

MCF PowerSaver[®] Dust Collector

- Operates with medium-pressure cleaning air (7-9 psig) (.4-.6 barg)
- Total filter area available exceeds 23,000 ft² (2,137 m²)
- Cleaning capacities over 250,000 CFM (425,000 m³/h)
- Timing mechanism non-electrical – safe in dusty, explosive atmosphere
- Good for use in high temperatures 465 °F (240 °C) and higher



Application

Engineered for demanding applications:

- Grain milling
- Composite board manufacturing
- Process dust collection
- Chemical processing
- Food processing
- Mining
- Metals processing
- General woodworking
- Coal transfer

Operating Principle

Patented technology combines superior cleaning performance with unequaled savings in energy. Requiring no integrated plant air to function, the MCF PowerSaver generates energy cost-savings of up to 50% over conventional high pressure pulse jet or reverse air cleaning systems.

With over 5,000 man-hours invested in the MCF PowerSaver's development and over 2,500 units installed and in operation – this dust collector continues to demonstrate its dependability around the globe. It's built to handle heavy dust loads and comes in sizes and configurations to fit most industrial air quality applications, from milling to mining.

Longer Bag Life

Precision cleaning by the MCF PowerSaver prevents over-cleaning and maximizes bag life.

Lower Emissions

Medium-pressure pulse complemented by precision cleaning has proven to have lower emissions than high pressure cleaning filter systems.

Lower Operating Costs

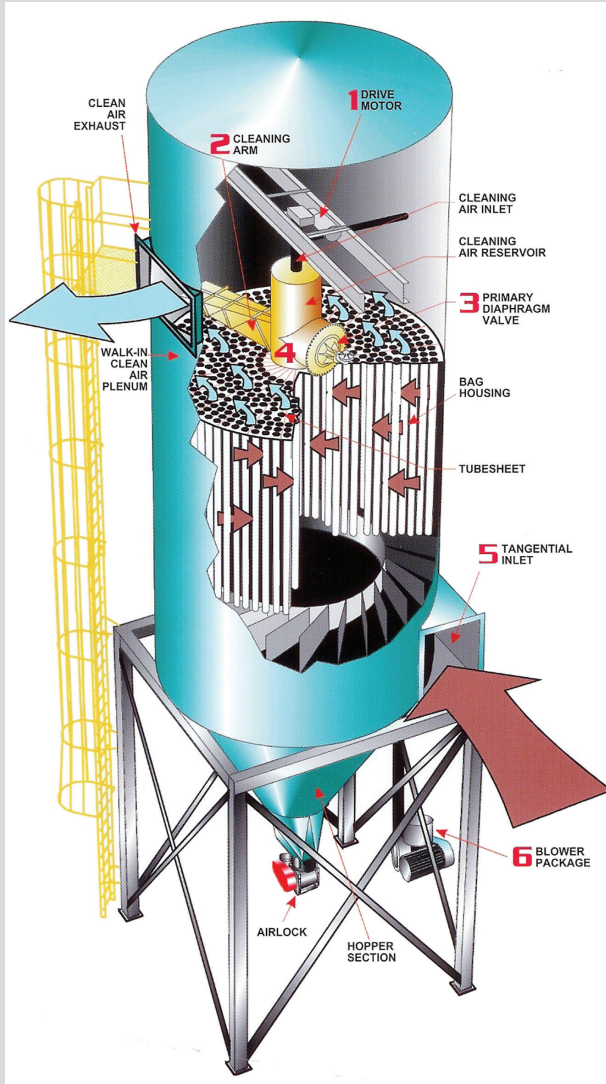
Medium-pressure, high volume air is cheaper to generate than high pressure compressed air systems.

Lower Maintenance Costs

The MCF PowerSaver's "no tool" design bag change-out saves hundreds of hours of installation and maintenance over filter life.

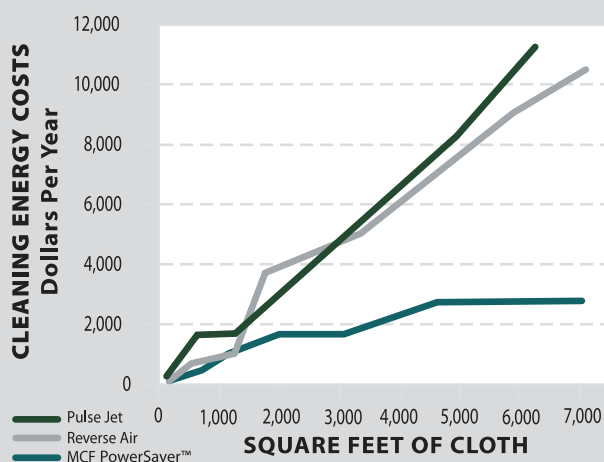
Easy Installation

Where adequate construction space is available, the MCF housing, plenum, and hopper are shipped fully welded to simply lift into vertical position and rest in the support structure.



