Breathe fresher, without the pressure

CELEBRATING 20 years of innovation 2001-2021

The new Ability F7 filter module. Designed to help you breathe easy.

Ability

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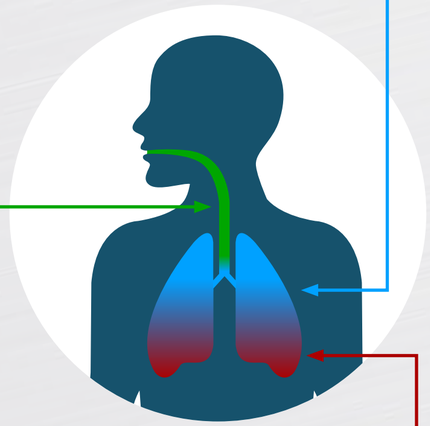
- The new high-grade filter option has been designed to fit our standard 270 deep horizontal fan coils.
- At just 300mm long, the simple bolt on fixing method means it can be retrofitted to the majority of projects which have previously been supplied with horizontal 270 deep products.
- Removes a significant amount of harmful particulate matter, helping to maintain high indoor air quality.
- Over 110x the surface area of media when compared to our standard filter, minimising the increased resistance associated with upgrading to a substantially higher-grade material.

Why particulates matter...



PM_{10} - Particles <10µm

PM_{10} particles are generally too large to enter the lungs, but they can reach and settle in the upper respiratory tract (throat and trachea). Common sources of PM_{10} particles are pollen and dust.

Mild symptoms caused by PM_{10} include irritation and soreness in the throat, they can also trigger asthma and other respiratory issues.

$PM_{2.5}$ - Particles <2.5µm

$PM_{2.5}$ particles are small enough to enter the lower respiratory tract and lungs. $PM_{2.5}$ has a wide range of sources such as toner dust, mould spores and bacteria.

Being exposed to particles of this size for longer amounts of time will start to raise the risk of premature mortality and more serious illness, such as acute respiratory distress.

Susceptible groups with pre-existing cardio and respiratory conditions, as well as children and the elderly may be particularly vulnerable to severe consequences from exposure to these particles.

PM_1 - Particles <1µm

PM_1 particles can fully penetrate the lung and alveoli. Common sources of PM_1 include emissions from vehicles and factories, as well as bacteria and viruses.

As well as settling deep into the lungs which increases the risk of serious illness such as lung cancer, these particles can cause further complications by traveling through the bloodsteam, causing damage to other parts of the body.

Putting it in perspective

1µm (micron) = 0.000001m or 0.001mm

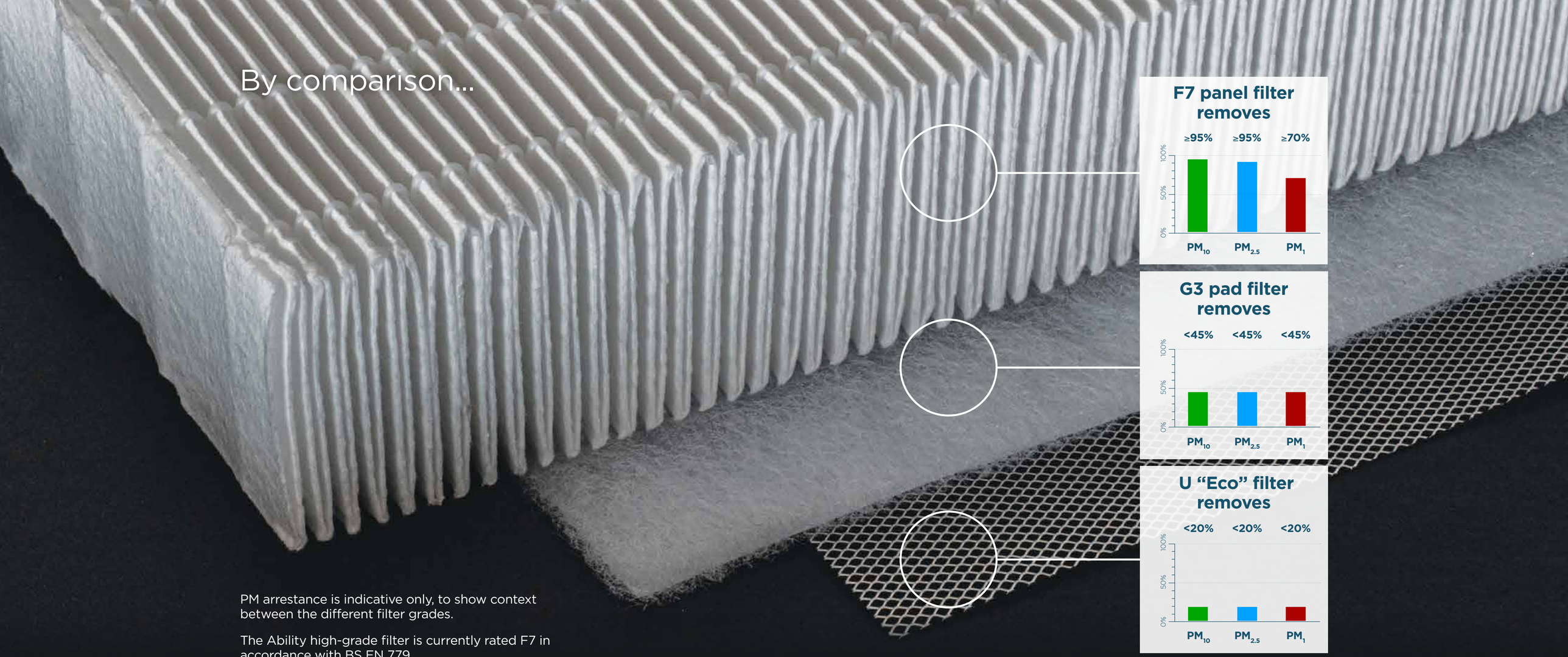
15µm
Grain of pollen

<10µm
Dust particle

7-8µm
Red blood cell

5-10µm
Respiratory droplet

By comparison...



