



Retrotec Inc.

Airtightness Requirements

rev-2014-09-02

Table of Contents

Acceptable testing conditions, test setup requirements, and results..... 3

Residential airtightness requirements..... 4

Large Building airtightness requirements..... 7

Description of airtightness requirement units 10

Acceptable testing conditions, test setup requirements, and results

Standard	Building envelopes							Building envelopes and ducts			Clean Agent protected enclosures	
	ASTM E779-10	ATTMA TSL1/TSL2	CGSB 149.10-2012	EN13829	LEED	USACE	WA State	RESNET	Title 24	Energy Star v3.0	NFPA 2001	ISO 14520 / EN 15004
Applies to	Residences	Residences & Large Buildings	Residences	Residences	Apartments	Large Buildings	Large Buildings	Residential Ducts & Homes	Residential Ducts	Residential Ducts & Homes	Clean Agent protected enclosures	Clean Agent protected enclosures
Origin	USA	UK	Canada	Europe	North America	USA	WA state	USA	CA state	USA	North America, South East Asia, Middle East	Europe, Australia
Acceptable conditions	41 to 95°F, less than 5 mph wind	less than 6m/s wind, height x ΔT product is less than 250 m°C	less than 20km/h wind	less than 6m/s wind, height x ΔT product is less than 500m°C	Same as ASTM	Bias pressure less than 10% of min. test OR less than 30% for both ways	95% confidence interval	95% confidence interval	greater or equal to 25 percent of duct surface area is in unconditioned space, & less than 5,000 ft ² floor area	Homes: 41 to 95°F, Less than 5 mph wind	Bias Pressure : less than 25% of Column Pressure & less than 5 Pa	Bias Pressure : less than 25% of Column Pressure & less than 3Pa
Baseline points	10 second averages, before and after flow measurements	30 second averages, before and after flow measurements	Before each test measurement	30 second averages, before and after a test	10 second averages, before and after flow measurements	20 second averages, 12 points before and after flow measurements	10 second averages, before and after flow measurements	Ducts: 5 second averages; Homes: 10 second averages; Before and after flow measurements	None	Ducts: none Homes: 10 second averages, before and after flow measurements (ASTM E779-10)	30 second averages, before a test	Before a test
Induced pressure point range	10 to 60 Pa	10 to 60 Pa	15 to 50 Pa	10 to 50 Pa	10 to 60 Pa	40 to 75 Pa	25 to 80 Pa	Ducts: 25 Pa Homes: 50 Pa, or 15-60 Pa	25 Pa	Ducts: 25 Pa Homes: 10-60 Pa (ASTM E779-10)	10 and 50 Pa	10 to 60 Pa
Number of points, per test direction	5-10	7	1, 2, or 7	5	5	12	5-10	Ducts: 1 pt (25 Pa) Homes: 1,7, or 1x5 pt(s): -Single point (50 Pa), or -7 points (15-60 Pa), or -Repeated Single point (50 Pa x 5)	1	Ducts: 1 Homes: 5-10	2	5
Test Direction Preferred	Both	Both	Depress.	Both	Both	Both	Both	Press.	Press.	Press.	Both	Both
Test Direction acceptable	Either but usually depress.	Usually press.	Depress.	Usually depress.	either	Both unless building requires over 125,000 CFM	Press.	Either	Press.	Press.	Both	Both
Results	EfLA @ 4Pa ACH50 CFM50	(m ³ /h)/m ²	EqLA @10Pa ACH50	(m ³ /h)/m ²	EfLA @ 4Pa	CFM75/ sq ft	CFM75/ sq ft	Ducts: CFM25 Homes: CFM50	CFM25	Ducts: CFM25 Homes: ACH50	-Hold time -Peak Pressure	-Hold time -Peak Pressure
Required results	none	2 to 10 (m ³ /h)/m ²	none	none	1.25 in ² / sq ft EfLA @ 4Pa	0.25 CFM75/ sq ft	0.40 CFM75/sq ft	none	New systems: Leakage ≤ 6% of total air handler fan flow Existing systems: greater than 60% leakage reduction	Homes: 6 ACH50 for Climate Zones 1,2 5 ACH50 for Climate Zones 3,4 4 ACH50 for Climate Zones 5,6,7 3 ACH50 for Climate Zone 8 Total Duct Leakage: 8 CFM25/100 ft ² conditioned floor area Duct Leakage to Outdoors: 4 CFM25/100 ft ² conditioned floor area	Hold time: greater than 10* minutes Max Peak Pressure: less than Enclosure Pressure Limit	Hold time: greater than 10* minutes Max Peak Pressure: less than Enclosure Pressure Limit
Pressure accuracy	± 5% or 0.25 Pa, whichever is greater	± 2 Pa	± 1 Pa	± 1 Pa	± 5% or 0.25 Pa, whichever is greater	± 1% or 0.25 Pa, whichever is greater	± 5% or 0.25 Pa, whichever is greater	± 1% or 0.5 Pa, whichever is greater, ± 0.1 Pa precision	± 3%, ± 0.2 Pa precision	± 5% or 0.25 Pa, whichever is greater (ASTM E779-10)	± 1 Pa	± 1 Pa
Flow accuracy	± 5%	± 7%	± 5%	± 7%	± 5%	± 5%	± 5%	± 5%	± 5%	± 3%	± 5%	± 5%

