



**DV-CNC / DV-CNC3**

# ChipMaster Plus

Operating and Maintenance Instructions



Goodway Technologies Corporation

420 West Avenue

Stamford, CT 06902-6384 USA

Phone (203) 359-4708

Toll Free 1-800-333-7467

Fax (203) 359-9601

Internet: <http://www.goodway.com>

E-Mail: [goodway@goodway.com](mailto:goodway@goodway.com)

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## **INTRODUCTION**

Thank you for purchasing this Goodway vacuum. We appreciate your business and look forward to serving you in the future. As with all Goodway products, you can be assured that the finest quality components and workmanship have gone into this machine.

Please take a few minutes to read the following Operating and Maintenance Instructions. By carefully following the instructions, you will obtain years of trouble free service from this product. Please pay particular attention to the safety instructions and exercise caution when using this machine.

**We are here to serve you!**  
**For Sales call**  
**1-800-333-7467**  
**For Service call**  
**1-800-370-2855**  
**Goodway Technologies Corp.**

## **GENERAL**

The DV-CNC / DV-CNC3 CHIPMASTER PLUS is a chip/coolant Recovery Vacuum. This vacuum will separate chips from the coolant down to 300 microns with the polypropylene filter. You can then activate the unit's integrated transfer pump to return the filtered coolant to your machine tool or collection drum. The DV-CNC / DV-CNC3 are intended for commercial use only.

The DV-CNC / DV-CNC3 CHIPMASTER PLUS consist of the following components

- Chip / Coolant recovery vacuum
- 11 gallon metal chip basket
- Nylon filter
- 37 gallon liquid collection tank
- Handles, casters, and transfer pump

Please review these instructions prior to installation and operation of this chip / coolant vacuum cleaner.

## IMPORTANT SAFETY INSTRUCTION

READ ALL INSTRUCTIONS BEFORE USING THIS VACUUM CLEANER

**WARNING** –To reduce the risk of fire, electric shock or injury:

1. Do not leave appliance when plugged in. Disconnect unit from power when not in use or before servicing.

**WARNING** – To reduce the risk of electric shock – Do not use outdoors or on wet surfaces.

2. Use only as described in this manual. Use only manufacturer's recommend accessories and spare parts.
3. Do not allow to be used as a toy. Close attention is necessary when used by or near children.
4. Do not use with a damaged cord or plug. If unit is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, contact Goodway Technologies Corporation's Customer Service at (800) 370-2855.
5. Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
6. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
7. Do not handle plug or appliance with wet hands.
8. Do not put any objects into openings. Do not use with any opening blocked; keep free of dust, lint, hair and anything that may reduce airflow.
9. Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
10. Turn off all controls before unplugging.
11. Use extra careful when cleaning stairs.
12. Do not use to pick up flammable or combustible liquids, such as gasoline, or use in areas where they may be present.
13. Connect to a properly grounded outlet only. See grounding instructions.

14. Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
15. Do not use without dust bag and/or filters in place.

## **SAVE THESE INSTRUCTIONS**

### **GROUNDING INSTRUCTIONS**

This vacuum must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

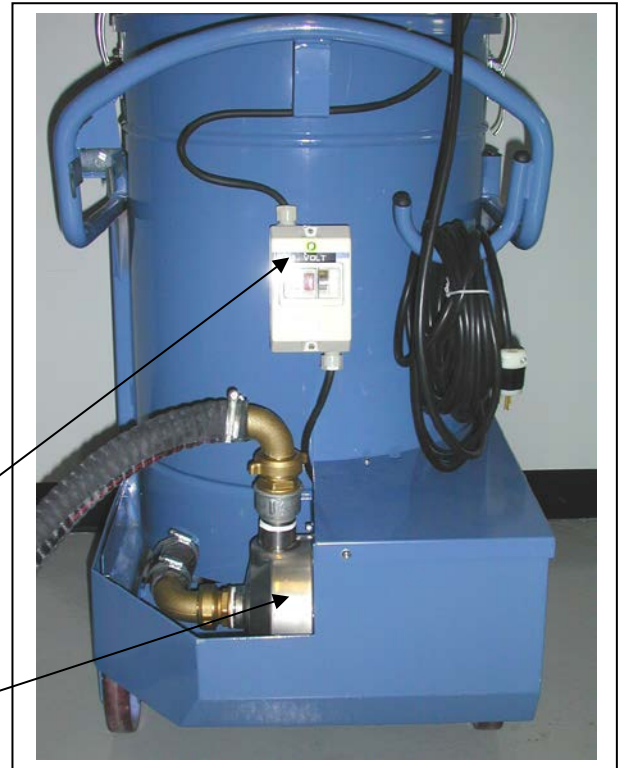
**WARNING** – Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

