CHARGING SYSTEMS

GAUGES

RECOVERY MACHINES

VACUUM PUMP SYSTEMS

VACUUM AND CHARGING HOSES

HOSE ADAPTERS, VALVES & PARTS

WIRELESS AND ELECTRONIC INSTRUMENTS

LEAK DETECTORS AND MONITORS

HEATING INSTRUMENTS

SYSTEM TOOLS

# YJACK™ SERIES

YJACK™ Series sensors work together to provide a total HVAC/R diagnostics solution with wireless convenience. Coupled with the P51 TITAN® Digital Manifold, the user has all the necessary information for complete system diagnostics.

**YELLOW JACKET®**

# P51 TITAN® DIGITAL MANIIFOLDS



P51-870



40870

## *Accurate measurements, analysis and reporting in your hands, and Bluetooth® capability to put them at your fingertips.*

The YELLOW JACKET® P51 TITAN® Digital Manifold Series provides ultimate system measurements with ease. This 4-valve manifold provides fast and accurate measurements for refrigeration and a/c systems. Measurements are displayed on a backlit digital display and can be transmitted via Bluetooth® to a Smartphone for even further analysis. Local display of system pressures and temperatures, superheat and subcool provide instant analysis. When connected to your Smartphone, target superheat and subcool are easily attained, along with all other capabilities of the YJACK VIEW™ or the ManTooth® app.

The flagship YELLOW JACKET® P51-870 TITAN® features a 4.3" full color touchscreen graphic display with digital and graphical representation of pressure and temperature measurements. It also features on-board data logging and standard vacuum sensor and measurements (vacuum sensor included). A 4-pack of hoses is included as well as two temperature clamps and a backpack carrying case for safe storage.

### P51-870 TITAN® ADDITIONAL FEATURES AND BENEFITS

- 4.3" full color touch screen display
- Digital and graphical representation of pressure and temperature measurements
- Vacuum sensor included
- Set of four manifold hoses included: (3) 1/4" RYB and (1) 3/8"yellow vacuum hose
- (2) temperature clamps included
- Backpack carrying case included
- Wirelessly measure and display relative humidity, dry bulb, wet bulb and dew point temperature alongside system pressure and temperature measurements
(requires separate purchase of YJACK DEW™ PN 67063)

## P51 TITAN® SERIES FEATURES & BENEFITS

- Measures high and low side pressures and temperatures
- Displays vapor and liquid saturation temperatures
- System superheat and subcooling calculations
- On board data logging; export to your computer via USB
- YJACK VIEW™ app used with 40870, 40875 and 40877; ManTooth® app used with 40860
- Bluetooth® capability
- Pressure hold mode displays rate of change for both vacuum and positive pressure measurements
- 4-way TITAN® valve block
- 126 refrigerant profiles stored in the instrument including new blends not currently in the REFPROP database
- Backlit display with auto-dimming
- Auto shut-off
- Includes two temperature clamps
- Optional vacuum sensor available (included with P51-870)
  - Vacuum measurements, targets and leak testing
  - High and low alarm
- Re-chargeable battery with battery life indicator
  - Continuous use no backlight: 80 hours
  - Continuous use full backlight: 5 hours (40860)
    4 hours (40870)
- US and International units (bar, psia, psig, kPa, MPa, kg/cm$^2$)
- Maximum working pressure 700 psia (48.3 bar)
- USB charging port
- IP52 certified
- Robust housing
- Two-year warranty
- Made in the USA

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## 40870

## 40875

## 40877

**40870 INCLUDES:**
- Vacuum sensor (P/N 67030)
- Set of four manifold hoses: (3) 60", 1/4" RYB (P/N 21985) and (1) 60", 3/8" yellow vacuum hose 3/8" straight x 3/8" 45° (P/N 18160)
- (2) temperature clamps (P/N 67010)
- USB charging cable
- Backpack carrying case (P/N 10146)

**40875 INCLUDES:**
- Vacuum sensor (P/N 67030)
- Set of (6) 60" manifold hoses: (3) RYB compact ball valves (P/N 29985); (1) Y 3/8" str x 3/8" 45° (P/N 18160); (2) compact ball valve 1/4" x 5/16" (P/N 29425 and 29465)
- (2) temperature clamps (P/N 67010)
- USB charging cable
- Backpack carrying case (P/N 10146)

