

cps[®]

**TOOLS, INSTRUMENTS
AND EQUIPMENT FOR
THE HVAC/R INDUSTRY**

2016 PRODUCT CATALOG
2nd Edition

**HVAC/R
Specialist**

BLACKMAX[®]

Pro-Set[®]

Tech-Set[™]

5-2-1[®]
COMPRESSOR SAVER[®]

COMPUTE-A-CHARGE[®]

OPTIMA[™]



Leak Detection.....4-9



AC/R Chemical Tools10-11



Refrigerant Charging Scales.....12-15



Charging Stations.....16-17



Recovery Equipment18-25



Vacuum Pumps26-32



Vacuum Gauges33-34



Electrical and Specialty Meters.....35-38



Temperature & System Measurement.....39-44



Service Manifolds and Gauges.....45-61



Charging Hoses.....62-65



Adapters, Fittings, Valves & Valve Core Tools66-71



Tubing Tools72-83



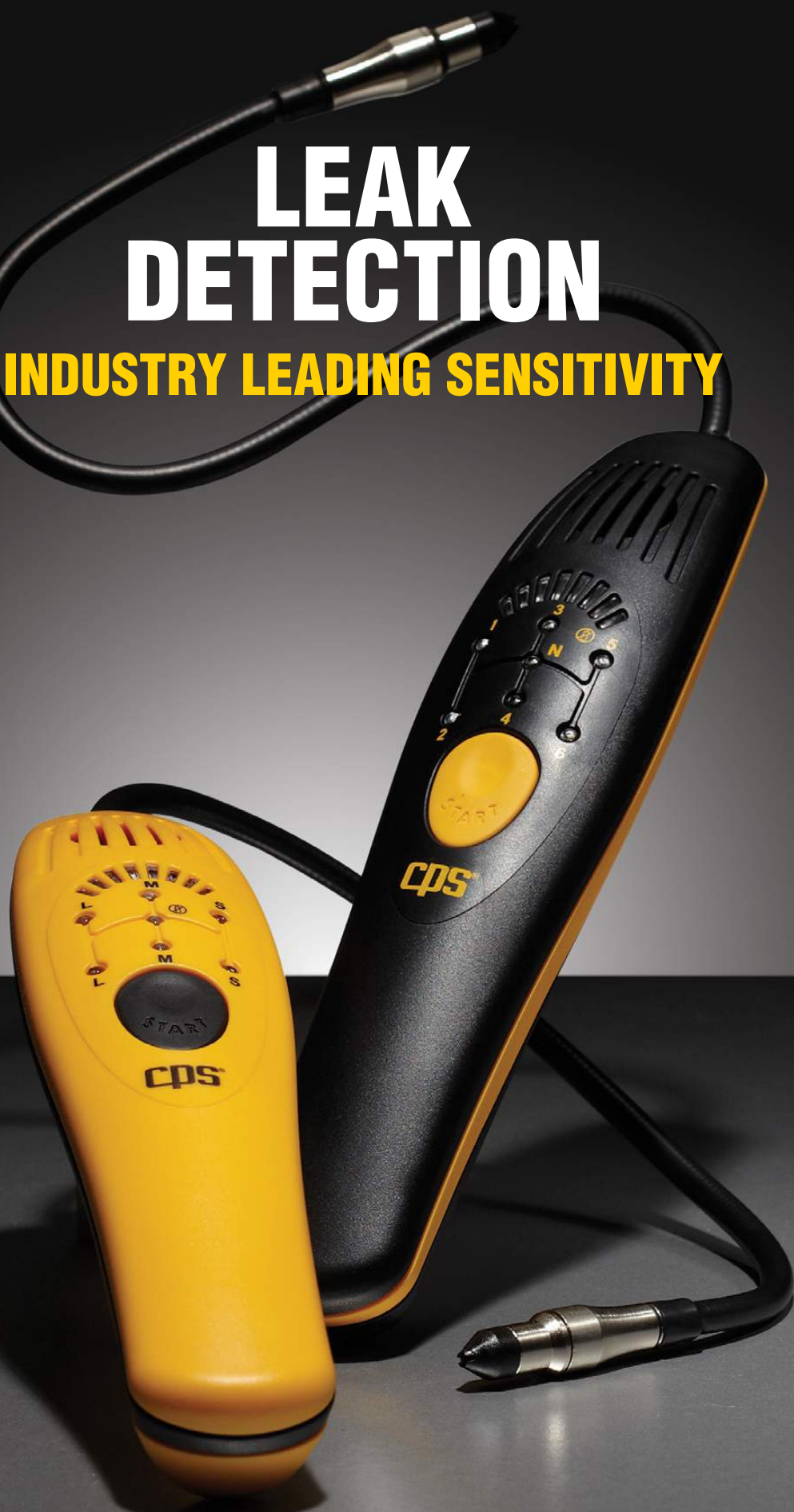
Specialty Hand Tools84-95



5-2-1 Products96-99

LEAK DETECTION

INDUSTRY LEADING SENSITIVITY



Revolutionary E_MOS® Technology developed by CPS is more sensitive, stable and accurate than any other detection method on the market.

*U.S. Patent # 8,555,701

- Microprocessor controlled sensor improves sensitivity and reduces false alarms
- Detects refrigerants including those with hydrocarbon components (CFC, CH2F2, HCFC, HFC, HFO, NH3, HC. Hydrogen trace gas in 95% N2, 5% H2 mixture A2L refrigerants)
- Visual tachometer-like bar graph display with 8 high intensity LEDs
- Optimal leak-finding performance under a broad range of conditions
- Meets or exceeds all U.S. and international standards for automotive and commercial use
- Ergonomic, high-impact housing

LEAK SEEKER® I

Progressive Alarm Mode:

Alarm pitch and number of lighted LEDs progressively increase as the leak source is approached. Allows searching for a broad range of leak sizes.

Threshold Alarm Mode:

Provides a quick go, no/go verifying a leak has been found and approximate size.

LEAK SEEKER® II

Simply Turn It On And Pinpoint The Leak.




- Simple, intuitive bar graph LED display
- 56 levels of sensitivity automatically selected by proprietary Powershift™ software with 2 user selectable alarm ranges
- The world's only leak detector with fully automatic sensitivity selection and control

with
EMOS
Technology



F-Gas Compliant
(ENG 14624:2005)

REPLACEMENT PARTS

| | | |
|--------|---|---|
| EMOS2 |  | E_MOS Technology Sensor |
| LS2XF |  | E_MOS Technology Sensor Filters (T0-Pk) |
| LS2XVF |  | Vapor Filter Sensing Tip |
| LSXC3 | | Molded Carrying Case |

| Item | LS1 Leak-Seeker® I | LS2 Leak-Seeker® II |
|------------------------|---|--|
| Sensitivity | Better than 0.1 oz (3g) / year | |
| Sensitivity Selection | Manual | Fully automatic |
| Operating Temperature | 0 to 140°F (-18 to 60°C) | |
| Auto-Off | Yes, after 10 minutes of inactivity | |
| Power (Battery Life) | 3 "C" batteries (>50 hr continuous use) | |
| Low Battery Indication | Green (middle) LED turns off when batteries at 10% capacity | Rightmost (No Battery) LED stays on when batteries at 10% capacity |
| Sensor Life | >500 hr continuous use | |
| Weight | 18 oz (500g) | |
| Warranty | 1 year | 2 years |

LEAK-SEEKER® ELECTRONIC REFRIGERANT LEAK DETECTORS WITH ION-PUMP® SENSOR TECHNOLOGY

Combines microcomputer circuitry with field-proven Ion-Pump® sensor technology creating a highly sensitive and accurate electronic refrigerant leak detector. 128 computer-generated tones and display alerts the user to varying halogen concentrations. Leak-Seekers are designed and manufactured in the USA with U.S. and globally sourced components.



REPLACEMENT PARTS FOR LS780A* LS780B* LS780C LS790A* LS790B LS3000* LS3000B*

| | |
|---|--|
| LSXSF  | Selective Filter Housing |
| LSXBMK  | Maintenance Kit: (1) LSXS + (1) LSXSF (replaces LSXMK) |
| LSXS  | Ion-Pump Sensor |
| LSXBC  | Battery Compartment Cover (Yellow) |
| LSXC  | Fabric Carrying Case |
| LSXE  | Earphone |

* Discontinued model



| Item | Tech-Set™ LS780C | Leak-Seeker® LS790B |
|-------------------------|---|-------------------------------------|
| Detector Type | Proprietary Ion-Pump sensor with built-in selective filter housing | |
| Sensitivity | Better than 0.25 oz (7g) / year leak rate of HFC | |
| Sensitivity Selection | Manual | |
| Refrigerant Sensitivity | All, including those with hydrocarbon components (CFC, HCFC, HFC, HFO, NH3, HC) | |
| Visual Alarm | High intensity LED (Varies in brightness) | High intensity bar graph display |
| Flex Probe | 18" long metal flex probe | |
| Operating Temperature | 0 to 140°F (-18 to 60°C) | |
| Controls | OFF, LO & HI sensitivity modes | 6 button keypad |
| Power (Battery Life) | (4) AA alkaline batteries (>40 hr continuous use) | |
| Weight | 18 oz (500g) | |
| Audible Alarms | 128 computer generated tones to precisely guide user to the source of the leak | |
| Lock-Out Mode | N/A | Yes |
| Low Battery Indication | Center LED above "★" lights during operation | |
| Auto-Off | No | Yes, after 15 minutes of inactivity |
| Sensor Life | Replace seasonally | |
| Warranty | 1 year | 2 years |

GS40 GAS-SEEKER® PORTABLE COMBUSTIBLE GAS DETECTOR




The **GS40** is a low maintenance, easy-to-use portable combustible gas leak detector engineered to pinpoint leaks in residential, commercial and industrial appliances. Advanced semiconductor sensor and electronic control package enables detection of gases commonly found in service applications including; carbon monoxide, natural gas, propane, ammonia, methane, acetone, hydrogen and iso-butane, with a virtually instantaneous alarm response period. Applications include the inspection of furnaces, valves, regulators, pipelines, meters and other devices associated with combustible gases. The **GS40** is designed and manufactured in USA with U.S. and globally sourced components.



GS40 Specifications

| | |
|------------------------|--|
| Detecting Range | 0 - 100% LEL referenced to methane. |
| Alarm Indication | Both visual and audible (>40db) alarm indicators |
| Low Level Alarm | Preset at 10% Methane LEL |
| High Level Alarm | Preset at 30% Methane LEL |
| Operating Conditions | 0°F to 140°F (-20°C to +40°C) at less than 98% RH (non-condensing) |
| Power | 3VDC working voltage using four 1.5V AA batteries |
| Battery Life/Indicator | 20 hr continuous use. Orange LED constant on when low battery |
| Sampling | Natural diffusion |
| Dimensions | 7.2" x 0.71" (183 x 18 mm) |
| Weight | 18 oz (500g) including battery |

REPLACEMENT PARTS

| | |
|--|----------------------|
| RMX12  | Replacement Sensor |
| LSXC  | Fabric Carrying Case |
| LSXE  | Earphone |

For more information visit www.cpsproducts.com

RM SERIES REFRIGERANT MONITORS

Compact, highly reliable, yet economical refrigerant leak monitoring system designed to monitor a single refrigerant in a single zone. Provides early audible and visual warning of refrigerant leakage with adjustable sensitivity settings between 100 to 1000 PPM with an auxiliary 1/2 HP N.O. and N.C. dry contact control function for operating an additional alarm or other safety device. Replacement sensors are interchangeable enabling the replacement of a failed sensor directly in the field without recalibration, minimizing downtime.



RM
Refrigerant Monitor
Control Box and
Sensor Housing



RM SERIES Specifications

| | |
|--|-------------------------------------|
| Sensitivity | 100 to 1,000 ppm |
| Accuracy | ±3% of setting (or ± 25 ppm) |
| Visual Alarms | High intensity LED display |
| Audible Alarm | 85 dB @ 12" |
| Operating Temperature (Control Module & Sensor) | 14 to 150°F (-10 to 65°C) |
| Relative Humidity Range (Control Model & Sensor) | 10 to 95% (Non-condensing) |
| Power | 12 to 24V AC or DC |
| Sensor Failure Indicator | Visual indication in control module |
| Weight | 18 oz (500 g) |
| Warranty | 1 year |

| Refrigerant Monitor | Detects Refrigerant | Replacement Sensor |
|---------------------|---------------------|--------------------|
| RM134 | R-134 | RMX12 |
| RM22 | R-22 | RMX11 |
| RM404 | R-404 | RMX12 |
| RM407 | R-407 | RMX11 |
| RM407a | R-407A | RMX12 |
| RM410 | R-410A | RMX12 |
| RM502 | R-502 | RMX12 |
| RM507 | R-507A | RMX12 |

UV55 TECH-SET™ DYE BASED REFRIGERANT LEAK DETECTION KIT

Refrigerant leaks are the number one cause of poor A/C cooling. Having the correct amount of refrigerant in an A/C system is critical to achieve proper cooling. Any loss of refrigerant will reduce a system's ability to transfer heat, causing the compressor to work harder and the system to cool less efficiently. Therefore, finding and fixing refrigerant leaks is more important than ever before.

The Tech-Set™ **UV55** Leak Detection Kit enables you to conduct a fast, easy, mess-free air conditioning "leakdown" test whereby an orange, universal dye is injected into a closed (sealed) A/C system under full pressure. The orange dye will be visible under a "correctly tuned" ultraviolet light at the point of a leak anywhere in the system. Included in this detection kit are the following:

- MoonLight™ flashlight with 9 true ultraviolet LEDs
- Operates 8 hr (continuous on)
- Instant "ON" with no heat produced
- Compact, durable, anodized aluminum flashlight body
- Works with all common dye additives
- 3 AAA batteries
- MoonShine™ blue light-blocking glasses
- Mess-free and easy-to-use Squeeze Gun™ injector
- **UVS2** universal (orange) OEM approved dye cartridge
- R-34a 90° low side snap coupler
- Molded carrying case with internal padding
- Operating instructions



UVPRO KIT INCLUDES BOTH MOONLIGHT™ FLASHLIGHT AND MOONSHINE™ GLASSES

Our MoonLight flashlight is the most compact and efficient ultraviolet light we have ever designed. It contains nine high intensity, true ultraviolet LEDs engineered to maximize the fluorescing capabilities of today's most commonly used detection dyes in AC systems, while reducing the amount of "nuisance" background blue light emitted.

MoonLight components are housed in a rugged, anodized aluminum body with an o-ring sealed battery compartment that will stand up to harsh field conditions.

- MoonLight flashlight with 9, true ultraviolet emitting LEDs
- Operates 8 hr (continuous on)
- Inspection range up to 3' (0.9 m)
- 100,000 hour LED life
- Instant "ON" with no heat produced
- Compact, durable, anodized, lightweight aluminum flashlight body
- Works with all common dye additives
- 3 AAA batteries

MOONSHINE™ BLUE-LIGHT BLOCKING GLASSES (included with UVPRO kit)

MoonShine glasses, when used in conjunction with the MoonLight flashlight, block the remaining amount of visible blue light, which provides an ideal means of viewing a fluorescing dye that might leak from a closed, pressurized AC system, indicating where a repair is needed.



UVPRO

ACCESSORIES FOR UV LEAK DETECTION

| | |
|--------|---|
| UVXG | UV Enhancing Safety Glasses |
| UVS5 | Squeeze-Injector Universal Automotive Dye-Cartridges (4 Pk), (1 cartridge = 5 Applications) |
| UVAL | 50W 90° Auto Swivel Light w/ Battery Clips |
| UVMINI | Clip-on UV light |
| UVXB | 12V Rechargeable Battery Pack for 50W or 100W Light |
| UVXBC | Battery Carrying Case |
| UVXBLB | UV Bulb for 50W Light |
| UVXC | 110V Battery Charger |



UVUD5 MOONSHINE™ UNIVERSAL REFRIGERANT DYE

- 1 oz (30 ml)
- Works with alkyl benzene, PAG, ester and mineral oil
- Lowest cost per application



UVUD6 MOONSHINE™ UNIVERSAL REFRIGERANT DYE

- 8 oz (237 ml)
- Works with alkyl benzene, PAG, ester and mineral oil
- Lowest cost per application
- Excellent for large systems











UVCLNR MOONSHINE™ DYE CLEANER

- 32 oz (946 ml)

MOONSHINE™ PREFILLED/ DISPOSABLE REFRIGERANT DYE CAPSULES AND CARTRIDGES

- Universal OEM approved dye formula
- Cleanest, easiest and fastest method of injection
- 4 sizes to match capacity of system
- Eliminate air entering system
- Eliminates over-injection of dye
- All dyes include I.D. labels
- All MoonShine dye meets SAE J2297 standard

| AC System Size | For Refrigerant Charge Size | Refrigerant Oil | MoonShine™ Capsule (Qty. 6) | MoonShine™ Squeeze Cartridges (Qty. 6) |
|--|------------------------------|----------------------------------|--|--|
| SMALL Ice machines, window AC units, autos, refrigerators | Up to 2.9 lb (1.3 kg) | Up to 15 oz (.44 L) |  UV101 |  UVS101 (Gold) |
| MEDIUM Residential systems | 3 to 4.9 lb (1.4 to 2.2 kg) | 16 oz to 1.6 qt. (.45 to 1.8 L) |  UV1 |  UVS1 (Purple) |
| MEDIUM-LARGE Light commercial and large residential systems | 5 to 9.9 lb (2.3 to 4.5 kg) | 1.7qt. to 3.2 qt. (1.9 to 3.7 L) |  UV2 |  UVS2 (Orange) |
| LARGE Commercial and light industrial, including all split systems | 10 to 25 lb (4.6 to 11.4 kg) | 3.3 qt. to 2 gal. (3.8 to 9.1 L) |  UV3 |  UVS3 (Green) |

SQUEEZE GUN UNIVERSAL DYE INJECTORS

The squeeze gun injection system is the easiest, cleanest and fastest method of injecting dye into a system. Simply match the appropriate pre-filled, pre-measured universal dye cartridge with the size of the system being serviced place it into the squeeze injector system, make your connection and inject the dye. It's that simple.



UVNJS SQUEEZE GUN DYE INJECTOR

- Refillable and expandable universal dye injector (dye cartridges sold separately)
- 1/4" F BV Hose
- 1/2 oz. capacity

UVXSGA Adapter Hose



UVNJ SQUEEZE GUN DYE INJECTOR

- Refillable and expandable universal dye injector (dye cartridges sold separately)
- In-Line AC&R 1/4"
- 1/4 to 1/2oz. - 7.5 to 14ml



TLJ2 SQUEEZE GUN DYE INJECTOR

- Refillable and expandable universal dye injector (dye cartridges sold separately)
- 1/4 oz. / 7.5 ml to 2 oz. / 60 ml capacity
- R-12 1/4" SAE Oil Dye Injector

TLJX2H Replacement Oil Injector Hose



Step 1: Load cartridge.



Step 2: Connect and bleed hose.



Step 3: Inject, then discard empty cartridge.

OPTIMA™

AC/R CHEMICAL TOOLS

DETECT, PROTECT, REPAIR AND ENHANCE



OPTIMA™

eBOOST™ Professional AC/R Chemical Tools

eBOOST™ Injectors

- Treat up to 6 tons
- Contains 1/4" & 5/16" clear hose adapters
- Safe and effective for all systems
- Color coded, trilingual (English, French, Spanish) sealed clamshell packaging
- Fast results, easy to use



eBOOST™ AC/R Performance Enhancer

- Boosts cold air output
- For a cooler, quieter, longer running compressor
- Restores older AC/R systems to original efficiencies
- Increases lubricity of compressor oil
- Reduces compressor friction, vibration and noise

OPEB6S



eBOOST™ AC/R De-Icer

- Resolves frozen AC/R systems
- Compatible with all refrigerant gases (including CFC, HFC and HCFC)
- Won't affect performance of refrigerant gas
- Neutralizes and prevents formation of acids

OPEBF6S



eBOOST™ Moisture Remover

- Eliminates system moisture
- Compatible with all AB, mineral, PEI and PAG oils in refrigeration systems
- Won't break down or leave behind particulate matter, including acids, gels or polymers

OPEBA6S



eBOOST™ AC/R Acid Neutralizer

- Neutralizes and prevents acids from forming in AC/R systems due to refrigerant or refrigerant oil break down, compressor burnout or moisture.
- Excellent for preventing or treating acid build up, or after compressor burnout and before a new compressor is installed

OPEBM6S



eBOOST™ AC/R Acid Detection Kit

Fast, easy, reliable way to determine relative pH of any lubricant used in AC/R compressors. Identifies acid levels in POE oils ahead of time

- Kit Contents :
- 4 Vials (blue liquid) Lubricant pH Detect
- 4 Pipettes
- 1 Plastic Carrying Case

OPEBAK

AVAILABILITY:

| | | | |
|---------|---------------------------|--------------------|--------|
| OPEB6S | AC/R Performance Enhancer | 1 oz/30ml | 15/per |
| OPEBF6S | AC/R De-Icer | 1 oz/30ml | 15/per |
| OPEBA6S | AC/R Acid Neutralizer | 1 oz/30ml | 15/per |
| OPEBM6S | AC/R Moisture Remover | 1 oz/30ml | 15/per |
| OPEBAK | AC/R Acid Test Kit | Enough for 4 tests | 19/per |

See individual product sheet(s) and obtain MSDS for important safety and handling information at cpsproducts.com.

COMPUTE-A-CHARGE®

REFRIGERANT CHARGING SCALES

WORTH THEIR WEIGHT IN COLD





COMPUTE-A-CHARGE® CC220W WIRELESS REFRIGERANT CHARGING SCALE

- 220 lb (100 kg) capacity / 0.25 oz (5 g) resolution
- 8.75" platform
- For use with CPS Link™ app and Android or iOS mobile device
- Weigh, charge and recover refrigerants
- Comes with soft carrying case
- Battery operated

CCXSC Soft Carrying Case



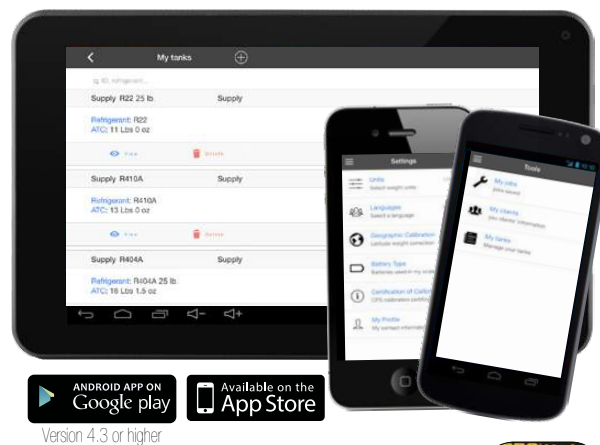
COMPUTE-A-CHARGE® CC240W WIRELESS HIGH CAPACITY SCALE

- 240 lb (108 kg) capacity / 0.25 oz (5 g) resolution
- 10" platform
- For use with CPS Link™ app and Android or iOS mobile device
- Weigh, charge and recover refrigerants
- Includes protective carrying case
- Battery operated



COMPUTE-A-CHARGE® CC840W PROGRAMMABLE WIRELESS HIGH CAPACITY SCALE

- 240 lb (108 kg) capacity / 0.25 oz (5 g) resolution
- 10" platform
- For use with CPS Link™ app and Android or iOS mobile device
- Programmable for automatic charging or recovery via integrated solenoid valves
- Weigh, charge and recover refrigerants
- Includes protective carrying case
- Battery operated



ANDROID APP ON
Google play

Available on the
App Store

Version 4.3 or higher

CPS Link™ App U.S. Patent No. 9,043,161

Easily input or access:

- Job data (name, client, invoice #)
- Client list (name, address, e-mail, phone)
- Tank Tracker™ tank and refrigerant management system
- Optional cloud storage
- Custom alarms for weight set-points
- E-mail customer and job information
- Operates in ISM band for international use





COMPUTE-A-CHARGE® CC50 HIGH RESOLUTION SCALE

- 55 lb (25 kg) capacity / 0.05 oz / 1 g resolution
- Ideal for critical charge, small volume systems
- Removable 8.75" platform for operation in or out of protective case
- Easy to read, fast response measurement
- Visual and mechanical overload protection

CCXC Protective carrying case

CCX220BC Battery door with magnet



COMPUTE-A-CHARGE® CC110 STANDARD SCALE

- 110 lb (25 kg) capacity / 0.20 oz (5 g) resolution
- Best in class value and accuracy
- Accommodates 30 & 50 lb cylinders
- Removable 8.75" platform for operation in or out of protective case
- Easy to read, fast response measurement
- Visual and mechanical overload protection

CCXC Protective carrying case

CCX220BC Battery door with magnet



COMPUTE-A-CHARGE® CC220 HIGH CAPACITY SCALE

- 220 lb (100 kg) capacity / 0.25 oz (10 g) resolution
- Our most versatile unit with best-in-class accuracy and enlarged capacity
- Accommodates 30, 50, 90 & 125 lb cylinders
- Removable 8.75" platform for operation in or out of protective case
- Easy to read, fast response measurement
- Visual and mechanical overload protection

CCXC Protective carrying case

CCX220BC Battery door with magnet



COMPUTE-A-CHARGE® CC800A AUTOMATIC PROGRAMMABLE CHARGING/ RECOVERY SCALES HIGH CAPACITY SCALE

- 220 lb (100 kg) capacity / 0.25 oz (1 g) resolution
- Programmable for automatic charging or recovery via built-in solenoid valve
- Accommodates 30, 50, 90 & 125 lb cylinders
- Removable 8.75" platform for operation in or out of protective case
- Easy to read, fast response measurement
- Visual and mechanical overload protection

CCX220BC Battery door with magnet

COMPUTE-A-CHARGE®

THE MOST TRUSTED BRAND OF CHARGING/RECOVERY SCALES ON THE PLANET

Recommended by OEMs and professional service technicians for over 30 years, the Compute-A-Charge series of scales have become the preferred tool for accurate, reliable charging of today's advanced AC/R systems. The range consists of fully automatic programmable or manually operated units, with or without wireless remote hand held controls. Models include variations in capacity and resolution specifications to meet all your job specific needs.

