

# WATERAX

## MARK-3<sup>®</sup> Portable High-Pressure Fire Pump



### QUICK GUIDE

This Quick Guide shows the basic operation instructions and safety precautions for the WATERAX MARK-3<sup>®</sup> Portable High-Pressure Fire Pump.

- The WATERAX MARK-3<sup>®</sup> pairs a WATERAX 4-stage pump end and 140cc, 2-cycle engine.
- Available with either remote fuel tank configuration or optional integral fuel tank version.
- For full specifications and performance curves, see the MARK-3<sup>®</sup> Datasheets.



## Warnings and Safety Precautions

This warning label appears on the MARK-3<sup>®</sup> pump to identify safety hazards as follows:

### Read Your Owner's Manual

The improper use of this pump could result in serious injuries as well as damage to the unit. Read the *Owner's Manual* before using your pump unit and follow the safety instructions in this Quick Guide. It contains very important safety information that **MUST** be read, understood and followed to safeguard you and your equipment from harm and damage. **This pump must only be operated by trained personnel.**

### Warnings

- Do not operate if mentally or physically fatigued.
- Always inspect hoses and piping to avoid burst injuries.
- No modification and/or alteration may be made to the pump. Any such modifications void the pump warranty and can endanger pump operators.
- Do not operate the pump above the maximum rated pressure of 600 psi (41.4 bar). Use only pipe, hose, and fittings rated at or above the max. pressure rating of the pump or system design. Ensure special precautions during tandem pumping and progressive hose lays.
- Max. allowable pump intake pressure: 200 psi (13.8 bar)
- Use slow close valves wherever possible to safeguard operators and prevent damage from water hammer.
- Ensure sufficient lighting (5 lx min.) during operation.
- Dry weight of the unit: 44 lbs (20 kg) / 53.2 lbs (24.1 kg).
- Dimensions (L x W x H): 21.6 x 12 x 14.6 in (54.9 x 30.5 x 37 cm) / 23 x 13.5 x 16.4 in (58.5 x 34.2 x 41.6 cm).



**Always wear eye and ear protection** when operating the pump unit. Sound level of the unit: 113 dB(A).



**Never run the engine in a closed or confined area.** Exhaust gas contains carbon monoxide which is poisonous. Avoid inhalation of exhaust gas.



**Refuel engine with care.** Gasoline is extremely flammable, and gasoline vapor can explode. Refuel in a well-ventilated area, with engine stopped. Use only fuel and oil type as recommended. Securely close fuel cap during operation and transport. Position 3-way fuel valve to external position during transport.



**Never touch any exhaust system parts while engine is running.** Always allow enough time, after stopping the unit, for proper cooling of these parts and surrounding areas. Wear protective gloves.



**Careful not to pinch your fingers.** Do not place your fingers near cooling fan and engine output shaft when engine is running. Never operate without fan shield.

