

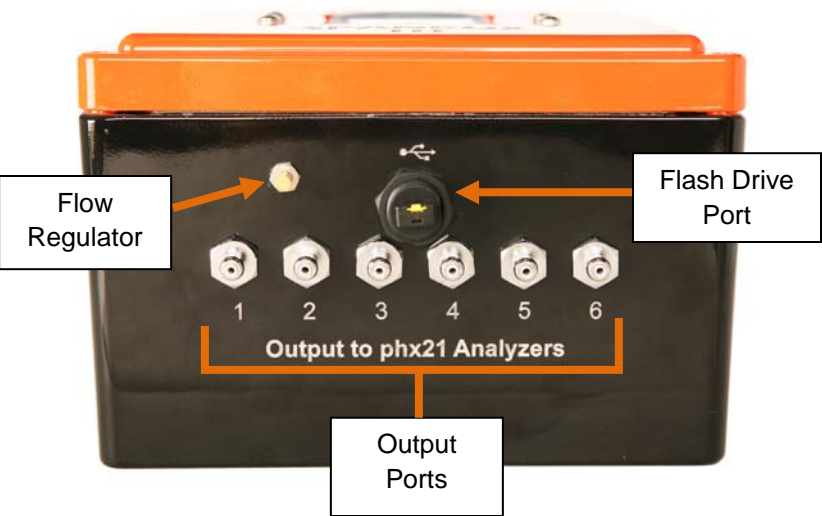
# SpanBox3™ Quick Start Guide

- Parts included:**
- 1- SpanBox3™
  - 1- Power supply
  - 1- Thumb Drive
  - 6- Female Quick Connects
  - 6- Calibration Tees
  - 6- Spare tees

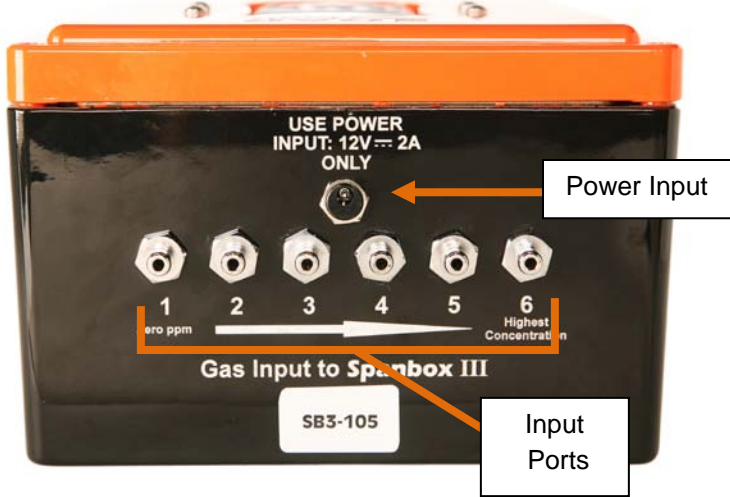
- Parts needed (not included)**
- Flow Meter
  - Span Gas Cylinders
  - phx21™ Analyzers
  - Probe Tip filters
  - Tygon tubing
  - Regulators for each gas cylinder

## 1 Parts Identification

Front Panel



Back Panel



Female Quick Connect



Calibration Tee

## 2 Set up

### Adding Information

- 1) Attach the power adapter cable.
- 2) When the SpanBox3™ is powered ON, the time must be updated to match current time zone/time.
- 3) Once SpanBox3™ is powered ON, tap Start > LDARtools. From the main Cal3.0™ screen, tap Daily Calibration.
- 4) Client information (Technician Name/ID and Cylinder Information), Daily and Drift Percentages/Variations, and VVa Drift Option must be configured using Hero Desktop Manager (HDM) (Free download) and then uploaded to the SpanBox3™ via USB Flash Drive.
  - Download and Install HDM (Registration Key required to be inputted during first use; obtainable via LDARtools website).
  - Open HDM, click on Client Setup, input data on Technician and Cylinder Tabs.
  - Click on Send to USB, navigate to Removable Drive Letter (USB Flash Drive) and save.
  - Then Click on Preferences under Cal2.0™.
  - Configure each tab according to Site Specific Requirements.
  - Click on Sent to USB, navigate to Removable Drive Letter (USB Flash Drive) and save.
  - Remove USB Flash Drive from computer.
  - Plug USB Drive into SpanBox3™.
  - Within Cal3.0™; Tap on Menu> Setup> Copy Settings from USB.
  - Your SpanBox3™ is now updated.
- 5) Insert the USB Flash drive into the USB port.
- 6) Add Technician and Site information.
- 7) Verify that all phx21™ analyzers to be calibrated are powered on.
- 8) phx21™ analyzers will automatically be discovered by SpanBox3™. Checkmark the box next to each phx21™ that will be calibrated.
- 9) Perform Daily Inspection for each phx21™. Checkmark box for each item as it is verified.
- 10) Tap Add Cylinder. Input all cylinder information. Repeat for all cylinders.

