

Operation Manual

How to Customize the Generated Report

Software – FanTestic
and FanTestic Integrity



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1 Getting Started



FanTestic is software designed to capture data and calculate results required for the analysis of building energy leakage based on one of a number of published Test Standards.

Once you have test results, you can generate a report in MS Word or export your test readings into MS Excel.

This document describes how to customize the .look of the report that will be generated so you can produce a document with the layout you require to report results to your clients.

To generate a report, FanTestic creates a copy of the template with the report name chosen and then goes through the new document, replacing any of the tags (words surrounded by {}) with specific test results or words, or deleting whole paragraphs starting with certain tags.

For example, the first page has a tag {BuildingPicture} which is replaced by the picture selected in the test as the “Building Image” in the report that is generated.

If a report was generated from the test pictured above, {BuildingPicture} in the report would be



replaced with the image automatically.

For many of the tags that replicate the headers used in the FanTestic UI, translated words will be put into the generated report.

For instance, since {Results} corresponds to a header used in the FanTestic UI, if it has been translated for use in the FanTestic UI, the translated word for “Results” will appear in the generated report.

1.1 Perform an air leakage test to get results for a report

You can carry out the building leakage tests using a gauge, fan and door panel and capture the readings on paper to later enter into FanTestic so the software can calculate compliance for you

Alternatively, you can use FanTestic to automatically control your gauge and fan to carry out the test by stepping through the required induced pressure target points and capturing data according to the Test Standard.

You must carry out a building air leakage test and enter results into, or capture the test results using, FanTestic or Integrity software before you can generate a report from the test.

For reference you can look at the following Retrotec guides:

[Door Fan Operation Manual](#)

[Air Leakage Testing Procedures Manual](#)

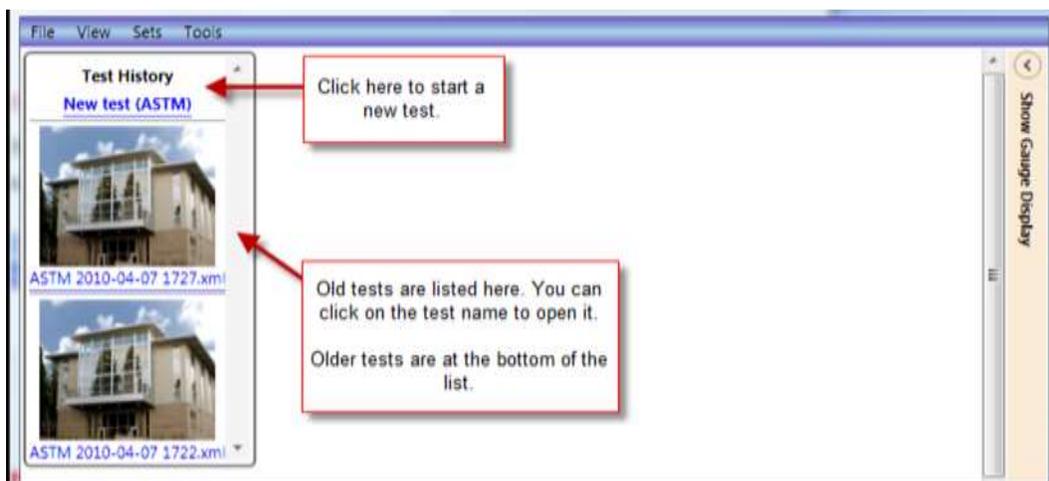
[Multiple Fan Testing for Large Buildings Manual](#)

1.2 Open a test file containing results (.exml or .fxml)

To open a previous test that has already been completed and saved, there are several options:

- The main screen for FanTestic and Integrity can display previously completed tests in the “Test History” pane on the left hand side (with a photo of the building, if it was included when the test file was created). If you have this option turned on (“Test History” → “AutoHide” not enabled), the list will remain open on the left at all times. Click the name of the test file you would like to open.
- Go to menu item “File” → “Open” and a pop-up Windows Explorer window will display all tests in the [MyDocuments]\Retrotec\Tests folder
 - FanTestic tests will have the file extension “.exml”
 - Integrity tests will have the file extension “.fxml”.
- Go to menu item “Test History” → “Show” – the left hand list of all saved tests will appear, the same as the one displayed on the opening screen for FanTestic.

Old tests are listed as a history, below the “New test” option if you have the history list open. You can click on any test name or picture to open that previously saved Test. Older tests are at the bottom of the list.



1.3 Create a report from the Test results in MS Word

FanTestic includes a built-in template to generate reports for test results, each template specific to a test standard (such as ASTM). Users can customize the templates, and can have several different templates for each standard if they wish. Before generating a report, FanTestic will ask the user to choose the template from which to generate the report.

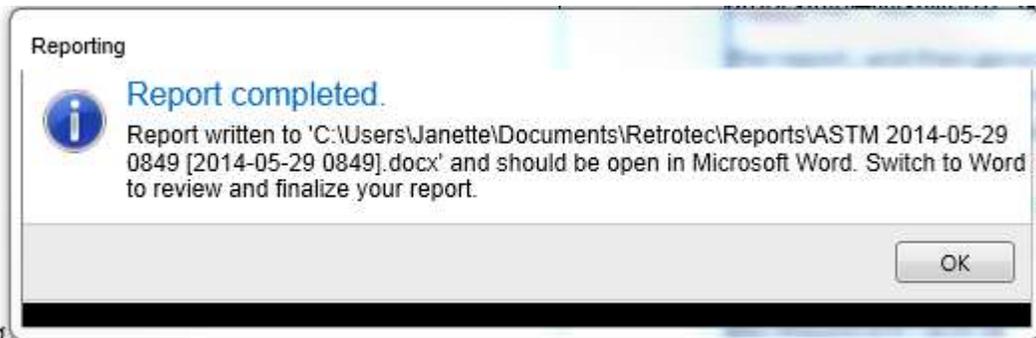
The report generation function is only available if you have a valid, non-expired license for FanTestic. If you do not have such a license, you will be limited to seeing results on the screen.

1.3.1 Generate Report

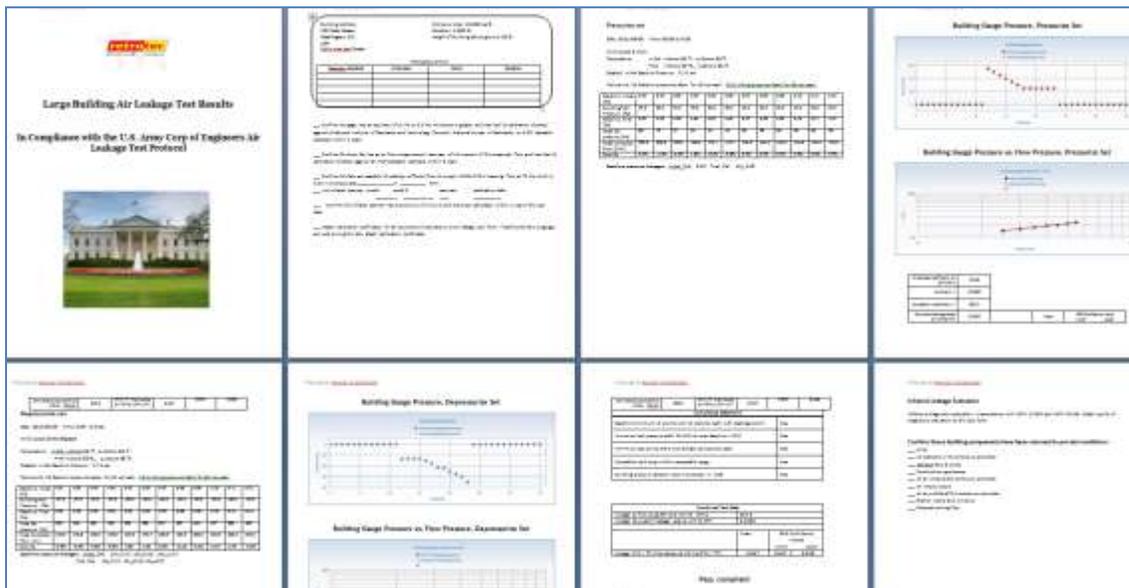
To generate a report, click on “File” → “Generate Report (docx file – MS Word)”.

FanTestic will ask you to choose the template to use for the report, and then generate and automatically open a Word document containing the data and results from your test. The generated report will be saved in your [MyDocuments]\Retrotec\Reports folder with a name based on the name of the test file the report is being generated from and the current date-time.

In the following example, the test file “ASTM 2014-05-29 0849.xml” contains the test results being reported, so the report generated was named “ASTM 2014-05-29 0849 [yyyy-MM-dd]” and put into the [MyDocuments]\Retrotec\Reports folder:

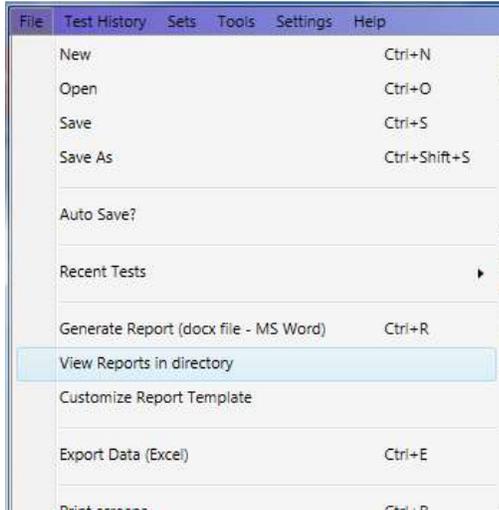


Once the Word document is open, you can edit and print it directly, or create a PDF using the functions of MS Word.



1.3.2 View listing of reports

Click on “File” → “View Reports in directory”.



Windows File Explorer will open on your [MyDocuments]\Retrotec\Reports folder.

You can then open any of the report (.docx) files that appear to see the report.

1.4 Export Data to MS Excel from FanTestic only

FanTestic includes a template for raw data to be exported to Microsoft Excel, in order to view all readings that went into each averaged test point.

To export data, click “File” → “Export Data (Excel)”. This process takes a few minutes, especially for large files, so allow it to process even if it appears to be frozen.

Once completed, an Excel spreadsheet document will open containing all data readings taken during the test. These will be stored in the same location as the reports ([MyDocuments]\Retrotec\Reports), but will have the file extension .xlsx.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
118							26.0		(manual R				-27	2011-06-08 8:23:05 AM
119							26.0		m3/hr	240	141.2587		0	2011-06-08 8:23:04 AM
120			240	141.2587	-27	27								
121							30.4545455		(manual R	0	0		-27	2011-06-08 8:23:11 AM
122							30.4545455		m3/hr	240	141.2587		0	2011-06-08 8:23:06 AM
123			240	141.2587	-27	27								
124							34.9090909		(manual R	0	0		-27	2011-06-08 8:23:15 AM
125							34.9090909		m3/hr	240	141.2587		0	2011-06-08 8:23:08 AM
126			240	141.2587	-26.9797	26.9797								
127							35.3636364		(manual R	0	0		-26.9797	2011-06-08 8:23:24 AM
128							35.3636364		m3/hr	240	141.2587		0	2011-06-08 8:24:00 AM
129			262	154.2074	-30	30								
130							41.8181818		(manual R	0	0		-30	2011-06-08 8:23:27 AM
131							41.8181818		m3/hr	262	154.2074		0	2011-06-08 8:24:02 AM
132			285	167.7447	-35	35								
133							48.2727273		(manual R	0	0		-35	2011-06-08 8:23:29 AM
134							48.2727273		m3/hr	285	167.7447		0	2011-06-08 8:24:06 AM
135			317	186.5792	-43	43								
136							52.7272727		(manual R	0	0		-43	2011-06-08 8:23:32 AM
137							52.7272727		m3/hr	317	186.5792		0	2011-06-08 8:24:10 AM
138			321	188.9335	-44	44								
139							57.1818182		(manual R	0	0		-44	2011-06-08 8:23:37 AM
140							57.1818182		m3/hr	321	188.9335		0	2011-06-08 8:24:14 AM
141			344	202.4708	-50	50								
142							61.6363636		(manual R	0	0		-50	2011-06-08 8:23:40 AM
143							61.6363636		m3/hr	344	202.4708		0	2011-06-08 8:24:19 AM
144			377	221.8938	-55	55								
145							66.0909091		(manual R	0	0		-55	2011-06-08 8:23:42 AM
146							66.0909091		m3/hr	377	221.8938		0	2011-06-08 8:24:23 AM
147			390	229.5453	-60	60								
148							70.5454545		(manual R	0	0		-60	2011-06-08 8:24:08 AM
149							70.5454545		m3/hr	390	229.5453		0	2011-06-08 8:24:25 AM
150			405	238.374	-70	70								
151							75.0		(manual R	0	0		-70	2011-06-08 8:24:12 AM
152							75.0		m3/hr	405	238.374		0	2011-06-08 8:24:28 AM
153			StaticAfter											
154			0	0	0.01	0.01	bias1	0	(bias)	0	0		0.01	2011-06-08 8:22:54 AM
156			0	0	0.02	0.02	bias1	0	(bias)	0	0		0.02	2011-06-08 8:24:33 AM
157							bias1	0	(bias)	0	0		0.02	2011-06-08 8:25:33 AM

2 Customize the way your Report looks

Behind the scenes, reports are generated by copying a template which contains **words surrounded by {}** known as “tags”, and then replacing **tags** in the copied template with the actual test data, reports generated by FanTestic and Integrity are customizable in Microsoft Word by changing the template document.

Change the layout and text surrounding the tags in the template to customize the way the test results are presented.

Some tags are “paragraph deletion markers” and are used to remove whole sections of the template when they are not necessary.

The report generation and template editing functions are only available if you have a valid, non-expired license for FanTestic or Integrity. If you do not have such a license, you will be limited to seeing results on the screen.

2.1 Create a customized Template document

To start customizing a template, click on menu item “File” → “Customize Report Template”.



FanTestic will then copy a clean default template for the standard (and language) you are using to a new document called “xxxxxx_To_Customize [yyyy-MM-dd hhmm].docx” and open that for you to edit.

Test reports are generated from templates specific to the Test standard being used (ASTM, EN13829EU, EN13829, EN13829FR, EN13829DE, EN13829BE, EN13829SE, CGSB, ATTMA, USACE for FanTestic or NFPA, ISO, ISO2000, NFPA2004 for Integrity).

