



TCSM

CHEN SHIN (TCSM)

MC CO.,LTD.

CS Series

PRODUCT MANUAL



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User information

0 General information

For a safe and trouble-free operation of machine, all safety information and regulations must be understood. It contains the most important information for the safe installation and operation of the machine. Furthermore, compliance with the rules and regulations on accident prevention and industrial hygiene applicable to the place of installation is essential.

The user information belongs to the machine and must be always kept accessible to professionally trained and operating personnel.

When handing over the machine to someone else, also include this user information.

0-1 Description of the machine:

TCSM oil mist collector is for machine tools to filter oil mist and recycle oil or coolant. Each type of CS series have the characteristic to recycle oil. Patented cyclone design allows 90% oil mist to be solidified as oil drop through physical dash theory for first cutting liquid recycle. Then the small oil drops will be brought upward to the filter kit for filtration and second recycle to ensure the maximum recycle ability.

Patented cyclone create huge wind flow, and centrifuge filtration reduce the saturated rate of filter kit.

High density filter kit, each cubic millimeter is crisscross by 100 small holes

Beside above design, CS series have high efficiency motor to use energy more efficiency.

Multiple balance calibrate, separate the filter kit from fan, to ensure the balance of fan after a long term usage.

And the last Flexible Installation, installing position depends on the factory layout and do not interfere the working flow.

0-2 Obsolescence information:

If oil mist machine is no longer useable. Please follow local law or instruction to recycle or abandon each oil mist collector parts.

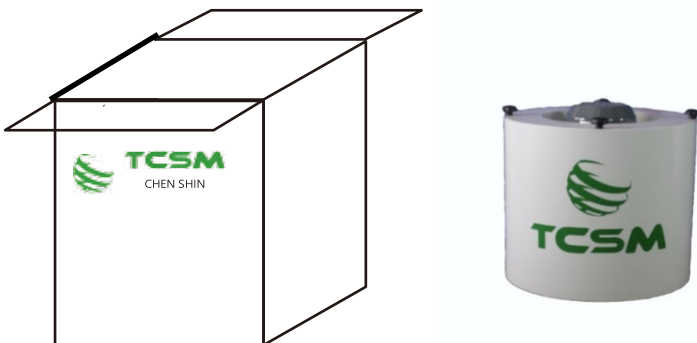
1. Open Box:



Put box on plane place with box word on right direction.



Put something to cover on flow, prevent bottom screw scratch flow. Then open box and pull out oil mist collector from the top side. Place oil mist collector on flow carefully.



Make sure the oil mist collector outfit is ok and oil pipe is well installed.

1-1 Assembly Tools Prepare

Assembly Tools

Tools	Purpose	Suggest size	Qty.	Substitute Tool
Electric drill	Drilling a pilot hole		1	
Hydraulic drill	Open an oil mist outlet hole on cover	φ125mm	1	Any other tools which could open same hole.
screwdriver			1	
silicone				
Epoxy glues	Sealing connect place			
Cable tie	Holding oil pipe			

1-2 Install Accessories (I. A.)

Install Accessories (I.A.)

1-3 Direct I.A.

Accessories	Purpose	Type	Specification	Qty.	Note
Oil return pipe	Let oil return to machine tool.	MKI、MKII	OD=28 ; ID=25		
		MK PLUS	OD=35 ; ID=32		
		MKIII	OD=42 ; ID=38		
Electromagnetic switch	Main power switch	All Types	220V 1/2HP 380V 1/2HP	1	Base on supply voltage
Hose clamp	Hold return pipe	MKI、MKII	1-1/4"	1	
		MK PLUS、MKIII	1-1/2"		
	Hold outlet pipe	All Types	5-1/2"	2	
Upholstery foam	Hold outlet pipe	All Types	5-1/2"	2	For direct install

1-4 Indirect I.A.

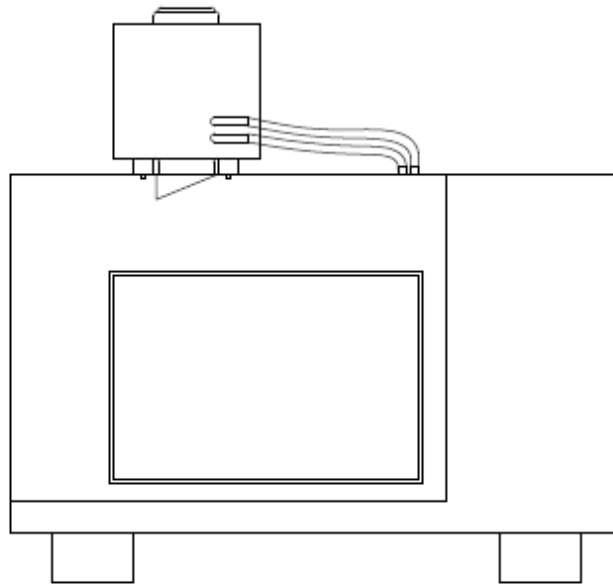
Accessories	Purpose	Type	Specification	Qty.	Note
Oil return pipe	Let oil return to machine tool or collect barrel	MKI、MKII	OD=28 ; ID=25		Length depend on case
		MK PLUS	OD=35 ; ID=32		
		MKIII	OD=42 ; ID=38		
Electromagnetic switch	Main power switch	All Types	220V 1/2HP 380V 1/2HP	1	Base on supply voltage
Hose clamp	Hold return pipe	MKI、MKII	1-1/4"	1	
		MK PLUS、MKIII	1-1/2"		
	Hold outlet pipe	All Types	5-1/2"	2	
5"outlet pipe	Connect oil mist outlet hole and machine tool.	All Types	φ125mm	1	For indirect install
Support kit	Hold oil mist collector	All Types	Standard square kit	1	For indirect install Length depend on case
			L type support kit		

