

# 441/451 Commercial DucTester QuickGuide

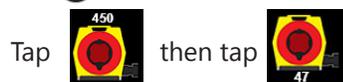


## 1 Prepare the gauge, first time only

- Home screen must show Model 450 on Range 47.



If not, tap the device icon, then Tap **...** until "Retrotec DucTester" appears.



- If units on Channel A and B are NOT correct

- Tap **[Settings]** > **[Results to be displayed]**
- Tap **[Pressure:]** to change pressure
- Tap **[Flow:]** or **[Flow/Area]** to change flow units
- Tap to return **Home**.

- If time average is NOT "5 s avg"

- Tap **[Settings]** > **[Time Averaging]** "5 seconds"
- Tap to return Home.

## 2 Prepare the ducts

- Ensure sealing is complete
- Blank off ductwork



## 3 Connect Flex to ducts

- Attach 4 inch (100 mm) Flex to ductwork



- Install Range 47 Flow Plug



## 4 Connect Flex to Fan

- Connect Flex Duct to fan **outlet** for **pressurization**



- On Model 451 you can **depressurize** ducts by attaching the Adapter onto Fan inlet and attaching the Flex to it



## 5 Connect tubes & controls

- Connect yellow and green tubes between DucTester and gauge
- Plug in the Speed Control Cable between DucTester and Gauge



## 5 Connect tubes & controls cont'd

- Connect blue tube to gauge and to ducts using static probe or connection on flange



- Plug in to power source



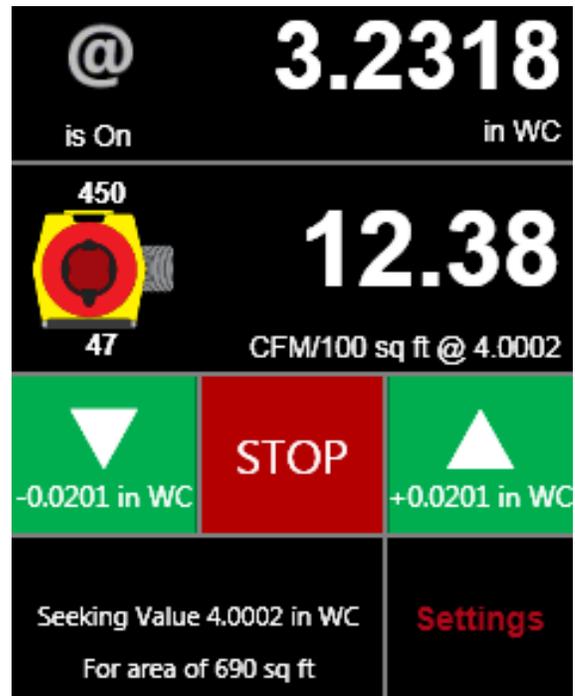
## 6 Prepare Gauge for the test

- Tap **[Settings]** > **[...]** > **[Default@Pressure]** and enter Test Pressure. Tap **[Power]** to return Home.
- If your flow units include area, tap **[Area]**, then use number pad to enter the area and tap **[Set]**

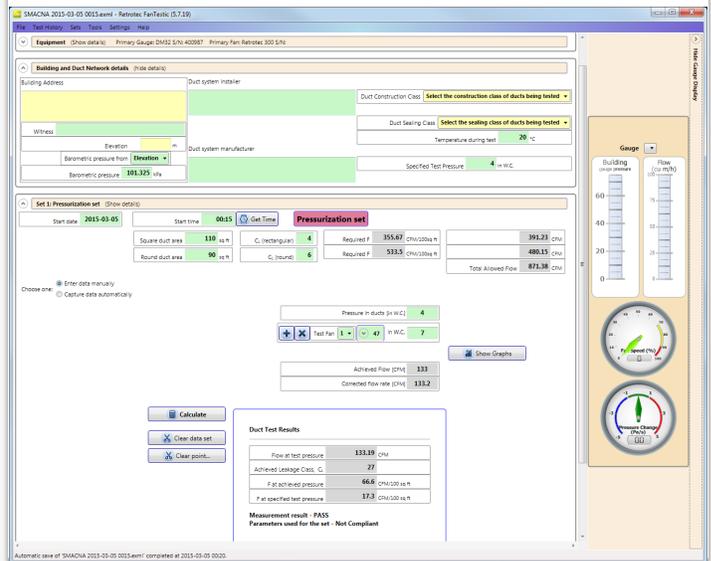
## 7 Run the test

**!** *WARNING! Test pressures may exceed 20 in WC (5000 Pa). Start slowly!*

- **[Set Speed]** to 1% then Jog up to the Test Pressure
- Tap "@" on the display and "Flow at Test Pressure" or "Flow/Area at Test Pressure" will appear
- Jog fan speed up but do not exceed the Pressure Class
- Read results from the Gauge.



- Connect Gauge to a laptop and have FanTestic run the test according to any Standard visit [www.retrotec.com/products/fantestic](http://www.retrotec.com/products/fantestic) to download



## 8 Test Passes

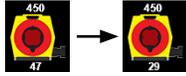
- Complete test reports
- Remove temporary seals

## Desired results not achieved?

### ○ Flow in [Channel B] reads "--" at test pressure?

If the test pressure has been reached, but "--" appears, the fan is running too slowly to accurately measure flow.

- Switch to a lower Range Plug
- Change [Range] to match
- Re-adjust fan speed



### ○ Cannot achieve test pressure at full speed?

If fan reaches 100% speed before reaching test pressure:

- Change to a higher Range Plug and try again.
- Change [Range] on the gauge to match.
- Check seals on all registers. Look for disconnected ducts or ducts open to outdoors.

## Field check gauge weekly

Check gauge operation and check for blocked, leaking or pinched tubes weekly, and anytime results are in question. This will eliminate a common source of error.



To perform the gauge check, you will need the gauge and Umbilical.

- Set [Time Average] to 5 seconds in [Settings].
- Tap [Channel B] and select "Pressure: Pa".
- Connect the yellow tube between the red and yellow ports.



If readings on Channel A and Channel B are within 2% and don't drop rapidly, the tube is not blocked or leaking and the gauge is correct.

Repeat between different ports with each of the tubes you use for testing.

## Get the results you need

- Tap the [Channel B] key to select a different Result, or tap the [Result to be displayed] key on the [Settings] menu.

**Flow: CFM (m3/h)** - Flow at the induced pressure is the simplest result.

**Flow/Area: CFM/100 sq ft (m3/(h\*m2) or m3/(s\*m2) or liters/(s\*m2))** - Flow in CFM per 100 square feet (or m<sup>3</sup>/(h\*m<sup>2</sup>) may be required. Requires an area to be entered.

- When a Result is chosen that requires an area, [Area] will be shown on the Home screen. Tap it to enter the area. The area can also be changed from the [Settings] menu.



Use smaller Range number for tighter ducts, and larger number for leakier ducts.



18



29



47



74

- Tap on the gauge and select the range to match your fan, whenever a Range Plug is changed.



## Additional troubleshooting

Visit [www.retrotec.com/support](http://www.retrotec.com/support) for more support options such as FAQ, Webinars, Manuals, Tech Support, and Repairs.

