

DCA-3X / DCA-4X | STATIONARY MECHANICAL ACCUMULATIVE FILTERS



Description

DCA-31, DCA-32, DCA-41 and DCA-42 filters are mechanical stationary filters with replaceable accumulative cartridges. These filters are being used as a part of ventilation system at various industrial factories, repair workshops and training classes.

Single DCA-XX filters consist of one vertical block of chambers, mounted over on-floor inlet chamber with two Ø250mm inlets on both sides and adjustable supports. Design of single filters allow installation of extraction fan both directly on top of the filter and next to filtration module.

Each filter has two or three chambers with replaceable filters, each offering certain cleaning degree. Door of each chamber has differential manometer installed.

Intended use

- Soldering
- Tinning
- Laser marking and engraving
- Contact welding
- Other types of similar fumes

Limitations

Surrounding environment and cleaned air should not be explosive and/or containing any aggressive vapors or gases, particles inclined to smoldering or self-ignition.



Features and advantages

- Wide range of applicable industrial processes from soldering to laser engraving;
- Optional combinations of cleaning stages depending on the industrial process;
- Filter has standards sets for 4 cleaning stages
 - mesh pre-filter of stainless steel (washable)
 - fine filter (F9 filtration class)
 - highly efficient HEPA filter (F13 filtration class)
 - activated carbon filter (M5 filtration class)
- Convenient control of cartridge clogging due to integrated differential manometers for each stage of cleaning;
- Increased life time of replaceable filters due to increased filtration surface area;
- Simple installation and maintenance, requiring no special training;
- Low cost of units and spare components.

Climate requirements

Characteristics	Value
Minimum operating temperature	5°C
Normal working temperature	20°C
Maximum working temperature	45°C
Maximum relative humidity at 20°C	80%
Temperature of processed airflow, max	80°C

Technical characteristics

(see page 85)