1-5 Optional Accessories

Accessories	Purpose	Type	Specification	Qty.	Note
Independent support kit	Hold oil mist collector	All Types	Height : 1700mm	1	If space on machine tool is not enough for oil mist collector or cannot install directly, it suggest using this support kit.
Outlet Cover	Out Let pipe	All Types		1	
Outlet Filter	Filter the smaller particle	All Types		1	

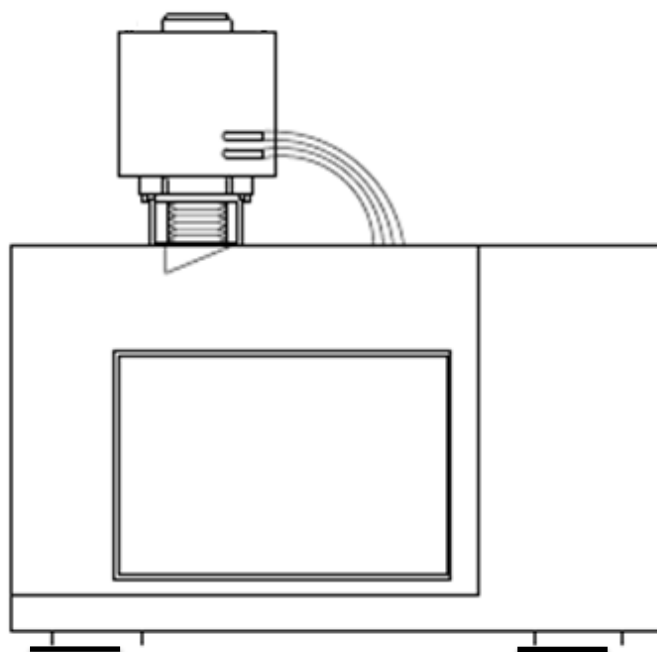
2-1 Installation outfit

We have two ways to installed oil mist collector. First is “Direct Install”. It is the way with best efficiency. Install oil mist collector direct on machine tools. Since the oil mist flow did not through any pipe, it got best discharge. Direct Install like Pic.1 showing. This way should make sure the space on machine tool is enough for oil mist collector.



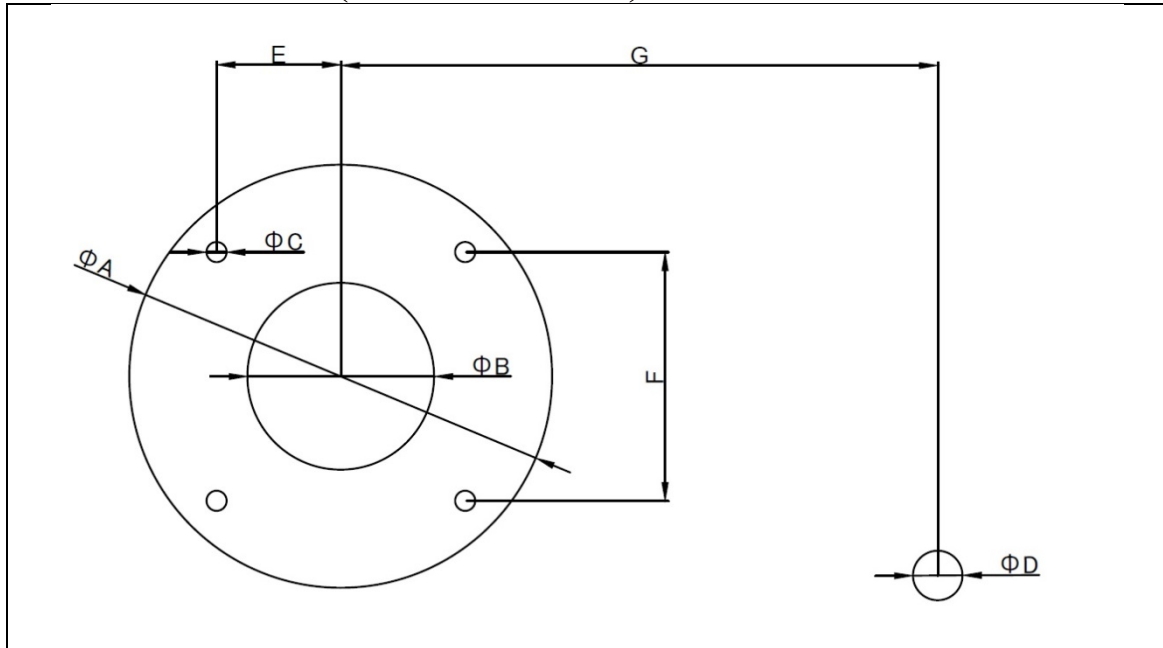
Pic.1 “Direct Install”

