



Difference between a Zehnder original filter and an Afpro copy filter for the ComfoAir Q

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zehnder

always the
best climate

Presentation background

There are more and more questions as to whether the quality of an AFPRO is identical to that of a Zehnder filter. Certainly, because the price level is significantly lower.

Structure

Introduction

- About Afpro
- Current legal affairs
- Eurofins measurements

Difference

- Filter class [%]
- Pressure loss [Pa]
- Surface area [m²]

Impact

- More small dust particles
- More noise
- More electricity consumption
- Shorter operating time

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- Who is Afpro ?
- Current affairs
- Eurofins measurements

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Introduction

About Afpro:

Managing director Karel Bosschieter founded the company in 1979, AFPRO Filters has secured a leading role in the international air filtration market. Our filters are available around the world through sales offices in the Netherlands, Belgium, Germany, France, Finland, Switzerland, Poland, Australia, China and an extensive international dealer network.

Shortly after the company was founded, the Belgian branch was also opened. The Dutch laboratory was recently renovated and equipped with the latest technology so we can offer the widest possible range of research. You can also come to our research department for a unique energy calculation of your air treatment.

The ISO, TUV and Eurovent certification shows that AFPRO is a solid and reliable partner who works according to the highest international standards. That is why we feel very strongly about quality of product and management at our company.

Current legal affair : Z24058CH00

AFPRO Filters B.V.
 Legal Department
 Berenkoog 67
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 NETHERLANDS

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e. Date Zürich, October 2, 2020/ AFK / VER
 zur Ref [N/A]
 zur Ref Z24058CH00

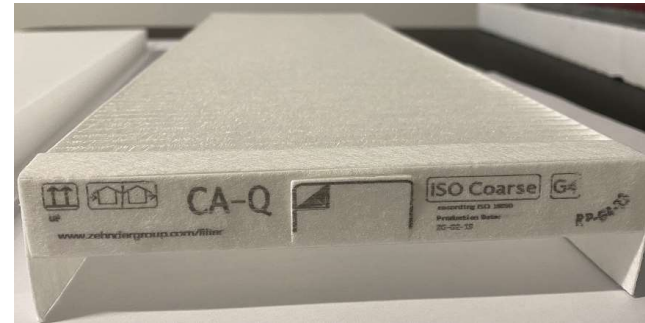


Photo Copy Afpro filter for Zehnder CAQ

Query questioning entitlement – Online offer for "Zehnder" "ComfoAir" filters

Eurofins measurement:

In order to avoid any discussion about the quality and reliability of the measurements, we decided to select a Eurovent member to do the tests. EuroFins in Finland is a member of Eurovent, as is Afpro.

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Difference between Afpro and Zehnder



EN ISO 16890-1:2016 Air Filter Test Results				
GENERAL				
Test no.:	204224	Device receiving date:	24.7.2020	
Test requested by:	Filtech BV	Date of test:	17. - 19.8.2020	
Device delivered by:	Filtech BV	Operator:	JR	Supervisor: AK
DEVICE TESTED				
Model	CA-Q	Manufacturer	Filtech BV	Construction
Type of medium	Synthetic fibre	Net effective filtering area	0.6 m ²	
		Filter dimensions (width x height x depth)	160 mm x 500 mm x 22 mm	
TEST DATA				
Test air flow rate	0.097 m ³ /s	Test air temperature	23 - 23 °C	Test air relative humidity
			47 - 53 %	Test aerosol
				DEHS and KCl
				Loading dust
				-
CONDITIONING ENVIRONMENT				
Time of conditioning	24 h	Room temperature	19 - 20 °C	Room relative humidity
			42 - 45 %	Barometric pressure
				101.1 - 101.5 kPa
				Evaporated IPA amount
				Not measured
RESULTS				
Initial pressure drop	53 Pa	Initial gravimetric arrestance	ePM _{1, min} 59 %	ePM _{2.5, min} 70 %
			ePM _{10, min} 90 %	ISO rating
Final test pressure drop	-	Test dust capacity	ePM ₁ 60 %	ePM _{2.5} 71 %
			ePM ₁₀ 90 %	ISO ePM ₁ 60 %
Remarks:	-			

EN ISO 16890-1:2016 Air Filter Test Results				
GENERAL				
Test no.:	214317	Device receiving date:	28.1.2021	
Test requested by:	Zehnder Group Zwolle B.V.	Date of test:	12. - 16.2.2021	
Device delivered by:	Zehnder Group Zwolle B.V.	Operator:	RB	Supervisor: AK
DEVICE TESTED				
Model	Panel F7	Manufacturer	AFPRO Filters B.V.	Construction
Type of medium	Synthetic fibre	Net effective filtering area	0.4 m ²	
		Filter dimensions (width x height x depth)	500 mm x 158 mm x 21 mm	
TEST DATA				
Test air flow rate	0.097 m ³ /s	Test air temperature	22 - 23 °C	Test air relative humidity
			41 - 43 %	Test aerosol
				DEHS and KCl
				Loading dust
				-
CONDITIONING ENVIRONMENT				
Time of conditioning	24 h	Room temperature	17 - 17 °C	Room relative humidity
			21 - 26 %	Barometric pressure
				101.9 - 103.4 kPa
				Evaporated IPA amount
				120 g
RESULTS				
Initial pressure drop	92 Pa	Initial gravimetric arrestance	ePM _{1, min} 20 %	ePM _{2.5, min} 41 %
			ePM _{10, min} 80 %	ISO rating
Final test pressure drop	-	Test dust capacity	ePM ₁ 44 %	ePM _{2.5} 59 %
			ePM ₁₀ 86 %	ISO ePM ₁₀ 85 %
Remarks:	-			

