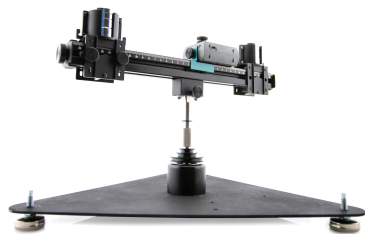


Go Direct[®] Centripetal Force Apparatus (Order Code GDX-CFA)



Go Direct Centripetal Force Apparatus is a rotational system mounted on a solid base. It is designed to accommodate the Go Direct Force and Acceleration sensor (order code GDX-FOR) for data collection.

Note: Vernier products are designed for educational use. Our products are not designed nor are they recommended for any industrial, medical, or commercial process such as life support, patient diagnosis, control of a manufacturing process, or industrial testing of any kind.

What's Included

- Apparatus base
- Bearing and shaft with 3-step pulley
- Beam
- End caps for beam (2)
- Loop attachment for the sensor
- Long thumb screw and 80/20 nut
- Short thumb screw to attach sensor bracket to sensor
- Sensor bracket
- Sliding carriage
- Counterbalance carriage
- 100 gram masses (4)
- 50 gram masses (4)

Note: Go Direct Force and Acceleration (order code GDX-FOR – not included) should be used for data collection with this apparatus.

Assembly

Refer to assembly instructions included with the apparatus. These are also available at www.vernier.com/gdx-cfa

Leveling the Apparatus

1. After assembly, secure the counterbalance carriage to the outer end of the beam.
2. Place 300 grams of mass in the carriage.
3. Use a flathead screwdriver to lower the base to the lowest position at each corner. You can also turn the foot of the support leg by hand.
4. Push the beam lightly to observe where the beam settles. The beam will rotate to settle the masses at the lowest point of the rotational plane. Confirm the location of the lowest point by gently pushing the beam a couple more times.

5. Adjust one or two legs so that when you tap the beam it rotates freely and does not settle to the same location.
6. Repeat steps 4 and 5 until the beam spins without returning to a consistently low spot.

Getting Started

Data collection with the Go Direct Centripetal Force Apparatus requires the use of Go Direct Force and Acceleration. You can refer to the user manual for this sensor at:

www.vernier.com/manuals/gdx-for

1. Verify that the unit is level.
2. Attach Go Direct Force and Acceleration to the apparatus, as illustrated in the assembly instructions.
3. Turn on your sensor and connect it to Graphical Analysis 4 on your device.
4. Select the appropriate data-collection channels. For additional information, refer to www.vernier.com/til/4258

Using the Product

Verify that the unit is level. Connect Go Direct Force and Acceleration to the apparatus, as illustrated in the assembly instructions.

Troubleshooting

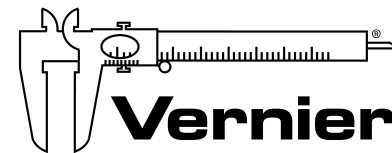
Check the unit to ensure the shaft is free spinning. Confirm that the beam is securely attached to the shaft and that the thumb screw is secured so the block does not slip.

Repair Information

If you have followed the troubleshooting steps and are still having trouble with your Go Direct Centripetal Force Apparatus, contact Vernier Technical Support at support@vernier.com or call 888-837-6437. Support specialists will work with you to determine if the unit needs to be sent in for repair. At that time, a Return Merchandise Authorization (RMA) number will be issued and instructions will be communicated on how to return the unit for repair.

Warranty

Vernier warrants this product to be free from defects in materials and workmanship for a period of five years from the date of shipment to the customer. This warranty does not cover damage to the product caused by abuse or improper use. This warranty covers educational institutions only.



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Vernier Software & Technology
13979 SW Millikan Way • Beaverton, OR 97005-2886
Toll Free (888) 837-6437 • (503) 277-2299 • Fax (503) 277-2440
info@vernier.com • www.vernier.com

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