

MAXIFLO™

AQC DUST COLLECTING SYSTEMS

HORIZONTAL DOWNFLOW PLEATED CARTRIDGE DUST COLLECTOR

- Automatic cartridge cleaning by air pulse
- Interior or exterior installation
- Pleated cartridges for multiple applications
- Designed for welding, buffing and grinding applications, pharmaceutical and food plants, bulk, and powder processes
- Modular for various air volume capacities



*Superior technology generating
substantial operating savings*



DUST COLLECTION
& SOURCE CAPTURE

MAXIFLO™

High-Productivity Innovative Products

Horizontal high efficiency cartridge collector

Dust collectors have developed throughout the past years with emerging technologies. AQC has chosen the best new available components and integrated them in the MAXIFLO horizontal cartridge collector. Available in various sizes and configurations, the MAXIFLO collector is mostly used to filter fumes created by welding processes, plasma metal cutting or any fine dust resulting from grinding or sanding applications. The electronic control panel ensures interval pulses of air to clean the cartridges properly. Safety features such as explosion relief vents, back draft dampers or any other NFPA requirements are available. Also, different dust storage systems are offered ranging from low profile dust drawers for welding applications to multiple drums for larger quantities of dust and particles.



A Leading-Edge, High-Performance Company

The AQC Dust manufacturer fabricates a full range of safe, industrial dust collectors, as well as dust and smoke capture equipment and high pressure industrial dampers at the leading edge of air control technologies based on more than 30 years of experience in the field.

AQC's strength lies in its innovative products designed and developed to generate substantial savings throughout their entire operating life.

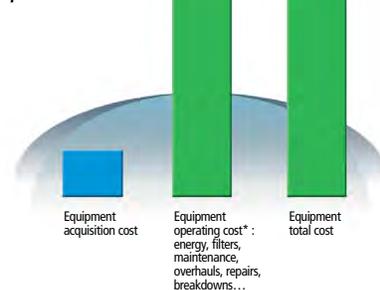
AQC is renowned for its technological innovation, safe and sophisticated equipment design, as well as its robust and precise product manufacturing. AQC stands out with its unique design of the baffles inside dust collectors making filter cleaning easy and a cartridge holder design that provides maximum filter surface, which enhances filter performance. The ultra-smooth concept inside AQC fume arms makes them maintenance-free and the durability of the heavy duty industrial dampers exceed expectations.

In short, AQC equipment is designed and built to generate substantial operating savings in terms of time, money and energy. This translates to major reductions in operating costs – from 10 to 20% – throughout the equipment's operating life. This scale of savings can represent a significant portion of the equipment's total purchase price. Companies looking to maximize their profitability should factor in these savings when purchasing equipment.

The unique design and manufacturing of AQC equipment generates significant savings for various reasons :

- Substantial increase in the duration of filters.
- Lower energy consumption during years of use.
- Significantly less maintenance (easy to clean, robust manufacturing, a minimum number of more reliable and durable parts).
- Reduced operating costs (less frequent overhauls, lack of or minimum down time, etc.).
- Lower administrative costs (coordination, follow-ups, supervision) due to much less frequent breakdowns.
- Safe design can prevent serious or even fatal accidents.
- Increased comfort and productivity of personnel.

Typical acquisition and operating dust collection equipment costs



The acquisition cost is just one part of the equation. It's the total cost including the operating cost ***throughout the life cycle of the equipment** that must be kept low. This is what AQC delivers. The advanced technology, design, robustness, durability and safety of AQC products generate major savings during the equipment's entire life cycle.

MAXIFLO DOWNFLOW CARTRIDGE TYPE DUST COLLECTOR

Efficient, robust and low maintenance

- Heavy duty cartridge support yokes
- Multiple dust storage configurations
- Wide selection of inlet / outlet locations
- Hopper and support structure shipped fully assembled
- Minimal field assembly required
- Welded cabinet

TYPICAL APPLICATIONS FOR THE MAXIFLO

- Welding shops
- Training centers and vocational schools
- Grinding, sanding or buffing applications
- General ambient air filtration
- Metal transforming facilities
- Food and pharmaceutical plants



**2MCH4-16 model
with dust storage drawer.**

With a low profile 20" (508 mm) dust storage drawer. Also available with 10" (254 mm) version.



