



MACH 10v

What is the MACH 10v® and how does the remote shutoff solution work?

The MACH 10v is an ultrasonic residential water meter with an integrated remote shutoff valve. Utilities can remotely control water flow using the integrated 3-state plug valve. The valve is fully operated through Neptune® 360™ software and requires a Neptune R900® cellular endpoint. The solution allows utilities to control water service by remotely opening or closing the valve, or restricting water flow, without dispatching a crew.

What sizes is the MACH 10v offered in?

The MACH 10v is offered in residential meter sizes:

- 5/8"
- 5/8"x3/4"
- 3/4"
- 3/4"x1"
- 1"
- 1"x1 1/4"

What components are required to operate the remote shutoff valve?

The MACH 10v solution requires:

1. MACH 10 ultrasonic meter with integrated remote shutoff valve
2. Neptune R900 cellular endpoint
3. Neptune 360 software

What are the operating positions?

1. Open – Full water flow; normal service delivery
2. Closed – No water flow; used for service shutoff
3. Restricted – Limited water flow for essential humanitarian needs, non-payment, or compliance with local regulations

How does the MACH 10v compare to the standard Residential MACH 10® meter?

The MACH 10v offers the same performance, accuracy, features and alarm functionality as the standard residential MACH 10 meter. The addition of an integrated remote shutoff valve does not impact meter accuracy, performance, or durability.

Can the valve or meter be serviced or replaced independently?

No. The MACH 10v is designed as a single unified meter-and-valve assembly. The meter and valve cannot be removed, serviced, or replaced as separate components.

Does the meter display the valve status locally?

Yes. The meter's LCD will indicate valve position when the valve is in closed or restricted state. The open position is not displayed.

What type of water service applications does the MACH 10v support?

The MACH 10v is designed for potable water applications.

What flow range can I expect if the valve is in a restricted state?

Between 0.5 GPM – 1.5 GPM for 40-140 PSI.

What are the recommended conditions for bench testing and does valve position affect accuracy?

MACH 10v units should be bench tested with the valve in an open position to support proper flow conditions. When multiple units are tested on the same bench, all valves should be open. Accuracy testing is not recommended when the valve is in a restricted position. In normal field operation, the meter is designed to maintain accuracy in an open and restricted state.

Does the MACH 10v require a specific cellular endpoint firmware version?

Yes, the cellular endpoint must run a firmware version that supports valve functionality. Contact your local sales reps to confirm compatibility. Currently supported firmware versions include:

1. Multi-carrier: 2.5-2 or greater
2. Canada: 2.4-7 or greater



Does the MACH 10v have an integrated radio option?

No. The MACH 10v is not available with an integrated radio option. A standalone R900 cellular endpoint is required.

Does the MACH 10v support temperature and pressure readings?

Yes. Temperature is standard. Pressure is optional and must be specified at order. Data is transmitted remotely via Neptune's R900 cellular endpoints and available in Neptune 360 software.

Can the valve be operated locally?

No. All valve operations are initiated exclusively through Neptune 360.

Is temperature or pressure impacted by the valve state, such as when it is restricted or closed?

The valve position does not impact the accuracy of temperature or pressure readings. The meter continues to measure both values normally. When the valve is restricted or closed, temperature will reflect the water sitting in the line, and pressure will reflect the upstream system pressure at that location.

Is an import file required before I can operate valves in Neptune 360?

Yes. A valid import file is required before valve operation. The import file should include installation information and the correct meter ID / endpoint ID pairing.

Note: Incomplete, incorrect, or mismatched meter/endpoint pairings can prevent proper valve operation. Re-used or repaired endpoints / meters without a new import may display incorrect or stale data.

Who can issue valve commands within Neptune 360?

Users with appropriate role-based permissions can issue valve commands. Utilities can manage user roles through Neptune 360 settings to align with their operational policies.

How are valve commands issued?

Valve commands are initiated by authorized users in Neptune 360. Select the account / unit you wish to operate, then send the desired command. The command is transmitted from Neptune 360 to the MACH 10v via the paired R900 cellular endpoint.

How long does it take for a valve command to execute after it's submitted?

Execution timing varies based on the endpoint communication schedule and network conditions. Neptune 360 displays the latest status of each command and valve state to monitor progress and confirm results.

When does the accelerated communication schedule activate?

The accelerated communication schedule is designed to activate after a successful close or restrict valve command is confirmed. It temporarily increases endpoint communication frequency to support timely follow-up actions to restore water service. See Neptune 360 online help guide for additional details.



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