FEATURES AND BENEFITS (ALL UNITS)

- The world's most advanced strain gage bridge load cell technology
- Unparalleled accuracy, precision and reliability
- Calibrated to strict NIST (National Institute of Standards & Technology) standards
- Ergonomic hand held remote controls with large, high contrast wide angle LCD displays
- Rugged cast aluminum platform and base assemblies for stability and long life

- Electronic and mechanical overload protected to withstand 150% of capacity
- Environmentally sealed and temperature compensated for reliable operation in extreme environments
- Automatic tare upon start up and manual zero function
- Magnetic backing on hand held display for mounting to metal services or 360° swivel hanging hook
- Durable protective transport case enables operation of scale in or out of enclosure
- Ideal for critical charging of systems large or small and all refrigerant recovery applications
- The widest range of programmable, manual, or wireless/hand-held configurations
- Declaration of Conformity available at cpsproducts.com
CPS scales are in conformity with the following standards or other normative documents:
- **EN 61326:2006** (Electrical equipment for measurement, control and laboratory use – EMC Requirements)
- **IEC 61000-4-2:2001** (Electrostatic Discharge Immunity Test)
- **IEC 61000-4-3:2008** (Radiated, radio-frequency, electromagnetic field immunity test)
- Designed and manufactured in the USA with U.S. and globally sourced components

| COMPUTE-A-CHARGE® SCALE SPECIFICATIONS | | | | | | | |
|--|--|-------------------------------|----------------------|---|---|--|----------------------|
| Model # | CC220W | CC240W | CC840W | CC50 | CC110 | CC220 | CC800A |
| Type | Wireless for use with mobile device | | | Corded Handheld (with LCD Display) | | | |
| Programmable Solenoids | No | No | Yes | No | No | No | Yes |
| Maximum Load | 220 lb (100 kg) | 240 lb (108 kg) | | 55 lb (25 kg) | 110 lb (50 kg) | 220 lb (100 kg) | |
| Platform Dimensions | 8.75" x 8.75" (22.3x23cm) | 10" x 10" (25.4 cm x 25.4 cm) | | 8.75" x 8.75" (22.3 x 22.3 cm) | | | |
| Display to Scale Connection | Patented Wireless CPS Link™ Technology | | | Flexcord | | | |
| Auto-Off | Automatic shut-off after 10 minutes of inactivity | | | | | | |
| Smart Awake | n/a | | | Scale displays last weight present at time of Auto-Off | | | |
| Transmission Range | 30' (9.1 m) | | | n/a | | | |
| Frequency Range | 2.4 GHz, ISM Band (Worldwide) | | | n/a | | | |
| Power Source | Scale Platform: (4) AA Alkaline (Included) | | | Remote: (2) 9V Alkaline (Included) | | | |
| Continuous Battery Life | 75 hr | | | 60 hr | | 30 hr | |
| Display Resolution, oz (gm) Increments | .25 oz /5 gm | | | .05 oz /1 gm | .20 oz /5 gm | .25 oz /10 gm | |
| Weight Accuracy | 0.05% of reading, or ± 0.25 oz/10 gm (whichever greater) | | | 0.05% of reading, or ± 0.05 oz/1 gm (whichever greater) | 0.05% of reading, or ± 0.20 oz/5 gm (whichever greater) | 0.05% of reading, or ± 0.25 oz/10 gm (whichever greater) | |
| Unit Weight | 5.35 lb (2.4 kg) | 8.64 lb (4 kg) | | 6.0 lb (2.72 kg) | | | 8.5 lb (3.9 kg) |
| Display Flex Cord Length | n/a | | | 6' Extended | | | |
| Maximum Working Pressure | n/a | | 500 Psig 34,5 Bar | n/a | n/a | n/a | 500 Psig 34,5 Bar |
| Maximum Operating Differential | n/a | | 485 Psig 33,5 Bar | n/a | n/a | n/a | 485 Psig 33,5 Bar |
| Rubber Platform Cover | Yes | Yes | Yes | n/a | n/a | No | No |
| Weight Readout | lb & oz, or kg & gm | | | | | | |
| Protective Case | Soft Case | Molded Carrying Case | | | | | |
| Tare (Empty) Weight Mode | Yes | | | | | | |
| Overload Protection | Mechanical (Internal Overload Stop) | | | | | | |
| Battery Status Indicator | via CPS Link™ app | | | 3 Segment Symbol (Display) | | | |
| Remote Control Mount | n/a | | | Magnetic Back and 360° Swivel Hook | | | |
| Operating Temperature Range | 14°F to 122°F (-10°C to 50°C) | | | | | | |
| Operating Humidity Range | 0% to 95% (Non-Condensing) | | | | | | |
| Approvals | FCC, CE | | | CE, C-Tick | | | |

Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808



CHARGING STATIONS

COMPACT, FULLY EQUIPPED AND READY-TO-GO



CS16DMV5D2P5E

PRO-SET® PORTABLE VACUUM CHARGING STATIONS

Pro-Set charging stations combine all the necessary tools required to perform a full system evacuation and subsequent charging in a single, compact, mobile unit. Each station includes a Vortech™ or BlackMax® service manifold, a Pro-Set vacuum pump, a Compute-A-Charge® refrigerant scale, and premium charging hoses. The lightweight tubular steel frame incorporates rear wheels for easy transport to and from the job site with integrated storage areas for all components.

- Unsurpassed charging accuracy of $\pm 0.05\%$ of reading
- Hanging ports and hooks for hose storage
- Rear wheels on frame for ease of mobility
- Contains all tools needed for charging and evacuation
- All components store easily on cart



Hard mounted manifolds



All components store easily on cart

| Model # | CS12 SMBDS5E | CS12 SMBHP5E | CS12 DMV4TP6Q | CS14 CMBHP5E | CS16 SMV4H2P5E | CS16 DMV4D2P5E | CS16 DMV5H2P5E | CS16 DMV5D2P5E |
|-----------------------------|---|-------------------|--|---|---------------------------------------|--------------------------------------|------------------------|--------------------|
| Application | Appliance, Light Refrigeration | Air Conditioning | Air Conditioning, Refrigeration | Air Conditioning | | Refrigeration | Air Conditioning | Refrigeration |
| Manifold Type | 2 Valve (BlackMax®) | | 4 Valve (Vortech™) | 2 Valve (BlackMax®) | 4 Valve (Vortech™) | 4 Valve (Vortech™) | 5 Valve (Vortech™) | 5 Valve (Vortech™) |
| Refrigerant | R22, R134A, R404A | R22, R404A, R410A | R22, R134A, R404A | R22, R404A, R410A | R22, R134A, R404A, 410A | R22, R134A, R404A | R22, R134A, R404, 410A | R22, R134A, R404A |
| Gauge Diameter | 2.5" (68 mm) | | | | 3-1/8" (80 mm) | | | |
| Pressure Temperature Scales | Psi / °F | | kPa / Psi / °C | Psi / °F | | | | |
| Charging Hoses | 3-Pk, Standard 5' Blue, Red Yellow (Ball Valve) | | 3-Pk Premium 6' Blue, Red, Yellow Hoses & Cplrs. | 3-Pk, Premium 5' Blue, Red, Yellow (Ball Valve) | | | | |
| Vacuum Pump | One Stage, 2 CFM, Dual Voltage (VP2S) | | Two Stage 2 CFM, Dual Voltage (VP2D) | One Stage, 4 CFM, Single Voltage (VPC4SU) | One Stage, 6 CFM, Dual Voltage (VP6S) | Two Stage, 6CFM, Dual Voltage (VP6D) | | |
| Vacuum Gauge | n/a | | | | | | VG200 | n/a |
| Charging, Recovery Scale | Compute-A- Charge® (Display Maximum Load: 220 Lb; 100 kg) | | | | | | | |

RECOVERY EQUIPMENT

**RECOVER REFRIGERANTS
QUICKLY & EFFICIENTLY**



Pro-Set®

PRO-SET® TR600 SERIES REFRIGERANT RECOVERY MACHINES

Fast. Compact. Reliable.

The Pro-Set TR600 is a lightweight, efficient and reliable refrigerant recovery machine in a compact, rugged, contemporary housing. The TR600 offers the ideal combination of form and function to make refrigerant recovery fast and easy!

We took six competing recovery machines and their *verified recovery rates (shown on page 21).

Pro-Set TR600 was the undisputed hands-down leader for fastest recovery of R410a, and fastest overall for R22, R134a and R407c.

- Powerful 2/3 HP oil-less 2 cylinder reciprocating recovery compressor
- Exceptional compressor, condensing and cooling systems allow fast recovery in high temperature environments
- R-410a ready with fastest R-410A flow rates in its class!
- 550 psi high pressure shut-off switch
- Durable inlet and outlet ball valve construction with 1/4 turn gauges
- Integrated component moorings for quiet operation
- High impact injection molded housing
- Ergonomic well balanced design for easy transport
- No tool access suction housing for easy filter clean/change
- Less parts provides greater reliability
- Worldwide patents pending

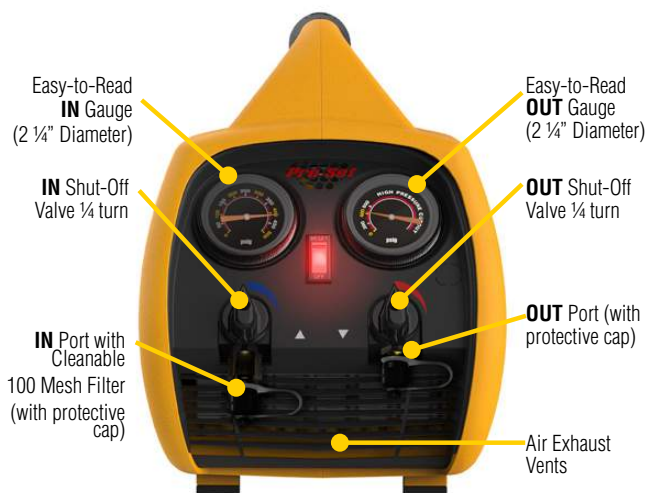
TR21X1 Valve Rebuild Kit

TR21X3 Piston/Connecting Rod Replacement

TR21X2 Complete Rebuild Kit

TR700X1 Head Replacement

CRXF3 (6) Suction Filters



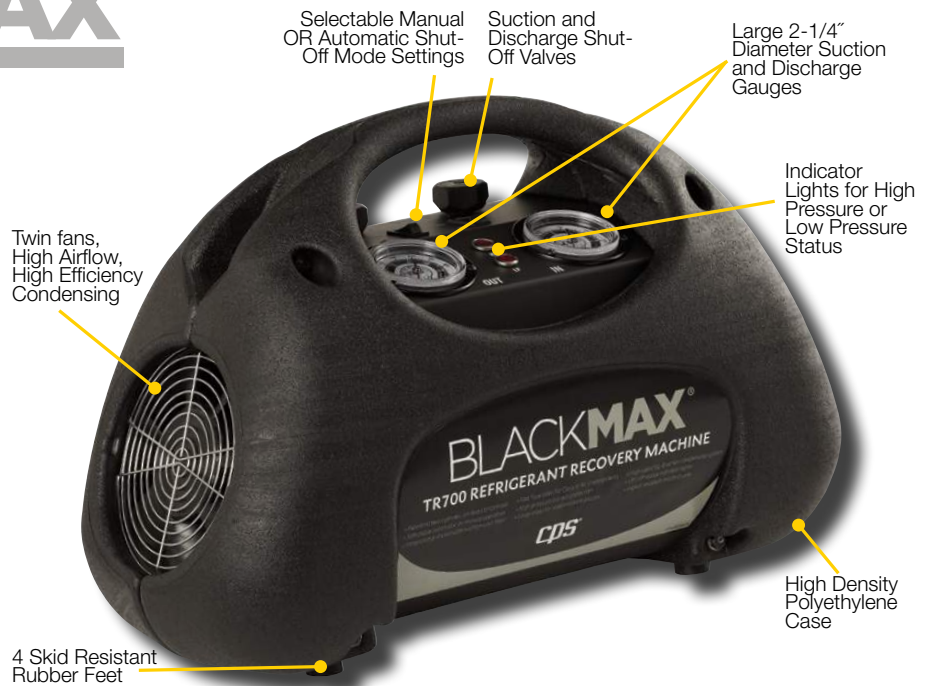
Designed and assembled in USA with US and globally sourced components

Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808

BLACKMAX[®] TR700 SERIES REFRIGERANT RECOVERY MACHINES

**The ultimate in
dependability.**

Designed for servicing residential and commercial refrigeration systems, the BlackMax TR700 is the industry's best-looking and best-performing refrigerant recovery machine incorporating non-restrictive piston manifold valves, a powerful two cylinder oil-less reciprocating compressor and twin fans. The resulting system provides superior airflow and condensing, which maximizes speed in both direct liquid and direct vapor recovery.



- Powerful 2 cylinder, 2/3 HP oil-less reciprocating compressor
- Exceptional compressor, condensing and cooling systems allow fast recovery in high temperature environments
- Automatic low pressure shut-off feature turns unit off when recovery is complete
- Rugged high density, double-wall, contemporary plastic housing with easy-view top mounted controls
- R-410a ready with 550 psi high pressure shut-off switch

- Ergonomic well balanced design for easy transport (includes shoulder strap)
- Built-in, removable, replaceable suction filter located under suction port
- Compact design with easy 4 bolt access
- Externally serviceable valves and gauges
- Integrated component mounts for quiet operation
- Less parts provide greater reliability
- Worldwide patents pending

TR21X1 Valve Rebuild Kit
TR21X3 Piston/Connecting Rod Replacement
TR21X2 Complete Rebuild Kit
TR21X5 Eccentric Crank Set
TR700X1 Head Replacement
CRXF3 (6) Suction Filters



Designed and assembled in USA with US and globally sourced components

For more information visit www.cpsproducts.com

***CERTIFIED REFRIGERANT RECOVERY RATES (LB/MIN.)**

| Competing Brands | | REFCO Powermax* | Robinair RG3* | Yellow Jacket YJ-LTE* | Bacharach ECO-2020** | Inficon Vortex Dual** | Appion G5 Twin* | BLACKMAX TR700* | Pro-Set TR600* |
|------------------|----------------------|-----------------|---------------|-----------------------|----------------------|-----------------------|-----------------|-----------------------------|-----------------------------|
| R410A | Vapor Rate | 0.53 | 0.14 | 0.35 | 0.55 | 0.55 | 0.55 | 0.703 (0.319 kg/min) | 0.703 (0.319 kg/min) |
| | Liquid Rate | 4.99 | 3.57 | 9.25 | 5.71 | 3.55 | 3.48 | 11.95 (5.42 kg/min) | 11.95 (5.42 kg/min) |
| | Liquid Push-Pull | 17.56 | 12.69 | 10.91 | 15.85 | 16.82 | 10.20 | 31.7 (14.38 kg/min) | 31.7 (14.38 kg/min) |
| R22 | Vapor Rate | 0.50 | 0.20 | 0.37 | 0.55 | 0.53 | 0.61 | 0.597 (0.271 kg/min) | 0.597 (0.271 kg/min) |
| | High Temp Vapor Rate | NA | 0.22 | NA | 0.60 | 0.57 | 0.41 | 0.86 (0.39 kg/min) | 0.86 (0.39 kg/min) |
| | Liquid Rate | 4.50 | 6.39 | 6.83 | 6.35 | 5.97 | 6.21 | 8.86 (4.02 kg/min) | 8.86 (4.02 kg/min) |
| | Liquid Push-Pull | 11.81 | 11.83 | 9.17 | 11.40 | 11.0 | 16.62 | 31.53 (14.3 kg/min) | 31.53 (14.3 kg/min) |
| R134A | Vapor Rate | 0.50 | 0.18 | 0.35 | 0.46 | 0.42 | 0.41 | 0.503 (.228 kg/min) | 0.503 (.228 kg/min) |
| | Liquid Rate | 4.25 | 5.48 | 5.35 | 4.52 | 4.03 | 4.34 | 7.8 (3.54 kg/min) | 7.8 (3.54 kg/min) |
| | Liquid Push-Pull | 12.06 | 8.86 | 6.94 | 10.89 | 11.64 | 11.08 | 25.66 (11.64 kg/min) | 25.66 (11.64 kg/min) |
| R407C | Vapor Rate | NA | 0.18 | 0.30 | NA | 0.55 | 0.55 | 0.536 (.243 kg/min) | 0.536 (.243 kg/min) |
| | Liquid Rate | NA | 5.48 | 7.53 | NA | 5.49 | 7.01 | 9.5 (4.31 kg/min) | 9.5 (4.31 kg/min) |
| | Liquid Push-Pull | NA | 11.68 | 10.05 | NA | 14.0 | 17.61 | 29.14 (13.22 kg/min) | 29.14 (13.22 kg/min) |

*UL ONLINE CERTIFICATIONS DIRECTORY (DATABASE.U.L.COM) **AHRI CERTIFIED® (AHRIDIRECTORY.ORG) DISCLAIMER: The information found within this chart is not reflective of all competitors. All trademarks and copyrights on this page are owned by their respective owners. Data collected is based on technical specification literature available through the worldwide web and other publicly available marketing literature.

| Model# | | PRO-SET® TR600 SERIES SPECIFICATIONS | | | | | | BLACKMAX® TR700 SERIES SPECIFICATIONS | | | | | |
|-----------------------------|-------------|--|-------|-------------------|--------|------------------------------|---------------------|--|-------|-------------------|--------|-------------------|--------------|
| | | TR600 | TR610 | TR600C | TR610C | TR600K | TR600S | TR700 | TR710 | TR700C | TR710C | TR700S | TR710S |
| Voltage (Hz) | | 115V (60 Hz) | | | | 220V (50 Hz) 230V (60 Hz) | 220-240V (50 Hz) | 115V (60 Hz) | | | | 220-240V (50 Hz) | |
| Motor Size | | 2/3 HP | | | | | | 2/3 HP | | | | | |
| Motor Thermally Protected | | ✓ | | | | | | ✓ | | | | | |
| Compressor Type | | Two cylinder, oilless | | | | | | Two cylinder, oilless | | | | | |
| Overload Protection | | 15 Amp | | 13 Amp | | 10 Amp | | 15 Amp | | 13 Amp | | 10 Amp | |
| Power Consumption | | 1000 W | | | | | | 1000 W | | | | | |
| Tank Overfill Sensor Cord | | ✗ | ✓ | ✗ | ✓ | ✗ | | ✗ | ✓ | ✗ | ✓ | ✗ | ✓ |
| Suction Pressure Gauge | Outer Scale | -30″ Hg to 500 psig | | | | | | -30″ Hg to 500 psig | | | | | |
| | Inner Scale | -76 cm Hg to 35 kg/cm | | | | | | -76 cm Hg to 35 kg/cm | | | | | |
| Discharge Pressure Gauge | Outer Scale | 0-550 psig | | | | | | 0 to 1000 psig | | | | | |
| | Inner Scale | | | | | | | 0 to 70 kg/cm | | | | | |
| High Pressure Shut-Off | | 550 psig (38 bar) | | 450 psig (31 bar) | | 550 psig (38 bar) | | 550 psig (38 bar) | | 450 psig (31 bar) | | 550 psig (38 bar) | |
| AHRI 740 Class Refrigerants | Class III | R-12, R-134A, R-401C, R-406A, R-500 | | | | | | R-12, R-134A, R-401C, R-406A, R-500 | | | | | |
| | Class IV | R-22, R-401A/B, R-402B, R-407/C/D/E/F, R-408A, R-409A, R-411A/B, R-412A, R-502, R-509A | | | | | | R-22, R-401A/B, R-402B, R-407/C/D/E/F, R-408A, R-409A, R-411A/B, R-412A, R-502, R-509A | | | | | |
| | Class V | R-402A, R-404A, R-407A/B, R-410A/B, R-507A | | | | | | R-402A, R-404A, R-407A/B, R-410A/B, R-507A | | | | | |
| Operating Temperature Range | | 32°F to 120°F (0°C to 49°C) | | | | | | 32°F to 120° (0°C to 49° C) | | | | | |
| Power Cord Length | | 3.5 ft (1.06 m) | | | | | | 6' (1.82 m) Detachable | | | | | |
| Dimensions | | Inch: 8.5″ x 16.7″ x 12.3″ (cm: 21.6 x 42.4 x 31.2) | | | | | | Inch: 9.75″ x 21″ x 14.0″ (Cm: 24.7x 53.3x 35.6) | | | | | |
| Weight | | 28 Lb (12.7 Kg) | | | | | | 32 Lb (14.5 kg) | | | | | |
| Approvals | | *UL, CE | | *UL, CE, CSA | | *UL, CE | *UL, CE, TUV | *UL, CE | | *UL, CE, CSA | | *UL, CE | *UL, CE, TUV |
| Warranty (Years) | | 1 | | | | | | 1 | | | | | |

* Evaluated for performance rated at 60Hz in accordance with Sec. 608 of the Clean Air Act (Feb. 29, 1996) using AHRI-740-98 test methods.

PRO-SET® TR21 SERIES REFRIGERANT RECOVERY MACHINES

- Weighs only 25 pounds!
- Fastest ARI recovery rates in its class, best speed-to-weight ratio in the industry!
- Revolutionary “vacuum pump” style design
- Five unique patented and patent pending design elements
- Vapor or liquid recovery, including R-410A
- Extremely compact and easy to carry



TR21 SERIES

- TR21X1** Valve Rebuild Kit
- TR21X3** Piston/Connecting Rod Replacement
- TR19X2** Eccentric Crank Set
- TR21X5** Eccentric Set
- TR21X4** Complete Head Replacement
- TR21X2** Complete Rebuild Kit

*Verified UL Flow Rate @ 60Hz (Reduce 15% for all 50Hz models)

TR21 SERIES REFRIGERANT RECOVERY RATES

| Refrigerant | Direct Vapor | Direct Liquid | Push - Pull Liquid | High Temp Vapor Rate |
|--------------|----------------------------|----------------------------|-----------------------------|---------------------------|
| R410a | .703 lb/min (0.319 kg/min) | 11.95 lb/min (5.42 kg/min) | 31.7 lb/min (14.38 kg/min) | 0.816 lb/min (.37 kg/min) |
| R22 | .597 lb/min (0.271 kg/min) | 8.86 lb/min (4.02 kg/min) | 31.53 lb/min (14.3 kg/min) | 0.86 lb/min (0.39 kg/min) |
| R134a | .503 lb/min (0.228 kg/min) | 7.8 lb/min (3.54 kg/min) | 25.66 lb/min (11.64 kg/min) | n/a |
| R407c | .536 lb/min (0.243 kg/min) | 9.50 lb/min (4.31 kg/min) | 29.14 lb/min (13.22 kg/min) | n/a |

*Evaluated for performance in accordance with Sec. 608 of the Clean Air Act (Feb 29, 1996) using AHRI-740-98 test methods.

PRO-SET® TRS21 SERIES IGNITION PROOF REFRIGERANT RECOVERY MACHINES

- Designed and tested to meet ANSI 12:12.01 Ignition Proof standards
- For use on refrigeration systems utilizing:
Class A1 (nontoxic, nonflammable),
Class A2L (nontoxic, low flammability)
Class A2 (nontoxic, flammable) and
Class A3 (nontoxic, flammable)
- Maintenance free oilless compressor
- Permanently lubricated and sealed main bearings
- Improved piston seal design for less leakage and deeper vacuums
- 550 Psig high pressure cutoff switch with LED indicator
- Cleanable 100 mesh inlet filter
- Fastest recovery rates in its class
- Ignition proof ON-OFF switch
- Sealed start relay

- TR21X1** Valve Rebuild Kit
- TR21X3** Piston/Connecting Rod Replacement



TRS21 SERIES

For more information visit www.cpsproducts.com

TECH-SET® TR19 SERIES REFRIGERANT RECOVERY MACHINES

- Critical oilless compressor components use high temperature resistant materials
- Main bearing is completely sealed and isolated from refrigerant contact.
- Maintenance free oilless compressor design
- Precision machined from aluminum and steel components
- Permanently lubricated and sealed main bearings
- Improved piston seal design for less leakage and deeper vacuums
- Weighs less than 19 pounds
- Special cooling system design improves compressor longevity
- Efficient suction and discharge valve design for faster recovery
- Durable crankshaft design for improved reliability
- Unique head design for superior performance

TR21X1 Valve Rebuild Kit

TR21X3 Piston/Connecting Rod Replacement

TR19X1 Complete Rebuilt Kit

TR19X2 Eccentric Crank Set

TR21X4 Complete Head Replacement



TR19 SERIES

| PRO-SET® TR21 & TRS21 and TECH-SET™ TR19 SERIES SPECIFICATIONS | | | | | | | | | | | |
|--|------------------|--|-------------------|-------------------|---------------------------------|----------|--------------|---------------------------------------|---------------------------------|-------------------|-------------------|
| Model # | | TR19 | TR19C | TR19S | TR21 | TR21C | TR21S | TR21E | TRS21 | TR22 | TR22C |
| Voltage | | 115V (60Hz) | | 220-240V (50 Hz) | 115V (60Hz) | | 230 V (50Hz) | 220-240 V (50Hz) | 115V (60Hz) | | |
| Motor Size (Horsepower) | | 1/2 HP | | | 1 | | | | 1 | | |
| Motor thermally protected | | ✓ | | | | | | | | | |
| Power Consumption | | 550W | | | 1000W | | | | 850W | | |
| Two Cylinder, Oil-less Reciprocating Compressor | | ✓ | | | | | | | | | |
| ON-Off Power Switch | | ✓ | | | | | | | | | |
| Spark Proof Starting Components | | ✗ | | | ✗ | | | | ✓ | ✗ | |
| High Pressure Shut-Off | | 550 Psig (38 bar) | 450 Psig (31 Bar) | 550 Psig (38 bar) | 550 psig | 450 psig | 550 psig | 525 psig (38 bar) | 550 Psig (38 bar) | 550 Psig (38 bar) | 450 Psig (31 Bar) |
| Selectable Manual OR Automatic Shut-Off Mode Settings | | Auto Reset High Pressure Switch | | | Auto Reset High Pressure Switch | | | Manual Reset | Auto Reset High Pressure Switch | | |
| Tank Overfill Switch Kit | | ✗ | | | Optional | | | ✗ | ✗ | ✓ | ✗ |
| Maximum Flow Rate @ 60 Hz (Reduce 15% for 50 Hz) | Direct Vapor | Up to 1.2 lb/min (33 kg/hr) | | | Up to 2.5 lb/min (67 kg/hr) | | | | | | |
| | Direct Liquid | Up to 9.5 lb/min (260 kg/hr) | | | Up to 12 lb/min (271 kg/hr) | | | | | | |
| | Push-Pull Liquid | Up to 20.3 lb/min (550 kg/hr) | | | Up to 34 lb/min (922 kg/hr) | | | | | | |
| AHRI 740 Class Refrigerants | Class III | R-12, R-134A, R-401C, R-406A, R-500 | | | | | | | | | |
| | Class IV | R-22, R-401A/B, R-402B, R-407/C/D/E/F, R-408A, R-409A, R-411A/B, R-412A, R-502, R-509A | | | | | | | | | |
| | Class V | R-402A, R-404A, R-407A/B, R-410A/B, R-507A | | | | | | | | | |
| ASHRAE/ISO Class A2, A2L and A3 | | ✗ | | | | | | R1234yf, R32, R290, R600, R601, R1276 | ✗ | | |
| Operating Temperature Range | | 32°F to 120°F (0°C to 49°C) | | | | | | | | | |
| Cleanable, 100-Mesh Screen Filtration (Into Suction Port) | | ✓ | | | | | | | | | |
| High Pressure Cutout LED | | ✓ | | | | | | | | | |
| Heavy Gauge Aluminum Chassis | | ✓ | | | | | | | | | |
| Skid Resistant Rubber Feet | | ✓ | | | | | | | | | |
| Power Cord Length, Type | | 6 Ft. | | | | | | | | | |
| Dimensions (W x L x H) | | 6" x 12" x 9" (15cm x 30cm x 23cm) | | | | | | | | | |
| Weight | | 18.7 lb (8.5 kg) | | | 24.3 lb (11.0 kg) | | | | | | |
| Approvals | | UL, CE, CSA, TUV | | | | | | | | | |
| Warranty (Years) | | 1 | | | | | | | | | |

Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808

TRANSFORM YOUR BOTTOM LINE WITH THE MT69 MOLECULAR TRANSFORMATOR. IT DRAMATICALLY INCREASES THE SPEED OF ANY RECOVERY MACHINE.