* or greater than estimated time necessary for fire personnel to arrive on-site

Residential airtightness requirements

Based on floor area of 2,250 sq ft, height of 8 ft, n=0.65.

Program	Standard	Region	Comments	Requirement	ACH 50 n ₅₀	CFM50 /sq ft	(m ³ /hr50) /m ²
North America							
R-2000	CGSB 149.10	Canada		1.5	ACH50	1.5	0.07
Vancouver	CGSB 149.10	Canada		3.5	ACH50	3.5	0.17
LEED for Homes 2008 Certified		USA Canada	Climate Zones 1 and 2, hot areas / semi-tropical	7	ACH50	7.0	0.34
			Climate Zones 3 and 4	6	ACH50	6.0	0.29
			Climate Zones 5 to 7	5	ACH50	5.0	0.24
			Climate Zone 8, extreme northern	4	ACH50	4.0	0.19
LEED for Homes 2008 2 Pts		USA Canada	Climate Zones 1 and 2, hot areas / semi-tropical	5	ACH50	5.0	0.24
			Climate Zones 3 and 4	4.25	ACH50	4.25	0.21
			Climate Zones 5 to 7	3.5	ACH50	3.5	0.17
			Climate Zone 8, extreme northern	2.75	ACH50	2.75	0.14
LEED for Homes 2008 3 Pts		USA Canada	Climate Zones 1 and 2, hot areas / semi-tropical	3	ACH50	3.0	0.14
			Climate Zones 3 and 4	2.5	ACH50	2.5	0.13
			Climate Zones 5 to 7	2.0	ACH50	2.0	0.10
			Climate Zone 8, extreme northern	1.5	ACH50	1.5	0.07
LEED for Homes 2012 1 Pt		USA Canada	Climate Zones 1 and 2, hot areas / semi-tropical	4.25	ACH50	4.25	0.21
			Climate Zones 3 and 4	3.5	ACH50	3.5	0.17
			Climate Zones 5 to 7	2.75	ACH50	2.75	0.14
			Climate Zone 8, extreme northern	2	ACH50	2.0	0.10
LEED for Homes 2012 2 Pts		USA Canada	Climate Zones 1 and 2, hot areas / semi-tropical	3	ACH50	3	0.14
			Climate Zones 3 and 4	2.5	ACH50	2.5	0.13
			Climate Zones 5 to 7	2	ACH50	2.0	0.10
			Climate Zone 8, extreme northern	1.5	ACH50	1.5	0.07
EEBA		USA	Energy and Environmental Building Association Guidelines	0.25	CFM50/sq ft	5.2	0.25
ENERGY STAR V 2.0	ASTM E779	USA	Climate Zones 1 and 2, hot areas / semi-tropical	7	ACH50	7.0	0.34
			Climate Zones 3 and 4	6	ACH50	6.0	0.29
			Climate Zones 5 to 7	5	ACH50	5.0	0.24
			Climate Zone 8, extreme northern	4	ACH50	4.0	0.19
ENERGY STAR V 3.0	ASTM E779	USA	Climate Zones 1 and 2, hot areas / semi-tropical	6	ACH50	6.0	0.29
			Climate Zones 3 and 4	5	ACH50	5.0	0.24
			Climate Zones 5 to 7	4	ACH50	4.0	0.19