## COMPONENTS



(1) Vacuum Head

(2) Vacuum Motor Switches



(3) Level Indicator

(4) Pump Switch

(5) Discharge Pump

(6) Float

(7) Chip Basket



## **GENERAL FEATURES**

### **Switching on and off**

The vacuum unit and the electric pump can work simultaneously, allowing for recovery filter and pump back at the same time. Independent switches (2 & 4) activate the vacuum motors and the pump.

### **Protection**

The vacuum motor is protected by a floating device (6): when the level of the liquid rises up, it lifts the floating device which stops the suction before the liquid reaches the motor. At this point the motor keeps running, but the suction stops. Further protection is granted by the nylon filter on the bottom of the Vacuum head.

### **Vacuum Relief Valve (DV-CNC3 Model Only)**

WARNING – The regenerative blower of this unit overheats if vacuumed air is not flowing through it. Avoid completely blocking off the unit's intake.

A vacuum relief valve, which opens at a pre-determined vacuum level to allow air to bleed in, is included with the unit to lessen the chance of overheating.

## **FILTERING**

WARNING - Never use the chip basket together with the polypropylene filter. Always use either the chip basket alone OR the polypropylene filter alone. (If used together, the space between the bottom of the basket and the bottom of the filter may fill too quickly).

### **When to use the chip basket?**

The chip basket must always be used for the first filtration. It is suitable to hold bigger solids, such as metal chips.

### **When to use the polypropylene filter?**

The polypropylene filter should be used when a finer filtration is required. It has an efficiency of 300 microns to hold finer metal splinters and dust.

## **INSTALLING THE MACHINE (SET-UP)**

1. Remove from packaging and inspect unit. Report any discrepancies to Goodway Technologies Corporation's Customer Service at (800)-370-2855.
2. Position this vacuum cleaner in the area where it will be used. Make sure to use the wheel locks located on the casters.
3. Connect the unit to the plant's wiring ( see units name plate for power requirements). It is imperative that the ground connection is properly made. See grounding instructions for more information.
4. For the DV-CNC3 model only, test that the motor is wired properly (it can turn backwards) by briefly starting the motor by pushing the motor starter switch and turning it off. Then either observe the direction of the motors cooling fan, which is on top of the motor, in relation to the arrow on the casting or test the air coming out of the exhaust stack (it should be blowing out).if the motor is turning in the wrong direction, remove power from the circuit and reverse two of the legs of the three phase wiring. Reassemble the wiring.
5. Prime the discharge pump, never run the pump dry. See priming instructions for more information.
6. Attach the hose to the manifold and ensure all filters are in place

The unit is now ready for operation.

## **OPERATING INSTRUCTIONS**

1. Switch on the vacuum motor by activating the vacuum motor switch. The DV-CNC Model has two motor switches for each of its two motors. It is possible to run both at the same time for added suction.
2. During recovery, regularly check the liquid level in the level indicator located on the front of the unit. When the tank is full, the floating device stops the air flow. The motor will continue to run, but suction ends.
3. Switch off the vacuum motors.
4. Open the valve on the handgun and activate the pump switch.
5. Pump the oil back into the machine tool or other container.
6. Switch the pump off when the unit is empty. **Never run pump dry.**

## **Working Limits of the Electric Discharge Pump**

**DANGER** - The pump is not suitable for dangerous or inflammable liquids.

### **WARNING**

- Maximum working pressure 116 PSI (8 bar)
- Maximum liquid temperature: 85°F
- Maximum number of starts per hour, evenly distributed: 40

### **Priming**

**WARNING** - The pump must be filled with water (see figure 4 below) before starting. Dry running even for a short time would seriously damage the mechanical seal.