### Set up the Gas Cylinders

- 1) Connect gases to input ports (back of SpanBox3™) and assign ports to each cylinder.
  - ✓ Connecting gasses:

*Important: Always connect gases from lowest to highest concentration.*

*Note: A regulator must be attached to each gas cylinder before connecting to SpanBox3™.*

    - Attach a Female Quick Connect to each input port.
    - Attach tygon tubing (long enough to reach cylinders) to each Female Quick Connect.
    - Attach the other end of tygon tubing to the regulator on the cylinder.
    - Set the Regulator on each gas to 25 psi.
  - ✓ Assigning ports:
    - Click to highlight cylinder ID.
    - Assign port # to the highlighted cylinder, tap OK.
    - Repeat these steps until each cylinder has been assigned a port and these assignments have been verified.
    - Once all have been added and ports assigned, checkmark the box next to each cylinder.

## Check the Flow

- 1) Attach a Calibration Tee to output (front) port 1.
- 2) Attach a flow meter to the Calibration Tee. Hold Flow Meter in an upright position.
- 3) From the test screen tap Menu > Set up > SpanBox test.
- 4) Tap the check box under *Cylinder* next to # 1 and the check box under *phx21™* next to # 1. You should now see the flow meter rotating indicating that gas is flowing out of port 1 on the SpanBox3™. Systematically select each subsequent cylinder to ensure that gas flows from the port when selected. Continue with this testing until all combinations of inputs and outputs have been tested together.
- 5) The flow meter should read 2ml/min for each output. If you do not get a reading of 2ml/min adjust the flow.

✓ Adjusting the Flow

*Tools: 3/16 metric wrench & 1/16 flat head screw driver.*

Plug one of the Calibration Tee outlets with a finger. Use the wrench to loosen the flow regulator nut. Turn adjustment left to allow more flow, turn right to allow less. Once the flow meter reads 2 L/ min, use the nut to lock the flow regulator. Check flow again after tightened. Note: this adjustment will only need to be made one time. Once it has been adjusted properly all ports will flow at the correct rate.

## Connecting phx21s

- 1) Attach a Calibration Tee to output (front) ports for up to 6 phx21™ analyzers.
- 2) Attach the phx21™ probe with probe tip filter in place to the side of the Calibration Tee.(See picture.)



## 3 Calibrate

**Important: All phx21™ analyzers must be powered on and ignited before calibration can begin.**

- 1) From the main Cal3.0™ screen, tap Daily Calibration.
- 2) Follow the On screen prompts from SpanBox3™ to begin automatic calibrations.

## Daily Calibration

- Selecting / Adding Tech IDs
- Selecting /Adding phx21 ID
- Selecting / Adding Client ID
- Perform Daily Inspection
- Selecting / Adding Cylinders
- Selecting / Verifying Ports
- Warm up period...
- Automatic Daily Cal process for each Span
- Signature

**Drift Assessment**

- Selecting / Adding Tech IDs
- Selecting /Adding phx21 ID
- Selecting / Adding Client ID
- Automatic verification Process
- Select / Verify Ports
- Select Assessment Type
- Automatic Drift Assessment Process for each Span
- Signature

**Precision Calibration**

- Selecting / Adding Tech IDs
- Selecting /Adding phx21 ID
- Selecting / Adding Client ID
- Perform Pre Cal Maintenance
- Select / Verify Ports
- Automatic Pre Cal Process for each Span
- Signature

## **4** Transferring phx21™ log file

- Tap on Windows Start (top left corner).
- Tap on Programs.
- Tap on File Explorer.
- Tap on directory name with small down arrow (top left corner region).
- Tap on My Device.
- Tap on My Documents.
- Tap on phx21.
- Tap on Logs folder.
- Find Log file in list being requested by support team.
- Press and hold down on file until pop-up menu.
- Tap on Copy.
- Tap on phx21 name with small down arrow (top left corner region).
- Tap on Hard disk.
- Tap Menu (bottom right corner).
- Tap Edit.
- Tap Paste.
- Once pasting is complete, remove flash drive from SpanBox3™.
- Plug Flash Drive into desktop/laptop.
- Begin new email to support personnel.
- Attach File by navigation to Removable Drive in list containing file.
- Send Email.
- Once email sent, please ensure to remove Flash Drive from computer and reinsert into the SpanBox3™.