The templates can also be specific to the language of the report.

For example, ASTM test reports in English are generated using the template called “ASTM-en.docx” which will be located in the [MyDocuments]\Retrotec\Templates folder after you have created at least one report.

If you want to create a language specific template, to match the language you use in the user interface, you can translate the template and call it “ASTM-xx.docx” where xx is replaced with the country identifier.

Some templates are already provided in translation, and if so, they will automatically be chosen for you if you have changed the language to use in FanTestic.

2.2 Things not to change

Do not change any of the wording between curly braces: {}. In particular, do not translate these tags to another language.

These are the tags FanTestic used to export results from the test into your report. If they are removed the information will not show up in future reports.

For example, if you remove the tag {BuildingPicture} from the template, the image you select for the building in the test will not show up anymore in the generated report.

If you move or edit the document, check all the tags afterwards to ensure that there are no spaces between the curly brace and the first or last letter of the token within the curly braces.

2.3 Change layout and text surrounding tags

Users customize the report output by changing the text in the template file that is used to create the Word document, and as long as the tags remain somewhere in the template, test data will be output to the generated Test document, replacing those tags.

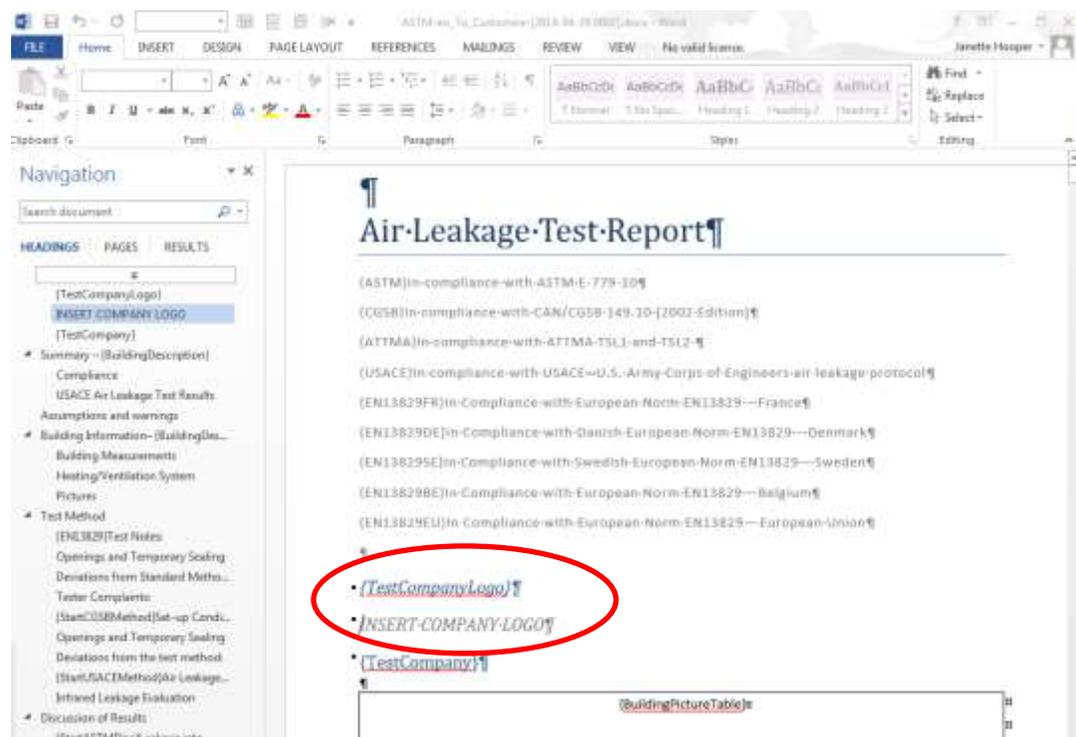
If you are editing an existing template, you will only need to change the layout and text surrounding the existing tags. Be careful not to edit the tags themselves.

If you delete a tag, the test result corresponding to the tag will no longer be put into any reports generated based on the template with the missing tag.

Tags are available for many items in the user interface.

2.3.1 Example: Insert your company logo

Edit the report template of interest. On the first page, the tag {TestCompanyLogo} and the grey “INSERT COMPANY LOGO” can be replaced by an image with your company logo.



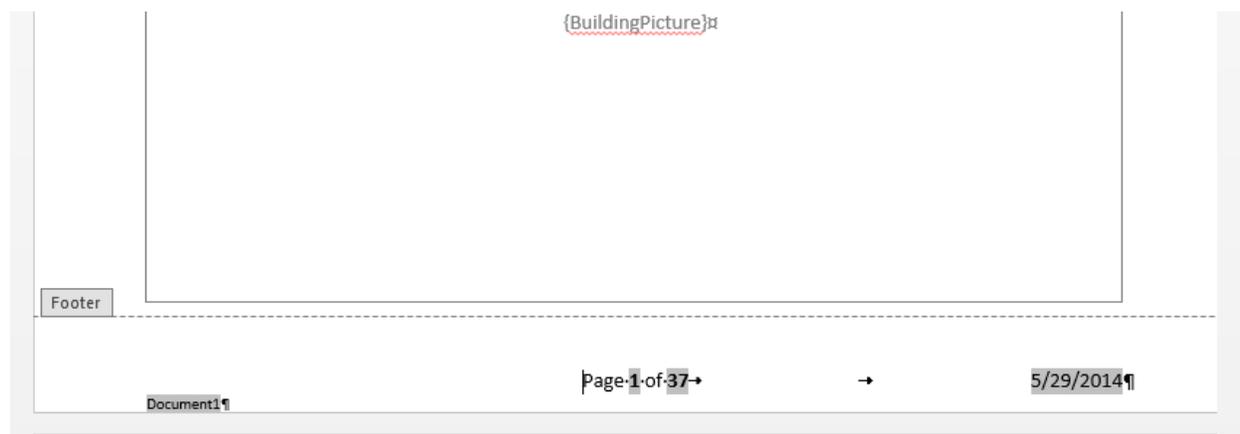
Just paste the logo into the document and delete the paragraphs with {TestCompanyLogo} and “INSERT COMPANY LOGO”, as shown in the following:



Save the template, and the next report you generate with this saved template will have your company logo on the first page.

2.3.2 Insert header or footer

If you would like to customize your report further, you can create a footer that will appear on every page. The default template includes some fields provided by MS Word – one showing the name and location of the document, the page numbers, and the date of creation. These can be updated, and you can add anything else you like into either the header or the footer.



2.4 Include or exclude a single paragraph or table

Some of the tags are “paragraph/table deletion marker” tags, and the entire paragraph following the tag will be deleted under certain circumstances.

These tags are used to include or exclude specific paragraphs or tables based on conditions of the test being used to generate the report. See the list of these tags in table in section 3 or 4.

For example, there can be Test standard specific paragraphs:

{EN13829SE}In-Compliance-with-Swedish-European-Norm-EN13829--Sweden¶

If the Test standard in use by the test you are using to generate the report is NOT {EN13829SE}, then this entire paragraph (from the start of the curly braces up until the ¶ paragraph end mark) will be deleted.

For a whole table to be retained (or deleted) the tag must be in the first cell of the table.

If the tag is a paragraph deletion tag and is in the first cell of a row, the entire row will be deleted.

If the tag is in an interior cell in a table, it will be treated as either a replacement tag or a single paragraph deletion tag.

2.5 Include or exclude a set of paragraphs

FanTestic has some tags that can be used to surround a large set of paragraphs, and delete all the material between the start and end tags. These are used in particular to exclude a data set that does not exist in the test data, or to exclude sections that do not apply to a particular test standard.

For example: if there is only one data set in the test, all the paragraphs between {2-StartSetReport} and {2-EndSetReport} will be removed.

For example: if ASTM is not the test standard in use, all the paragraphs between {StartASTMDisc} and {EndASTMDisc} will be removed.

2.6 Use your new template when generating reports

To generate a report, click on “File” → “Generate Report (docx file – MS Word)”.

FanTestic will open a file chooser on the [MyDocuments]\Retrotec\Templates folder, and ask you to choose the template to use for the report. At this point you can choose your newly created template or any of the ones in this folder.

Once a template is chosen, FanTestic will generate and automatically open a Word document containing the data and results from your test.

The generated report will be saved in your [MyDocuments]\Retrotec\Reports folder with the name you choose.

3 Tags for FanTestic

Tags are created by putting the token from the table into curly braces.

3.1 Text Replacement tokens

If one of these tokens is found inside a report template document, surrounded with curly braces, FanTestic will replace the tag (token inside curly braces) with the value from the test being used to generate the report. The formatting of the value in the output report will be the same as the style of the tag in the template document.

- -n- means a numerical value is required (e.g. # of data set, # of door fan) - see notes for each token for individual explanation.

- -p- means a numerical value for point number is required, points within sets
- For many of the items that are headers, some are the same as used in the FanTestic UI. If the header has been translated for the FanTestic UI, these header tokens can be put into the generated report in translated form (instead of english). User must have the language set in the UI, and should be using a language specific template.

Replacement Token	Units Included?	Standard(s) / Application	Token replaced with:
Accuracy	Yes	EN13829 variants	% accuracy of measurements entered
AirChangesRefPa	no	ATTMA	reference pressure for air changes
AirChangesRefPa	no	EN13829 variants	reference pressure for air changes
AirFlow1RefPa	no	All	Reference pressure for main air flow measurement
AirFlow2RefPa	no	All	Reference pressure for secondary air flow measurement, if any
AirSealingNotes	N/A	ATTMA	air sealing notes
ApplicationVersion	N/A	All	FanTestic version used
ASTMRefPa1	no	ASTM	ASTM reference pressure
AvgAirChanges-Result	no	ASTM	used in the infiltration section if heating/cooling cost not calculated
AvgCFM75-Low	no	USACE	average permeability, lower confidence
AvgCFM75-Result	no	USACE	average permeability result
AvgCFM75-Up	no	USACE	average permeability, upper confidence
AvgChanges50-Low	no	ATTMA	avg ach, lower confidence
AvgChanges50-Low	no	EN13829 variants	avg ach, lower confidence
AvgChanges50-Result	no	ATTMA	avg ach, /h

AvgChanges50-Result	no	EN13829 variants	avg ach,/h
AvgChanges50-Unc	no	ATTMA	avg ach, uncertainty as %
AvgChanges50-Unc	no	EN13829 variants	avg ach, uncertainty as %
AvgChanges50-Up	no	ATTMA	avg ach, upper confidence
AvgChanges50-Up	no	EN13829 variants	avg ach, upper confidence
AvgChanges-Result	no	ASTM	average air changes per hour
AvgChanges-Unc	no	ASTM	average air changes per hour uncertainty
AvgEFLA4B-Low	no	ATTMA	average secondary EFLA lower confidence
AvgEFLA4B-Low	no	EN13829 variants	average secondary EFLA lower confidence
AvgEFLA4B-Result	no	ATTMA	average secondary EFLA result
AvgEFLA4B-Result	no	EN13829 variants	average secondary EFLA result
AvgEFLA4B-Unc	no	ATTMA	average secondary EFLA, uncertainty as %
AvgEFLA4B-Unc	no	EN13829 variants	average secondary EFLA, uncertainty as %
AvgEFLA4B-Up	no	ATTMA	average secondary EFLA, upper confidence
AvgEFLA4B-Up	no	EN13829 variants	average secondary EFLA, upper confidence
AvgEFLA4-Low	no	ATTMA	average primary EFLA lower confidence
AvgEFLA4-Low	no	EN13829 variants	average primary EFLA lower confidence
AvgEFLA4-Result	no	ATTMA	average primary EFLA result

AvgEFLA4-Result	no	EN13829 variants	average primary EFLA result
AvgEFLA4-Unc	no	ATTMA	average primary EFLA, uncertainty as %
AvgEFLA4-Unc	no	EN13829 variants	average primary EFLA, uncertainty as %
AvgEFLA4-Up	no	ATTMA	average primary EFLA, upper confidence
AvgEFLA4-Up	no	EN13829 variants	average primary EFLA, upper confidence
AvgEFLA-Result	no	ASTM	avg LBL effective leakage area
AvgEFLA-Unc	no	ASTM	uncertainty in avg LBL (%)
AvgEQLA75-Result	no	USACE	EQLA result, usually at 75 pa
AvgEQLAInchGap	no	ASTM	leakage in square inches
AvgEQLA-Result	no	ASTM	avg equivalent leakage area
AvgEQLA-Result	no	ATTMA	EQLA result
AvgEQLA-Unc	no	ASTM	avg EQLA uncertainty
AvgEQLA-Unc	no	ATTMA	EQLA uncertainty
AvgFlow1-Result	no	ASTM	avg ASTM avg flow
AvgFlow1-Unc	no	ASTM	avg ASTM flow uncertainty
AvgFlow4-Low	no	ATTMA	secondary flow, lower confidence
AvgFlow4-Low	no	EN13829 variants	secondary flow, lower confidence
AvgFlow4-Result	no	ATTMA	secondary avg flow result, usually at 4 pa
AvgFlow4-Result	no	EN13829 variants	secondary avg flow result, usually at 4 pa

AvgFlow4-Unc	no	ATTMA	secondary flow, uncertainty as %
AvgFlow4-Unc	no	EN13829 variants	secondary flow, uncertainty as %
AvgFlow4-Up	no	ATTMA	secondary flow, upper confidence
AvgFlow4-Up	no	EN13829 variants	secondary flow, upper confidence
AvgFlow50-Low	no	ATTMA	avg flow, lower confidence
AvgFlow50-Low	no	EN13829 variants	avg flow, lower confidence
AvgFlow50-Result	no	ATTMA	main average flow result, usually at 50 pa
AvgFlow50-Result	no	EN13829 variants	main average flow result, usually at 50 pa
AvgFlow50-Unc	no	ATTMA	avg flow, uncertainty
AvgFlow50-Unc	no	EN13829 variants	avg flow, uncertainty
AvgFlow50-Up	no	ATTMA	avg flow, upper confidence
AvgFlow50-Up	no	EN13829 variants	avg flow, upper confidence
AvgFlow75-Result	no	USACE	air flow result, usually at 75 pa
AvgFlowPerArea-Result	no	ASTM	avg flow per unit floor area, result
AvgFlowPerArea-Unc	no	ASTM	avg flow per unit floor area, uncertainty
AvgFlowPerEnv-Result	no	ASTM	avg flow per unit envelope area, result
AvgFlowPerEnv-Unc	no	ASTM	avg flow per unit envelope area, uncertainty
AvgPerm2-Low	no	EN13829 not FR	Specific leakage, lower confidence
AvgPerm2-Result	no	EN13829 not FR	Specific leakage result
AvgPerm2-Unc	no	EN13829 not FR	Specific leakage, uncertainty as %

