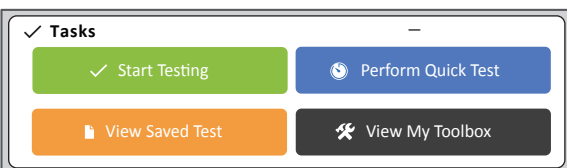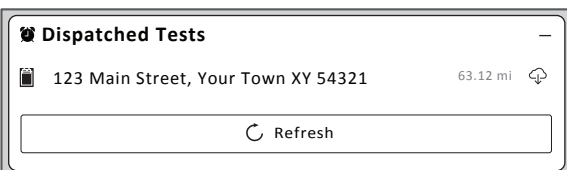# measureQuick Guide:

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.

Notes

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Start a Cooling Project

There are 3 methods to start a project.

1- Dispatch a Project from:

ServiceTitan, HouseCall Pro or mQ Virtuoso

> ⏰ **Dispatched Tests**   —
>
> 📱 123 Main Street, Your Town XY 54321   63.12 mi ☁
>
> ⟳ Refresh

> ✓ **Tasks**   —
>
> ✓ Start Testing   🕐 Perform Quick Test
>
> 📄 View Saved Test   🔧 View My Toolbox

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

> 🧭 **Equipment Map**   —
>
> Keyboard shortcuts Map Data Terms of Use
>
> _Tap pin to test equipment_

Select a Cooling Test Type

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

> 🕐 **Cooling Tests**
>
> **Option A**   ❄ A/C or Heat Pump Installation / Retrocommissioning
> System has never been serviced by mQ
>
> **Option B**   ❄ A/C or Heat Pump Service
> System has previously been serviced with mQ
>
> 🍃 Non-Invasive A/C or Heat Pump Service
> Test without pressure gauges

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

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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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.

Create a New Test
Test Type: A/C System Test

Cancel

Create New Site

Add/Select Equipment

Premier Features
🔓 Site is Unlocked
🔒 Site is Locked

✕ Equipment Select

Goodman - Main House
Goodman - VS-130811   0.01 mi 🔓
1909062419

Goodman - Addition
Goodman - VS-141589   0.01 mi 🔒
1981245823

REFRESH LOCATION

- OR -

ADD SYSTEM TO LOCAL SITE

CREATE NEW SITE & SYSTEM

☁ Save and Exit a Test

Save at top left corner ☁

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

✕ Exit | Gauges | ((•)) Stream | ☁ Save

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.

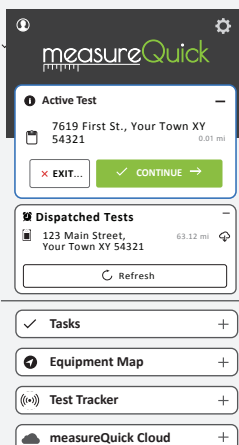### Exit Test?
This test will be deactivated.

Cancel

Exit & Delete

Exit & Save to Device

Exit & Sync to Cloud

Start Screen

measureQuick ⚙
ⓘ **Active Test**
📋 7619 First St., Your Town XY 54321   0.01 mi
✕ EXIT... | ✓ CONTINUE →

🗓 **Dispatched Tests**
📱 123 Main Street, Your Town XY 54321   63.12 mi
⟳ Refresh

✓ Tasks   +
⊘ Equipment Map   +
((•)) Test Tracker   +
☁ measureQuick Cloud   +

Customize Start Screen

ⓘ **Active Test**
📋 7619 First St., Your Town XY 54321   0.01 mi
✕ EXIT... | ✓ CONTINUE →

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

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

📷

➕

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.

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Indoor Probes

Deploy Indoor Probes

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

📷
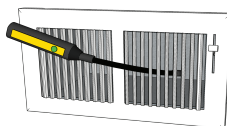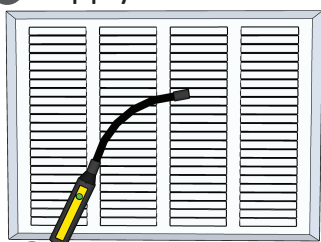
2 Supply air probe
must be inside
the register

1 Closest Return Grill

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)