**40877 INCLUDES:**
- Vacuum sensor (P/N 67030)
- Set of (6) 60" manifold hoses: (3) RYB compact ball valves (P/N 29985); (1) Y 3/8" str x 3/8" 45° (P/N 18160); (2) compact ball valve 1/4" x 5/16" (P/N 29425 and 29465)
- (2) YJACK™ temperature clamps (67061)
- USB charging cable
- Backpack carrying case (P/N 10146)

## YJACK VIEW™ APP FEATURES
- All the great features of the ManTooth® app
- Measure HVAC/R system pressure, temperature, saturation temperature, superheat and subcooling
- Monitor system evacuation status
- Check indoor air comfort and system efficiency with psychrometric air calculations: Percent relative humidity, dry bulb, wet bulb and dew point temperature measurements
- Monitor status of all nearby YJACK™ and P51-870 TITAN® devices
- Customize data view for each measurement
- Freely switch between multiple simultaneous sessions without loss of data
- Create highly customized datalogs which can be saved or emailed from your smart device
- Choose from 126 refrigerant profiles found in the REFPROP database
- Available on iOS (version 10 or later) and Android (version 8 or later) smart devices

## ManTooth® APP FEATURES
- Check target superheat and subcool by setting dewpoint and bubble point
- Additional monitoring, data logging and report generation
- Generates datalog file
- Available in English, French, Spanish, Dutch and German
- Data logging to record and document values during servicing
- Improved connectivity and reconnect process if signal is lost
- Ability to download logged data for graphing in Excel
- For iOS and Android devices
- Backwards compatible with existing ManTooth® devices (excluding vacuum gauge)

## APPLICATIONS
- AC&R System Evaluation
- Evacuation
- Charging/Recovery
- Leak Testing

Vacuum Screen     P/T Screen

| UPC # | Description |
|---|---|
| 40860 | P51-860 TITAN® Digital Manifold |
| 40870 | P51-870 TITAN® Digital Manifold |
| 40875 | P51-870 TITAN® Digital Manifold with ball valve, 5/16" hoses |
| 40877 | P51-870 TITAN® Digital Manifold with (2) YJACK™ wireless temperature clamps, ball valve and 5/16" hoses |

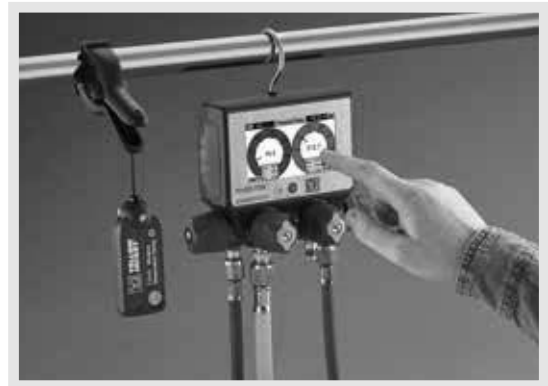| UPC # | Optional/Replacement Parts |
|---|---|
| 67030 | Vacuum Sensor |
| 10146 | Backpack |
| 67010 | Temperature Probe Clamp |
| 67061 | YJACK™ Temperature Clamp (wireless) |
| 21990 | (3) 60" RYB (Standard Fittings); (1) 60" Y (3/8" str x 3/8" 45° Quick Coupler) |
| 18160 | 60" Yellow, 3/8" straight x 3/8" 45°, PLUS II™ "B" |
| 21985 | 60" 3 pak, standard fitting, PLUS II™ 1/4" hose |
| 29985 | 60" 3 pak, compact ball valve, PLUS II™ 1/4" hose |
| 29425 | 60" Blue, compact ball valve (1/4" x 5/16") |
| 29465 | 60" Red, compact ball valve (1/4" x 5/16") |
| 40844 | P51 TITAN® Replacement Micro-USB Board |

## 40860

**Bluetooth®**

MADE IN THE USA

# YJACK™ SERIES WIRELESS SENSORS



NEW



# YJACK™ FOR A MORE CONNECTED TECH

The YJACK™ Series is a network of devices that form a new platform offering a total HVAC/R diagnostics solution. Multiple devices can measure system and environmental parameters. When coupled with the P51 TITAN® digital manifold, the user has the necessary information for complete system diagnostics.

Each device utilizes Low Energy Bluetooth® (BLE) technology to interconnect with each other and any smart device: Android and iOS. All YJACK™ Series devices can also communicate directly with the P51-870 TITAN® Series Digital Manifold simultaneously. The YJACK VIEW™ App provides ease of access to all information measured by the YJACK™ Series of devices.