AvgPerm2-Up	no	EN13829 not FR	Specific leakage, upper confidence
AvgPerm4-Low	no	ATTMA	avg permeability, lower confidence
AvgPerm4-Low	no	EN13829 variants	avg permeability, lower confidence
AvgPerm4-Result	no	ATTMA	avg permeability result
AvgPerm4-Result	no	EN13829 variants	avg permeability result
AvgPerm4-Unc	no	ATTMA	avg permeability, uncertainty as %
AvgPerm4-Unc	no	EN13829 variants	avg permeability, uncertainty as %
AvgPerm4-Up	no	ATTMA	avg permeability, upper confidence
AvgPerm4-Up	no	EN13829 variants	avg permeability, upper confidence
AvgPerm-Low	no	EN13829 not FR	Permeability, lower confidence
AvgPerm-Result	no	ATTMA	Permeability result
AvgPerm-Result	no	EN13829 not FR	Permeability result
AvgPerm-Unc	no	ATTMA	Permeability uncertainty %
AvgPerm-Unc	no	EN13829 not FR	Permeability, uncertainty as %
AvgPerm-Up	no	EN13829 not FR	Permeability, upper confidence
BuildingAddress	N/A	All	Address of building provided
BuildingDescription	N/A	All	description of building provided
BuildingElevation	Yes	All except CGSB	Elevation of building entered
BuildingEnvelopeNotes	no	CGSB, ATTMA	notes on building envelope for testing
BuildingHeight	Yes	All except CGSB	Height of building above ground
BuildingPicture	N/A	All	insert picture of building, if any
BuildingSetupNotes	N/A	ATTMA	building/test set up notes

BuildingSetupNotes	N/A	CGSB	notes on setting up the building for the testing
BuildingVolume	Yes	All	Volume of building
ClimateName	N/A	ASTM	Climate location's name
Combined-FlowChart	N/A	All	combined flows (depressurize and pressurize tests)
Combined-PressureChart	N/A	All	combined pressures (depressurize and pressurize tests)
CombinedResultsHeader	N/A	All	header for summary results – air leakage reduction or combined results
CompBiasPts	N/A	USACE	in compliance on bias points? "Yes" : "No"
CompCorrSlope	N/A	USACE	in compliance on correlation and slope? "Yes" : "No"
CompPressVar	N/A	USACE	in compliance on pressure variation? "Yes" : "No"
CompTestPr	N/A	USACE	in compliance on test pressures? "Yes" : "No"
CompTestPts	N/A	USACE	in compliance on test points? "Yes" : "No"
ConfidenceInterval	N/A	most	header for results confidence interval
CoolingCost	no	ASTM	cost of cooling (\$)
DeviationsNotes	N/A	ATTMA	deviations from standard notes
DeviationsNotes	no	CGSB	notes on deviations from standard testing methods
EFLARefPa	no	All	Reference pressure for EFLA measurement
EnvelopeAreaTotal	Yes	All	Envelope area

EQLARefPa	no	All	Reference pressure for EQLA measurement
EstimatedAnnualVentilationACH	no	ASTM	est annual infiltration, ACH
EstimatedAnnualVentilationCFM	no	ASTM	est annual infiltration, CFM
EstimatedAnnualVentilationCFMPerPerson	no	ASTM	est annual infiltration as CFM/person
EstimatedVentilationCFMPerPerson	no	ASTM	CFM/Person
FansLastCalibrated	no	CGSB	date fans last calibrated – only CGSB has UI for this
FloorArea	Yes	All	Area of floor
GaugesLastCalibrated	no	CGSB	date gauges last calibrated – only CGSB has UI for this
HeatingCost	no	ASTM	cost of heating (\$)
HeightUnits	N/A	all	units data to be displayed in for heights
HVACNotes	N/A	ATTMA	HVAC system testing notes
InputAreaUnits	N/A	all	units data to be displayed in for area measurements
LeakageAreaUnits	N/A	all	units data to be displayed in for leakage areas
LeakageConstantUnits	N/A	all	units data to be displayed in for the constant (intercept C) in the flow equation
MinutesPerFullAirChange	no	ASTM	air change length in minutes
n- ASTMCoefficient -Unc	N/A	EN13829 variants, ATTMA	intercept C for environmentally corrected data, uncertainty

n-AirChanges-Result	no	CGSB	data set n air changes per hour
n-AirChanges-Unc	no	CGSB	data set n air changes per hour uncertainty
n-ASTMCoefficient-Result	N/A	EN13829 variants, ATTMA,USACE	intercept C for environmentally corrected data
n-ASTMHeightTempDiff	no	ASTM	height times temperature difference in ft and fahrenheit
n-Barometric	no	all	Barometric pressure for data set n
n-BarometricMethod	no	All	measure of determining barometric pressure (measured, standard, elevation) for data set n, translated
n-BFAvg	No	All	Avg bias, final
n-BFNegAvg	No	All	Avg negative bias, final
n-BFPosAvg	No	All	Avg positive bias, final
n-BIAvg	No	All	Avg bias, initial
n-BINegAvg	No	All	Avg negative bias, initial
n-BIPosAvg	No	All	Avg positive bias, initial
n-CalibDate	N/A	All	Calibration date, door fan n
n-CalibK1-p	N/A	All	K1 coefficient, door fan n, range p
n-CalibK2-p	N/A	All	K2 coefficient, door fan n, range p
n-CalibK3-p	N/A	All	K3 coefficient, door fan n, range p
n-CalibK4-p	N/A	All	K4 coefficient, door fan n, range p
n-CalibK-p	N/A	All	K coefficient, door fan n, range p
n-CalibNotes	N/A	All	Calibration notes, door fan n
n-CalibN-p	N/A	All	N coefficient, door fan n, range p

n-CalibRange-p	N/A	All	Range name, door fan n, range p
n-CalibUnits	N/A	All	Calibration units used, door fan n
n-CEnv-Low	N/A	EN13829 variants, ATTMA	intercept C for environmentally corrected data, lower confidence
n-CEnv-Result	N/A	EN13829 variants, ATTMA,USACE	intercept C for environmentally corrected data
n-CEnv-Up	N/A	EN13829 variants, ATTMA	intercept C for environmentally corrected data, upper confidence
n-CFM75-Low	no	USACE	data set n permeability, lower confidence
n-CFM75-Result	no	USACE	data set n permeability result
n-CFM75-Up	no	USACE	data set n permeability, upper confidence
n-Changes1-Result	no	ASTM	data set n air changes per hour
n-Changes1-Unc	no	ASTM	data set n air changes per hour uncertainty
n-Changes50-Low	no	ATTMA	data set n ach, lower confidence
n-Changes50-Low	no	EN13829 variants	data set n ach, lower confidence
n-Changes50-Result	no	ATTMA	data set n ach, /h
n-Changes50-Result	no	EN13829 variants	data set n ach,/h
n-Changes50-Unc	no	ATTMA	data set n ach, uncertainty as %
n-Changes50-Unc	no	EN13829 variants	data set n ach, uncertainty as %
n-Changes50-Up	no	ATTMA	data set n ach, upper confidence
n-Changes50-Up	no	EN13829 variants	data set n ach, upper confidence
n-CL-Low	N/A	EN13829 variants, ATTMA	intercept C for leakage data, lower confidence

n-CL-Result	N/A	EN13829 variants, ATTMA	intercept C for leakage data
n-CL-Up	N/A	EN13829 variants, ATTMA	intercept C for leakage data, upper confidence
n-Coefficient-Result	N/A	CGSB	intercept C for environmentally corrected data
n-Correlation	no	EN13829 variants, CGSB, ASTM, USACE	r correlation in percent
n-Correlation	no	ATTMA	r correlation in 0-1
n-EFLA4B-Low	no	ATTMA	data set n secondary EFLA lower confidence
n-EFLA4B-Low	no	EN13829 variants	data set n secondary EFLA lower confidence
n-EFLA4B-Result	no	ATTMA	data set n secondary EFLA result
n-EFLA4B-Result	no	EN13829 variants	data set n secondary EFLA result
n-EFLA4B-Unc	no	ATTMA	data set n secondary EFLA, uncertainty as %
n-EFLA4B-Unc	no	EN13829 variants	data set n secondary EFLA, uncertainty as %
n-EFLA4B-Up	no	ATTMA	data set n secondary EFLA, upper confidence
n-EFLA4B-Up	no	EN13829 variants	data set n secondary EFLA, upper confidence
n-EFLA4-Low	no	ATTMA	data set n primary EFLA lower confidence
n-EFLA4-Low	no	EN13829 variants	data set n primary EFLA lower confidence
n-EFLA4-Result	no	ATTMA	data set n primary EFLA result
n-EFLA4-Result	no	EN13829 variants	data set n primary EFLA result

n-EFLA4-Unc	no	ATTMA	data set n primary EFLA, uncertainty as %
n-EFLA4-Unc	no	EN13829 variants	data set n primary EFLA, uncertainty as %
n-EFLA4-Up	no	ATTMA	data set n primary EFLA, upper confidence
n-EFLA4-Up	no	EN13829 variants	data set n primary EFLA, upper confidence
n-EFLA-Error	no	CGSB	data set n EFLA error
n-EFLA-Result	no	CGSB	data set n EFLA
n-EQLA75-Result	no	USACE	data set n EQLA result, usually at 75 pa
n-EQLA-Error	no	CGSB	data set n EQLA error
n-EQLA-Result	no	ATTMA	data set n EQLA result
n-EQLA-Result	no	CGSB	data set n EQLA
n-EQLA-Unc	no	ATTMA	data set n EQLA uncertainty
n-EquipRow	No	All	puts in Door fan number n, also used as row marker to delete rows for unused fans
n-FanFlowType	No	none	header: "Fan flow [units]" or "Fan pressure [Pa]"
n-FanFlowUnitp	N/A	all	units used for fan flow, data set n, fan pressure line p
n-FinishTime	no	All	end time for data set n
n-Flow1-Result	no	ASTM, CGSB	data set n avg flow
n-Flow1-Unc	no	ASTM, CGSB	data set n flow uncertainty
n-Flow2-Result	no	CGSB	data set n avg flow

n-Flow2-Unc	no	CGSB	data set n flow uncertainty
n-Flow4-Low	no	ATTMA	data set n secondary flow, lower confidence
n-Flow4-Low	no	EN13829 variants	data set n secondary flow, lower confidence
n-Flow4-Result	no	ATTMA	data set n secondary avg flow result, usually at 4 pa
n-Flow4-Result	no	EN13829 variants	data set n secondary avg flow result, usually at 4 pa
n-Flow4-Unc	no	ATTMA	data set n secondary flow, uncertainty as %
n-Flow4-Unc	no	EN13829 variants	data set n secondary flow, uncertainty as %
n-Flow4-Up	no	ATTMA	data set n secondary flow, upper confidence
n-Flow4-Up	no	EN13829 variants	data set n secondary flow, upper confidence
n-Flow50-Low	no	ATTMA	data set n flow, lower confidence
n-Flow50-Low	no	EN13829 variants	data set n flow, lower confidence
n-Flow50-Result	no	ATTMA	data set n flow result, usually at 50 pa
n-Flow50-Result	no	EN13829 variants	data set n flow result, usually at 50 pa
n-Flow50-Unc	no	ATTMA	data set n flow, uncertainty
n-Flow50-Unc	no	EN13829 variants	data set n flow, uncertainty
n-Flow50-Up	no	ATTMA	data set n flow, upper confidence
n-Flow50-Up	no	EN13829 variants	data set n flow, upper confidence
n-Flow75-Result	no	USACE	data set n air flow result, usually at 75 pa

n-FlowPerArea-Result	no	ASTM	data set n flow per unit floor area, result
n-FlowPerArea-Unc	no	ASTM	data set n flow per unit floor area, uncertainty
n-FlowPerEnv-Result	no	ASTM	data set n flow per unit envelope area, result
n-FlowPerEnv-Unc	no	ASTM	data set n flow per unit envelope area, uncertainty
n-FlowPointCount	no	All	the pressure readings include this many points
n-FlowSecondsPerPoint	no	all	at each pressure point collect data for this many seconds (or a minimum of this many readings)
n-FPLDescription-p	no	all	Fan pressure line data set n, line for particular range p, description of the fan pressure line = fan #, range name
n-FPLpRowFF	no	all	Fan flow row for data set n, line for particular range p, fan flow corresponding to fan pressure for this line
n-FPLpRowFP	no	all	Fan pressure row for data set n, line for particular range p
n-FPp-q	no	all	Fan pressure value for data set n, fan pressure line p,
n-FSPp	No	All	Final bias (static) pressure, data set n, point p
n-GaugeModel	N/A	All	gauge type, door fan n
n-GaugeSN	N/A	All	gauge serial, door fan n
n-GreatestInitialBias	no	USACE	largest bias reading in initial bias sampling for data set n

n-ISpp	No	All	Initial bias (static) pressure, data set n, point p
n-NLA-Error	no	CGSB	data set n NLA error
n-NLA-Result	no	CGSB	data set n NLA
n-N-Low	N/A	EN13829 variants, ATTMA	slope lower confidence
n-N-Result	N/A	EN13829 variants, ATTMA, USACE, ASTM, CGSB	slope
n-N-Unc	N/A	ASTM	slope uncertainty
n-N-Up	N/A	EN13829 variants, ATTMA	slope, upper confidence
n-OperatorLocation	no	All	Operator inside or outside for data set n
n-Perm2-Low	no	EN13829 not FR	data set n Specific leakage, lower confidence
n-Perm2-Result	no	EN13829 not FR	data set n Specific leakage result
n-Perm2-Unc	no	EN13829 not FR	data set n Specific leakage, uncertainty as %
n-Perm2-Up	no	EN13829 not FR	data set n Specific leakage, upper confidence
n-Perm4-Low	no	ATTMA	data set n permeability, lower confidence
n-Perm4-Low	no	EN13829 variants	data set n permeability, lower confidence
n-Perm4-Result	no	ATTMA	data set n permeability result
n-Perm4-Result	no	EN13829 variants	data set n permeability result
n-Perm4-Unc	no	ATTMA	data set n permeability, uncertainty as %

