

# MECO

## MECO WATER COOLER **SERVICE & TROUBLESHOOTING** **MANUAL**

**(Issue: 02, Date: September 23, 2021)**

**Revision 00)**

**WARNING** This 'Owner's Manual' is only for the use of maintenance personnel with certain experience and background in electrical, electronics and mechanical field. Any attempt to repair main devices may lead to personal injury and property loss. Manufacturers/distributors are not responsible for the content of the manual and interpretation thereof. **Before using your MECO Water Cooler, please read this manual carefully and keep it for future reference.**

# OWNER'S MANUAL

## READ THIS MANUAL

Keep this manual where the operator can easily find it. Inside you will find many helpful hints on how to use and maintain your air conditioner properly. Just a little preventative care on your part can save you a great deal of time and money over the life of your air conditioner. You will find many answers to common problems in the chart of troubleshooting tips. If you review the chart of Troubleshooting Tips first, you may not need to call for service.



**MECO Water Cooler Variants**

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## INSTALLATION PROCEDURE

1. To facilitate proper air circulation, the cooler should not be installed in any enclosed or confined space.
2. Prior to installation, remove back cover of cooler and visually inspect for transit damage. Temporarily connect cooler to electric supply and turn on the cooler. Check that the fan is operating and is not stuck.
3. For installation, connect the water inlet and waste water drain connections. Do not use excessive force on the brass inlet and drain connectors to avoid damage.
4. Install a circuit breaker of suitable amps in the power supply line.



**Automatic voltage stabilizer should be used in low voltage areas**

## SPECIFICATIONS

**Cabinet:** Made of heavy gauge non-magnetic stainless steel front with Lacquered stainless steel sides. Drain pot made of hard plastic, or stainless steel. Base and top cover of hard plastic. Back panel removable for servicing.

**Refrigeration System:** Fitted with world renowned, high starting torque, high temperature compressors. Condenser and fan slightly oversized to ensure efficient working in high ambient. Copper cooling coil metal-bonded to outside of water tank. Whole system hermetically sealed, with ozone friendly R134a as refrigerant.

**Water System:** All copper/brass/stainless steel system. Water tank made of non-magnetic stainless steel. Tank safety tested at 10 kg/cm (142 psi), with recommended maximum working pressure of 3 kg/cm (42 psi). Fitted with high quality chrome plated brass taps.

**Insulation:** Moisture proof and highly effective expanded polystyrene insulation.

**Thermostat:** High quality water temperature control thermostat, adjustable from 10 C to 18 C (50 F to 64 F.)

**Pilot Light:** Twin pilot lights to indicate .power supply and compressor operation.

**Voltage Ratings:** All models are made to operate on 220 Volts, 50 cycles, single phase A.C. supply.

**Water Filter:** Water Purifying Systems are available as an option.

**WEIGHT & DIMENSION**

Model	Type	Width	Depth	Height	Nett Wt	Gross Wt	Packed size
ME-20P & ME-40L	Pressure	46cm (18")	38cm (15")	125cm (49")	35 kg	37 kg	48x41x126cm
ME-30P	Pressure	46cm (18")	38cm (15")	125cm (49")	36 kg	38 kg	48x41x126cm
ME-40P/40F	Pressure	46cm (18")	38cm (15")	125cm (49")	40 kg	42 kg	48x41x126cm
ME-60P	Pressure	61cm (24")	48cm (19")	125cm (49")	53 kg	56 kg	63x61x126cm
ME-80P	Pressure	72cm (28")	56cm (22")	125cm (49")	70 kg	73 kg	79x69x126cm
ME-60L	Pressure	61cm (24")	48cm (19")	125cm (49")	43 kg	45 kg	63x61x126cm
ME-80L	Pressure	61cm (24")	48cm (19")	125cm (49")	45 kg	47 kg	63x61x126cm
ME-100L	Pressure	72cm (28")	56cm (22")	125cm (49")	57 kg	60 kg	79x69x126cm