Program	Standard	Region	Comments	Requirement	ACH 50 n ₅₀	CFM50 /sq ft	(m ³ /hr50) /m ²	
			Climate Zone 8, extreme northern	3 ACH50	3.0	0.14	2.6	
LEED ETS	ASTM E779	USA	Environmental Tobacco Smoke (ETS) air quality standard	1.2 (sq in EFLA 4)/100 sq ft	4.7	0.23	4.2	
LEED		USA	Air quality standard used for apartments. All 6 surfaces enclosing an apartment. Same as 1.25 sq in EFLA at 4 Pa.	0.23 CFM50/ sq ft	4.6	0.23	4.2	
				1.17 (L/s 50)/m ²	4.6	0.23	4.2	
IECC 2012		USA	Climate Zones 1 and 2	5 ACH50	5	0.24	4.4	
			Climate Zones 3 to 8	3 ACH50	3	0.14	2.6	
IECC 2009		Georgia, USA	All Climate Zones	7 ACH50	7	0.34	6.2	
NC Energy Code	ASTM E779	North Carolina, USA		0.30 CFM50/sq ft	6.0	0.30	5.5	
				5 ACH50	5	0.24	4.4	
ORSC / OEESC		Oregon, USA	3.5 to 5 is Tight, great	3.5 ACH50	3.5	0.17	3.1	
			5 to 7 is good	7 ACH50	7.0	0.34	6.2	
PA housing	ASTM E779	Pennsylvania, USA	Tight less than 5 PA Housing Research/Resource Center (PHRC)	5 ACH50	5.0	0.24	4.4	
			Moderate less than 10, Leaky greater than 10 Pa Housing Research/Resource Center (PHRC)	10 ACH50	10.0	0.49	9.0	
Europe								
	Passivhaus	Europe		0.6 ACH50	0.6	0.03	0.55	
		Austria	Naturally ventilated	3.0 ACH50	3.0	0.15	2.7	
			Mechanically ventilated	1.5 ACH50	1.5	0.07	1.4	
		Bulgaria	Apartments	high airtightness	less than 2.0 ACH50	less than 2.0	less than 0.10	less than 1.8
				medium airtightness	2.0-5.0 ACH50	2.0-5.0	0.10-0.24	1.8-4.4
				low airtightness	greater than 5.0 ACH50	greater than 5.0	greater than 0.24	greater than 4.4
			Single family houses	high airtightness	less than 4.0 ACH50	less than 4.0	less than 0.19	less than 3.5
				medium airtightness	4.0-10.0 ACH50	4.0-10	0.19-0.49	3.5-9.0
				low airtightness	greater than 10.0 ACH50	10	0.49	9.0
	TNI 73 0329	Czech Republic	Low energy house	1.5 ACH50	1.5	0.07	1.3	
	TNI 730330	Czech Republic	Natural	4.5 ACH50	4.5	0.22	4.1	
			Forced	1.5 ACH50	1.5	0.07	1.3	
			Forced + heat recovery	1.0 ACH50	1.0	0.05	0.9	