n-Perm4-Unc	no	EN13829 variants	data set n permeability, uncertainty as %
n-Perm4-Up	no	ATTMA	data set n permeability, upper confidence
n-Perm4-Up	no	EN13829 variants	data set n permeability, upper confidence
n-Perm-Error	no	CGSB	data set n permeability error
n-Perm-Low	no	EN13829 not FR	data set n Permeability, lower confidence
n-Perm-Result	no	CGSB	data set n permeability
n-Perm-Result	no	ATTMA	data set n Permeability result
n-Perm-Result	no	EN13829 not FR	data set n Permeability result
n-Perm-Unc	no	ATTMA	data set n Permeability uncertainty %
n-Perm-Unc	no	EN13829 not FR	data set n Permeability, uncertainty as %
n-Perm-Up	no	EN13829 not FR	data set n Permeability, upper confidence
n-Rangep	no	all	range name, data set n, fan pressure line p
n-RPp	No	All	Induced (room) pressure, data set n, point p
n-Rsp	No	All	Range(s) used for this point. Example: {1-Rs3} lists the range(s) used in point #3 of data set 1
n-SampleNotes	no	All	sample notes for data set n
n-SLR-Error	no	CGSB	data set n SLR error
n-SLR-Result	no	CGSB	data set n SLR

n-StartDate	no	All	start date for data set n
n-StartTime	no	All	start time for data set n
n-StaticPointCount	no	all	number of bias data points to take
n-StaticSecondsPerPoint	no	All	in each bias data point take collect data for this many seconds
n-TempFinalIn	no	all	final temperature inside for data set n
n-TempFinalOut	no	All	final temperature outside for data set n
n-TempInitialIn	no	All	initial temperature inside for data set n
n-TempInitialOut	no	all	initial temperature outside for data set n
n-TestDirection	no	All	test direction for data set n (in local language)
n-TestingMethod	no	ATTMA	tsl1 or tsl2 test method
n-TFp	No	All	Total flow, data set n, point p
n-TFPp	No	All	Total fan pressure, data set n, point p, single fan test only
n-TimePerFlowMeasured	no	USACE	the actual number of seconds per induced pressure point measurement achieved in the nth set
n-TimePerStaticMeasured	no	USACE	the actual number of seconds per static pressure point measurement achieved in the nth set
n-WindDirection	no	ASTM	wind direction for data set n
n-WindDirection	no	ATTMA	wind direction for data set n
n-WindDirection	no	CGSB	wind direction for data set n
n-WindDirection	no	USACE	wind direction for data set n

n-WindSpeed	no	ASTM	AverageWindSpeed for data set n
n-WindSpeed	no	ASTM	AverageWindSpeed for data set n
n-WindSpeed	no	CGSB	AverageWindSpeed for data set n
n-WindSpeed	no	EN13829 variants	wind speed for data set n
n-WindSpeed	no	USACE	AverageWindSpeed for data set n
n-WindVariability	no	CGSB	wind variability for data set n, translated
PermeabilityRefPa	no	All	Reference pressure for permeability measurement
RequiredVentilation24	no	ASTM	required 24 hour ventilation rate
RequiredVentilation6	no	ASTM	required 6 hour ventilation rate
RequiredVentilationCFM	no	ASTM	required total ventilation, CFM
RequiredVentilationHours	no	ASTM	required ventilation, hours
ResultCompliant	N/A	USACE	“test compliant” / “test NOT compliant”
ResultPass	N/A	USACE	results in a passed test? “Passes” / “Does NOT Pass”
Results	N/A	all	header, either “Change” or “Results”
SummerDesignACH	no	ASTM	Summer design ACH
SummerDesignCFM	no	ASTM	Summer design CFM
tempUnits	N/A	all	units data to be displayed in for temperatures
TestDate	N/A	all	date test was performed
TesterNotes	N/A	ATTMA	additional notes by tester
TestFileName	N/A	All	name of test exml file

TestNotes	N/A	ATTMA, EN13829 variantsl	Overall test notes
TestOperator	N/A	All	Name of tester
TestReportPathFilename	N/A	all	name of report file
TotalFlowUnits	N/A	all	units data to be displayed in for flows
Uncertainty	yes	all	header for Uncertainty results
VentilationSufficientOrNot	N/A	ASTM	natural ventilation “not sufficient”/”sufficient»
VolumeUnits	N/A	all	units data to be displayed in for volumes
WindExposure	N/A	EN13829 variants	Beaufort scale name for wind exposure
WinterDesignACH	no	ASTM	Winter design ACH
WinterDesignCFM	no	ASTM	Winter design CFM

3.2 Paragraph Deletion Tokens

Placed at the beginning of a paragraph inside the report template surrounded by curly braces, FanTestic will delete the entire paragraph with the deletion token at the beginning. The entire paragraph including the token will be deleted if the condition isn't met.

FanTestic does a pass through the document based on the Standard in use first, and checks for paragraphs marked to be kept based on the Standard.

If the token is in the first cell of a table, the table will be deleted/kept based on the condition as well.

Deletion Token	Standard(s) / Application	Notes
ASTM	ASTM	keep paragraph if ASTM used
ATTMA	ATTMA	keep paragraph if ATTMA used
BuildingPictureTable	all	keep if there is a building image
CGSB	CGSB	keep paragraph if CGSB used

EN13829BE	EN13829BE	keep paragraph if EN13829BE used
EN13829DE	EN13829DE	keep paragraph if EN13829DE used
EN13829EU	EN13829EU	keep paragraph if EN13829EU used
EN13829FR	EN13829FR	keep paragraph if EN13829FR used
EN13829SE	EN13829SE	keep paragraph if EN13829SE used
Equip	all	marks equipment table, never deleted, but unused rows within this table are automatically deleted
InfiltrationReport	ASTM	keep tables with this in first cell if infiltration heat/cool cost is calculated
n-CalibTable	all	keep calibration tables for door fan n if it is used in test
n-FPLpRow	all	keep Fan pressure line data set n, line for particular range p if there is data
n-FPLpRowFF	all	Fan flow row for data set n, line for particular range p, fan flow corresponding to fan pressure for this line
n-FPLpRowFP	all	Fan pressure row for data set n, line for particular range p
n-FSP-All	any	indicates need for dump of all readings used for final static pressure averages
n-ISP-All	any	indicates need for dump of all readings used for initial static pressure averages
NoMechVentilation	ASTM	keep if don't need mech ventilation
NotUSACE	not USACE	keep paragraph for any except USACE (delete for USACE)

n-SetReport	all	keep tables with this in first cell if there is an data set number n
USACE	USACE	keep paragraph if USACE used
YesMechVentilation	ASTM	keep if need mech ventilation

3.3 Paragraph Set Deletion tokens

FanTestic will delete all the paragraphs between the start and end tokens showing as tags in the template.

If a table token is shown in the list with the start and end tokens, FanTestic will also remove any tables which fall between the start and end tags and have the table token as a tag in the first cell.

Start and End, table Tokens	Standard(s) / Application	Notes
n-StartSetReport, n-EndSetReport	all	keep paragraphs between these tags if there is an data set number n
StartCostReport, EndCostReport	ASTM	only ASTM has UI
StartInfiltrationReport, EndInfiltrationReport, InfiltrationReport	ASTM	only ASTM has UI
StartASTMDisc, EndASTMDisc	ASTM	keep if ASTM, discussion
StartATTMAMethod, EndATTMAMethod	ATTMA	keep if ATTMA, method
StartUSACEMethod, EndUSACEMethod	USACE	keep if USACE, method
StartUSACECompliance, EndUSACECompliance, USACECompliance	USACE	keep if USACE, Compliance
StartCGSBMethod, EndCGSBMethod	CGSB	keep if CGSB, method

3.4 Photo Insertion tokens

Replace the tag with the photo.

Photo Insertion Token	Standard(s) / Application	Notes
BuildingPicture	All	image of building selected for test
FanCalibrationImage	All	flow equation CFM
INSERT_RoomConstruction	All	not implemented
INSERT_RoomPhoto	All	not implemented
INSERT_RoomSchematic	All	not implemented
TestCompanyLogo		not implemented

3.5 Chart Insertion tokens

Replace the tag with the chart/graph image generated from the test data.

Chart Insertion Token	Standard(s) / Application	Notes
Combined-PressureChart	All	pressure chart from results summary
Combined-FlowChart	All	flow vs pressure chart, from results summary
n-PressureChart	All	pressure chart for data set n
n-FlowChart	All	flows vs pressure chart for data set n

3.6 Defined name columns for Excel data dump

The data collected for a test can be exported to an Excel spreadsheet template if the template has columns with the defined names in the following table.

If you have exported a test to Excel, then you will have a spreadsheet template in your [MyDocuments]\Retrotec\Templates folder which contains these defined column names in the Raw Data worksheet. You can modify that worksheet or create another to include other results (see section 3.7).

Defined Name Column		
Direction		

Step		
PointFlow		TotalFlow for point in step
PointPrA		AverageRoomPressure for point in step
PointCR		CorrectedRoomPressure for point in step
PointPrB		TotalFanPressure for point in step, only valid if one fan is used
RangeUsed		not filled out
PointTarget		“bias0” for before step, “bias1” for after step, otherwise TargetPressure value for point in flow step
ReadingGauge		GaugeSerialNumber for this reading fan pressure line
ReadingFlow		Flow for this reading fan pressure line
ReadingPrA		RoomPressure for this reading fan pressure line
RangeUsed		“(bias)” or range name for this reading fan pressure line
ReadingPrB		FanPressure for this reading fan pressure line
TimeStamp		datetime for this reading fan pressure line

3.7 Replacement tokens for results in Excel

Any result from a test can be included in the Excel spreadsheet template by modifying the Excel template to include a defined range name with the same name as the Replacement Token for that result.

Excel defined names cannot start with numbers, and cannot contain dashes.

If the replacement token starts with a digit, put an underscore in front of the replacement token to create the defined name to put into the Excel template document.

If the replacement token includes any dashes, replace these with underscores to create the defined name to put into the Excel template document.

4 Tags for Integrity

4.1 Text replacement tokens

If one of these tokens is found inside a report template document, surrounded with curly braces, Integrity will replace the tag (token inside curly braces) with the value from the test being used to generate the report. The formatting of the value in the output report will be the same as the style of the tag in the template document.

-n- means a numerical value is required (e.g. # of data set, # of door fan) - see notes for each token for individual explanation.

-p- means a numerical value for point number is required, points within sets

For many of the items that are headers, some are the same as used in the Integrity UI. If the header has been translated for the Integrity UI, these header tokens can be put into the generated report in translated form (instead of english). User must have the language set in the UI, and should be using a language specific template.

Replacement Token	Units Included?	Standard(s) / Application	Notes
AgentDesignConcentration	yes	All	%
AgentInitialConcentration	yes	All	%
AgentMinimumConcentration	yes	All	%
AgentName	N/A	All	
AgentQuantity	no	All	Such as lb, % or cu ft
AgentType	no	All	Halocarbon or Inert
AirFlow1RefPa	no	All	Reference pressure for main air flow measurement, Pa
AirFlow2RefPa	no	All	Reference pressure for secondary air flow measurement, if any, Pa

ApplicationVersion	N/A	All	FanTestic Integrity version used
BCLAMeasured	N/A	All	BCLA ELA is “measured” or “estimated”
BCLAText	N/A	All	Below Ceiling Leakage
BuildingAddress	N/A	All	Address of building provided
BuildingDescription	N/A	All	description of building provided
BuildingElevation	No	All	Elevation of building entered
BuildingElevationCorrectionFactor	no	ISO	
BuildingEnvelopeNotes	N/A	all	Notes entered about the enclosure envelope
BuildingFloodedHeight	no	All	Height of nozzles
BuildingHeight	No	All	Height of building off ground
BuildingOperatingPressure	no	All	
BuildingProtectedHeight	no	All	Minimum Protected Height of equipment
BuildingVolume	no	All	Volume of building
CalculatedExtendedDischargeRate	no	All	
ColumnPressure	no	All	
CustomerInfo	N/A	All	Info on customer test is performed for
DischargeRateUnits	N/A		such as lb/min
DischargeTimeResult	no	All	Retention time result in minutes
EFLARefPa	no	ISO	Reference pressure for EFLA measurement, Pa
EfLAREfPa	no	all	Such as 4
EnclosureDescription	N/A	All	Fire testing enclosure description

EnclosurePressureLimit	no	All	Always Pa
EnvelopeAreaTotal	Yes	All	Envelope area
EQLARefPa	no	All	Reference pressure for EQLA measurement
EqLRefPa	no	All	Such as 10
FansLastCalibrated	N/A	All	
FireBCLANotes	N/A		Notes from BCLA set
FireTestNotes	N/A	All	Overall test notes
FireVentingNotes	N/A	All	Notes from Venting Test set
FloorArea	no	All	Area of floor in area units specified
GaugesLastCalibrated	N/A	All	
HeightUnits	N/A		such as ft
HoldTimeContinualMixing	no	All	Same as DischargeTimeResult
HoldTimeDescendingInterface	no	All	Same as DischargeTimeResult
HoldTimeLessGreater	N/A	All	
ISOText		ISO	Lower Leakage
LeakageAreaUnits	N/A	All	Such as sq in
LeakageConstantUnits	N/A	All	Such as CFM/Pan
LVRNeg	no	All	
LVRNeg	no	All	VentLeakToVolumeRatio negative pressure peak
LVRPos	no	All	
LVRPos	no	All	VentLeakToVolumeRatio positive pressure peak