**CAPACITY CHART**

Model	Type	Compressor Rating	Nominal Capacity Water out 15.5°C	Ambient 32.2 Water in 26.6 Water out 15.5	Ambient 37.7 Water in 26.6 Water out 15.5	Ambient 32.2 Water in 32.2 Water out 15.5	Ambient 37.7 Water in 32.26 Water out 15.5
ME-20P & ME-40L	Pressure	3200 Btu/hr (385w)	19 USG/hr	65 Ltr/hr	59 Ltr/hr	43 Ltr/hr	39 Ltr/hr
ME-30P ME-60/80L	Pressure	3600 " (445w)	26 "	87 "	78 "	58 "	52 "
ME-40P/40F & ME-100L	Pressure & Fountain	4320 " (555w)	33 "	114 "	103 "	76 "	68 "
ME-60P	Pressure	7440 " (810w)	44 "	148 "	134 "	100 "	90 "
ME-80P	Pressure	15000 " (1200w)	80 "	283 "	185 "	145 "	90 "

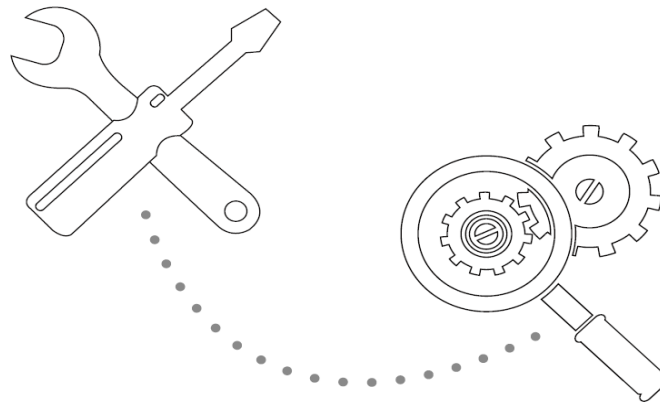
**SERVING ESTIMATE**

	ME 20P & ME-40L	ME 30P & ME-60/80L	ME 40P/F & ME-100L	ME 60P	ME 80P
Offices / Stores / Light demand area etc.	19 to 24	25 to 30	33 to 38	43 to 47	87 to 97
Light Industry / Hospitals	15 to 20	20 to 25	26 to 31	35 to 39	65 to 75
Heavy Industry / Schools	9 to 14	12 to 17	15 to 20	20 to 24	38 to 43
Hot Industry / Sudden demand areas	7 to 12	9 to 14	11 to 16	15 to 19	27 to 30

\* Based on company research data, for 8-hour shifts.