PM arrestance is indicative only, to show context between the different filter grades.

The Ability high-grade filter is currently rated F7 in accordance with BS EN 779

Performance guide (NR35 application)

							Standard G3 filter			Upgraded F7 filter				
Model	Size	Sensible CLG **kW**	Total CLG **kW**	LTHW HTG **kW**	AVFR **l/s**	FLC **A**	Guide **NR**	Power **W**	SFP **W/(l/s)**	Guide **NR**	Power **W**	SFP **W/(l/s)**	Width **mm**	Installation type
EVO270P	100	2.199	2.682	2.629	180	0.78	34	48.47	0.27	34	54.13	0.3	616	Concealed
EVO270P	200	2.852	3.478	4.094	210	0.67	34	54.39	0.26	34	59.44	0.28	916	Concealed
EVO270P	250	3.517	4.289	4.867	266	1.26	35	54.79	0.21	35	62.33	0.23	916	Concealed
EVO270P	300	4.614	5.627	6.569	343	1.43	35	79.73	0.23	35	86.89	0.25	1216	Concealed
EVO270P	400	5.461	6.66	7.818	402	1.79	35	70.26	0.17	35	76.47	0.19	1516	Concealed
EVO270P	500	7.115	8.677	9.809	529	2.05	35	127.96	0.24	35	140.7	0.27	1816	Concealed
EVO270P	550	7.477	9.118	10.248	560	2.2	35	120.11	0.21	35	133.37	0.24	1816	Concealed
EVO270P	600	8.858	10.802	12.151	651	2.52	35	146.07	0.22	35	162.19	0.25	2116	Concealed
EVO270P	100	1.828	2.229	2.299	145	0.78	35	28.83	0.2	35	32.76	0.23	616	Exposed
EVO270P	200	2.521	3.074	3.795	183	0.67	35	37.1	0.2	35	41.29	0.23	916	Exposed
EVO270P	250	2.509	3.06	3.774	182	1.26	35	27.01	0.15	35	31.9	0.18	916	Exposed
EVO270P	300	3.565	4.348	5.33	257	1.43	35	41.5	0.16	35	46.23	0.18	1216	Exposed
EVO270P	400	4.154	5.066	6.159	297	1.79	35	38.82	0.13	35	45.38	0.15	1516	Exposed
EVO270P	500	5.581	6.806	8.358	403	2.05	35	64.56	0.16	35	74.25	0.18	1816	Exposed
EVO270P	550	5.607	6.838	8.399	405	2.2	35	60.93	0.15	35	71.03	0.18	1816	Exposed
EVO270P	600	6.766	8.251	9.975	481	2.52	35	72.26	0.15	35	81.85	0.17	2116	Exposed

Product dimensions

Performance Data Qualification

Ability have invested heavily in a new Fan Coil specific acoustic test suite and various analysing hardware and software packages.

All of our FCU ranges have been fully acoustically tested in the new facility in accordance with the Real Room Acoustic Test Procedure published by the HEVAC Association.

Using room volume, reverberation and background corrections, the Sound Pressure Levels measured under test conditions have been converted to Noise Rating (NR) Levels.

Full setup and details available upon request.

Thermal performance selections based on Summer: 23°C 50% RH / Winter: 21°C 50% RH / CHW 6-12°C / LTHW 80-60°C

All testing performed using standard units, featuring integral discharge plenums with circular connections.

Links to industry guidance relating to the role of ventilation in mitigating the spread of COVID-19

1. UK Government – Scientific Advisory Group for Emergencies (SAGE)

- Potential application of Air Cleaning devices and personal decontamination to manage transmission of COVID-19 SAGE-EMG 4th November

  www.gov.uk/government/publications/emg-potential-application-of-air-cleaning-devices-and-personal-decontamination-to-manage-transmission-of-covid-19-4-november-2020

- Role of ventilation in controlling SARS-CoV-2 transmission, 30 September 2020.

  www.gov.uk/government/publications/emg-role-of-ventilation-in-controlling-sars-cov-2-transmission-30-september-2020

2. UK Health & Safety Executive (HSE)

- Ventilation and air conditioning during the coronavirus (COVID-19) pandemic

  www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation/index.htm

3. World Health Organisation (WHO)

- Roadmap to improve and ensure good indoor ventilation in the context of COVID-19

  www.who.int/publications/i/item/9789240021280

4. The Chartered Institution of Building Services Engineers (CIBSE)

- COVID-19: Air cleaning technologies

  www.cibse.org/coronavirus-covid-19/emerging-from-lockdown#5

- COVID-19 ventilation

  www.cibse.org/coronavirus-covid-19/emerging-from-lockdown#1

5. The Federation of European Heating, Ventilation and Air Conditioning associations (REHVA)

- REHVA COVID-19 guidance document, August 3, 2020

  www.rehva.eu/fileadmin/user_upload/REHVA_COVID-19_guidance_document_V3_03082020.pdf

6. CBRE

- UNDERSTANDING HVAC & Indoor Air Quality Technologies & Practices

  www.cbre.com/reopening-workplaces/understanding-hvac?article=%7B2ac86401-8af6-46a7-aec5-2d7577cccdea%7D

Current as of 1st September 2021

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