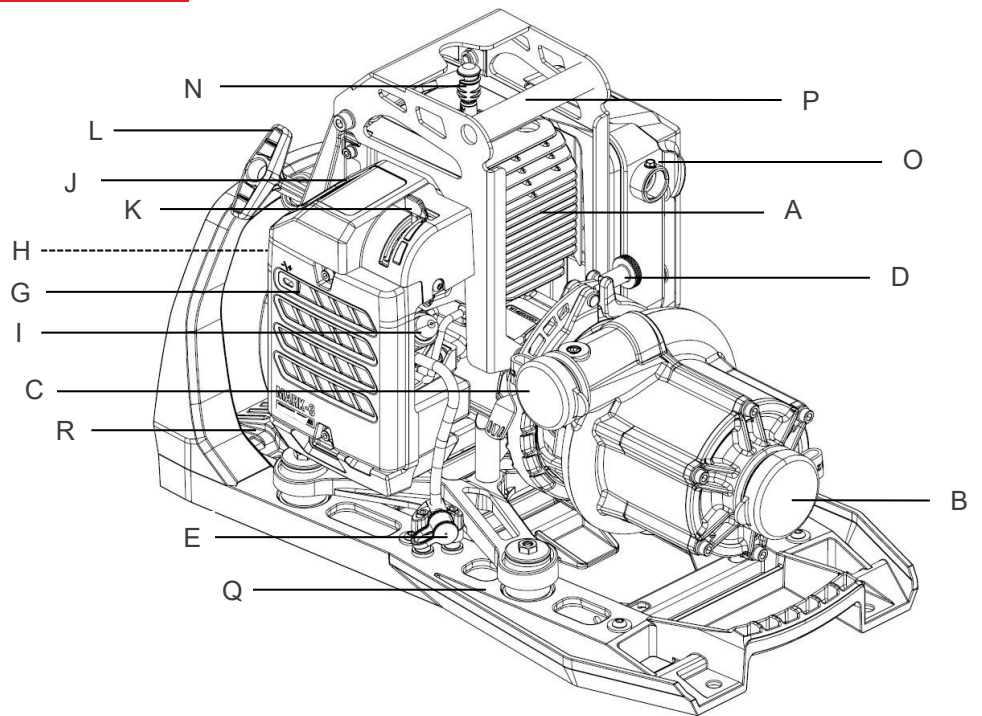
### Preventing Damage to Equipment

- Flush the pump with fresh water if the pump has been used to pump salty, brackish, high mineral content water, water containing debris, or foam injected water. Check that debris is cleared before using the pump again.
- Always draft water using a suction strainer.

# QUICK GUIDE

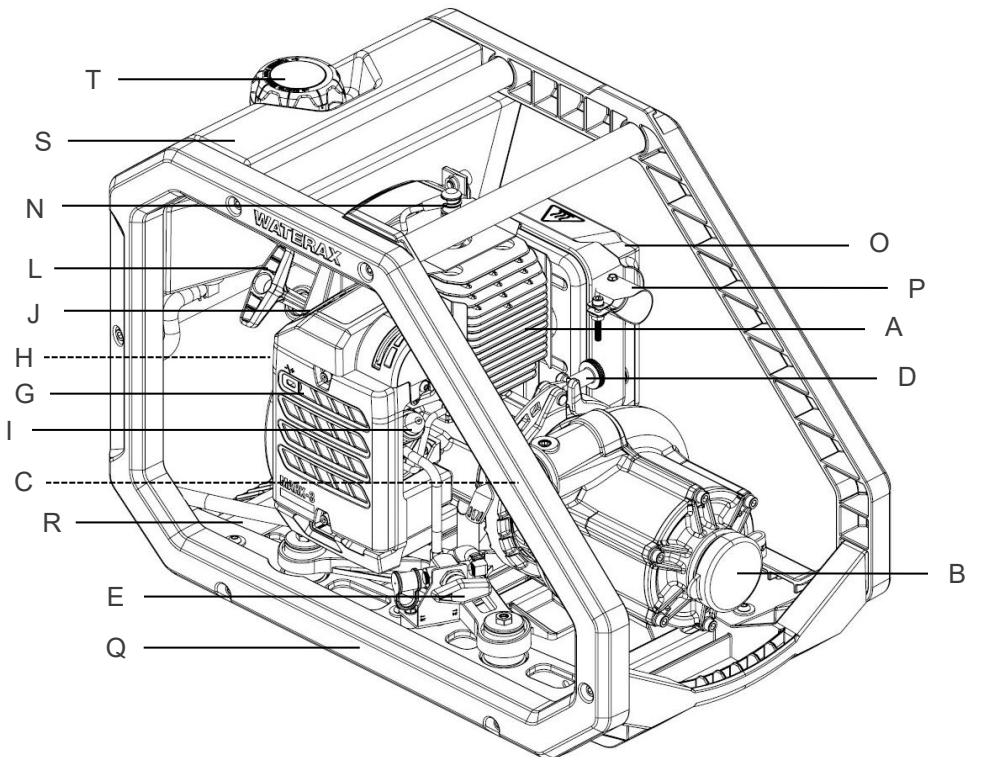
## Parts Identification (Essential)

