BUILDINGDOCTOR™

Enclosure integrity testing

As per NFPA, ISO, EN, FIA, VdS Standards

retrotec
airflow systems since 1980 www.retrotec.com



services training sales



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Official distributor for:

retrotec Retrotec airflow systems

Look Look Solutions fog machines

PRESSUREVENT.COM Pressure vents

WÖHLER Measure | Inspect | Clean

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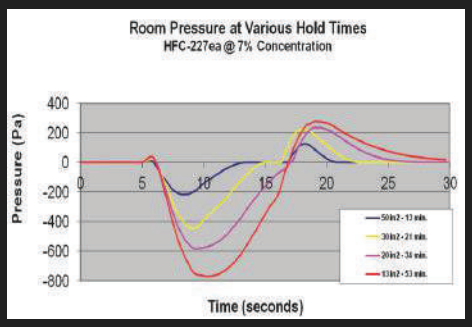
Improve safety and reduce installation costs.

Holdtime and peak pressure analysis required by all standards

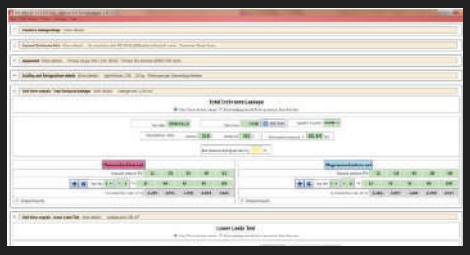
Enclosures with a gas suppression system require testing to ensure the installed system is providing the promised protection. Without testing it is possible that an expensive suppression system is not even working as promised. By testing the enclosure integrity by measuring the air leakage in an enclosure, the duration of protection by the suppression system can be determined. Furthermore, dangerous peak pressures that develop during a discharge can completely destroy enclosures before any level of suppression is obtained. After measuring the air leakage in an enclosure the peak pressure can be predicted, which can proof that the peak pressures are maintained within the required limits.

Having written the first Enclosure Integrity Procedure in 1985, Retrotec is recognized as the worldwide authority. Over 3000 clean agent installation companies use Retrotec equipment in over 60 countries. All standards such as NFPA2001 and ISO14520 require a door fan test for hold time and peak pressure analysis based on room leakage.

Only Retrotec specializes in the door fan equipment specifically designed for the enclosure integity procedure. While the model 5100 is typical of a house testing fan, the 6100 and 6200 models are the system of choice because they not only test enclosures that are almost double that of the 5100 but also test at high pressures which are required for the required peak pressure analysis.



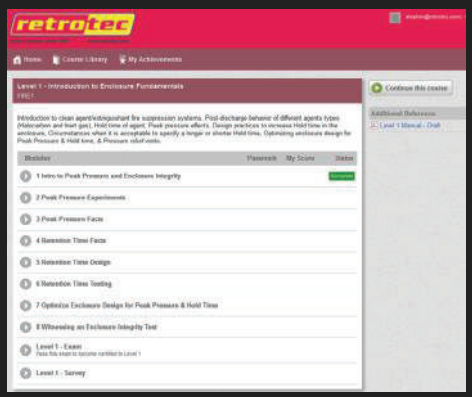
Halocarbon systems typically are not installed with vents but often need them. Vents are often installed in the wrong direction.



Software

Retrotec FanTestic Integrity software combines hold time and peak pressure analysis in one package and allows the user to test to NFPA, ISO, EN, FSSA, FIA and VdS Standards. It creates custom reports in Word that add value to your testing.

The software and training walk you through your tests.



Training and certification

Enclosure integrity tests need to be performed by a competent tester. Our different options for the 3 levels of enclosure integrity training will help you gain a full understanding of the procedures of an enclosure integrity test, as well the use of the software and equipment.
The trainings are available online for training at your convenience, or in live form to get more broad training experience with live support on the topic as well as use of software and equipment.

Including NICET Continuing Professional Development Credits (CPD's)/

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Retrotec Door Fan selector

Choose your system by determining the maximum enclosure volume you will need to test. Extra power will be useful to measure the actual free vent area with pressure relief vents (PRV) open.

The EU6200F systems will measure lower leaks separately, which will allow enclosures to pass the hold time requirement that would not pass otherwise. This may also eliminate the need for PRV's.