**2MCH3-12 model
with NFPA explosion
vent door**

**MAXIFLO
with an abrasive
resistant inlet.**



**MAXIFLO with a
top mounted
direct drive fan.**

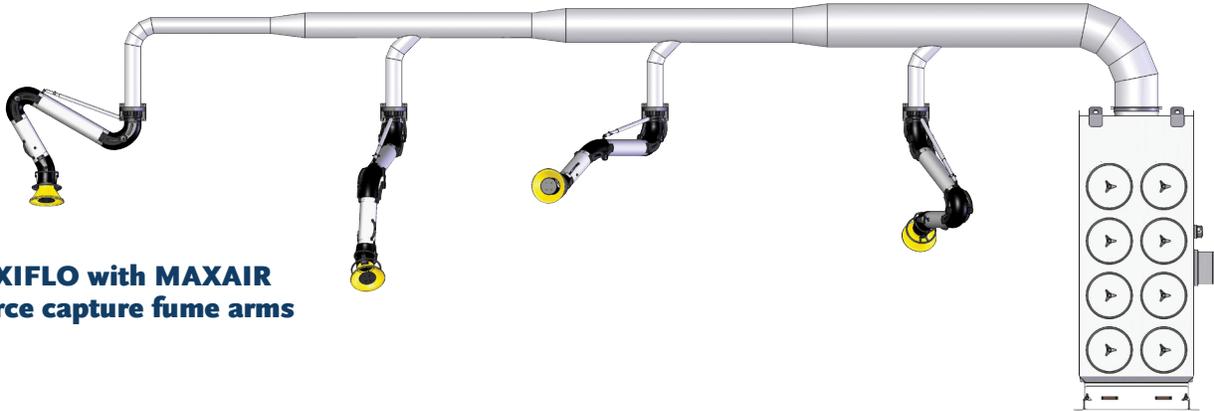
OUTSTANDING MAXIFLO FEATURES



DESCRIPTION

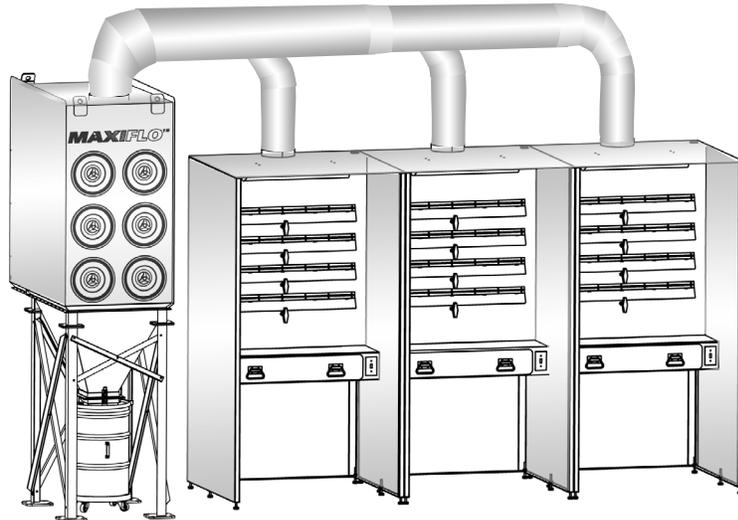
The MAXIFLO dust collector is a horizontal down flow type dust collector. Dust-laden air is drawn into the collector by means of a fan. Particles swirl evenly around the horizontally positioned pleated cartridges and are progressively filtered from the outside of the cartridge returning clean air into the facility. Maintenance is greatly reduced since the electronic control panel sends a cascading signal to air valves pulsing compressed air from the inside of the cartridges toward the outside while the unit is in service. This shockwave dislodges dirt and dust from the cartridge surface so it can be collected in the dust storage systems.