Second is “Indirect Install”, if space on machine tool is not enough for oil mist collector or cannot install on machine tools clamshell, it should install in this way. Because through outlet pipe, the flow will decrease. In this case we suggest customer use short length of pipe. (Pic.2)



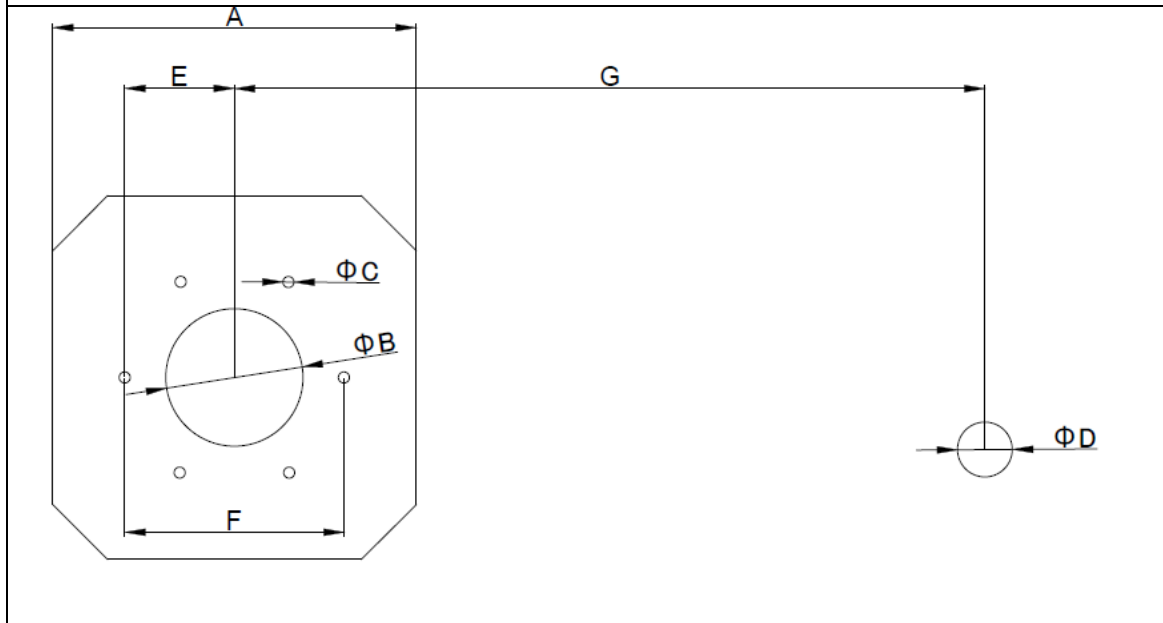
Pic.2 “Indirect Install”

2-2 Overall Dimensions (Direct Install)



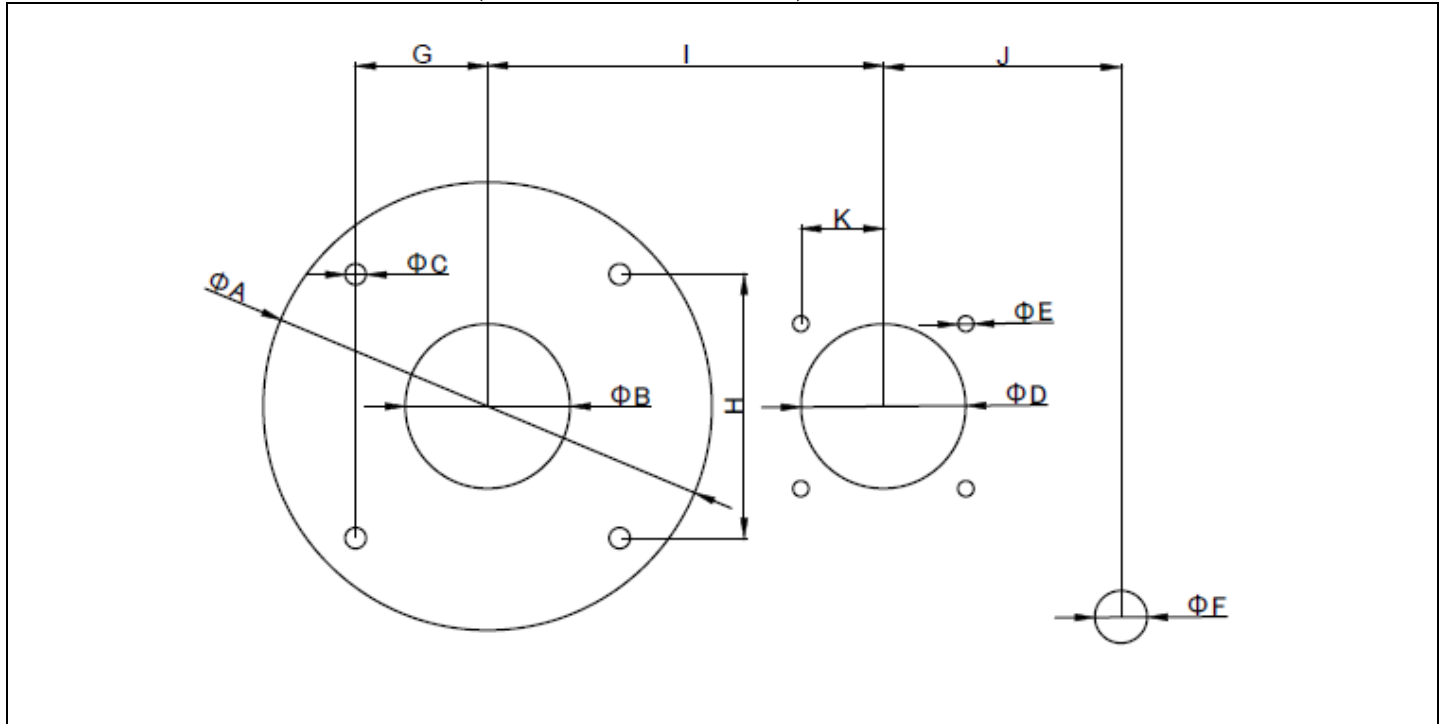
	A	B	C	D	E	F	G
CS900-MKI	3800mm	150 mm	9 mm	35 mm	100 mm	200 mm	>1000 mm
CS900-MKII	3800 mm	150 mm	9 mm	35 mm	100 mm	200 mm	>1000 mm
CS900-PLUS	3800 mm	150 mm	9 mm	39 mm	100 mm	200 mm	>1000 mm
CS1200-MKIII	4200 mm	150 mm	9 mm	45 mm	100 mm	200 mm	>1000 mm
CS2000-MKIV	5000 mm	160 mm	9 mm	45 mm	100 mm	200 mm	>1000 mm

