

Technical leaflet 150050 0	Date 2011-06-10
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## MJC

### Reverse Jet Cartridge Filter



The MJC is a long established range of reverse jet cleaned tubular cartridge filters designed for continuous operation in process and general dust extraction applications with free flowing dust. This recently upgraded filter range offers two filter cartridge lengths and on-line high efficiency reverse jet cleaning. Filter areas range from 48m<sup>2</sup> to 739m<sup>2</sup> as standard, utilising patented UniClean cartridges. However, units up to about 1050m<sup>2</sup> may be made to special order.

All MJC units have generously sized integral pre-separation chambers to increase their dust load capacity whilst reducing the load on the filter cartridges. Normal maintenance is from the top, within handrails if specified, but cartridge replacement may be specified from the side, if headroom does not allow top access. A range of space saving integral fans from 0.75kW to 18.5kW may be specified, with optional air silencers. Larger units may be served by floor mounted high efficiency Combifab fans.

#### Features

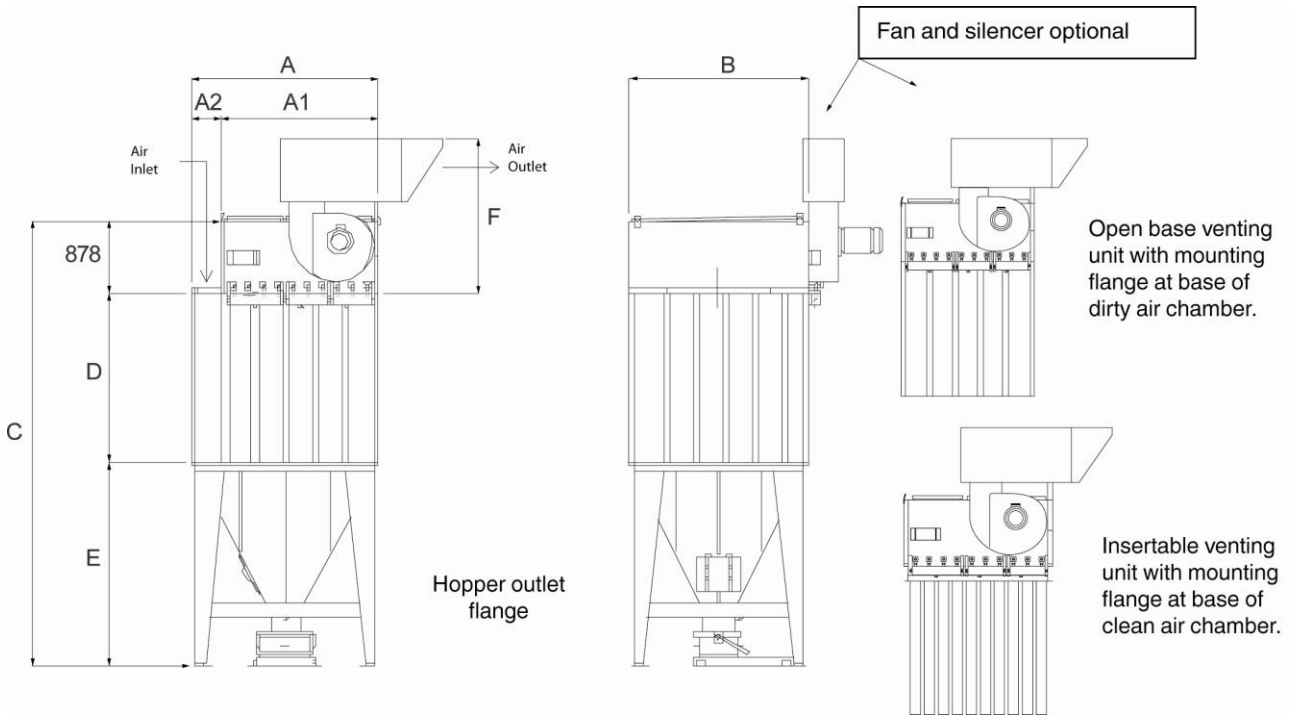
- Robust welded steel construction
- Weatherproof for exposed locations
- Filter area from 48m<sup>2</sup> to 739m<sup>2</sup> as standard
- Normal maximum operating temperature 80°C
- Two cartridge lengths available
- On-line cleaning with high efficiency diaphragm valves
- Compressed air pressure typically 5.0 to 5.5 bar
- Normal maximum negative/positive operating pressure 8000Pa/2000Pa
- Large integral pre-separation chamber
- Downflow/crossflow inlet air pattern reduces cleaning power required
- Five cartridge media types to cater for most applications
- Good access for maintenance of cartridges and cleaning components from unit top or side according to specification
- Cleaning sequence controller type DFC-08M in IP65 enclosure