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| 67060 | **YJACK PATH™ RANGE EXTENDER** |
|---|---|

*Extend your working area and connect up to 8 devices for complete system analysis*

| 67061 | **YJACK™ TEMPERATURE CLAMP** |
|---|---|

*Stop worrying about tangled wires with limited range*

| 67063 | **YJACK DEW™ PSYCHROMETER** |
|---|---|

*Measure temperature, humidity, wet bulb, dew point and more in ambient air or ventilation ducting*

| 67062 | **YJACK™ TEMPERATURE STRAP** |
|---|---|

*Easily measure temperature for pipes up to 6" diameter*

MADE IN THE USA

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## YJACK PATH™ RANGE EXTENDER

*Extend your working area and connect up to (8) devices for complete system analysis*

- Connects and re-broadcasts up to (6) YJACK™ devices and (2) P51-870 TITAN® devices at one time
- Adds up to an additional 400 ft signal range to all YJACK™ and P51-870 TITAN® devices*
- Amplifies signal strength through difficult to penetrate barriers
- Use to circumvent obstructions to your Bluetooth® signal
- Create perimeter with multiple YJACK PATH™ devices for network of connected devices
- Utilize multiple YJACK PATH™ devices to drastically increase line of sight range
- Compatible with YJACK DEW™, YJACK™ Temperature Clamp, YJACK™ Temperature Strap, and all P51-870 TITAN® devices (requires firmware version v2.0 or later)
- Compatible with the YJACK VIEW™ App
- Simple to operate, one push button start-up
- Operating Temperature: -0.4°F to 131°F (-18°C to 55°C)
- Storage Temperature: -40°F to 122°F (-40°C to 50°C)
- 75 hour continuous duty battery life (2 x AAA included)
- IP52 rated
- 2-year warranty

## YJACK™ TEMPERATURE CLAMP

*Stop worrying about tangled wires with limited range*

- Wireless measurements for surface temperature of pipes up to 1.25" diameter
- Temperature clamp provides strong, secure connection to system
- Flexible cable connection for easy access in small and difficult to reach areas
- Rotating mounting magnet for optimal Bluetooth® transmitter placement
- Bluetooth® 4.2 compliant low energy radio
- 400 ft line of sight signal range*
- Compatible with YJACK VIEW™ App and P51-870 TITAN® devices (firmware version v2.0 or later)
- Rapid Response Time: 10 seconds to 90% of differential TYP**
- Temperature Measurement Range: -40°F to 176°F (-40°C to 80°C)
- Temperature Measurement Accuracy: +/-1.0 °C TYP**
- Operating Temperature: -0.4°F to 131°F (-18°C to 55°C)
- Storage Temperature: -40°F to 122°F (-40°C to 50°C)
- Long 1200 hour battery life (2x AAA included)
- IP52 rated
- 2-year warranty

## YJACK DEW™ (PSYCHROMETER)

*Measure temperature, humidity, wet bulb, dew point and more in ambient air or ventilation ducting*

- Wireless measurement of psychro-metric parameters with ease
- Measures percent relative humidity, dry bulb temperature, wet bulb temperature, and dew point temperature
- Measure enthalpy change across evaporator coil for system operational efficiency
- Features 8" flexible steel wand for optimal sensor positioning within ventilation ducting
- Optimized sensor housing designed for increased air exchange and better response time
- High strength mounting magnet for secure attachment to ventilation systems
- Bluetooth® 4.2 compliant low energy radio
- 400 ft line of sight signal range*
- Compatible with YJACK VIEW™ App and P51-870 TITAN® devices (firmware version v2.0 or later)
- Relative Humidity Measurement Range: 0 to 100% RH
- Relative Humidity Accuracy: +/- 2.0% RH TYP (10 to 90% RH)**
- Temperature Measurement Range: -40°F to 257°F (-40°C to 125°C)
- Temperature Measurement Accuracy: +/- 0.2°C TYP (-10 to 80°C)**
- Operating Temperature: -0.4°F to 131°F (-18°C to 55°C)
- Storage Temperature: -40°F to 122°F (-40°C to 50°C)
- Long 1500 hour battery life (2x AAA included)
- IP52 rated
- 2-year warranty

