measureQuick Guide: Projects

This Quick Start Guide provides the basics to begin using measureQuick. This guide includes Start a project, Test Options, Save and Exit and the Start Screen.

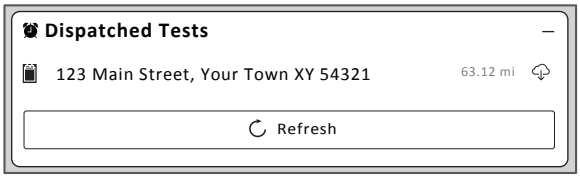
This Quick Start Guide provides the basics to begin using mQ, this is 1 of 3 separate guides. This guide is focused on starting a project, test options, and save and exiting a test.

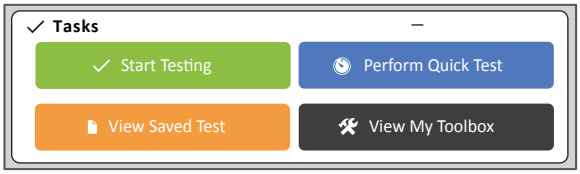
Start a Cooling Project

There are 3 methods to start a project.

1- Dispatch a Project from:

ServiceTitan, HouseCall Pro or mQ Virtuoso





3- Select pin from the Equipment map

Requires: Having previously tested existing equipment with mQ and being at the location.

Tap pin Tap Start Test

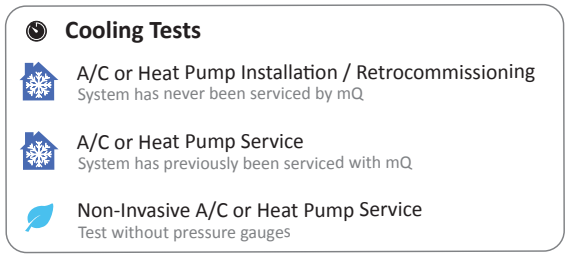
Select A/C or Heat Pump Service

= Location of Equipment

= Location of Technician

Select a Cooling Test Type

Option A – New Installation / Retrocommissioning.
System has never been serviced with mQ.



Option B – A/C or Heat Pump Service.
System has previously been serviced with mQ

Notes

Common terms

Test: *a snapshot of measurement data captured during a project to quantify performance and diagnostics. Generating a report creates a snapshot at the moment of the measurements.*

Project: *Service performed by a technician during initial startup, retrocommissioning, or general service work.*

Site: *Location of equipment where Tests are performed for specific Projects.*

Equipment: *Package or Split HVAC equipment located on a Site where specific Projects are assigned or performed resulting in Tests and tests results.*

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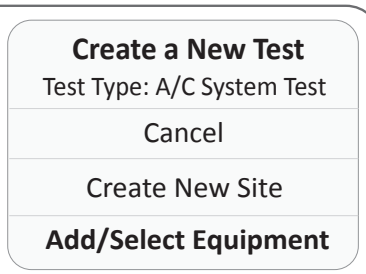
measureQuick Guide: Projects

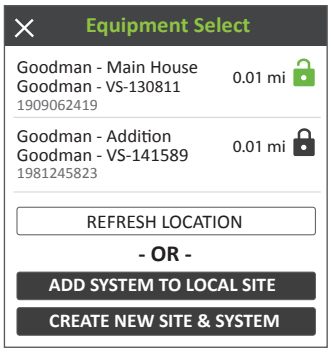
Test Options

Create New Site will generate a new Site and start with new equipment.

If Section is BOLD, mQ knows there is Equipment at this site.



Add/Select Equipment will open option to select existing equipment at this Site.



Premier Features

Site is Unlocked

Site is Locked

Save and Exit a Test

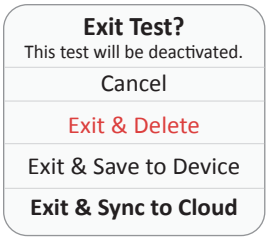
Save at top left corner

Save and **Exit** are at the top and bottom of the Workflow section.

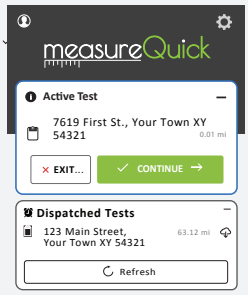
Exit & Delete = results not updated & not saved. Test results are not deleted from the cloud.