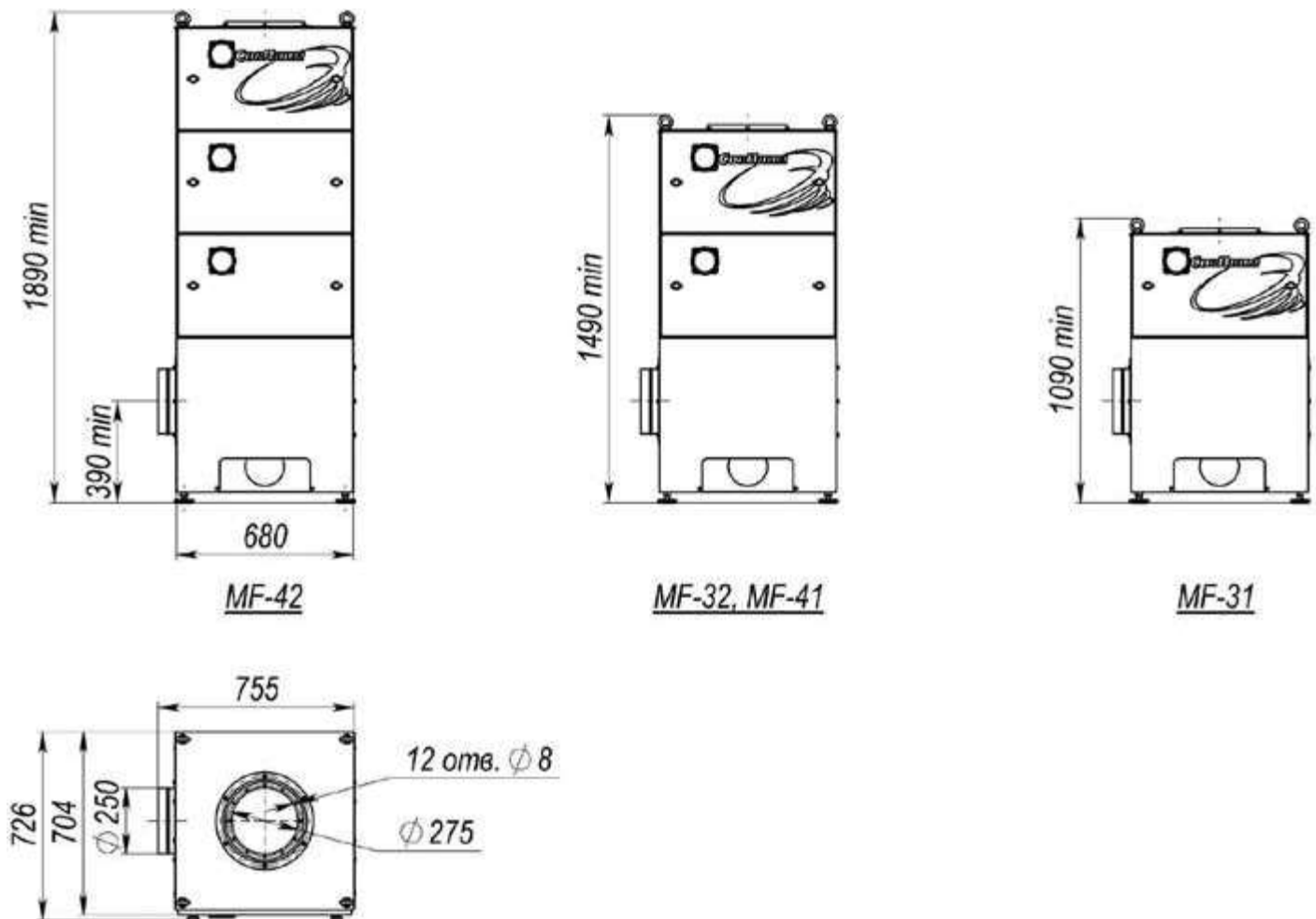
Filtration stages

Stage of filtration	Class of filtration	Filter model	Filtration stages in the filter			
			DCA-31 DCA-31/2 DCA-31/3	DCA-32 DCA-32/2 DCA-32/3	DCA-41 DCA-41/2 DCA-41/3	DCA-42 DCA-42/2 DCA-42/3
Pre-filter	G3	ME-INL/PF	X	X	X	X
Fine filter	F9	MK-004	X	X	X	X
Highly efficient HEPA filter	H13	HFME-3		X		X
Activated carbon filter	M5	CF-003			X	X





Working principle

- First filtration stage separates coarse dust particles. This process takes place in the inlet chamber due to widening of airflow and decrease of its speed.
- Then, rest of coarse particles and medium particles are being stopped in the pre-filter ME-INL/PF (G3 filtration class).
- Small particles with size down to 0,2 micron are being stopped by main fine filter MK-004 (F9 filtration class).
- Remaining fine particles are being stopped by the highly efficient HEPA filter (H13 filtration class). Models with HEPA filters should be used in situations, when clean air should be returned back into premises.
- After that, toxic gaseous compounds and unpleasant odors, formed, for example, during soldering and similar operations, accompanied by significant heating of various substances, are being captured by activated carbon filter CF-003, which is being used as final filtration stage.





Dimensions and connections



Production range

Drawing	Article	Model	Description and delivery scope
	27614	DCA-31	Max. airflow 2500 m ³ /h. Inlet and outlet Ø: 250/250mm. Delivery scope: pre-filter ME-INL-PF – 1pcs., fine filter MK-004 – 1pcs, inlet Ø250mm, transition piece for connection of the fan Ø250mm FF-FAN-B. To be ordered separately: fan, starter or freq.drive.
	27617	DCA-32	Max. airflow 2500 m ³ /h. Inlet and outlet Ø: 250/250mm. Delivery scope: pre-filter ME-INL-PF – 1pcs., fine filter MK-004 – 1pcs, HEPA filter HFME-3 – 1pcs, inlet Ø250mm, transition piece for connection of the fan Ø250mm FF-FAN-B. To be ordered separately: fan, starter or freq.drive.
	27620	DCA-41	Max. airflow 2500 m ³ /h. Inlet and outlet Ø: 250/250mm. Delivery scope: pre-filter ME-INL-PF – 1pcs., fine filter MK-004 – 1pcs, activated carbon filter CF-003, inlet Ø250mm, transition piece for connection of the fan Ø250mm FF-FAN-B. To be ordered separately: fan, starter or freq.drive.
	27623	DCA-42	Max. airflow 2500 m ³ /h. Inlet and outlet Ø: 250/250mm. Delivery scope: pre-filter ME-INL-PF – 1pcs., fine filter MK-004 – 1pcs, HEPA filter HFME-3 – 1pcs, activated carbon filter CF-003, inlet Ø250mm, transition piece for connection of the fan Ø250mm FF-FAN-B. To be ordered separately: fan, starter or freq.drive.

Spares and accessories

Drawing	Article	Model	Description
	6084	ME-INL/PF	Pre-filter. Mesh filter of stainless steel. Washable. Included in standard delivery set for all DCA filters.
	131868	MK-004	Fine filter with F9 filtration class, 610x610x292mm, 25m ² . Material: fiberglass. For DCA-31/32/41/42 filters. Main filter. Included in standard delivery set for all models. Recommended replacement, when reaching pressure drop of 800 Pa.
	98803	HFME-3	Highly efficient HEPA H13 filter, 610x610x292, 25m ² . Filtration class H13. Recommended replacement, when reaching pressure drop of 800 Pa.
	131869	CF-003	Activated carbon filter. For DCA-41 and DCA-42 filters. Recommended replacement, when reaching pressure drop of 500 Pa.

Not included in the delivery set:

- extraction fan;
- starter with thermal relay or freq.drive;
- silencer, ducts and accessories.