#### Options

- Discharge options include screw conveyors, rotary valves, gravity or motorised flap valves or quick release bins
- Range of integral fans from 0.75kW to 18.5kW with optional air silencers
- Combifab fans for higher airflow volumes
- Higher negative/positive operating pressure 15000Pa/5000Pa
- Operating temperature up to 100°C
- ATEX certified explosion relief panels when handling explosive dusts St1, St2, St3
- Free standing dust collector, open based or insertable for direct mounting
- Dedicated control systems for complete dust extraction installation

# MJC Planning-in Data

## MJC Type 40 (4.0 m<sup>2</sup> cartridge)



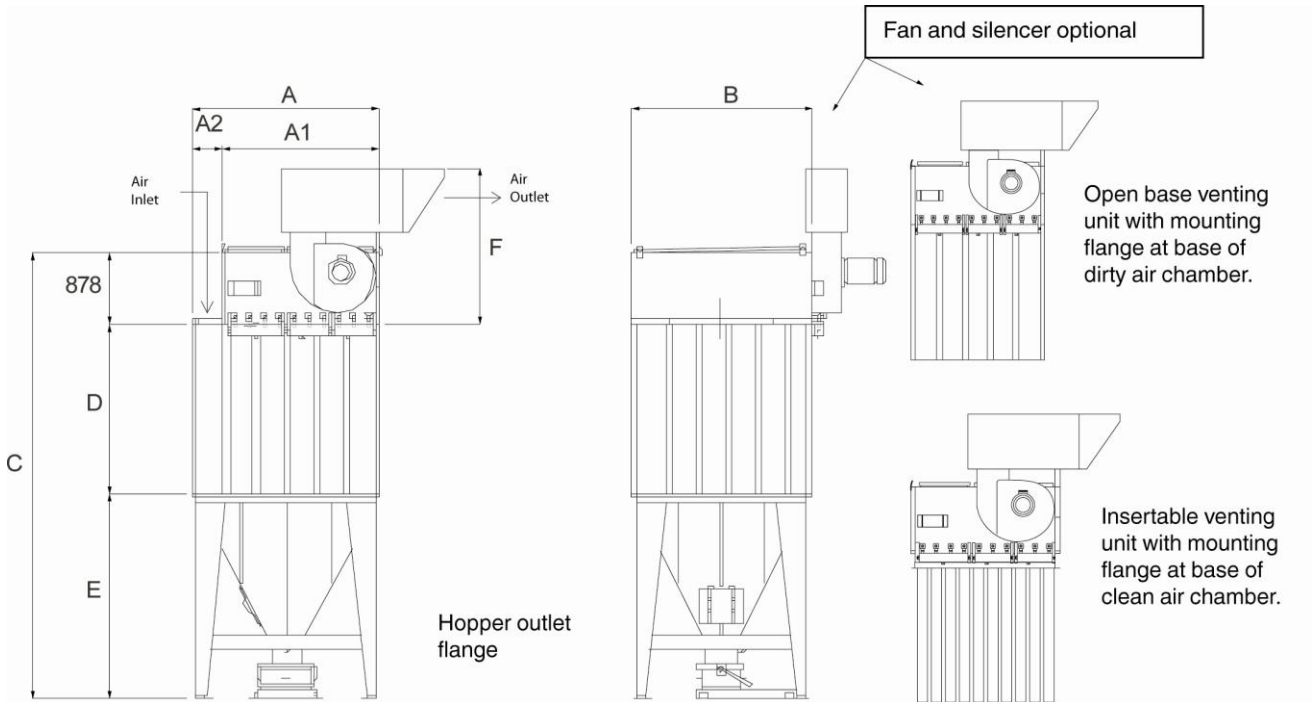
Front and side view of standard MJC complete with typical fan and silencer, mounted on a bin hopper. Rotary valve, flap valve and other discharge options available.