MAXIFLO SUGGESTED INSTALLATIONS

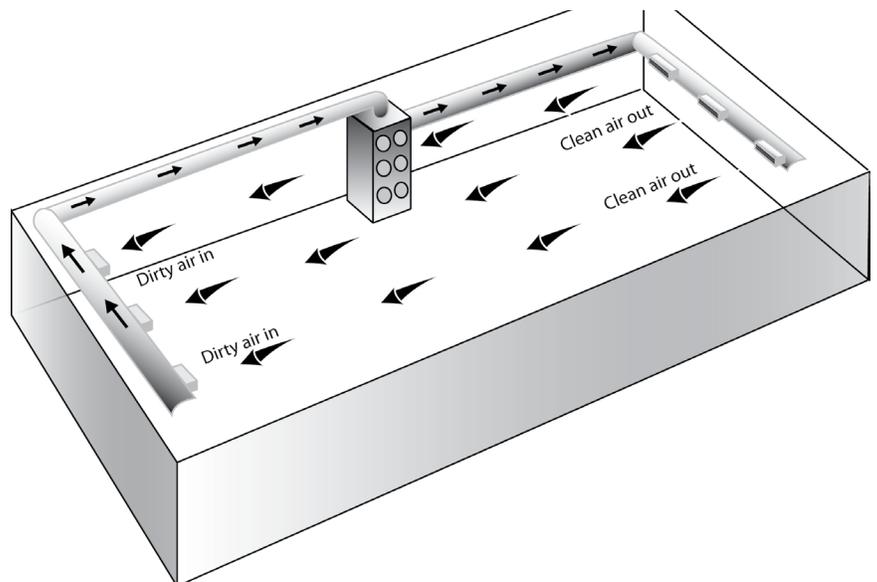


**MAXIFLO with MAXAIR
source capture fume arms**

**MAXIFLO with backdraft
welding booths**

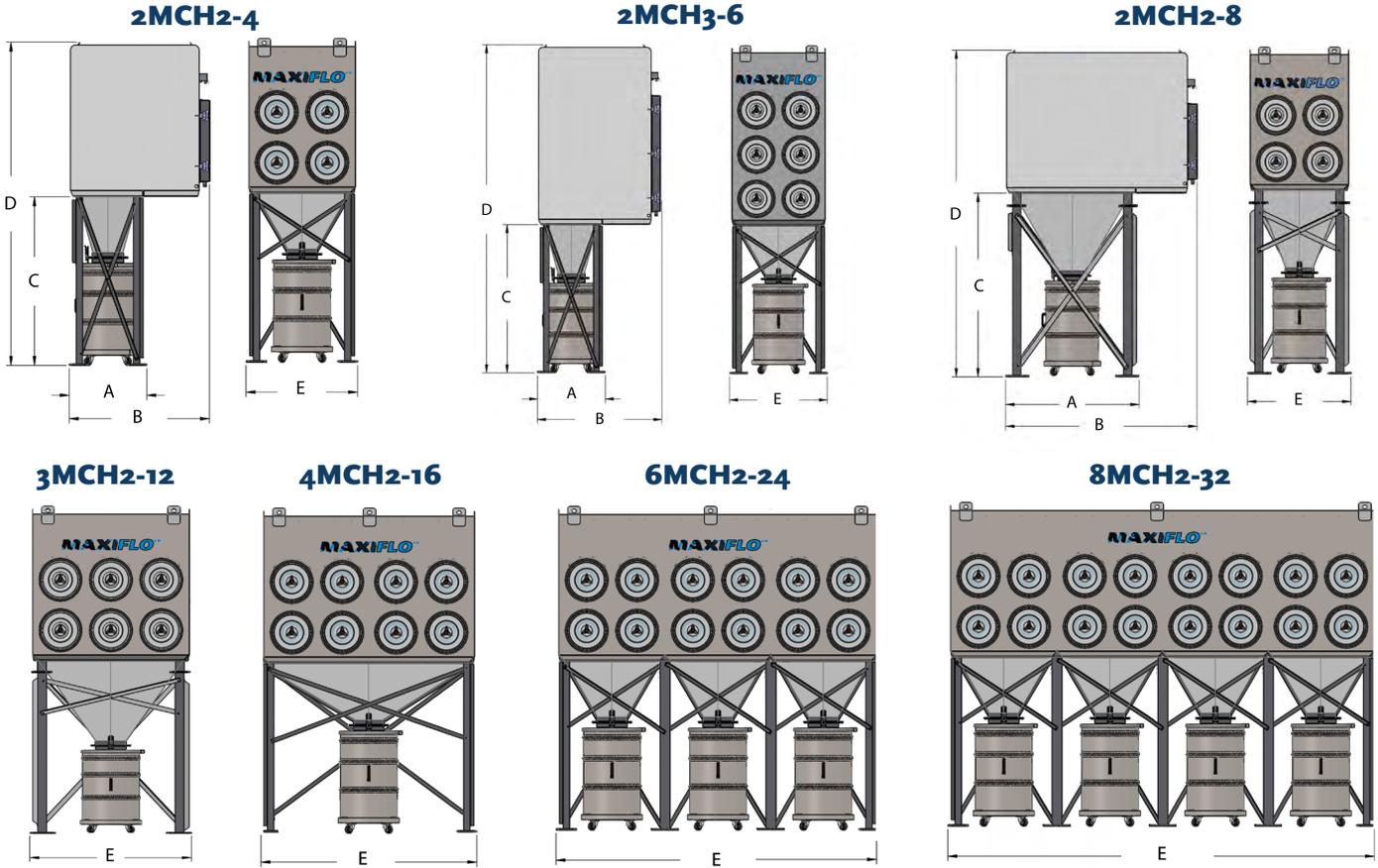


**MAXIFLO with push / pull
ambient air filtration design**



Application note: Other applications for MAXIFLO collectors are available. Contact factory or representative for details.