CUT YOUR RECOVERY TIME IN HALF.

The MT69 is the *only* commercialized recovery sub-cooler manufactured for the professional A/C & R technician. It transforms molecules of hot refrigerant gas into molecules of refrigerant liquid and also transforms molecules of cold refrigerant liquid into a warm refrigerant gas. Use the MT69 in-line with the discharge line of any recovery machine to dramatically increase the speed of recovery.

- Dramatically increases the speed and performance of your recovery machine- **(up to 95% increase in recovery speed!)**

COMPARATIVE DATA

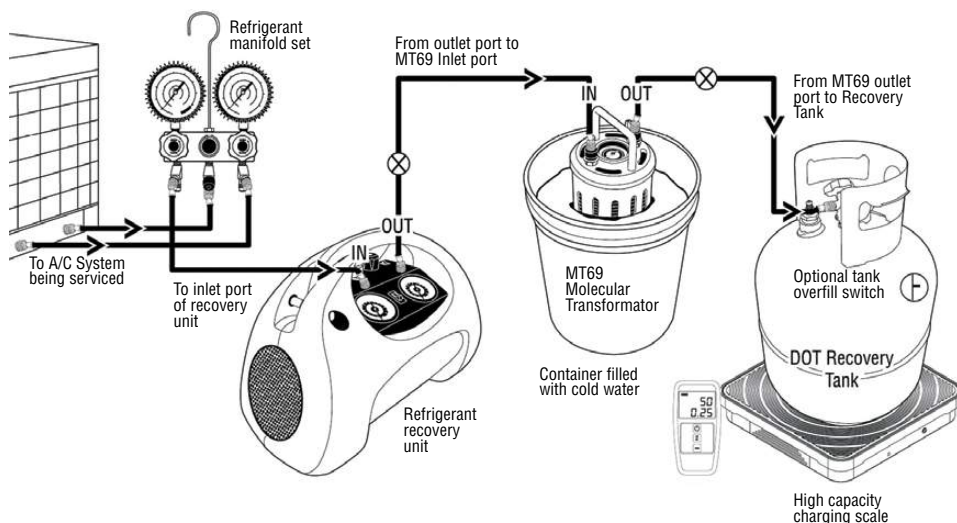
| Time needed to recover 15 lb of R22 at 120° F: | WITH MT69 | WITHOUT MT69 |
|--|------------|--------------|
| | 17 minutes | 32 minutes |

- Functions as a submersible condenser or evaporator
- Rugged, compact and easy to use
- Eliminates the need to change tanks when recovering R410A
- Eliminates annoying shutdown due to high pressure switch limit
- Essential for recovering R410A on hot days
- The hotter it is, the better it works
- Essential for recovering liquid refrigerant on cold days
- Eliminates liquid slugging at colder temperatures
- Patents Pending
- Designed and manufactured in USA with U.S. and globally source components

| Item | Description |
|-------------|------------------------------|
| MT69 | MT69 Molecular Transformator |
| TR21MT69KIT | TR21 & MT69 kit |

HOW THE MT69 MOLECULAR TRANSFORMATOR WORKS:

The effects of ambient temperature and elevated tank pressures on the speed of the refrigerant recovery process are in many cases more important than the speed of the recovery machine itself. As ambient temperature increases, pressure in the recovery cylinder increases, reducing the recovery speed and in many cases can lead to a high pressure shutdown as the recovery equipment and tank pressure limits are reached. The Molecular Transformator reduces the temperature and pressure of recovered refrigerant during the recovery process, dramatically improving the recovery speed and high ambient temperature performance of all commercially available recovery machines in addition to extending the life of the equipment.



MT69

MT69 SPECIFICATIONS

| | |
|----------------------------|-----------------------------------|
| Dimensions | 4.25" x 9" (10.9 cm x 22.9 cm) |
| Weight | 3.6 lb (1.6 kg) |
| Maximum Operation Pressure | 500 Psig |
| Discharge Pressure Gauge | 0 to 600 Psig |
| Inlet/Outlet Connections | 1/4" SAE male |
| Refrigerant Compatibility | All |

HEATER STRAPS

Charge faster in cold weather!
Ideal for use on portable refrigerant charging or recovery tanks, especially in cold weather when transfer times increase, or when a tank is low on refrigerant. These durable straps create a positive pressure between the refrigerant tank and an A/C or refrigeration system, thereby reducing refrigerant transfer time.



CCXHB (120V)



CCXHBV (220V/240V)

| Model | CCXHB | CCXHBV |
|-------------------------------------|---|-----------------------|
| Voltage (Hz) | 120 VAC (50/60 Hz) | 240 VAC (50/60 Hz) |
| Watts | 340 W | |
| Amps | 2.8 | 1.4 |
| For Cylinder Sizes | From 8" (20 cm) to 14" (35 cm) Diameter Tanks | |
| Control (Overheat Protection) | Automatic Thermal Cutoff (Encapsulated Thermostat) | |
| Minimum Surface Temperature Of Tank | 115°F (46°C) | |
| Maximum Thermostat Temperature | 130°F (55°C) | |
| Power Cord Length | 20" (0.50 m) | |
| Adjustable Velcro Strap Max Length | 19" (0.48 m) | |
| Heater Strap Width | 3" (76 mm) | |
| Heater Strap Length | 24" (.60 m) | |
| Heater Strap Color | Dark Orange | |
| Electrical Connection Type | Nema 5-15P | IEC320 Inlet |
| Packaging | Header Card + Clear Poly Bag | |



30 lb

CRX430T
CRX430TS with overfill sensor
1/4" SAE Male



50 lb

CRX400T
CRX400TS with overfill sensor
1/4" SAE Male



50 lb

(Automotive use)
ARX134T
ARX134TS with overfill sensor
1/2" ACME Male fitting



90 lb

CRX390T
CRX390TS with overfill sensor
1/4" SAE Male fitting

REFRIGERANT RECOVERY TANKS

- DOT Certified for refrigerant storage
- Refrigerant compatible sealant used on all mechanical connection points
- Auxillary port for optional overfill sensor
- Liquid and Vapor UL listed Y-valve
- Powder coated for maximum rust protection

| | | Weight Of Empty Tank | | Tank Water Capacity | | Total Weight (Tank & Refrigerant) | | Tank Foot Ring Diameter | | Tank Outside Diameter | | Tank Height | | Max. Pressure Rating (psig) |
|--------------------|----------|----------------------|------|---------------------|------|-----------------------------------|------|-------------------------|-------|-----------------------|-------|-------------|-------|-----------------------------|
| | | lb | kg | lb | kg | lb | kg | in | mm | in | mm | in | mm | |
| For HVAC/R Use | | | | | | | | | | | | | | |
| 30 Lb | CRX430T | 17.5 | 7.9 | 26.2 | 11.9 | 43.7 | 19.8 | 7.8 | 198.1 | 9.5 | 241.3 | 18.1 | 459.7 | 400 |
| | CRX430TS | 17.5 | 7.9 | 26.2 | 11.9 | 43.7 | 19.8 | 7.8 | 198.1 | 9.5 | 241.3 | 18.1 | 459.7 | 400 |
| 50 Lb | CRX400T | 28.3 | 12.8 | 47.4 | 21.5 | 75.7 | 34.3 | 8 | 203.2 | 12.5 | 317.5 | 19.75 | 501.7 | 400 |
| | CRX400TS | 28.3 | 12.8 | 47.4 | 21.5 | 75.7 | 34.3 | 8 | 203.2 | 12.5 | 317.5 | 19.75 | 501.7 | 400 |
| 90 Lb | CRX390T | 49.5 | 22.5 | 92.5 | 42 | 142.0 | 64.4 | 9.5 | 241.3 | 12 | 304.8 | 31.75 | 806.5 | 350 |
| | CRX390TS | 49.5 | 22.5 | 92.5 | 42 | 142.0 | 64.4 | 9.5 | 241.3 | 12 | 304.8 | 31.75 | 806.5 | 350 |
| For Automotive Use | | | | | | | | | | | | | | |
| 50 Lb | ARX134T | 28.3 | 12.8 | 47.4 | 21.5 | 75.7 | 34.3 | 8 | 203.2 | 12.5 | 317.5 | 19.75 | 501.7 | 400 |
| | ARX134TS | 28.3 | 12.8 | 47.4 | 21.5 | 75.7 | 34.3 | 8 | 203.2 | 12.5 | 317.5 | 19.75 | 501.7 | 400 |

VACUUM PUMPS

**LIGHT WEIGHT DESIGN
HEAVY WEIGHT PERFORMANCE**



Pro-Set®

PRO-SET® VACUUM PUMPS

There are good pumps, better pumps, then Pro-Set Vacuum Pumps! Innovative changes in vacuum cartridge design, materials, lubrication and cooling enable Pro-Set vacuum pumps to achieve incredibly deep vacuum performance ratings that are unmatched in the industry. Pro-Set has the product line breadth and depth to suit just about any HVAC/R job or fit any job site requirement you might have!

Pro-Set vacuum pumps are offered in a variety of single and dual stage models with numerous voltage, horsepower and free air displacement (CFM) options, while contained in either standard size or compact size housings to suit your work environment. All Pro-Set vacuum pumps boast the same high quality, high value features engineered into all of our products, providing years of reliable performance while servicing air conditioning and refrigeration equipment.

PRO-SET® VACUUM PUMP KEY FEATURES

- All models are for use with class A1 (non-toxic, non-flammable), class A2 (non-toxic, low-flammable) refrigerants
- Air cooled, thermally protected motors encased in a durable aluminum housing
- Oil filled rotary vacuum pump cartridge construction
- Large oil-fill port with proprietary, mist-free exhaust cap
- Easily accessible oil drain port
- Large oil sight glass
- Multiple SAE and ACME intake fittings with check valve
- On/Off power switch
- Rubber lined handle, skid resistant rubber feet
- Gas ballast valve



**SMALL SIZE,
BIG
PERFORMANCE**

PRO-SET® DUAL STAGE VACUUM PUMPS

Pro-Set dual stage vacuum pumps are your premium solution for obtaining the deepest ultimate vacuum (10 to 25 microns, depending on model), the greatest range of horsepower (1/3 to 1) and free air displacement (from 2 CFM to 12 CFM) within the Pro-Set line. These pumps also include a gas ballast valve which speeds attainment of deep vacuum and are offered in both single and dual voltage models. All models are for use with Class A1 (non-toxic, non-flammable) and A2 (non-toxic, low flammable) refrigerants. The VPS Series with its sealed components is also for use with Class A3 (non-toxic, explosive) refrigerants and ammonia systems.

PRO-SET® DUAL OR SINGLE STAGE COMPACT VACUUM PUMPS

The Pro-Set line of dual or single stage compact vacuum pumps provide an ultimate vacuum ranging from 15 to 100 microns, horsepower ratings from 1/5 to 1/4, and free air displacement from 2 CFM to 4 CFM. These pumps offer dedicated 115VAC or 220-240VAC operation and are hardwired with either NEMA 115VAC or 220-240VAC plugs. Best of all, these pumps feature some the smallest, lightest and most compact aluminum housings in the industry.









PRO-SET® SINGLE STAGE VACUUM PUMPS

Pro-Set single stage standard size vacuum pumps provide a deep vacuum (down to 50 microns), with horsepower ratings from 1/3 to 1, and free air displacement from 2 CFM to 12 CFM. These pumps include a gas ballast valve and are offered in both single and dual voltage and have a voltage selector switch.



Pro-Set® DUAL STAGE VACUUM PUMPS

Pro-Set® dual stage vacuum pumps are your premium solution for obtaining the deepest ultimate vacuum (10 or 25 microns, depending on model) and provide the greatest range of horsepower (1/3 to 1) and free air displacement (from 2 CFM to 12 CFM) within the Pro-Set line. These pumps also include a gas ballast valve which speeds attainment of deep vacuum and are offered in both single and dual voltage models. All models are for use with Class A1 (non-toxic, non-flammable) and A2 (non-toxic, flammable) refrigerants. Model VPS6DU with its sealed components is also for use with Class A3 (non-toxic, explosive) refrigerants and ammonia systems.

| | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| Model | VP2D | VP2DE | VP4D | VP4DE | VP6D | VP6DE | VPS6DE | VPS6DU |
| Stage | 2 | | | | | | | |
| Ultimate Vacuum | 10 Microns | | | | | | | |
| Refrigerant Class | A1, A2 | | | | | | A1, A2, A3 | |
| Dimensions (Inches) | 12.2" x 5" x 9.6" | | 13.1" x 5.5" x 10" | | | | | |
| Weight | 17.7 lb (8.0 kg) | | 22.1 lb (10.0 kg) | | 22.5 lb (10.2 kg) | | | |
| Free Air Displacement | 2 CFM @ 60Hz (48 l/m @ 50Hz) | | 4 CFM @ 60Hz (96 l/m @ 50Hz) | | 6 CFM @ 60 Hz (144 l/m @ 50 Hz) | | | |
| Motor Size (HP), RPM @ 50/60Hz | 1/3 HP (1440, 1720 RPM) | | 1/2 HP (2880, 3440 RPM) | | | | | |
| Voltage | 110-120V Or 220-240V @ 50/60Hz | 220-240V, 50 Hz | 110-120V Or 220-240V @ 50/60Hz | 220-240V, 50 Hz | 110-120V Or 220-240V @ 50/60Hz | 220-240V, 50 Hz | 220-240V, 50Hz | 115V 60Hz |
| Power Cord Connection to Pump | Universal IEC Socket & Voltage Selector Switch | Universal IEC Socket | Universal IEC Socket & Voltage Selector Switch | Universal IEC Socket | Universal IEC Socket & Voltage Selector Switch | Universal IEC Socket | Hard Wired Schuko Plug | Hard Wired |
| On/Off Power Switch | Yes | | | | | | Yes (Ignition-proof sealed starting components) | |
| Operating Temperature Range | 32°F to 125°F (0°C to 52°C) | | | | | | | |
| Pro-Set® Vacuum Pump Oil Capacity | 11.5 oz (330 ml) | | 15.5 oz (450 ml) | | 16 oz (470 ml) | | | |
| Gas Ballast Valve | Yes | | | | | | | |
| Intake Fittings | SAE: 1/4", 3/8", ACME: 1/2" | | | | | | SAE 1/4", 3/8", 1/2" | |
| Warranty (Years) | 2 | 1 | 2 | 1 | 2 | 1 | | |

Legend: VP= Vacuum Pump, VPS = Ignition Proof VP; **2,4,6,8,10,12** = CFM; **D** = Dual stage; **A or E** = 220-240VAC 50 Hz; **J** = 100VAC 50/60 Hz; **U**=115VAC 60Hz, **No Consonant After "D"** =Dual Voltage 110-120VAC or 220-240VAC 50/60Hz. **Refrigerant Classes: A1** (non-toxic, non-flammable); **A2** (non-toxic, flammable); **A3** (non-toxic, explosive)

For more information visit www.cpsproducts.com



VP0P12











VP0Q12



VP0G6

PRO-SET® PREMIUM VACUUM PUMP OIL

Pro-Set Premium Vacuum Pump Oil is an extremely high quality, severely hydro-treated vacuum pump oil. The oil is compatible for use in pumps made by most manufacturers. Pro-Set Premium Vacuum Pump Oil should always be clean and free of contaminants such as moisture, acids, vapors, dirt etc. It is strongly recommended that the vacuum pump oil be changed after each use to improve service and the life of the pump.







| | | | | | | | | |
|-----------------------------------|---|---|---|---|--|---|---|---|
| |  |  |  |  |  |  |  |  |
| Model | VP8D | VP8DE | VP10D | VP10DE | VP12D | VP12DE | VPS12DE | VPS12DU |
| Stage | 2 | | | | | | | |
| Ultimate Vacuum | 25 Microns | | | | | | | |
| Refrigerant Class | A1, A2 | | | | | | | |
| Dimensions (Inches) | 14.9" x 5.7" x 10.6" | | | | | | | |
| Weight | 29.8 lb (13.5 kg) | | 30.3 lb (13.7 kg) | | 30.9 lb (14.0 kg) | | | |
| Free Air Displacement | 8 CFM @ 60 Hz (192 l/m @ 50 Hz) | | 10 CFM @ 60Hz (240 l/m @ 50Hz) | | 12 CFM @ 60Hz (288 l/m @ 50Hz) | | | |
| Motor Size (HP), RPM @ 50/60Hz | 2⅓ HP (2880, 3440 RPM) | | ¾ HP (2880, 3440 RPM) | | 1 HP (2880, 3440 RPM) | | | |
| Voltage | 110-120V Or 220-240V @ 50/60Hz | 220-240V, 50 Hz | 110-120V Or 220-240V @ 50/60Hz | 220-240V, 50 Hz | 110-120V Or 220-240V @ 50/60Hz | 220-240V, 50 Hz | | 115V 60Hz |
| Power Cord Connection to Pump | Universal IEC Socket, Voltage Selector Switch | Universal IEC Socket | Universal IEC Socket, Voltage Selector Switch | Universal IEC Socket | Universal IEC Socket, Voltage Selector Switch | Universal IEC Socket | Hard Wired Schuko Plug | Hard wired |
| On/Off Power Switch | Yes | | | | | | Yes (Ignition-proof sealed starting components) | |
| Operating Temperature Range | 32°F to 125°F (0°C to 52°C) | | | | | | | |
| Pro-Set® Vacuum Pump Oil Capacity | 29 oz (860 ml) | | 28 oz (830 ml) | | 27 oz (800 ml) | | | |
| Gas Ballast Valve | Yes | | | | | | | |
| Intake Fittings | SAE 1/4", 3/8", 1/2" | | | | | | | |
| Warranty (Years) | 2 | 1 | 2 | 1 | 2 | 1 | | |





Pro-Set® DUAL OR SINGLE STAGE COMPACT VACUUM PUMPS

The Pro-Set® line of dual or single stage, compact vacuum pumps provide an ultimate vacuum ranging from 15 to 100 microns, horsepower ratings from 1/5 to 1/4, and free air displacement from 2 CFM to 4 CFM. These pumps offer dedicated 115VAC or 220-240VAC operation and are hardwired with either NEMA 115VAC or 220-240VAC plugs. Best of all, these pumps feature some the smallest, lightest, most compact aluminum housings in the industry.

| Model |  |  |  |  |  |  |
|---|---|---|---|--|---|---|
| Stage | 2 | | 1 | | | |
| Ultimate Vacuum | 15 Microns | | 100 Microns | | | |
| Refrigerant Class | A1, A2 | | | | | |
| Dimensions (Inches) | 11.3" x 4.5" x 8.0" | | 9.1" x 4.5" x 8.0" | | 11.3" x 4.5" x 8.0" | |
| Weight | 12.1 lb (5.5 kg) | | 9.3 lb (4.2 kg) | | 11.0 lb (5 kg) | |
| Free Air Displacement | 2 CFM @ 60Hz (48 l/m @ 50Hz) | | | | 4 CFM @ 60 Hz (96 l/m @ 50 Hz) | |
| Motor Size (HP) RPM @ 50/60Hz | 1/4 HP (2880 , 3440 RPM) | | 1/5 HP (2880, 3440 RPM) | | 1/4 HP (2880, 3440 RPM) | |
| Voltage | 115V @ 60 Hz | 220-240V @ 50 Hz | 115V @ 60 Hz | 220-240V @ 50 Hz | 115V @ 60 Hz | 220-240V @ 50 Hz |
| Power Cord Connection to Pump (& Plug Type) | Hardwired, Nema 115V Plug | Universal IEC, Schuko Plug | Hardwired, Nema 115V Plug | Universal IEC, Schuko Plug | Hardwired, Nema 115V Plug | Universal IEC, Schuko Plug |
| On/Off Power Switch | Yes | | | | | |
| Operating Temperature Range | 32°F to 125°F (0°C to 52°C) | | | | | |
| Oil Capacity | 9 oz (250 ml) | 9 oz (250 ml) | | | 10 oz (300 ml) | |
| Gas Ballast | No | | | | | |
| Intake Fittings | SAE: 1/4", ACME: 1/2" | | | | | |
| Warranty (Years) | 1 | | | | | |

Legend: VP= Vacuum Pump; C = Compact; 2,4 = CFM; E = 220-240VAC 50 Hz; S = Single Stage; U = 115VAC, 50/60 Hz.
Refrigerant Classes: A1 (non-toxic, non-flammable); A2 (non-toxic, flammable)



VPAS4 ANTI-SIPHON VALVE KIT
1/4" SAE female knurl nut



VPAS8 ANTI-SIPHON VALVE KIT
3/8" SAE female knurl nut



VPASU ANTI-SIPHON VALVE KIT
1/4" SAE, 3/8" SAE, 1/2"-20 UNF female knurl nut

ANTI-SIPHON VALVE KITS

The CPS anti-siphon valve is an essential accessory to any vacuum pump application. The anti-siphon valve prevents the cross-contamination of vacuum pump oil and the compressor oil in the A/C or refrigeration system being serviced. Mixing of vacuum pump oil and compressor oil can cause premature failure in the A/C or refrigeration system. CPS makes three models that fit all CPS and other brands of vacuum pumps.



Pro-Set® SINGLE STAGE VACUUM PUMPS

Pro-Set® single stage, standard size vacuum pumps provide a deep vacuum (down to 50 microns), with horsepower ratings from 1/3 to 1, and free air displacement from 2 CFM to 12 CFM. These pumps include a gas ballast valve and are offered in both single and dual voltage and have a voltage selector switch.

| Model | VP2S | VP4S | VP6S |
|---|---|------------------------------|---------------------------------|
| Stage | 1 | | |
| Ultimate Vacuum | 50 Microns | | |
| Refrigerant Class | A1, A2 | | |
| Dimensions (Inches) | 12.2" x 5" x 9.6" | | 13.1" x 5.5" x 10" |
| Weight | 13.7 lb (6.2 kg) | 15.0 lb (6.8 kg) | 18.3 lb (8.3 kg) |
| Free Air Displacement | 2 CFM @ 60Hz (48 l/m @ 50Hz) | 4 CFM @ 60Hz (96 l/m @ 50Hz) | 6 CFM @ 60 Hz (144 l/m @ 50 Hz) |
| Motor Size (HP), RPM @ 50/60Hz | 1/4 HP (1440 1720 RPM) | 1/3 (HP) 2880/3440 | 1/2 HP (2880, 3440 RPM) |
| Voltage | Dual (110-120V Or 220-240V @ 50/60Hz) | | |
| Power Cord Connection to Pump (& Plug Type) | Universal IEC Socket, Voltage Selector Switch, Nema 15 Plug | | |
| On/Off Power Switch | Yes | | |
| Operating Temperature Range | 32°F to 125°F (0°C to 52°C) | | |
| Oil Capacity | 16 oz (470 ml) | | 19 oz (540 ml) |
| Gas Ballast | No | | |
| Intake Fittings | SAE: 1/4" & 3/8", ACME: 1/2" | | |
| Warranty (Years) | 2 | | |

Legend: VP= Vacuum Pump; 2,4,6 = CFM; S = Single Stage; **Dual Voltage:** 110-120VAC or 220-240VAC 50/60 Hz.
Refrigerant Classes: A1 (non-toxic, non-flammable); A2 (non-toxic, flammable)



AVCVAC VACUUM PUMP CAP KIT

Vacuum pump cap kit with chains on one common ring



Tech-Set™

SINGLE STAGE, COMPACT VACUUM PUMPS

The Tech-Set line of vacuum pumps are designed for the working HVAC technician, and feature a core, essential line of good value vacuum pumps that provide affordable, reliable and dependable service. All models are single stage and feature small, lightweight and compact housings with dedicated 115VAC or 220VAC IEC plug configurations. Models range from 1.5, 3 or 5 CFM, 1/5 to 1/3 horsepower, and ultimate vacuum ratings from 50 to 100 microns.



| Model | TAVPC48SU | TAVPC48SE | TAVPC96SU | TAVPC96SE | TAVP144SU | TAVP144SE |
|---|----------------------------------|----------------------------|--------------------------------|----------------------------|---------------------------------|----------------------------|
| Stage | 1 | | | | | |
| Ultimate Vacuum | 100 Microns | | | | 50 Microns | |
| Refrigerant Class | A1, A2 | | | | | |
| Dimensions (Inches) | 8.75" x 4.1" x 9.25" | | 11.25" x 4.1" x 9.25" | | 12.62" x 4.8" x 9.62" | |
| Weight | 9.5 lb (4.3 kg) | | 11 lb (5.0 kg) | | 14.8 lb (6.7 kg) | |
| Free Air Displacement | 1.5 CFM @ 60 Hz (48 l/m @ 50 Hz) | | 3 CFM @ 60 Hz (96 l/m @ 50 Hz) | | 5 CFM @ 60 Hz (144 l/m @ 50 Hz) | |
| Motor Size (HP) RPM @ 50/60Hz | 1/5 HP (2880, 3440 RPM) | | 1/4 HP (2880, 3440 RPM) | | 1/3 HP (2880, 3440 RPM) | |
| Voltage | 115V @ 50/60 Hz | 220-240V @ 50 Hz | 115V @ 50/60 Hz | 220-240V @ 50 Hz | 115V @ 50/60 Hz | 220-240V @ 50 Hz |
| Power Cord Connection to Pump (& Plug Type) | Hardwired, Nema 115V Plug | Universal IEC, Schuko Plug | Hardwired, Nema 115V Plug | Universal IEC, Schuko Plug | Hardwired, Nema 115V Plug | Universal IEC, Schuko Plug |
| On/Off Power Switch | Yes | | | | | |
| Operating Temperature Range | 32°F to 125°F (0°C to 52°C) | | | | | |
| Oil Capacity | 9 oz (250 ml) | | 14 oz (400 ml) | | | |
| Gas Ballast | No | | | | | |
| Intake Fittings | SAE: 1/4", ACME: 1/2" | | | | | |
| Warranty (Years) | 1 | | | | | |

Legend: **T** = Tech-Set; **VP** = Vacuum Pump; **C** = Compact; 48, 96 or 144 = lpm; **E** = 220-240VAC 50 Hz; **S** = Single Stage; **U** = 115VAC, 50/60 Hz
Refrigerant Classes: **A1** (non-toxic, non-flammable); **A2** (non-toxic, flammable)

PORT CAPS

Oil mist preventer exhaust port.

