



MJ

Filterless Mist Collector



Cyclonic air flow & proprietary disk technology provides longer-lasting strong suction and high efficiency filtration.

MJ_BROCHURE_01.06.20

FILTERLESS MIST COLLECTOR

Applications include NC (numerically controlled) lathes, milling machines, machining centers and electrical discharge machining (EDM).

NO WASTE

No used filters to dispose of.

LONGER LASTING, CONSISTENT PERFORMANCE

Use of centrifugal force for self-cleaning prevents accumulation of grime, resulting in consistent suction and longer-lasting high performance.

LOWER OPERATING COST

No need to purchase and replace filters.
Savings accrue over time.

OPTIONAL ADD-ON FILTER

An optional ad-on filter is available for those concerned about emission density. With this filter, the MJ captures 99.93% of 0.3um particles.

CUSTOMIZATION

Specifications can be tailored to fit special needs.
Feel free to discuss your requirements with our sales representative.



SAFETY

Eliminates the need to replace filters in dangerous locations, helping to reduce work-related accidents.

LOW VIBRATION

The vibration-damping rubber base is standard on all models. Minimizes vibration transmitted through mount from working machine.

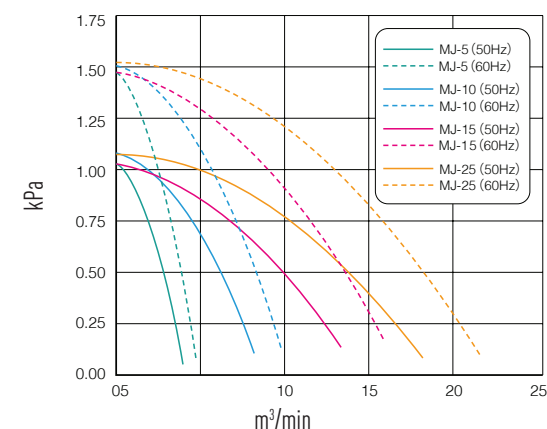


TECHNICAL SPECIFICATIONS

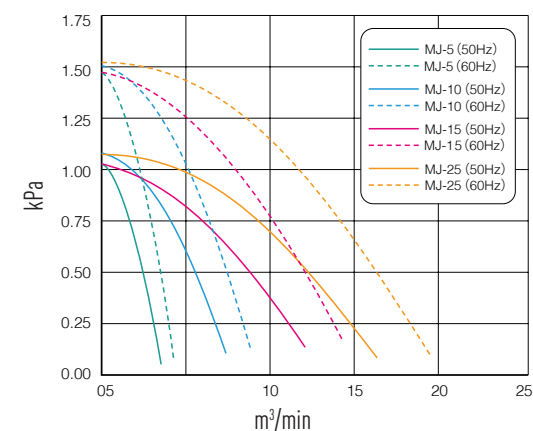
		MJ-5	MJ-10	MJ-15	MJ-25
Power Supply		50/ 60 Hz, 3-Phase, (200-230-460)V options			
Output (kW)		0.4	0.75	1.5	2.2
Maximum Air Volume(m^3/min)	Standard	3.7/ 4.5	7.0 / 8.5	13.0 / 16.0	18.0 / 22.0
	With After-Filter	3.5 / 4.0	6.5 / 7.5	12.3 / 14.5	17.0 / 20.0
Maximum Static Pressure (kPa)	Standard	1.0 / 1.5			
	With After-Filter	1.0 / 1.5			
Noise Level (dB[A])		<72 \pm 2			
Collection Material		Water-soluble Mist & Oil-based Mist			
Collection Method		Cyclonic Air Flow and Collection Disc			
Collection Efficiency	Standard (%)	99.9 (Particle size $\geq 2.0\mu\text{m}$)			
	With After-Filter (%)	99.93 (Particle Size $\geq 0.3\mu\text{m}$)			
Intake Air Temperature / Ambient Air Temperature ($^{\circ}\text{C}$)		5~50/ 5~40			
Oil Drain Port		1" Diameter			
Air Intake Diameter (mm)		98	123	148	198
Dimensions (mm/inches)	Width	429	476	576	632
	Height (w/ after-filter)	453	507	589	662
Weight (kg)		38	42	60	72
	with After-Filter	41	46	75	87
Paint Color		JPMA F35-85A			
Standard Accessories		Oil drain hose (1" dia, 2 meters long), 1 hose clamp, 1 hose nipple, (4) rubber shock absorbers			