MAXIFLO MODEL NUMBERS AND DIMENSIONS



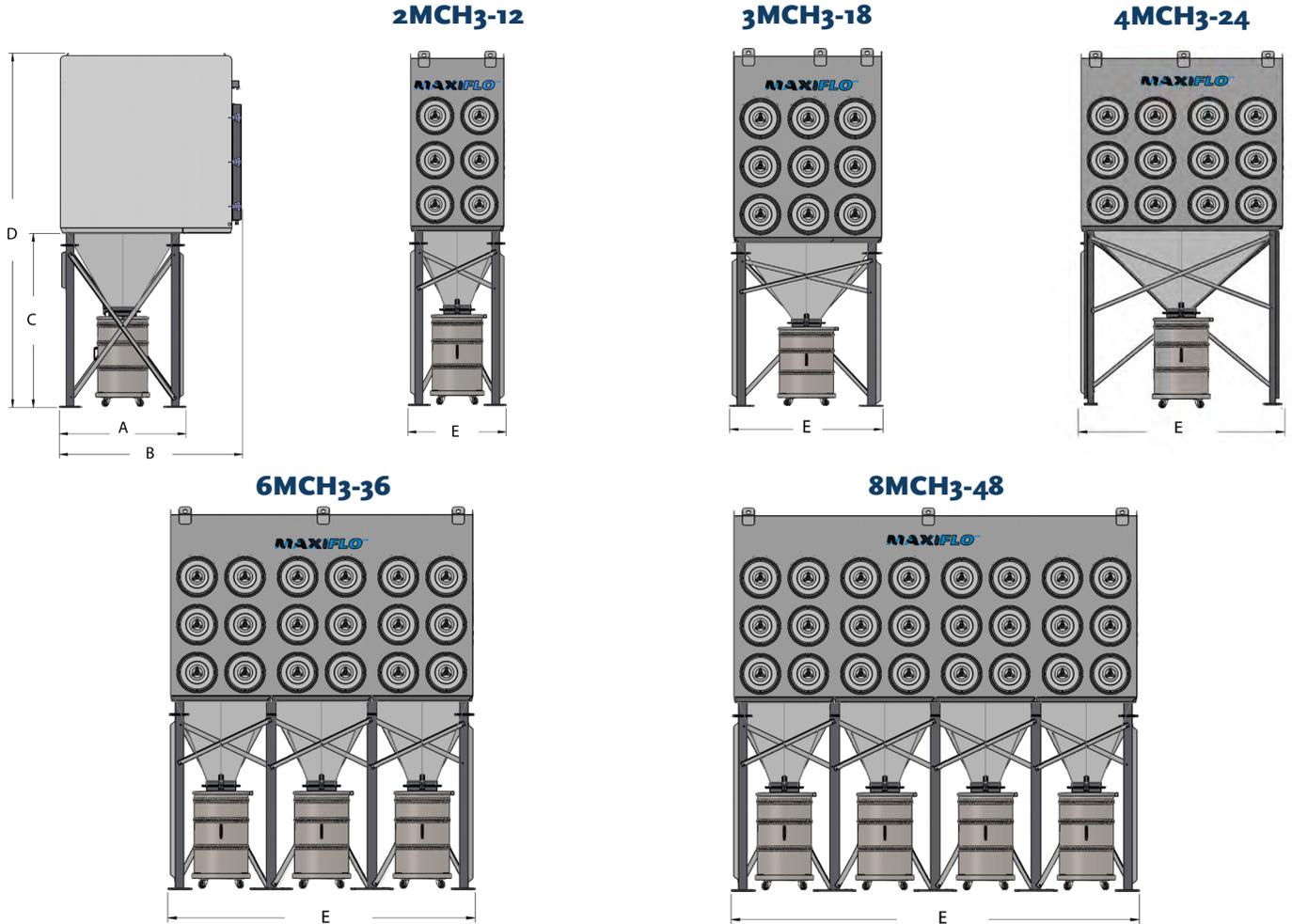
Note: Dimensions and weights indicated below do not include optional equipment such as explosion relief vents, fans, control panels, etc.

Characteristics

CHART 1

Model	Dimensions in/mm					Number of cartridges	Filtration surface (Cellulosic/cartridges) ft ² /m ²	Filtration surface (Cellulosic/nanofiber cartridges) ft ² /m ²	Filtration surface (Polyester cartridges) ft ² /m ²	Weight lbs/kg	Number of valves	Air volume CFM/l/s
	A	B	C	D	E							
2MCH2-4	30/762	56/1422	67/1702	128/3251	44/1118	4	1040/96	880/82	520/48	1100/499	4	1000-2500/ 472-1180
3MCH2-6	30/762	56/1422	67/1702	128/3251	44/1118	6	1560/145	1320/123	780/72	1300/590	6	1500-4000/ 708-1888
2MCH2-8	57/1448	82/2083	78/1981	128/3251	44/1118	8	2080/193	1760/163	1040/96	1500/680	4	2000-5000/ 944-2360
3MCH2-12	57/1448	82/2083	84/2134	146/3708	64/1626	12	3120/290	2640/245	1560/145	2450/1111	6	3000-7500/ 1416-3540
4MCH2-16	57/1448	82/2083	91/2311	153/3886	84/2134	16	4160/386	3520/327	2080/193	3000/1361	8	4000-10000/ 1888-4720
6MCH2-24	62/1575	85/2159	78/1981	139/3531	104/2642	24	6240/580	5280/491	3120/290	3900/1769	12	6000-15000/ 2832-7080
8MCH2-32	62/1575	85/2159	78/1981	139/3531	144/3658	32	8320/773	7040/654	4160/386	5800/2631	16	8000-20000/ 3775-9439

