

Enclosure Integrity Systems Selector

retrotec

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NFPA 2001-ANNEX C, ISO14520-ANNEX E, EN15004

Choose the perfect system from our wide range

Simple cloth panel systems for lower cost



Modular hard panel systems for fast, professional testing



Versatile low-flow fan systems for tight enclosures



Folding hard panels handle up to 3 high power fans for testing large buildings



Retrotec's exclusive Flex-duct system for measuring zone to zone leakage by pressure neutralization



Made in Everson, WA USA 

Digital Gauge

DM-2 MkII Digital Gauge

The DM-2 MkII is more than just a digital gauge. It is the advanced control center at the heart of every Retrotec system. It has every imaginable feature needed to make testing faster, easier, and more accurate, without the need for a computer, yet is still simple to use.



Fan Control

Manual control

Plug this manual control unit into any Retrotec fan to adjust the speed with the simple turn of the dial. An on/off switch allows speed to be restored to the previous setting.



Automatic speed control

Set to any percent speed and Jog up or down in 1% or 5% increments.



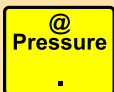
Cruise Control

Set any pressure, and then Jog up or down in 5 Pa increments for fast multipoint tests.



... or super-fast !

...now use the @ key to immediately extrapolate to the exact pressure selected by the "Jog" key, in order to acquire a set of test points as fast as they can be written down.



Laptop control

Advanced USB connection to any laptop allows for the use of a wide variety of software.



Control from a distance

The standard gauge-to-fan cable is 20', but 75' extensions allow control from any distance.

Fan Performance

DU-220 low-flow fan

This 12 inch (30 cm) fan features an accurate flow nozzle that is unaffected by back pressure, or being attached to a flex-duct. Simply flip the fan around to test enclosures in either direction.



2350 standard power fan



This 25 inch (64cm) fan is ideally suited for testing most houses and some small commercial and industrial buildings.

3300SR high power fan



This Retrotec exclusive fan is super powerful and super stable. Its custom industrial strength motor is designed for continuous operation and will never over-heat.

The 3300 SR fans are Self Referenced making them the ideal building science tool since they cannot be hooked up incorrectly and always reference the flow properly even when attaching a flex-duct to create the world's largest duct tester, or when performing floor-at-a-time high rise building tests.

Door Panels

Cloth Panel for economy

Our Standard aluminum frame with cloth panel will fit any typical doorway. Ergonomic knobs, sturdy cam levers, and numbered frame pieces make this frame easy to use.



Modular Panel for flexibility

Retrotec's unique hard panels fit the widest variety of doorways. They're lightweight, quick and easy to set up, and provide an impressive professional appearance.



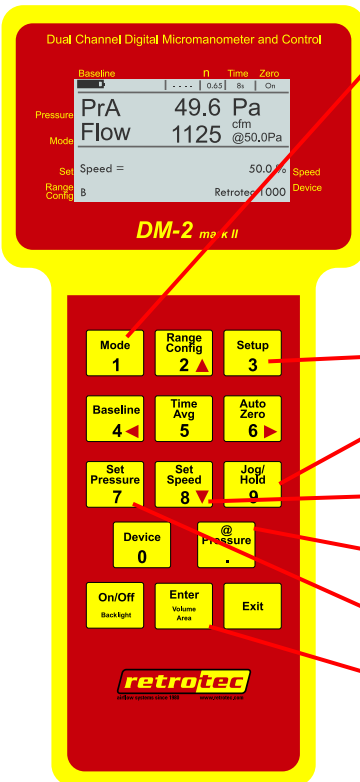
Three-Fan Panel for large buildings

Maximize airflow through one doorway with a folding 3-fan panel that can be carried under the arm. Set up in minutes. Use the included blanking panels if only one or two fans are needed.



Digital Gauge

The Retrotec DM-2 displays every possible result with manual and fully automatic (or computerized) fan speed control.



