

SMOG Filter – general filtration of dusts and gases



SMOG Filter-400

SMOG Filter-800

SMOG Filter-1200

SMOG Filter-2400

Purpose

SMOG Filter absorbers are efficient solutions for cleaning the air from vapour, gas and dust particles in chemical-, biological labs, analytical labs, during the grinding or laser cutting of rubber, plywood, plexi, acryl and other plastics. Especially, they are applied in processes where annoying smell is emitted, e.g. during gluing or while using various types of aerosols. Additionally, SMOG Filter absorbers efficiently absorb tobacco smoke and contaminations contained in the smog that has infiltrated into the room from the environment. Do not use the appliance in areas of explosion hazard, where explosive atmosphere can occur.

Structure

SMOG Filter absorber consists of following elements:

- housing of steel sheet,
- fan – placed in the lower part of the device, at the side of clean air,
- Paint-Stop filter,
- high-efficiency HEPA filter – class H13,
- cassette with granulate of active carbon,
- pressure control – to signalise the excessive flow resistances of the HEPA filter,
- control unit,
- suction cover (on demand).

Operational Use

SMOG Filter absorbers provide a full recirculation of the extracted air. The device inlet can be connected with a local exhaust, with a system of general ventilation or equipped with a suction cover. In all configurations, the drawn in air returns into the room through a perforated outlet surface (underneath the device), after the filtration. The cassettes with granulated active carbon, efficiently absorb the majority of harmful chemical compounds as styrene, toluene, alcohols, phenol and many others. Dust pollutants are captured by the high-efficiency HEPA filter. At the moment when the HEPA filter reaches its limit pollution degree, the signalling lamp indicates the filter replacement necessity. Active carbon absorptiveness for different vapours and gases is presented on next page.

The maintenance of device consists in:

- periodical replacement of the HEPA filter – as indicated by signaling lamp,
- periodical replacement of cassettes with active carbon – depending on the organoleptic evaluations of User,
- periodical replacement of the Paint-Stop filter.

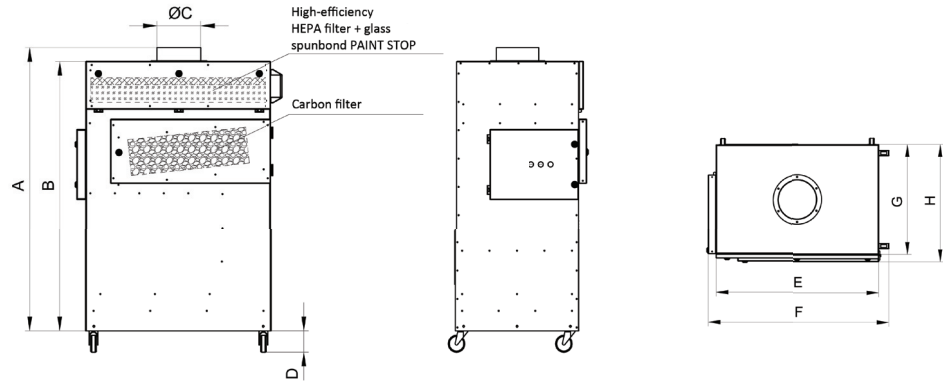
Technical Data

Type	Part No.	Maximum volume flow [m ³ /h]	Maximum vacuum [Pa]	Motor rate [kW]	Supply voltage [V/Hz]	Acoustic pressure level [dB(A)]*	Weight [kg]
SMOG Filter-400	801O30	500	940	0,25	230/50	57	136
SMOG Filter-800	801O31	800	940	0,25	230/50	57	182
SMOG Filter-1200	801O32	1200	1270	0,37	230/50	59	228
SMOG Filter-2400	801O33	2350	1750	1,1	230/50	68	365