DCA-3X/X /DCA-4X/X

STATIONARY MECHANICAL FILTERS
MODULAR SERIES



Description

DCA-3X/X and DCA-4X/X units are stationary mechanical filters of modular type. Main difference from DCA-3X and DCA-4X is that, due to modular design, they can provide required airflow in a wide range: from 5000 to 12500 cmh. Filters are being used as a part of ventilation system at various industrial factories, repair workshops and training facilities.

Modular DCA-XX/X filters consist of two or three vertical blocks of chambers, mounted on the common basis, being an on floor inlet with two Ø500mm inlets on both sides and adjustable supports. Fan should be mounted separately next to the filter and connected to the filter with a corresponding ducting set.

Each module has one, two or three chambers with preinstalled replaceable filters of different grade. Each chamber has differential manometer.

Intended use

- Soldering
- Tinning
- Laser marking and engraving
- Contact welding
- Other types of similar fumes

Limitations

Surrounding environment and cleaned air should not be explosive and/or containing any aggressive vapors or gases, particles inclined to smoldering or self-ignition.



Features and advantages

- Wide range of applicable industrial processes from soldering to laser engraving;
- Modular design allows building a filter with wide range of productivity from 5000 to 12500 m³/h;
- Optional combinations of cleaning stages depending on the industrial process;
- Filter has standards sets for 4 cleaning stages
 - mesh pre-filter of stainless steel (washable)
 - fine filter (F9 filtration class)
 - highly efficient HEPA filter (F13 filtration class)
 - activated carbon filter (M5 filtration class)
- Optional combination of several modules in order to reach total airflow over 12500 m³/h;
- Convenient control of cartridge clogging due to integrated differential manometers for each stage of cleaning;
- Increased life time of replaceable filters due to increased filtration surface area;
- Simple installation and maintenance, requiring no special training;
- Low cost of units and spare components.

Climate requirements

Characteristics	Value
Minimum operating temperature	5°C
Normal working temperature	20°C
Maximum working temperature	45°C
Maximum relative humidity at 20°C	80%
Temperature of processed airflow, max	80°C

Spares and accessories

(see page 83)

Technical characteristics

Article	Model	Max. airflow, cmh	Pressure drop, Pa	Max. negative pressure, Pa	Dimensions, LxWxH, mm	Weight, kg
27614	MF-31	2500	1300	4000	680 x 726 x 1090	88
27615	MF-31/2	5000	1300	4000	1390 x 726 x 1360	195
27616	MF-31/3	7500	1300	4000	2085 x 726 x 1360	278
27617	MF-32	2500	1500	4000	680 x 726 x 1490	134
27618	MF-32/2	5000	1500	4000	1390 x 726 x 1755	271
27619	MF-32/3	7500	1500	4000	2085 x 726 x 1755	392
27620	MF-41	2500	1300	4000	680 x 726 x 1490	134
27621	MF-41/2	5000	1300	4000	1390 x 726 x 1755	271
27622	MF-41/3	7500	1300	4000	2085 x 726 x 1755	392
27623	MF-42	2500	1800	4000	680 x 726 x 1890	175
27624	MF-42/2	5000	1800	4000	1390 x 726 x 2150	353
27625	MF-42/3	7500	1800	4000	2085 x 726 x 2150	515