## YJACK™ TEMPERATURE STRAP

*Easily measure temperature for pipes up to 6" diameter*

- Wireless measurements for surface temperature of pipes up to 6" diameter
- Elastic strap creates secure connection and prevents loosening under vibration
- Easy to use quick-release latch for rapid connection and disconnection from system
- Flexible cable connection for easy access in small and difficult to reach areas
- Rotating mounting magnet for optimal Bluetooth® transmitter placement
- Bluetooth® 4.2 compliant low energy radio
- 400 ft line of sight signal range*
- Compatible with YJACK VIEW™ App and P51-870 TITAN® devices (firmware version v2.0 or later)
- Rapid Response Time: 30 seconds to 90% of differential TYP**
- Temperature Measurement Range: -40°F to 176°F (-40°C to 80°C)
- Temperature Measurement Accuracy: +/-1.5 °C TYP**
- Operating Temperature: -0.4°F to 131°F (-18°C to 55°C)
- Storage Temperature: -40°F to 122°F (-40°C to 50°C)
- Long 1200 hour battery life (2x AAA included)
- IP52 rated

*Radio interference and nearby obstructions may reduce signal strength
**Results may vary with ambient conditions

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## YJACK VIEW™ APP

The YELLOW JACKET® YJACK VIEW™ app provides seamless integration with YJACK™ and P51-870 TITAN® devices offering a complete HVAC/R system diagnostic solution. Just use your YJACK™ and P51-870 TITAN® devices with your smart phone for complete system analysis.

Easily receive and analyze live data from all powered on nearby YJACK™ and P51-870 TITAN® devices including system pressure, temperature, vacuum, and psychometrics. Includes a variety of session types useful for diagnosing any HVAC/R system.

## YJACK VIEW™ SMART APPLICATION:

- Measure HVAC/R system pressure, temperature, saturation temperature, superheat and subcooling
- Monitor system evacuation status
- Check indoor air comfort and system efficiency with psychromeric air calculations: percent relative humidity, dry bulb, wet bulb, and dew point temperature measurements
- Monitor status of all nearby YJACK™ and P51-870 TITAN® devices
- Customize data view for each measurement
- Freely switch between multiple simultaneous sessions without loss of data
- Create highly customized datalog reports which can be saved or emailed from your smart device
- Choose from 126 refrigerant profiles found in the REFPROP database
- Available on iOS (version 10 or later) and Android (version 8 or later) smart devices

## YJACK VIEW™ HIGHLIGHTS:

- Effortlessly create and manage a network of connected HVAC/R system diagnostic devices
- Compatible with all YJACK™ & P51-870 TITAN® devices (firmware version v2.0 and later)
- Includes all the features of the original Mantooth® App plus enhancements streamlined to maximize user experience
- No device connections necessary, seamlessly move in and out of range of devices without reconnecting or relaunching application
- Freely navigate between available session types, multiple sessions at one time
- New session types including Psychrometric Air Calculations and Available Device Manager
- Easily place and monitor status of all YJACK™ and P51-870 TITAN® devices from one screen
- Adjustable datalog formatting and multiple sampling intervals
- 126 refrigerant profiles from REFPROP database

## YJACK™ KITS

## YJACK VIEW™ SUPPORTED YELLOW JACKET® DEVICES:

P51-870 TITAN® Digital Manifold          YJACK™ Temperature Strap
YJACK PATH™                              YJACK DEW™
YJACK™ Temperature Clamp

**Bluetooth**®

| UPC # | Description |
|-------|-------------|
| 67060 | YJACK PATH™ |
| 67061 | YJACK™ Temperature Clamp |
| 67062 | YJACK™ Temperature Strap |
| 67063 | YJACK DEW™ Psychrometer |
| 67070 | YJACK™ Temperature Clamp Kit; (2) YJACK™ Temperature Clamps, (1) YJACK PATH™ |
| 67071 | YJACK™ Temperature/Humidity Kit; (2) YJACK™ Temperature Clamps, (2) YJACK DEW™ Psychrometers, (1) YJACK PATH™ |
| 40877 | P51-870 TITAN® Digital Manifold with (2) YJACK™ Temperature Clamps, Ball Valve and 5/16" Hoses |