- A. Engine
- B. Pump Intake (suction)
- C. Pump Discharge
- D. Quick Release Pump Clamp
- E. Fuel Connection
- F. Engine Drain Plug (not shown)
- G. Air Filter
- H. Choke
- I. Carburetor Purge Bulb
- J. User Interface Module (UIM)
- K. Throttle
- L. Rewind Starter
- M. Manual Start Pulley (not shown)
- N. Spark Plug
- O. Muffler & Heat Shield
- P. Carry Handle
- Q. Backpack Frame
- R. Foot Hold



## Parts Identification (model with integral fuel tank)

- A. Engine
- B. Pump Intake (suction)
- C. Pump Discharge
- D. Quick Release Pump Clamp
- E. 3-Way Fuel Valve Connection
- F. Engine Drain Plug (not shown)
- G. Air Filter
- H. Choke
- I. Carburetor Purge Bulb
- J. Essential Interface Module (EIM)
- K. Throttle (not shown)
- L. Rewind Starter
- M. Manual Start Pulley (not shown)
- N. Spark Plug
- O. Muffler & Heat Shield
- P. Exhaust Deflector
- Q. Wrap-Around Frame
- R. Foot Hold
- S. Integral Fuel Tank
- T. Fuel Tank Cap



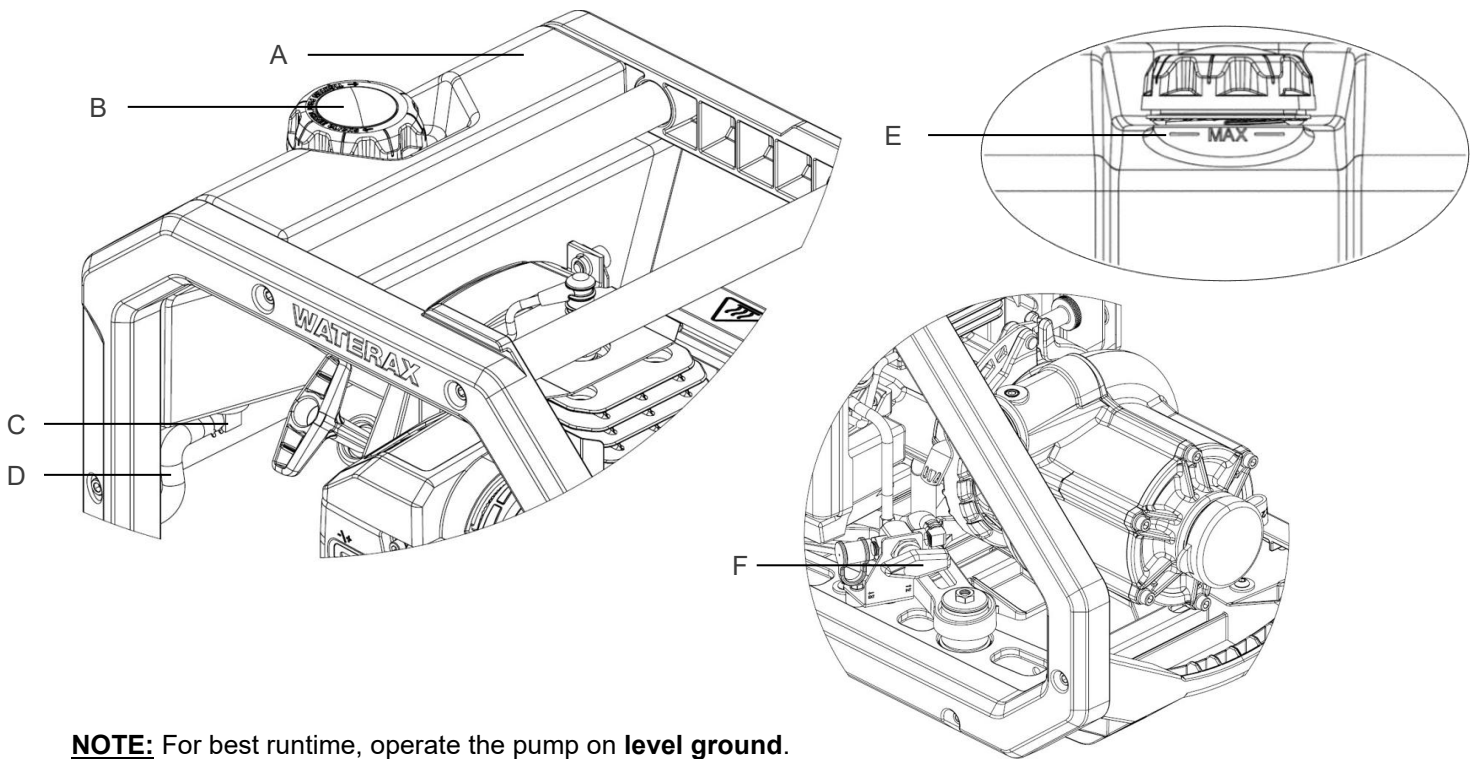
## Important: Fuel Tank & Refueling

The integral fuel tank is located above the engine and requires careful handling. Pay close attention to all warnings and instructions related to refueling, transport, and fuel system inspection. Improper handling of fuel may result in fire, serious injury, or damage to the equipment.

### Integral Fuel Tank

The MARK-3® pump may be equipped with a one-gallon integral fuel tank mounted above the engine. The tank is constructed from a durable, impact-resistant polymer and protected by the wrap-around frame. Here are the main highlights:

- A. Integral fuel tank
- B. Tethered fuel cap
- C. Bottom tank fitting with internal fuel filter
- D. Automotive-grade fuel hose
- E. MAX fuel level marking in filler neck - Internal expansion volume for fuel expansion
- F. 3-way fuel valve (INT / EXT)

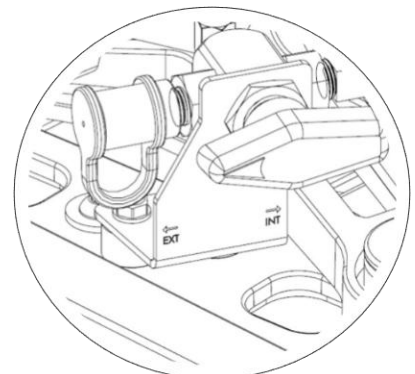