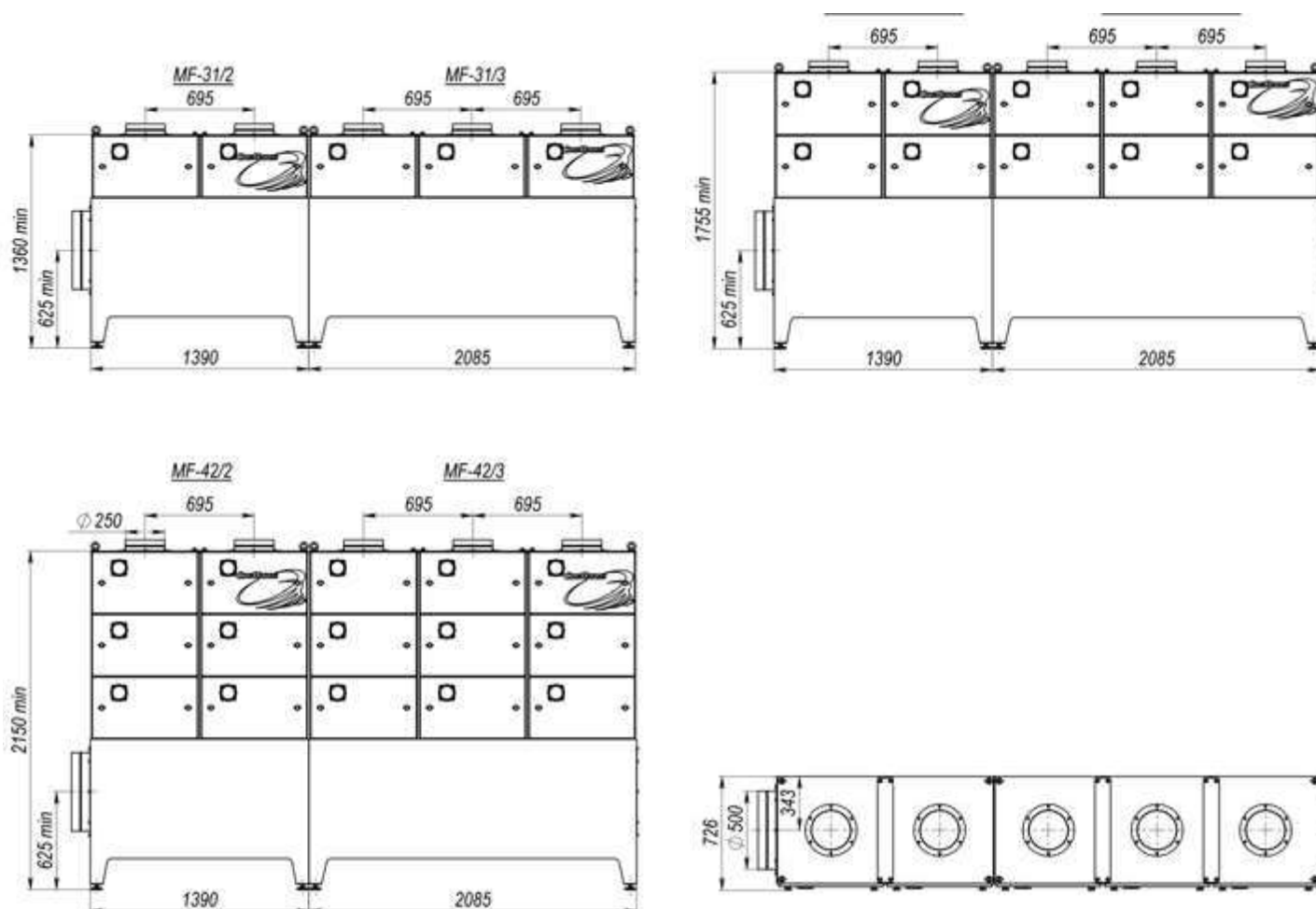
Filtration stages and classes

(see page 82)

Working principles

(see page 82)

Dimensions and connections



Production range

Drawing	Article	Model	Description and delivery scope
	27615	DCA-31/2	Max. airflow 5000 m ³ /h. Inlet and outlet Ø: 500/2x250mm. Delivery scope: pre-filter ME-INL-PF – 2pcs., fine filter MK-004 – 2pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27616	DCA-31/3	Max. airflow 7500 m ³ /h. Inlet and outlet Ø: 500/3x250mm. Delivery scope: pre-filter ME-INL-PF – 3pcs., fine filter MK-004 – 3pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27618	DCA-32/2	Max. airflow 5000 m ³ /h. Inlet and outlet Ø: 500/2x250mm. Delivery scope: pre-filter ME-INL-PF – 2pcs., fine filter MK-004 – 2pcs, HEPA filter HFME-3 – 2pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27619	DCA-32/3	Max. airflow 7500 m ³ /h. Inlet and outlet Ø: 500/3x250mm. Delivery scope: pre-filter ME-INL-PF – 3pcs., fine filter MK-004 – 3pcs, HEPA filter HFME-3 – 3pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27621	DCA-41/2	Max. airflow 5000 m ³ /h. Inlet and outlet Ø: 500/2x250mm. Delivery scope: pre-filter ME-INL-PF – 2pcs., fine filter MK-004 – 2pcs, activated carbon filter CF-003 – 2pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27622	DCA-41/3	Max. airflow 7500 m ³ /h. Inlet and outlet Ø: 500/3x250mm. Delivery scope: pre-filter ME-INL-PF – 3pcs., fine filter MK-004 – 3pcs, activated carbon filter CF-003 – 3pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27624	DCA-42/2	Max. airflow 5000 m ³ /h. Inlet and outlet Ø: 500/2x250mm. Delivery scope: pre-filter ME-INL-PF – 2pcs., fine filter MK-004 – 2pcs, HEPA filter HFME-3 – 2pcs, activated carbon filter CF-003 – 2pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.
	27625	DCA-42/3	Max. airflow 7500 m ³ /h. Inlet and outlet Ø: 500/3x250mm. Delivery scope: pre-filter ME-INL-PF – 3pcs., fine filter MK-004 – 3pcs, HEPA filter HFME-3 – 3pcs, activated carbon filter CF-003 – 3pcs. To be ordered separately: fan, outlet MT-OUTLET/XX.