LVRUnits	N/A		Such as sq in/cu ft
MeasurementOrEstimateBCLA	N/A	All	BCLA values are “measurement” or “estimate”?
MeasurementOrEstimateTotal	N/A	All	Total leakage values are “measurement” or “estimate”?
MeasurementOrEstimateUpper	N/A	All	Upper leaks values are “measurement” or “estimate”?
MinimumRetentionTime	no	All	In minutes
MixingDuringHold		All	Yes or No
n-Barometric	no	all	Barometric pressure for sample n
n-BarometricMethod	no	All	measure of determining barometric pressure (measured, standard, elevation) for direction/sample n
n-BFAvg	No	All	Avg bias, final always Pa
n-BIAvg	No	All	Avg bias, initial always Pa
n-BINegAvg	No	All	Always Pa
n-BIPosAvg	No	All	Always Pa
n-CalibDate	N/A	All	Calibration date, door fan n
n-CalibNotes	N/A	All	Calibration notes, door fan n
n-CalibUnits	N/A	All	Calibration units used, door fan n
n-CFp	No	ISO	Total corrected flow, sample n, point p (value in units appropriate to the standard)
NegativePeakLessGreater		All	Add
NegativePeakPassFail		All	Add
n-ERRp	No	ISO	Point error, sample n, point p, in %

n-FanFlowUnitx	no	All	for direction/sample n, FPL x, if direct entry what are the units?
n-FFp-x	no	All	Fan Flow for direction/sample n, point p on equipment x
n-FinishTime	no	All	end time for direction/sample n
n-FlowPointCount	no	ISO	the number of induced pressures
n-FlowSecondsPerPoint	no	ISO	at each induced pressure collect data for this many seconds (or a minimum of this many readings)
n-FPLDescription-x	No	All	For direction/sample n, FPL x: Description of fan/range used, example "Fan #2, Range C4" (Integrity and in English only currently)
n-FPp-x	no	All	Fan Pressure for direction/sample n, point p on equipment x
n-FSPp	No	ISO	Final bias (static) pressure, direction/sample n, point p
n-ISPP	No	ISO	Initial bias (static) pressure, direction/sample n, point p
n-OperatorLocation	no	All	Operator inside or outside for direction/sample n
n-RPp	no	All	induced pressure direction/sample n, point p
n-Rsp	No	ISO	Range(s) used for direction/sample n, point p example: {1-Rs3} lists the range(s) used in point #3 of direction 1
n-StartDate	no	All	start date for direction/sample n
n-StartTime	no	All	start time for direction/sample n
n-StaticPointCount	no	ISO	number of bias data points to take

n-StaticSecondsPerPoint	no	ISO	in each bias data point take collect data for this many seconds (or a minimum of this many readings)
n-TempFinalIn	no	all	final temperature inside for sample n
n-TempFinalOut	no	All	final temperature outside for sample n
n-TempInitialIn	no	All	initial temperature inside for sample n
n-TempInitialOut	no	all	initial temperature outside for sample n
n-TestDirection	no	All	test direction/sample n (in local language)
n-TFp	no	All	total flow for direction/sample n, point p (only include if more than one equipment or FPL)
n-TFPp	No	All	Total fan pressure, direction n, point p – only valid if one fan being used
OperatingTemperature	no	All	
PeakDischargeTime	no	All	Estimated time for agent to discharge before calculating hold time - seconds
PeakPressureNegative	no	All	Based on agent used and enclosure conditions
PeakPressurePositive	no	All	
PeakVentType	no	All	Damper actuation
PermeabilityRefPa	no	ISO	Reference pressure for permeability measurement
PPMaxHumidity	no	All	peak pressure UI max humidity value
PPMinHumidity	no	All	peak pressure UI min humidity value
QuantUnits	N/A		Quantity units such as lb
RetentionCanCannot			TestPasses ? “can” : “cannot”

RetentionELA1	no	All	ELA from test #1 (whole room), The non-intentional openings provide {RetentionELA1}
RetentionELA2	no	All	ELA from test #2 (lower leaks/BCLA)
RetentionELA3	no	All	ELA from test #3 (upper leaks)
RetentionGreaterOrLess			Test.FireTestPasses ? "greater" : "less"
RetentionK1	no	All	K value of whole room test
RetentionLastF	no	All	F value of last test done
RetentionN1	no	All	N value of whole room test, second set?
RetentionPassesOrFails		All	Test.FireTestPasses ? "PASSES" : "FAILS"
tempUnits	N/A		Temperature units such as C
TestCompany	N/A	All	Name of licensed company using the software
TestDate	N/A	All	
TestFileName	N/A	All	name of test fxml file
TestNotes	N/A	All	Overall test notes
TestOperator	N/A	All	Name of tester
TestOperatorCert	N/A	All	Certification level of tester
TotalEnclosureTestNotes	N/A	All	Notes from Total Enclosure test set
TotalFlowUnits	N/A	All	Such as CFM
TotalMeasured	N/A	All	Total ELA is "measured" or "estimated"
UpperMeasured	N/A	All	Upper leaks ELA is "measured" or "estimated"
UserExtendedDischargeRate	no		planned rate of discharge

VentAdditionalNegative	no	All	Vent area above leakage required for structural integrity
VentAdditionalPositive	no	All	Vent area above leakage required for structural integrity
VentAreaRequiredNegative	no	All	Total vent area required for structural integrity.
VentAreaRequiredPositive	no	All	Total vent area required for structural integrity
VentAreaUnits	N/A		such as sq in
VentAreaUsedNegative	no	All	free vent area during discharge
VentAreaUsedPositive	no	All	free vent area during discharge
VentLeakageMeasuring	N/A	all	Total leakage values come from either “measuring” or “estimating”
VentLeakageMeasuringNegative			If vent negative dataset entered, values come from either “measuring” or “estimating
VentLeakageMeasuringPositive	N/A	all	If vent positive dataset entered, values come from either “measuring” or “estimating
VentMeasuring	no	All	Peak Pressure will be relieved using the leakage of the {VentMeasuring}
VentTesting	no	All	results were obtained by determining the Total Leakage Area of the {VentTesting}
VentType	no	All	Damper actuation
Vn-BIAvg	no	All	Venting data, n=direction number bias initial average
Vn-CEnv-Result		NFPA	Venting Leakage constant, k for direction n (flow unit per hour per Pa exp n)
Vn-EQLA-Result		NFPA	Leakage area at refP, for direction n

Vn-FanFlowUnitx		All	Units used for flow for direction n, equipment FPL x (range name)
Vn-FFp-x	no	All	Venting Fan Flow for direction n, point p on equipment x
Vn-FPLDescriptionx		All	Fan Pressure Line description for flow for direction n, equipment x
Vn-FPp-x	no	All	Venting Fan Pressure for direction n, point p on equipment x
Vn-N-Result		NFPA	Venting Leakage exponent (n) for direction n
Vn-RPp	no	All	Venting induced pressure direction n, point p
Vn-TestDirection	no	All	Venting data, n=direction number, counts up by venting samples taken at each induced pressure
Vn-TFp	no	All	Venting total flow for direction n, point p (only include if more than one equipment or FPL)
VolumeUnits			such as cu ft
WindExposure	Yes	All	Beaufort scale name for wind exposure
WitnessName	no	All	name of witness to the test
WitnessPhone	no	All	phone number for witness to the test
x-DeviceModel	N/A	All	device name, door fan x
x-DeviceSN	N/A	All	serial of device, door fan x
x-GaugeModel	N/A	All	gauge type for equipment x
x-GaugeSN	N/A	All	gauge serial for equipment x

4.2 Paragraph deletion tokens

Placed at the beginning of a paragraph inside the report template surrounded by curly braces, Integrity will delete the entire paragraph with the deletion token at the beginning. The entire paragraph including the token will be deleted if the condition isn't met.

Integrity does a pass through the document based on the Standard in use first, and checks for paragraphs marked to be kept based on the Standard.

If the token is in the first cell of a table, the table will be deleted/kept based on the condition as well.

Deletion Token	Standard(s) / Application	Notes
BCLAOnly		Deleted if NFPA and there is not a BCLA test
DesIntNoBCLA		keep if descending interface and there is no BCLA/lower leaks data set
DesIntYesBCLA		keep if descending interface and there is a BCLA/lower leaks data set
ExtDischrg		Deleted if not extended discharge
ExtDschgNoBCLA		keep if extended discharge and there is no BCLA/lower leaks data set
ExtDschgYesBCLA		keep if extended discharge and there is a BCLA/lower leaks data set
FIA		Deleted if using FSSA or VdS venting equations
FireTestqTable		For Test Data set q, up to 3 in template (add table for NFPA Upper Leaks, samples/directions 5 and 6)
FSSA		Deleted if using FIA or VdS venting equations
Halo	All	Paragraphs applicable to Halogen only, deleted if any other Agent/Extinguishant is being used
IG	All	Paragraphs applicable to Inert Gas only, deleted if Halogen is being used

ISO		Deleted if using NFPA
MixingNoBCLA		keep if mixing and there is no BCLA/lower leaks data set
MixingYesBCLA		keep if mixing and there is a BCLA/lower leaks data set
NFPA		Deleted if using ISO
NotBCLA		Deleted if is BCLA
NotDesclnt		Deleted if is descending interface
NotExtDischrg		Deleted if is extended discharge
NotMixing		Deleted if is mixing
PeakCalculated		Deleted if Peak Pressure has not been calculated
VdS		Deleted if using FSSA or FIA venting equations
VentAboveLeakNeeded		Deleted if venting above leakage is not needed
VentAboveLeakNotNeeded		Deleted if venting above leakage is needed
VentingCalculated		Deleted if Venting has not been calculated
VentingTestTableq		For Venting set q, up to two in template
Vn-FPLxRow		Whole table row for direction n, equipment x, up to 4 are in table
Vn-FPLxRow		Whole Venting table row for direction n, equipment x, up to 4 are in table
Vn-FPLxRowFF		table row for Fan Flow in direction n, equipment x, up to 4 are in table

Vn-FPLxRowFF		Venting table row for Fan Flow in direction n, equipment x, up to 4 are in table
Vn-FPLxRowFP		table row for Fan Pressure in direction n, equipment x, up to 4 are in table
Vn-FPLxRowFP		Venting table row for Fan Pressure in direction n, equipment x, up to 4 are in table
x-EquipRow		device x table row

4.3 Paragraph set deletion tokens

none

4.4 Photo insertion tokens

Not implemented yet

4.5 Chart insertion tokens

Replace the tag with the chart/graph image generated from the test data.

Photo Insertion Token	Standard(s) / Application	Notes
Combined-PressureChart	All	result summary pressures
Combined-FlowChart	All	result summary flows vs pressure
FireChart	All	hold time chart
FireChartBCLA	All	Included if there are BCLA/lower leaks samples
CombinedBCLA-PressureChart		Included if there are BCLA/lower leaks samples
CombinedBCLA-FlowChart		Included if there are BCLA/lower leaks samples
FireChartUpperLeaks		Included if there are upper leaks samples

CombinedUpperLeaks-PressureChart		Included if there are upper leaks samples
CombinedUpperLeaks-FlowChart		Included if there are upper leaks samples

5 Appendix

5.1 Installing FanTestic or FanTestic Integrity Video training

The following videos explain the steps to be taken:

- [Webinar for FanTestic Operation including demo of Virtual Gauge software for DM32](#)

The following videos are for older versions of the software but you may find them valuable in general, since many of the steps required to use the software have remained the same.

- [How to enter data from a Manual Test \(ASTM\)](#)
- [How to use FanTestic to capture data automatically \(ASTM\)](#)
- [Graphing and Saving Test Data](#)

For more Retrotec videos and webinars on other topics, visit

<http://www.youtube.com/user/RetrotecEnergy>

5.1.1 Minimum system requirements

Microsoft Windows O/S: XP (SP2 or greater) or newer (Vista/7/8) –current with all updates

Processor: 1 GHz

RAM: 512 MB

Disk space: 600MB (32-bit) or 1.5 GB (64-bit)

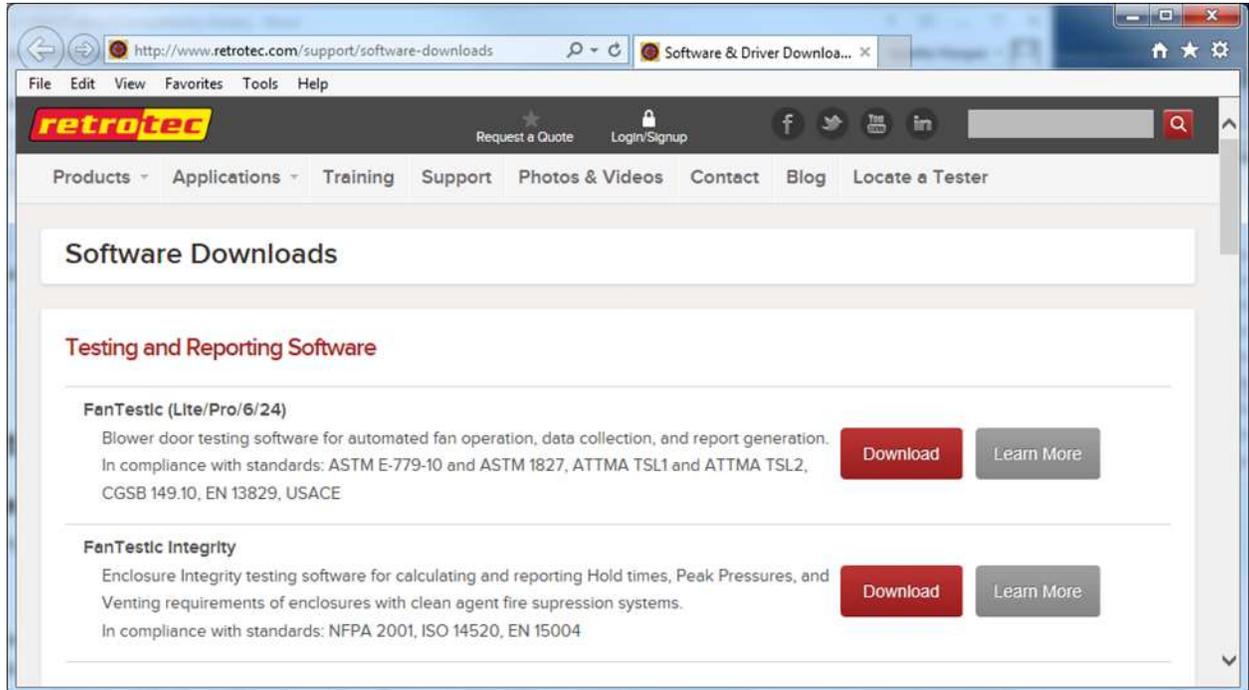
Microsoft Word: 2007/2010+ (or Word 2003 with 2007 support add-in)

Internet connection (for automatic software updates)