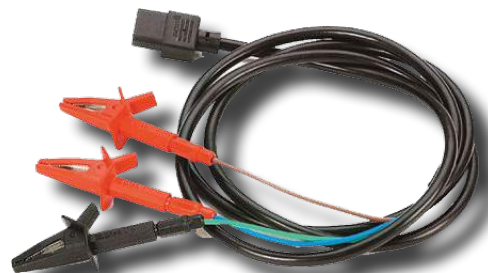
VPXOMP for 2-6 CFM Models

VPXOMP2 for 8-12 CFM Models



VPXJ220 JUMPER CORD KIT

220 VAC jumper power cord for locations where 110 voltage is not available.



VPXJ220

VACUUM GAUGES

PERFORMANCE THAT CAN BE MEASURED



VG100A & VG200 VACROMETER DIGITAL VACUUM GAUGES

VG100A & VG200:

- Advanced sensor design with self-heated thermistor bridge and automatic temperature compensation
- Field cleanable sensor designed to withstand 400 Psi of positive pressure
- Brass T adapter (AVT45), hanging hook (VGXH) and carrying case (VGXC) included with VG200, VG100A
- Calibrated to strict NIST standards for best-in-class accuracy and reliability
- Designed and manufactured in the USA with U.S. and globally sourced components

VG200, VG201:

- Continual digital readout of evacuation process on large, easy to read 5 digit LCD display
- User selectable units: Microns, Torr, in/Hg or mBar

VG100A, VG101:

- Vacuum level indication at Atm (Atmosphere), 5000, 2000, 1000, 500, 250, 100, 50 & 25 microns



| Model | VG200 | VG201 | VG100A | VG101 |
|------------------------------|---|----------------------------|---|----------------------------|
| Sensor Type | Self - heated thermistor bridge [with integral temperature compensation from 32 to 122° F (0 to 50° C)] | | | |
| Field Cleanable Sensor | Yes | | | |
| Accuracy | +/- 10% Of Reading | | +/- 10% Value Of Lighted LED | |
| Display Type | 5 Digit LCD | | 9 High Intensity LEDs | |
| Display Auto-Off | After 5 Minutes Of Operation | | | |
| Operating Vacuum Range | Atmospheric pressure to 0 microns | | Atmospheric pressure to 25 microns | |
| Maximum Working Pressure | 400 Psig | | | |
| Operating Temp Range | Compensated (accuracy as stated): 32°F - 122°F (0°C - 50°C) Non-compensated: Add +/- 0.5% error for every °C outside compensated range | | | |
| Storage Temperature | -22° F to 185° F (-30° C to 85° C) | | | |
| Operating & Storage Humidity | 0 - 95%, Non-condensing | | | |
| Power Source | One 9V Alkaline Battery (ANSI 1604AC – IEC 6LR61), included | | | |
| Battery Life | 20 hr continuous use | | 18 hr continuous use | |
| Battery Indicator | Battery symbol with 3 segment Power Level Bar Graph | | Symbol for 500 Microns Glows | |
| Weight (Excluding Battery) | 5.5 oz (156 g) | | 4.8 oz (136 g) | |
| Dimensions | 2.7" dia. by 1.6" Dp x 5" H (68 mm Dia. x 40 mm Dp x 124 H) | | | |
| Mechanical Connection | Standard 1/4" female SAE refrigerant hose w/core depressor | 1/8" NPT thread connection | Standard 1/4" female SAE refrigerant hose w/ core depressor | 1/8" NPT thread connection |

GAUGE ADAPTERS

The **AVT45/48/87** are premium built brass adapters. The **AVT45** is included for use with the **VG100A & VG200** (purchased separately for **VG201 & VG101**) and has a 1/4" SAE male to 1/4" SAE male to 1/4" SAE swivel female tee.



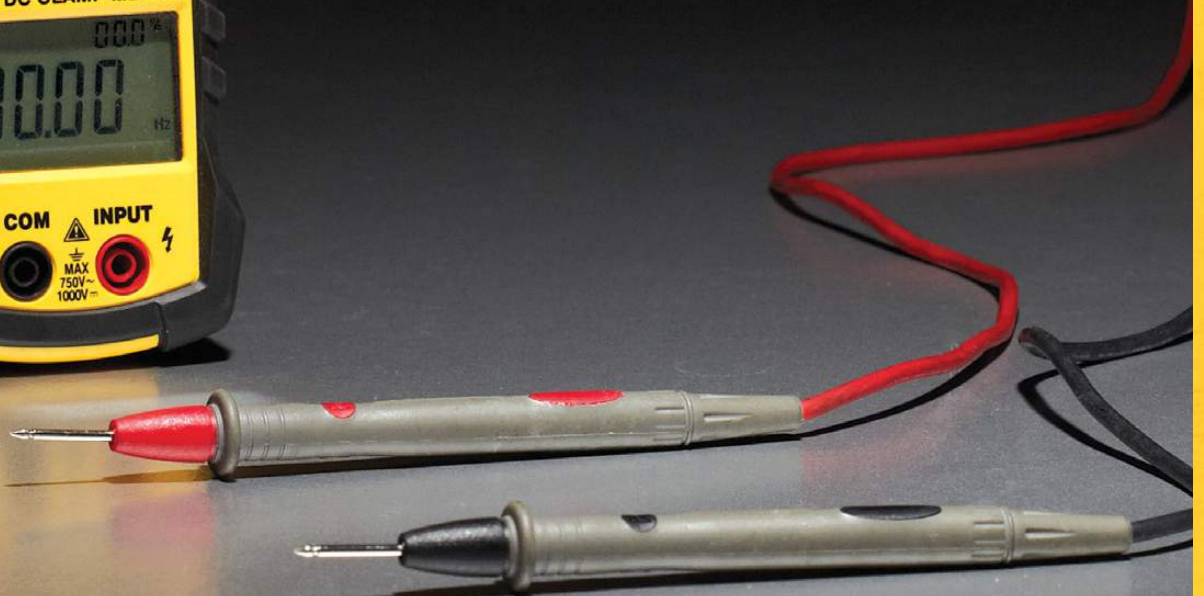
VACUUM GAUGE ACCESSORIES & SPARE PARTS FOR VG200, VG201, 100A, VG101

| | |
|-------|--|
| AVT44 | 1/4" SAE female hex nut x 1/4" SAE male x 1/4" SAE male w/cap & core |
| AVT45 | 1/4" SAE female knurl nut x 1/4" SAE male x 1/4" SAE male w/cap & core |
| AVT87 | 1/4" SAE male x 1/2-20 SAE female x 1/2-20 SAE male tee adapter |
| VGXC | Carrying case for VG Series (Included with VG100A & VG200) |
| VGXH | Hanging hook for VG Series (Included with VG100A & VG200) |



ELECTRICAL & SPECIALTY METERS

MEASURE WITH CONFIDENCE



AC750 DIGITAL CLAMP METER

The **AC750** is a multi-functional AC/DC clamp meter and hosts an array of enhanced features such as ability to capture true In-Rush measurements, non-contact voltage detection, and data logging of output readings to a PC (USB connection cable included).

- Versatile for testing AC/DC voltage, AC/DC current, resistance and frequency
- True RMS AC measurement
- Max/min value measurement
- Audible continuity and diode test
- Non-contact voltage detection
- Integrated clamp light and LCD backlight
- Auto zero key for DCA measurement
- Auto/Manual range, auto power off
- Secondary injection molded case, safety as per IEC1010 1000V CAT III
- Includes **DMXTL** CAT 3, 1000V test leads (shown below)



USB data connection



Extra strength grip clamp



Built-in flashlight



Back view



AC750

| | |
|--------------------|--|
| Display | 6000 count dual display |
| Range Control | Auto range mode |
| Battery | 9V battery (one piece) |
| Dimensions (W,H,D) | 8.8" x 3.4" x 1.3" (225 mm x 86 mm x 33 mm) |
| Weight | 0.70 lb (320 g) |

DMXTL 1000V CAT 3 TEST LEADS



Captures True
Motor In-Rush Current



Includes Built-in Data
Logging with Software

**DMXTL (Replacement
Probes For AC750)**



AM50 VELOCITOR™ AIR VELOCITY METER

A professional grade, precision, hand held, detached vane anemometer that provides fast, accurate air velocity measurements for balancing HVAC systems or determining CFM calculations. Includes large 3/4" display digits and low battery indicator, as well as Data Hold, Max Hold (°F,°C); Function Selection (°F,°C, Anemometer); Units Selection (m/s, ft/min, Knots, Km/Hr). Kit also includes a convenient K Type thermocouple integrated into the remote vane providing quick measurement of grill/duct outflow temperatures from 32° to 122°F (0° to 50°C). An easy-to-read chart allows quick conversion of air velocity measurements into CFM data. Also included is an instruction manual, CFM Chart (Grill Size, Free Air), 9 V battery, molded carrying case. Factory calibrated.

| | | | | |
|---|--|-----------|------------|------------|
| Temperature Sensor | K-type thermocouple | | | |
| Average Period (Seconds) for Wind Speed Measurement | Feet/Minute | ~1.2 | | |
| | Meters/Second | ~0.6 | | |
| | Knots | ~1.2 | | |
| | Km/Hr | ~2.2 | | |
| Flex Cord | 5' | | | |
| Power Consumption | Approx 6 mA | | | |
| Battery Life | 9V | | | |
| Battery Type | 50 hr (for 300 mA-hr battery) | | | |
| Operating Pressure | 500 mb ~ 2 Bar | | | |
| Operating Temperature Range (Meter) | 32°F to 122°F (0°C to 50°C) | | | |
| Operating Temperature Range (Vane) | 32°F to 140°F (0°C to 60°C) | | | |
| Operating Humidity for Thermocouple | <80% RH | | | |
| Storage Temperature Range | -40°F to 140°F (-40°C to 60°C) | | | |
| Bearing | Ultra-low friction sapphire jewel | | | |
| Weight | 12.3 oz (350 g) | | | |
| Mounting Nut | 1/4" x 20 | | | |
| Dimensions (L x W x H) | 6.6" x 3.5" x 1"; (168 mm x 88 mm x 26 mm) | | | |
| Units | Range | Threshold | Resolution | Accuracy |
| Feet/Minute | 0 to 8,800 | 60 | 0.1 | ±3% or 0.1 |
| Meters/Second | 0 to 45 | 0.3 | | |
| Kilometers/Hour | 0 to 140 | 1.0 | | |
| Knots | 0 to 88 | 0.6 | | |

DM350 TECH-SET™ AUTO-RANGING DIGITAL MULTIMETER CAT III 600V

The **DM350** is a Multi-Functional Meter and is designed to international safety standard IEC1010 CAT III 600V. The **DM350** is encased in a secondary injection mold and supports such features as auto ranging, data hold and maximum value measurement.

| | |
|-----------------------|--|
| Display | 4 digit large character LCD |
| Range Control | Auto range mode |
| Battery | (2) 1.5V AA batteries |
| Dimensions | 158 x 74 x 31mm |
| Weight | Approx. 220g (including batteries) |
| DC Voltage | 200m / 2 / 20 / 200 / 600V ±0.7% |
| AC Voltage | 200m / 2 / 20 / 200 / 600V ±0.7% |
| DC Current | 200μ / 2000 μ / 20m / 200mA ±1.2%, 2/10A±2.0% |
| (with optional clamp) | 200/2000A (0.1mV/0.1A) ±1.2% |
| AC Current | 200 μ / 2000 μ / 20m / 200mA ±1.5%, 2/10A±3.0% |
| (with optional clamp) | 200/2000A (0.1mV/0.1A) ±1.5% |
| Resistance | 200 / 2k / 20k / 200k / 2M ± 1.2%; 20M ± 2.0% |
| Temperature | -20°C - 1000°C ± 3.0%, 0°F ~ 1800°F ± 3.0% |
| Capacitance | 20n / 200n / 2μ / 20μ / 200μ / 2000μF ± 4.0% |



CE N11445 DM350



SM150



AC400 TECH-SET™ DIGITAL CLAMP METER

The **AC400** is a auto-ranging clamp on meter. The **AC400** is designed to international safety standard IEC1010 CAT III 600V. The **AC400** is encased in a secondary injection mold and supports such features as auto ranging, data hold and maximum value measurement.



AC400



SM150 SOUND LEVEL METER

A professional grade, hand held, lightweight sound level meter for measuring noise levels from 35 to 130dB. Common applications include monitoring sound output from HVAC/R compressors, blowers, health and safety requirements, offices, factory machinery, airports, auditoriums, studio acoustics, etc. Features switches for Hi/Lo dB, slow/fast/impulse, and A & C Weighting. Includes a large, 4 digit LCD display, maximum hold (captures & holds maximum noise level), Over/under range indicator, peak and average response settings. Includes a 3.5 mm output jack for downloading AC or DC signals to a frequency analyzer, level recorder, FFT analyzer, graphic recorder, etc. Kit includes instruction manual, foam windscreen, 3.5 mm plug, calibration screwdriver, 9 V battery, foam padded carrying case. Factory calibrated. CE approved. Meets or exceeds ANSI S1.4 Type 2; IEC 61672-1 Class 2.

SM150 SOUND LEVEL METER SPECIFICATIONS

| | |
|-----------------------------|--|
| Frequency Range | 20 Hz ~ 8KHz |
| Measuring Level Range | 35~ 130 dB |
| Frequency Weighting | A/C |
| Time Weighting | Fast (125 mS), Slow (1 sec.) Impulse (35 mS) |
| Microphone | 1/2" Electret Condenser |
| Display | LCD (4 Digits) |
| Resolution | 0.1 dB |
| Display Period | 0.5 sec. |
| Level Ranges | Lo (35-95dB); Hi (65-130dB) |
| Accuracy | ±1.4dB (Under Reference Conditions) |
| Dynamic Range | 65 dB |
| Alarm Function | "OVER" displays when input out of range |
| Weight | 12.3 oz (350 g) |
| Mounting Nut | 1/4" x 20 |
| Dimensions (LxWxH) | Inch: 6.6" x 3.5" x 1"; mm: 168 x 88 x 26 |
| Maximum Hold | Hold readings, with decay, 1 dB/3 minutes |
| Calibration | Electrical calibration via internal oscillator (1 KHz) sine wave |
| AC Output | 0.6 Vrms at FS (full scale), output impedance approx. 5KΩ |
| DC Output | 10mV/dB, output impedance approx. 5KΩ |
| Power Supply | One 9V battery |
| Power Life | Approx 50 hr (alkaline) |
| Operating Temperature Range | 32° F to 104°F (0°C to 40°C) |
| Operating Humidity Range | 25% to 90% RH |
| Storage Temperature | 14°F to 140°F (-10°C to 60°C) |
| Storage Humidity | 10% to 70% RH |
| Dimensions (L x W x H) | Inch: 9.4" x 2.7" x 0.98" mm: 240 x 68 x 25 |
| Weight | 7.5 oz (215 g) |

TEMPERATURE & SYSTEM MEASUREMENT

INNOVATIVE SYSTEM ANALYSIS INSTRUMENTATION



SH450 MULTI-FUNCTION SUPERHEAT THERMOMETER & SYSTEM ANALYZER

The **SH450** system analyzer is a versatile diagnostic tool for accurately measuring and evaluating the performance of today's advanced HVAC/R systems.

Measurement capabilities include pressure, superheat, sub cooling, relative humidity, wet bulb, dry bulb and dew point with a range of highly accurate, job specific probes and sensors. The unit is also an advanced multi-channel thermometer, incorporating 4 discrete temperature channels with temperature differential between any 2 of the 4 inputs, min/max, scan and data record functions. Powered by one 9V alkaline battery (included), the unit is designed for portability, yet can still be powered via an optional 110V power supply for permanent, stationary applications.

The versatile **SH450** comes standard with one clamp-on temperature probe **TMX3C**, one Velcro™ strap pipe probe, one general purpose temperature probe **TMX2G** and a six pack of wet bulb socks **TMX3WB**. Optional accessory probes are shown on page 46 and offer the convenience of interchangeable use with other CPS manufactured products including our advanced line of digital manifolds.



SH450

SH450 KEY FEATURES:

- Integrated 90+ refrigerant PT (pressure/temperature) table
- Four discrete temperature channels
- Superheat and subcool measuring functions
- Displays bubble and vapor saturation temperatures
- Direct relative humidity and wet bulb measurements
- Temperature differential with min / max memory
- Stainless steel pressure-vacuum sensor with a range of -14.7 Psi to 725 Psi
- Reads in Psig, KPa, bar, Hg, kg/cm2
- High accuracy silicon humidity transducer probe port
- Operates on 9V battery or optional wall transformer
- Auto-off or continuous on mode
- Large 4-digit backlit display
- Calibrated to NIST traceable standards
- Includes: general purpose probe **TMX2G**; clamp-on surface probe **TMX3C**; 9V alkaline battery and owner's manual

| | |
|--------------------------------------|---|
| Pressure Range | -14.7 Psig to 725.0 Psig (-100 kPa to 5000 kPa) |
| Pressure Accuracy | ±1% of reading or ± 0.5 Psig (± 3.5 kPa) |
| Pressure Units | Psig, kPa, bar, Hg, kg/cm2 |
| Proof Pressure | 1000 Psi (7000 KPa) |
| Dew or Bubble Saturation Temperature | ±1.8°F (±1.0°C) |
| Measurement Temperature Range | -40°F to +300°F (-40°C to +150°C) Actual temp range depends on the probe being used |
| Temperature Resolution | ±0.1°F or °C |
| Superheat/Subcool Accuracy | ±0.4°F / ±0.2°C from 14.0°F to 158°F / -10.0°F to 70°C; 0.6°F / 0.3°C elsewhere in the range |
| RH Range | 0 to 100%RH |
| RH Accuracy (TMX3RH) | ±1.8%RH from 10 to 90%RH; ± 3% elsewhere in the range |
| DB Accuracy (TMX3RH) | ±1.2% of reading ± 1.0°F from -40°F to 200°F (± 1.2% of reading ± 0.5°C from -40°C to 90°C) |
| Power Source | 9V alkaline battery or optional TMX3PS AC adapter for 100 to 240VAC (40 to 60 Hz) - USA Plug |
| Battery Life | 30hr continuous use |
| Automatic Power Off | After 10 minutes of inactivity |

TM360 SERIES, 4 STATION THERMO-PSYCHROMETER

TM360 Series are professional grade instruments that can accommodate all your temperature, humidity, dry/wet bulb and dew point measurements. **TM360** incorporates 4 discrete temperature ports capable of min/max and memory functions including temperature differential between any 2 of the 4 available ports. Display and alternate between four ports to continuously monitor multiple probes during system diagnosis.

A dedicated special purpose port accommodates an optional state-of-the-art silicon humidity transducer probe for fast and accurate measurements during superheat calculations. Housed in a rugged polyethylene case, the **TM360** is engineered to provide laboratory accuracy in rough field conditions. A generous probe storage area is provided to contain all your job specific probes.



TM360 & TM360C

TM360 KEY FEATURES:

- Four discrete temperature channels
- High accuracy silicon humidity transducer probe port
- Large 4-digit, easy-to-read, backlit display
- Min/Max and memory functions
- Temperature differential between any 2 of the 4 temperature ports
- Direct relative humidity and wet bulb measurements
- Calibrated to NIST traceable standards
- Auto-off after 10 minutes of non-use or continuous ON mode
- Operates 30 continuous hr on (1) 9V alkaline battery
- Integrated battery eliminator jack
- Rugged polyethylene carrying case
- Large probe storage area
- Switchable °C/°F
- **TM360** includes accessory probes **TMX2A, TMX2G, TMX2S**
- **TM360C** includes accessory probes **TMX2A, TMX2S, TMX3C**

| | |
|------------------------|---|
| Temperature Resolution | ±0.1°F or °C |
| Temperature | ±0.4°F / ±0.2°C from 14.0 to 158°F -10.0 to 70°C; 0.6°F / 0.3°C elsewhere in the range |
| RH Range | 0 to 100%RH |
| RH Accuracy (TMX3RH) | ±1.8% RH from 10 to 90%RH; ± 3% elsewhere in the range |
| DB Accuracy (TMX3RH) | ±1.2% of reading ± 1.0°F from -40°F to 200°F (± 1.2% of reading ± 0.5°C from -40°C to 90°C) |
| Power Source | 9V alkaline battery or optional TMX3PS AC adapter for 100 to 240VAC (40 to 60 Hz) |
| Battery Life | 30hr continuous use |
| Automatic Power | Off After 10 minutes of non-use, or user selectable continuous ON mode |
| Backlight | 15 seconds |


TMX2A

TMX2G

TMX2GA

TMX2P

TMX2S

TMX3C

TMX2RH

TMX3RH

TMX3PS

ACCESSORIES & SPECIFICATIONS FOR USE WITH SH450, TM360 AND TM360C

| Item | Description | Common Uses | Qty | Operating Temperature Range | For use with | | |
|--------|---|---|-----|----------------------------------|------------------------------|--------|-------|
| | | | | | TM360 | TM360C | SH450 |
| TMX2A | Moving Air Probe, 15' (4.5 m) Lead | Air: Ducting, registers, air movement across condensers, ambient air | 1 | -40°F to 221°F (-40C to +105°C) | Yes* | Yes* | Yes |
| TMX2G | General Purpose Probe, 15' (4.5 m) Lead | Surface, Air, Liquids: Copper pipe, ambient air, RH wet sock method | 1 | -40°F to 257°F (-40C to +125°C) | Yes* | n/a | Yes* |
| TMX2GA | General Purpose Air Probe, 15' (4.5 m) Lead | Air, Surface, Liquids: Ambient air, ducting, registers, air movement across condensers. | 1 | -40°F to 257°F (-40C to +125°C) | n/a | n/a | Yes |
| TMX2P | Puncture Probe, 15' (4.5 m) Lead | Surface, Liquids (Shaft Only): Internal temperatures of frozen materials, air ducts | 1 | -40°F to 257°F (-40C to +125°C) | Yes | n/a | Yes |
| TMX2S | Velcro Strap Pipe Probe, 15' (4.5 m) Lead | Surface: temperatures of copper tubing | 1 | -40°F to 257°F / -40°C to +125°C | Yes* | Yes* | Yes |
| TMX3C | Clamp-On Surface Probe, 15' (4.5 m) Lead | Surface: temperatures of copper tubing | 1 | -40°F to 221°F (-40C to +105°C) | Yes | Yes* | Yes* |
| TMX2RH | Relative Humidity / Dewpoint Probe | Specialty RH Probe: Measure indoor air quality, set/troubleshoot humidity devices | 1 | -40°F to 194°F (-40C to +90°C) | For use with TM150 and TM250 | | |
| TMX3RH | Relative Humidity / Dry Bulb / Wet Bulb / Dew Point Probe | Specialty RH Probe: Measure indoor air quality, set/troubleshoot humidity devices | 1 | -40°F to 194°F (-40C to +90°C) | Yes | Yes | Yes |
| TMX3WB | Wet Bulb Socks | for Use With TM360 | 6 | -40°F to 194°F (-40C to +90°C) | Yes | Yes | n/a |
| TMX3PS | AC Adapter for 100 to 240V (40-60 Hz) - USA Plug | for TM360, SH450 | 1 | 32°F to 140°F (0 C to +60°C) | Yes | Yes | Yes |

*Indicates accessory is included with the model

For more information visit www.cpsproducts.com

TMINI12 NON-CONTACT THERMOMETER

The **TMINI12** infrared thermometer provides easy, instant temperature measurement over a wide range of applications. **TMINI12** offers convenient one-hand operation, laser point sighting, a backlit LCD display, °F/°C selection, automatic power off feature, built-in LED light, K-Type input for use with optional accessory temperature probes.

Use the **TMINI12** to quickly and easily measure temperatures of registers, ductwork, furnaces, evaporators, condensers, compressors, relays, manifolds, radiators, exhaust systems, thermostats, bearings and more. Includes carrying case and 9V alkaline battery.



Built in LED Light



| | |
|-----------------------------|------------------------------------|
| Temperature Range | -76°F to 932°F (-60°C to 500°C) |
| D:S (Distance to Spot Size) | 12:1 |
| Emissivity | Pre-set at 0.95 - adjustable |
| Accuracy | ±2°C (±4°F) or ±2% of reading |
| Display | Digital Backlit LCD |
| Resolution | 1°C/°F |
| Batteries | 2 AAA |
| Warranty | 1 year |



TMXSK90 K-TYPE TEMPERATURE PROBE

The **TMXSK** is the fastest and most accurate handheld K-type surface probe providing accurate readings in less than 5 seconds. The sensor is made from flat-spring ribbons of thermocouple material for contact on uneven surfaces. A square, ribbed handle for grip and a 3' coiled lead for durability and long reach. The exposed junction provides for fast response and is compatible with any other instrument with a K-type input.

- K-Type Surface Probe (Angled, 90 Degree Head)
- Max Temp: 752°F (400°C)



Coiled lead



Flat-spring ribbons



K-type accessory probe



Used as seen above on the CPS TMINI12 and is compatible with any other instrument with a K Type input.



TMXSK TEMPERATURE PROBE

Identical to the **TMXSK90**, but with a straight probe and round, ribbed handle.

- K-Type Surface Probe (Straight Head)
- Max Temp: 752°F (400°C)

TMXKBEAD TEMPERATURE PROBE

The **TMXKBEAD** is a standard K-type bead probe ideally suited for getting fast results when measuring temperature in a variety of media. This 36" long (1 m) probe provides accurate readings in less than 5 seconds.

- K-Type Flexible 36" (1 m) Probe
- Max Temp: 400°F (204°C) Min Temp: -58°F (-50°C)



TMAP ANALOG POCKET THERMOMETER

- Fahrenheit scale
- 1" dial and stainless steel probe and pocket clip
- 0°F to 220°F
- 5" (127 mm)

TMAPC ANALOG POCKET THERMOMETER

- Celsius scale
- 1" dial and stainless steel probe and pocket clip
- -40°C to 80°C
- 5" (127 mm)



TMDP DIGITAL POCKET THERMOMETER

- Celsius scale
- -58° to 302°F (-50° to 150°C)
- 5" (127 mm)

BLACKMAX[®]

DIGITAL MANIFOLDS

INDUSTRY LEADING ACCURACY



Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808

BLACKMAX® WIRELESS DIGITAL MANIFOLDS WITH CPS LINK™ APP

Our digital manifolds combine the latest design and electronic measurement features into one easy-to-use, accurate and water resistant product in a rugged nylon plastic housing, incorporating a durable elastomeric keypad and large backlit LCD display. Two and four valve manifolds are designed and manufactured in the USA with U.S. and globally sourced components.

CPS Link™ is patented technology for iOS and Android mobile applications (APPs), designed to communicate with and control select functions of BlackMax Digital Wireless Manifolds.



Home Screen Large Device

Home Screen Small Device

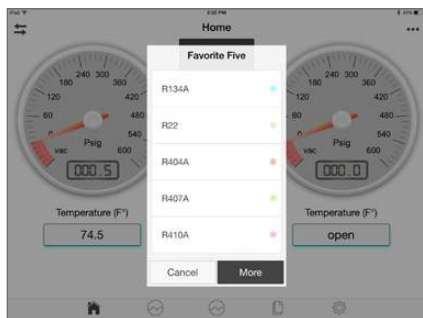
CPS LINK™ APP

CPS Link allows HVAC/R technicians the convenience of running and monitoring a BlackMax digital manifold (from up to 300 feet away), while also providing additional capabilities not found in non-wireless versions.