CS3000-MKV



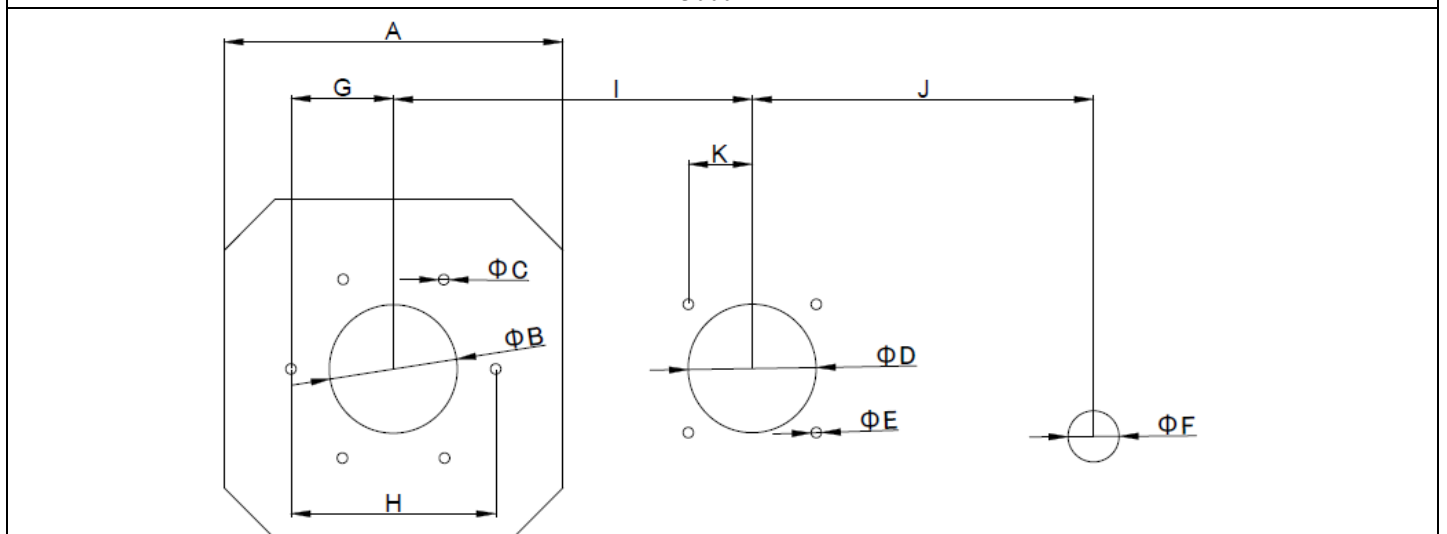
CS3000-MKV	5300 mm	200 mm	9 mm	45 mm	160 mm	320 mm	>1000 mm
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2-2 Overall Dimensions (Indirect Install)