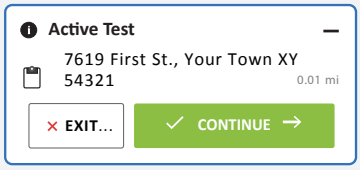
Exit & Save to Device = no Internet, the results are stored on the device

Exit & Save to Cloud = data is stored on mQ Cloud and on the device.

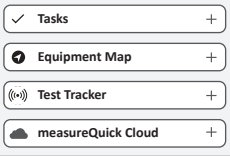


Start Screen





Active Test is displayed at the top of the Start Screen. There can only be one active test.



Your order my be different.

NOTE: Some sections in mQ may be reduced. Tap "–" "+" to hide and unhide each section.

To change the order select Customize Start Screen at the bottom

Notes

measureQuick Guide

Visual Assesment Probe Placement

This Quick Start Guide provides the basics to begin using mQ, this is 1 of 3 separate guides. This guide is focused on visual inspection, deploying probes and how to Zero the manometers.

Indoor Visual Inspection

1- Inspect Equipment
2- Document Issues
3- Deploy Probes

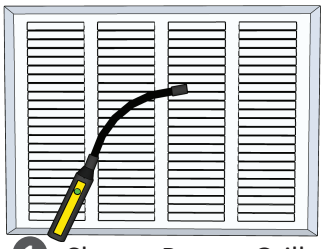
Equipment condition/issues photos

- Thermostat/Control System
- Air distribution system/ducting
- Condensate disposal system
- Indoor equipment
  - Blower assembly
  - Indoor Coil
  - Wiring

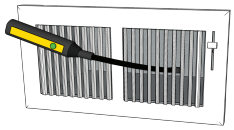
Photos Quick Access

Deploy Indoor Probes

1 Return air at closest grill
2 Supply air at closest grill



1 Closest Return Grill

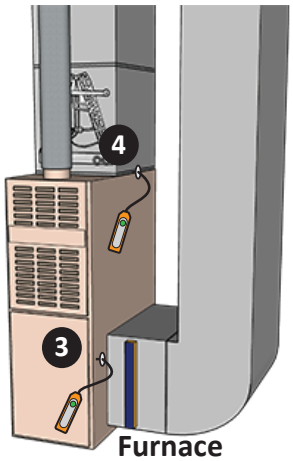


2 Supply air probe must be inside the register

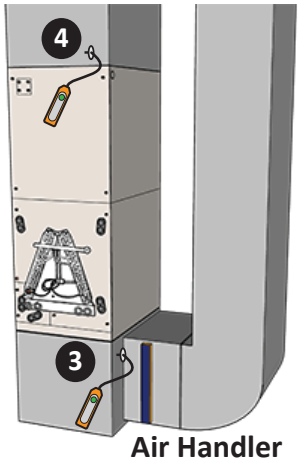
Zero Static Pressure Probes **Before Placing Probes In the Unit.**