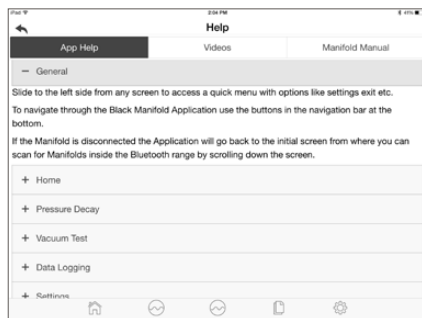
- Fast, convenient touch screen control
- Comprehensive views of system measurements
- Graphical depictions of test functions
- Data logging
- Geolocation data and more
- If your mobile device is not available, your wireless manifold may be operated as a stand alone device using the yellow keypad.



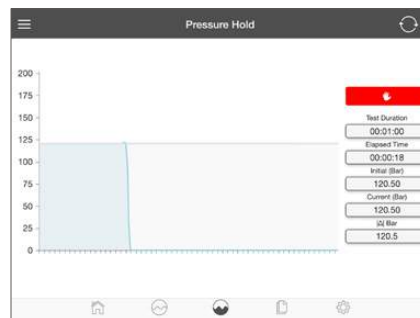
- Perform and monitor select system measurements—in real time without the need to physically touch the manifold
- Alternate views for smaller mobile devices
- Color scheme change according to refrigerant
- Pressure hold or vacuum hold tests can be viewed, saved, stored or emailed as a graph
- Supports over 100 common refrigerants, with quick access to your favorite five
- APP updates for new refrigerants
- Change manifold units; (Pressure, Temperature, Vacuum)
- Multi-language



Access Favorite Five Refrigerants



Help Screen



Vacuum Hold Test

For more information visit www.cpsproducts.com



**MD100WVHEC
BLACKMAX® LIMITED
EDITION CAMO FINISH
WIRELESS DIGITAL
MANIFOLD**



**BLACKMAX® DIGITAL MANIFOLDS
BEST-IN-CLASS ACCURACY**

- Pressure: 1% of reading pressure
- Temperature: superior thermistor sensors for +/- 0.2°C (+/- 0.4°F) accuracy
- Vacuum: direct system attachment achieves +/- 10 microns from 0 to 25,000 microns

SIMPLICITY AND VERSATILITY

- One key ON/OFF and function select
- Preloaded with over 100 refrigerants
- Compatible with R744 subcritical CO2 refrigerants
- One-touch access to your favorite five refrigerants
- Performs pressure decay and vacuum rise tests
- Uses 4AA alkaline or rechargeable batteries
- 25 hours of continuous battery life with backlight; 40 hours without

FULL SYSTEM MEASUREMENT

- 2 Pressures, 2 temperatures and vacuum (using MDXVG accessory)
- Vacuum rise and pressure decay test functions
- Simultaneously displays:
 - HI & LO Pressures, Superheat & Subcooling
 - HI & LO Pressures, T1 & T2
 - HI & LO Pressures, Saturation T1 & Saturation T2
 - HI & LO Pressures, Displays T1, T2 & Delta T

RUGGED DESIGN

- Rain-proof, high strength glass-filled nylon housing
- Precision machined anodized aluminum manifold body
- Proprietary Vortech™ valve systems (certified to 15 microns)
- High-impact polycarbonate LCD window
- Advanced sight glass design



MD100

Non-wireless 4 valve series



MD50

Non-wireless 2 valve series



| BLACKMAX® Digital Manifolds | Number Of Valves | 5' Black & Chrome Ball Valve Charging Hoses 3 Pk (HP5BKEZ) | 5' Heavy Duty Black & Chrome Vacuum Hose (1) (HV5Z) | Thermistor Sensor with 6' leads (MDXCP) x 2 | Vacuum Gauge Accessory Kit* (MDXVG) | Rechargeable NiMH Battery and Universal Plug Kit** (MDXBK) | Soft Case For All MD Series (MDXSC) |
|--|------------------|--|---|---|-------------------------------------|--|-------------------------------------|
| MD50 | 2 | | | ✓ | Optional | Optional | Optional |
| MD50W Wireless | | | | ✓ | Optional | Optional | Optional |
| MD50HE | | ✓ | | ✓ | Optional | Optional | Optional |
| MD50WHE Wireless | | ✓ | | ✓ | Optional | Optional | Optional |
| MD50VHE | | ✓ | | ✓ | ✓ | Optional | Optional |
| MD50WVHE Wireless | | ✓ | | ✓ | ✓ | Optional | Optional |
| MD100 | 4 | Optional | | ✓ | Optional | Optional | Optional |
| MD100W Wireless | | | | ✓ | Optional | Optional | Optional |
| MD100HE | | ✓ | ✓ | ✓ | Optional | Optional | Optional |
| MD100WHE Wireless | | ✓ | ✓ | ✓ | Optional | Optional | Optional |
| MD100VHE | | ✓ | ✓ | ✓ | ✓ | Optional | Optional |
| MD100WVHE Wireless | | ✓ | ✓ | ✓ | ✓ | Optional | Optional |
| MD100WVHEC Wireless NEW! CAMO Limited Edition | | ✓ | ✓ | ✓ | ✓ | Optional | Optional |

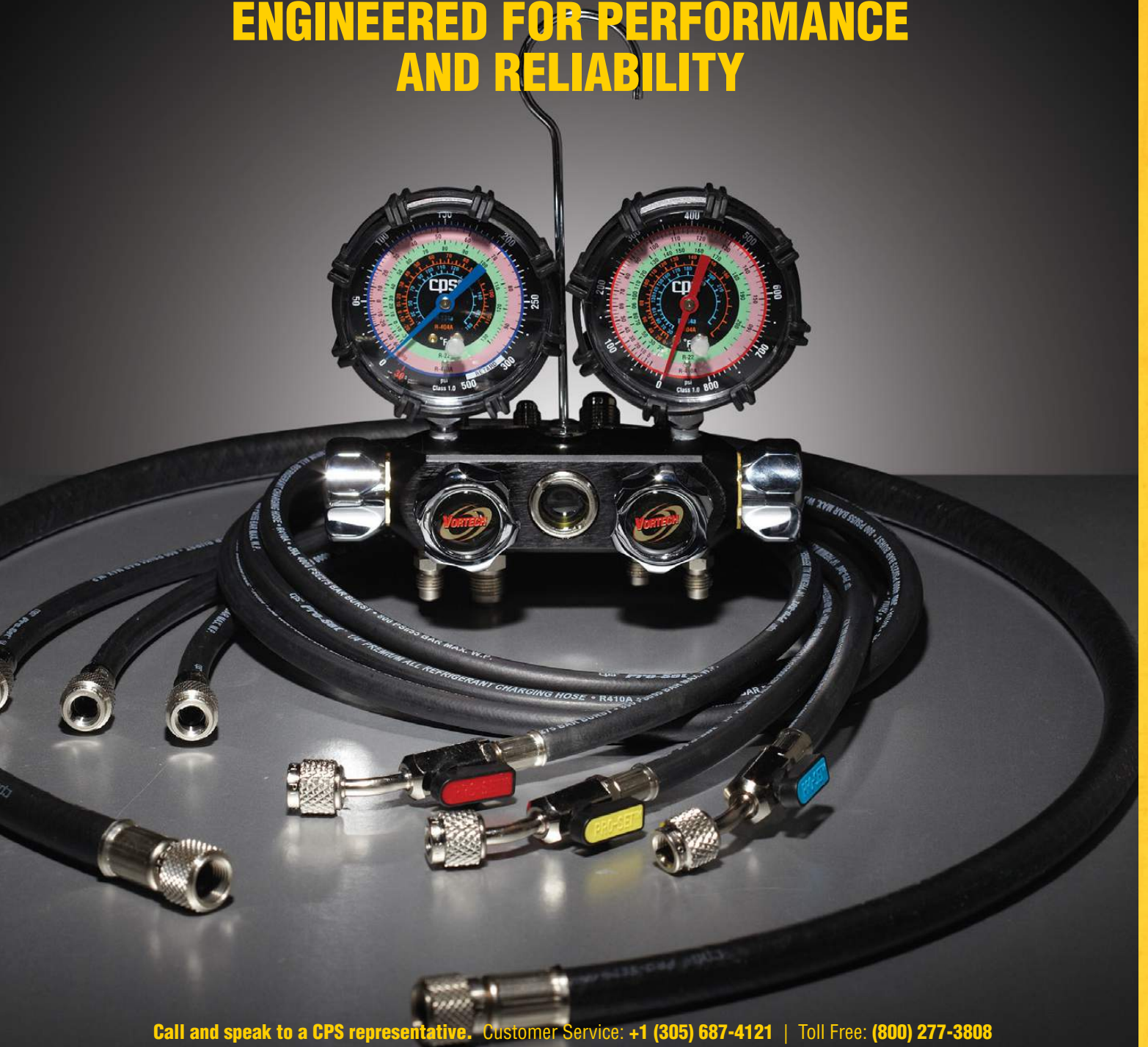
*Includes Vacuum Accessory & 1 AVT45 1/4" SAE Brass Tee Connector. **Includes 1 Universal Charger With 5' Cord; 4 rechargeable NiMH batteries, 1 U.S. Plug, 1 Euro Plug, 1 Australia/New Zealand/China Plug, 1 UK/Ireland/Singapore/Hong Kong Plug.



BLACKMAX[®]

BLACK & CHROME MANIFOLDS

**ENGINEERED FOR PERFORMANCE
AND RELIABILITY**



Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808

BLACKMAX® BLACK & CHROME MANIFOLDS WITH VORTECH™ VALVES

- Two and four valve manifolds designed and manufactured in USA with U.S. and globally sourced components
- Proprietary Vortech™ valves (certified to 15 microns)
- Black anodized aluminum body with large sight glass
- Heavy duty nickel plated metal handles
- Auxiliary center access port with Schrader valve (2 valve units)
- Protective gauge boots and packaged in display tin
- Superior refrigerant metering and control



MV4H4P5EZ

BLACKMAX® BLACK & CHROME VORTECH™ VALVE MANIFOLDS

| Specifications | | 3-1/8" (80 mm) | |
|----------------------|---|---|-------------------|
| | | North America | South America |
| Gauge Description | Refrigerant Scales | R134a, R22, R404a, R410a | R410a, R22, R407c |
| | Gauge Size / Type | Class 1.0 accuracy * Gauges built with internal silicon dampening cup for flutter-free operation | |
| | Pressure Scales | Psi | bar / Psi |
| | Temperature Scales | °F | °C |
| Fittings | Manifold & Hose fittings | 1/4" SAE 45° fittings | |
| Two Valve Manifolds | 3 Premium 5' Pro-Set® Black & Chrome Hoses | MV2H4P5Z | MV2O4P5Z |
| | 3 Premium 5' Pro-Set® Black & Chrome BV Hoses | MV2H4P5EZ | MV2O4P5EZ |
| Four Valve Manifolds | 3 Premium 5' Pro-Set® Black & Chrome Hoses | MV4H4P5Z | MV4O4P5Z |
| | 3 Premium 5' Pro-Set® Black & Chrome BV Hoses | MV4H4P5EZ | MV4O4P5EZ |
| Replacement Gauges | Low Side Gauge | RGH4L | RG04L |
| | High Side Gauge | RGH4H | RG04H |
| | Gauge Boot | RGX80B | RGX80B |



RGH4L

RGH4H



MV4H4Z

BLACKMAX® BLACK & CHROME BARRIER CHARGING HOSES



HP5BKEZ

5' premium barrier ball valve chrome charging hoses (black)



HP5BKZ

5' premium Black & Chrome™ charging hose



HV5Z

5' premium Black & Chrome™ 3/8" charging hose

BLACKMAX® BLACK & CHROME MANIFOLDS WITH TRIPLE-SEAL VALVES

- Proprietary Triple Seal valve systems



MBH4P5EZ

- 2 valve units designed and manufactured in USA with U.S. and globally sourced components
- Black anodized aluminum block body
- No flutter gauges with protective boots and rugged metal housings
- Nickel plated 1/4" SAE 45 fittings
- Auxiliary center access port with Schrader valve
- Heavy duty nickel plated metal handles
- Protective gauge boots and packaged in display tin
- Proprietary Vortech™ valves



RGH5L



RGH5H



**RGX681B
(Spider Design)**



**RGX801B
(Ribbed Design)**

BLACKMAX® BLACK & CHROME TRIPLE SEAL VALVE MANIFOLDS

| Specifications | | 3-1/8" (80 mm) | | 2-1/2" (68 mm) | | |
|---------------------|---|---|-------------------|--------------------|--------------------------|-----|
| | | North America | South America | North America | North America | |
| | | | | South America | | |
| | | | | Australia | | |
| Gauge Description | Refrigerant Scales | R134a, R22, R404a, R410a | R410A, R22, R407C | R410a | R134a, R22, R404a, R410a | |
| | Gauge Size / Type | Class 1.0 accuracy | | Class 1.6 accuracy | | |
| | | * Gauges built with internal silicon dampening cup for flutter-free operation | | | | |
| | Pressure Scales | Psi | bar / Psi | | Psi / kPa | Psi |
| | Temperature Scales | °F | °C | | °F / °C | °F |
| Fittings | Manifold and Hose Fittings | 1/4" SAE 45° fittings | | | | |
| Two Valve Manifolds | Manifold & Gauges Only | MBH4Z | MBO4Z | MBB5Z | MBH5Z | |
| | 3 Premium 5' Pro-Set® Black & Chrome Hoses | MBH4P5Z | MBO4P5Z | MBB5P5Z | MBH5P5Z | |
| | 3 Premium 5' Pro-Set® Black & Chrome BV Hoses | MBH4P5EZ | MBO4P5EZ | MBB5P5EZ | MBH5P5EZ | |
| Replacement Gauges | Low Side Gauge | RGH4L | RG04L | RGB5L | RGH5L | |
| | High Side Gauge | RGH4H | RG04H | RGB5H | RGH5H | |
| | Gauge Boot | RGX801B Ribbed | RGX801B Ribbed | RGX681B Spider | RGX68SB Spider | |

Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808

Pro-Set®

PREMIUM PISTON SERIES

**PROPRIETARY TRIPLE SEAL VALVES
BEST IN CLASS 1% MEASUREMENT ACCURACY**



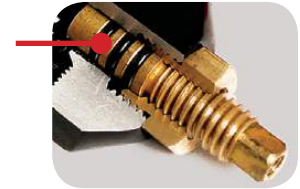


PRO-SET® THE WORKMAN'S CHOICE PREMIUM PISTON SERIES

The Workman's Choice series 2 valve anodized aluminum block body with 1/4" SAE 45° fittings, Triple Seal piston valves, sure grip rubber over metal valve handles, easy-to-read 3 1/8" (80 mm) Class 1.0 accuracy gauges, protective gauge boots, extra access port in center with Schrader valve and hanging hook.

TRIPLE SEAL™ VALVES

- 3 super Neoprene o-ring design
- Back-seating o-ring seals valve nut when fully open
- Floating nylon sealing disk
- Valve stems retract fully to provide maximum flow
- Mirror-like port finish for smooth valve movement



Durable, protective gauge boots



RGH7L



RGH7H

PRO-SET® WORKMAN'S CHOICE 2 VALVE MANIFOLDS

| Specifications | | 3-1/8" (80 mm) | |
|---------------------|--------------------------------|---|-------------------|
| | | North America | South America |
| Gauge Description | Refrigerant Scales | R134a, R22, R404a, R410a | R410a, R22, R407c |
| | Gauge Size / Type | Class 1.0 accuracy * Gauges built with internal silicon dampening cup for flutter-free operation | |
| | Pressure Scales | Psi | bar / Psi |
| | Temperature Scales | °F | °C |
| Fittings | Manifold and Hose fittings | 1/4" SAE 45° fittings | |
| Two Valve Manifolds | Manifold & Gauges Only | MT2H7 | MT207 |
| | 3 Premium 5' Pro-Set® Hoses | MT2H7P5 | MT207P5 |
| | 3 Premium 5' Pro-Set® AB Hoses | MT2H7P5A | MT207P5A |
| | 3 Premium 5' Pro-Set® BV Hoses | MT2H7P5E | MT207P5E |
| Replacement Gauges | Low Side Gauge | RGH7L | RG07L |
| | High Side Gauge | RGH7H | RG07H |
| | Replacement Gauge Boot | RGXBW | RGXBW |

PRO-SET® BLACK BODY TRIPLE SEAL™ PISTON 2 VALVE SERIES

- 2 valve anodized aluminum block body
- 1/4" SAE 45° fittings
- 2-1/2" (68 mm) Class 1.6 accuracy gauges
- Extra access port in center with Schrader valve and hanging hook



TRIPLE SEAL™ VALVES

- 3 super Neoprene o-ring design
- Back-seating o-ring seals valve nut when fully open
- Floating nylon sealing disk
- Valve stems retract fully to provide maximum flow
- Mirror-like port finish for smooth valve movement



MBDP5E

MBH

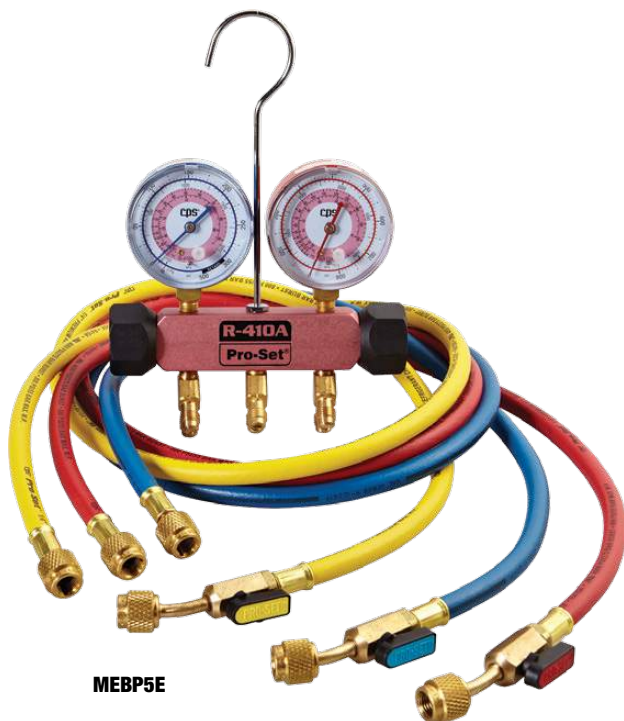
MBC

MBD

TRIPLE SEAL™ PISTON 2 VALVE BLACK BODY MANIFOLDS

| Specifications | | 2-1/2" (68 mm) | | | | | |
|---------------------|----------------------------|---|-------------------|--------------------|-----------------|-------------------|-------------------|
| | | North America | | | South America | South America | South America |
| | | | | | Asia | Australia | |
| Gauge Description | Refrigerant Scales | R12, R22, R502 | R134a, R22, R404a | R22, R404a, R410a, | R12, R134a, R22 | R134a, R22, R404a | R410a, R22, R407c |
| | Gauge Size / Type | Class 1.6 accuracy | | | | | |
| | | * Gauges built with internal silicon dampening cup for flutter-free operation | | | | | |
| | Pressure Scales | Psi | | | Psi / kPa | | Psi / kPa |
| | Temperature Scales | °F | | | °F / °C | | °C |
| Fittings | Manifold & Gauges Only | 1/4" SAE 45° fittings | | | | | |
| Two Valve Manifolds | Manifold & Gauges Only | MBC | MBD | MBH | MBZ | MBT | MBO |
| | Three 3' Pro-Set® Hoses | MBCS3 | MBDP3 | MBHP3 | MBZS3 | MBTP3 | MBOP3 |
| | Three 5' Pro-Set® Hoses | MBCS5 | MBDP5 | MBHP5 | MBZS5 | MBTP5 | MBOP5 |
| | Three 5' Pro-Set® AB Hoses | NA | MBDP5A | MBHP5A | NA | MBTP5A | MBOP5A |
| | Three 5' Pro-Set® BV Hoses | NA | MBDP5E | MBHP5E | NA | MBTP5E | MBOP5E |
| Replacement Gauges | Low Side Gauge | RGCL | RGDL | RGHL | RGZL | RGTL | RGOL |
| | High Side Gauge | RGCH | RGDH | RGHH | RGZH | RGTH | RGOH |

For more information visit www.cpsproducts.com



MEBP5E

PRO-SET® PINK BODY PISTON MANIFOLD SERIES

Piston series 2 valve anodized aluminum block body with 1/4" SAE 45° fittings, Triple Seal piston valves, 2-1/2" (68 mm) Class 1.6 accuracy gauges, extra access port in center with Schrader valve and hanging hook.

NON-FLUTTER GAUGE

Design with Rugged Metal Housing

FRONT CALIBRATION Access Port

ANODIZED ALUMINUM
Block Body

EASY-TO-GRAB
Large Knob

TRIPLE SEAL™ VALVES

- 3 super Neoprene o-ring design
- Back-seating o-ring seals valve nut when fully open
- Floating nylon sealing disk
- Valve stems retract fully to provide maximum flow
- Mirror-like port finish for smooth valve movement



MEB



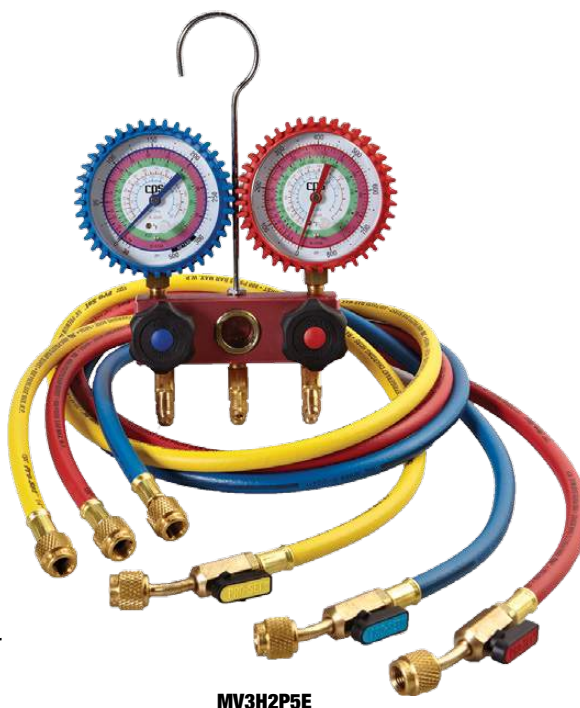
MEH

TRIPLE SEAL™ PISTON 2 VALVE PINK BODY MANIFOLDS

| Specifications | | 2 1/2" (68 mm) | | |
|---------------------|--------------------------------|-----------------------|-------------------|---------------|
| | | North America | | South America |
| Gauge Description | Refrigerant Scales | R410a | R410a, R22, R404a | R410a |
| | Gauge Size / Type | Class 1.6 accuracy | | |
| | Pressure Scales | Psi / kPa | Psi | Psi / kPa |
| | Temperature Scales | °F / °C | °F | °F / °C |
| Fittings | | 1/4" SAE 45° fittings | | 1/2" - 20 UNF |
| Two Valve Manifolds | Manifold & Gauges Only | MEB | MEH | MCB |
| | 3 Premium 3' Pro-Set® Hoses | MEBP3 | MEHP3 | MCBJ3 |
| | 3 Premium 5' Pro-Set® Hoses | MEBP5 | MEHP5 | MCBJ5 |
| | 3 Premium 5' Pro-Set® AB Hoses | MEBP5A | MEHP5A | MCBJ5A |
| | 3 Premium 5' Pro-Set® BV Hoses | MEBP5E | MEHP5E | MCBJ5E |
| Replacement Gauges | Low Side Gauge | RGBL | RGHL | RGBL |
| | High Side Gauge | RGBH | RGHH | RGBH |

PRO-SET® VORTECH™ DEEP VACUUM MANIFOLD SERIES

- Two-valve, r410A pink anodized aluminum block body
- 1/4" SAE 45° fittings
- Vortech™ deep vacuum valves
- Extra large sight glass
- Easy-to-read 3-1/8" (80 mm) Class 1.6 accuracy gauges
- Protective gauge boots
- Extra access port in center with Schrader valve and hanging hook



MV3H2P5E



MV3H2

MV3H3



MV13H2

MV13H3

VORTECH™ DEEP VACUUM VALVE MANIFOLDS

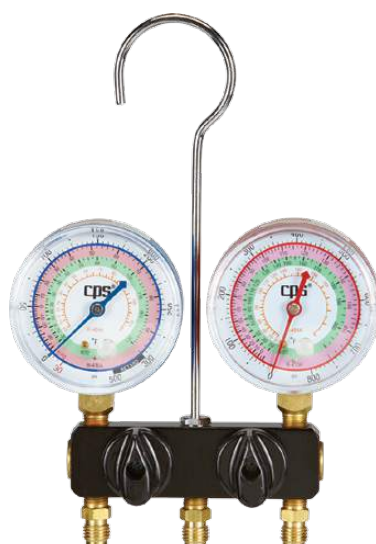
| Specifications | | 3-1/8" (80 mm) | | | |
|----------------------|--------------------------------|---|-------------|-------------------|---------------|
| | | North America | | South America | South America |
| | | | | | Australia |
| Gauge Description | Refrigerant Scales | R410a, R22, R404a, R134a | | R410a, R22, R407c | R410a |
| | Gauge Size / Type | Class 1.6 accuracy | | | |
| | | * Gauges built with internal silicon dampening cup for flutter-free operation | | | |
| | | | *Oil-Filled | | *Oil-Filled |
| | Pressure Scales | Psi | Psi | Psi / bar | Psi / kPa |
| | Temperature Scales | °F | °F | °C | °F / °C |
| Fittings | Manifold & Gauges Only | 1/4" SAE 45° fittings | | | |
| Two Valve Manifolds | Manifold & Gauges Only | MV3H2 | MV3H3 | MV302 | MV3B3 |
| | 3 Premium 5' Pro-Set® Hoses | MV3H2P5 | MV3H3P5 | MV302P5 | MV3B3P5 |
| | 3 Premium 5' Pro-Set® AB Hoses | MV3H2P5A | MV3H3P5A | MV302P5A | MV3B3P5A |
| | 3 Premium 5' Pro-Set® BV Hoses | MV3H2P5E | MV3H3P5E | MV302P5E | MV3B3P5E |
| Four Valve Manifolds | Manifold & Gauges Only | MV13H2 | MV13H3 | MV1302 | MV13B3 |
| | 3 Premium 5' Pro-Set® Hoses | MV13H2P5 | MV13H3P5 | MV1302P5 | MV13B3P5 |
| | 3 Premium 5' Pro-Set® AB Hoses | MV13H2P5A | MV13H3P5A | MV1302P5A | MV13B3P5A |
| | 3 Premium 5' Pro-Set® BV Hoses | MV13H2P5E | MV13H3P5E | MV1302P5E | MV13B3P5E |
| Replacement Gauges | Low Side Gauge | RGH2LB | RGH3L | RG02LB | RGB3L |
| | High Side Gauge | RGH2HB | RGH3H | RG02HB | RGB3H |

PRO-SET® BALL VALVE BODY MANIFOLD SERIES

Ball Valve series 2 valve anodized aluminum block body with 1/4" SAE fittings, full flow ball valve design, 2-1/2" (68 mm) Class 1.6 accuracy gauges and hanging hook.



