



MHP50 | MHP75 MHP150

USER MANUAL



It is the installer's responsibility to read, understand, and comply with these instructions.

A Guide to Your RainFlo Pump

The RainFlo MHP pumps are multistage horizontal pumps available in $\frac{1}{2}$, $\frac{3}{4}$, and $1\frac{1}{2}$ horse power. Manufactured with a solid construction and thick casings for an extraordinarily quiet and reliable operation, they are available in several GPM and PSI to meet a wide variety of applications requirements.

Optionally for added ease of use, the pump may be paired with an auxiliary pump controller (RainFlo PC115A) for on/off functions and run-dry protection.

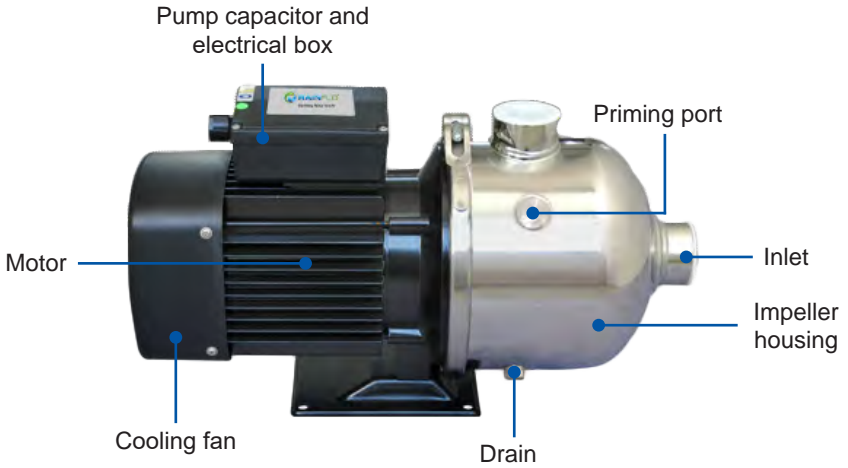
Please Note:

This appliance is only intended for use by qualified persons.

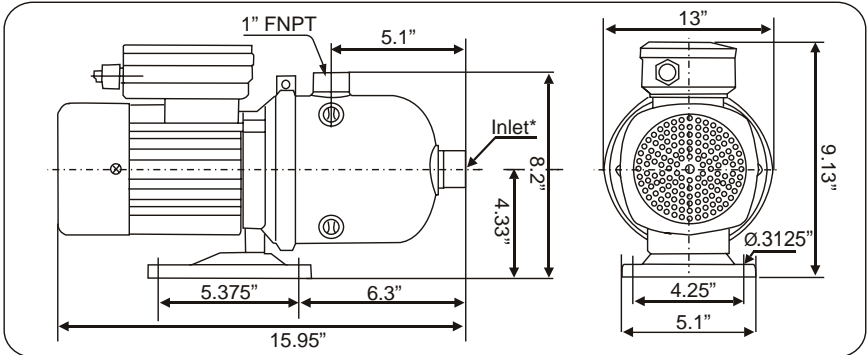
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1. MHP PUMP DIAGRAM



2. DIMENSIONS



*MHP50, MHP75 inlets are 1" FNPT. MHP150 inlet is 1.25" FNPT.

3. APPLICATIONS

The MHP series of pumps are intended for use in pumping, circulating, and boosting water, industrial fluids, and other weak chemical/industrial mediums.

- Rainwater harvesting systems
- Greywater systems
- Water treatment processes
- Water boosting applications
- Heating and cooling for industrial processes
- Water supply and boosting (drinking water, light chlorine water)
- Fertilization/metering system

4. PHYSICAL CHARACTERISTICS

- Inlet connection: 1" (1¼" for MHP150)
- Outlet connection: 1"

Motor

- 2-pole induction motor
- Single-phase: 110-125VAC/60Hz
- Input thermal protector
- Insulation class: F
- Protection: IP55

5. OPERATING CONDITIONS

- Liquid temperature: 0°C-60°C (32°F-140°F)
- Maximum environmental temperature: 50°C (122°F)
- Maximum operating pressure: 10 bar (145 PSI)
- Maximum suction pressure is limited by maximum operating pressure



Under no circumstances should the pump be exposed to freezing temperatures with water in the pump.