MAXIFLO MODEL NUMBERS AND DIMENSIONS



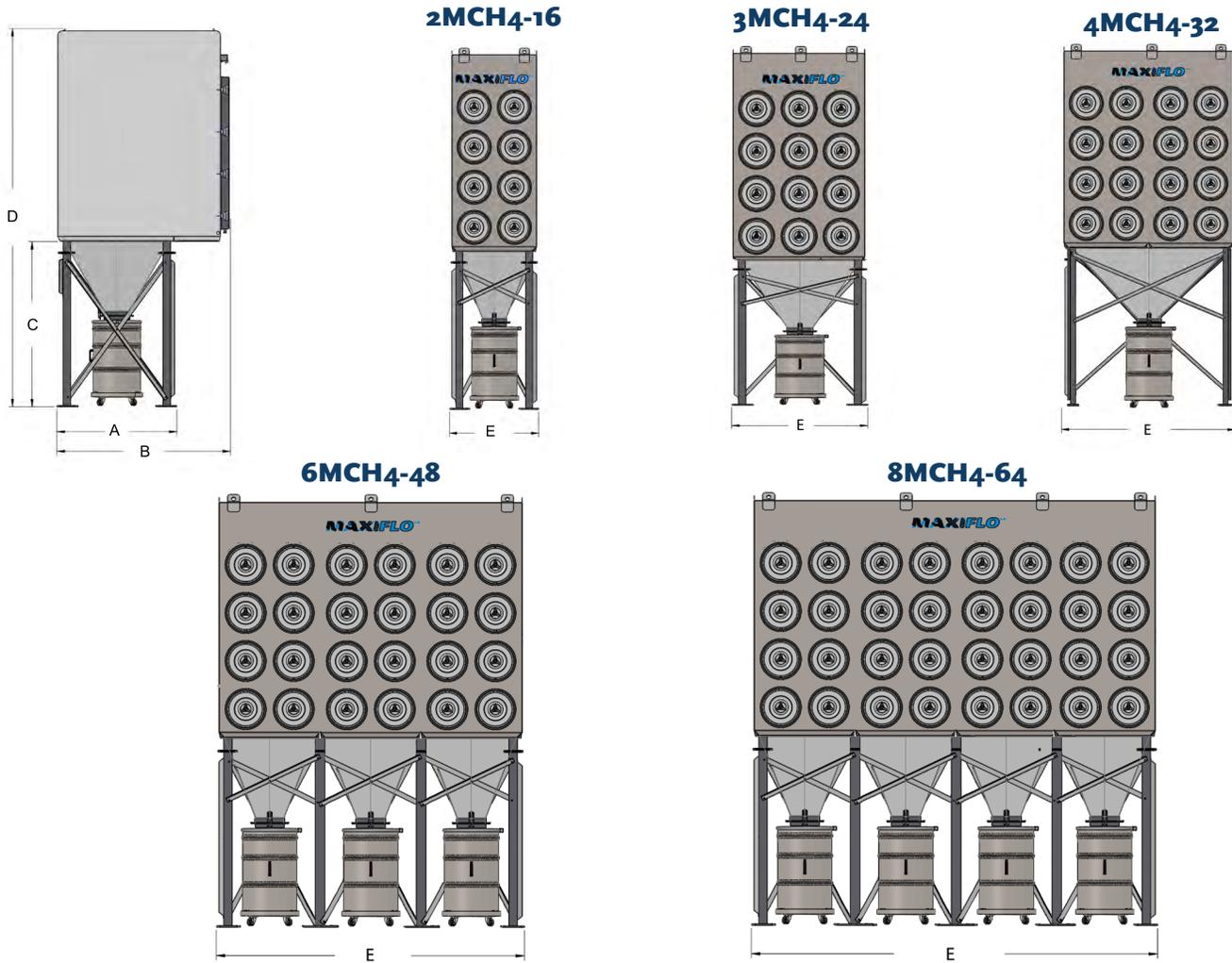
Note: Dimensions and weights indicated below do not include optional equipment such as explosion relief vents, fans, control panels, etc.