MGO



MGH



MGHP5E

| BALL VALVE BODY MANIFOLD SERIES | | | |
|---------------------------------|---|-----------------------|-------------------|
| Specifications | | 2-1/2" (68 mm) | |
| | | North America | South America |
| Gauge Description | Refrigerant Scales | R410a, R22, R404a | R410a, R22, R407c |
| | Gauge Size / Type | Class 1.6 accuracy | |
| | Pressure Scales | Psi | bar / Psi |
| | Temperature Scales | °F | °C |
| | * Gauges built with internal silicon dampening cup for flutter-free operation | | |
| Fittings | Manifold and Hose Fittings | 1/4" SAE 45° fittings | |
| Two Valve Manifolds | Manifold & Gauges Only | MGH | MGO |
| | 3 Premium 5' Barrier Hoses | MGHP5 | MGOP5 |
| | 3 Premium 5' Barrier AB Hoses | MGHP5A | MGOP5A |
| | 3 Premium 5' Barrier BV Hoses | MGHP5E | MGOP5E |
| Replacement Gauges | Low Side Gauge | RGHL | RGOL |
| | High Side Gauge | RGHH | RGOH |

MANIFOLD ACCESSORIES AND REPLACEMENT PARTS

A complete line of repair kits, parts and accessories to keep your manifold in brand-new condition. If you are looking for something or are unsure of the part you need, give us a call and let our specialists assist you.



MXC2

Rugged canvas carrying case for manifolds



MXC

Plastic carrying case for manifolds



MVXKC

Replacement Valve Handle for BlackMax® Series w/ Vortech™ Valves - Chrome Metal



MVXK

Replacement valve handle w/ plugs for Vortech™ manifolds



MXK

Replacement valve handle w/ labels for diaphragm manifolds



MXPK

Replacement valve handle w/ labels for BlackMax® manifolds



MXMH

Hanging hook for all manifolds



M2XRK

Diaphragm valve repair kit: services 2 valves



MXPV

Complete BlackMax® piston valve assembly



M2XHA

2-way hose anchor bracket for Vortech™ & diaphragm



MXPVO

BlackMax® piston valve seals repair kit: services 2 valves

MISC. REPLACEMENT PARTS AND ACCESSORIES

| | |
|--|--------|
| 4-way hose anchor bracket for Vortech™ & diaphragm | M4XHA |
| Diaphragm valve repair kit: services 4 valves | M4XRK |
| Diaphragm valve repair kit: services 5 valves | M5XRK |
| Vortech™ valve repair kit: services 2 valves | MV2XRK |
| Vortech™ valve repair kit: services 4 valves | MV4XRK |
| Vortech™ valve repair kit: services 5 valves | MV5XRK |
| Replacement valve handle for brass manifold | MXBK |

Tech-SetTM

BRASS BODY SERIES

THE ORIGINAL MANIFOLD DESIGN



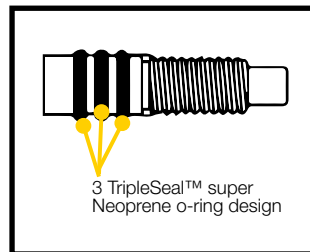
TECH-SET™ BRASS BODY MANIFOLD SERIES

2 valve forged brass body with 1/4" SAE 45° fittings, TripleSeal™ piston valves and hanging hook.

- Quality forged brass body
- Full sized porting for maximum flow
- No flutter gauges with rugged molded housings
- Large easy-to-grip knobs

TRIPLE SEAL™ VALVES

- 3 super Neoprene o-ring design
- Back-seating o-ring seals valve nut when fully open
- Floating nylon sealing disk
- Valve stems retract fully to provide maximum flow
- Mirror-like port finish for smooth valve movement



| TECH-SET™ BRASS BODY 2 VALVE MANIFOLDS & HOSE SETS | | | | | |
|--|--|-----------------------------------|------------|-----------------------------------|------------|
| SPECIFICATIONS | | N. America | S. America | N. America | S. America |
| Gauge Description | Refrigerant Scales | R410a, R22, R404a, R134a | | R22, R134a, R404a, R507A | |
| | Gauge Size / Type Gauges built with internal silicon dampening cup for flutter-free operation | 3-1/8" (80 mm) Class 1.6 accuracy | | 2-5/8" (68 mm) Class 1.6 accuracy | |
| | Pressure Scales | Psi/bar | bar/Psi | Psi/bar | bar/Psi |
| | Temperature Scales | °F | °C | °F | °C |
| Fittings | Manifold and Hose fittings | 1/4" SAE 45° fittings | | | |
| Two Valve Manifolds | 3 Standard 3' Hoses | NA | NA | M64G3 | M63G3 |
| | 3 Prem-Flex 5' (1.52 m) Hoses | M62PF5 | M61PF5 | NA | NA |
| Replacement Hoses | 3 Prem-Flex 3' (0.91 m) Hoses | HPF3 | | | |
| | 3 Prem-Flex 5' (1.52 m) Hoses | HPF5 | | | |
| | 3 Standard 3' (0.91 m) Hoses | HG3 | | | |
| | 3 Standard 5' (1.52 m) Hoses | HG5 | | | |



GT1

- 0-30 Psi (0-2 bar)
- 1 Psi (0.05 bar) increments
- 3/4" FPT Brass Bell



GT2

- 0-100 Psi (0-7 bar)
- 2 Psi (0.20 bar)
- 3/4" FPT Brass Bell



GT4

- 0-30 Psi (0-2 bar)
- 1 Psi (0.05 bar)
- 1" FPT Brass Bell

GT SERIES GAS TEST GAUGES

Test the integrity of new installations for pressure leaks by simply connecting the gauge, pressurize the system, using the supplied access port, and monitor the easy-to-read 3-1/2" (80 mm) gauge for potential pressure drops that would indicate a leak.



GT3 FUEL OIL TEST KIT

The **GT3** is a comprehensive test kit which includes the components necessary to test oil fuel pump performance while diagnosing related burner efficiency issues such as cleaner light-offs and coasting stops.

INCLUDES:

- 2-1/2" gauge, scale 30", 0-150 lbs
- 2-1/2" gauge, scale 30", 0-300 lb
- 12" hose 1/4" female swivel x 1/4" female 45° swivel
- 1/8 NPT x 1/4 Male SAE adapter
- 1/8 NPT x 1/4 Male SAE 90° adapter
- 1/4 NPT x 1/4 Male SAE adapter
- 1/4 NPT x 1/4 Male SAE 90° adapter
- Carrying Case

CHARGING HOSES

OUR OFFERING IS AS FLEXIBLE AS OUR HOSES



PRO-SET® PREMIUM UL/SAE BARRIER REFRIGERANT SERVICE HOSES

- Nylon permeation barrier (Meets SAE J2196)
- Leak-proof 8-sided crimp
- 800 Psi working pressure (per UL1963)
- 4000 Psi burst pressure
- Extra deep knurling on nuts for easy grip
- Adjustable valve core depressor
- Blow off grooves preventing spray back
- R-410A compatible, as well as CFC, HCFC and HFC refrigerants and blends

* UL listed, File SA11622

PRO-SET® STANDARD REFRIGERANT SERVICE HOSES

- All-weather flexibility and strength
- Leak-proof 8-sided crimp
- 750 Psi working pressure
- 3000 Psi burst pressure
- Extra deep knurling on nuts for easy grip
- Adjustable valve core depressor
- Blow off grooves preventing spray back



| Hose Length and Color | | 1/4" Hoses for all refrigerants | | 1/4" Hoses w/45° ball valve on end | | 1/4" Hoses w/Microseal™ anti-blowback valve on one end | | 1/4" In-line ball valve hoses | | R-410A Hose w/ special 1/2"-20 Unf fittings | w/45° ball valve fitting in one end |
|-----------------------|--------|---------------------------------|----------|------------------------------------|----------|--|----------|-------------------------------|----------|---|-------------------------------------|
| | | Premium | Standard | Premium | Standard | Premium | Standard | Premium | Standard | Premium | |
| 3' (90 cm) | Yellow | HP3Y | HS3Y* | HP3YE | HS3YE* | HP3YA* | HS3YA* | HP3YL* | HS3YL* | HJ3Y* | HJ3YE* |
| | Blue | HP3B | HS3B* | HP3BE | HS3BE* | HP3BA | HS3BA | HP3BL | HS3BL* | HJ3B* | HJ3BE* |
| | Red | HP3R* | HS3R | HP3RE* | HS3RE* | HP3RA | HS3RA* | HP3RL* | HS3RL* | HJ3R* | HJ3RE* |
| | 3-Pack | HP3* | HS3 | HP3E* | HS3E | HP3A* | HS3A | HP3L* | HS3L* | HJ3* | HJ3E* |
| 4' (120 cm) | Yellow | na | HS4Y* | na | na | na | na | na | na | na | na |
| | Blue | na | HS4B* | na | na | na | na | na | na | na | na |
| | Red | na | HS4R* | na | na | na | na | na | na | na | na |
| | 3-Pack | na | HS4* | na | na | na | na | na | na | na | na |
| 5' (150 cm) | Yellow | HP5Y* | HS5Y* | HP5YE | HS5YE | HP5YA | HS5YA | HP5YL | HS5YL* | HJ5Y* | HJ5YE* |
| | Blue | HP5B | HS5B* | HP5BE | HS5BE* | HP5BA | HS5BA | HP5BL | HS5BL* | HJ5B* | HJ5BE* |
| | Red | HP5R | HS5R | HP5RE* | HS5RE | HP5RA* | HS5RA | HP5RL | HS5RL* | HJ5R* | HJ5RE* |
| | 3-Pack | HP5* | HS5* | HP5E | HS5E* | HP5A* | HS5A | HP5L* | HS5L | HJ5* | HJ5E* |
| 6' (180 cm) | Yellow | HP6Y* | HS6Y* | HP6YE | HS6YE* | HP6YA* | HS6YA* | HP6YL* | HS6YL* | na | na |
| | Blue | HP6B | HS6B* | HP6BE | HS6BE | HP6BA | HS6BA | HP6BL | HS6BL* | na | na |
| | Red | HP6R | HS6R | HP6RE* | HS6RE* | HP6RA* | HS6RA* | HP6RL* | HS6RL* | na | na |
| | 3-Pack | HP6* | HS6 | HP6E | HS6E* | HP6A* | HS6A | HP6L* | HS6L* | na | na |
| 8' (240 cm) | Yellow | na | HS8Y* | na | HS8YE* | na | HS8YA* | na | HS8YL* | na | na |
| | Blue | na | HS8B* | na | HS8BE* | na | HS8BA* | na | HS8BL* | na | na |
| | Red | na | HS8R* | na | HS8RE* | na | HS8RA* | na | HS8RL* | na | na |
| | 3-Pack | na | HS8* | na | HS8E* | na | HS8A* | na | HS8L* | na | na |
| 10' (300 cm) | Yellow | na | HS10Y* | na | na | na | na | na | na | na | na |
| | Blue | na | HS10B* | na | na | na | na | na | na | na | na |
| | Red | na | HS10R* | na | na | na | na | na | na | na | na |
| | 3-Pack | na | HS10* | na | na | na | na | na | na | na | na |

*Non-stock item (made to order). Call Customer Service for price and lead time.

SPECIALTY HOSES

PRO-SET® PREMIUM 6" to 12" BALL VALVE HOSE EXTENSIONS

- Nylon permeation barrier (Meets SAE J2196)
- Leak-proof 8-sided crimp
- 800 Psi working pressure
- 4000 Psi burst pressure
- Extra deep knurling on nuts for easy grip
- Adjustable valve core depressor
- Blow off grooves (prevents spray back)
- R-410A compatible, as well as CFC, HCFC and HFC refrigerants and blends



| Length | Description | Yellow | Blue | Red | 3-Pack |
|---------------|---------------|-----------|-----------|-----------|---------|
| 6" (15.2 cm) | 1/4" SAE | HTYE | HTBE | HTRE | HTE |
| 12" (30.5 cm) | 1/4" SAE | HT1YE | HT1BE | HT1RE | HT1E |
| 6" (15.2 cm) | 1/2" - 20 SAE | HT410YEJ* | HT410BEJ* | HT410REJ* | HT410EJ |

PRO-SET® PREMIUM PRESSURE CONTROL HOSES

Pro-Set pressure control hoses are constructed with a thermoplastic polymer inner tube and cover to eliminate the vibration failures of copper capillary tube installations. The higher temperature ratings of the thermoplastic (to 266° F) eliminates failures caused by maximum load conditions on rubber type pressure control hoses.

| Length | 90° x 90° | Straight x 90° | Straight x Straight | Fitting | Operating Temperature Range | Minimum Bend Radius |
|-------------|-----------|----------------|---------------------|--|---------------------------------|---------------------|
| 2' (60 cm) | HHC2* | HHC2S | HHC2SS* | 1/4" SAE Hex Style Straight & 90°, With Copper Gaskets | -49° F to 266°F (-45° to 130°C) | 4" 102 mm |
| 3' (90 cm) | HHC3* | HHC3S | HHC3SS* | | | |
| 4' (120 cm) | HHC4* | HHC4S | HHC4SS* | | | |

*Non-stock item (made to order). Call Customer Service for price and lead time.



PRO-SET® PREMIUM 3/8" VACUUM/CHARGING HOSES (HEAVY DUTY)

- 5/16" I.D. heavy duty hose
- Permeation resistant barrier
- 460 Psi working pressure; 2300 Psi burst

| Length | Without Ball Valve | With In-Line Ball Valve | Nylon Permeation Barrier | Leak Proof 8 Sided Crimp | Working Pressure | Burst Pressure | Deep Knurl Brass Fittings |
|-------------|--------------------|-------------------------|--------------------------|--------------------------|------------------|----------------|---------------------------|
| 3' (90 cm) | HV3* | na | Yes | 3/8" SAE | 460 Psi | 2300 Psi | Yes |
| 5' (150 cm) | HV5 | HV5E | | | | | |
| 6' (180 cm) | HV6* | na | | | | | |
| 8' (240 cm) | HV8* | na | | | | | |

*Non-stock item (made to order). Call Customer Service for price and lead time.






TECH-SET™ 1/4" CHARGING HOSES

Tech-Set™ charging hoses are available in Standard or Prem-Flex grades and 3' & 5' lengths.

- All-weather resistant
- Rugged flexibility and durability
- Extra deep knurling on nuts for easy grip



| Length | 3 Pack (Red, Yellow, Blue) | Hose Type | Working Pressure | Burst Pressure | Adjustable Valve Core Depressor | Leak-Proof 8 Sided Crimp | Blow Off Grooves (Prevents Spray Back) | Refrigerant Compatibility |
|---------------|----------------------------|-----------|------------------|--------------------|---|---|---|--|
| 3 Ft. (90 cm) | HG3 | Standard | 750 PSI (51 bar) | 3000 PSI (206 bar) |  |  |  | Compatible With CFC, HCFC, HFC refrigerants and blends |
| 5 Ft (150 cm) | HG5 | | | | | | | |
| 3 Ft. (90 cm) | HPF3 | Prem-Flex | 800 PSI (55 bar) | 4000 PSI (275 bar) | | | | |
| 5 Ft (150 cm) | HPF5 | | | | | | | |

CHARGING HOSE REPLACEMENT PARTS



HXG

(10) Hose 1/4" SAE Neoprene Gaskets



HXGD

(10) Hose 1/4" SAE Neoprene Gasket & (10) Core Depressor



HXGD2

(6) 1/2" ACME, 1/2"-20 UNF Gaskets & (6) Core Depressors



HX38G

(10) Hose Gaskets, 3/8" SAE Neoprene



HXG2

(10) 1/2" ACME, 1/2"-20 UNF Replacement Hose Gaskets



HXGA

(6) Hose Gaskets, 1/4" SAE Microseal Antiblowback



HXGA410

(10) Replacement Gaskets for 1/2"-20 UNF ABB Fittings



HXTG

(10) Hose Gaskets, 1/4" SAE Teflon®

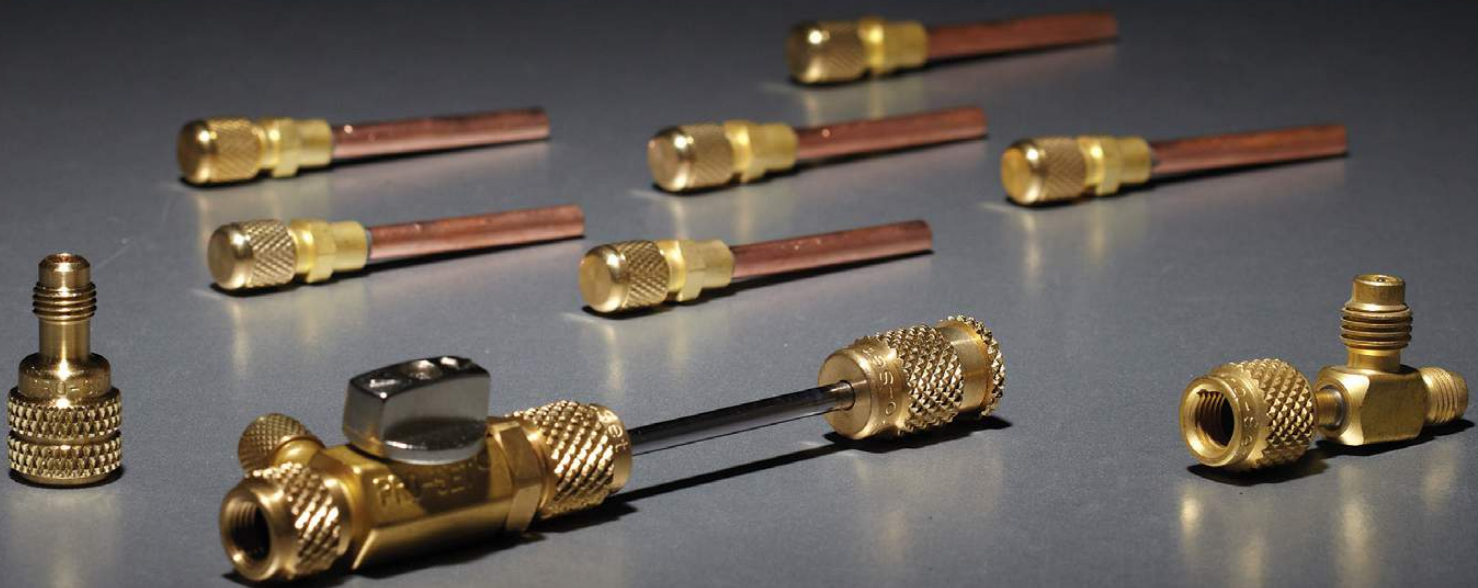


HXTG2

(10) Hose Gaskets, 1/2"-20 UNF & 1/2" ACME Teflon®

ADAPTERS, FITTINGS, VALVES & VALVE CORE TOOLS

**MANUFACTURED TO STRINGENT
INDUSTRY STANDARDS**



**AD12****AD14****AD149C****AD18C****AD24/AD24B****AD36C****AD41/AD41B****AD44/AD44B****AD47/AD47B****AD48/AD48B****AD61/AD61B****AD68****AD68V****AD71****AD78/AD78B****AD81/AD81B****AD84/AD84B****AD84C****AD87/AD87B****AD87S****AD369C****AD849C****ADXFW****ADAPTERS**

| Female | Male | Description | Application | Qty / Pk | Item |
|---|----------------------|-----------------------|---|--------------|---------------|
| 3/16" SAE | 1/4" SAE | no valve core | TLVC Valve Core Tool for R-12 Auto. HI-side | 1 | AD36 |
| | | with valve core | Automotive adapter | 1 | AD36C |
| | 1/4" SAE 90° | w/ valve core | | 1 | AD369C |
| 1/4" SAE | 1/8" SAE | w/ valve core | Manifolds, compressors | 1 | AD18C |
| | 1/4" SAE 90° | | Automotive adapter | 1 | AD149C |
| | 1/2" ACME | | Vacuum pumps/manifolds/recovery/tanks | 3 | AD48 |
| | 3/8" SAE | w/core & depressor | Vacuum pumps | 50 | AD48B |
| | | | | 1 | AD64 |
| | | | | 1 | AD78 |
| 5/16" SAE | w/ valve core | R-410A International | 100 | AD78B | |
| 5/16" SAE | 1/4" SAE | w/ valve core | R-410A International | 1 | AD87 |
| 1/4" SAE 55° | | | | 100 | AD87B |
| 5/16" (Swivel) | 1/4" SAE 55° | | | 1 | AD87S |
| 1/2" ACME | 3/8" SAE | w/core & depressor | Vacuum pumps | 3 | AD68 |
| | Low side R-134a | - | R-134a automotive tanks | 1 | AD12 |
| | 1/4" SAE | no valve core | Vacuum pumps/manifolds/recovery/tanks | 3 | AD84 |
| | | | | 100 | AD84B |
| | | | | 3 | AD84C |
| 1/2" ACME (90°) | 1/4" SAE | w/ valve core | Automotive adapter | 3 | AD849C |
| 1/2" SAE | 3/8" SAE | w/core & depressor | Vacuum pumps | 1 | AD68V |
| 3/4" -14 | 3/8" SAE | w/ gasket | Large 125 lb tank adapters | 1 | AD61 |
| | | | | 100 | AD61B |
| | 1/4" SAE | | | 1 | AD41 |
| | | | | 100 | AD41B |
| | 5/16" SAE | | | 1 | AD71 |
| | 1/2" ACME | | | 1 | AD81 |
| | 100 | AD81B | | | |
| - | 1/4" SAE x 1/8" MNPT | w/ cap and valve core | Manifolds, compressors | 6 | AD24 |
| | | | | 100 | AD24B |
| | 1/4" SAE x 1/4" MNPT | w/ cap and valve core | Vacuum Pumps, compressors | 6 | AD44 |
| | | | | 100 | AD44B |
| | 14 mm x 1/4" SAE | - | R-134a automotive couplers | 1 | AD14 |
| 1/4" SAE x 1/4" SAE Union | 1/4" Hose union | | 1 | AD47 | |
| 21.8 Whitworth | 3/8" SAE | w/ gasket | Large cylinder adapter | 100 | AD47B |
| | | | | 1 | AD91 |
| | | | | 100 | AD91B |
| Replacement fiber washer for AD41 /61 /71 /81 tank adapters | | | | 1 | ADXFW |



ADAPTERS -TEES CONNECTORS

| Description | | | Qty/ Pk | Item |
|-----------------------------------|--------------------------|--------------------------------|---------|---------------|
| 1/4" SAE M (with cap and core) | x 1/4" SAE M | x 1/4" SAE FM hex | 3 | AVT64 |
| | | | 100 | AVT64B |
| | | x 1/8" MNPT | 3 | AVT2P |
| | | x 1/4" MNPT | 3 | AVT4P |
| | | x 1/4" SAE FM, no depressors | 1 | AVT64Z |
| | x 1/8" MNPT | x 1/4" SAE M | 3 | AVT4 |
| 1/4" SAE M | x 1/4" SAE female knurl | x 1/4" SAE Male | 3 | AVT45 |
| | | x 1/2" ACME M | 1 | AVT48 |
| | x 1/8" MNPT | x 1/4" SAE M w/ Core | 3 | AVT4M |
| | x 5/16" SAE female knurl | x 1/2"-20 M Adapter Fitting | 1 | AVT87 |
| 1/4" SAE Female Hex | x 1/4" SAE M | x 1/4" SAE M with cap and core | 3 | AVT44 |



COPPER TUBE EXTENSION VALVES

| Description | | Standard Cap | | Wrench Cap | |
|-----------------------------|-----------------------|---------------|----------------|--------------|---------------|
| Outer Diameter | Inner Diameter | 6pk | 100pk | 6pk | 100pk |
| 1/8" | 1/16" | AV2 | AV2B | AV2R | AV2RB* |
| 3/16" | 1/8" | AV3 | AV3B | AV3R | AV3RB |
| 1/4" | 3/16" | AV4 | AV4B | AV4R | AV4RB* |
| | 3/16" W/4" COP-TB EXT | AV4L | AV4LB* | AV4LR | AV4LRB |
| 5/16" | 1/4" | AV5 | AV5B* | AV5R | AV5RB* |
| 5/16" (1/2"-20) ACCES, 1/4" | 3/16" | AV4410 | AV4410B | N/A | N/A |
| 3/8" | 5/16" | AV6 | AV6B | AV6R | AV6RB* |
| 6 mm | 5 mm | AV6MM | AV6MB | AV6MR | AV6MRB |

*Non-stock item. Call for availability



AVB34



AVB46



AVB346



AVB6



AVB456

MULTI-STEP BODIES

| Inner Diameter | Outer Diameter | Notes | ITEM | |
|----------------|-------------------------|-------------------|-----------------------|----------|
| | | | 6pk | 100pk |
| 1/8" | 3/16", 1/4", 5/16" SLDR | | AVB456 | AVB456B |
| 3/16" | 1/4" SLDR | | AVB34 | AVB34B |
| | 1/4" x 3/8" SLDR | (assembled) | AVB346 (assembled) | AVB346B |
| | | (unassembled) | | AVB346BU |
| | | (cap w/core tool) | | AVB346RB |
| 1/4" | 3/8" SLDR | | AVB46 | AVB46B |
| 6-8-10mm SLDR | | (w/caps) | AVB6 | AVB6B |
| | | (w/o caps) | | AVB6BC |



AVC134C



AVC8C



AVC4/ AVC425/ AVC4B



AVC4C/ AVC4CB



AVC4P/ AVC4PB



AVC4PS



AVC4R/ AVC4RB



AVC410/ AVC410B



AVC410C/ AVC410CB



AVC6C/ AVC6CB



AVC6P



AVCVAC

QUICK SEAL O-RING CAPS

| Thread | Description | Qty / Pk | ITEM |
|------------------|---------------------------------------|----------|----------|
| 1/2" | ACME brass cap w/chain tether | 2 | AVC134C |
| | ACME plastic cap w/ straps | 2 | AVC134PS |
| | SAE brass cap w/chain tether | 2 | AVC8C |
| 1/4" | SAE brass caps | 10 | AVC4 |
| | | 25 | AVC425 |
| | | 100 | AVC4B |
| | SAE brass cap w/chain tether | 2 | AVC4C |
| | | 100 | AVC4CB |
| | SAE plastic caps | 6 | AVC4P |
| | | 100 | AVC4PB |
| | SAE plastic caps w/ straps | 6 | AVC4PS |
| 5/16" | SAE brass cap w/core remover | 6 | AVC4R |
| | | 100 | AVC4RB |
| | R-410A brass cap | 10 | AVC410 |
| | | 100 | AVC410B |
| | brass cap w/chain tether | 2 | AVC410C |
| | | 100 | AVC410CB |
| 3/8" | SAE brass cap w/chain tether | 2 | AVC6C |
| | | 100 | AVC6CB |
| | SAE plastic caps | 3 | AVC6P |
| na | R-134a hl side caps | 10 | AVC134H |
| | R-134a low side caps | 10 | AVC134L |
| 1/4", 1/2", 3/8" | SAE Vacuum pump brass cap kit w/chain | 1 each | AVCVAC |