Program	Standard	Region	Comments	Requirement	ACH 50 n ₅₀	CFM50 /sq ft	(m ³ /hr50) /m ²		
			Forced + heat recovery passive house	0.6	ACH50	0.6	0.03	0.5	
		Denmark	Residential	1.5	(L/s 50)/m ²	6.1	0.30	5.5	
		Estonia	Small buildings, new	6.0	(m ³ /h)/m ²	-	-	-	
			Small buildings, existing	9.0	(m ³ /h)/m ²	-	-	-	
		Finland	Building heat loss reference	2.0	ACH50	2.0	0.10	1.8	
			Energy Performance Certificate (EPC)	4.0	ACH50	4.0	0.19	3.5	
			New apartments	0.5	ACH50	0.5	0.025	0.46	
		France	Single family houses	0.8	(m ³ /h 4)/m ²	4.5	0.23	4.1	
			Other residential buildings	1.2	(m ³ /h 4)/m ²	6.8	0.34	6.2	
		Germany	With Ventilation systems	1.5	ACH50	1.5	0.07	1.4	
			Without Ventilation systems	3	ACH50	3.0	0.15	2.7	
		Lithuania	Naturally ventilated	3.0	ACH50	3	0.14	2.6	
			Mechanically ventilated	1.5	ACH50	1.5	0.07	1.4	
		Latvia	Dwellings	3.0	ACH50	3	0.14	2.6	
			Ventilated Buildings	3.0	ACH50	3	0.14	2.6	
		Netherlands	With Ventilation systems	2-3	ACH50	2-3	0.10-0.14	1.8-2.6	
			Without Ventilation systems	4-6	ACH50	4-6	0.19-0.30	3.5-5.5	
		Norway		3.0	ACH50	3.0	0.14	2.6	
		Portugal	Residential	0.6	ACH	0.6	0.03	0.5	
		Slovenia	Naturally ventilated	3.0	ACH50	3.0	0.14	2.6	
			Mechanically ventilated	2.0	ACH50	2.0	0.10	1.8	
		Slovakia	Single family house with high quality windows	4.0	ACH50	4.0	0.19	3.5	
			All other buildings	2.0	ACH50	2.0	0.10	1.8	
	TS 825	Turkey	Floor multi-dwelling	High	2	ACH50	2	0.10	1.8
				Med	2-5	ACH50	2-5	0.10-0.24	1.8-4.4
				Low	greater than 5	ACH50	greater than 5	greater than 0.24	greater than 4.4
			Floor, single flats	High	less than 4	ACH50	less than 4	less than 0.19	less than 3.5
				Med	4-10	ACH50	4-10	0.19-0.49	3.5-9.0
				Low	greater than 10	ACH50	greater than 10	greater than 0.49	greater than 9.0
	ATTMA TSL1	UK	Best practice	naturally ventilated	5.0	(m ³ /h 50)/m ²	5.5	0.27	5.0
				mechanically ventilated	1.0	(m ³ /h 50)/m ²	1.1	0.55	1.0
			Normal practice	naturally ventilated	7.0	(m ³ /h 50)/m ²	7.7	0.38	7.0
				mechanically ventilated	5.0	(m ³ /h 50)/m ²	5.5	0.27	5.0

Program	Standard	Region	Comments	Requirement	ACH 50 n ₅₀	CFM50 /sq ft	(m ³ /hr50) /m ²
	ATTMA STd 189, GSA	UK	Best practice	1.8 (m ³ /h 50)/m ²	2.0	0.10	1.8
		UK	Dwelling regulation	5 (m ³ /h 50)/m ²	5.5	0.27	5.0
Other regions							
	CGSB 149.10	Japan	Airtight	2.24 (cm ² EqLA 9.8)/m ²	6.3	0.31	5.7
Green Building Regulations		Dubai, UAE		10 (m ³ /h 50)/m ²	11	0.55	10

Large Building airtightness requirements

Based on a 4 story building, 120 x 110 x 8 ft per story, n=0.65

Standard	Region	Comments	Requirement	ACH50 n ₅₀	CFM75 /sq ft	(m ³ /hr 50)/m ²
North America						
Canadian NBC for RH	Canada	Assemblies	0.10 (L/s 50)/m ²	0.26	0.02	0.28
National Canadian Building Code	Canada	Assemblies	0.15 (L/s 50)/m ²	0.33	0.025	0.35
			0.05 (L/s 50)/m ²	0.13	0.01	0.14
ASHRAE 90.1	USA	Average	0.30 CFM75/sq ft	3.9	0.30	4.2
		Leaky	0.60 CFM75/sq ft	7.9	0.60	8.4
		Tight	0.10 CFM75/sq ft	1.3	0.10	1.4
LEED	USA	All 6 surfaces enclosing an apartment.	0.23 CFM50/sq ft	2.2	0.17	2.4
			1.17 (L/s 50)/m ²	3.9	0.30	4.2
USACE	USA	Large Buildings	0.25 CFM75/sq ft	3.3	0.25	3.5
		Large Buildings (proposed)	0.15 CFM75/sq ft	2.0	0.15	2.1
Washington State, Seattle Code	USA	WA Energy Code, 4 storeys or more. Positive induced pressure or both.	0.40 CFM75/sq ft	5.3	0.40	5.6
Europe						
Passivhaus	Europe		0.60 ACH50	0.60	0.050	0.64
	Austria	Naturally ventilated	3.0 ACH50	3.0	0.23	3.2
		Mechanically ventilated	1.5 ACH50	1.5	0.11	1.6
	Belgium		12 (m ³ /h 50)/m ²	11	0.85	12
	Czech Republic	Common Buildings maximum	4.5 ACH50	4.5	0.34	4.8
		Low energy buildings	1.5 ACH50	1.5	0.11	1.6
		Passive houses	0.6 ACH50	0.6	0.046	0.64
		Mechanically ventilated buildings without heat recovery	1.5 ACH50	1.5	0.11	1.6
		Mechanically ventilated buildings with heat recovery	1.0 ACH50	1.0	0.076	1.1
		Normal New building	1.5 (L/s 50)/m ²	5.1	0.38	5.4