Characteristics

CHART 2

Model	Dimensions in /mm					Number of cartridges	Filtration surface (Cellulosic / cartridges) ft ² /m ²	Filtration surface (Cellulosic / nanofiber cartridges) ft ² /m ²	Filtration surface (Polyester cartridges) ft ² /m ²	Weight lbs /kg	Number of valves	Air volume CFM / l/s
	A	B	C	D	E							
2MCH3-12	57/1448	82/2083	78/1981	159/4039	44/1118	12	3120/290	2640/245	1560/145	2600/1180	6	3000-7000 / 1416-3304
3MCH3-18	57/1448	82/2083	84/2134	166/4216	64/1626	18	4680/435	3960/368	2340/217	3250/1474	9	4500-10000 / 2124-4720
4MCH3-24	57/1448	82/2083	91/2311	172/4369	84/2134	24	6240/580	5280/491	3120/290	4100/1860	12	6000-15000 / 2832-7080
6MCH3-36	62/1575	85/2159	78/1981	159/4039	124/3150	36	9360/870	7920/736	4680/435	6400/2903	18	9000-20000 / 4248-9439
8MCH3-48	62/1575	85/2159	78/1981	159/4039	164/4166	48	12480/1159	10560/981	6240/580	8200/3719	24	12000-30000 / 5663-14158

MAXIFLO MODEL NUMBERS AND DIMENSIONS



Note: Dimensions and weights indicated below do not include optional equipment such as explosion relief vents, fans, control panels, etc.

Characteristics

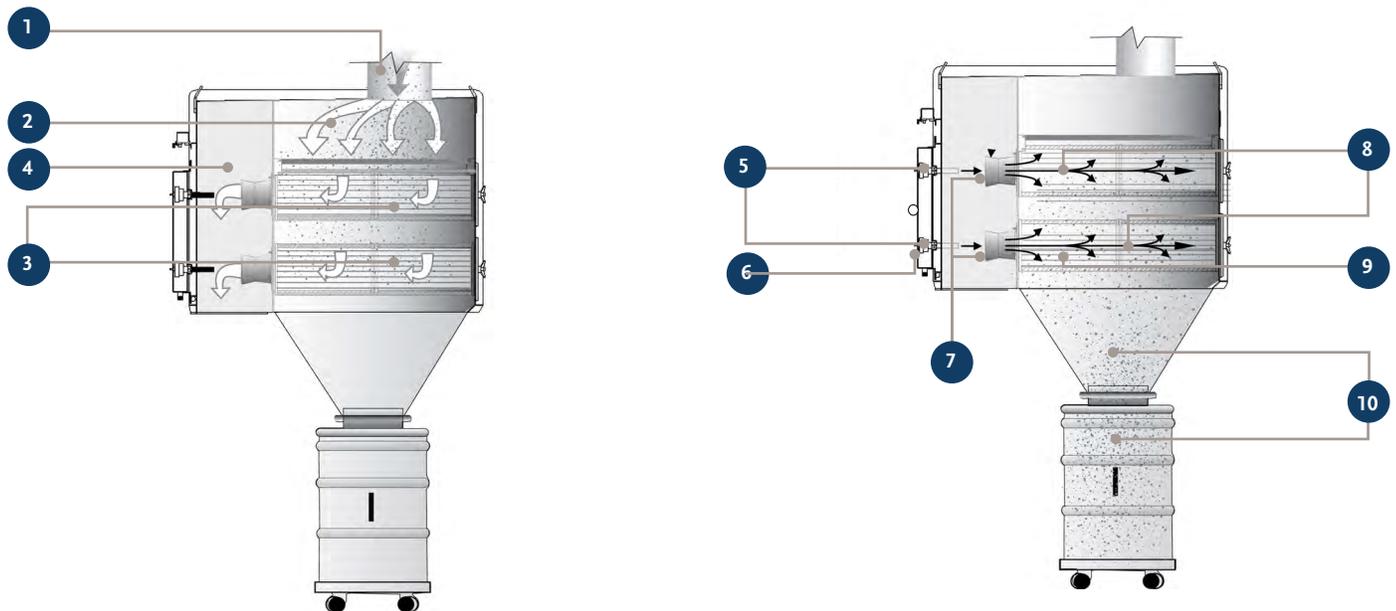
CHART 3

Model	Dimensions in /mm					Number of cartridges	Filtration surface (Cellulosic / cartridges) ft ² /m ²	Filtration surface (Cellulosic / nanofiber cartridges) ft ² /m ²	Filtration surface (Polyester cartridges) ft ² /m ²	Weight lbs /kg	Number of valves	Air volume CFM / l/s
	A	B	C	D	E							
2MCH4-16	57/1448	82/2083	78/1981	179/4547	44/1118	16	4160/386	3520/327	2080/193	3100/1406	8	4000-10000 / 1888-4720
3MCH4-24	57/1448	82/2083	85/2159	186/4724	64/1626	24	6240/580	5280/490	3120/290	4100/1860	12	6000-15000 / 2832-7080
4MCH4-32	57/1448	82/2083	91/2311	192/4877	84/2134	32	8320/773	7040/654	4160/386	6000/2722	16	8000-20000 / 3775-9440
6MCH4-48	62/1575	85/2159	78/1981	179/4547	124/3150	48	12480/1159	10560/981	6240/580	8400/3810	24	12000-30000 / 5663-14158
8MCH4-64	62/1575	85/2159	78/1981	179/4547	164/4166	64	16640/1546	14080/1308	8320/773	10800/4899	32	16000-40000 / 7551-18878