Mode: Supported units of measurement

Pressure: Pascals, inches H ₂ O, lb/ft ²	PrB	53.5 Pa
Flow: cfm, l/s, m ³ /s, m ³ /h	Flow	253.5 cfm
Flow per area: cfm/ft ² , l/s/m ² , cfm/100ft ² , m ³ /h/m ² , cfm/1000ft ²	Flow/Area	0.25 cfm/100ft ² @75.0Pa
Leakage Area - EqLA (Canadian) and/or EflA (US): cm ² , in ² , ft ²	EqLA	12.8 ft ² @10.0Pa

Setup:

Add/remove modes and devices

Jog/Hold:

Adjust up/down in 5Pa increments for multi-point tests

Set Speed:

Set to any % speed

@ Pressure:

Immediate results at any desired test pressure

Set Pressure:

Cruise control to any pressure

Volume Area:

For Air-changes and ELA per area

Accuracy:

+/- 1% with formal calibration



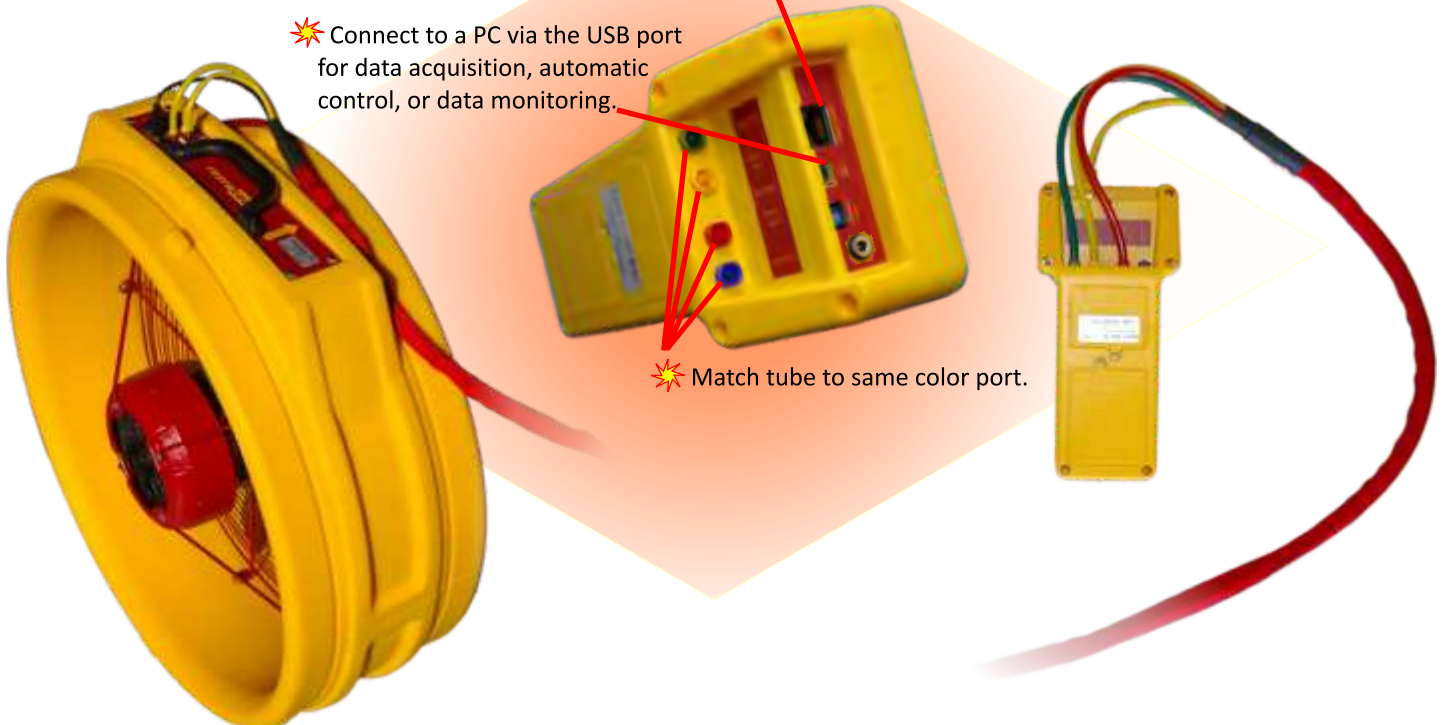
Dimensions

Weight	14oz/397g
Size	8.75 x 4.25 x 3in 22.2 x 10.8 x 7.6cm
Power	AC adapter 4 NiMH AA batteries

✱ Use an unlimited length of ethernet cable for fan control.

✱ Connect to a PC via the USB port for data acquisition, automatic control, or data monitoring.

✱ Match tube to same color port.