3 Return Ext. Static Pressure after the filter

4 Supply Ext. Static Pressure (furnace = before coil or air handler = after coil)



Furnace



Air Handler

Zero Manometers

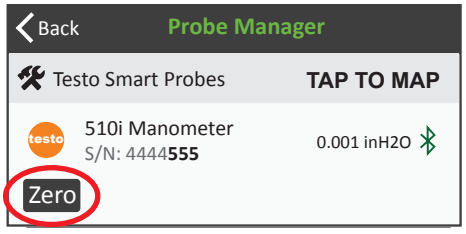
Fieldpiece JL3KM2

Tap On/Off ⏻ button once and it flashes **BLUE** ⏻

Probe is now at Zero

Testo 510i

Zero in the Probe Manager



Notes

Indoor Probes

measureQuick Guide Visual Assesment Probe Placement

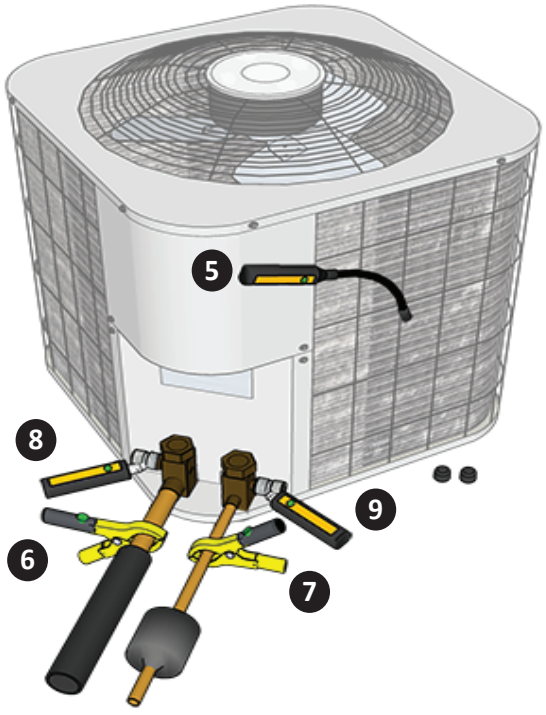
Outdoor Visual Inspection

Equipment photos

- Outdoor Coil condition (condenser)
  - Drain holes
  - Clearance and level
- Electrical System
  - Service disconnect
  - Wiring and Controls

Deploy Outdoor Probes

5. Outdoor Air Temperature ODA
   Not in direct sun
6. Suction Line Temperature SLT (larger line)
7. Liquid Line Temperature LLT (smaller line)
8. Suction Line - Low Pressure LP
9. Liquid Line - High Pressure HP



Make sure the copper is clean, use sandpaper to clean if needed

Optional- Discharge Line Temperature probe not included

9 probes are REQUIRED for the Vitals Score and Report

Notes

Outdoor Probes

mQ Hot Button

Corrective Actions
Performance Calculations
Gauge Screen
mq Hot Buttton
Photos
Toolbox / Probes
Settings
Support

Workflow

This Quick Start Guide provides the basics to begin using mQ, this is 1 of 3 separate guides. This guide is focused on Premier Features, Profiling the system generate the Vitals Report and the Workflow requirements.

Premier Features

Profile System

Start the System

Important: *skipping the visual assessment can impact the system and measurements and prevent proper diagnostics*

Premier Features

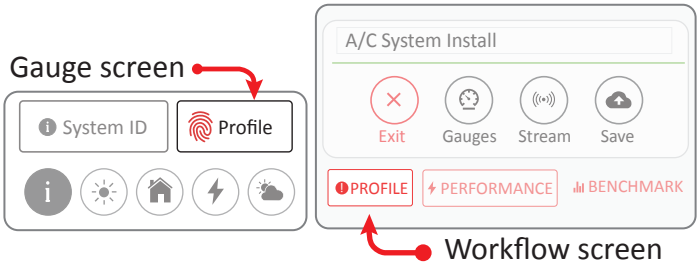
UNLOCK

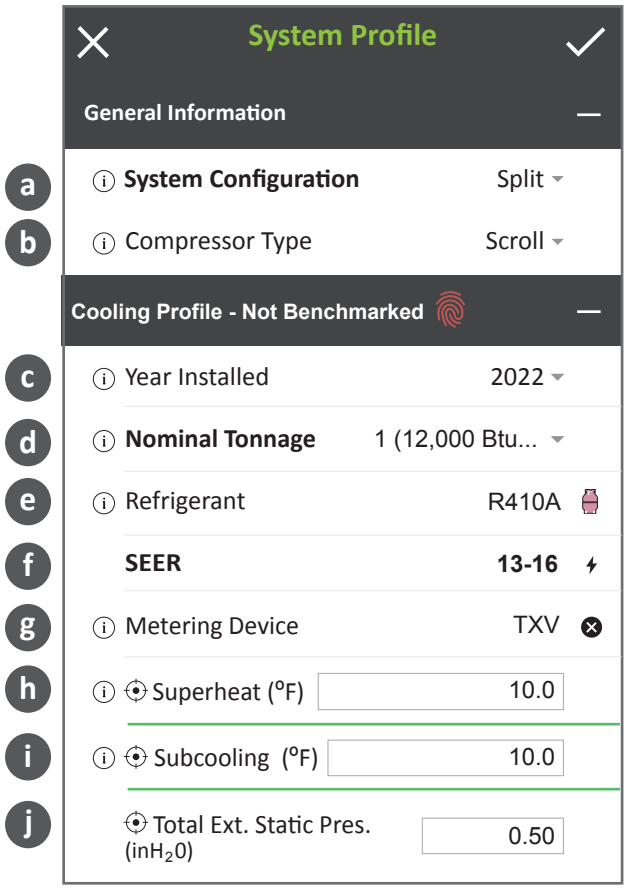
Premier Features Locked UNLOCK

Add QBi ts to your account to unlock premier features.