4

4

3

3

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 🔧

‹ Back   **Probe Manager**

🔧 Testo Smart Probes   **TAP TO MAP**

testo   510i Manometer   0.001 inH2O
           S/N: 4444**555**

Zero

measureQuick Guide

Outdoor Visual Inspection

Equipment photos

- 📷 Outdoor Coil condition (condenser)
    - 📷 Drain holes
    - 📷 Clearance and level
- Electrical System
    - 📷 Service disconnect
    - 📷 Wiring and Controls
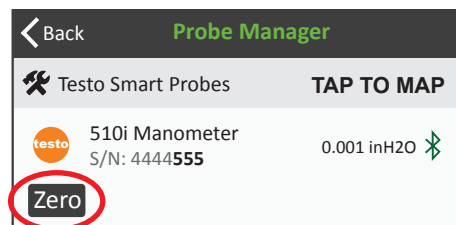
9 probes are REQUIRED for the Vitals Score and Report

Notes

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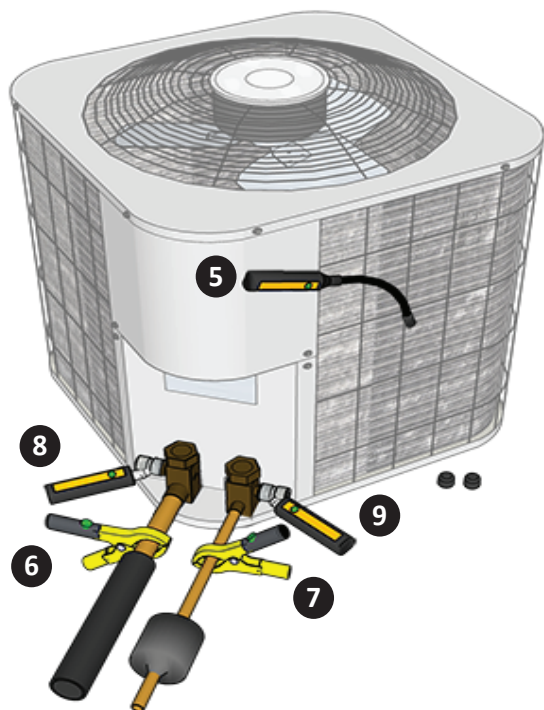
Make sure the copper is clean, use sandpaper to clean if needed

Optional- Discharge Line Temperature probe not included

Outdoor Probes

mQ Hot Button

Corrective Actions ⊘

Performance Calculations ⚡

Gauge Screen ⊙

⊕ **mq Hot Buttton**   Photos 📷

Toolbox / Probes 🛠

Settings

Support ❓ ⚙ ⊕

Workflow

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 QBits to your account to unlock premier features.

Premier Features are available for 1 year
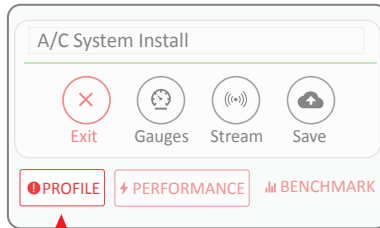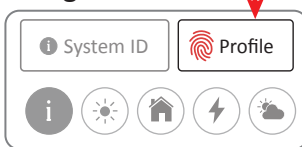
Profile the System REQUIRED

Gauge screen →

ⓘ System ID   🔴 Profile

ⓘ ☀️ 🏠 ⚡ 🌤️

A/C System Install

❌ Exit   ⚙️ Gauges   ((•)) Stream   ☁️ Save

🔴 PROFILE   ⚡ PERFORMANCE   📊 BENCHMARK

← Workflow screen

❌   **System Profile**   ✔️

General Information   —

(a) ⓘ **System Configuration** — Split ▾

(b) ⓘ Compressor Type — Scroll ▾

Cooling Profile - Not Benchmarked 🔴   —

(c) ⓘ Year Installed — 2022 ▾

(d) ⓘ **Nominal Tonnage** — 1 (12,000 Btu... ▾

(e) ⓘ Refrigerant — R410A 🧪

(f) SEER — 13-16 ⚡

(g) ⓘ Metering Device — TXV ⊗

(h) ⓘ ⊕ Superheat (°F) — 10.0

(i) ⓘ ⊕ Subcooling (°F) — 10.0

(j) ⊕ Total Ext. Static Pres. (inH_2O) — 0.50

Wait for the System to Stabilize

ⓘ **System Status** 〰️ —

Waiting for system stability...

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.

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

Get Vitals Score & Generate Report

Vitals Scoring —

System Score **71 % D-**

Age & Efficiency Losses	0
Temp Split Losses	-6
Static Losses	-10
Approach Losses	-4
Refrigerant Charge Losses	-6

Generate Vitals Report

A/C System Vitals Report

Date of Service: 6/21/2022
Time of Service: 1:04:08 AM

What Are Your System Vitals?
Just like your health vitals, temperature, pulse, blood pressure etc, your A/C system vitals show the overall health of your air conditioning system. These vitals account for both the refrigerant and air delivery side of the system. System targets that are out of range are typically related to a system diagnostic listed below. Correcting the diagnostic faults, if possible, should put the system vitals back in the normal range.