Fan Control

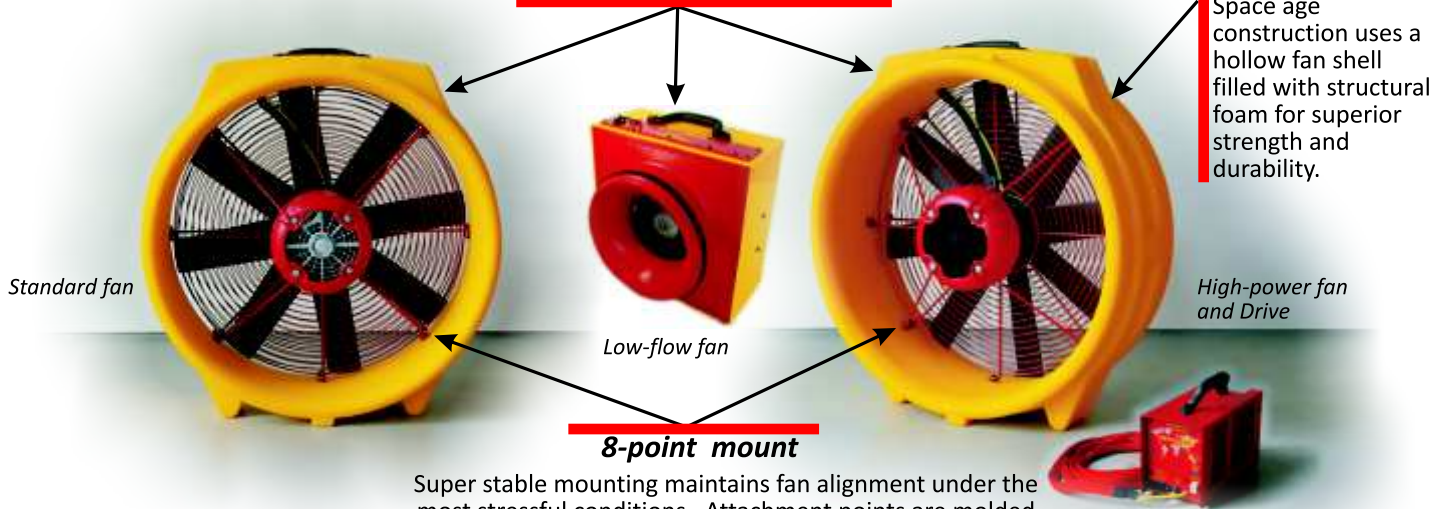
3 sizes of motor in 2 sizes of housing

Choose a 0.25 hp motor in a 12 inch (30cm) housing, or a 0.75 hp or 2 hp motor in a 25 inch (64 cm) fan shell housing



Tough construction

Space age construction uses a hollow fan shell filled with structural foam for superior strength and durability.

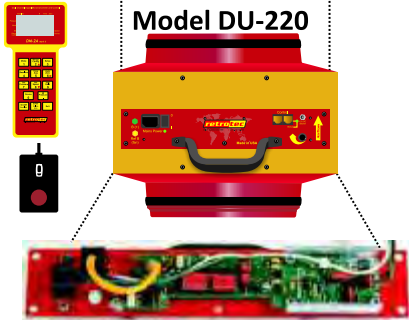


8-point mount
Super stable mounting maintains fan alignment under the most stressful conditions. Attachment points are molded in permanently, so there is nothing that can come loose.

Model 2350



Model DU-220



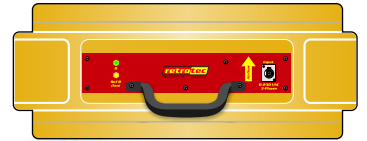
Advanced Control

Retrotec ups the ante with its regulated speed control to eliminate the speed fluctuations experienced with typical manual controls.

Super Advanced Control

The unique variable speed drive provides advanced speed control with Retrotec's 2hp high-speed fan. It generates faster speed control with less than 0.1% speed variation. Use a 100 to 280V, 50 to 60 Hz wall outlet (non GFCI).