Model	EU-300F	EU-5100F	EU-6100F	EU-6200F	EU-6300F
Fans	1 x 140 W	1 x 620 W	1 x 1 240 W	2 x 1 240 W	3 x 1 240 W
Panels	42" cloth optional	42"cloth	Hard panel & 50"cloth	Hard panel & 50"cloth	Hard panel & 50"cloth
Door width Door height	68 - 112cm 135 - 247cm	75 - 112cm 135 - 247cm	81 - 131cm 151 - 278cm	81 - 131cm 151 - 278 221cm	81 - 131cm 151 - 278cm
Maximum enclosure volume, Inerts	120 m^3	1 000 m^3	1 450 m^3	2 900 m^3	4 350 m^3
Maximum enclosure volume, Halocarbons	240 m^3	2 000 m^3	3 000 m^3	6 000 m^3	9 000 m^3
Measures lower leak	No	No	No	Yes	Yes
Recommended for NFPA and ISO	No	No	Yes	Yes	Yes
Can be used for subfloor testing	No	No	No	Yes	Yes
Recommended use	small cabinets	internal use and very small enclosures (budget price)	Basic NFPA and ISO compliant testing	For professional companies requiring to test as per all procedures	For experts who want to test any enclosre size

(recommended system)



Systems generally include:

Test fan, DM32 gauge and door panel system. Fan covers, frame case, gauge case, umbilical connectors, chargers and everything you will need to connect to a laptop are included. Quick guides will help you through the test procedure so learning to use our touchscreen gauge is simply a matter of following the pictures. The system accessory case holds every component of your system. The systems are generally provided with our highly recommended Power Tiny smoke generator.

All 5000F and 6000F systems include optional Ranges 74, 47 and 29 to test the smallest enclosures.

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Door Fan Systems

Model EU-300F



Model EU300F with cloth panel and DM32 digital gauge. Ideal for very small enclosures up to 120 m^3 for inerts and 240 m^3 for halocarbons. Will test the smallest of enclosures or cabinets. Everything packs into the two cases shown in the picture.

240 Volt controls.

Model EU-5100F



Model EU5100F with cloth panel and DM32 digital gauge will test most enclosures . This system is ideal for medium sized enclosures up to 1000 m^3 for inerts and 2000 m^3 for halocarbons.

240 Volt controls.

Model EU-6100F with clothdoor



Model EU6100F with large cloth panel will fit larger doorways. The powerful 1240 W fan will handle the peak pressure requirements with ease and hence this Retrotec fan type is the only recommended fan to meet NFPA and ISO requirements. It includes the new DM32 WiFi gauge. This system is ideal for larger enclosures up to 1450 m^3 for inerts and 3000 m^3 for halocarbons.

240 Volt controls.

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Model EU-6100F with hardpanel



Model EU6100F with hard panel and DM32W. The powerful 1240 W fan will handle the peak pressure requirements with ease and hence this Retrotec fan type is the only recommended fan to meet NFPA and ISO requirements. This system is ideal for larger enclosures up to 1450 m^3 for inerts and 3000 m^3 for halocarbons.
The modular hard panel is faster to setup and is often regarded as more professional and durable compared to the EU6100F with cloth panel. Includes fan case, accessory case plus a large aluminum frame and cloth panel for tight enclosures.

240 Volt controls.

(Over 85% buy this system)

Model EU-6200F with clothdoor



Model EU6200F double fan with large aluminum frame and cloth panel and DM32 WiFi touchscreen wireless gauge. It is actually two complete EU6100F systems that can be used independently or combined with the Leakage Split kit for ceiling neutralization. Includes two 1240 W calibrated fans making it Ideal for large size enclosures up to 2 900 m^3 for inerts and 6000 m^3 for halocarbons. Includes fan cases and tool cases.

240 Volt controls.

Model EU-6200F with hardpanel



Model EU6200F double fan with hard panel and DM32 WiFi does the same job as the previous model EU6200F but has the modular panels to increase operation efficiency and durability. This system is two complete EU6100F systems plus the leakage split kit with flex duct, so it can be used as 2 individual EU6100F systems as well to increase the number of tests done per day. Includes fan cases, tool cases, as well as a large aluminum frame and cloth panel for tight enclosures.

240 Volt controls.

(Over 90% of the major professional companies buy this system)

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DM32 with WiFi is included



With its touchscreen control and highly accurate sensors, DM32 is the new benchmark of the industry. Allows tests to be witnessed remotely over the internet. The WiFi connection allows you to connect your computer or phone with the gauge to control it remotely.

Calibration

Gauges and door fans are calibrated according to ISO-17025, EN-5002, ISO-14520, FIA and/or NFPA-2001. Accredited certificates are supplied; an industry first (some standards are upon specific request).