COPPER TUBE TEES

| Description | Outer Diameter | Qty / Pk | ITEM |
|-------------|----------------|----------|--------|
| 1/4" SAE | 5/16" | 3 | AVCT5 |
| | 3/8" | 3 | AVCT6 |
| | 1/4" | 3 | AVCT4 |
| | 1-1/8" | 1 | AVCT18 |
| 1/4" | 5/8" | 1 | AVCT10 |
| | 1/2" | 3 | AVCT8 |
| | 3/4" | 1 | AVCT12 |
| | 7/8" | 1 | AVCT14 |



VALVE CORES

| Description | Qty / Pk | Item |
|--------------------------------------|----------|---------------|
| Valve cores | 10 | AVS1 |
| | 25 | AVS125 |
| | 100 | AVS1B |
| | 1000 | AVS1BC |
| Tech-Set valve cores w/1 cap in vial | 1 | AVS1V |
| 1/4" SAE x 1/4" F swivel | 3 | AVS44 |



**AVS1/ AVS125/
AVS1B/ AVS1BC**



AVS1V



AVS44

VALVE CORE TOOLS

| Description | Qty / Pk | Item |
|---|----------|------------------|
| 1/4" SAE Core Remover / Installer Tool | 1 | TLVC |
| Pocket Valve Core Tool w/ 4 Spare Cores | 1 | TLVC1 |
| Dual Valve Core Tool (1/4" SAE Valves & Auto R-134a Valves) | 1 | TLVC2 |
| | 100 | TLVC2B |
| 4-Way 1/4" & 3/16" SAE Valve Core / Thread Chaser | 1 | TLVC4 |
| 5/16" SAE Valve Core Remover / Installer Tool | 1 | TLVC410 |
| Mini-Split 5/16" F x 1/4" M Valve Core Tool | 1 | TLVC410A |
| 1/4" SAE Valve Core Remover / Installer Tool w/ Side Port | 1 | TLVCS |
| 5/16" FM x 5/16" Male Valve Core Remover / Installer Tool w/ 5/16" Side Port | 1 | TLVCS410 |
| 5/16" FM x 1/4" SAE Male Valve Core Remover / Installer Tool w/ 1/4" Male Side Port | 1 | TLVCS410A |



TLVC



TLVC1



TLVC2/TLVC2B



TLVC4



TLVC410



TLVC410A



TLVCS



TLVCS410

BACK-SEATING CONTROL VALVES

| Description | Qty / Pk | Item |
|---|----------|---------------|
| 1/4" SAE M X 1/4" SAE FM Back-Seating Valve | 1 | TLVCD1 |
| 5/16" SAE M X 5/16" SAE FM Back-Seating Valve | 1 | TLVCD2 |
| 1/4" SAE M X 5/16" SAE FM Back-Seating Valve | 1 | TLVCD3 |



TLVCD3

| MICROSEAL™ QUICK COUPLERS | | | | |
|---------------------------|-----------|-------------|----------|----------|
| Female | Male | Description | Qty / Pk | Item |
| 1/4" SAE | 1/4" SAE | Straight | 1 | AB |
| | | | 3 | AB3 |
| | | 45° female | 1 | AB45 |
| | | 90° female | 1 | AB90 |
| | | | 3 | AB903 |
| | 1/8" | FPT Adapter | 1 | ABG18 |
| 5/16" SAE | 5/16" SAE | | 1 | AB410 |
| | | | 3 | AB4103 |
| | 1/4" SAE | 90° female | 1 | AB41090A |
| | | Straight | 1 | AB410A |
| 1/2" ACME | 1/2" ACME | Straight | 1 | AB12 |



| COMPACT BALL VALVES | | | | |
|---|---------------------|---------------------------------------|----------|----------|
| Female | Male | Other | Qty / Pk | ITEM |
| 1/8" MPT | 5/16" | MPT | 1 | BV41018 |
| 3/8" SAE | 3/8" SAE | Straight | 1 | BV38 |
| | 1/4" SAE | | 1 | BVAD38 |
| 1/4" SAE | 1/4" SAE | Straight | 1 | BV |
| | | | 3 | BV3 |
| | | 45° female | 1 | BV45 |
| | | | 3 | BV453 |
| | | 90° female | 1 | BV90 |
| | | | 3 | BV903 |
| 1/2" ACME | 1/2" ACME | | 1 | BV12 |
| | 1/4" SAE | | | BVAD24 |
| 5/16" | 5/16" | Straight | 1 | BV410 |
| | 1/4" SAE | for R-410A systems w/neoprene gaskets | 1 | BV410A |
| | | for R-410A Systems w/Teflon® gaskets | 1 | BV410AJ |
| | | 90° female | 1 | BV41090A |
| - | 1/4" SAE x 1/4" SAE | Straight | 1 | BVM |
| | | | 3 | BVM3 |
| Replacement Ball Valve Handle w/Yellow, Blue, Red inserts (1/each) | | | 3 | BVXH |



TUBING TOOLS

**ERGONOMIC TOOLS FOR CUTTING,
FORMING and BENDING**





Set N Cut™

BTC200 BLACKMAX® MINI TUBE CUTTER

- Cutting Range: 1/8" - 7/8" (3-22 mm) O.D.
- Quick release pin for fast replacement of cutting wheels
- Chromed, hardened cutting wheel
- Patented Set-N-Cut™ spring-loaded center groove rollers for fast, automatic cuts
- Provides a smooth cut, even for slightly deformed tube
- Soft/Hard cutting settings
- Durable aluminum and rubber knob

BTCXC1 Chrome Plated Cutting Wheel

BTCXCT1 Titanium Coated Cutting Wheel

BTCXP1 Quick Release Pin



Set N Cut™

BTC200R BLACKMAX® MINI RATCHET TUBE CUTTER

- Cutting Range: 1/8" - 7/8" (3-22 mm) O.D.
- Excellent for small tube, confined spaces
- Use with or without ratchet handle
- Quick release pin for fast replacement of cutting wheels
- Chromed, hardened cutting wheel
- Patented Set-N-Cut™ spring-loaded center groove rollers for fast, automatic cuts.
- Provides a smooth cut, even for slightly deformed tube
- Soft/Hard cutting settings
- Durable aluminum and rubber knob

BTCXR Plastic Ratchet

BTCXP1 Quick Release Pin



Set N Cut™

BTC300 BLACKMAX® TUBE CUTTER

- Cutting Range: 3/16" - 1-1/4" (5 - 32 mm) O.D.
- Two quick-change, chromed, hardened cutting wheels
- Enclosed feed screw eliminates clogging, jamming
- Set-N-Cut™ spring-loaded cutting wheel for a perfect cut every time

BTCXC1 Chrome Plated Cutting Wheel

BTCXCT1 Titanium Coated Cutting Wheel

BTCXP1 Quick Release Pin



Set N Cut™

BTC400 BLACKMAX® HEAVY DUTY TUBE CUTTER

- Cutting Range: 1/4" - 1-1/4" (6 - 32 mm) O.D.
- For brass, copper, aluminum, stainless tube and electrical conduit
- Patented Set-N-Cut™ technology for the perfect cut every time
- Spring-loaded rollers for easy, precision cut
- Heavy duty performance from lightweight aluminum forged body
- Quick change cutting wheel
- Titanium finish cutting wheel included

BTCXB Cutting Wheel Bearing

BTCXC2 Chrome Plated Cutting Wheel

BTCXCT2 Titanium Coated Cutting Wheel

BTCXP2 Quick Release Pin

BTC500 BLACKMAX® LARGE TUBE CUTTER

- Cutting Range: 3/8" - 2-5/8" (10 - 67 mm) O.D.
- Patented Set-N-Cut™ Technology for the perfect cut every time
- Two hardened cutting wheels with quick-change pin design
- Enclosed feed screw eliminates clogging and jamming
- Four grooved rollers for precise tube rotation
- Rapid adjustment with quick-slide feed mechanism
- Durable aluminum/rubber knob

BTCXB Optional Cutting Wheel Bearing

BTCXC2 Chrome Plated Cutting Wheel

BTCXCT2 Titanium Coated Cutting Wheel

BTCXP3 Quick Release Pin



Set N Cut™

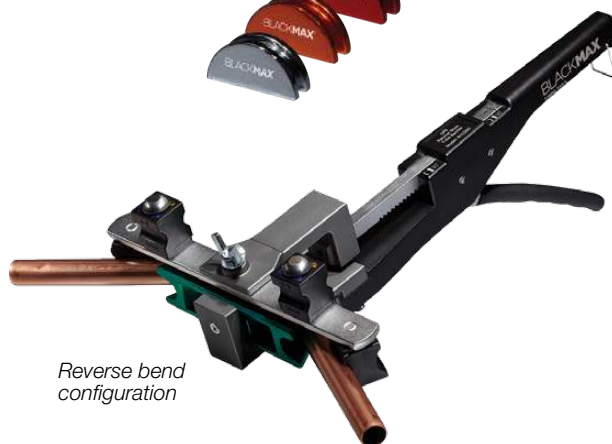


BTB300/ BTB300M BLACKMAX® PREMIUM TUBE BENDERS

- Imperial or metric kit
- For soft copper and aluminum tube
- Solid aluminum, color-coded mandrels
- Forward or reverse bends from 0° to 90°
- Reverse bend mechanism for tight quarters
- Rugged carrying case
- Packaging: Color box



Forward bend
configuration



Reverse bend
configuration

BLACKMAX® TUBE BENDERS (IMPERIAL)

| Item | | Description | |
|----------|-----------------------------------|-------------------|--|
| Imperial | Mandrels | BTB300 | Tube Bender Set includes 7 benders and all parts listed below: |
| | | REPLACEMENT PARTS | |
| | Mandrels | Item | Tube I.D. Mandrel Color |
| | | BTBX14 | 1/4" O.D. Chrome |
| | | BTBX516 | 5/16" O.D. Copper |
| | | BTBX38 | 3/8" O.D. Red |
| | | BTBX12 | 1/2" O.D. Yellow-Orange |
| | | BTBX58 | 5/8" O.D. Blue |
| | | BTBX34 | 3/4" O.D. Green |
| | | BTBX78 | 7/8" O.D. Red-Violet |
| | BTBXH Ratchet Tool | | |
| | BTBXA1 1/4"-3/8" Shoe Arm | | |
| | BTBXA2 1/2"-7/8" Shoe Arm | | |
| | BTBXR1 Reverse Bender Mandrel Arm | | |
| | BTBXR2 Reverse Bender Shoe Arm | | |

"O.D." = Outside Diameter (of tube)

BLACKMAX® TUBE BENDERS (METRIC)

| Item | | Description | |
|--------|-----------------------------------|-------------------|--|
| Metric | Mandrels | BTB300M | Tube Bender Set includes 7 benders and all parts listed below: (excluding BTBX16M) |
| | | REPLACEMENT PARTS | |
| | Mandrels | Item | Tube I.D. Mandrel Color |
| | | BTBX6M | 6 mm O.D. Chrome |
| | | BTBX8M | 8 mm O.D. Copper |
| | | BTBX10M | 10 mm O.D. Red |
| | | BTBX12M | 12 mm O.D. Yellow-Orange |
| | | BTBX15M | 15 mm O.D. Yellow-Green |
| | | BTBX16M | 16 mm O.D. (Optional for BTB300M) Blue |
| | | BTBX18M | 18 mm O.D. Titanium |
| | | BTBX22M | 22 mm O.D. Red-Violet |
| | BTBXHM Ratchet Tool, Metric | | |
| | BTBXA1 6-10 mm Shoe Arm | | |
| | BTBXA2 12 - 22 mm Shoe Arm | | |
| | BTBXR1 Reverse Bender Mandrel Arm | | |
| | BTBXR2 Reverse Bender Shoe Arm | | |

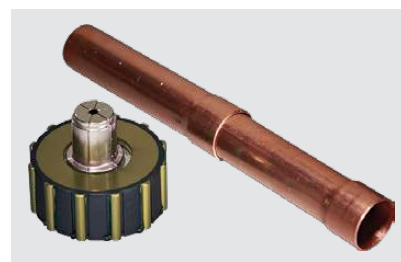
"O.D." = Outside Diameter (of tube)

For more information visit www.cpsproducts.com



BTLE9/ BTLE9M BLACKMAX® TUBE EXPANDERS

- Imperial or metric
- For soft copper and aluminum tube
- Nine quick-change tube expanders
- Durable, color-coded, aluminum heads
- Compact, professional, patented design
- Strong carrying case
- Packaging: Color box



BLACKMAX® TUBE EXPANDERS (IMPERIAL)

| Imperial | Description | | Item | |
|----------|------------------------------------|-------------------|----------|------------|
| | Tube Expander Set includes 9 heads | | BTLE9 | |
| | Tube Expander (Replacement Tool) | | BTLEXH | |
| | Size | Replacement Heads | | Blades (6) |
| | | Color | Item | Item |
| | 1/4" | Chrome | BTLEX14 | BTLEX14B |
| | 5/16" | Copper | BTLEX516 | BTLEX516B |
| | 3/8" | Red | BTLEX38 | BTLEX38B |
| | 1/2" | Yellow-Orange | BTLEX12 | BTLEX12B |
| | 5/8" | Blue | BTLEX58 | BTLEX58B |
| | 3/4" | Green | BTLEX34 | BTLEX34B |
| | 7/8" | Red-Violet | BTLEX78 | BTLEX78B |
| | 1" | Black | BTLEX1 | BTLEX1B |
| | 1-1/8" | Pink | BTLEX118 | BTLEX118B |

BLACKMAX® TUBE EXPANDERS (METRIC)

| Metric | Description | | Item | |
|--------|------------------------------------|-------------------|----------|---------------|
| | Tube Expander Set includes 9 heads | | BTLE9M | |
| | Tube Expander (Replacement Tool) | | BTLEXH | |
| | Size | Replacement Heads | | Blades (6) |
| | | Color | Item | Item |
| | 6 mm | Chrome | BTLEX6M | BTLEX6MB |
| | 8 mm | Copper | BTLEX8M | BTLEX8MB |
| | 10 mm | Red | BTLEX10M | BTLEX10MB |
| | 12 mm | Yellow-Orange | BTLEX12M | BTLEX12MB |
| | 15 mm | Yellow-Green | BTLEX15M | BTLEX15MB |
| | 18 mm | Titanium | BTLEX18M | BTLEX18MB |
| | 22 mm | Red-Violet | BTLEX22M | BTLEX22MB |
| | 28 mm | Red-Orange | BTLEX28M | BTLEX28MB |
| | 32 mm | Black - Chrome | BTLEX32M | Not Available |



BFT850D BLACKMAX® DRILL POWERED FLARING TOOL

- Dramatically reduces the amount of time to create a precise flare
- Seven quick change positions for flaring soft copper and aluminum tube
- Aluminum body- 50% lighter than steel designs
- Slide gauge sets tube at exact position
- Eccentric cone forms precise 45° flared ends
- For 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" O.D. tube
- Built-in clutch prevents over-compression
- Compact, professional, patented design
- Packaging: Color box



Seven quick change positions



Slide gauge for perfect tube alignment before flaring



Eccentric flaring cone for precision flares



Rugged carrying case for all items



BFT850/ BFT850M BLACKMAX® FLARING TOOL

- Aluminum body is 50% lighter than steel designs
- Internal clutch indicates when formed flare is complete
- Seven quick-change positions for flaring soft copper and aluminum tube
- Compact, professional, patented design
- Eccentric cone forms precise 45° flared ends
- Strong carrying case
- Imperial tool for 3/16", 1/4" 5/16", 3/8", 1/2", 5/8", 3/4" O.D.
- Metric tool for 6, 8, 10, 12, 15, 16, 18 mm O.D.
- Built in slide gauge for tube height adjustment
- Packaging: Color box



BFT850K BLACKMAX® IMPERIAL FLARING TOOL KIT

- BFT850 Flaring Tool
- FTXSG Reversible R410A Flare Size Gauge
- BTLDB3 Deburring Tool
- BTC300 Premium Tube Cutter
- Packaging: Color box

BTLDB3

FTXSG

BTC300

BFT850

BLACKMAX® LEVER TUBE BENDERS

- Patented 2-position handle
- Imperial or metric
- For soft copper, aluminum tube
- Double hinged bending arms for tight quarters
- Two pull points for smooth, easy bends
- Bends from 0° to 180°
- Packaging: Color box



BTB06 Imperial for 3/8" O.D. Tube
BTB10MM Metric for 10 mm O.D. Tube



BTB08 Imperial for 1/2" O.D. Tube
BTB12MM Metric for 12 mm O.D. Tube



BTB10 Imperial for 5/8" O.D. Tube
BTB15MM Metric for 15 mm O.D. Tube



BTB12 Imperial for 3/4" O.D. Tube
BTB16MM Metric for 16 mm O.D. Tube



BTB14 Imperial for 7/8" O.D. Tube
BTB18MM Metric for 18 mm O.D. Tube



BTLDB3 BLACKMAX® DEBURRING TOOL
Thick aluminum construction. For soft copper and aluminum tube. Includes (2) spare blades in handle.
TLDB2X Replacement Blade



TLDB2 POCKET DEBURRING TOOL
Remove burrs and surface defects from inner/outer straight and hole edges.
TLDB2X Replacement Blade



FTXSG R410A FLARE SIZE GAUGE

6.4 mm, 1/4"
9.5 mm, 3/8"
12.7 mm, 1/2"
15.9 mm, 5/8"
19.1 mm, 3/4"



TLRM REAMING AND DEBURRING TOOL

- Constructed of rugged die cast metal for long life
- Removes burrs from both inside and outside edges of tube
- Ergonomically shaped to fit comfortably in your hand



TLDB POCKET DEBURRING TOOL (WITH BLADE STORAGE)

- For soft copper and aluminum tubing
- Remove burrs and surface defects from inner/outer straight and hole edges

TLDBX Replacement blade

PRO-SET® HEAVY DUTY TITANIUM TUBE CUTTERS

- All cutter wheels are precision machined from high grade chromium steel and plated with titanium nitride to extend life—up to 5 times longer!
- Precision machined rollers feature cut-off groove to reduce tube loss in damaged flare removal
- Durable metal handle with industrial grade rubber boot provides comfortable grip
- Enclosed hardened steel, thrust bearing feed mechanism for smooth cutting action and trouble free operation
- Packaging: Clamshell



TCT174 PRO-SET® MINI TITANIUM TUBE CUTTER

Cutting Range: 1/8" to 1-1/8", (3 to 30 mm)

TCXT174C (1) Titanium Nitride Cutting Wheel & (1) Screw



TCT127 PRO-SET® MINI TITANIUM TUBE CUTTER

Cutting Range: 1/8" to 5/8", (3 to 16 mm)

TCXT127C (1) Titanium Nitride Cutting Wheel & (1) Screw



TCT206 PRO-SET® HEAVY DUTY TITANIUM SLIDING TUBE CUTTER

Cutting Range: 1/4" to 2-5/8" (6 to 68 mm)

TCXT206C (1) Titanium Nitride Cutting Wheel & (1) Screw
TCXT206R (1) Reamer blade



TCT274 PRO-SET® TITANIUM TUBE CUTTER

Cutting Range: 1/8" to 1-3/8" (3 to 35 mm)

TCX4CTS Titanium Cutting Wheel and Screw
TCXT274C (1) Titanium Nitride Cutting Wheel & (1) Screw Assembly
TCXT274RB (1) Reamer blade



TCT312 PRO-SET® HEAVY DUTY TITANIUM TUBE CUTTER

Cutting Range: 1/8" to 1-3/4", (3 to 45 mm)

TCX4CTS Titanium Cutting Wheel and Screw
TCXT312C (1) Titanium Nitride Cutting Wheel & (1) Screw Assembly



TCPVC PRO-SET® HEAVY DUTY TITANIUM PVC TUBE CUTTER

Cutting Range: 1/4" to 2-5/8" (6 to 68 mm)

PRO-SET® TUBE CUTTERS

- Easy grip knobs with rubber boot over solid metal core
- Advanced tracking system will not walk while cutting
- Rollers feature flare cut-off groove to reduce tube loss
- Integrated retractable rotary deburring tool
- Durable metal handle with industrial grade rubber boot provides sure comfortable grip
- Produces clean right angle cuts every time
- Precision machined rollers feature cut-off groove to reduce tube loss in damaged flare removal



TC174 PRO-SET® MINI TUBE CUTTER

Cutting Range: 3/8" - 1-1/8" (10 - 29 mm)



TC100 PRO-SET® TIGHT SPACES RATCHETING TUBE CUTTER

Cutting Range: 1/4"-7/8" (6 - 22 mm)

TCX100CS Cutting Wheel (1) & Screw (1)

PRO-SET® LEVER TUBE BENDERS

- Constructed of high strength steel for durability and long life
- Create smooth, tight radius bends up to 180° with minimal effort
- Bends without scoring or flattening of tubing
- Calibrated to show angle of bend
- Wide hook grips tubing securely



TB04 1/4" O.D.



TB05 5/16" O.D.



TB06 3/8" O.D.



TB08 1/2" O.D.



TB10 3/4" O.D.
TB10XH Replacement Hook with Screw



TB12 5/8" O.D.
TB12XH Replacement Hook with Screw



TB14 7/8" O.D.



TB6MM 6 mm O.D.



TB10MM 10 mm O.D.



TB12MM 12 mm O.D.



TB15MM 15 mm O.D.



TB16MM 16 mm O.D.



TB250 PRO-SET® UNIVERSAL RATCHET TUBE BENDER SET

- Universal kit bends tube from 1/4" to 7/8" and 6mm to 22mm
- Metal ratcheting system built for long life
- Seven durable molded plastic mandrels
- Includes TC274 Tube Cutter
- Includes TLRM Reaming and Deburring Tool

REPLACEMENT PARTS

| | |
|--------|-------------------------------------|
| TBXM6 | Molded Plastic Mandrel 1/4" (6 mm) |
| TBXM8 | Molded Plastic Mandrel 5/16" (8 mm) |
| TBXM10 | Molded Plastic Mandrel 3/8" (10 mm) |
| TBXM14 | Molded Plastic Mandrel 1/2" (14 mm) |
| TBXM16 | Molded Plastic Mandrel 5/8" (16 mm) |
| TBXM19 | Molded Plastic Mandrel 3/4" (19 mm) |
| TBXM22 | Molded Plastic Mandrel 7/8" (22 mm) |
| TBXR | Ratchet Mechanism |
| TBXB1 | Small bending bar replacement |
| TBXB2 | Large bending bar replacement |



FT800FN PRO-SET® R-410A IMPERIAL CONCENTRIC FLARING TOOL & RATCHET

- Imperial clutch driven flaring tool with ratchet and case for 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" O.D. tubing
- Unique clutch driven feed screw and eccentrically mounted cone produces uniform, clean flare walls without galling
- Engineered specifically to create stronger flare joints for higher pressure R-410A systems
- Innovative 3/8" square drive incorporated directly in yoke handle for use of ratchet
- Rugged polyethylene storage case included

FTX800B410 R-410A flaring bar
FTX800R Ratchet
FTX800Y Yoke assembly



FT806M PRO-SET® METRIC FLARING TOOL & RATCHET

- Metric clutch driven flaring tool with ratchet and case for 6, 8, 10, 12, 15, 16 & 18mm O.D. tubing
- Unique clutch driven feed screw and faceted cone produce uniform, clean flare walls without thin spots or galling
- Innovative 3/8" square drive incorporated directly in yoke handle for use of ratchet
- Rugged polyethylene storage case included.

FTX800BM Metric flaring bar
FTX800R Ratchet
FTX800Y Yoke assembly



FT806A PRO-SET® IMPERIAL ECCENTRIC FLARING TOOL & RATCHET

- Standard imperial clutch driven flaring tool with ratchet and case for 3/16", 1/4", 5/16", 3/8", 1/2", 5/8" & 3/4" O.D. tubing
- Unique clutch driven feed screw and faceted cone produce uniform, clean flare walls without thin spots or galling
- Provides an exact amount of flaring torque with break away clutch system
- Innovative 3/8" square drive incorporated directly in yoke handle for use of ratchet
- Rugged polyethylene storage case included.

