diagnosis - Maintenance - RID Optical Balance*
Control Module: *Analysis(RID) - m - Status*
-

Figure 21

Optical Balance



Adjust Optical Balance

- 1 While monitoring the optical balance use the flat-headed screwdriver to turn the zero glass adjustment screw slowly (see Figure 22).
- 2 When the diode balance value reaches 0.00 optical balance is restored.

Figure 22

Turning the zero glass adjustment screw