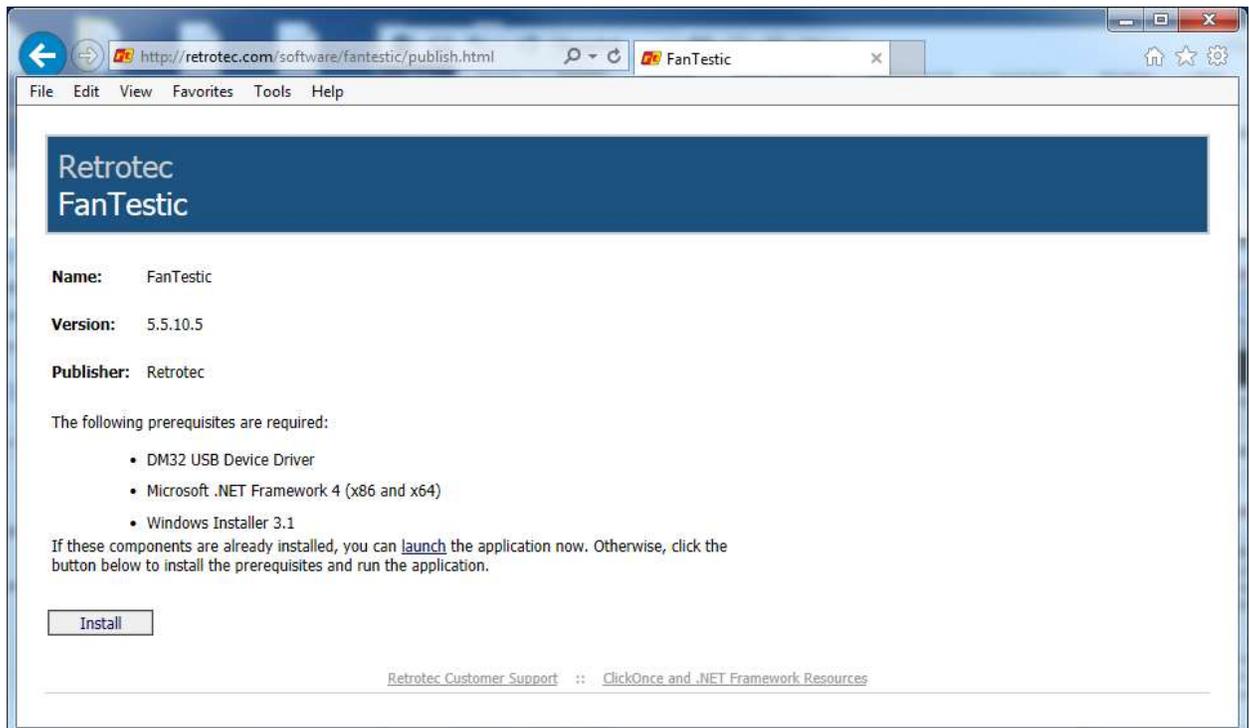
.NET 4.0 framework (will update automatically with the FanTestic installation)

5.1.2 Download and install FanTestic

Go to: <http://retrotec.com/support/software-downloads>



When the webpage opens, click on the “Download” button beside “FanTestic (Lite/Pro/6/24)”



Click the “Install” button on the window that opens.

When prompted with “Do you want to run or save setup.exe?” click on the “Run” button.



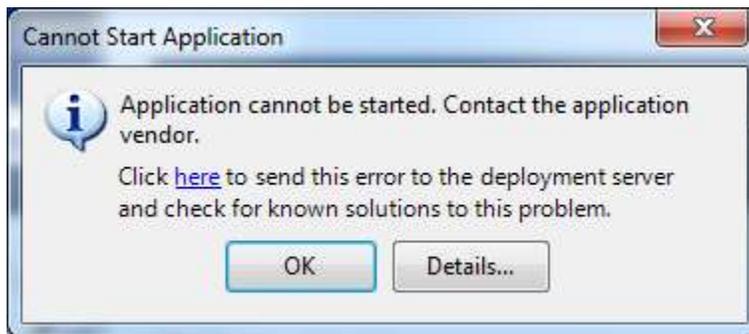
If not prompted, go to the Downloads menu option on your web browser and double-click on the file you have just downloaded (which is called “setup.exe”).

The “Application Install – Security Warning” window will open: click on the “Install” button.

If the User Account Control (UAC) asks for permission, you must give administrator permission for the software to install the DM32 USB driver automatically.

The program will install, and try to start FanTestic for you.

If you have been running a previous version of FanTestic and have been using “Run As Administrator” mode, you will receive the following non-fatal message indicating that the installer cannot launch the software because FanTestic must run in Administrator mode:



Just click ok and launch FanTestic as described in section 5.1.4.

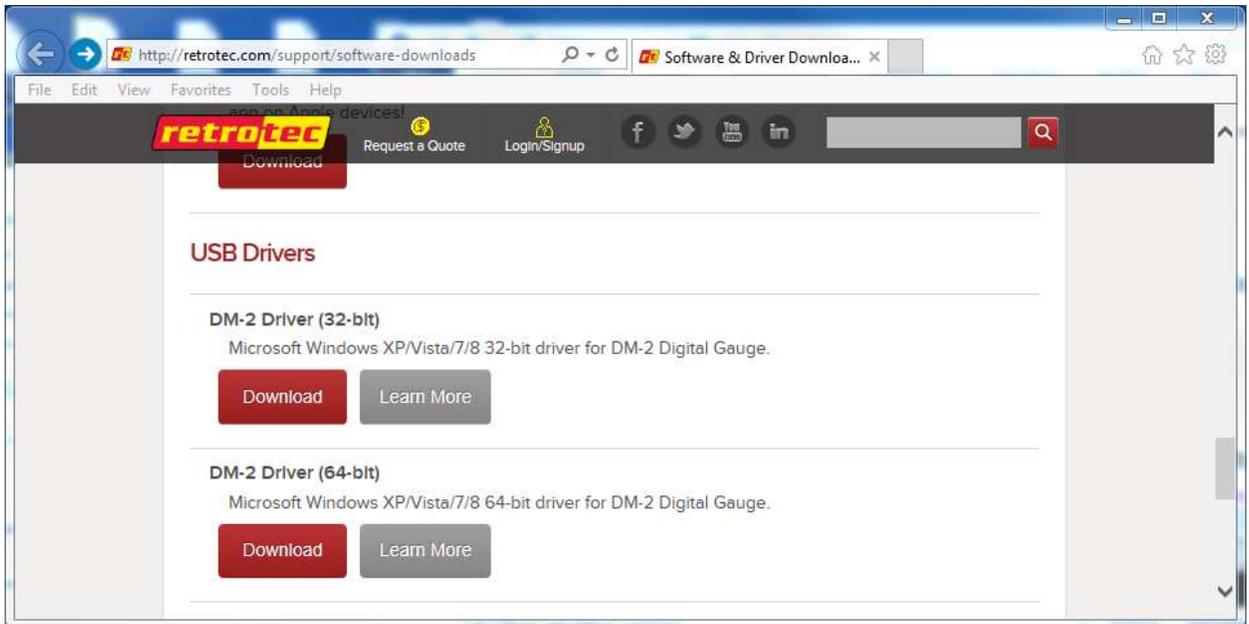
5.1.3 DM-2 users install a USB Driver manually

If you want to run automatic tests with a DM-2 gauge, you must download and manually install a driver for the USB port.

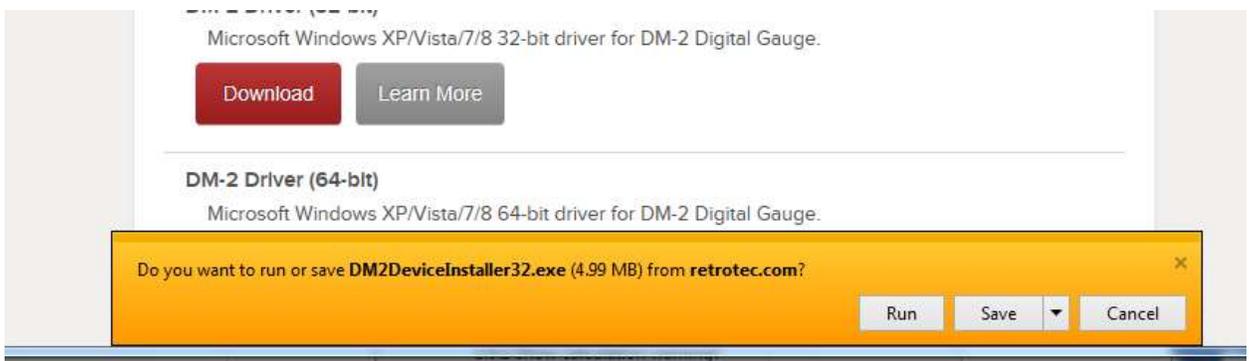
DM32 users will have the driver automatically installed when they install FanTestic or the DM32 Software Suite, and should only use USB connection to update the firmware through the DM32 Configurator, not for automatic control of the gauge.

DM32 users should use Ethernet to connect to the gauges for auto-testing, since that will provide the longest cable option and most reliability. WiFi can also be used depending on the distance between the gauge and the computer and the type of building construction.

- a) Go to: <http://retrotec.com/support/software-downloads>



- b) Download by clicking on the “Download button and when prompted to Run or Save, choose “Save”



- c) To install the Retrotec DM2 driver (DM2deviceinstaller32.exe or DM2DeviceInstaller64.exe), do not double click the file when the download has completed. Instead, right click the downloaded “DM2deviceinstaller” file, and select *Run as administrator* to start the installation. This will give permission to install the required system files.

5.1.4 Start FanTestic

After installation, click the Start Menu → All Programs → Retrotec → FanTestic.



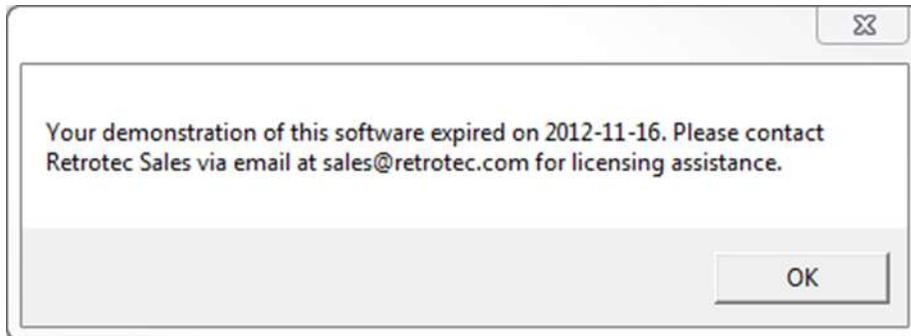
OR use the FanTestic icon on your desktop to start the program. FanTestic will open!



FanTestic will run in demo mode with full functionality for 30 days after you first install. Once the demo version expires, you will not be able to change the test standard being used, generate the MS Word reports or export your test data to MS Excel. You will still be able to enter test data and see the results on-screen, and open tests generated using any of the test standards.

Obtain a license and instructions for activating the software with the license before your demo expires by contacting sales@retrotec.com. The license will be valid for the period of time specified for the license, and with a valid license you will be able to generate the MS Word reports and export your test data to MS Excel.

If your demo or license has expired you will see a dialog window similar to the following when you start FanTestic:

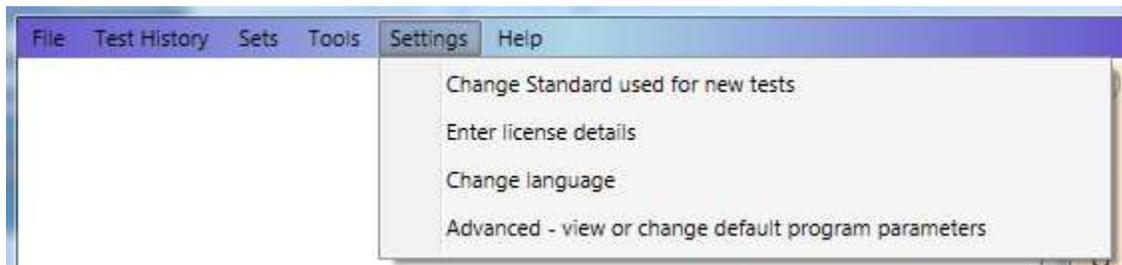


Click "OK" to start the limited version.

The main FanTestic menu bar is at the top, to provide access to functions needed pre and post test.

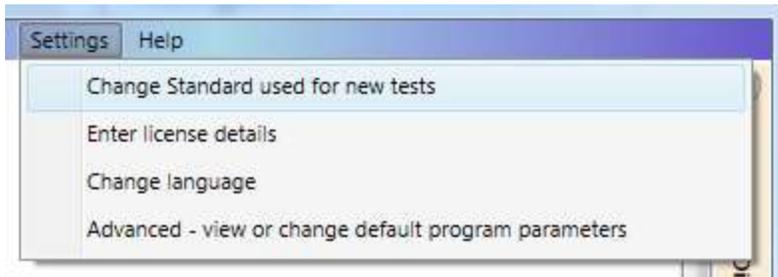


The first time you run FanTestic, you need to make some choices about how you will use FanTestic—access from the "Settings" menu as described in the next sections.

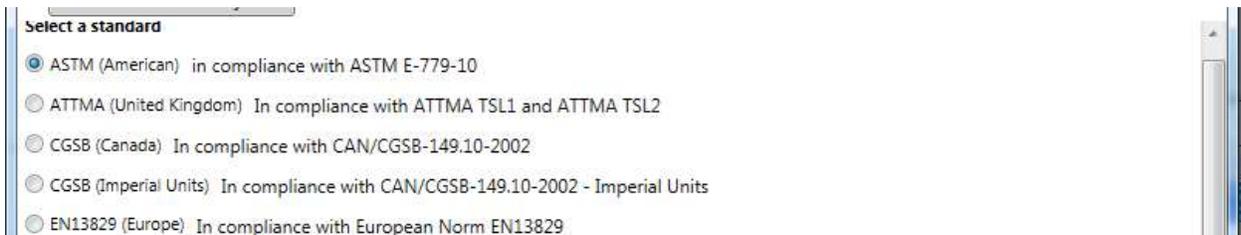


5.1.5 Select a test standard to use for new tests

FanTestic is based on national and international standards which specify how the Air Leakage Tests are to be performed to be valid. Choices of test standard are available "Settings" → "Change Standard used for new tests". The number of Test standards available to be chosen in the list depends on the license purchased.