PRINCIPLE OF OPERATION

During operation, dusty air **1** enters the collector from the top and takes a down flow air pattern **2**. Dust and smoke are filtered as they penetrate into the cartridge fabric **3** and are vacuumed into the clean air plenum **4**.

An electronic control panel sends multiple signals at different intervals to the diaphragm valves **5** which releases a small amount of compressed air from the tank **6** into the venturi cones **7**. The shockwave **8** created by the acceleration of the compressed air pushes the contaminants away from the cartridge's fabric **9**. Gravitational effect takes over and the contaminants continue downward to the hopper and dust storage system **10**.



COMPRESSED AIR CLEANING INFORMATION

MAXIFLO dust collectors use approximately 8 to 12 SCFM per pulse. Recommended compressed air pressure for proper cartridge cleaning is 90 psi. The air line feeding the MAXIFLO collector should be equipped with a filter, a regulator and a dryer for a longer life expectancy of the valves. MAXIFLO collectors installed outside in cold climates should be equipped with a solenoid heating element. Standard panels include programmable timer to pulsate at intervals of 1 to 180 seconds. Optional panels include Differential Pressure Controller (DPC) regulating air pulses by pressure sensors or manually programmable from 1 to 255 seconds.

NANO QUALITY CARTRIDGES

AQC installs NANO type cartridges to provide better efficiency systems that have better cleaning, lower filter pressure drop and longer life. The fibers that form a NANO cartridge mesh range from 0.07 to 0.15 micron, this is 1000 times smaller than a human hair.

80/20 media has a standard efficiency of 85% on particles ranging from 3 to 10 microns or MERV 10. NANO cartridges rated MERV 15 capture 85% of particles from 0.3 to 1 micron and 90 to 100% larger particles.

AQC NANO cartridges are efficient and work at peak efficiency at the very beginning of its service life, and will maintain peak efficiency through repeated compressed air pulses.

APPLICATIONS

The MAXIFLO is an enclosed type dust collector. MAXIFLO dust collectors can be used with different dusts such as welding smoke, metal sanding, grinding or buffing, plasma or laser downdraft cutting tables, sandblast rooms, light to medium sized dry powders, food and pharmaceutical plants, or plastic and composite fabricating shops.

SAFETY RULES AND REQUIREMENTS

Reactive metal applications

The National Fire Protection Agency (NFPA) standard 484 defines aluminum, magnesium, tantalum, titanium and zirconium as reactive metals so it is imperative that NFPA 484 standard be observed at all times and that the collector be installed outside of the facility or premises with all required safety devices. Reactive metals listed above shall not be mixed in the same MAXIFLO collector. Individual dust collectors must be used for each reactive dust.

The MAXIFLO dust collector should include a sign indicating **CAUTION** when used with explosive dust and a sign indicating **WARNING** when used with aluminum dusts advising danger of mixing with other dusts.

Note on explosion venting panels: A minimum clearance of 25' (7.6 meters) free of obstacles, pedestrian walkway, building walls, trees or bushes is required to allow dispersion of possible blast. Contact factory for details.

SHIPPING

In order to facilitate shipping and installation, AQC usually ships the hopper and support structure fully assembled ready for cabinet mount. Larger models may require more extensive field assembly.

Optional equipment such as dampers or silencers are shipped separately and require field assembly. Explosion venting doors are factory installed on the dust collector cabinet.

Cartridge selection

CHART 4

Media	Filtration surface ft ² /m ²	Application	Efficiency
PTFE	130/12	Smoke, fumes	MERV 16
		Fine powders	
		Light concentration	
Polyester	130/12	Smoke, fumes, fibrous dust,	MERV 11
		Fine dust	
		Medium concentration	
Nanofiber	260/24	Smoke, fumes, non fibrous dust	MERV 15
		Fine dust	
		Light concentration	
Fire retardant	260/24	Smoke, fumes, non fibrous dust	MERV 15
		Fine dust	
		Light concentration	
Antistatic	130/12	Smoke, fumes, fibrous dust	MERV 11
		Fine dust	
		Medium concentration	

Maximum operating temperature: 120 °F to 180 °F. (49 °C to 82 °C).