Premier Features are available for 1 year

Profile the System REQUIRED





Wait for the System to Stabilize

System Status

Waiting for system stability...

Notes

NOTE: System Profile Inputs

Year installed/manufactured *is critical for Vitals Scoring.*

The profile has typical equipment defaults for:

- *Nominal Tonnage*
- *Refrigerant type*
- *SEER*
- *Metering device type*
- *Superheat and Subcooling*
- *Static pressure*

These settings are typical and will work for many systems but ideally should be set to the manufacturer's design criteria as found on the equipment labels or in the installation instructions.

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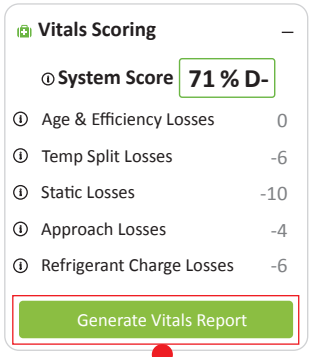
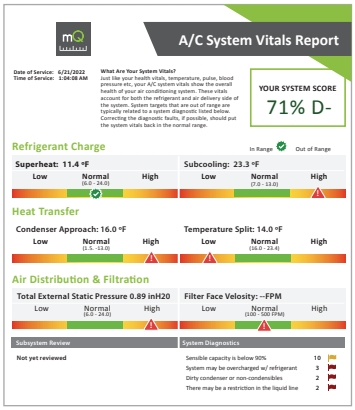
Workflow

Notes

Once system is stable or 10 minutes has elapsed

Get Vitals Score & Generate Report





Generating the Vitals Report is also the Test In

Review Diagnostics

Diagnostics *Select (i) to learn about the fault*

- (i) Sensible capacity is below 90%
- (i) System may be overcharged w/ refrigerant — Clear
- (i) Dirty condenser or non-condensibles — Clear
- (i) There may be a restriction in the liquid line — Clear

Note: When diagnostics flags are presented to the techcian it is their responsibility to investigate and determine if a system fault needs to be corrected. Clearing system faults in measureQuick does not correct detected faults in the system. Do not clear faults until it is determined that the underlying symptoms are not the root cause of the problem

Black Flag: Critical problems detected that could lead to system or compressor failure if left unresolved.
Symptoms that flag black need to be addressed as soon as possible to prevent catastrophic failure. detected.

Red Flag: A combination of minor faults that, in aggregate, indicate a potential larger system-wide issue

Yellow Flag: Minor faults that a re contributing factors to major faults.

Green Checkered Flag: No faults detected.

Caution Triangle: System service alert. These types of faults occur when the system is not stable, or when a condenser is possibly still wet after cleaning.

Document issues and/or corrections:

- Photo section comments*
- Corrective Actions*
- Notes & Historical Data

* Included in some mQ reports

Just-In-Time Education™

(i) These icons are located throughout the app.
Tap it learn more on:

- *Targets and actual measurements*
- *Definitions*
- *Faults and probable causes*
- *Recommended actions in order of priority*

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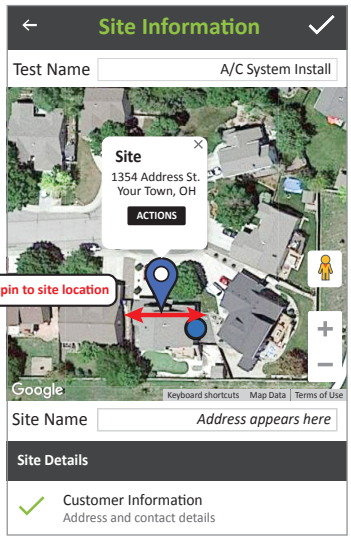
Complete Workflow requirements