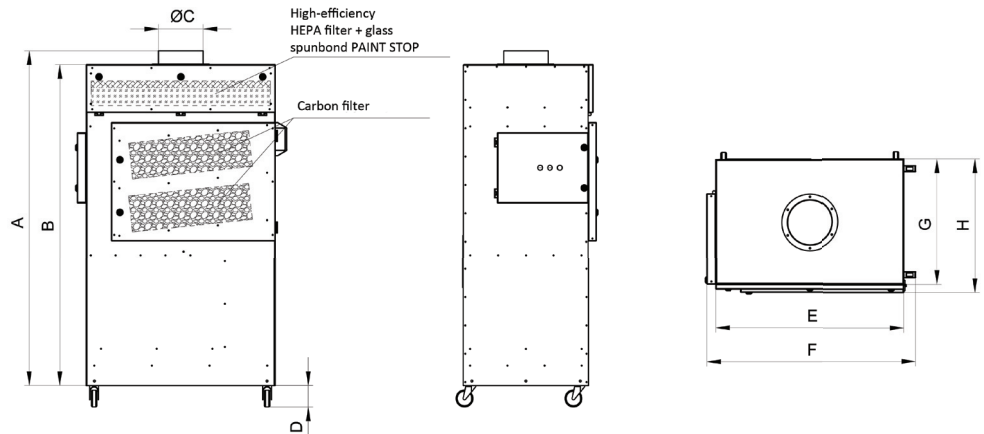
* Acoustic pressure level measurement has been carried out in distance of 1 m from the device.