Standard	Region	Comments		Requirement	ACH50 n ₅₀	CFM75 /sq ft	(m ³ /hr 50)/m ²	
	Denmark (current regulation)		Low energy building	1.0	(L/s 50)/m ²	3.4	0.26	3.6
		Building with high ceiling	New building	0.5	(L/s 50)/m ²	1.7	0.13	1.8
			Low energy building	0.3	(L/s 50)/m ²	1.0	0.08	1.1
	Denmark (new regulations: 2020)	Normal	New building		0.5	(L/s 50)/m ²	1.7	0.13
Building with high ceiling				0.15	(L/s 50)/m ²	0.50	0.04	0.54
	Estonia	Small buildings, new		6.0	(m ³ /h 50)/m ²	-	-	-
		Small buildings, existing		9.0	(m ³ /h 50)/m ²	-	-	-
		Large buildings, new		3.0	(m ³ /h 50)/m ²	-	-	-
		Large buildings, existing		6.0	(m ³ /h 50)/m ²	-	-	-
	Finland	Building heat loss reference		2.0	ACH50	2.0	0.15	2.1
		Energy Performance Certificate (EPC)		4.0	ACH50	4.0	0.30	4.3
	France	Offices, hotels, educational and health care buildings		1.2	(m ³ /h 4)/m ²	5.8	0.44	6.2
		Other buildings		2.5	(m ³ /h 4)/m ²	12	0.92	12.9
DIN 4108-7	Germany	Naturally ventilated		3.0	(m ³ /h 50)/m ²	2.8	0.21	3.0
		Mechanically ventilated		1.5	ACH50	1.5	0.11	1.6
	Lithuania	Naturally ventilated		3.0	ACH50	3.0	0.23	3.2
		Mechanically ventilated		1.5	ACH50	1.5	0.11	1.6
	Latvia	Public and Industrial buildings		4.0	ACH50	4.0	0.30	4.3
		Ventilated Buildings		3.0	ACH50	3.0	0.23	3.2
	Norway			3.0	ACH50	3.0	0.23	3.2
	Slovenia	Naturally ventilated		3.0	ACH50	3.0	0.23	3.2
		Mechanically ventilated		2.0	ACH50	2.0	0.15	2.1
	Scotland	Current regulation		5.0	(m ³ /h 50)/m ²	4.7	0.36	5.0
		New regulation		1.0	(m ³ /h 50)/m ²	0.93	0.07	1.0
	Slovakia			2.0	ACH50	2.0	0.15	2.1
ATTMA TSL2	UK	Best Practice	Office – Natural Ventilation	3.0	(m ³ /h 50)/m ²	2.8	0.21	3.0
			Office – Mixed Ventilation	2.5	(m ³ /h 50)/m ²	2.3	0.18	2.5
			Office – AC/low energy	2.0	(m ³ /h 50)/m ²	3.3	0.21	2.0
			Factories/ warehouses	2.0	(m ³ /h 50)/m ²	3.3	0.21	2.0
			Supermarkets	1.0	(m ³ /h 50)/m ²	0.93	0.07	1.0
			Schools	3.0	(m ³ /h 50)/m ²	2.8	0.21	3.0
			Hospitals	5.0	(m ³ /h 50)/m ²	4.7	0.36	5.0
			Museums / archives	1.0	(m ³ /h 50)/m ²	0.93	0.07	1.0
		Cold stores	0.2	(m ³ /h 50)/m ²	0.19	0.01	0.2	
		Normal Practice	Office – Natural Ventilation	7.0	(m ³ /h 50)/m ²	6.5	0.50	7.0
Office – Mixed Ventilation	5.0		(m ³ /h 50)/m ²	4.7	0.36	5.0		
Office – AC/low energy	5.0		(m ³ /h 50)/m ²	4.7	0.36	5.0		