Fan size	Fan + silencer	Dimension F
[kW]	[kg]	[mm]
up to 3,0	67	1396
4,0 to 7,5-S	108	1685
7,5-L to 18,5	188	1850

MJC Unit Type 40 cartridges	A1 Clean air chamber (CAC) width	A2 Add for side pre- separation chamber	A Dirty air Chamber (DAC) hopper width	B Depth of clean and dirty air chamber and hopper	C CAC plus DAC plus hopper height	D Dirty air chamber height	E Hopper height 75 litre bin	Typical weights using normal construction kg		No. of bins
								Filter Unit	Hopper	
<b>NOTE: Three units below have built-in pre-separation chamber at rear</b>										
48/40/43	1150	N/A	1150	1220	3395	1050	1467	385	354	1
64/40/44	1500	N/A	1500	1570	3755	1050	1867	622	490	1
80/40/54	1850	N/A	1850	1570	3935	1050	2007	723	558	1
<b>NOTE: Seven units below have built-in pre-separation chamber at side, left or right</b>										
96/40/38	1150	350	1500	2095	4195	1050	2267	770	716	1
128/40/48	1500	700	2200	2095	4195	1050	2437	834	852	1
160/40/58	1850	700	2550	2095	4195	1050	2267	985	957	2
192/40/68	1850	700	2550	2095	4195	1050	2267	1017	957	2
224/40/78	2200	700	2900	2095	4195	1050	2267	1155	1025	2
256/40/88	2550	700	3250	2095	4195	1050	2267	1347	1093	2
288/40/98	2900	700	3600	2095	4195	1050	2267	1512	1161	2

# MJC Planning-in Data

## MJC Type 66 (6.6m<sup>2</sup> cartridge)



Front and side view of standard MJC complete with typical fan and silencer, mounted on a bin hopper. Rotary valve, flap valve and other discharge options available.

Fan size	Fan + silencer	Dimension F
[kW]	[kg]	[mm]
up to 3,0	67	1396
4,0 to 7,5-S	108	1685
7,5-L to 18,5	188	1850