! Workflow Requirements

✕ Incomplete
✓ Complete

✕ Job Site

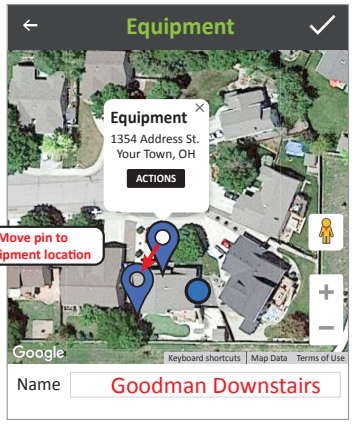


a Move map pin as needed. Address will appear in center and below map as Site Name

● = where technician is located

✕ Equipment Information & System Profile

Enter details about the system



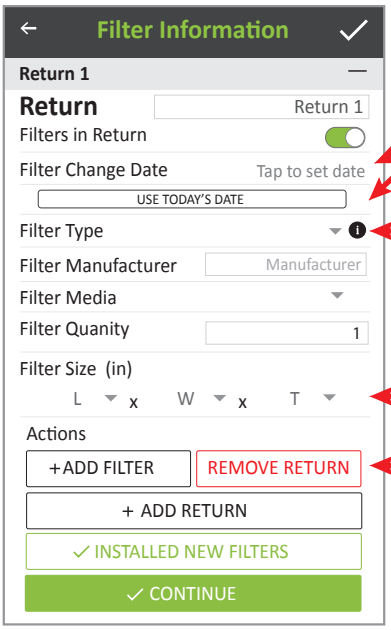
b Move map pin to location of Equipment

c Enter Equipment Name or Identification

✕ Filter Information

Enter air filter details

Required for Vitals Report



Install New Filter? Change date. (also button at bottom) **d**

✓ INSTALLED NEW FILTERS

Select filter type MERV / FRP / MPR **f**

Select filter size from dropdown **g**

Add additional Returns and filters as needed **h**

measureQuick Guide:

Workflow

Job Site

Notes

Equipment

Filter

mQ Hot Button

Corrective Actions
Performance Calculations
Gauge Screen
mq Hot Buttton
Photos
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Workflow

Repair, clean, adjust airflow and/or adjust refrigerant charge as needed.

- Photo section comments*
- Corrective Actions*
- Notes & Historical Data

* Included in some mQ reports

No issues, Go To Generate Reports

Benchmark the System

Profile	Performance	Benchmark
Profile Incomplete	Performance missing probes	Not ready for Benchmark
Profile	Performance	Benchmark
Profile Complete	Performance Ready	Ready for Benchmark

Benchmark Successful — Benchmark

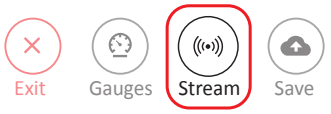
Benchmark Under Duress when system has faults not corrected — Benchmark

Save Test Out or Generate Report(s)

Workflow Actions

Clear **TEST IN** only if a new a Vitals report is generated.	CLEAR TEST IN
SAVE TEST OUT documents current conditions.	SAVE TEST OUT
Select which report to generate. Saved to the mQ Cloud or Share it	GENERATE REPORTS
See generated reports.	VIEW SAVED TESTS

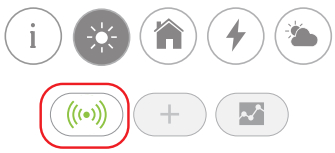
Stream Live Measurements to Anyone

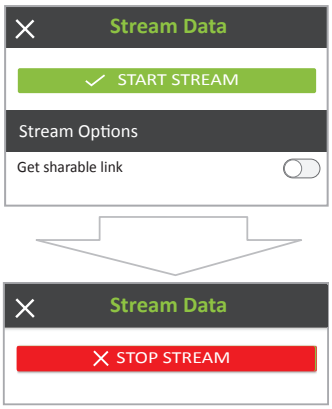


Select "Stream" at top or bottom of Workflow screen

OR

Select "Stream" at bottom of Gauge screen





Notes

Benchmarking

Test In Test Out

Streaming

Technical Challenges

1- Restart the mQ app

2- Update mQ. Go to the Start Screen, upper left corner is the User icon. Middle of screen is "Check For Updates"

3- Restart the device

4- Make sure the Operating System (OS/iOS) of the device is up-to-date

5- Check if device has adequate memory, 30%+ of the total should be available. Storage of excessive photos/videos can cause the device to run slowly.

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