Fill both the suction pipe and the pump body with water through the fill plug near the delivery port.

Carry out this operation carefully to prevent formation of air pockets inside the suction pipe or the pump body.

### **WARNING**

- Frost can damage the pump if it remains full and inactive at freezing temperatures.
- The maximum noise of the electric pump when properly installed and operating within its limits does not exceed 70 dB(A).

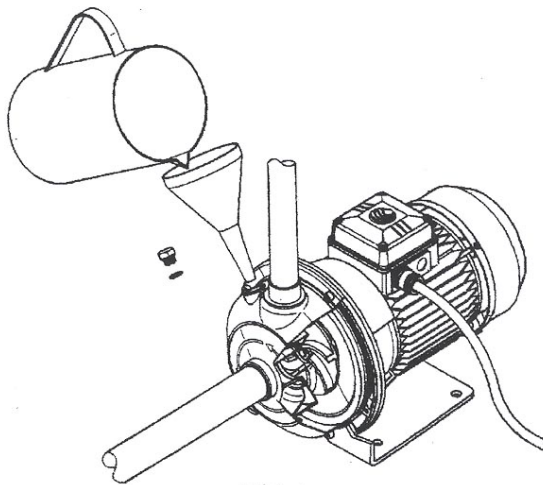


FIG. 4

### **Maintenance**

**DANGER** - Risk of Electric Shock, Make sure that the pump switch is off before carrying out any maintenance operations.

- The pump does not require any regularly scheduled maintenance.
- It may require occasional cleaning of the liquid and replacing of the worn or damaged hydraulic components.
- All maintenance operations should be carried out by skilled and qualified personnel.



## **TROUBLESHOOTING**

### **The Suction is Weak:**

- Make sure that the hose is not clogged, punctured or torn.
- Check the level of the liquid. If the tank is full, empty it before starting again.
- Make sure that the filter is not saturated or torn.
- Check any air leak from closing hooks, screws or gaskets.

### **Oil Overflowing from the lid:**

- Make sure that the chip basket is not full.
- Check any leak from the gaskets under the lid.
- Check the connection of the rubber hose to the lid..

**WARNING** – If some dust is regularly coming out of the motor head, replace the filter.

## **TECHNICAL DATA**

Model:	DV-CNC	DV-CNC3
Motor Power:	2.7 HP (total)	4.5 HP
Input Power:	15 amps, 115 V, 50/60 Hz AC	Standard: 14 amps, 230 V, 50/60 Hz AC, three phase Optional: 7 amps, 460 V, 50/60 Hz, three phase
Power Supply Cord:	30', 14-3	30', 14-4
Static Water Lift:	90"	118"
Air Displacement:	224 CFM	206 CFM
Filtration:	Standard: 0.05" metal chip basket Optional: 300 microns polypropylene	Standard: 0.05" metal chip basket Optional: 300 microns polypropylene
Pump Flow:	40 GPM	40 GPM
Tank:	38 gallons bonderized steel	38 gallons bonderized steel
Dry Capacity:	11 gallons	11 gallons
Wet Capacity:	37 gallons	37 gallons
Noise Level:	76 dBA	77 dBA
Dimensions:	20½" diameter tank x 52" high	20½" diameter tank x 52" high
Weight:	110 lbs	210 lbs

## **Cleaning**

### **To Clean the Machine:**

1. Discharge the liquid left inside the tank, with the discharge pump.
2. Remove the vacuum head and intermediate ring. Remove the chip basket.  
Clean these assemblies, less the vacuum head, with hot water.
3. Wash out the tank assembly with hot water.
4. Reassemble Unit.