EUFI29-21000678-T1

	Zehnder ComfoAir Q ePM1	AFPRO F7
Eurofins Report:	EUFI29-20003881-T1	EUFI29-21000678-T1
Filterclass rating		
Rating	ePM1 60 %	ePM10 85 %
Initial pressure Drop [Pa]	53	92
Net effective filtering area [m ²]	0.6	0.4
Material	Synthetic	Fibre

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Impact, dust particals, noise and electrical consumption



Source: Zehnder

Filtering, ePM10 instead of ePM1

PARTICLE SIZES AND FILTER CLASSIFICATIONS

ISO Coarse	ISO ePM10	ISO ePM2,5	ISO ePM1
> 10µm	≤ 10µm	≤ 2,5µm	≤ 1µm
Sand, fluff, flying seeds, fine hair etc.	Pollen, stone dust, agricultural dust etc.	Bacteria, fungi and mould spores, pollen, toner powder etc.	Viruses, bacteria, nanoparticles, soot, sea salt, oil mist etc.

Diameter of a human hair: ~ 70µm

The Afpro filters only the larger particles. This means they are incorrectly labeling their filters. (ePM2,5, ePM1). Despite the fact that the website clearly states F7, which is equivalent to ePM1 > 50%. So fine dust from outside enters the house directly,

	ePM10	ePM2,5	ePM1
Zehnder	✓	✓	✓
AFPRO	✓	x	x

Pressure drop of 40 Pa

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Test no.:	204224	Device receiving date:		24.7.2020	
Test requested by:	Filtech BV	Date of test:		17. - 19.8.2020	
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DEVICE TESTED					
Model	CA-Q	Manufacturer	Filtech BV	Construction	
Type of medium	Synthetic fibre	Net effective filtering area	0.6 m ²	Filter dimensions (width x height x depth)	
				160 mm x 500 mm x 22 mm	
TEST DATA					
Test air flow rate	0.097 m ³ /s	Test air temperature	23 - 23 °C	Test air relative humidity	47 - 53 %
				Test aerosol	DEHS and KCl
				Loading dust	-
CONDITIONING ENVIRONMENT					
Time of conditioning	24 h	Room temperature	19 - 20 °C	Room relative humidity	42 - 45 %
				Barometric pressure	101.1 - 101.5 kPa
				Evaporated IPA amount	Not measured
RESULTS					
Initial pressure drop	53 Pa	Initial gravimetric arrestance	-	ePM ₁ , min	59 %
				ePM _{2,5} , min	70 %
				ePM ₁₀ , min	90 %
Final test pressure drop	-	Test dust capacity	-	ePM ₁	60 %
				ePM _{2,5}	71 %
				ePM ₁₀	90 %
Remarks:	-				

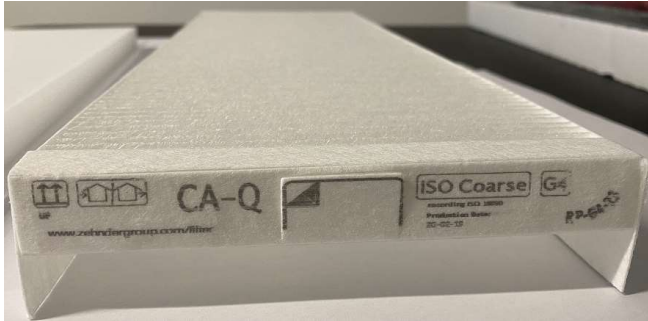
Because of the higher resistance of the Afpro filters, the noise production of the Zehnder ComfoAir Q increases by approximately 2 dB(A).
The electrical power consumption increases, by approximately 6-10 Watt/hour. It is important to know that a Zehnder ComfoAir Q is on 24/7. (8 Watt/1000) * 24 * 365 * €0.22 = €15/year



Impact operating time



0,2 m² less effective filter area



The service life of an Afpro filter is only 3 months, partly because the total filter surface is 33 % less than the original Zehnder filter. That the life span is shorter is also described in comments on the filterwebshop, wtwfilter-store



Past wel

Het bestelde product heeft dezelfde afmetingen als de originele filter, maar het filterdoek is de helft zo dun. Ik ben dus benieuwd hoe lang de nieuwe, dunnere filters meegaan. Een echt oordeel kan ik daarna pas geven.

Aanbevelen?

Ja

5-10-2019 Chretien , HELMOND

Reactie van het bedrijf

. Hartelijk dank voor uw positieve beoordeling! De filters moet u ongeveer onder drie maanden vervangen. We zien u graag terug bij de WTW Filter Store! Met vriendelijke groet, Michal

MP(1)

Dia 10

MP(1)

Mulder, Piet (ZGI); 23-2-2021

Questions & answers

Should there be any further questions on this subject, please feel free to contact Piet.Mulder@Zehndergroup.com.

The legal department has been informed about these facts and will consider new steps towards Afpro.