**NOTE:** For best runtime, operate the pump on **level ground**.

When the pump is tilted, fuel may shift away from the fuel pickup (C – bottom tank fitting located in the bottom corner of the tank), which can reduce usable fuel and cause early fuel starvation.

### Fuel Valve Operation

- **INT** – Integral fuel tank
- **EXT** – External fuel tank. Position during **transport and storage**.



## QUICK GUIDE

### Warning – Flammable Fuel

- Gasoline is highly flammable and explosive.
  - Fire or explosion may cause serious injury or death.
- Stop engine before refueling.
- Allow hot surfaces to cool before refueling.
- Fuel tank is located above the engine:
  - Do not spill fuel onto engine or muffler.
  - If fuel is spilled, wipe immediately and allow vapors to dissipate.
- Refuel only outdoors or in a well-ventilated area.
- Do not overfill past **MAX** level – fuel may expand.
- Wipe spilled fuel immediately.
- Keep sparks, flames, and hot surfaces away.
- Tighten cap securely during operation and transportation.
- Do not operate with damaged or missing fuel cap.

**⚠ WARNING**

**GASOLINE IS HIGHLY FLAMMABLE AND EXPLOSIVE.  
FIRE OR EXPLOSION MAY CAUSE SERIOUS INJURY OR DEATH.**

- STOP ENGINE BEFORE REFUELING.
- ALLOW COOLING BEFORE REFUELING.
- DO NOT SPILL FUEL ON ENGINE OR MUFFLER.
- REFUEL OUTDOORS OR IN WELL-VENTILATED AREA.
- DO NOT OVERFILL PAST **MAX** LEVEL.
- TIGHTEN CAP SECURELY. DO NOT OPERATE WITH DAMAGED OR MISSING FUEL CAP.
- CHECK FOR FUEL LEAKS BEFORE USE.
- TRANSPORT: SET FUEL VALVE TO **EXT** AND KEEP UNIT LEVEL.
- READ OWNER'S MANUAL BEFORE USE.

### Pre-Operation Fuel System Check

- Inspect tank for cracks or damage.
- Inspect hose for wear or hardening.
- Check fittings for leaks.
- Ensure cap is sealed.
- Verify 3-way valve operation.
- Do not operate the pump if fuel leakage is present.