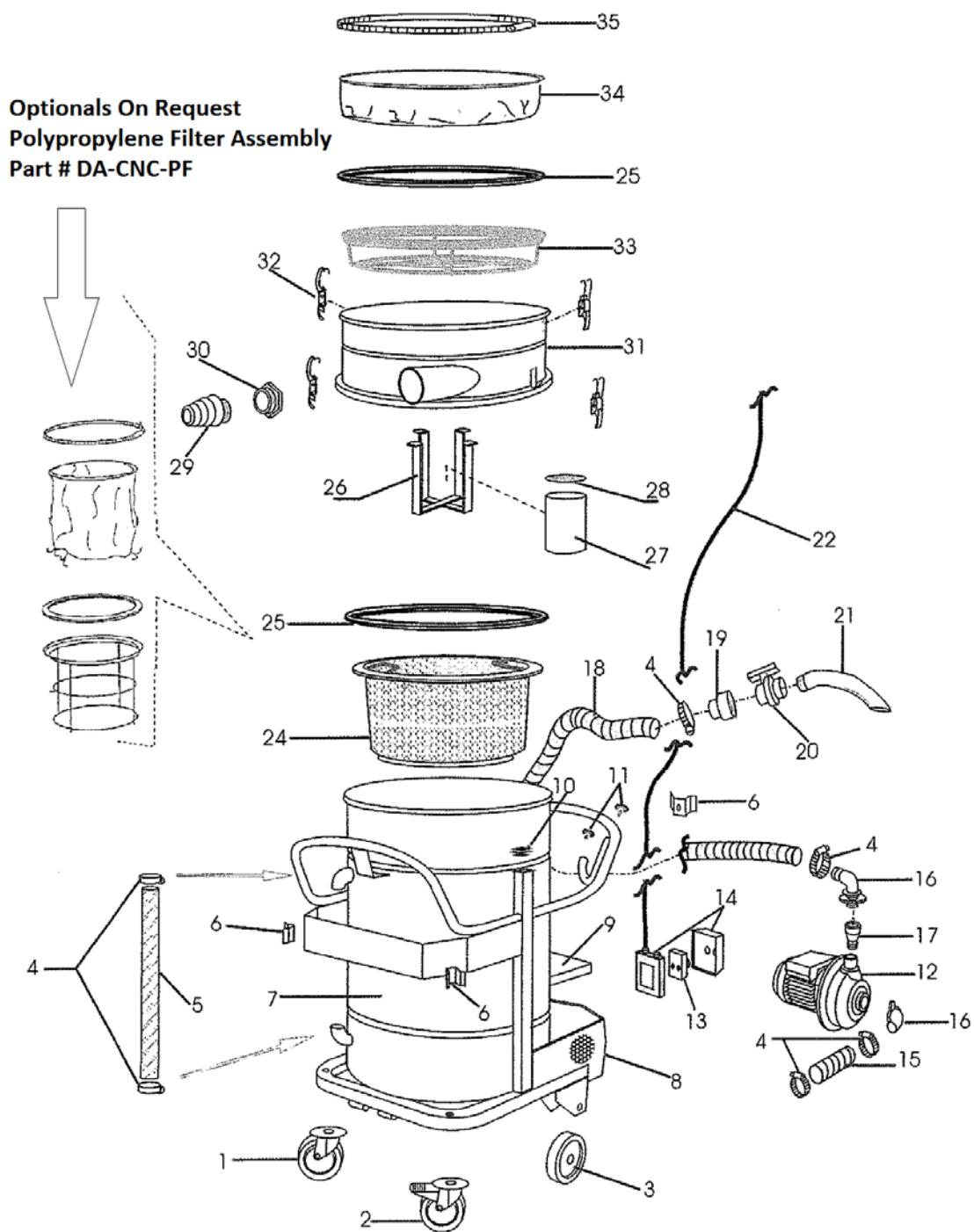
### **To replace the nylon filter (DA-CNC-NF), proceed as follows:**

1. Switch the motor off
2. Take off the motor head
3. Extract the floating device
4. With a screwdriver, unscrew the metal ring-gasket that runs all around the filter
5. Extract the filter and replace it with a new one.