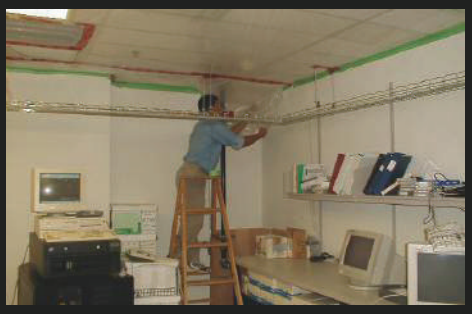
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Benefit of a two fan system



Test pressure relief vents with the additional flow to ensure they will open and/or have sufficient venting along the entire vent path. Vents often fail to perform as claimed and MUST be tested to comply with NFPA and ISO.

Hold Time calculations by default assume a 50/50 leakage distribution which often requires extensive air sealing, if that's even possible. The ceiling neutralization kit shown may increase hold times by 300% and eliminate the PRV. Performing the same test by covering the ceiling with plastic is very time consuming and often does not shorten the hold time result.



You also get two complete systems that can be used separately to test in two locations at once. You have a backup when one is being calibrated. Eliminate the time consuming need to cover ceilings in plastic to pass typical enclosures with more leaks above than below the ceiling. Retrotec's new double fan system comes with gauges that will automatically set the pressure across the ceiling to zero, allowing one tech to perform a test that used to require two.

Smoke generators



High quality smoke generators are used to perform repeat smoke testing, such as to identify leakages in enclosures as well as to perform smoke simulations of smoke extract units or smoke simulations for training purposes.

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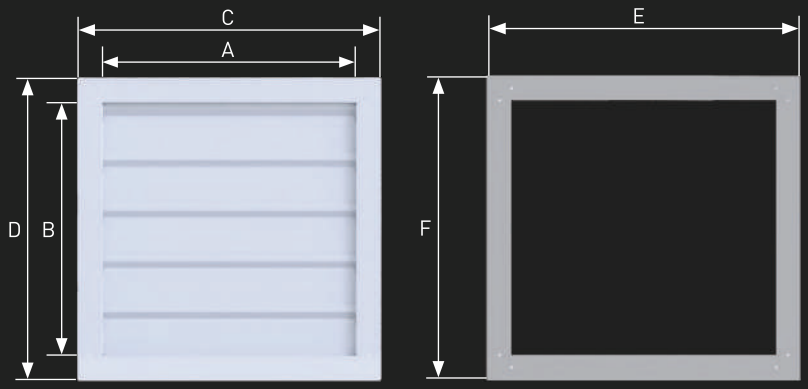
The all new range of balanced weighted pressure relief vents.

PRESSUREVENT.COM



Vent size in mm	PV150	PV300	PV450	PV 600	PV750	PV1050
A	325	325	450	600	750	1050
B	150	300	450	600	750	1050
C	475	475	600	750	900	1200
D	300	450	600	750	900	1200
E	520	520	645	795	945	1245
F	315	465	615	765	915	1215
Regular wall thickness (order sleeve for thicker walls)	110 - 240	110 - 240	110 - 240	110 - 240	110 - 240	110 - 240
Wall opening size	395W x 185H	395W x 335H	520W x 485H	670W x 635H	820W x 785H	1120W x 1085H
FVA @125Pa	0.036	0.073	0.151	0.27	0.42	0.82

Provides a high free flowing vent area, lab verified. The default opening pressure is set to 60-80Pa.



The PV Pressure Vents

The PV range of dual acting pressure relief vents is a new development in the world of pressure relief vents for gaseous extinguishing system. The vents are gravity balanced for fool proof operation, and apart from that the vents are designed to provide a great validated efficiency factor of free vent area at all pressures. The pressure vent blades start to open at above 60 to 80 Pascal's and is designed to be fully open at 125 Pascal's pressure in both directions. The special design provides more than 75% free vent area at 125 Pascal's room pressure, which is measured at the mentioned reference pressure. This means you need less vents, smaller holes, less builders work, smaller vents, and we now provide a greater size range.

The range comes with a 2 hour fire rating to EN1364-1 including certification, as well as verification of its operation. Detailed measurement reports are available upon request.

The PV range is supplied in two kits. One for internal use and one for external use. The PV vent only is used for internal and the PV vent with a louvre is used for external venting. As the vent opens in both directions the external louvre can be provided in a fixed blade louvre or dynamic (more weather proof) louvre.

When mounting the PV range in doors or narrow walls the external wall flange is used as a cover trim.

The standard sized models as mentioned above are available from stock and special sized are available on request on a 6 to 10 week lead time.

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