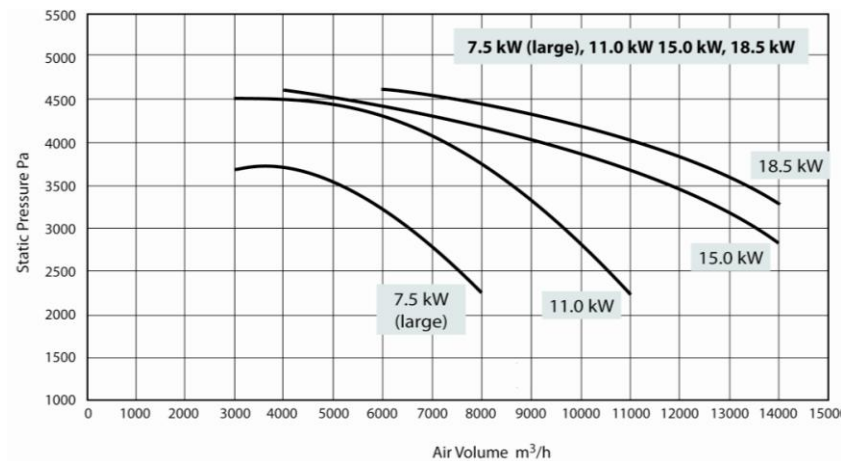
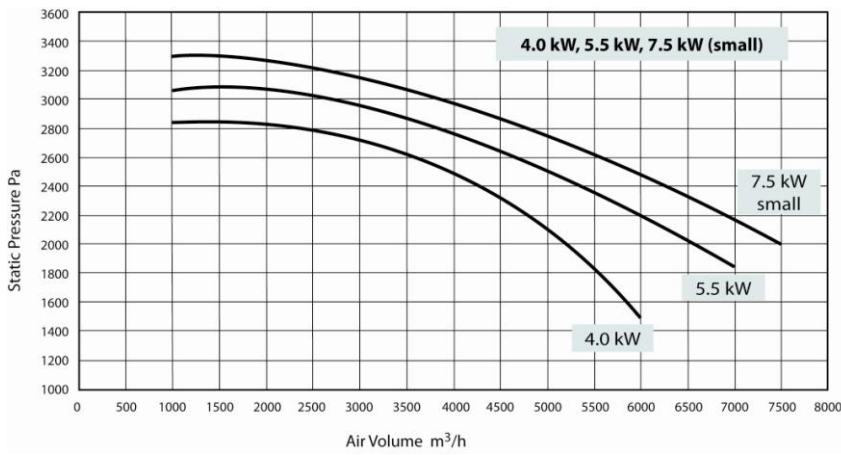
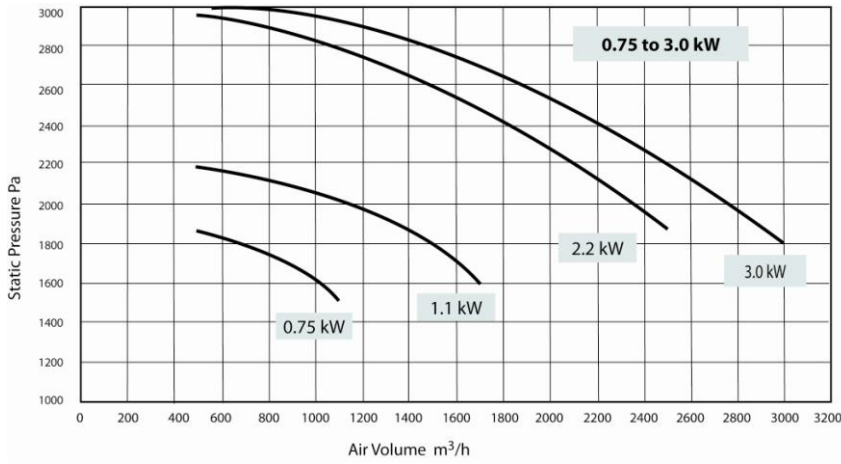
MJC Unit Type 66 cartridges	A1 Clean air chamber (CAC) width	A2 Add for side pre- separation chamber	A Dirty air Chamber (DAC) hopper width	B Depth of clean and dirty air chamber and hopper	C CAC plus DAC plus hopper height	D Dirty air chamber height	E Hopper height 75 litre bin	Typical weights using normal construction kg		No. of bins
								Filter Unit	Hopper	
<b>NOTE: Three units below have built-in pre-separation chamber at rear</b>										
60/66/33	1150	0	1150	1220	3765	1420	1467	441	354	1
79/66/43	1150	0	1150	1220	3765	1420	1467	458	354	1
105/66/44	1500	0	1500	1570	4125	1420	1827	721	490	1
132/66/54	1850	0	1850	1570	4305	1420	2007	837	558	1
<b>NOTE: Seven units below have built-in pre-separation chamber at side, left or right</b>										
158/66/38	1150	350	1150	2095	4565	1420	2267	852	716	1
211/66/48	1500	700	2200	2095	4735	1420	2437	936	852	1
264/66/58	1850	700	2550	2095	4565	1420	2267	1102	957	2
316/66/68	1850	700	2550	2095	4565	1420	2267	1142	957	2
369/66/78	2200	700	2900	2095	4735	1420	2437	1299	1025	2
422/66/88	2550	700	3250	2095	4565	1420	2267	1500	1093	2
475/66/98	2900	700	3600	2095	4565	1420	2267	1679	1161	2
<b>NOTE: Five units below have built-in pre-separation chamber in the centre</b>										
528/66/10-8	3550	950	4300	2095	4565	1420	2267	2001	1297	2
580/66/11-8	3700	950	4650	2095	4565	1420	2267	2167	1423	3
634/66/12-8	3700	950	4650	2095	4565	1420	2267	2212	1423	3
686/66/13-8	4050	950	5000	2095	4565	1420	2267	2372	1491	3
739/66/14-8	4000	1300	5700	2095	4735	1420	2437	2532	1560	3