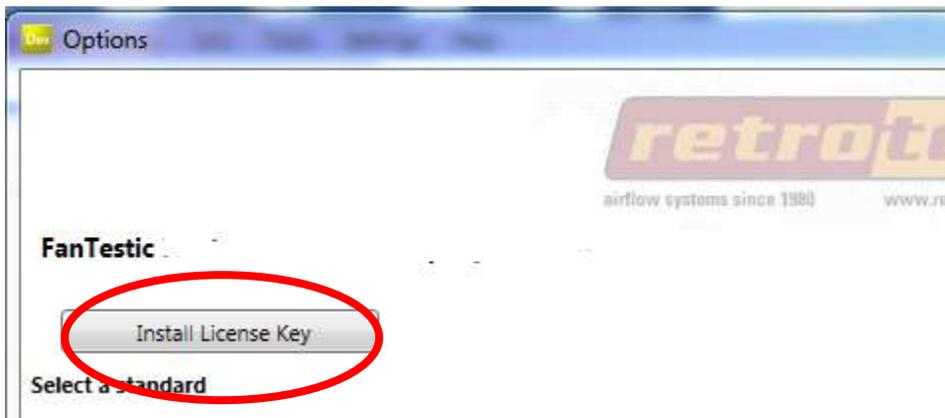
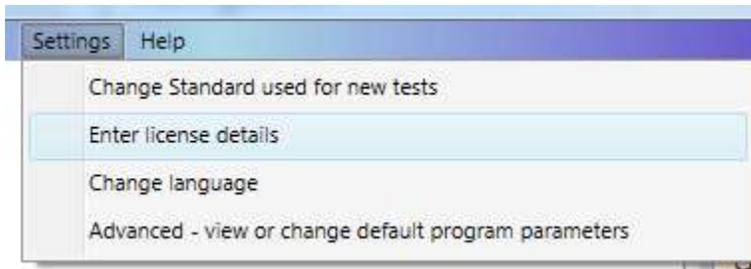
The dialog opens for you to choose the standard by clicking on the button beside the name of the standard:



5.1.6 Enter license key when you receive one

Start FanTestic, if not already running.

Once in the program click "Settings" → "Enter license details".



Click on the "Install License Key" button in the dialog window that opens, and a text entry area opens:

Paste in the license key below.

```

===START_KEY===9;)hi%s`wvljk8'4+5%'kfjalkb8'pqc
(=';9Fcb;9FK;d%fjhudk|%
ilf kv`a9*FK;9VS;CdkQ`vqlfW`b9*VS;9@];9*@];9C;79*C;9UV;9U;DVQH
9*U;9*UV;9FD;9*FD;9DQ;Cdiv`9*DQ;9P@;Cdiv`9*P@;9PB;Cdiv`9*PB;9
PC;Cdiv`9*PC;9PQ;Cdiv`9*PQ;9*Fcb;===END_KEY===

```

Paste from clipboard Install License Key Cancel

Copy the license key from the email you received and paste it into the text entry area that appeared, being sure to include the “===START_KEY===” and “===END_KEY===” portion of the key. If selecting from an email, be sure that the email has not inserted any odd items into the string, such as an “mailto” link. The email containing the key that is sent out from Retrotec will be a “Text only” email, not HTML based, in order to try to minimize license corruption. Click on the “Install License” button below the text box.

```

===START_KEY===9;)hi%s`wvljk8'4+5%'kfjalkb8'pqc
(=';9Fcb;9FK;d%fjhudk|%
ilf kv`a9*FK;9VS;CdkQ`vqlfW`b9*VS;9@];9*@];9C;79*C;9UV;9U;DVQH
9*U;9*UV;9FD;9*FD;9DQ;Cdiv`9*DQ;9P@;Cdiv`9*P@;9PB;Cdiv`9*PB;9
PC;Cdiv`9*PC;9PQ;Cdiv`9*PQ;9*Fcb;===END_KEY===

```

Paste from clipboard **Install License Key** Cancel

Test Standard may be automatically selected based on the license- if not, choose one from the list.

Select a standard

- ASTM (American) in compliance with ASTM E-779-10
- ATTMA (United Kingdom) In compliance with ATTMA TSL1 and ATTMA TSL2
- CGSB (Canada) In compliance with CAN/CGSB-149.10-2002
- CGSB (Imperial Units) In compliance with CAN/CGSB-149.10-2002 - Imperial Units
- EN13829 (Europe) In compliance with European Norm EN13829

Next, fill in the user’s name and email address (corresponds to the technician doing tests with the software). “Software user’s company” will be filled in automatically from the license that was entered:

Software user's company	Retrotec
Software user's name	
Software user's email	
Language to use	English (United States)

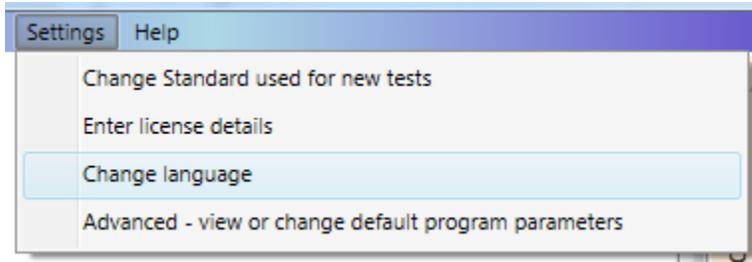
OK Cancel

Then click “OK”.

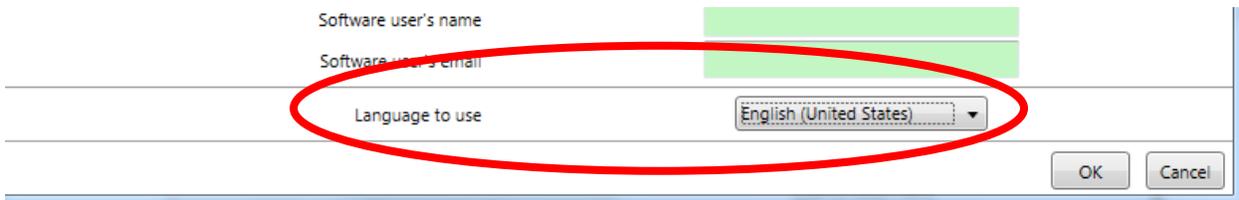
5.1.7 Change language to use for user interface and reports

Start FanTestic if it is not already running.

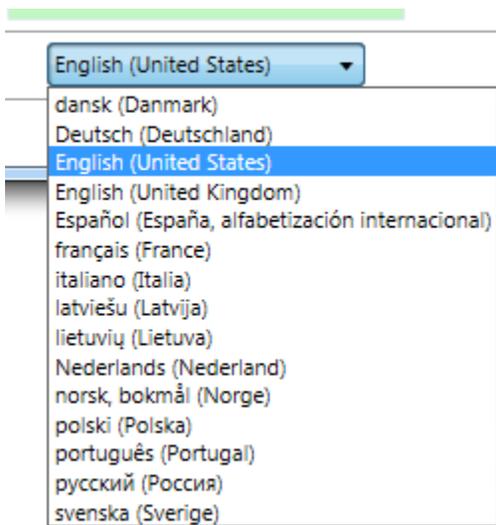
Click on “Settings” → “Advanced - view or change default program parameters”



The Settings dialog will open, and the “Language to use” drop-down is at the bottom:



Choose the language from the language drop-down:

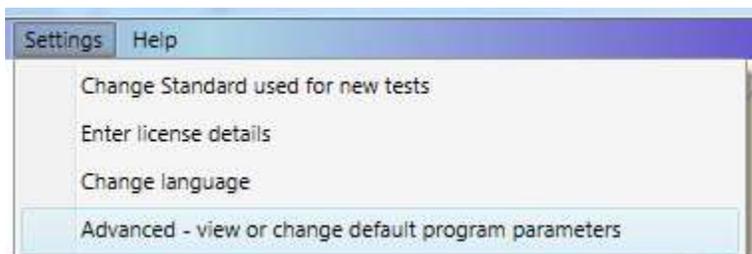


5.1.8 Change parameters used for running the program – (advanced operation)

Changes can be made any time, but a new test file must be opened for any changes to take effect. If changes are made to settings, FanTestic will save and close any open test file (user can skip this) and create and open a new Test file.

Start FanTestic if it is not already running.

Click on “Settings” → “Advanced - view or change default program parameters”

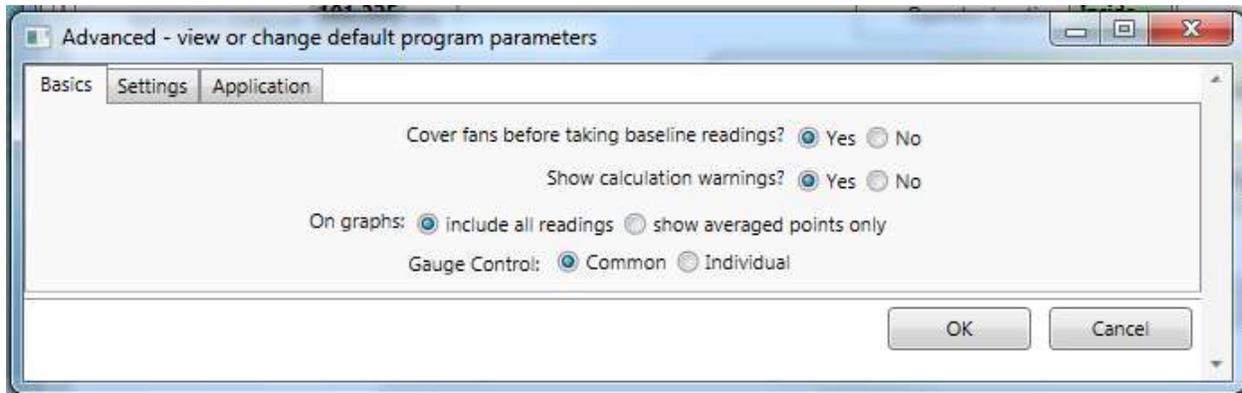


5.1.9 Basics tab for items applying to all tests

Start FanTestic if it is not already running.

Click on “Settings” → “Advanced - view or change default program parameters”

Click on “Basics” tab



5.1.9.1 Cover fans before taking bias readings?

Selecting "Yes" will cause the software to stop after the initial bias pressure readings have been taken in order for the user to uncover the fan(s). Select “No” for a nonstop test in which test pressure will be taken immediately following initial bias pressure readings.

5.1.9.2 Show calculation warning?

Show calculation warnings? Yes No

Warnings will appear when the “Calculate” button is clicked if insufficient building information is provided (i.e. no building volume was entered, therefore ACH50 cannot be calculated). Choose Yes to view the calculation warnings.

5.1.9.3 Data to show On Graphs

On graphs: include all readings show averaged points only

This selection allows you to choose whether the graphs will show all readings, or only show the single point that is the average of all readings at any particular Test Fan pressure.

5.1.9.4 Individual Control

Gauge Control: Common Individual

The Gauge Control function allows a user choose the method that the FanTestic will use to seek a target pressure when multiple fans are being used. The Gauge Control function sets whether a number of fans are controlled with the same signal (from one primary gauge) so all fans run at the same speed or whether each fan is controlled individually and will run at different speeds.

With Gauge Control set to “Common”, all fans will be controlled by the induced pressure reading on the primary gauge, and the non-primary gauges will be set to the speed of the primary fan.

With Gauge Control set to “Individual”, each fan is controlled by the induced pressure on its own gauge. Controlling this way may result in “dueling” fans, where one takes over and runs up to a speed of 100%, while the other fans decrease to 0% speed. If this happens during your test, change to Common Control.

Each gauge must be connected to FanTestic for automatic control, and each gauge must be connected using the yellow speed control cable to its own fan. For details about setting up multiple fan tests, see the [Multiple Fan Testing for Large Buildings Manual](#).

Gauge Control: "Common"

To control the speed of multiple fans based on the speed of the primary gauge, choose "Common". When attempting to create a pressure, FanTestic will set the target pressure on a single (primary) gauge. FanTestic tells the primary gauge to seek that target pressure, and then reads the %speed from the primary gauge, and tells all other gauges to go to that speed. This effectively turns all fans into one big fan that is controlled by the induced pressure on channel A of the primary gauge.

The first gauge in the list in the Equipment tab is the "primary gauge". The primary gauge can be switched by the user.

Gauge Control: "Individual"

For each fan to be controlled only by their own gauge, choose "Individual". When attempting to create a pressure, FanTestic will set the target pressure or speed on each of the gauges. FanTestic tells each gauge to seek that pressure target simultaneously. This would be the same as a human operator using the Set Pressure function on each gauge individually.

5.1.10 Settings tab for items specific to each test Standard

Start FanTestic if it is not already running.

Click on "Settings" → "Advanced - view or change default program parameters"

Click on "Settings" tab.

Advanced - view or change default program parameters

Basics Settings Application

Reset to Standard Defaults

Pressure reference for ASTM:

Air flow reference pressure #1 (also for Air Changes per Hour)	50
Air flow reference pressure #2	N/A
Flow / unit area reference pressure	50
Effective Leakage Area reference pressure	4
Equivalent Leakage Area (EqLA) reference pressure, P_{ref}	10

Take 1 bias pressures for 30 s each.

Take 6 induced pressures from 10 to 60 Pa, for 10 s each.

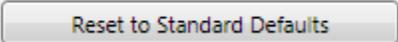
Pressure target arrival criteria: Error must be less than 5% or 1 Pa in a sample of 12 readings.

Bias stability required before testing: maximum change of 0.5 Pa/sec tested over 10 Sec.

OK Cancel

Many of the settings can be changed to accommodate user-defined testing procedures.