Standard	Region	Comments	Requirement	ACH50 n ₅₀	CFM75 /sq ft	(m ³ /hr 50)/m ²
		Factories/ warehouses	6.0 (m ³ /h 50)/m ²	5.6	0.42	6.0
		Superstores	5.0 (m ³ /h 50)/m ²	4.7	0.36	5.0
		Schools	9.0 (m ³ /h 50)/m ²	8.4	0.64	9.0
		Hospitals	9.0 (m ³ /h 50)/m ²	8.4	0.64	9.0
		Museums / archives	1.5 (m ³ /h 50)/m ²	1.4	0.11	1.5
		Cold stores	0.35 (m ³ /h 50)/m ²	0.33	0.03	0.35
	UK (current regulation)	New Building	10 (m ³ /h 50)/m ²	11	0.55	10
		Small Building (less than 500 m ³)	15 (m ³ /h 50)/m ²	16	0.82	15
		Large Building	5 (m ³ /h 50)/m ²	4.7	0.36	5.0
	UK (new regulations)	With cooling requirement	3 (m ³ /h 50)/m ²	2.8	0.21	3.0
		Without cooling requirement	5 (m ³ /h 50)/m ²	4.7	0.36	5.0
Other regions						
Abu Dhabi Building Code (IECC)	Abu Dhabi, UAE	Commercial building test	2.0 (L/s 75)/m ²	5.2	0.39	5.5
Green Building Regulations	Dubai, UAE		10 (m ³ /h 50)/m ²	9.4	0.71	10
IECC	Global		5.6 (m ³ /h 50)/m ²	5.3	0.40	5.6
Energy Conservation Building Code	India		0.4 CFM75/sq ft	5.3	0.40	5.6
	Japan	Level A	7.5 ACH50	7.5	0.57	8.0
		Level B	3.0 ACH50	3.0	0.23	3.2
		Level C	1.5 ACH50	1.5	0.11	1.6
QSAS	Qatar	Low	0.6 (m ³ /h 4)/m ²	2.9	0.22	3.1
		Med	1.1 (m ³ /h 4)/m ²	5.3	0.40	5.7
		High	2.2 (m ³ /h 4)/m ²	11	0.81	11.4

Description of airtightness requirement units

Acronym	Requirement unit	Description
ACH50, n ₅₀	/h	Air Changes per Hour, at 50 Pa induced pressure
	CFM50/sq ft	Cubic feet per minute, at 50 Pa induced pressure, per square foot of total enclosure surface area
	CFM75/sq ft	Cubic Feet per Minute, at 75 Pa per square foot of total enclosure surface area
	cm ² EqLA50/m ²	Square centimeters of Equivalent Leakage Area, at 50 Pa induced pressure, per square metre of enclosure surface area
	EfLA50/10 ⁶ Surface area	Effective Leakage Area, at 50 Pa induced pressure, per million units of envelope area
	EqLA50/10 ⁶ Surface area	Equivalent Leakage Area, at 50 Pa induced pressure, per million units of envelope area
	(L/s)/m ²	Litres per second per square metre of enclosure surface area
	(L/s 50)/m ²	Litres per second per square metre of enclosure surface area, at 50 Pa induced pressure
	(m ³ /h)/m ²	Permeability or air leakage index usually taken at 50 Pa induced pressure
	(m ³ /h 50)/m ²	Cubic metres per hour, at an induced pressure of 50 Pa, per square metre of total enclosure area to outdoors including the ground. Usually under pressurization only although most Standards recommend testing both ways.
NLA	sq in/sq ft	Square inches of EqLA referenced to 10Pa per square foot of floor area.
Q50	L/s	Volumetric air flow rate, in litres per second at 50 Pa induced pressure
ELA	sq in EfLA4	Square inches of Effective Leakage Area at a reference pressure of 4 Pa extrapolated from multiple test points taken between 15 and 60 Pa under depressurization.
	sq in EfLA4/100 sq ft	Square inches of Effective Leakage Area at 4 Pa per 100 square feet of enclosure surface area extrapolated from multiple test points taken between 15 and 60 Pa under depressurization
V ₄	m ³ /h	Volumetric air flow rate, in cubic meters per hour at 4 Pa induced pressure