Other filter media is available such as teflon coated cartridges for high heat usage. Contact AQC or representative for details.

Note 1: MAXIFLO maximum air volume capacity is rated as per cartridge filtration area. For best results and longer cartridge life expectancy, air to cloth ratio (filtration area) should not exceed 3 to 1 for collectors used for ambient air filtration and 2 to 1 with source capture equipment (fume arms or equivalent).

Note 2: Air volume capacities indicated per MAXIFLO selection is more or less a 2 to 1 air to cloth ratio. The purpose of this ratio is to extend filter life and lower static pressure. AQC may agree to a 3 or 4 to 1 air to cloth ratio in certain applications. Contact factory for details.

OPTIONAL ACCESSORIES AND DESCRIPTION**Explosion venting doors**

Requirement by NFPA for reactive material such as wood dusts and chips, aluminum and/or magnesium collection.

Fan outlet silencers

Sound attenuators for high velocity discharge of air.

Tamper proof bars

Safety device preventing unauthorized access to cartridges.

Rotary airlock

Rotary airlock for constant dust discharge.

Slide /blast gates

Used for shutting off air vacuum on specific equipment.

Blowback dampers

Safety device preventing flames or explosion in dust collector from coming back into the building.

**Spark detection /
extinguishing systems**

Recommended safety device for highly abrasive metal or wood transforming applications.

Sprinklers

Safety device to extinguish possible fires in dust collectors.

Abort dampers

Safety device preventing a possible explosion in a dust collector from coming back into the building and exhausting pressure into the atmosphere.

Safety device and equipment notes: Design built and engineered dust collecting equipment may require different safety devices as described above. Refer to NFPA rules and regulations for appropriate devices. AQC or it's representatives may also guide you in the proper selection of equipment as per the application. It is highly recommended to refer to local building laws and safety requirements prior to selecting or installing any type of dust collecting equipment.

Installation note: It is recommended to allow 36" (0.9 m) work and access space around the collector for installation and possible maintenance.

YOUR MAXIFLO FILTRATION UNIT SPECIFICATION

1. Unit:

10 and 14 gauge polyurethane painted with epoxy; aluminum primer steel cabinet; high efficiency pleated cartridges with gasketed access doors and turn knobs; air venturi for proper pulse cleaning action on cartridges; heavy duty support yokes for cartridges; dust deflectors above first row of cartridges; Magnehelic pressure gauge; dust hopper and dust storage drums with grab handle; flexible hose connection from hopper to dust bin; electronic control panel with adjustable timer for pulse cleaning in NEMA 4 enclosure; 1" NPT compressed air connection to air tank; diaphragm valves with solenoids; cabinet lift lugs; painted steel support structure with cross braces and pre-drilled holes for floor anchoring, (seismic rating zone 4).

2. Model:

_____ Amount of cartridge access doors in horizontal position

_____ Amount of cartridge access doors in vertical position

_____ Amount of cartridges in depth

3. Cartridges:

- a) Fire retardant Nano fiber 260 ft² (24 m²) each
- b) Polyester 130 ft² (12 m²) each
- c) Anti-static polyester 130 ft² (12 m²) each

4. Fan performance:

_____ CFM @ _____" S.P. (Ex: 5000 CFM @ 6" S.P.)

_____ L/s @ _____ pa S.P. (Ex: 2360 L/s @ 1500 pa SP)

5. Drum dust storage unit should be substituted for:

- a) 10" (254 mm) high dust drawers
- b) 20" (508 mm) high dust drawers
- c) Quick dumping bin system

6. Dirty air inlet should be located at:

- a) Top of dust collector
- b) Front of dust collector

7. Clean air outlet should be located at:

- a) Top rear of dust collector
- b) Bottom rear of dust collector
- c) Left rear of dust collector
- d) Right rear of dust collector

8. Unit to be equipped with :

- a) NFPA explosion relief vent
- b) Sprinkler head
- c) Abort damper
- d) Blowback damper
- e) Spark detection / extinguishing system
- f) Cartridge access doors tamper proof bars
- g) Rotary airlock
- h) Slide gate at drum / hopper connection
- i) Differential pressure controller for automatic pulse cleaning
- j) Fan outlet silencer
- k) After-filter
- l) Support structure and hopper enclosure with access door
- m) Access ladder and service platform for high profile dust collectors
- n) Bag in / bag out cartridge replacement
- o) Drum dollies with casters
- p) Drum covers
- q) Acoustical fan plenum

9. Unit designed for:

- a) Interior installation
- b) Exterior installation
- c) Exterior installation in cold climate

Note : Specifications listed above may be modified to suit application. Contact AQC or representative for information.

Your AQC.
representative is :



**DUST COLLECTION
& SOURCE CAPTURE**

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