67070          67071

## PRESSURE / TEMPERATURE

View system pressure and temperature data as reported by any combination of YJACK™ temperature devices or P51-870 TITAN® units. Easily select and favorite commonly used refrigerants for calculating system properties including saturation temperatures and calculated system superheat/subcooling. Effortlessly manipulate data view types, including traditional, large numeric format, analog gauge (pressure only) or graphically.
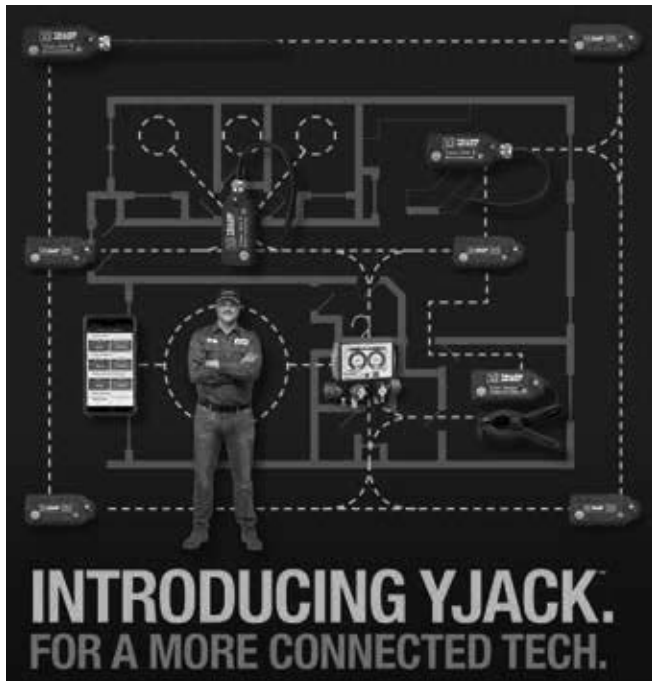
## PSYCHROMETRIC AIR CALCULATIONS

Analyze psychrometric data as reported by (2) YJACK DEW™ devices. Ensure maximum home comfort through wireless relative humidity, dry bulb, wet bulb, and dew point temperature calculations. Monitor efficiency across evaporator coil utilizing (2) YJACK DEW™ within ventilation ducting. View available data as traditional, large numeric format or graphically.

## ENHANCED DATALOGGING

Record data from one or all current session types as desired. Choose from a variety of sampling rates depending on user need. Live updates to selected devices, units, elevation, refrigerant selection appended to existing datalogs. Start and stop datalogging at will, save for later, or share via email for remote analysis.

## EVACUATION

Monitor system vacuum as reported by a P51-870 TITAN® external wired vacuum sensor. Data can be displayed as traditional, large numeric format, analog gauge or graphically. Adjustable vacuum pressure target and hold timer ensures all refrigerant, moisture, and non-condensable gases are removed from the system during evacuation.

## AVAILABLE DEVICES

Effortlessly monitor the status of all YJACK™ and P51-870 TITAN® devices including reported numerical data, battery life and availability. Effectively create a perimeter of devices by placing YJACK PATH™ devices periodically throughout the work area, boosting the signal of all nearby YJACK™ and P51-870 TITAN® devices.

## STREAMLINED USER EXPERIENCE

Enhanced user interface focuses on streamlining the user experience by eliminating connection between YJACK™, P51-870 TITAN® and smart devices and providing a fluid environment allowing the user full control of system data types, data view, and datalogging.

## P51-870 TITAN® WITH YJACK™ TEMPERATURE CLAMPS

### 40877 INCLUDES:

- Vacuum sensor (P/N 67030)
- Set of (6) 60" manifold hoses: (3) RYB compact ball valves (P/N 29985); (1) Y 3/8" str x 3/8" 45° (P/N 18160); (2) compact ball valve 1/4" x 5/16" (P/Ns 29425 and 29465)
- **(2) YJACK™ Temperature Clamps (P/N 67061)**
- USB charging cable
- Backpack carrying case (P/N 10146)

| UPC # | Description |
|-------|-------------|
| 67060 | YJACK PATH™ |
| 67061 | YJACK™ Temperature Clamp |
| 67062 | YJACK™ Temperature Strap |
| 67063 | YJACK DEW™ Psychrometer |
| 67070 | YJACK™ Temperature Clamp Kit; (2) YJACK™ Temperature Clamps, (1) YJACK PATH™ |
| 67071 | YJACK™ Temperature/Humidity Kit; (2) YJACK™ Temperature Clamps, (2) YJACK DEW™ Psychrometers, (1) YJACK PATH™ |
| 40877 | P51-870 TITAN® Digital Manifold with (2) YJACK™ Temperature Clamps, Ball Valve and 5/16" Hoses |

## INTRODUCING YJACK.™
### FOR A MORE CONNECTED TECH.

**YELLOW JACKET®**

MADE IN THE USA

**Bluetooth®**

iPhone  iPad