	A	B	C	D	E	F	G	H	I	J	K
CS900-MKI	3800mm	125mm	9mm	125mm	6mm	35mm	100mm	200mm	<1000mm	>1000mm	72.5mm
CS900-MKII	3800mm	125mm	9mm	125mm	6mm	35mm	100mm	200mm	<1000mm	>1000mm	72.5mm
CS900-PLUS	3800mm	125mm	9mm	125mm	6mm	39mm	100mm	200mm	<1000mm	>1000mm	72.5mm
CS1200-MKIII	4200mm	125mm	9mm	125mm	6mm	45mm	100mm	200	<1000mm	>1000mm	72.5mm
CS2000-MKIV	5000mm	150mm	9mm	150mm	6mm	45mm	100mm	200mm	<1000mm	>1000mm	72.5mm

CS-3000-MKV



CS3000-MKV	5300mm	2000mm	9mm	2000mm	6mm	45mm	160mm	320mm	<1000mm	>1000mm	100mm
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2-3Well installed sample



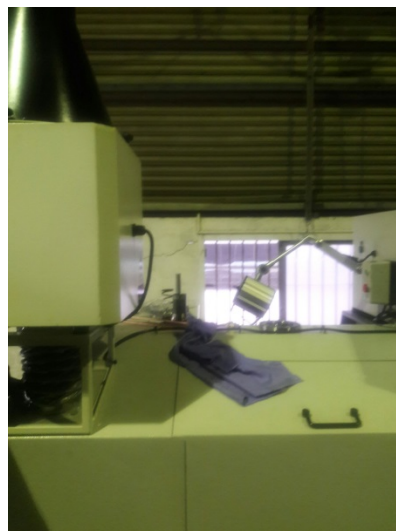
Black Support kit
(With customization intake hole)