6. INSTALLATION

Handle with care. Dropping and impact can damage the product.

Before proceeding with installation, make sure the unit shows no visible signs of damage.

Mounting Location

The pump must be mounted in a horizontal orientation and must be mounted externally on the ground or other sturdy platform. When mounted externally, the pump must be safely and securely mounted in a manner which prevents exposure to electrical connections and in a location which prevents damage and exposure to freezing temperatures.

Environmental Considerations

If the pump may be exposed to freezing temperatures, the pump must be fully drained and protected with food-grade antifreeze. The pump offers water resistance but should be mounted in a location away from direct exposure to rain, humidity, snow, excessive heat and direct sunlight.

7. START UP AND OPERATION

Pump Power

The RainFlo MHP Series pumps are equipped with a 5 foot power cord. The pump is typically paired with an auxiliary pump control such as the RainFlo 115V pump controller for on/off functions and run-dry protection. The pump system may be directly plugged in to a 115 volt wall outlet that uses a 15 amp circuit breaker (verify local codes for compliance with ground-fault and wiring standards). The pump itself may be temporarily plugged into 115V power for troubleshooting the pump controller. Upon connection, without a pump controller or pressure switch setup, the pump will turn on and pump continuously until it is unplugged or it runs out of water and overheats. Run-dry conditions and overheating will void the factory warranty. It is recommended to always use this pump in conjunction with a pump control system. When using an electronic pump controller, all electrical connections should always be made by a qualified electrician. Extra care should be taken to verify that all components are properly grounded.

NOTICE: This pump must be primed prior to first use.

Priming Procedure

1. Connect the pump inlet (the stainless steel female threaded connection) to the water source and remove any air from the line.
2. Remove the priming bolt (the stainless steel bolt at the top near the inlet) and pour approximately one cup of water into the pump body.
3. Replace and tighten the priming bolt.

Repeat 2-3 times if necessary. If the pump is not pumping water after 3 attempts, verify the inlet plumbing is supplying water to the pump. No additional priming should be necessary under normal circumstances.

8. PERFORMANCE SPECIFICATIONS

- Power supply voltage: (1) 110-125V
- Maximum current: 16A
- Max pump power: 1100W (1½ HP) at (1) 110-125V
- Frequency: 50/60Hz
- Protection class: IP55
- Operating temperature¹: 32°F to 122°F
- Dry storage temperature²: -22°F to 122°F
- Max flow rate: 44 GPM
- Max operating pressure: 145 PSI

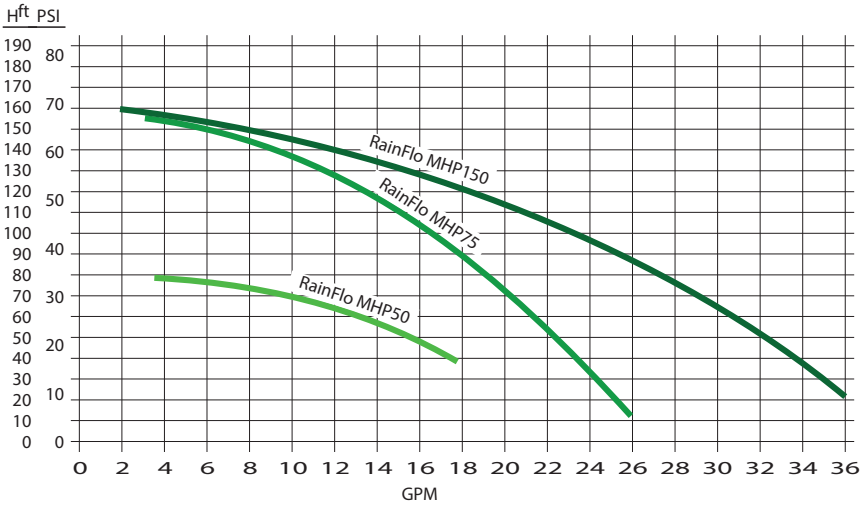
¹Ambient air or wind chill temperatures should be considered.

²Pump must be completely drained to reduce freeze risk.