### **WARNINGS:**

- Do not run the machine with used up or torn filters. Immediately replace the filter as soon as you notice the least tearing.
- Check regularly the filtering gasket.
- After checking, changing the filters or cleaning, replace the lids carefully.
- Always check that the wheel brake is on when running the machine.
- Check that the electric system matches the voltage indicated on the identification plate placed on the motor head. Also check that sockets are in good condition. Any maintenance or repair on the electric parts should be carried out by authorized staff.

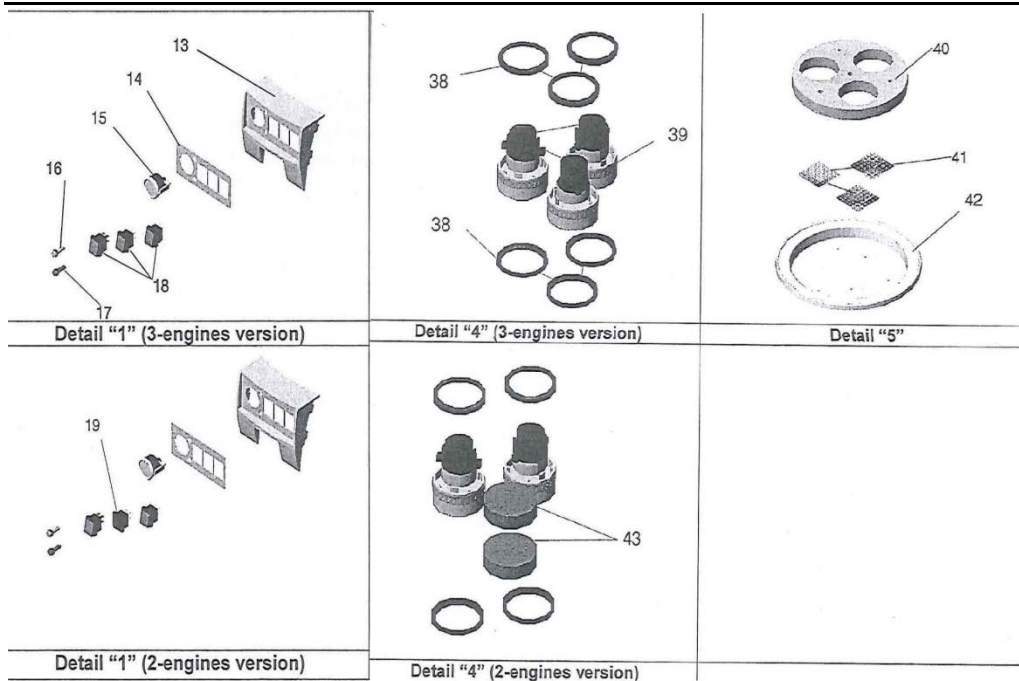
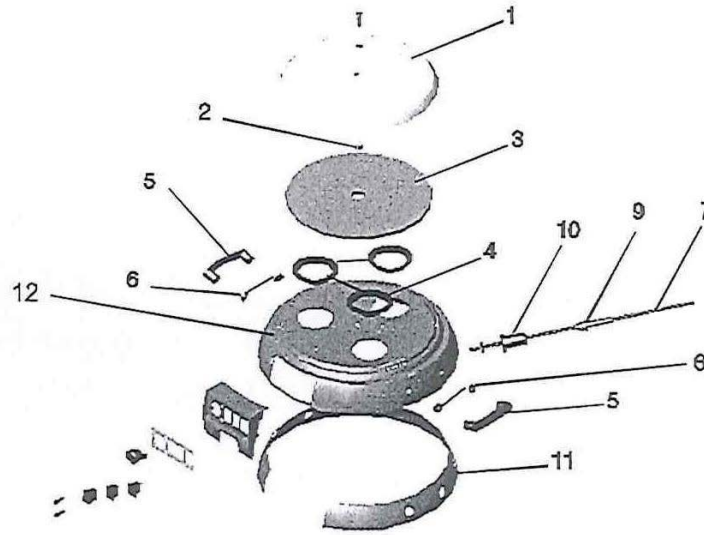
## DV-CNC / DV-CNC3 BODY ASSEMBLY DRAWING