## PERIODICAL CLEANING & MAINTENANCE:

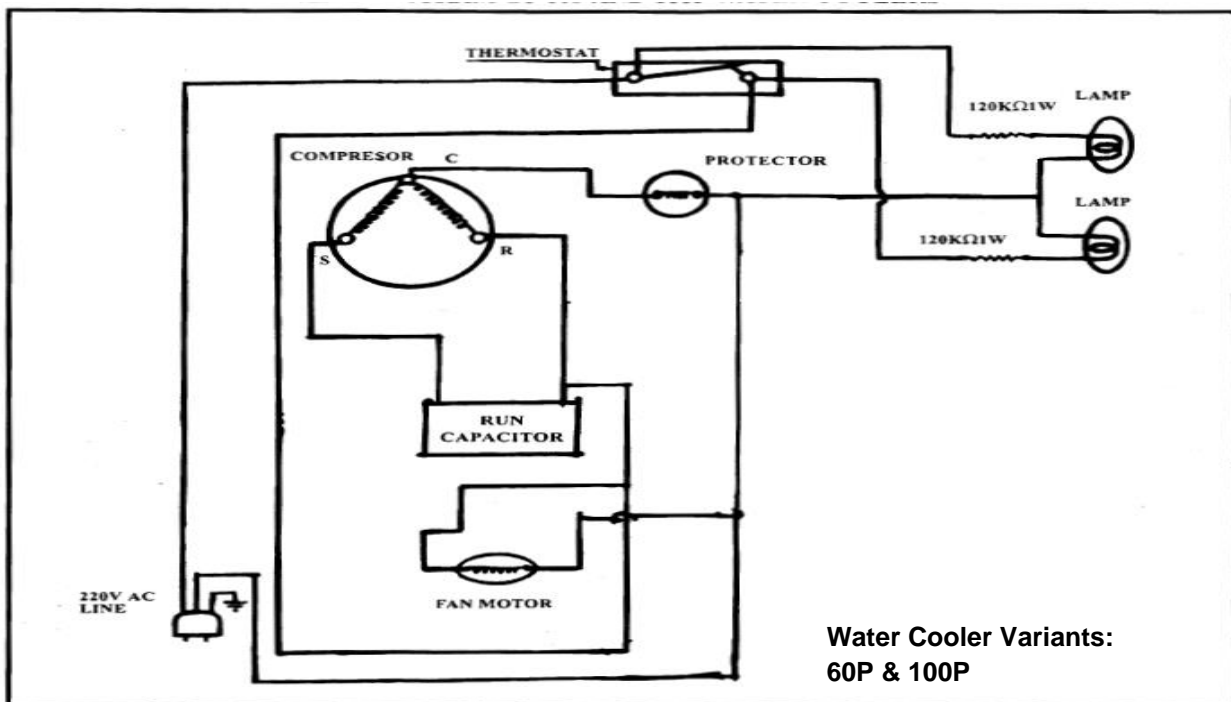
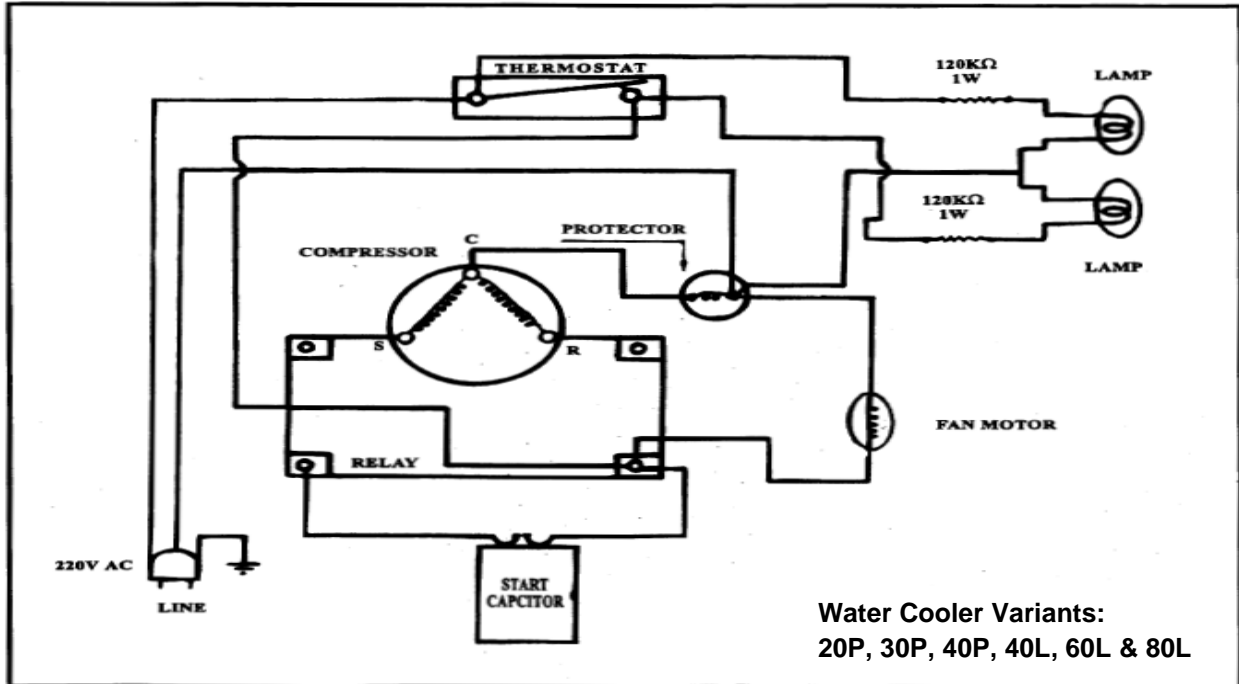
1. For any cleaning or maintenance of cooler, first switch off the cooler electric power.
2. If the waste water drain is blocked during use, take out drain tray and clean drain pot. Then remove blockage by flushing water under pressure through the drain hole.
3. After removing back cover, dust out the condenser by blowing air under pressure. This cleaning should be done at least once a year or more frequently if loss in cooling occurs.
4. While back cover is removed, check that green or yellow earth wire is secured tightly to cooler base.
5. For transportation of cooler and during periods when the cooler is not in use, empty the water from tank by first removing back cover and then opening the drain plug.
6. Keep the cabinet of the cooler dry to prevent damage due to rust. Mop up any water spills as soon as possible to protect the base. For added safety, the cooler can be placed on wooden base.



## CLEANING AND MAINTENANCE WARNINGS

- **Turn off** the device and pull the plug before cleaning. Failure to do so can cause electrical shock
- **Do not** clean the air conditioner with excessive amounts of water.
- **Do not** clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.

