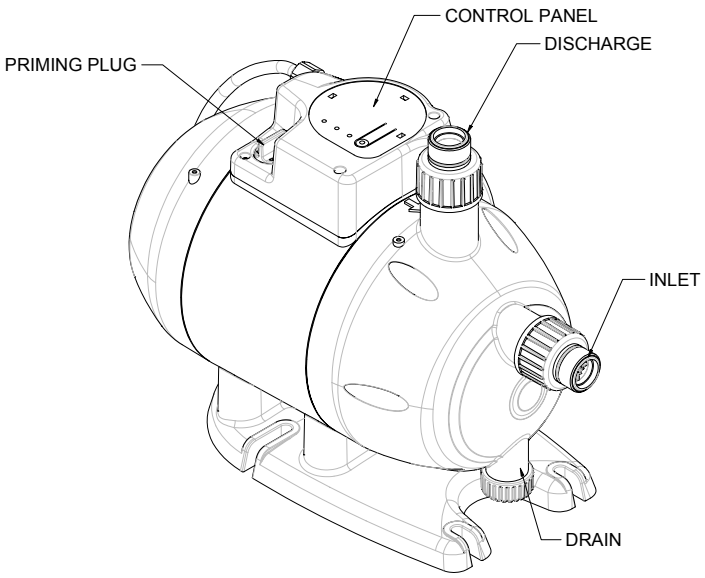
MACH5 by HEADHUNTER

Installation and Operating Instructions

Introduction:



The Mach 5 is a compact and powerful water pressure system comprised of a water-cooled motor, integrated flow and pressure control, and a quiet multi-stage self-priming pump. An inlet check valve is incorporated into the suction port. A control panel at the top of the pump provides status information, dry tank protection, and reset capability.

Caution: This pump has been evaluated for use with freshwater only with a maximum water temperature of,95°F (35°C). This pump is suitable for use with drinking water. It is not recommended for saltwater applications. Use the Headhunter Stingray for saltwater pressure applications.

Listing/Certifications:

The Mach 5 has been tested and certified to surpass all requirements of Underwriters Laboratories UL 778 specifications for Motor Operated Pumps. The Mach 5 is CE approved.

testing engineers international

LISTING # 01C01

CE

Mechanical Specifications:

Maximum Pressure*:	66 psi (4.5 bar)
Maximum System Pressure**:	110 psi (7.5 bar)
Maximum Suction Lift:	26ft (8m)
Minimum ambient temperature:	32°F (0°C)
Maximum ambient temperature:	120°F (49°C)
Inlet and discharge fitting:	1" inch male NPT (50Hz unit 1" Gas)
Dry Weight:	24 lbs (10.8 kg)
Length:	18" inches (457mm)
Width:	8.625" inches (219 mm)
Height:	13.25" inches (336 mm)

**Maximum pressure pump is capable of generating*
*** Maximum pressure pump is capable of withstanding*

Plumbing Installation:

1. Secure pump on level platform. Failure to comply may affect the ability of the pump to prime itself.

2. Connect the suction port of the pump to a 1" inch (25mm) minimum diameter suction pipe. A check valve is built into the suction fitting of the pump and must not be removed.

3. A Headhunter IS-1000, IS-1000S, or IS-1000L inlet **strainer** or equivalent must be installed on the suction pipe to protect the pump from debris. Do not install a water filter in the suction piping. A water filter can be too restrictive.

4. An extra check valve is recommended in long suction piping runs between the strainer and the pump to help maintain prime.

5. Use pipe or non-collapsible hose for the suction piping. Install the suction pipe with an uphill run from the water source to the pump to prevent air locking. **It is very important that there are no leaks in the suction piping.**

6. Make leak proof connections to the 1" male NPT discharge connection of the Mach 5. **Do not install a check valve on the discharge of the pump. A check valve is already built in to the inlet of the pump.**

7. Install Headhunter PGV-100 Liquid Filled Pressure Gauge in the pump discharge piping.

Important tech tips!:

A. Leaks in the suction piping can cause erratic pump performance or false dry run shutdowns.

B. Make sure to run the pump long enough to expel all entrained air in the pump and suction piping during priming operation.

Electrical Specifications:

	M5-115/60	M5-230/60	M5-230/50
Voltage (VAC):	115V –10/+10%	230V –10/+10%	230V -10/+10%
Current (Amps):	10 Amps	5 Amps	5 Amps
Power (Watts)	1000W	1000W	1000W
Frequency:	60 Hz	60 Hz	50 Hz
Enclosure:	IP44	IP44	IP44
Insulation Class:	B	B	B
Supply Cable:	ULSJTW-A	ULSJTW-A	HO7RN-F
Plug:	ULNema 5-15P	n/a	SCHUKO

Electrical Installation:

1. The Mach 5 has a pre-wired power cable designed to simplify installation. Qualified technicians should carry out electrical connections in accordance with standard marine or RVIA electrical regulations. Never make any connections inside the electronic control panel unless power has been switched off for at least 5 minutes.