## QUICK GUIDE

### User Interface (Watson)

The Watson User Interface Module (UIM) provides continuous monitoring of engine speed and operating temperature. In the event of overspeed (e.g., loss of prime) or overheating, the system will automatically shut down the engine to prevent damage.

System status and fault conditions are indicated via a single integrated multi-color LED. An OFF button allows manual engine shutdown.

The module stores the last shutdown condition and automatically displays it at the next startup, enabling immediate fault identification.

### User Interface (Essential)

The Essential Interface Module (EIM) provides continuous monitoring of engine speed and operating temperature and will automatically shut down the engine in the event of overspeed (e.g., loss of prime) or overheating.

Operating conditions are indicated through four dedicated multi-color LEDs (Warm Up, Run, Overspeed, Overheat). An OFF button allows manual engine shutdown.

The module retains the last shutdown condition and displays it for a few seconds upon restart or when the OFF button is pressed.

### To operate the MARK-3® unit:

#### 1. Supply recommended fuel to engine.

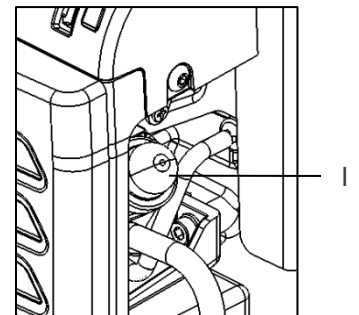
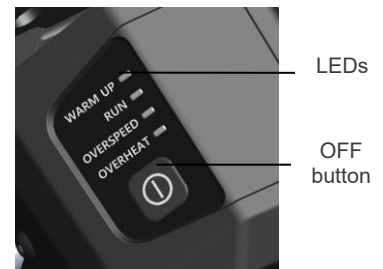
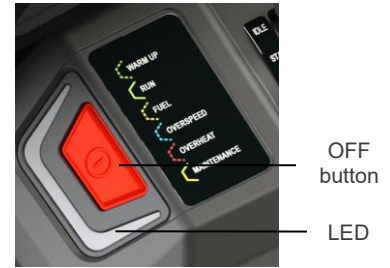
- Carefully mix the fuel **using fresh 87 octane unleaded automotive gasoline** (max. 10% ethanol) and high quality synthetic two-cycle mixing oil for air cooled engines. Recommended certification: API-TC, JASO-FD and ISO-L-EGD. Approved oil: Amsoil Saber® Professional Synthetic. Gas/oil ratio: **50:1**. Mix well.

**Important:** Ensure that the external fuel tank is positioned away and at a safe distance of the muffler to avoid any potential accident. Always refuel with care.

**Important (Integral Fuel Tank):** Stop the engine before refueling. When using the integral fuel tank, use caution as the tank is located above hot engine components. Avoid spilling fuel onto the engine or muffler. Wipe up any spilled fuel before restarting the engine.

- Position the 3-way fuel valve to the desired fuel source (Integral or External tank).
  - Connect fuel supply line to fuel tank (external fuel tank source only).
  - If fuel line is equipped with priming bulb, prime fuel supply line by recirculating excess fuel into tank to eliminate air bubbles and avoid air locks.
  - Connect fuel supply line to engine fuel connection.
  - Prime carburetor by pressing purge bulb (I) successively until fuel travels up the clear fuel line and appears in the purge bulb.
- Connect foot valve strainer to male end of suction hose, then fill suction hose with water. **Connect suction hose to pump intake.** Use universal hose coupling wrench to tighten coupling firmly.
    - ! **DO NOT** run engine with pump disconnected.
    - ! **DO NOT** run pump when dry.
    - ! **DO NOT** allow foot valve strainers to rest on bottom of lake or riverbed. Check strainer frequently to make sure that it is not clogged with moss, leaves, etc.

**DO NOT** lift strainer from water while the pump is operating. Use a rope or other means to keep strainer at proper height, approximately 1 foot (30 cm) below water surface. If strainer is too close to the water surface, it will draw air and pump may lose prime.