RainFlo Multi-Stage Centrifugal Pumps

Model No.	MHP50	MHP75	MHP150
Horsepower	½	¾	1½
Nominal voltage range	110-125 VAC, 60Hz, 8A max.	110-125 VAC, 60Hz, 12A max.	110-125 VAC, 60Hz, 14A max.
Impeller stages	2	4	4
Maximum flow (0 Head)	17.6 GPM	26 GPM	36 GPM
GPM at 60 PSI	N/A	9.2	12
GPM at 50 PSI	N/A	14	19.5
GPM at 30 PSI	9	20	28.5
Maximum head	79 ft.	164 ft.	168 ft.
System pressure	up to 34 PSI	up to 65 PSI	up to 65 PSI
Inlet pressure	up to 45 PSI	up to 45 PSI	up to 45 PSI
Inlet/outlet size	1"FNPT/ 1"FNPT	1"FNPT/ 1"FNPT	1¼" FNPT/ 1" FNPT
Weight	19.65 lbs.	22 lbs.	25.5 lbs.
Dimensions	15.75"L x 6.5"W x 9"H	15.75"L x 6.5"W x 9"H	16"L x 6.5"W x 9.3"H
Thermal protection	yes	yes	yes
Operating liquid temp	32°-140°F	32°-140°F	32°-140°F
Max. environmental temp	122°F	122°F	122°F
Motor	2-pole induction, continuous duty	2-pole induction, continuous duty	2-pole induction, continuous duty
RPM	3450	3450	3450
Cooling	Air cooled	Air cooled	Air cooled
Insulation class	F	F	F
Protection	IP55	IP55	IP55
Certifications	TUV, CCC	TUV, CCC	TUV, CCC
Warranty	1 year	1 year	1 year

9. MHP PUMP CURVES



10. PERFORMANCE CHARTS

RainFlo MHP50 Performance Chart

TDH	PSI	GPM
79	34	3.5
77	33	5
74	32	6
70	30	8
67	29	8.5
64	28	9
61	26	11
58	25	11.5
56	24	12.5
53	23	13.5
50	22	14.5
46	20	15
44	19	16.5
39	17	17.6

RainFlo MHP75 Performance Chart

TDH	PSI	GPM
150	65	6.5
139	60	9.2
127	55	11.7
116	50	14.0
104	45	15.8
92	40	17.0
81	35	18.8
69	30	20.2
58	25	21.4
46	20	22.7
35	15	24.0
23	10	25.0
13	5.5	26.2

RainFlo MHP150 Performance Chart

TDH	PSI	GPM
160	68	2
139	60	12
127	55	15.2
116	50	19.3
104	45	21.8
92	40	24.9
81	35	27.0
69	30	29.0
58	25	30.8
46	20	32.3
35	15	34.2
23	10	36
13	5.5	37

11. MAINTENANCE

- Disconnect pump when power is interrupted or unstable.
- To avoid overheating, do not restrict the suction end to adjust flow.
- If there are any abnormal noises, stop the pump immediately and check the connections, hose clamps, mounting hardware, etc.
- If the pump will remain unused for an extended time, or to winterize, be sure to drain the water to prevent damage from freezing water. The best way to do this is to disconnect the power and plumbing lines, turn the pump upside down to fully drain the pump and controller.

12. TROUBLESHOOTING

Issue	Solution
The pump does not run	<ul style="list-style-type: none">• Check the voltage on the label and make sure the input voltage is within 10 volts of the value• Check the fuse or thermal protector for damage
The pump does not pump properly	<ul style="list-style-type: none">• Make sure the head isn't too high• Verify the suction head is in water• Prime the pump
The pump runs but no water	<ul style="list-style-type: none">• Check the suction side intake connection and ensure it is not blocked or damaged. If so, clean or replace the connection.• Clean or replace intake screen, if present• Ensure the pump is fully primed and no air exists in the suction side of the pump including the connection lines. This pump operates best with a flooded suction connection. If pump is located above the water source a loss of prime may occur. This pump is not self priming and may require manual repriming.
The flow reduces drastically	<ul style="list-style-type: none">• Clean or replace intake screen, if present• Check water level as it may be too low for pump operation
The pump keeps stopping and starting	<ul style="list-style-type: none">• There is a small leak in the delivery pipeline: check for any leaking taps or running toilets
The motor is overheating, or, stops soon after starting	<ul style="list-style-type: none">• Verify supply voltage under load is within 10 volts of the required voltage (110 volts)• Improve ventilation