CIRCUIT DIAGRAM



**TOUBLESHOOTING GUIDE (1/2)**

CHECKS	DEFECTS	REMEDY
<b>1. Neither fan motor nor compressor work</b>		
Check power supply or plug & measure voltage	a) Fuse broken or contact defective b) C/breaker defective c) Plug disconnected d) Plug connected but defective	a) If fuse & switch are normal, check mains b) Change C/breaker c) Connect properly d) Change plug
<b>2. Fan motor does not operate</b>		
Fan motor	a) Motor defective/burnt b) Fan touches, stops motor c) Inside wiring defective	a) Change motor b) Adjust motor position or blades c) Change or repair
<b>3. Compressor does not operate</b>		
1) No current runs (compressor circuit)	a) Thermostat defective b) Compressor coil burn-out c) Wiring disconnected or burnt out	a) Change Thermostat b) Change compressor c) Connect wiring of compressor
2) Current runs, below operating current capacitor normal	a) Compressor burnout b) Thermostat contacts defective c) No refrigerant gas	a) Change compressor b) Change thermostat c) Charge gas
3) Large current runs	a) Compressor locked runs b) Compressor burnout c) Capacitor defective d) Relay contact defective	a) Change compressor b) Change compressor c) Change capacitor d) Change Relay
4) Large current runs & compressor operates but stops immediately.	a) Compressor short b) Heat source near cooler	a) Change Compressor b) Remove heat source
<b>4. Compressor does not start</b>		
Check power source voltage	a) Power source voltage too low b) Wires too thin	Improve power source Use thick wires

**TOUBLESHOOTING GUIDE (2/2)**

CHECKS	DEFECTS	REMEDY
<b>5. Compressor starts but soon stops</b>		
1) Measure power supply voltage	a) Voltage is low & over current runs, Overload relay operates b) Wires for power supply equipment too thin	Improve Voltage Change wires
2) Check if air is delivered	a) Thermostat operates. Fan does not.	Change switch. Check electric circuit (fan)
3) Check temp. of air sucked & heat exchanger temp.	b) Thermostat operates, fan is loose. c) Very little difference	Tighten screw of fan blade Improve ventilation
<b>6. Electric shock</b>		
Insulation resistance	Over 10M ohm on megger Below 10M ohm on megger	Make proper earth Change defective part or repair
<b>7. No cooling</b>		
1) Check thermostat		Adjust knob position
2) No temperature difference between discharge & suction pipe of compressor	Knob position not properly adjusted Gas leak or compressor defective	Repair if gas leak. Otherwise change compressor
<b>8. Excessive vibration &amp; noise</b>		
	Body screw loose a) Fan cracked or deformed b) Fan screw loose	Tighten up Replace fan blade
1) Check noise source	a) Compressor	Secure screw Change compressor
2) Frictional noise	b) Electric parts	Repair or change
3) Noise created by fan	c) Cabinet/ Parts/ screws loose d) Fan touches e) Not properly balanced	Tighten up Adjust blade Adjust and place on more even surface



**SAFETY PRECAUTIONS**

**ELECTRICAL WARNINGS**

- Only use the specified power cord. If the power cord is damaged, it must be replaced by the manufacturer or certified service agent.
- Keep power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- Do not pull power cord to unplug unit. Hold the plug firmly and pull it from the outlet. Pulling directly on the cord can damage it, which can lead to fire or electric shock.
- Do not use an extension cord, manually extend the power cord, or connect other appliances to the same outlet as the water cooler. Poor electrical connections, poor insulation, and insufficient voltage can cause fire.

**CAUTIONS**

- **Turn off** the water cooler and unplug the unit if you are not going to use it for a long time.
- **Turn off** and unplug the unit during storms.
- **Do not** use device for any other purpose than its intended use.
- **Do not** climb onto or place objects on top of the outdoor unit.

**OUR FACTORY/SERVICE CENTERS**

LOCATION	DETAILS
<p><b>KARACHI</b> (Factory)</p>	<p><b>Address:</b> S/3, G. Allana Road, S.I.T.E, Karachi, Pakistan</p> <p><b>Contact Details:</b> Phone: +92-21-32360295, +92-32360296 Email: sales@meco.com</p>
<p><b>RAWALPINDI</b> (Sales &amp; Services)</p>	<p><b>Address:</b> 5/9, The Mall, Rawalpindi, Pakistan</p> <p><b>Contact Details:</b> Phone: +92-51-5701234, +92-51-5201235 Email: sales@meco.com</p>



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