## Fan Performance

### Performance of standard integral fans from 0.75 to 18.5 kW

Fan performance, with open outlet, at running speed 2900/min.

Detachable fan used on MJB and MJC.



## MJC Technical Specification

<b>Construction</b>	Welded painted steel; clean air chamber 2.0mm thick steel; dirty air chamber 2.0mm or 3.0mm; hopper typically 2.5mm thick.
<b>Strength</b>	<b>Maximum negative and positive operating pressures;</b> <ul style="list-style-type: none"> <li>- Standard - minus 8000Pa to plus 2000Pa;</li> <li>- Optional - minus 15000Pa to plus 5000Pa</li> <li>- For explosion relief area calculation St1, St2, St3;</li> <li>- Reduced explosion pressure Pred = 0.2 bar.</li> </ul>
<b>Operation temperature</b>	Standard unit -10 to +80°C No high temperature option.
<b>Compressed air requirement</b>	Normal operating pressure for cleaning air 5.0 - 5.5 barg dry and oil free. Typical compressed air consumption for 2 minute continuous cleaning cycle (for units with up to 12 valves); or 10 second interval between pulses (for units with more than 12 valves). Based upon 75 liters at NTP per pulse.
<b>Electrical requirement Controller</b>	Controller: - 240/220/110v AC input (24v DC to special order only) Fan: - 230/ 460v 3ph 60Hz (USA) (other voltages available by request)

## Compressed Air Consumption

No. of Valves	3	4	5	6	7	8	9	10	11	12	>12
nm <sup>3</sup> /h	6.75	9.0	11.25	13.5	15.75	18.0	20.25	22.5	24.75	27.0	27.0

NOTE: Use of "clean-on-demand" or increased cleaning cycle time will reduce typical compressed air consumption.

## Cartridge Material

**At the heart of every MJC cartridge filter is the UniClean Patent pleated cartridge element.**

The overall dimensions, including pleat depth and spacing were designed uniquely for the MJC range and its smaller sisters MJCMini and SiloSafe. More than ten years' experience in many applications and the more recent introduction of the UniClean feature ensure maximum performance and long life.

The MJC range uses a Type 40 with 4.0m<sup>2</sup> or a Type 66 with 6.6m<sup>2</sup> per element.

### Filter materials are:

- CA100 high quality thermal bonded polyester pleated fabric as standard.
- CA140 as CA100 but with metallised antistatic treatment.
- CA190 as CA100 but with ptfе dust release treatment.
- CA175 is 80% cellulose, 20% polyester material available to special Order.

## Surface Filtration

The filter media is typically around 1.7mm thick but contains many layers of random fibres. Filtration occurs at or very near the surface of the materials and its efficiency (BIA class U, S, G, and C) may be further enhanced by a surface layer of dust. For light dust loads, or very fine dust, it may be beneficial to pre-coat the filter by introducing used dust, or a special pre-coat material. Please ask for information.

## MJC Applications

- Surface cleaning - Shot/bead/sand blasting: machines and booths
- Bulk handling and distribution of dry dust installations: dry granules, pellets and powders
- Powder coating: for surface finishing processes
- Weighing: bagging and out-loading
- Processes: in chemical and pharmaceutical industries
- Dust control: for wide range of processes in agriculture
- Building products, ceramics, metal products, plastics, quarried minerals, tobacco
- . . . many more