## **DV-CNC / DV-CNC3 BODY PARTS LIST**

Ref#	Parts#	Qty.	Model	Description
1	AR3449	1	Both	Wheel
2	AR3450	1	Both	Wheel with brake
3	AR2288	2	Both	Rear wheel
4	AR2519	6	Both	Hose clamp
5	AA1108	1	Both	Level indicator tube
6	AR3165	3	Both	Wand clips
7	AR3830	1	Both	Collection body
8	AR3831	1	Both	Pump cover / shield
9	AR3832	1	Both	Top pump cover
10	AR3833	2	Both	Upright cap
11	AR3115	2	Both	End caps
12	AR4148	1	DV-CNC	Pump 115 Volt
12	AR4234	1	DV-CNC3	Standard pump 230 V three phase
12	AR4233	1	DV-CNC3	Optional Pump 460 V three phase
13	AR2102/C	1	DV-CNC	Motor starter
13	AR2102	1	DV-CNC3	Cut out switch for pump
14	AR3164	1	Both	Switch cover box
15	AA1015	1	Both	Anti-Oil neoprene hose
16	AR2566	2	Both	Plumbing elbow
17	AR2567	1	Both	Cuff / reducer
18	AA1015	1	Both	Pump out hose
19	AR3157	1	Both	Nylon adapter
20	AR3156	1	Both	PVC ball valve
21	AR2540	1	Both	Curved nozzle
22	AR3371	1	DV-CNC	Electrical cord
22	AR2546	1	DV-CNC3	Electrical cord
24	AR2549	1	Both	Chip collection basket
25	AR2585	2	Both	Seal gasket
26	AR3834	1	Both	Float support guide
27	AR3588	1	Both	Float
28	AR2553	1	Both	Float gasket
29	AR2552	1	Both	Intake manifold adapter
30	AR2551	1	Both	PVC intake fitting
31	AR3835	1	Both	Tangential adapter ring with intake
32	AR2002	4	Both	Lathes
33	AR3812	1	Both	Filter support
34	DA-CNC-NF	1	Both	Nylon filter
35	AR2018	1	Both	Filter clamp

## Vacuum Head Assembly Drawing



## **Vacuum Head Parts List**

Ref#	Part#	Qty.	Description
1	AR4082	1	Single-phase head cover
2	AR4059	1	Spacer
3	AR4060	1	Adhesive silencer head cover
4	AR4085	2	Moulded rubber cooling ring
5	AR4083	2	Vacuum head's handle
6	AR4084	4	Plastic adapter for vacuum heads handle
7	AR2029	1	Supply cable
9	AR2028	1	Spiral fairlead
10	AR3372	1	Fairlead for single phase head
11	AR4073	1	Adhesive silencer for vacuum head cover
12	AR4058	1	Painted cover for single-phase vacuum's head
13	AR4086	1	ABS control board mask
14	AR4087	1	Control board adhesive front panel
15	AR3524	1	Vacuum gauge
16	AR3517	1	Green warning light – MTL power on
17	AR3518	1	Red warning light – MTL clogged filter
18	AR4088	2	Two-poles red warning light
19	AR4089	1	Two-poles switch replacement cap
38	AR2037	4	Engine shock absorber
39	DA-E2B-MOTOR	2	Vacuum engine 115 V
40	AR4071	1	Adhesive silencer for the basement
41	AR2098	2	Flange net
42	AR4070	1	3 port single phase engine head basement
43	AR4097	2	Engine fastening cap



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**Fax: 203-359-9601 • Toll-Free Fax: 800-359-9625**  
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