## QUICK GUIDE

### 3. Prime the pump.

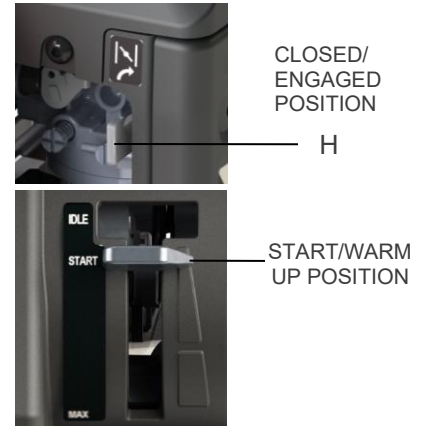
**Manual priming:** Loosen pump clamp and rotate pump so the discharge is pointing up. Prime by pouring water into the discharge until full. Pump can also be primed by “jerking” the suction hose until water flows from the pump’s discharge port.

**WATERAX hand primer:** Connect hand primer to pump discharge. Pump until water is drawn into the pump.

### 4. Connect the discharge hose, nozzles, etc., to pump, and tighten firmly with coupling wrench.

### 5. Start the engine.

- Close/engage choke (H), if engine is cold.
  - Move throttle lever to “START/WARM UP” (3 increments from “IDLE”).
  - Slowly crank engine until resistance (past compression).
  - Give starter cord a quick and steady pull.
  - Once engine fires, disengage choke and pull start again if necessary.
  - Allow engine to warm up while UI LED blinks green (Watson) or yellow (Essential) (approx. 2 min.).
  - Once UI LED becomes solid green (Watson) or blinking green (Essential) the unit can be throttled up.
- ! **Important:** failure to allow the engine to warm up may lead to piston scoring and possibly more serious engine damage.



### 6. Discharge water.

Once the pump is primed, and with the engine running, you can begin to discharge water.

- If pressure does not build in the discharge hose, the pump has not been fully primed. Prime the pump again.
  - The engine works best at wide open throttle. Vary the discharge nozzle opening to adjust pump performance.
- ! **DO NOT** leave the pump running with all the discharge valves closed for more than one minute, or else the pump may overheat and become damaged. Additionally, the pump end and the water inside it can become extremely hot and cause severe burns. **Careful when opening the discharge valve and avoid touching the pump end.** To avoid this, a re-circulation line (if provided) should be opened or a discharge line left slightly open to allow fresh water to continue to enter the pump.

### To shut down and store the MARK-3® unit:

#### 7. Shut down the pump.

- a. Gradually reduce the engine speed and move throttle to “IDLE” position.
- b. Allow unit to run for approximately 2 minutes with throttle in this position for proper cool down.
- c. Press and hold the “OFF” button on the UI until engine shuts down.

#### 8. After final use.

- a. Drain the carburetor. Run at idle with the fuel line disconnected until the engine stops to drain the fuel system.
- b. Drain the pump end. If the pump was last run with foam or water that is salty, brackish or high in mineral content, flush the pump with fresh water for a minimum of 2 minutes or until the water is clear.

#### 9. Long-Term Storage.

- a. Run the integral fuel tank dry or drain fuel from integral fuel tank.
- b. Store in well-ventilated area.
- c. Keep pump level.
- d. Turn fuel valve to EXT position.

#### 10. Transport.

- a. Stop the engine.
- b. Position 3-way fuel valve to EXT (transport position).
- c. Keep the unit level whenever possible.
- d. Ensure fuel cap is securely tightened.

### Warranty, Service and Support

Product and service documentation such as tech notes, data sheets, manuals and information on the limited warranty provided on products manufactured by *WATERAX* can be found on our Web site at: [www.waterax.com](http://www.waterax.com)

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# **WATERAX**

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To help you stay **#ReadyForWildfires**, we've made a few changes, placing 100% of our focus on manufacturing our core products, portable fire pumps.

To do so, we've established a network of trusted supply and distribution partners that can help us provide *WATERAX* pumps quickly in addition to water-handling equipment and accessories.

For immediate assistance when it comes to pumps and water-handling accessories, please [contact your local dealer](#).

For genuine spare parts, visit our [online store](#).

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