SMOG Filter

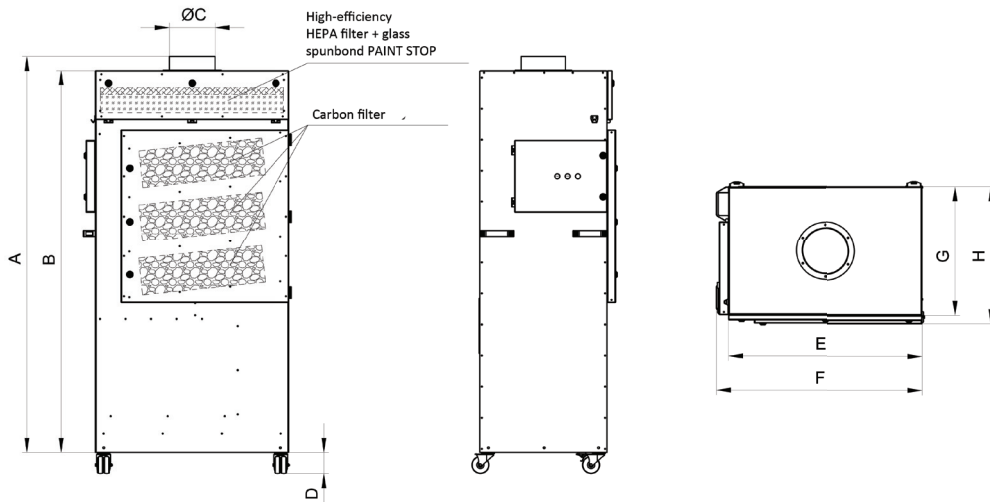
SMOG Filter-400



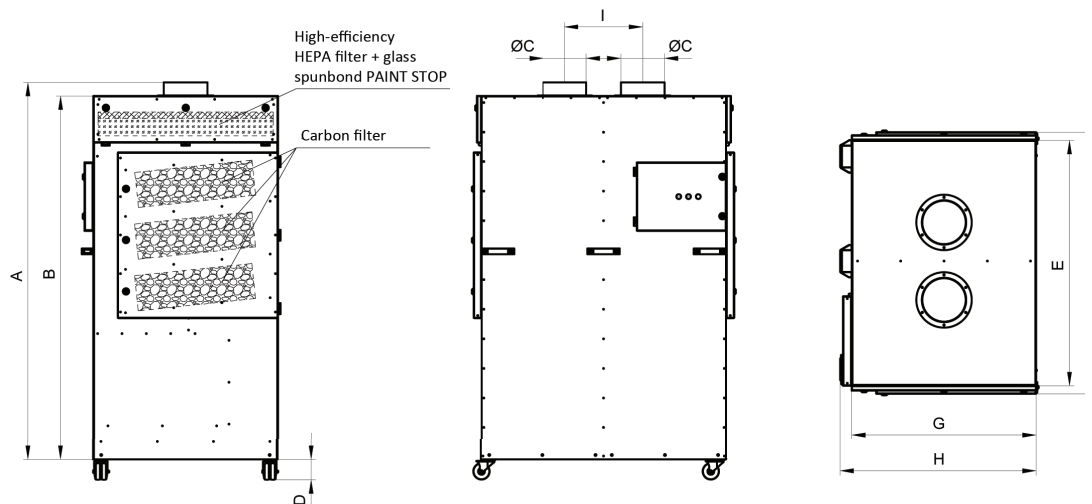
SMOG Filter-800



SMOG Filter-1200



SMOG Filter-2400

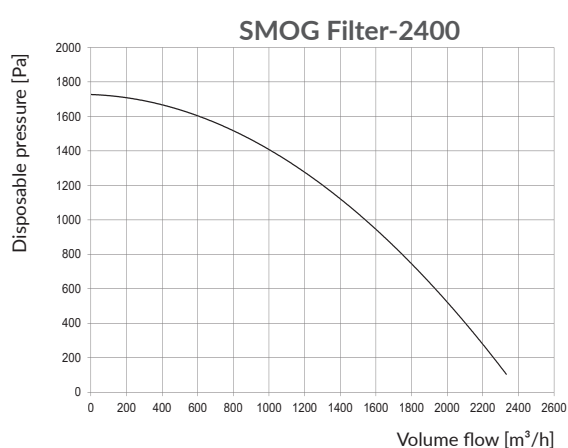
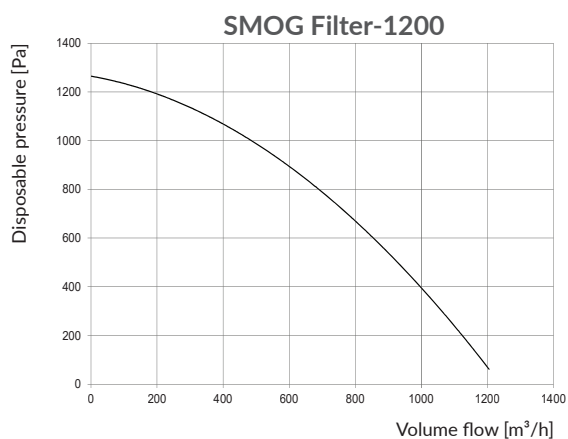
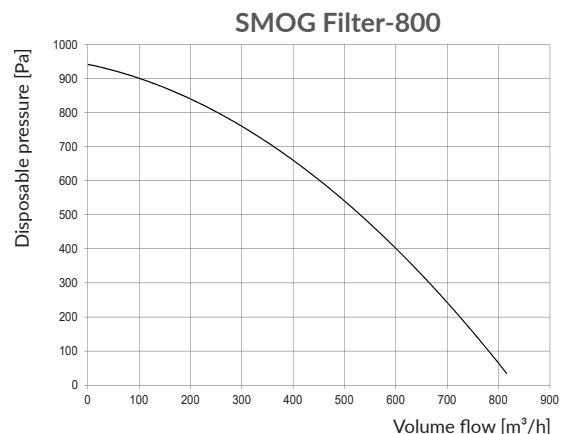
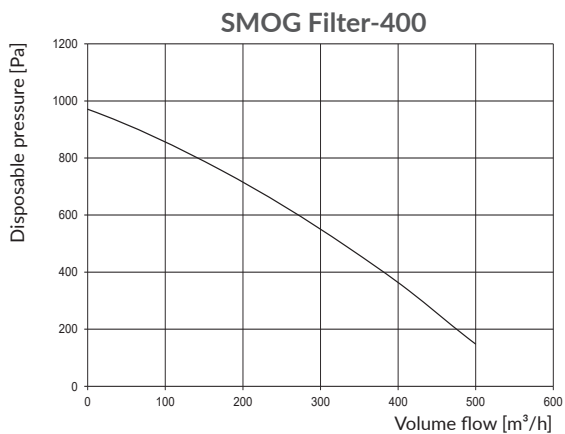


SMOG Filter

Dimensions

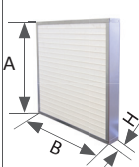
Type	A [mm]	B [mm]	ØC [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]
SMOG Filter-400	1275	1210	Ø 200	95	850	940	565	600	-
SMOG Filter-800	1505	1440	Ø 200	95	850	940	565	600	-
SMOG Filter-1200	1735	1670	Ø 200	95	850	900	565	600	-
SMOG Filter-2400	1735	1670	Ø 200	95	1130	1200	850	900	560

Flow charts

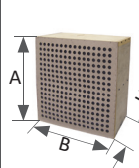


Replaceable parts

High-efficiency HEPA filter

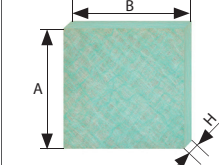
	Type	Part No.	Weight [kg]	Dimensions AxBxH [mm]	Class	Quantity of filters	Purpose	Filtration material
	FW-SF	852F01	3,2	800x535x80	H13	1	SMOG Filter-400, 800, 1200	Hydrophobic paper of glass-fibre 99,95%.
2	SMOG Filter-2400							

Cassette with active carbon

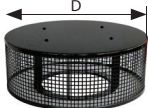
	Type	Part No.	Weight [kg]	Dimensions AxBxH [mm]	Quantity	Purpose	Remarks
	WA-ECO-20	838K98	24*	534x534x155	1	SMOG Filter-400	Cassette of cardboard and plywood
2	SMOG Filter-800						
3	SMOG Filter-1200						
6	SMOG Filter-2400						

*Weight of the active carbon 20 kg.