Black Support kit side install



White L type support kit



Customization Support kit

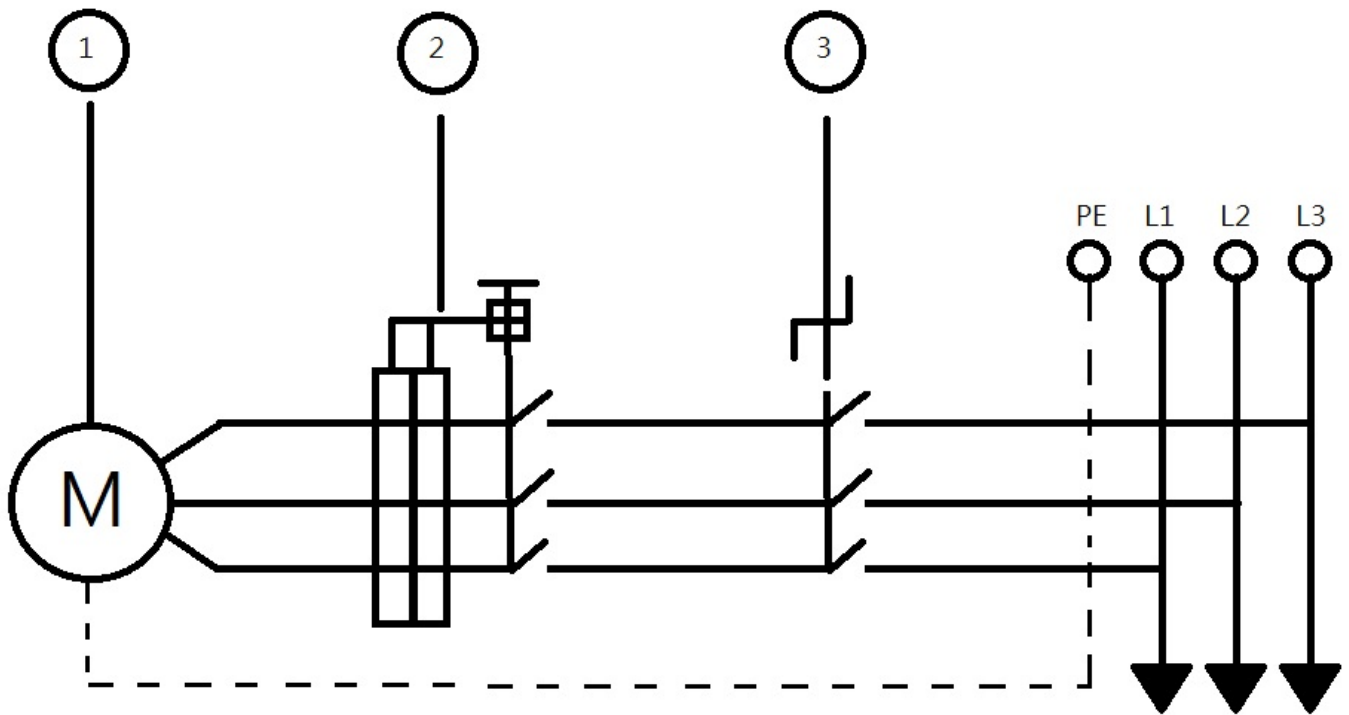


Direct Install




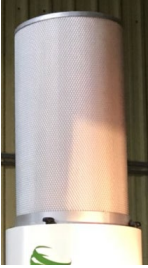



Indirect Install

2-4 Electrical connection



1. Three phase Motor
2. Electromagnetic switch(Contactor & Thermal overload relay)
3. Main switch

2-5 Optional Accessories

Accessories	Outlook	Type	Note
Outlet Cover		CS-900 、 CS1200 series	Installed on the top cover of the oil mist collector, and can be locked together with the 4 knobs on the top cover. The exhaust port is a 6-inch (150mm) electrostatic machine.
Outlet Filter		CS-900 、 CS1200 series	Installed above the circular upper cover of the oil mist collector. This is a consumable. It have two type: 600mm high & 300mm high according to the height of the customers case .
Intake Oil block kit		CS-900 、 CS1200 、 CS2000 series	Installed under the oil mist collector, can be locked with nuts with 4 anti-vibration feet below the oil mist machine
Thermal sensor		CS series	It is additionally installed on the machine, using the sensor to sense the temperature in the processing room of the machine tool. If the temperature is too high, it will buzz to inform the user
Independent support kit		All type	It is used when the oil mist collector cannot be installed on the machine.

Outlet Electrostatic filter



CS-900 、 CS1200 series

**The product that replaces the Outlet Filter.
It is installed above the oil mist collector.
No consumables, only needs to clean the filter element.**

CS Series Maintenance



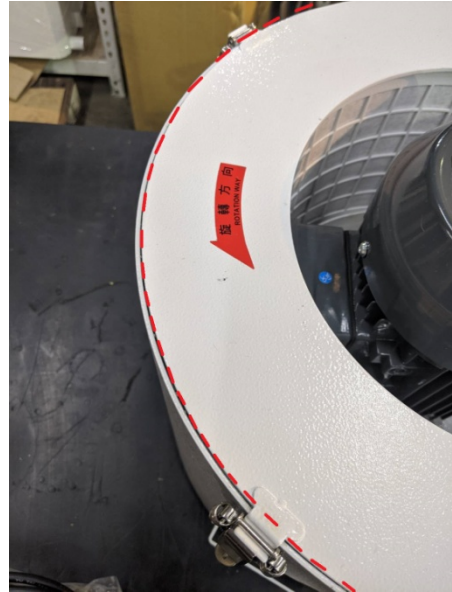
3-1 Regular Check

1. Visual inspection for oil leakage / air leakage, please check all holes and joints

Cable outlet



Around the top cover



2. Whether the filter cotton or filter element is damaged

Filter cottons for CS-900/2000/3000 series have three filter cottons.

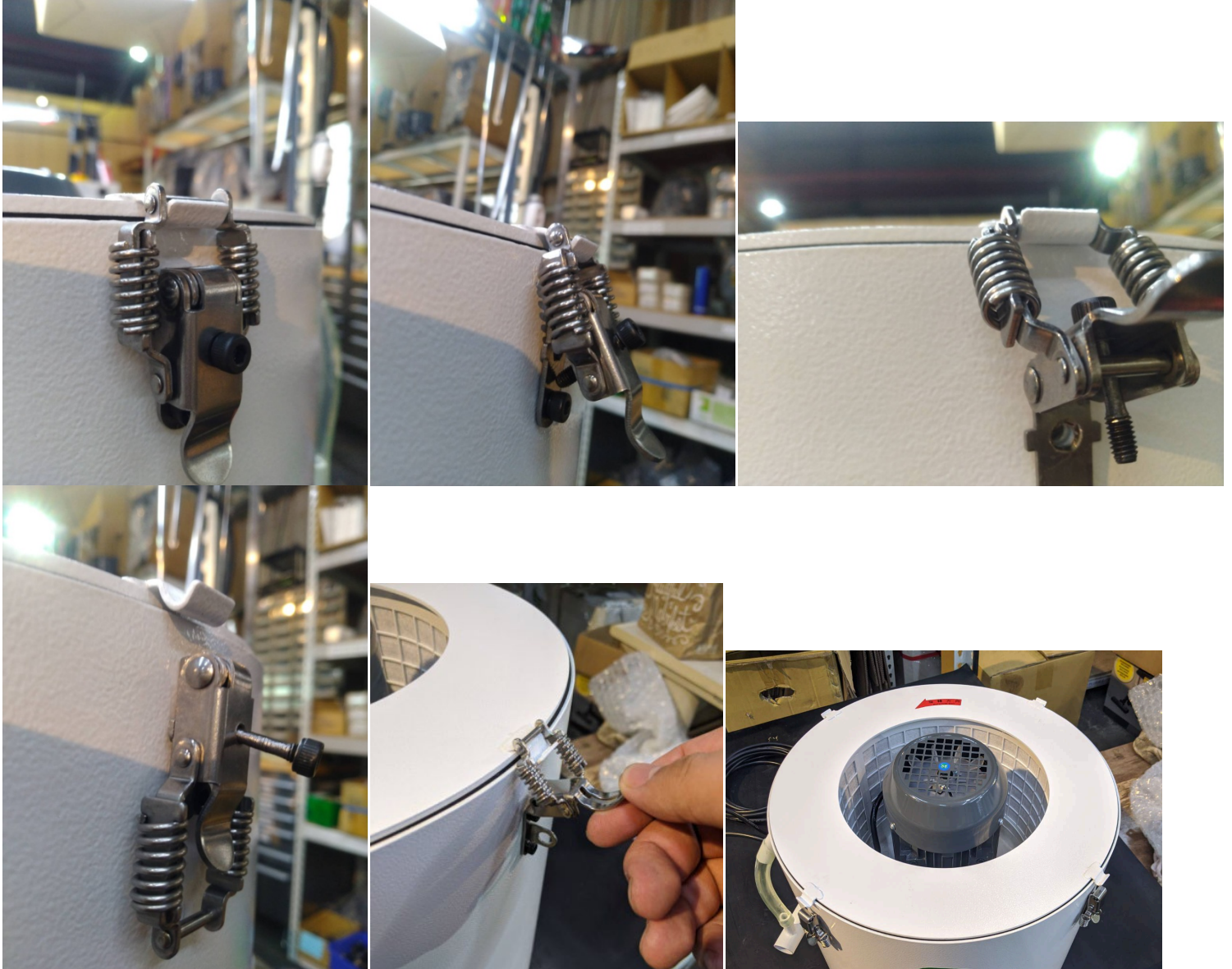
CS-1200 series have one filter cotton and filter element.



