



CM Refrigeration

Nanjing Wonfulay Precision Machinery Co., Ltd

OPERATION MANUAL

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CM-V OPERATION MANUAL

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I. IMPORTANT SAFETY INSTRUCTIONS

Safety Instructions

1. Read all instructions before using.
2. Keep this manual with the machine at all times.
3. Do not operate without eye protection.
4. Select proper size brush.
5. Unplug the power cord when serving the unit or leaving the unit unattended.
6. When unplugging the power cord, grasp the plug-not the cord.
7. Do not use the machine if it has a damaged cord or plug.
8. If the machine does not operate properly or has been damaged, return it to factory for service.
9. Do not use the unit in an environment or on objects that are above 40°C(175F)
10. Do not handle the base unit or plug with wet hands.
11. Do not use unit with combustible fluids or where combustible fluids or fumes may be present.
12. Keep objects, loose clothing, hair and body parts away from openings and moving parts.
13. Keep unit clean.
14. Do not roll the machine over the power cord. Close the door on the cord or pull the cord around sharp corners. Keep the cord away from HOT surfaces.
15. Do not operate the unit when fatigued or under the influence of alcohol or drugs.
16. Do not over reach or stand on unstable support. Keep good footing and balance at all times.
17. Follow maintenance instructions in manual.
18. Stay alert-watch what you are doing.
19. Use only CHUNMU recommended attachments.

Warning: keep clear of moving parts. Make sure moving parts will not catch on anything before beginning the job. This unit is to be used only by trained operators.

GROUNDING INSTRUCTIONS

CM-V must be grounded. Should it malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

Danger: Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded. Do not use any type of adaptor with this product.

EXTENSION CORDS

Use only 3-wire extension cords that have 3-pin grounding-type plugs and 3-pole cord connectors that accept the plug from the product. Use only extension cords that are intended for outdoor use. Use only extension cords having an electrical rating not less than the rating of the product. Do not use damaged extension cords. Examine extension cord before using and replacing if damaged.


Do not abuse extension cord and do not yank on any cord disconnect. Keep cord away from heat and sharp edges. Always disconnect the extension cord from the receptacle before disconnecting the product from the extension cord.

WARNING: To reduce the risk of electrocution, keep all connections dry and off the ground. Do not touch plug with wet hands.

II. SPECIFICATIONS

Model	CM-V
Motor	1/2HP
Overload Protection	5A
Weight	26.5 kg
Power	220-240V/50-60Hz 1PH
Operating Temperature	0°C ~ 40°C
Dimensions	550mm(L)×380mm(W)×1080mm(H)
Rotate Speed	1400r/min
Pipe Diameter	∅ 12.7-∅ 25.4mm

III. INTROCTION

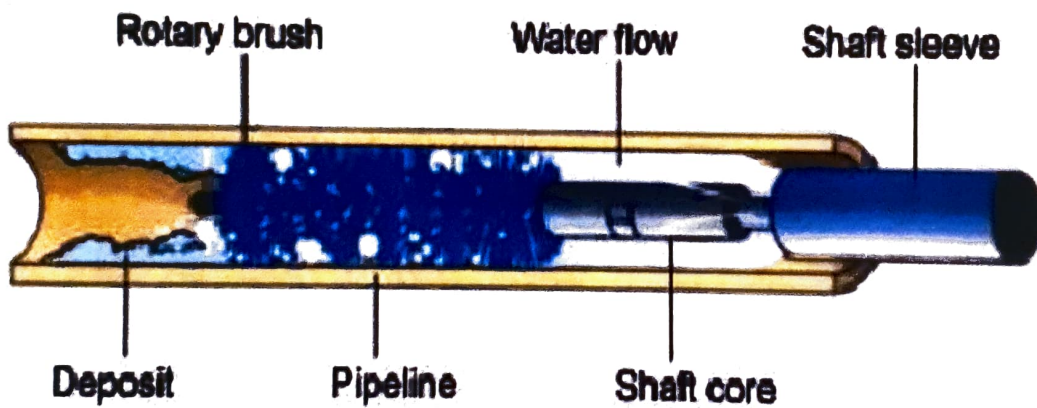
 is one of the earliest factories in developing and manufacturing rotary tube cleaners. All our rotary tube cleaning machines make tough tube cleaning a simple, one-person operation. They are ideal for cleaning tubes/pipes 1/4"-1" I.D. In chillers, condenses, evaporators, absorption machines and heat exchangers etc.

Characteristics:

- Simple to operate - minimal training required.
- Stainless steel construction - long life
- Quickly connect and disconnect the flexible shaft - no tools required.
- Interchangeable cleaning tool - versatile
- Large wheels - easy to move