Pre-filter

	Type	Part No.	Weight [kg]	Dimensions AxBxH [mm]	Class	Quantity of filters	Purpose	Filtration material
	PS-SF	852F02	0,5	800x535x50	G3	1	SMOG Filter-400, 800, 1200	Glass spunbond with progressively growing density.
2	SMOG Filter-2400							

Suction cover

	Type	Part No.	Weight [kg]	Diameter D [mm]
		K-SF	810H70	0,7

Values of activated carbon absorption efficiency for various types of vapors and gases

High efficiency

ethyl acrylate - C₅H₈O₂
 methyl acrylate - C₄H₆O₂
 acrylonitrile - C₃H_{3.5}N
 valeraldehyde - C₅H₁₀O
 amyl alcohol - C₅H₁₂O
 butyl alcohol - C₄H₁₀O
 propyl alcohol - C₃H₇OH
 a,ili,e - C₂H₅NH₂
 naphtha (petroleum)
 naphtha (coal tar)
 bromi,e - Br₂
 butyl cellosolve - C₆H₁₄O₂
 - cellosolve - C₄H₁₀O₂
 - cellosolve acetate - C₆H₁₂O₃
 butyl chloride - C₄H₉Cl
 propyl chloride - C₃H₇Cl
 mo,ochlorobe,ze,e - C₆H₅Cl
 chlorobe,ze,e - C₄H₅Cl
 ethyle,e chlorhydrin - C₂H₅ClO
 chloroform - CHCl₃
 chloro,nitropropa,e - C₃H₆ClNO₂
 chloropicri,n - CCl₄NO₂
 chlorobutadie,e - C₄H₅Cl
 cyclohexa,n,ol - C₆H₁₂O
 cyclohexa,n,o,e - C₆H₁₀O
 tetrachloroetha,e - C₂H₂Cl₄
 tetrachloroethyle,e - C₂Cl₄
 carbo,n tetrachloride - CCl₄
 deca,e - C₁₀H₂₂
 dioxa,e - C₂H₆O₂
 dibromometha,e - CH₂Br₂
 ethyle,e dichloride - C₂H₄Cl₂
 dichlorobe,ze,e - C₆H₄Cl₂
 dichloroetha,e - C₂H₄Cl₂
 dichloroethyle,e - C₂H₂Cl₂
 dichloro,nitroetha,e - CH₂Cl₂NO₂
 dichloropropa,e - C₃H₅Cl₂
 dimethyla,ili,e - C₃H₇N
 amyl ether - C₁₀H₂₂O
 butyl ether - C₈H₁₈O
 dichloroethyl ether - C₄H₈Cl₂O
 isopropyl ether - C₆H₁₄O
 propyl ether - C₆H₁₄O
 ethyl be,ze,e - C₆H₁₀
 phe,n,ol - C₆H₆O
 hepta,e - C₇H₁₆
 heptyle,e - C₇H₁₄
 i,n,dole - C₈H₇N
 isophoro,e - C₉H₁₄O
 iodi,e - I
 iodoform - CHI₃
 camphor - C₁₀H₁₆O
 diethyl keto,e - C₅H₁₀O