PERFORMANCE CURVES

Standard configuration

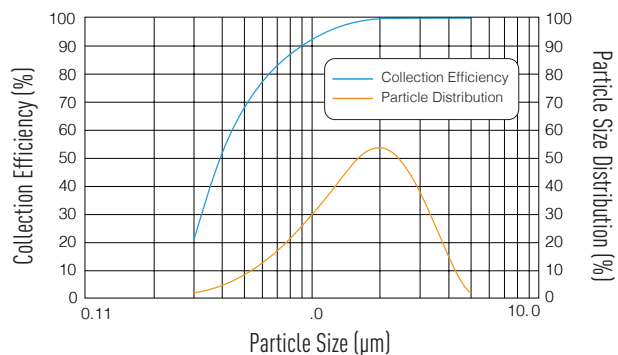


With optional add-on filter



BENEFITS OF FILTER-LESS MIST COLLECTION

COLLECTION EFFICIENCY BY PARTICLE DIAMETER

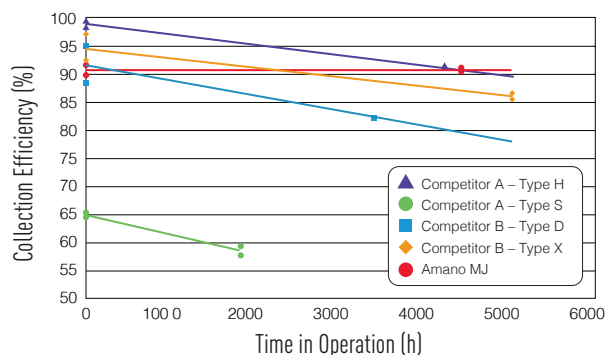


CAPTURES 99.7% 2μm mist particles*

Performance compared with conventional filtered mist collectors.
With optional add-on filter captures 99.93% of 0.3μm particles.

* Standard configuration used for semi-dry cut with vegetable cutting fluid.

PERFORMANCE REDUCTION OVER TIME

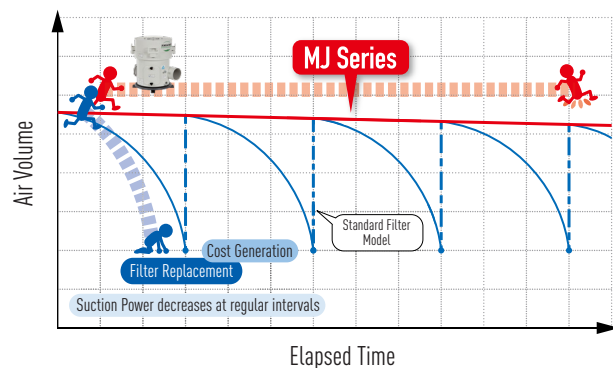


Long-Lasting, Consistent Collection Efficiency

The MJ self-cleaning mist collection component does not accumulate grime. As this chart indicates, some competing filter products boast superior new product specifications. In these cases, however, collection efficiency degrades over time. The MJ Series' performance is dramatically better in the mid-to-long term.

• Measurement Institute Environmental Health Laboratory Co., Ltd. Miyakida Lab.
Registration for environmental measurement certification registration number 322-6
Registered as a working environment measurement organization registration number 22-31
• Measuring instrument
(1) Multipurpose general-purpose suction unit sampler ESH-503 Made by Okano Manufacturing Co., Ltd.
(2) Suction nozzle Made by Ishibashi Science Co., Ltd.
(3) Inclined tube manometer manufactured by Okano Manufacturing Co., Ltd.
(4) Handy type digital thermometer 3627A-01 Made by Tsuruga Electric Co., Ltd.
(5) L-type Pitot tube LK type Made by Okano Manufacturing Co., Ltd.
• Measurement conditions Oil and powder were continuously and continuously supplied to the mist collector. (Accelerated test)
Operating time: 16 hours / day, 20 days / month
Oil mist concentration: 50mg / m³
Dust concentration: 5mg / m³
Oil used: Yushiroken FGE234 (water soluble) (manufactured by Yushiro Chemical Industry Co., Ltd.)
Powder: White fused alumina (JS test powder 2) (manufactured by Japan Powder Industrial Technology Association)