How the MCF PowerSaver works

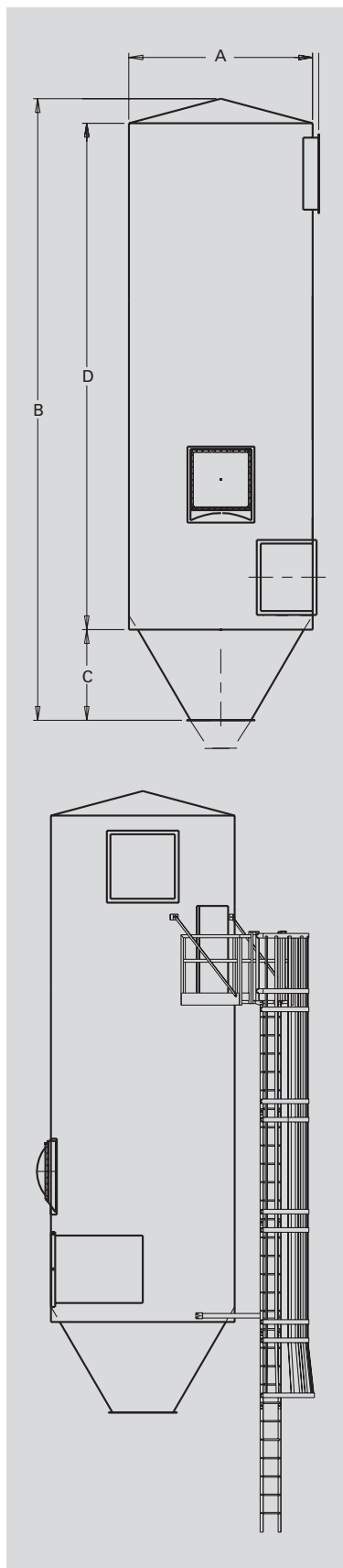
1. Main Drive – this rugged explosion proof electric motor is the only electronic component used inside the filter housing. Except for the motor and external air blower package, the MCF is pneumatically operated for safety and reliability.
1. Patented Never-Miss™ Controlled-Cleaning System aligns cleaning arm and bag segments, so that air nozzles fire directly into the bag center. So there's no wasted air. No bleed. None of the wasted energy you pay for on every cycle with conventional random-cleaning and reverse-air systems.
2. Diaphragm Valve Assemblies are located close to the air reservoir and cleaning arm to maintain cleaning pressure and minimize recovery time. These two valves do the work of ten to thirty diaphragm valves and solenoids on conventional pulse-jet filters.
3. MCF Position-Sensing Index Assembly and Cleaning Control keep nozzles properly positioned and air pulses correctly timed for optimum media cleaning. The timing sprocket is laser cut and self-aligning. The Sensing Assembly and Control are direct-drive, mechanically linked components. They have no chains or belts to break, wear out, or go out of adjustment – no electronic circuits to fail. These operate reliably for years in abrasive and corrosive environments – with virtually no maintenance.
4. Tangential Inlet controls heavy dust loads utilizing Vortex Breakers built into the MCF housing, which even out the distribution of particulate-laden air coming from the tangential inlet for improved collection. Vortex Breakers create an area at the center of the housing where the air has no upward velocity and where dust particles cleaned from the bags can flow downward. A Spiral Ridge Plate traps centrifuged particles and drives them into the hopper.
5. Medium-Pressure Blower Package uses a liquid-filled pressure gauge and powers cleaning with 7-9 psig (.4-.6 barg) air for economical operation and longer bag life. Medium-pressure air virtually eliminates cold weather freeze-ups that cause other filters to fail.



Cleaning Energy Costs

Studies indicate that users can meet safety and regulatory requirements for approximately 50% of the cost of running high pressure pulse jet filters. The graph illustrates how much you could save on cleaning energy costs per year using the MCF.