3-2 Maintenance

Replacing or cleaning the filter:

Step 1. Unscrew the safety screw, The safety screw can be fixed on the buckle.. Take off upper cover after open the buckle.



It should look like the picture on the left after open the locker..

*** Make sure the oil mist collector is turned off before open the locker.**



Pick up the cover



Place the cover on the table upside down. › take off filter cotton follow arrow direction left pic. Showing.

3-3 Filter Maintenance

Step 1:

Bleach dilute with water at a ratio of 1: 3, and soak the filter cotton in it about 30-40 minutes.

*** Do not use acid bleach**



Step 2:

Rinse bleach the salad with water, then dry the filter with your hands.

*** Do not remove the water by twisting. The filter cotton will be damaged by improper force.**

Step 3:

Hang in a cool place and air dry for about 1.5 days

*** Do not expose to the sun**



※In order to achieve better cleaning results, it is recommended to repeat step 1& step 2

※If there is deoiler in the factory,

It is recommended to use de-oiler instead of step 2 to shorten the drying time.

(The 1200 series filter element should not be used in de-oiler)



3-4 Maintenance list

Type		Time	Each 300H	Each 600H	6000H
CS900-MKI	Filter cotton set		Clean		Replace
	Oil tray		Clean		
CS900-MKII	Filter cotton set		Clean		Replace
	Oil tray		Clean		
CS900-PLUS	Filter cotton set		Clean		Replace
	Oil tray		Clean		
CS1200-MKIII	Filter cotton set			Clean	
	Oil tray		Clean		
CS2000-MKIV	Filter cotton set		Clean		
	Oil tray		Clean		
CS3000-MKV	Filter cotton set		Clean		
	Oil tray		Clean		
Optional Accessories					
All type	Outlet Filter				Replace

The maintenance time is recommended. The actual situation will be slightly changed due to the cutting/milling condition of the client. The client can judge to reduce / extend the maintenance time according to the suction flow.