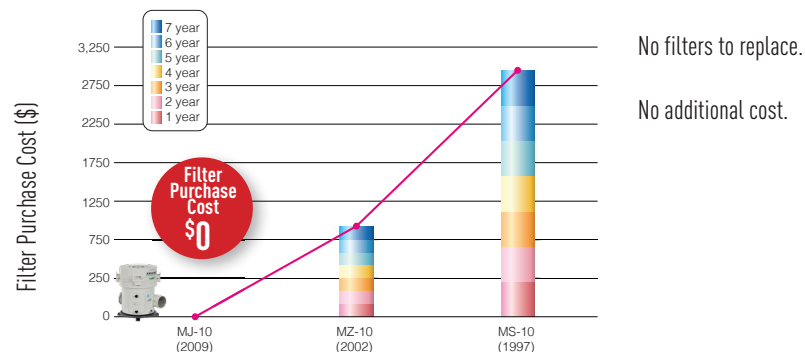
POTENTIAL REDUCED SUCTION OVER TIME



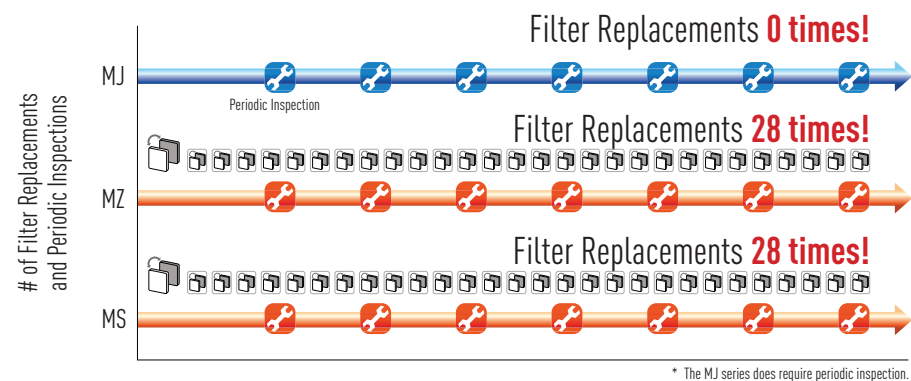
With no filter, there is no clogging. Suction remains constant over longer period.

* Results may vary with mist type and density.

FILTER PURCHASE and REPLACEMENT COST



FILTER REPLACEMENT FREQUENCY (over seven years)

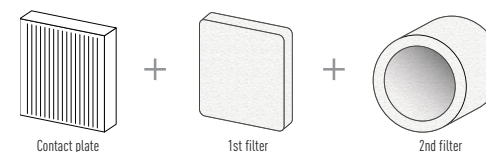


WE'VE MADE IT SIMPLE!

MJ Series
Cyclonic Air Flow and Proprietary Collection Disk.

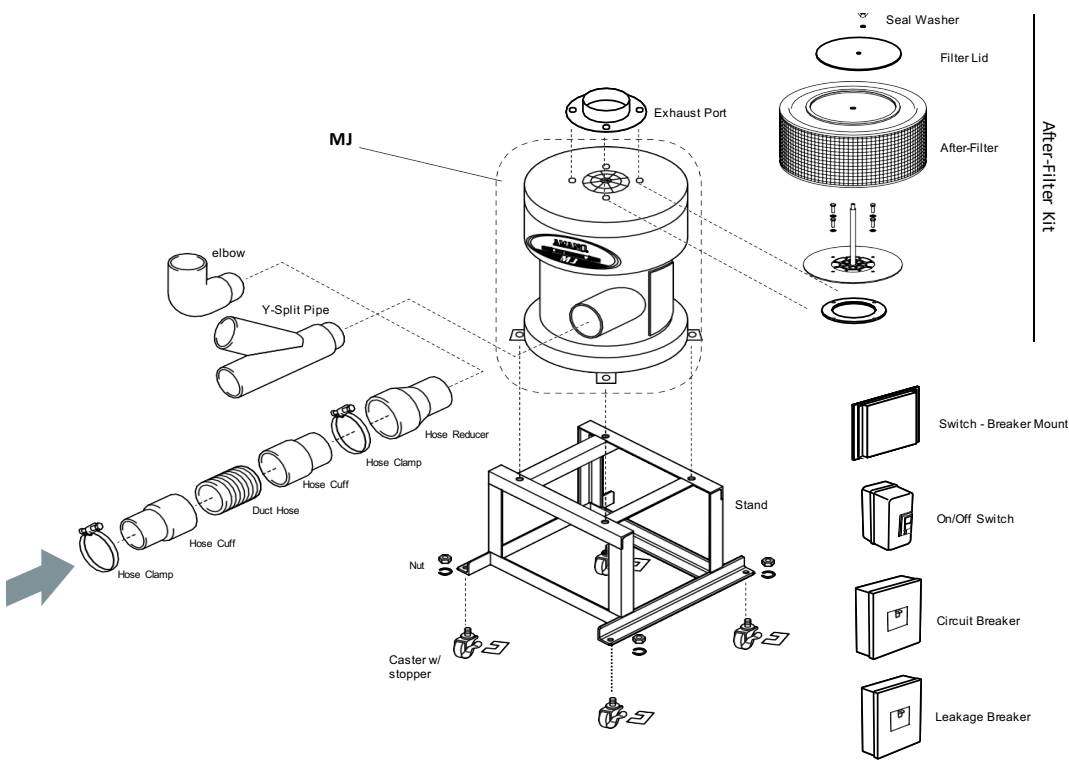


Conventional Mist Collectors
Use consumable filters during multiple stages.