However, you usually want to run a test according to the default protocol rules. If so, click the

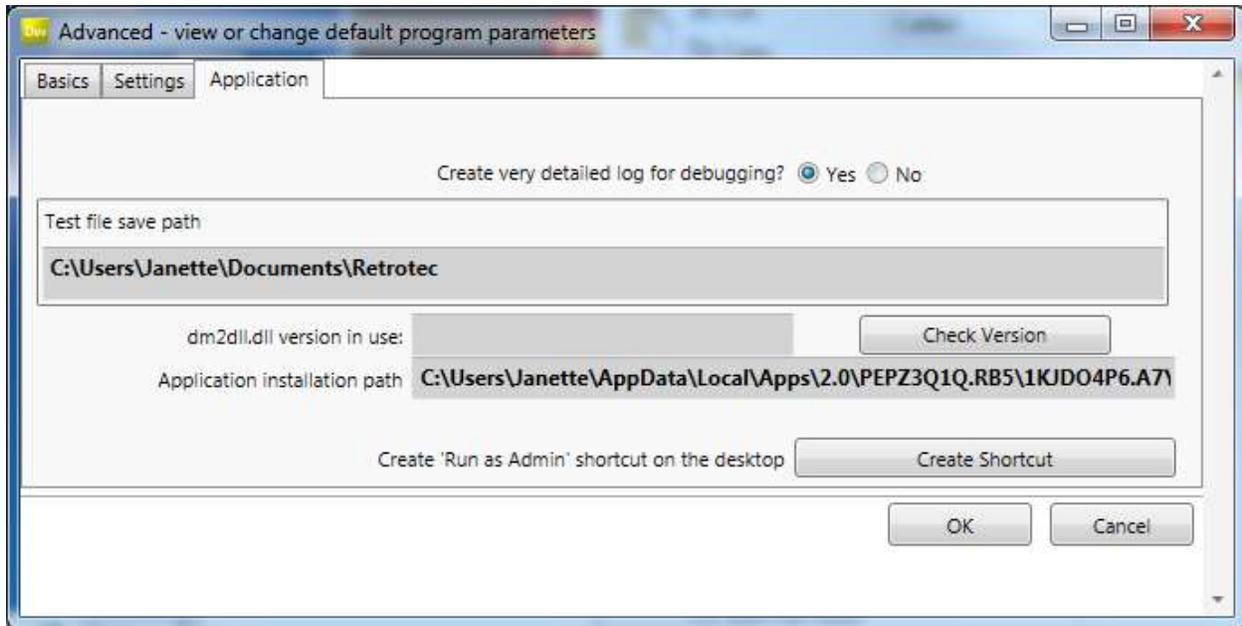
 button to run a test according to the default protocol rules.

5.1.11 Application tab for items specific to FanTestic behind the scenes

Start FanTestic if it is not already running.

Click on “Settings” → “Advanced - view or change default program parameters”

Click on “Application” tab



5.1.12 Automatic Save

Test data can be automatically saved at periodic intervals by turning the Auto Save function on (“File” → “Auto save?”).

Test files are normally saved on your local C: drive under [MyDocuments]\Retrotec\Tests.

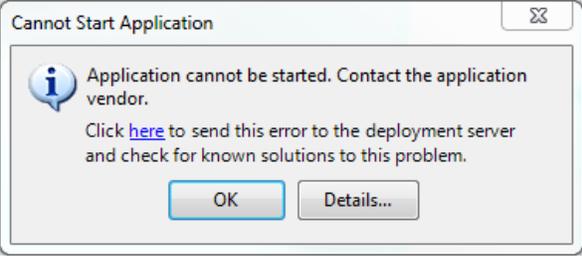
If you change the location of the test file to a remote drive, and then remove the remote drive with FanTestic running and AutoSave on, the software will not be able to save the file to the remote drive anymore, and may report an error.

Turn AutoSave Off if you wish to double click to launch test files attached to emails. If you double click on a file with extension .exml attached to an email in MS Outlook with AutoSave on, FanTestic will start up and open the test file, but when AutoSave tries to save to the inaccessible MS Outlook temporary location, FanTestic may report an error.

5.2 Troubleshooting

Problem	Solution
Tags are left in generated report, which means report generator code cannot find the tag, but the tag appears to be in the template	<ul style="list-style-type: none"> • make sure you are using the template in which the tag appears • make sure there are no spaces between the curly brace and the first or last letter of the token within the curly braces

	<ul style="list-style-type: none"> • make sure the token in the tag has the exact capitalization shown in the table
Cannot generate reports in FanTestic	<ul style="list-style-type: none"> • Make sure you are using the most recent version of Microsoft Word (2007 or greater) • If you are using an earlier version (2003 or earlier), please download a free compatibility pack here that will allow you to open/edit/save Word 2007 documents. • If this does not fix the problem, contact us.
Cannot find gauges with DM-2 connected – DM-2-to-computer connection is not functional	<ul style="list-style-type: none"> • You must download the DM-2 USB driver from Retrotec’s website in order to get the computer to recognize the DM2 gauge. You can access this driver here. • Make sure to first right click “DM2deviceinstaller” exe and select Run as administrator to install it, instead of double-clicking the file. • If the driver is downloaded and functional, unplug the DM-2 from the computer, power it off, turn it back on after 10 seconds, and re-plug it back in. <p>Try the  button once more.</p> <ul style="list-style-type: none"> • Try plugging the DM-2 into an active powered USB hub (with hub plugged into mains power)
Cannot find gauges using DM-2 with firmware older than version 3.0 (The version is displayed when you turn on the DM-2 gauge, and on the top line when you push [Setup].)	<ul style="list-style-type: none"> • Any DM-2 gauge that is older than Firmware Version 3.0 requires an Active Powered USB HUB, with hub plugged into mains power.
Find Gauges with DM-2 gauges results in a message containing the phrase “Error 5: Access Denied”	<ul style="list-style-type: none"> • You must run FanTestic as Administrator • See the document: Solve DM-2 Access Denied Errors
Intermittent DM-2 connection over USB	<ul style="list-style-type: none"> • Try plugging the DM-2 into an active powered USB hub (with hub plugged into mains power)

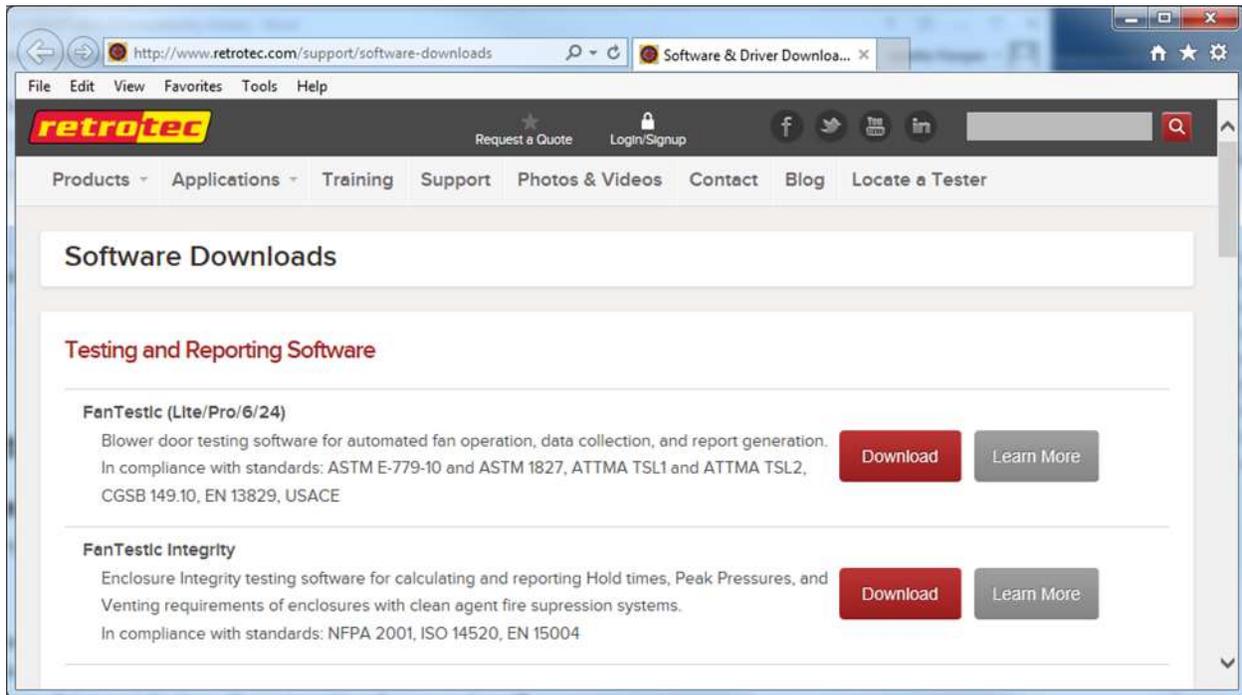
	<ul style="list-style-type: none"> • Try running both the laptop and the DM-2 from batteries, not plugged into any external power source
<p>If after doing an update or install, you get the following notification:</p>  <p>This means that you had a previous version of FanTestic that was set up to “Run as Administrator”, likely to allow connection to the DM-2 gauges for automatic control over the USB port.</p>	<ul style="list-style-type: none"> • Click ok on the error, delete the old ADMIN shortcut and • create a new shortcut as described in the Solve DM-2 Access Denied Errors if you need to control DM-2 gauges • use the newly created shortcut if you are not using DM-2 gauges
<p>Unable to find gauges with DM32 connected to USB port of laptop</p>	<ul style="list-style-type: none"> • Try plugging the DM32 into an active powered USB hub (with hub plugged into mains power). Some new laptops do not provide enough power on the USB port. • Use the Ethernet port on the DM32 for automatic control instead of the USB

If you experience a problem that you cannot fix by troubleshooting, make sure you have the latest version of FanTestic software installed, and that your Microsoft Windows has all the service packs and updates installed (including .NET 4).

To install the latest automatically, connect to the internet and restart FanTestic – if there has been an update since your current version, you will be prompted to download the latest updates.

However, if you have been using FanTestic running in Administrator mode, the “Check for Updates” may not work correctly. To be sure you have the latest, you should go to the Retrotec website:

<http://retrotec.com/support/software-downloads:>



Then click on the Download button beside FanTestic. That will open a webpage which will show that latest version. If this version is different than what you have installed, you should use Control Panel to uninstall FanTestic from your computer and proceed to install the new version as described in section 5.1.2.

5.3 Contact Tech Support

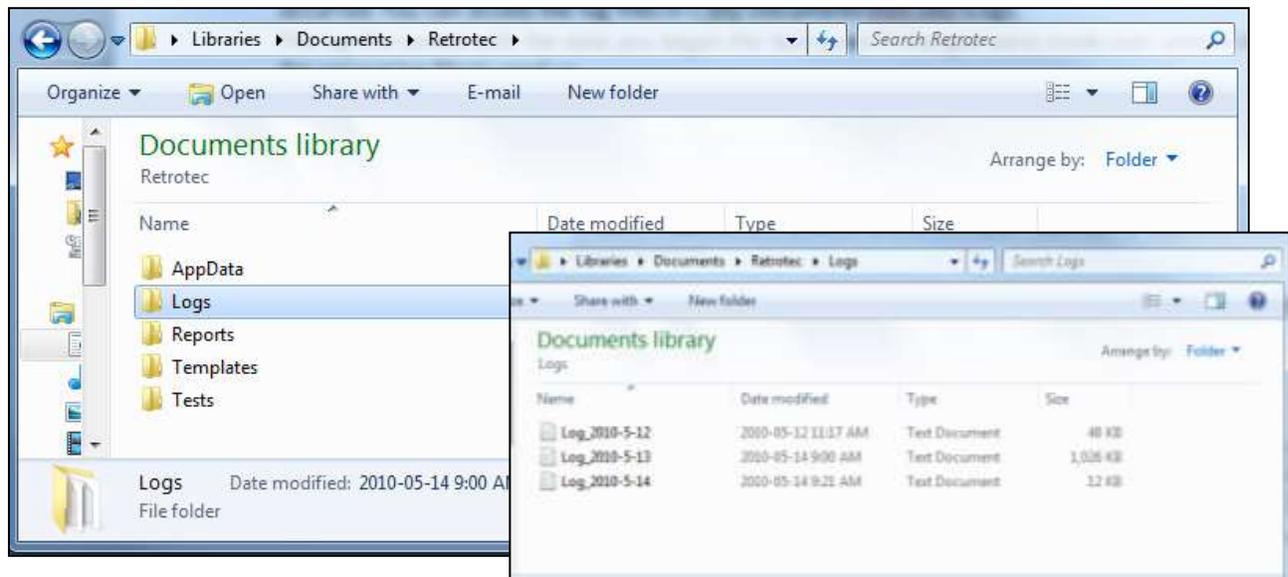
If you are still having problems even after updating to the latest software version and updating your Windows with all patches, follow these steps:

For Technical Support or to send suggestions, create an email to support@retrotec.com

If you have encountered a bug which makes FanTestic crash, create an email to: bugs@retrotec.com

In your email, describe the problem and when it occurs, and attach the following:

- The standard are you using (click "Settings" → "Change Standard" to check)
- Log file from [My Documents]\Retrotec\Logs
- Test file you are using, file extension .xml or .fxml
- Settings.xml file [My Documents]\Retrotec\AppData
- A screenshot of the software running or having the error
- the version of Microsoft Office you are using
- The version of Microsoft Windows you are using



5.3.1 The log file

Each test has an associated log file that is saved on your C: drive, in the Retrotec folder. These logs will help Retrotec to determine where the problem occurred. You can access the log files in your local drive, in [My Documents]\Retrotec\Logs.

A new log file is created for each day, named Log_yyyy-MM-dd.txt. If you leave FanTestic running over the course of multiple days, the log file will have the date of the day when FanTestic was initially started. The correct log file to send will be named with the date you began the test (even if changes were made over several days).

5.3.2 The test file

Test files with extension .xml or .fxml can be found in the My Documents\Retrotec\Tests folder, and are saved in the same fashion as log files. The name of the test file usually has the date you began the test. Send the test file with the same name/date as the log file.

5.3.3 Settings file

The Settings.xml file is found in your [My Documents]\Retrotec\AppData folder, and contains information troubleshooting personnel can use to diagnose the problem.

5.3.4 A screenshot

Screenshots are a way to show our tech support staff what your error looks like on your screen. This will help us, along with the background information (log and .xml files), to determine the best approach to fix the problem.

Current versions of Microsoft Windows include the “Snipping Tool” which can be used to make a screen snip of the window or of an area of a window on the screen. The image will be on the Windows clipboard as if it has been “copied” so you can just “paste” it into an email.

In older versions you may need to create a document and then capture an image of the screen you are currently looking at, by pressing the [Print Scrn] button on your keyboard. In order to attach this image as a file for us to view, you must paste it into a document.

To do this, in the open Microsoft Word or Paint document, right click on your mouse and select Paste (or Edit → Paste). The captured image of your screen should appear in the document. You can now save this document and include it as an attachment when you submit your information to us.