dipropyl keto,e - C₇H₁₄O
 methyl butyl keto,e - C₆H₁₂O
 methyl isobutyl keto,e - C₆H₁₂O
 methyl ethyl keto,e - C₄H₈O
 creosole - C₈H₁₀O₂
 cresol - C₇H₈O
 croto,n,aldehyde - C₄H₆O
 ethyl silicate - C₈H₂₀O₄Si
 acrylic acid - C₃H₄O₂
 caprylic acid - C₈H₁₆O₂
 butyric acid - C₄H₈O₂
 lactic acid - C₃H₆O₃
 uric acid - C₅H₄N₄O₃
 acetic acid - CH₃COOH
 propio,ic acid - C₃H₆O₂
 valeric acid - C₅H₁₀O₂
 me,thol - C₁₀H₂₀O
 ethyl mercapta,n - C₂H₅S
 propyl mercapta,n - C₃H₇S
 - methyl cellosolve - C₃H₈O₂
 - methyl cellosolve acetate - C₅H₁₀O₃
 methylcyclohexa,e - C₇H₁₄
 methylcyclohexa,ol - C₇H₁₄O
 urea - CH₄N₂O
 kero,se,e
 n,icoty,e - C₁₀H₁₄N₂
 n,itrobe,ze,e - C₆H₅NO₂
 n,itroetha,e - C₂H₅NO₂
 n,itrogliceri,e - C₃H₅N₃O₃
 n,itropropa,e - C₃H₇NO₂
 n,itrotolue,e - C₇H₇NO₂
 n,ona,e - C₉H₂₀
 amyl acetate - C₇H₁₄O₂
 butyl acetate - C₆H₁₂O₂
 ethyl acetate - C₄H₈O₂
 isopropyl acetate - C₅H₁₀O₂
 propyl acetate - C₅H₁₀O₂
 octale,e - C₁₂H₈Cl₆
 octa,e - C₈H₁₈
 putresci,e - C₄H₁₂N₂
 ozo,e - O₃
 paradichlorobe,ze,e - C₆H₄Cl₂
 - pe,ta,o,e - C₅H₁₀O
 perchloroethyle,e - C₂Cl₄
 pyridi,e - C₅H₅N
 dimethylsulphate - C₂H₆O₄S
 skatole - C₇H₈
 styre,e mo,omer - C₈H₈
 turpe,n,ti,e - C₁₀H₁₆
 mesityl oxide - C₆H₁₀O
 tolu,e - C₇H₈
 toluidi,e - C₇H₇N
 trichloroethyle,e - C₂HCl₃

Average efficiency

aceto,e - C₃H₆O
 acetyle,e - C₂H₂O
 acrolei,n - C₃H₄O
 butyraldehyde - C₄H₈O
 ethyl alcohol - C₂H₅OH
 methyl alcohol - CH₃OH
 be,ze,e - C₆H₆
 ethyl bromide - C₂H₅Br
 methyl bromide - CH₃Br
 butadie,e - C₄H₆
 chlori,e - Cl₂
 ethyl chloride - C₂H₅Cl
 vi,nyl chloride - C₂H₃Cl
 cyclohexe,e - C₆H₁₀
 dichlorodifluorometha,n - CCl₂F₂
 diethyl ami,e - C₄H₁₁N
 carbo,n disulphide - CS₂
 ether - C₄H₁₀O
 ethyl ether - C₄H₁₀O
 ethyl ami,e - C₂H₇N
 fluorotrichlorometha,n - CCl₃F
 phosge,e - COCl₂
 a,a,aesthetics
 hexa,e - C₆H₁₄
 hexyle,e - C₆H₁₂
 hexy,e - C₆H₁₀
 isopre,e - C₅H₈
 hydroge,n iodide - HI
 xyle,e - C₈H₁₀
 formic acid - HCOOH
 methyl mercapta,n - CH₃SH
 ethyl formate - C₃H₆O₂
 methyl formate - C₂H₄O₂
 n,itrometha,e - CH₃NO₂
 methyl acetate - C₃H₆O₂
 pe,ta,e - C₅H₁₂
 pe,tyle,e - C₅H₈
 pe,ty,e - C₅H₆
 propio,a,dehyde - C₃H₆O
 ethyle,e oxide - C₂H₄O
 carbo,n mo,oxide - CO

Low efficiency

acetaldehyde - C₂H₄O
 ammo,ia - NH₃
 hydroge,n bromide - HBr
 buta,e - C₄H₁₀
 buta,o,e - C₄H₈O
 butyle,e - C₄H₈
 buty,e - C₄H₆
 methyl chloride - CH₃Cl
 hydroge,n chloride - HCl
 hydroge,n cyana,ide - HCN
 n,itroge,n dioxide - NO₂
 sulphur dioxide - SO₂
 hydroge,n fluoride - HF
 formaldehyde - CH₂O
 propa,e - C₃H₆
 propyle,e - C₃H₈
 propy,e - C₃H₄
 hydroge,n sele,ide - H₂Se
 hydroge,n sulphide - H₂S
 sulphur trioxide - SO₃