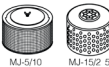





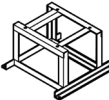









DID YOU KNOW?

- Conventional mist collectors that use filters always require regular maintenance and inspections.
- Other companies may claim that their product offers superior collection efficiency. But most do not specify particle diameter, testing method, or testing organization. These need careful evaluation before making a purchase decision.
- Conventional filters always clog, causing suction to decrease over time.



Connection Image	Product Name	Models			
		MJ-5	MJ-10	MJ-15	MJ-25
	Oil Resistant Duct Hose	CWN0100**	CWN0125**	CWN0150**	CWN0200**
	Cuff (non-oil resistant)	CWF710000	CWF712500	CWF715000	CWF720000
	Wire Hose Band	CWF910000	CWF912500	CWF915000	CWF920000
	Oil Resistant Duct Hose	CWN0100**	CWN0125**	CWN0150**	CWN0200**
	SY Band*	CWN910000	CWN912500	CWN915000	CWN920000
	* Use the SY band when directly connecting an oil resistant duct hose without a cuff				
	PVC Duct Hose	CWF0100**	CWF0125**	CWF0150**	CWF0200**
	Cuff (non-oil resistant)	CWF710000	CWF712500	CWF715000	CWF720000
	Wire Hose Band	CWF910000	CWF912500	CWF915000	CWF920000

Product Name	Picture	Unit: mm	MJ-5	MJ-10	MJ-15	MJ-25
After-Filter Kits After-Filter Filter Mount			OMW81017			
				OMX81017		
					OMY81017	
						OMZ81017
After-Filter			OMW81117			
				OMX81117		
					OMY81117	
						OMZ81117
Exhaust Port		Φ100	OMS84007	OMT84017		
		Φ125		OMT84007	OMU84017	
		Φ150			OMU84007	OMV84017
		Φ200				OMV84007
Hose Reducer		Φ100→Φ125	OMS83600			
		Φ100→Φ150	OMS83700			
		Φ125→Φ150		OMT83600		
		Φ125→Φ200		OMT83700		
		Φ150→Φ200			OMU83600	
Elbow		Φ100	OMS8380			
		Φ125		OMT8380		
		Φ150			OMU8380	
		Φ200				OMV8380
Y Split Pipe		Φ100	OMS8390			
		Φ125		OMT8390		
		Φ150			OMU8390	
		Φ200				OMV8390
Stand		300	OMT82025	OMT82025	OMY82025	OMZ82025
		400	OMT82035	OMT82035	OMY82035	OMZ82035
		500	OMT82045	OMT82045	OMY82045	OMZ82045
		600	OMT82055	OMT82055	OMY82055	OMZ82055
		700	OMT82065	OMT82065	OMY82065	OMZ82065
		800	OMT82075	OMT82075	OMY82075	OMZ82075
Caster Set		Casters with Stoppers Kit x 4	OMT821050			
On/Off Switch			OMS83015	OMT83015	OMU83015	OMV83015
Circuit Breaker	 Electric Wiring not included		OMS83215	OMT83215	OMU83215	OMV83215
Leakage Breaker	 Electric Wiring not included		OMS83315	OMT83315	OMU83315	OMV83315
On/Off Switch Mount	 Electric Wiring not included	OMT8306				
Breaker Mount	 Electric Wiring not included	OMT832550				
Auto Cleaning Kit			MCH852170	MCI852170	MCJ852170	
		Recommended for use with Grinding and Polishing Machines.				

MODEL SELECTION GUIDE

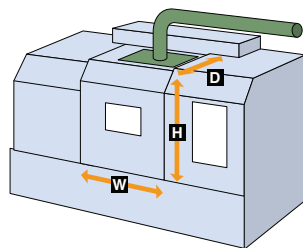
When mist density is **HIGH** (attached to working machine)

$$Q[m^3/min] = [W \times D \times H] \times 4.0$$

Q: Mist collector air flow (air volume)

WxDxH: Workshop volume (m³)

4.0: No. of times per minute that workshop air is refreshed



50Hz	WxDxH	Model
	0.6m ³	MJ-5
	0.6~1.15m ³	MJ-10
	1.15~2.15m ³	MJ-15
	2.15~3.60m ³	MJ-25