2. Make sure the voltage is correct for the pump. Check the technical label located on the side of the control panel, and compare to the supply voltage.

3. Make sure the ground (earth) is connected properly with a rated residual operating current of max 30mA.

4. **IMPORTANT!:** If the plug is not used in 115VAC installations, make sure;

    a. Brown wire is connected to the line.
    b. Blue wire is connected to the neutral.
    c. Green wire is connected to the ground (earth).

5. **IMPORTANT!:** For 230 VAC installations;

    a. Connect brown and blue wires to L1 and L2.
    b. Connect the green/yellow wire to the ground (earth).

Start-up:

1. Prime the Mach 5 by unscrewing the priming plug and fill the pump with approximately 1 gallon or 3.75 liters of water. Tighten priming plug after filling is complete.

2. Open a faucet and turn the pump on. When the pump is started it will re-circulate some of the water until the pump is fully primed.

3. If priming is not complete after 6 minutes, the pump will shut itself off then attempt to restart three times before turning itself off. It is possible to reset the pump at the control panel by pushing the reset button, or turning power off and then back on again.

4. Upon closing the faucet, the pump will build up to its maximum pressure and then turn off after 15 seconds. Pressure at shut off will vary slightly depending on amount of lift required on the suction side.

Control Panel:

Located at the top of the Mach 5 is the control panel that provides visual operating status indication and reset capability. Functions of the control panel are as follows;

Reset Button:	Push the reset button to restart Mach 5 after an alarm condition has been rectified. For example, if the pump has shut itself down in a dry tank protection mode and water has been restored. After 5 reset operations, disconnect power to pump and then re-apply to restart the pump.
Power (Green LED):	The green LED is on when power is available and the pump is ready to turn on when water is needed.
Pump On (Yellow LED):	The yellow LED is on when the pump is running.
Alarms:	The red LED indicates an alarm condition exists such as; dry running, excessive cycling, over temperature, overloaded motor, or seized motor. After sensing an alarm condition and shutting off, the Mach 5 will attempt to restart itself 3 times after 1 hour, 5 hours, and after 20 hours. If the alarm condition still exists after 24 hours the pump will shut down until it is reset manually.
Continuous Red LED:	Dry Run Alarm
Flashing Red LED:	Cycle Alarm. Excessive cycling (continuous on/off operation) can causes the temperature to rise inside of the pump and damage it. Common causes of cycling are small leaks or very low flow rates (i.e. ice makers, R.O. filters, etc.) in a plumbing system without a pressure accumulator tank. A check valve installed directly on the discharge of the pump can also cause cycling. If very low flow devices are going to be installed, Headhunter recommends the installation of a small pressure accumulator tank in the plumbing system.

Operation With No External Pressure Tank:

1. As soon as a faucet or toilet is activated, the Mach 5 will turn on instantly at maximum speed.

2. As soon as demand for water ceases, the pump will build up to max discharge pressure run an additional 15 seconds and shut off. The pump turns off when it senses no flow.

Operation With An External Pressure Tank:

1. The Mach 5 will turn on when the system pressure reaches the pre-set “cut-in” pressure (40 psi/2.7 Bar).

2. As soon as demands for water ceases, the pump will build up to max discharge pressure run an additional 15 seconds and then shut off. The pump turns off when it senses no flow.

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EU Certificate of Conformity

We,

Headhunter Inc., 3380 SW 11th Avenue, Fort Lauderdale, FL 33315 – USA,
Declare in sole responsibility that the products hereunder mentioned and to which this certificate applies, are in conformity with the basic and safety requirements of EC Directives:

97/23/ECC
EC-Machinery Directive 98/37
Low Voltage Directive 73/23/ECC
Directive of Electromagnetic Compatibility 89/336/ECC
Directive 93/68/ECC
Noise Level Directive 2000/14 ECC

Mach 5

To give effect to the correct application of the safety and health requirements stated in the EC Directives, the following standards and / or technical specifications were consulted:

EN ISO 12100-1
EN ISO 12100-2
EN 60335-1
EN 60335-2-41
EN 55014-1
EN 61000-3-2
EN 61000-3-3
EN 61000-6-3

Troubleshooting Guide:

PROBLEM	CAUSE	SOLUTION
Pump does not start.	a. No water.	Check the water supply.
	b. Overheating due to high water temperature.	Supply cold water <95°F (35°C)
	c. Too low or too high supply voltage.	Check the supply voltage.
Pump runs continuously.	a. Leak in the piping.	Repair the leak.
	b. Inlet check valve is blocked or leaks.	Clean the check valve or install a new check valve. Check the strainer.
Pump stops during operation.	a. Dry running	Check the water supply.
	b. Overheating due to high water temperature.	Supply cold water <95°F (35°C).
	c. Too low supply voltage.	Supply correct voltage.

Need Technical assistance? Contact an application engineer via phone, faxes, or email.

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