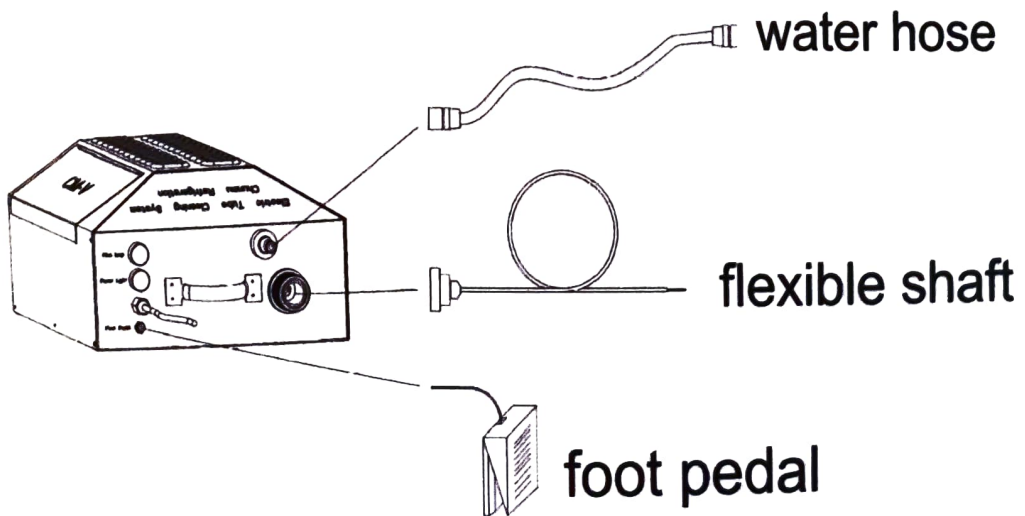
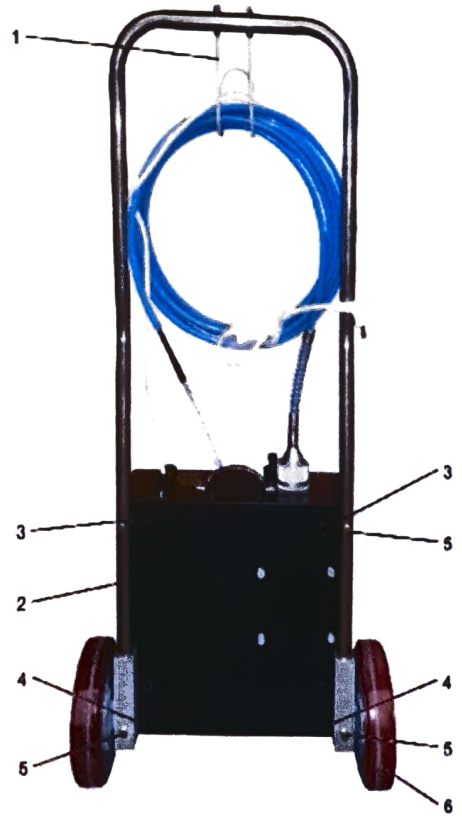
IV. WORKING PRINCIPLES

The CM-V uses a cleaning tool mounted to the tip of a flexible shaft, which is available in different lengths and diameters to fit the size of the tube to be cleaned. As the shaft rotates inside its watertight nylon casing, the unit feeds water through the casing to the cleaning tool. A foot switch controls shaft rotation and water flow. While the operator feeds rotating shaft assembly through the tube, the water flow flushes out deposits as they are loosened.



V. ASSEMBLY INSTRUCTION

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VI. OPERATION

CONNECTING FLEXIBLE SHAFT

1. Select proper flexible shaft for tube diameter and length to be cleaned.
2. Insert square end of flexible shaft into the square in the drive shaft of the machine. The shaft may have to be turned slightly for alignment.
3. Tighten large nut securely, making O-Ring is in place

CAUTION: Do not operate the CM-V machine without eye protection.

WASHING

1. Connect water hose to water inlet. Water supply should be clean (use screen washer) to avoid clogging orifice in solenoid valve.
2. Plug electric cord into an outlet in accordance with power of the motor.
3. Tip the machine over on its back side so that flexible shaft is parallel to floor.
4. Remove foot switch from tool storage compartment and connect it to foot switch socket.
5. Select proper size cleaning tool and thread onto end of flexible shaft. Never use a tool larger than I.D. Of tube.
6. Locate hose clamp on the outside of the flexible shaft in a position so that when the shaft is fully inserted in the tube, only half the cleaning tool extends outside the other end of the tube.

7. When necessary, the drive unit can be used separately from the dolly by removing the two plastic thumbscrews.
8. Uncoil flexible shaft completely and feed it into the tube. \DO NOT FORCE FLEXIBLE SHAFT DOWN TUBE. Allow machine to do the work. If resistance is felt, back off 2"-3"(51-76mm) and feed shaft again until it goes easily. If resistance is too great, use a smaller cleaning tool.

CAUTIONS:

1. Maximum operating radius of flexible shaft is 50cm. However, it is recommended that the shaft be kept as free from loops as possible. This is especially critical nearest the drive unit.
2. Do not allow water to freeze in unit.

CLEANING TOOLS

Please consult CHUNMU about the cleaning tools and recommended uses.

VII.DAILY MAINTENANCE

Disconnect water supply line. Disconnect the flexible shaft and drain water to prevent rusting of shaft. Do not store machine where residual water in machine may freeze. Use anti-rust oil between flexible shaft and shaft sleeve if available.

VIII. WARRANTY

This product is warranted to be free from defects in workmanship, materials, and components for a period of one year from the date of purchase(Note: flexible shaft and brushes are not within the scope of warranty).

The following restrictions apply:

1. The limited warranty applies to the original purchaser only.
2. The warranty applies to the product in normal usage situations only, as described in this operating manual. The product must also be serviced and maintained as specified.
3. If the products fails, it will be repaired or replaced at the option of the manufacturer.
4. The manufacturer shall not be responsible for any additional costs associated with a product failure including, but not limited to, loss of work time and unauthorized shipping and /or labour charges.
5. All warranty service claims must be made within the specified warranty period. Proof-of-purchase date must be supplied to the manufacturer.

VIII PARTS LIST

Item	Qty.	Matched location in pic.
wheel	2	
bolt	4	
gasket (5mm)	2	
gasket (2mm)	2	
trolley	1	
hanger	1	
footing	2	
water hose	1	
foot pedal	1	
host	1	
Flexible shaft7.6m	1	
nylon brush Φ 12.7mm	1	
nylon brush Φ 15.9mm	1	
nylon brush Φ 19.1mm	1	
operating manual	1	
certificate	1	



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