Model 3300SR



Model DU-220 fan <i>Low-flow</i>	Dimensions:	14" x 14" x 12" (35 x35 x30 cm)
	Weight:	10 lb (4.5 kg)
	Power in:	Available in 115 Volt or 230 Volt, 185 Watts
	Motor & fan blade:	EBM Backward Curved Impeller
Model 2350 fan <i>Standard</i>	Dimensions:	26" x 25.5" x 9.5" (66 x 65 x 24 cm)
	Weight:	34 lb (15.4 kg)
	Power in:	Available in 115V or 230V, 50 or 60 Hz,1000 Watts
	Motor & fan blade:	¾ hp, PSC motor w/ 8 blade fan
Model 3300SR fan <i>High-power</i>	Dimensions:	26" x 25.5" x 9.5" (66 x 65 x 24 cm)
	Weight:	Fan: 37 lb (16.8 kg)
	Single Phase power in:	Auto-switches 120V, 15A & 240V 8A, 1ph
	Motor & fan blade:	2.0 hp, 3 phase w/ 8 blade fan

Fan Performance

Maximum Fan Flow Rates

	Flow into:	CFM	liters/s	m ³ /h
DU-220 fan <i>reduce by 15% for 50Hz</i>	Free Air	600	321	1155
	50 Pa	5 to 515	2 to 243	8 to 875
Model 2350 fan <i>reduce by 15% for 50Hz</i>	Free Air	6,300	2,973	10,700
	50 Pa	5 to 5,600	2 to 2,643	8 to 9,514
Model 3300SR fans	Free Air	8,500	4,012	14,440
	50 Pa	5 to 8,300	2 to 3,917	8 to 14,100
	300 Pa	2,500	1,888	6,796

Flow-restrictor plates allow one fan to test a wide range of enclosures, from super-leaky to super-tight. Model 2350 and 3300SR fans include 11 flow ranges (*far right*) to provide accurate results over the widest range of enclosures. Test the tightest enclosures with the three ranges included with the DU-220 fan (*right*). Select the Range Configuration on Retrotec's DM-2 digital gauge for instant and accurate results in any desired units.