Dimensions



Model	Cloth (Sq. Ft.)	Cloth (Sq. M)	Dimensions				Blower HP (kW)	Weight lbs. (Kg)
			A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)		
96MCF112	1,070	99	84 (2,134)	311.9 (7,922)	28 (711)	272.5 (6,922)	3 (2.2)	6,767 (3,070)
120MCF112	1,341	125		356.9 (9,065)		317.5 (8,065)		7,476 (3,391)
144MCF112	1,613	150		407.9 (10,361)		368.5 (9,360)		8,261 (3,747)
96MCF153	1,462	136	96 (2,438)	326.8 (8,301)	38.4 (975)	275.5 (6,998)	3 (2.2)	8,040 (3,647)
120MCF153	1,832	170		371.8 (9,444)		320.5 (8,141)		8,886 (4,031)
144MCF153	2,204	205		423.8 (10,765)		372.5 (9,462)		9,834 (4,461)
96MCF204	1,950	181	108 (2,743)	342.9 (8,710)	48.8 (1,240)	279.5 (7,099)	3 (2.2)	9,090 (4,123)
120MCF204	2,443	227		388.9 (9,878)		325.5 (8,268)	5 (3.7)	10,152 (4,605)
144MCF204	2,939	273		440.9 (11,199)		377.5 (9,589)		11,262 (5,108)
96MCF255	2,437	226	120 (3,048)	359.9 (9,142)	59.2 (1,504)	284.5 (7,226)	5 (3.7)	10,981 (4,981)
120MCF255	3,054	284		405.9 (10,310)		330.5 (8,395)		12,146 (5,509)
144MCF255	3,674	341		458.9 (11,656)		383.5 (9,741)		13,443 (6,098)
96MCF306	2,924	272	132 (3,353)	374.9 (9,523)	69.6 (1,768)	287.5 (7,303)	5 (3.7)	12,136 (5,505)
120MCF306	3,665	341		422.9 (10,742)		335.5 (8,522)		13,537 (6,140)
144MCF306	4,409	410		474.9 (12,063)		387.5 (9,843)		15,009 (6,808)
96MCF361	3,451	321	144 (3,658)	390.9 (9,929)	80 (2,032)	291.5 (7,404)	5 (3.7)	14,344 (6,506)
120MCF361	4,324	402		438.9 (11,148)		339.5 (8,623)		15,954 (7,237)
144MCF361	5,202	483		491.9 (12,494)		392.5 (9,970)		17,582 (7,975)
96MCF416	3,976	369	156 (3,962)	406.8 (10,333)	90.3 (2,294)	295.5 (7,506)	5 (3.7)	19,323 (8,765)
120MCF416	4,983	463		454.8 (11,552)		343.5 (8,725)		21,354 (9,686)
144MCF416	5,994	557		505.8 (12,847)		394.5 (10,020)		23,463 (10,643)
96MCF494	4,722	439	168 (4,267)	422.8 (10,739)	100.6 (2,555)	299.5 (7,607)	5 (3.7)	21,771 (9,875)
120MCF494	5,918	550		471.8 (11,984)		348.5 (8,852)		24,143 (10,951)
144MCF494	7,118	661		525.8 (13,355)		402.5 (10,224)		26,581 (12,057)
120MCF572	6,852	637	180 (4,572)	499.6 (12,690)	122.4 (3,109)	350.2 (8,895)	8 (5.6)	35,095 (15,918)
144MCF572	8,242	766		553.6 (14,061)		404.2 (10,267)		37,531 (17,023)
120MCF756	9,056	841	204 (5,182)	553.6 (14,061)	143.1 (3,635)	360.2 (9,149)	10 (7.5)	44,005 (19,960)
144MCF756	10,893	1,012		589.6 (14,976)		416.2 (10,571)		47,301 (21,455)
120MCF1120	13,417	1,246	240 (6,096)	576.6 (14,646)	174.3 (4,427)	367.2 (9,327)	15 (11.2)	53,310 (24,181)
144MCF1120	16,139	1,499		634.6 (16,119)		425.2 (10,800)		57,871 (26,249)
120MCF1652	19,790	1,839	288 (7,315)	634.6 (16,119)	215.9 (5,484)	397.2 (10,089)	25 (18.6)	65,266 (29,604)
144MCF1652	23,805	2,212		713.6 (18,125)		456.2 (11,587)		71,015 (32,211)

MCF Specifications

- Rugged steel construction 10-gauge or heavier
- Walk-in clean air plenum with lifting lugs
- Service door measures 60" x 32" (1,524 mm x 813 mm) for easy access
- Explosion-proof motor powers direct-drive rotating surge tank and distribution arm
- Pneumatically-controlled cleaning mechanism discharges air directly over filter bags
- Topside tool-free cage and snap-band bag removal
- 60-degree hopper with 40" (1,016 mm) diameter flange
- Self-contained positive displacement pump package supplies all required air

MCF Options

- Rotary airlocks sized by application and pollutants
- Live bottom discharge for difficult materials
- 304 or 316 stainless steel construction
- Accessories include: Sprinkler taps, broken bag detector, level probes, hopper access ports and structural supports

Coperion Capabilities

- Complete design-build capabilities
- Project management
- Process controls
- State-of-the-art TestCenters
- Explosion protection advice
- Aftermarket care
- Filter media advice
- Coperion airlocks and accessories



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