YOUR SYSTEM SCORE
71% D-

Refrigerant Charge   In Range   Out of Range
Superheat: 11.4 °F   Subcooling: 23.3 °F
Low   Normal   High   Low   Normal   High
(6.0 - 24.0)   (7.0 - 13.0)

Heat Transfer
Condenser Approach: 16.0 °F   Temperature Split: 14.0 °F
Low   Normal   High   Low   Normal   High
(1.5 - 13.0)   (16.0 - 23.4)

Air Distribution & Filtration
Total External Static Pressure 0.89 inH20   Filter Face Velocity: --FPM
Low   Normal   High   Low   Normal   High
(6.0 - 24.0)   (100 - 500 FPM)

Subsystem Review   System Diagnostics
Not yet reviewed   Sensible capacity is below 90%   10
                        System may be overcharged w/ refrigerant 3
                        Dirty condenser or non-condensibles   2
                        There may be a restriction in the liquid line 2

Generating the Vitals Report is also the **Test In**

Review Diagnostics

⚠ Diagnostics   *Select ⓘ to learn about the fault*

ⓘ Sensible capacity is below 90% ⚠

ⓘ System may be overcharged w/ refrigerant **Clear** 🚩

ⓘ Dirty condenser or non-condensibles **Clear** 🚩

ⓘ 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

Notes

Just-In-Time Education™

ⓘ 🚩 *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*

Complete Workflow requirements

! Workflow Requirements

❌ Incomplete
✓ Complete

Workflow

❌ **Job Site**

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

🔵 = where technician is located

Site Information ← ✓
Test Name — A/C System Install

Site
1354 Address St.
Your Town, OH
ACTIONS

Move pin to site location

Site Name — Address appears here

Site Details
✓ Customer Information
Address and contact details

❌ **Equipment Information & System Profile**
Enter details about the system

b Move map pin to location of Equipment

c Enter Equipment Name or Identification

Equipment ← ✓

Equipment
1354 Address St.
Your Town, OH
ACTIONS

Move pin to Equipment location

Name — Goodman Downstairs

❌ **Filter Information**
Enter air filter details

Required for Vitals Report

Filter Information ← ✓

Return 1 —
Return — Return 1
Filters in Return — ⬤
Filter Change Date — Tap to set date
USE TODAY'S DATE
Filter Type — ▼ ⓘ
Filter Manufacturer — Manufacturer
Filter Media — ▼
Filter Quanity — 1
Filter Size (in)
L ▼ x W ▼ x T ▼

Actions
+ADD FILTER | REMOVE RETURN
+ ADD RETURN
✓ INSTALLED NEW FILTERS
✓ CONTINUE

d Install New Filter? Change date. (also button at bottom)
✓ INSTALLED NEW FILTERS

f Select filter type
MERV / FRP / MPR

g Select filter size from dropdown

h Add additional Returns and filters as needed

Notes

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Job Site

Equipment

Filter

mQ Hot Button

Corrective Actions ✓
Performance Calculations ⚡
Gauge Screen 🎛
➕ **mq Hot Buttton**   Photos 📷
Toolbox / Probes 🔧
Settings
Support ? ⚙ ➕

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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

✕ Exit   ☼ Gauges   (((•))) Stream   ☁ Save

Select "Stream" at top or bottom of Workflow screen

OR

Select "Stream" at bottom of Gauge screen

ⓘ ☀ 🏠 ⚡ ☁

(((•)))   +   🖼

Stream Data
✕
✓ START STREAM
Stream Options
Get sharable link ⬤

Stream Data
✕
✕ STOP STREAM
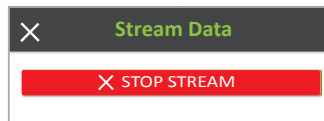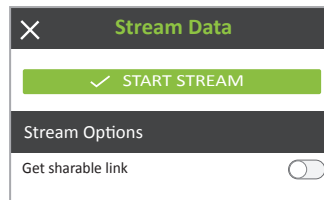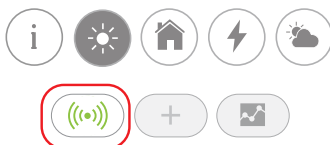
Notes

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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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