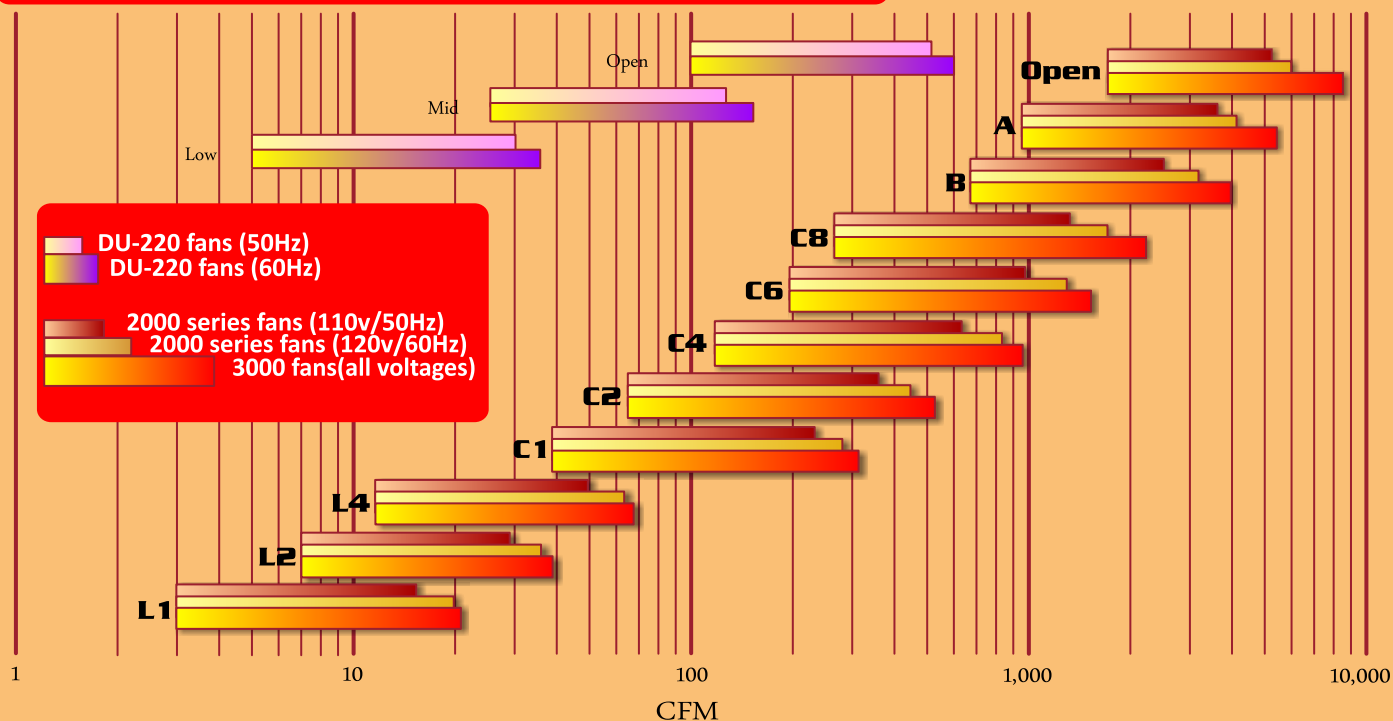


Low flow fan range plates



Standard range plates

Retrotec Fan Performance (Flow in CFM at 50 Pascals)



Each Range Configuration's wide span between the minimum\maximum flow, coupled with a huge number of ranges, enables faster tests over the widest range of buildings or enclosures.

Door Panels

Cloth door panel

Retrotec's least expensive choice for enclosure testing

Options: Extension Kit enlarges the frame horizontally and/or vertically.

High pressure cloth for 300 Pa pressure relief damper testing.

Double fan cloth and upper cross bar to mount two fans.



Dimensions		With Extension Kit
Door widths:	29.5 - 41.5 in (75 - 105.4 cm)	30 - 48 in (76 - 122 cm)
Door heights:	51.5 - 95 in (131 to 241 cm)	60 - 110 in (152 - 280 cm)
Frame thickness:	1.75 in (5.3 cm)	
Frame Case (included):	53 x 10 x 4 in (134 x 25 x 10 cm)	
Frame weight (with cloth):	14.2 lb (6.4 kg)	
Shipping weight:	20 lb (9 kg)	

Modular door panel

For rapid set up and a professional appearance, choose the modular door panels. Three light-weight panels expand to fit the widest doorways.

Options: Small X panel increases height to 97.5 inches (248cm).

Dimensions	
Door widths (min/max)	32 to 48.75 in (81 to 124 cm)
Door height	76.5 to 87 in (194 to 221 cm)
Panel case (included)	31 x 30 x 7 in (79 x 76 x 18 cm)
Panel set in case	24 lb (11 kg)
Shipping weight	31 lb (14 kg)



Three-fan folding panel

Choose this panel system, exclusive to Retrotec, for testing large open warehouses or stores.

Dimensions	
Door widths (max)	47 in (120 cm)
Door height	81 in (205 cm)
Panel case (included)	50 x 30.5 x 5 in (127 x 77.5 x 12.5 cm)
Panel set in case	26 lb (12 kg)
Shipping weight	31 lb (14 kg)



Enclosure Integrity Systems

For testing to NFPA2001 and ISO14520

Q46

Best Value

The Model Q46 system has automatic pressure control and an advanced regulated control circuit to prevent fan speed from wavering. Simply key in the test pressure required and the Q46 will take it there and display the leakage area on the DM-2 screen.



Q5E

The Perfect Enclosure Testing system

The Model Q5E Infiltrometer system combines the best of everything, gauge, controller, fan and a modular door panel, to create our most flexible system for whole room testing. Fits almost any doorway in virtually any size of enclosure. Tests installed relief vent dampers where the added pressure and flow capability is needed.



Q4E

Test larger enclosures

The Model Q4E system features the powerful 3300SR fan(0.75 Vs 2 hp). Test large enclosures with only ONE fan! The cloth door panel keeps the cost down, giving you the best performance at the lowest price. Ideal for testing large & small enclosures of all types and for pressure relief vent testing.