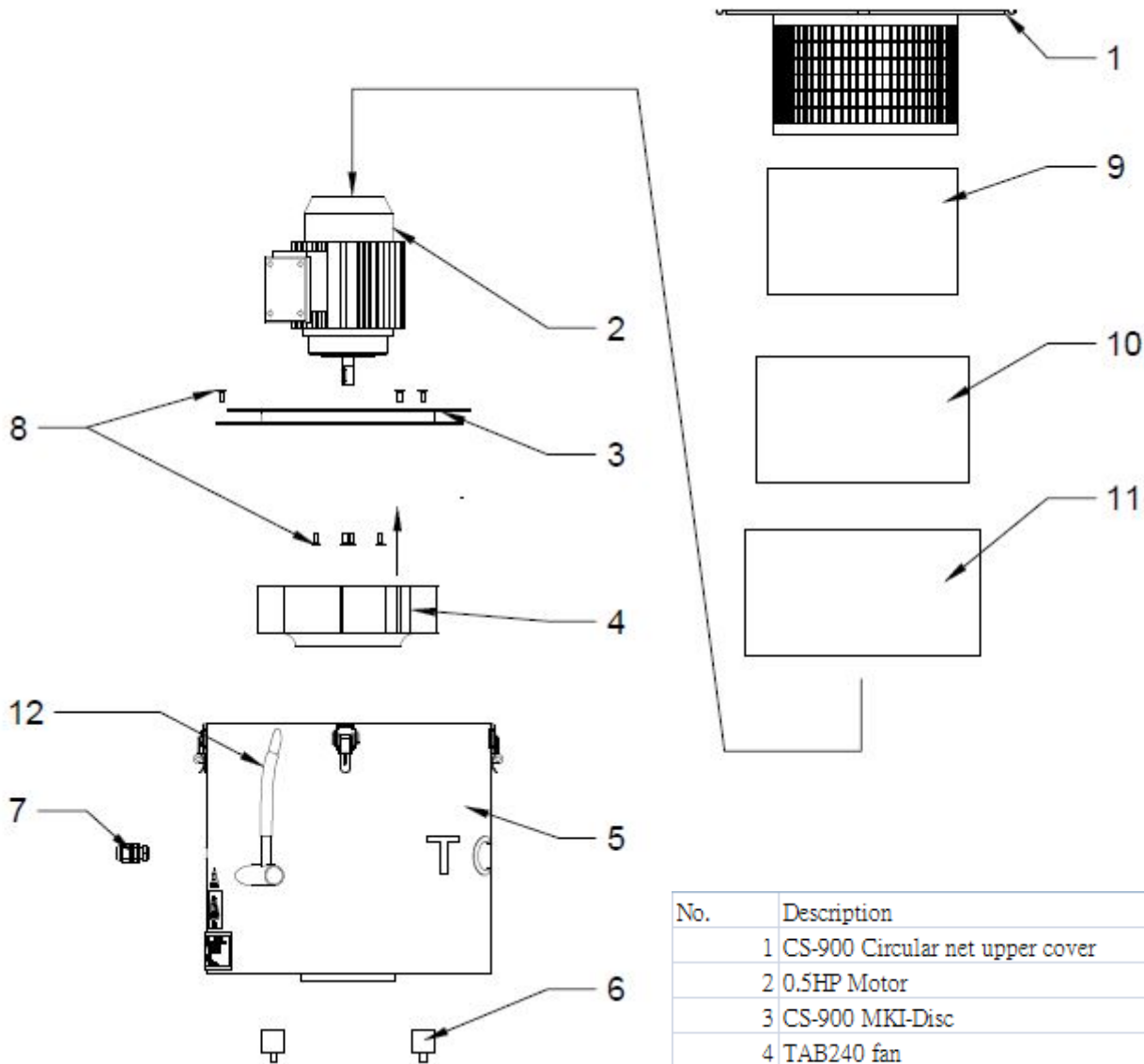
3-5 Troubleshooting

Error	Possible Causes	Solution
Motor do not work	Power is not connect	Check if the power wiring is well connect
	Defective switch / phase loss	Use a three-use meter to measure whether there is a phase loss. If the phase is loss, replace the switch. If necessary, contact service.
Vibration, strange sound, odor	Motor wind wheel abnormal	Check the condition of the motor and wind wheel, contact service if necessary
	Filter cotton blocked or damaged	Clean or replace the filter
New product suction is abnormal	Motor reverse	Reverse power phase connection
	Poor piping	The pipe is recommended to be installed in a straight line with less twists °
Oil leakage at the exhaust pipe	Incorrect filter installed	Install filter correctly
	Filter cotton damaged	Replace the filter
Exhaust air flow significant reduce (With Outlet Filter)	Filter blocked	Replace the outlet Filter

Exhaust air flow significant reduce (Without Outlet Filter)	Filter blocked	Clean or replace the filter
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※ If you have other questions, please contact service dept..

4. Exploded view







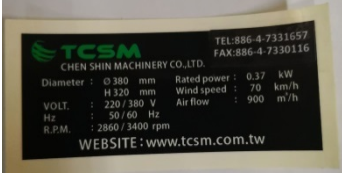

No.	Description	Qty.
1	CS-900 Circular net upper cover	1
2	0.5HP Motor	1
3	CS-900 MKI-Disc	1
4	TAB240 fan	1
5	CS-900 MKI-Body	1
6	M8 Shakeproof feet (cylindrical)	4
7	M16 Cable outlet	1
8	M6*12 Hexagon socket head screws	8
9	CS-900 601 Non-woven fabric (water-based)	1
10	CS-900 Middle filter cotton set	1
11	CS-900 Small filter cotton set	1
12	1/2 " Oil return pipe	15cm

(Other version oil mist collector please reference attachment.)

5. Machine Type List & Technical Data

Type Specification	Unit	CS 900 MKI	CS 900 MKII	CS 900 PLUS	CS 1200 MKIII	CS 2000 MKIV	CS 3000 MKV
Maximum static pressure	Pa	1190	1200	1280	1430	2660	4000
Intake diameter	mm	125	125	125	125	150	200
Flow	m ³ /h	900	900	950	1200	2000	3000
Noise value	dB(A)	65	65	65	69		
Wind velocity	km/h	70	70	72	115		
Motor Power	kW	0.37	0.37	0.37	0.37	0.75	1.5
Power frequency	Hz	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Rotating speed	r/min	2860 / 3400	2860 / 3400	2860 / 3400	2860 / 3400	2860 / 3400	2860 / 3400
Net weight	kg	27	27	29	42	68	78
Physical dimension	mm	Ø380 x H320	Ø380 x H320	L380 x W380 x H350	L420 x W420 x H400	L500 x W500 x H510	L530 x W530 x H600

6. Sign instruction

Sign instruction			
Sign	Depiction	Place	Note
	Company LOGO	On the front of the oil mist collector	
	Technology Concern Service Multiplicity	Below the company logo	
	Oil mist machine configuration voltage	On the back of the oil mist collector	Will be replaced when 380V is configured
	Represents the total weight of the oil mist collector	On the back of the oil mist collector	According to the model of oil mist collector
	Information Plate	On the back of the oil mist collector	According to the model of oil mist collector
	Represents the correct rotation direction of this oil mist collector	On the Cover side of the oil mist collector	

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