60Hz	WxDxH	Model
	0.75m ³	MJ-5
	0.75~1.40m ³	MJ-10
	1.40~2.65m ³	MJ-15
	2.65~3.65m ³	MJ-25

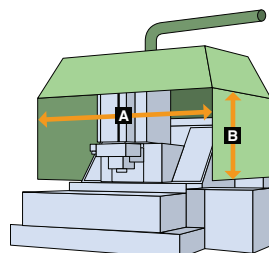
When mist density is **LOW**

$$Q[m^3/min] = [A \times B] \times V[m/s] \times 60[min]$$

Q: Mist collector air flow (air volume)

AxB: Door dimensions (m²)

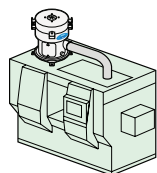
V: Airflow required for mist collection (=0.5m/s)



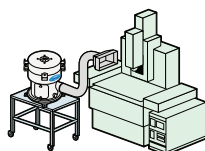
50Hz	WxDxH	Model
	0.065m ³	MJ-5
	0.065~0.125m ³	MJ-10
	0.125~0.235m ³	MJ-15
	0.235~0.325m ³	MJ-25

60Hz	WxDxH	Model
	0.080m ³	MJ-5
	0.080~0.150m ³	MJ-10
	0.150~0.290m ³	MJ-15
	0.290~0.395m ³	MJ-25

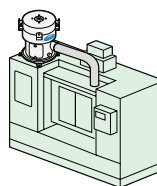
MOUNTING METHODS



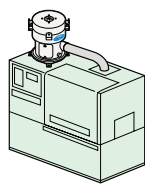
Machining Center



Grinding Machine



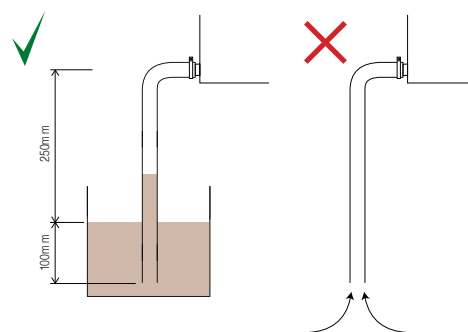
NC Lathe



Conventional Lathe

OIL DRAIN

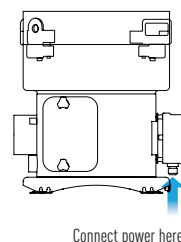
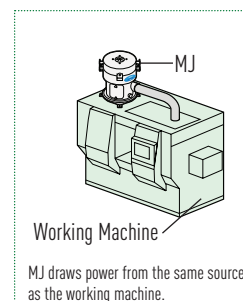
The oil drain hose must be attached as indicated below. (2m hose is standard equipment)



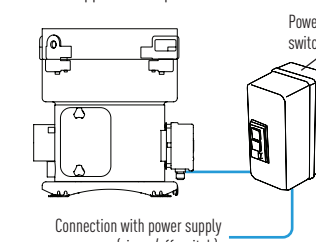
POWER SUPPLY

The MJ series is not equipped with a circuit breaker. Power is supplied via the circuit breaker on the working machine.

A Circuit Breaker must be provided when a MJ mist collector is used in a standalone configuration.



Power supplied via separate on/off switch & circuit breaker combo set up.



WARNING

An on/off switch alone is insufficient. Be sure to use an on/off switch & circuit breaker combo set up.

Q&A

How is mist removed without a filter?

The MJ Filterless Mist Collector captures mist particles on a high-speed collection disk, and utilizes cyclonic air flow to remove the mist particles by centrifugal force. This system provides more consistent performance over conventional filters that clog over time, which results in declining performance.

How efficient is the filterless system?

The MJ removes 99.7% of 2μm particles. With the addition of the optional add-on filter, it removes 99.93% of 0.3μm particles. The primary difference from conventional filter-type mist collectors is consistently strong suction and high efficiency for longer periods of time. In the mid-to-long term the MJ series is vastly superior.

Is regular maintenance required?

The MJ collection mechanism (high-speed collection disk) is self-cleaning, eliminating the need for periodic cleaning. There are no filters to replace. Some parts may require replacement after long-term prolonged use.

Can it handle oily or high-density mist?

When the MJ series is equipped with the optional add-on filter, it can be used to collect oily and high-density mists. For these applications, AMANO recommends use of its highly clog-resistant EM-e or EM-SC series electrostatic mist collectors.

QUESTIONS?

Call: 1.800.367.3550
Email: aecs@pioneereclipse.com



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