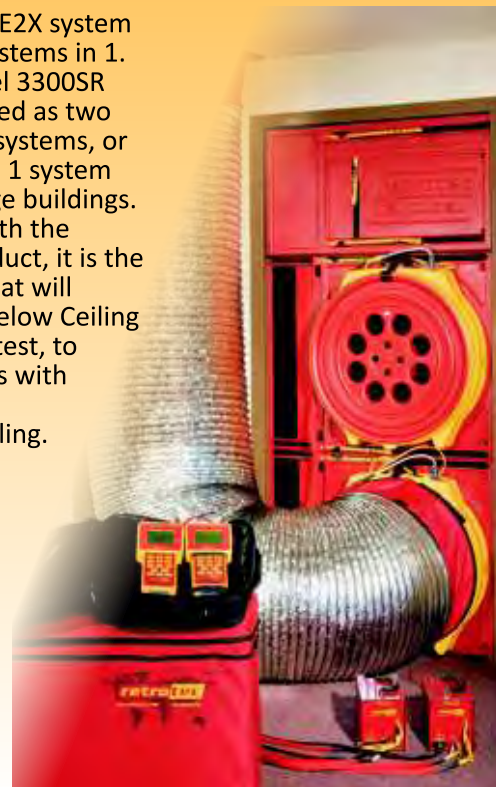


Q5E2X

Measure Upper and Lower Leaks Separately

The Model Q5E2X system is actually 3 systems in 1. The two Model 3300SR fans can be used as two separate Q5E systems, or combined into 1 system for testing large buildings. When used with the included flex-duct, it is the only system that will perform the Below Ceiling Leakage Area test, to test enclosures with leaks above a suspended ceiling.

Both fans can be used together to test enclosures up to 21,600 ft² (2000 m²) of floor area.



Test System Specifications

	Q46	Q4E	Q5E	Q5E-2X
Gauge	DM-2 Digital			2 DM-2 Digital
Gauge accuracy	± 1% or 1 Pa			
Door panel	Cloth panel and aluminum frame		Modular hard panels	
Door panel width	29.5 to 41.5 in (75 to 105 cm)		32 to 48.5 in (81 to 123 cm)	
Door panel height	51.5 to 95 in (131 to 241 cm)		30 in to no limit (76 to 220 cm)	
Fan motor	0.75 hp	2 hp	2 hp	2 X 2 hp
Voltage	110 or 240	100 to 280 (auto-switching)	100 to 280 (auto-switching)	
Frequency	50 or 60 Hz			
Typical maximum volume for All Inerts (ISO)*	55,000 ft ³ 1,550 m ³	80,000 ft ³ 2,250 m ³	80,000 ft ³ 2,250 m ³	160,000 ft ³ 4,500 m ³
for Halocarbons (ISO)*	110,000 ft ³ 3,100 m ³	162,000 ft ³ 4,600 m ³	162,000 ft ³ 4,600 m ³	324,000 ft ³ 9,200 m ³
Typical maximum volume for All Inerts (NFPA)*	35,000 ft ³ 1,000 m ³	51,000 ft ³ 1,450 m ³	51,000 ft ³ 1,450 m ³	102,000 ft ³ 2,900 m ³
for Halocarbons (NFPA)*	70,000 ft ³ 2,000 m ³	106,000 ft ³ 3,000 m ³	106,000 ft ³ 3,000 m ³	212,000 ft ³ 6,000 m ³

* Flooded volume is based on a 4m (13.1 ft.) high room with a minimum protected height of 3.6m (11.8ft.) and a retention time of 10 minutes. Numbers are approximate.

Recommended Options

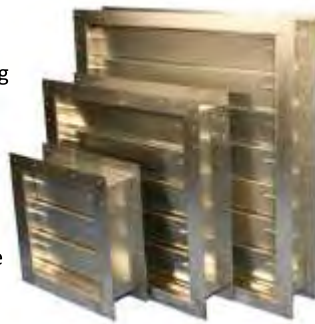


Pressure Relief Vents

Gravity actuated PRV's are fully closed at 80Pa and fully open at 95Pa, ensuring safe dissipation of the peak pressures created by clean agent discharge.

Dual Flow Pressure Relief Vents

The RSH dual flow PRV's have been carefully engineered to relieve both the positive and negative pressures caused by halocarbon discharge.



Grill Mask is essential for covering leaks to sequentially determine which leaks are causing the enclosure to fail.

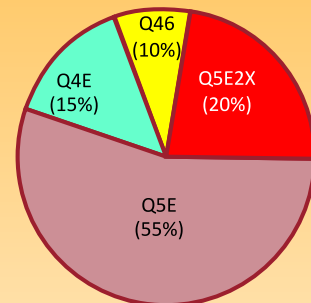


Level 1 & 2 training are required for single fan testing and level 3 for the Q5E2X and the Below Ceiling Leakage Area test.



Air Current testers are essential for finding leaks and indicating airflow direction.

Models sold (for this application)



The pie graph shows what percentage of Retrotec customers buy a particular model. Most people choose the Q5E, because it will test almost any room, with a small, quick to set up, package. Enclosures commonly fail due to excessive above-ceiling leaks, but a Q5E2X will often show these rooms can pass when the 2 fans are used along with the included leakage split kit.