FTX800BA Imperial flaring bar
FTX800R Ratchet
FTX800Y Yoke assembly



TECH-SET® 45° FLARING & SWAGING KIT

- **FS275** Imperial kit for 1/8" to 3/4"
- **FS275M** Metric kit for 4 mm to 22 mm
- Rugged forged steel slip-on yoke and hardened flaring bar
- Chrome finished flaring cone forms better flares with less effort
- Positive grip flaring bar eliminates tube movement
- Easy operation with professional results

| REPLACEMENT PARTS | | |
|-------------------|--------|--|
| FS275 Imperial | FS275 | 45° Flaring & Swaging Kit 1/8" - 3/4" |
| | FSX501 | FS275 Long Bar (7/16", 1/4", 1/8", 3/16", 5/16", 3/8") |
| | FSX502 | FS275 Short Bar (3/4", 1/2", 5/8") |
| | FSX503 | FS275 5/16" Swaging Adapter |
| | FSX504 | FS275 3/16" Swaging Adapter |
| | FSX505 | FS275 1/2" Swaging Adapter |
| | FSX506 | FS275 5/8" Swaging Adapter |
| | FSX508 | FS275 3/4" Swaging Adapter |
| | FSX509 | FS275 Yoke Assembly |
| FS275 Metric | FSX513 | FS275 Compressor Cone |
| | FS275M | 45° Flaring & Swaging Kit, Metric |
| | FSX507 | FS275M 8, 12, 14, 16, 22 mm Swaging Adapter |



TC127 TECH-SET™ MINI TUBE CUTTER

Cutting Range: 1/8" to 5/8"
(3 to 16 mm)

- Ideal for cutting pipe in limited access areas
- Precision machined chromium steel cutting wheels

TCX7C (10) Cutting wheels

TCX7S (10) Cutting Wheel Screws

TCX7CTS (1) Titanium Cutting Wheel & (1) Screw

TCX7CS (1) Cutting Wheel and (1) Screw



TC274 TECH-SET™ TUBE CUTTER

Cutting Range: 1/8" to 1-1/8"
(3 to 29 mm)

- Hardened steel thrust bearing feed mechanisms for smooth operation
- Precision machined chromium steel cutting wheels
- Foldaway hardened steel reamers for deburring

TCX4R (1) Reamer Blade

TCX4RS (1) Reamer Blade Screw

TCX4C (10) Cutting Wheels

TCX4CS (1) Cutting Wheel and Screw

TCX4S (10) Cutting Wheels and Screws



TC312 TECH-SET™ HEAVY DUTY TUBE CUTTER

Cutting Range: 1/4" to 1-5/8"
(6 to 41 mm)

- Spare cutting wheel located under retractable locking reamer

TCX4R (1) Reamer Blade

TCX4RS (1) Reamer Blade Screw

TCX4C (10) Cutting Wheels

TCX4CS (1) Cutting Wheel and Screw

TCX4S (10) Cutting Wheels and Screws



TC206 TECH-SET™ SLIDING TUBE CUTTER

Cutting Range: 3/8" to 2-5/8"
(10 to 67 mm)

- Ratchet feed mechanism speeds up cutting operation

TCX6CTS (1) Titanium Cutting Wheel & (1) Screw



TCSET TECH-SET™ TUBE CUTTER COMBO PACK

Cutting Range: 1/8" to 1-1/8"
(3 to 29 mm)

- Includes TC127 & TC274



TCAP TECH-SET™ CAPILLARY TUBE CUTTER



TECH-SET™ SPRING TYPE TUBE BENDERS

- For soft copper and aluminum tubing
- Special spring steel with zinc finish
- Hand bend tubing to any shape without collapsing walls
- End bell design for quick removal of tubing

TBS04 1/4" Spring Tube Bender

TBS05 5/16" Spring Tube Bender

TBS06 3/8" Spring Tube Bender

TBS08 1/2" Spring Tube Bender

TBS10 5/8" Spring Tube Bender

TBS12 3/4" Spring Tube Bender



TB368 TECH-SET™ UNIVERSAL TUBE BENDER

- Triple head lever type tube bender 1/4", 5/16", 3/8" (6, 8, 10 mm)
- For soft copper, aluminum and thin wall steel tubing



FT525 TECH-SET™ 45° UNIVERSAL ADJUSTABLE FLARING TOOL

- Flares from 3/16" to 5/8" (5 to 16 mm)
- Unique faceted flaring cone automatically burnishes flare face during operation
- Produces perfect 45° flares while maintaining thickness at base of flare
- Rugged forged steel slip-on yoke
- Compact design ideal for use in tight quarters

FTX516 Yoke assembly

FTX517 Tube holding assembly

FTX518 Flaring cone



FT195 TECH-SET™ 45° IMPERIAL FLARING TOOL

- Flares 7 of the most common sizes of tubing from 3/16" to 5/8" (5 to 16 mm)
- Rugged forged steel slip-on yoke and hardened flaring bar
- Chrome finished flaring cone forms better flares with less effort
- Positive grip flaring bar eliminates tube movement

FTX500 Yoke assembly

FTX501 Flaring bar

FTX509 Compressor cone

FTX510 Wing nut



FT203 TECH-SET™ 45° IMPERIAL FLARING TOOL

- Flares 4 sizes of tubing - 5/8", 3/4", 7/8" & 1-1/8"
- Rugged forged steel slip-on yoke and hardened flaring bar
- Chrome finished flaring cone forms better flares with less effort
- Positive grip flaring bar eliminates tube movement
- Easy operation with professional results



FT500/FT500M TECH-SET™ 45° FLARING/BURNISHING TOOL

- **FT500** Imperial tool for 3/16", 1/4", 5/16", 3/8", 1/2" & 5/8"
- **FT500M** Metric tool for (6 - 16 mm)
- Heat treated sliding dies with lever clamping action hold tubing firmly in place
- Rugged forged steel slip-on yoke with large handle for ease of use

FTX500 Yoke assembly

FTX501 Imperial Flaring bar

FTX509 Compressor cone

FTX510 Wing nut

FTX514 FT500 Die Holder Assembly

FTX515 FT500M Die Holder Assembly



PRO-SET® TUBE EXPANDER/SWAGING SET

- Create professional grade one seam pipe unions in the field.
- Multi-faceted interchangeable heads ensure equal linear expansion of tubing and uniformed wall thickness.
- Extended handle length provides added leverage for ease of operation.
- Re-round deformed tubing and fabricate couplings.
- Components are heat treated for durability.
- Ideal for copper, aluminum and soft steel tubing.
- Includes storage case for long-term protection.



TLE6 IMPERIAL WRENCH SET

Includes:

TLE601 Expander Tool

TLRM Reaming and Deburring Tool

TLH06 3/8" Expander Head

TLH08 1/2" Expander Head

TLH10 5/8" Expander Head

TLH12 3/4" Expander Head

TLH14 7/8" Expander Head

TLH18 1-1/8" Expander Head

Optional:

TLH16 1" Expander Head

TLH22 1-3/8" Expander Head

TLH26 1-5/8" Expander Head

TLE6M METRIC WRENCH SET

Includes:

TLE601 Expander Tool

TLRM Reaming and Deburring Tool

TLHM10 10 mm Expander Head

TLHM12 12 mm Expander Head

TLHM15 15 mm Expander Head

TLHM18 18 mm Expander Head

TLHM22 22 mm Expander Head

TLHM28 28 mm Expander Head

Optional:

TLHM16 16 mm Expander Head

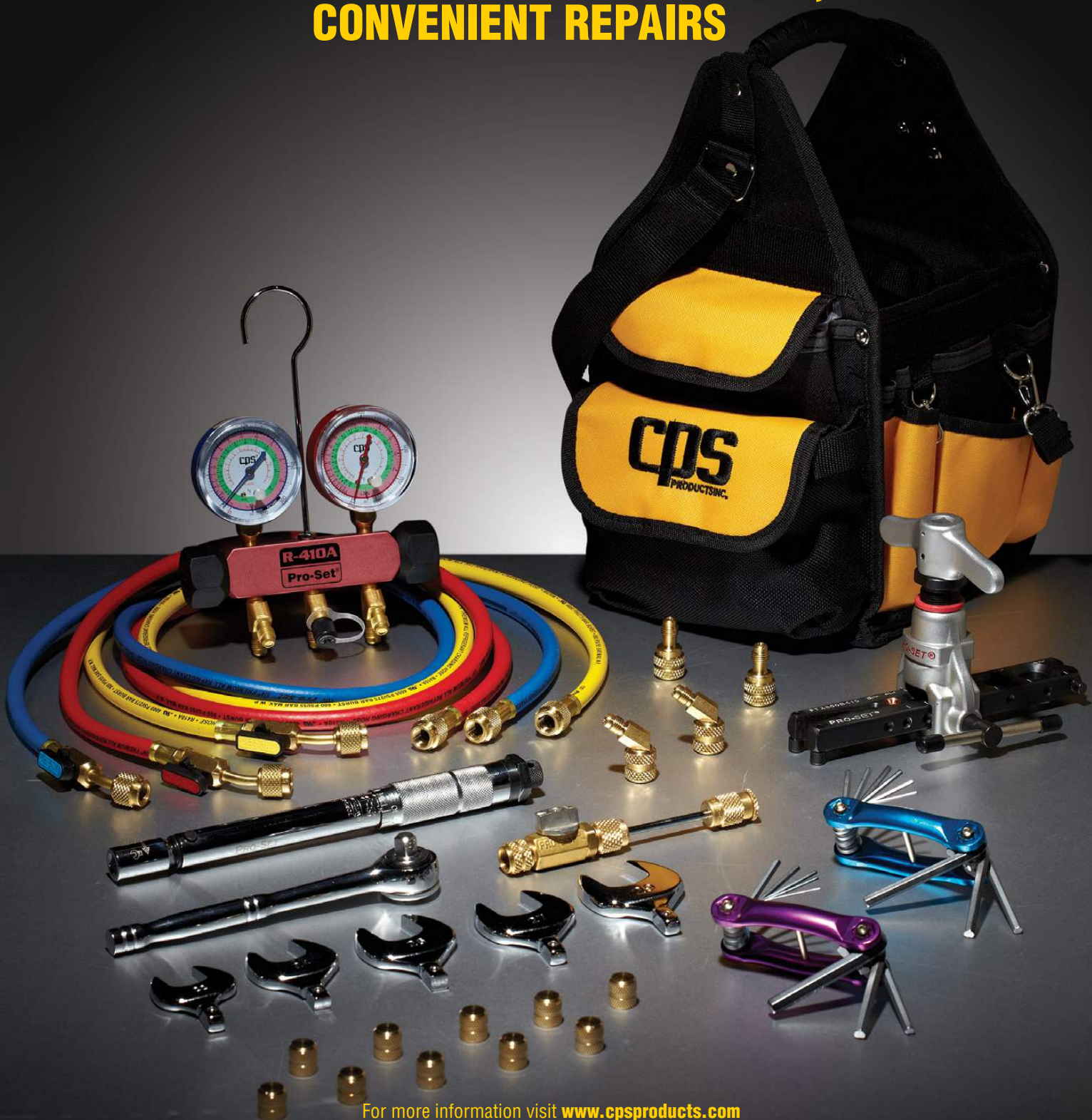
TLHM20 20 mm Expander Head

TLHM35 35 mm Expander Head

TLHM42 42 mm Expander Head

SPECIALTY HAND TOOLS

COMPLETE TOOL KITS FOR FAST,
CONVENIENT REPAIRS



For more information visit www.cpsproducts.com

R-410A MINI-SPLIT TOOL KITS

Our tool kits contain everything you need to service ductless mini-split and central A/C systems with 1/4" & 5/16" service ports including the following components;



TLB410A



1



Two Valve Service Manifold

- (Varies by kit. See chart below)
- R-410A/R-22/R404A gauges
 - 1/4" SAE fittings
 - Triple seal valve system

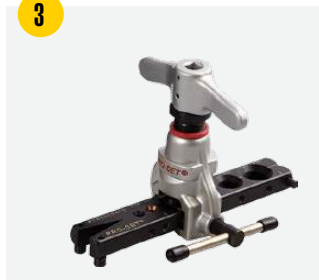
2



Premium 3-Pack 5' Hoses

- (Varies by kit. See chart below)
- 1/4" SAE 45° fittings
 - 800Psi working pressure
 - 4000Psi burst pressure

3



Flaring Tool

- Clutch driven feed screw
- Eccentrically mounted cone
- Creates perfect, strong flares
- Ratchet drive in yoke
- 3/16", 1/4", 1/16", 3/8", 1/2" 1/8", 3/4"

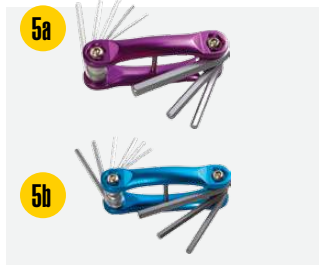
4



Torque Wrench Sets;

- Metric Set: 12, 22, 24, 26, 27, 29 mm and 13/16" jaw sizes
- or-
- Imperial Set: 5/8", 11/16", 13/16", 15/16", 1-1/16", 1-5/16"

5a



5b



(1) Imperial and (1) Metric Hex Key Set

- Metric Set: 1.5, 2, 2.5, 3, 4, 5, 6, 8 mm
- Imperial Set: 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"

6



Valve Core Tool

- 5/16" female fitting allows direct connection to mini-split service ports
- 5/16" female x 1/4" SAE male

7



Brass Adapters and Caps

- (10) 1/2"-20 UNF Caps, (2) Male: 1/4" SAE 55D; female; 1/2"-20 UNF SWVL, and (2) Male: 1/4" SAE female; 1/2"-20 UNF

8



10" x 10" Square Tool Organizer

- 24 separate compartments for quick, easy-access
- Molded handle for durability and comfort

| Kit Contents | Qty | MINI-SPLIT TOOL KITS | | | | | |
|------------------------------------|-----|--|-------------------------|---|---|--|----------------|
| | | TLB410A | TLB410SAE | TLB410KIT | TLB410AC | TLB410ACE | TLB410M |
| 1 2 Valve Manifold | 1 | Pro-Set® Piston Pink Body 1/4" SAE 45° fittings “H” Gauge (MEHP5E) | | Pro-Set® Premium Piston Series Manifold (#MT2HP) | BlackMax® Black & Chrome 1/4" SAE 45° fittings “H5” Gauge (MBH5P5Z) | BlackMax® Black & Chrome 1/4" SAE 45° fittings “H5” Gauge (MBH5P5EZ) | No Manifold |
| 2 Hoses | 1 | Pro-Set® Premium (3) 5’ red/blue/yellow ball valve hoses | | | Pro-Set® Premium (3) 5’ Black & Chrome hoses | Pro-Set® Premium (3) 5’ Black & Chrome ball valve hoses | No Hoses |
| 3 Flaring Tool | 1 | FT800N | | BFT850 | FT800N | | |
| 4 Torque Wrench Set | 1 | Metric TLTWSM | SAE/Imperial TLTWSAE | Universal Handle with SAE/Imperial & Metric Heads | Metric TLTWSM | | |
| 5a Hex Wrench Set (Metric) | 1 | TLSWHM | | | | | |
| 5b Hex Wrench Set (Imperial) | 1 | TLSWH | | | | | |
| 6 Valve Core Tool | 1 | TLVC410A | | | | | |
| 7 Brass Adapters and Brass Caps | 14 | Includes: (10) AVC410 1/2"-20 UNF SAE Brass Caps, (2) AD87 Brass Adapter Male: 1/4" SAE 55D; female; 1/2"-20 UNF SWVL w/ Valve Core Tool, and (2) AD87S Brass Adapter (Male: 1/4" SAE; female; 1/2"-20 UNF) w/Valve Core Tool | | | | | |
| 8 10" x 10" Tool Organizer | 1 | TLBAG1 | | | | | |

Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808



TLB410KIT

R-410A MINI-SPLIT PREMIUM TOOL KIT

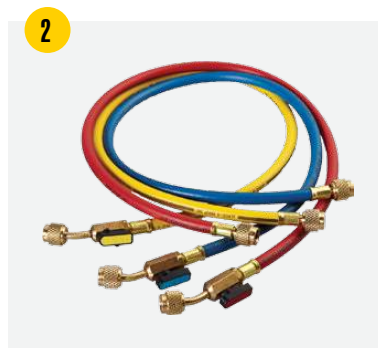
Tool kit includes:

- Pro-Set® Premium Piston Series Manifold
- 5' Premium Pro-Set® Charging Hoses
- Imperial and Metric Hex Key Sets
- Valve Core Tool
- Brass Adapters and Caps
- Large, 9" x 16" Rubber Bottom Tool Organizer
- Imperial and Metric Torque Wrench Set and Instructions
- BlackMax® Tube Cutter 1/8" to 1-1/4"
- BlackMax® Tube Flaring Tool
- BlackMax® Deburring Tool with extra blade
- R410A Flare Size Gauge



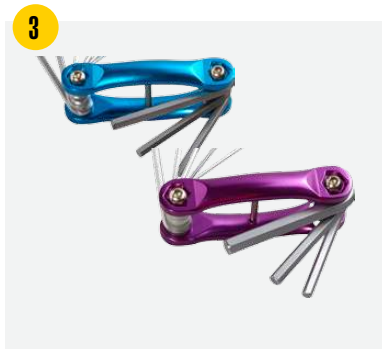
Pro-Set® Premium Piston Series Manifold #MT2HP

- 2 valve anodized aluminum block body
- 1/4" SAE 45° fittings
- Triple Seal piston valves
- Sure grip rubber over metal valve handles
- 3-1/8" (80 mm) Class 1.0 accuracy gauges
- Protective gauge boots
- Extra access port in center with Schrader valve and hanging hook



5' Premium Charging Hoses #HP5BE - Blue, #HP5RE - Red, #HP5YE - Yellow

- 1/4" hoses with SAE fittings, 45° ball valve on one end
- 800PSI working pressure
- 4000PSI burst pressure
- Leak-proof 8-sided crimp
- Extra deep knurling
- Adjustable valve core depressor
- Blow off grooves preventing spray back



Hex Key Sets

(1) Imperial #TLSWH

5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"

(1) Metric #TLSPWH

1.5, 2, 2.5, 3, 4, 5, 6, 8mm



Valve Core Tool #TLVCS410A

Unique configuration of tool enables use of standard 1/4" SAE manifold/hose sets with R-410A systems incorporating 5/16" (1/2"-20UNF) service ports.

- Designed to remove and install valve core without losing system charge
- Increases evacuation and charging speed by creating unrestricted access



Large, 9' x 16' Rubber Bottom Tool Organizer #TLBAG2

- Separate compartments for quick, easy-access
- Molded handle for durability and comfort
- Rubber bottom
- Durable fabric and construction



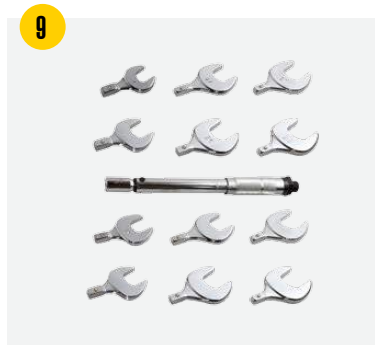
BlackMax® Tube Cutter 1/8' to 1-1/4' #BTC300

- Two quick-change, chromed, hardened cutting wheels
- Enclosed feed screw eliminates clogging, jamming
- Set-N-Cut™ spring-loaded cutting wheel for a perfect cut every time



BlackMax® Tube Flaring Tool #BFT850

- Aluminum body is 50% lighter than steel designs
- Internal clutch indicates when formed flare is complete
- Eccentric cone forms precise 45° flared ends
- Creates perfect, strong flares
- For 3/16", 1/4" 5/16", 3/8", 1/2", 5/8", 3/4" O.D. soft copper, aluminum tube



Torque Wrench Set with (1) Universal Handle #TLTWSAE and (6) Imperial and (6) Metric wrenches (part numbers below) and instructions

| Heads | | | |
|-------|-----------|---------|-------------|
| | Metric | | Imperial |
| 17mm | #TLXTWM17 | 5/8" | #TLXTW58 |
| 22mm | #TLXTWM22 | 11/16" | #TLXTW1116 |
| 24mm | #TLXTWM24 | 13/16" | #TLXTW1316 |
| 26mm | #TLXTWM26 | 15/16" | #TLXTW1516 |
| 27mm | #TLXTWM27 | 1-1/16" | #TLXTW1L116 |
| 29mm | #TLXTWM29 | 1-5/16" | #TLXTW1L516 |



Brass Adapters and Caps

- (10) 1/2"-20 UNF Caps #AVC410
- (2) Male: 1/4" SAE 55D; Female: 1/2"-20 UNF SWVL, #AD87S and
- (2) Male: 1/4" SAE Female; 1/2"-20 UNF #AD87



BlackMax® Deburring Tool #BTLD83

- with extra blade inside handle
- Quick-change blade
- Solid aluminum body



R410A Flare Size Gauge #FTXSG

- 6.4 mm, 1/4"
- 9.5 mm, 3/8"
- 12.7 mm, 1/2"
- 15.9 mm, 5/8"
- 19.1 mm, 3/4"

CPS® EXTRA DURABLE TOOL ORGANIZERS

Organize your tools with care with this extra strong, premium built series of tool organizers from CPS.



TLBAG1
10" x 10" Square Tool Organizer



TLBAG2
9" x 16" Rubber Bottom Tool Organizer



TLBAG3
Tool Belt Tool Organizer

PRO-SET® ADJUSTABLE HANDLE WRENCHES

- Patented light weight composite handle design
- Wide jaw opening with 45% more torque
- Precision machined for smooth operation
- Ergonomic, comfortable grip reduces fatigue
- Durable and environment-resistant
- Packed in clear clamshell with printed display card
- One year warranty



TLWA08
Size: 8"
Jaw Capacity:
1-1/8" / 29 mm



TLWA10
Size: 10"
Jaw Capacity:
1-5/16" / 33 mm

PRO-SET® SERVICE WRENCHES

- Metal construction
- Embossed fractions and logo
- Polished chrome finish



TLSWL

- Large, straight. Square & hex drive
- 3/16", 1/4" Square Drive
- 1/2", 9/16" Hex Drive

TLSWLB In Bulk (100 pcs)



TLSWO

- Small, offset. Square drive.
- 3/16", 1/4", 5/16", 3/8" Square Drive
- Offset ends

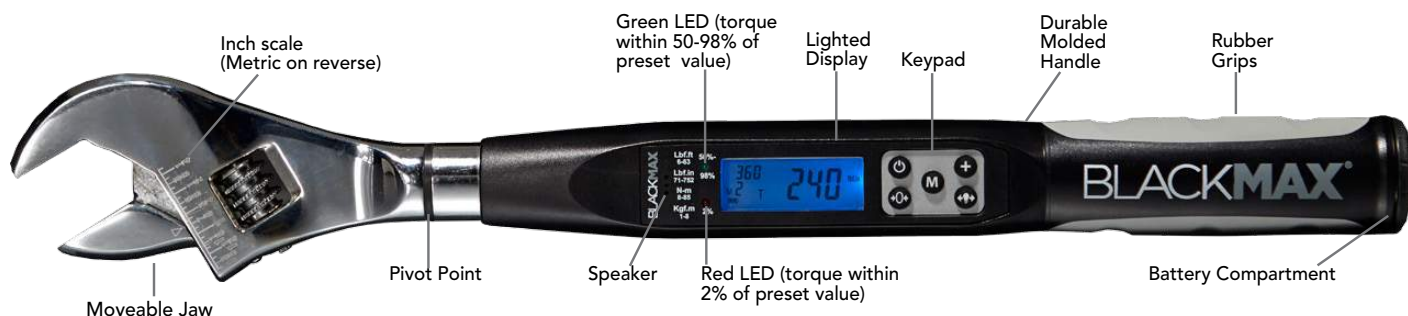
TLSWOB In Bulk (100 pcs)
TLSWOA Wrench plus 3/16" & 5/16" Hex Driver Bit



TLWS

- Small, straight. Square drive
- 3/16", 1/4", 5/16", 3/8" Square Drive

TLWSWB In Bulk (100 pcs)
TLWSWA Wrench plus 3/16" & 5/16" Hex Driver Bit



BTLDTW BLACKMAX® DIGITAL TORQUE WRENCH

Ideal for HVAC mini-split installations or where OEM-specified torque settings are critical, the BlackMax digital torque wrench exceeds the capabilities of mechanical-only torque wrenches by offering a variety of user-friendly features in a lightweight, durable and ergonomic housing.

The BTLDTW stores 5 factory and 5 user-defined presets, and is able to simultaneously display stored vs. actual torque values. Large display numbers prevent misreading torque data, a common problem when using wrenches without digital displays. View “Peak” and “Track” torque data with audible (tone), visual (LED) and tactile (vibration) “torque alerts” to prevent over-tightening by providing advance warning when approaching or exceeding predefined torque settings.



KEY FEATURES

- Ensures OEM torque setting compliance
- Ideal for HVAC mini-split installations
- **Jaw opening:** 3/16” to 1-7/16” (5 to 35mm)
- **Torque settings:** Lbf.ft, Lbf.in, N-m, Kgf.m
- **Pre-set and actual torque values:-** View both same time
- **LED Torque Alerts:** Green= within 50-98%, Red= within 2%
- **Memory Presets:** 5 common, 5 open for custom torque values
- **Track mode:** View real-time torque value reached during use
- **Peak mode:** Maximum torque value reached is stored temporarily
- **Auto-Off (Selectable):** Conserves battery life
- Display light key



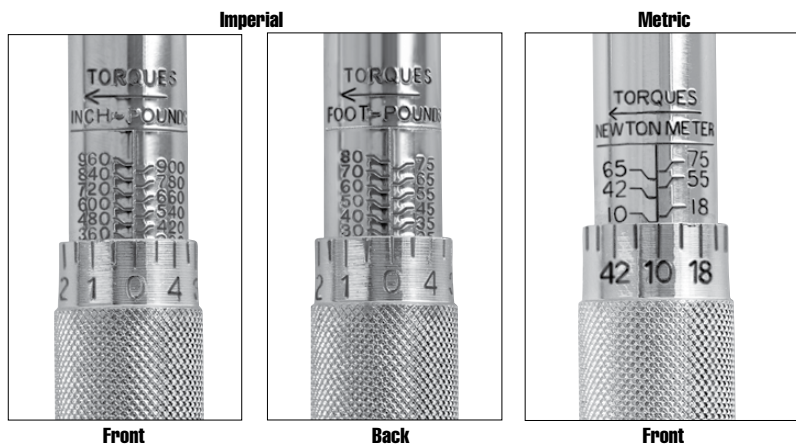
| Torque Units (Selectable) | N-m | Kgf.m | Lbf.ft | Lbf.in |
|--|--|-----------|------------|------------|
| Torque Measurement Range | 8-85 | 1-8 | 6-63 | 71-752 |
| Display Resolution | 0.1 N-m | 0.1 Kgf.m | 0.1 Lbf.ft | 1.0 Lbf.in |
| Accuracy | ± 2% clockwise and counter-clockwise of reading, 10% to 100% of full scale | | | |
| Jaw Opening | 3/16” – 1-7/16” (5 - 35 mm) | | | |
| Operating Voltage | 3V (2 x AAA batteries, supplied) | | | |
| Operating Temperature | 32°F~104°F (0°C ~ 40°C) | | | |
| Storage Temperature | -4°F ~113°F (-20°C ~ 45°C) | | | |
| Wrench (+ Case) Weight | 2.79 lb (1.27 kg) | | | |
| Wrench Length | 15.25” (0.387 m) | | | |
| Green LED Flashes | Within 50% to 98% of programmed torque (in Peak or Track mode) | | | |
| Intermittent Tone | Within +5N-m of programmed torque value | | | |
| Red LED On | Within 2% of programmed torque value | | | |
| Faster Tone | Within +- 2 N-m of programmed torque value | | | |
| Continuous Tone + Constant Green LED & Handle Vibrates | When >2% over programmed torque value | | | |
| Display Constant On: | Battery life = approx. 120 hours | | | |
| Display & Backlight Constant On: | Battery life = approx. 96 hours | | | |
| Replacement Battery Cap | BTLDTWCX | | | |

Call and speak to a CPS representative. Customer Service: +1 (305) 687-4121 | Toll Free: (800) 277-3808

PRO-SET® TORQUE WRENCHES

Professional interchangeable jaw torque wrench set ensures compliance with OEM torque settings for high pressure systems.

- SAE (Inch) or Metric Sets: Both include 6 sizes of interchangeable ends
- Polished chrome finish
- Provides consistently accurate readings and rugged, trouble-free performance
- Includes instruction sheet and molded storage case



TLTWSAE IMPERIAL WRENCH SET

- **Inch Wrench Settings** in Inch-Pounds (60-960) or Foot-Pounds (5-80)

Includes: SAE Multi-Head Torque Wrench Set with handle, heads and case (5/8", 11/16", 13/16", 15/16", 1-1/16", 1-5/16")

Replacement Parts:

| | |
|-------------------|--------------------------------------|
| TLXTWSAE | Complete Set of (6) SAE Wrench Heads |
| TLXTWSAEW | SAE Torque Wrench Handle |
| TLXTW58 | 5/8" Head |
| TLXTW1116 | 11/16" Head |
| TLXTW1316 | 13/16" Head |
| TLXTW1516 | 15/16" Head |
| TLXTW1L116 | 1-1/16" Head |
| TLXTW1L516 | 1-5/16" Head |



TLTWSM METRIC WRENCH SET

- **Metric Wrench Settings** in Newton-Meters (10-75)

Includes: Metric Multi-Head Torque Wrench Set with handle, heads and case (17, 22, 24, 26, 27, 29 mm)

Replacement Parts:

| | |
|-----------------|---|
| TLXTWM | Complete Set of (6) Metric Wrench Heads |
| TLXTWMW | Metric Torque Wrench Handle |
| TLXTWM17 | 17mm |
| TLXTWM22 | 22mm |
| TLXTWM24 | 24mm |
| TLXTWM26 | 26mm |
| TLXTWM27 | 27mm |
| TLXTWM29 | 29mm |



TLSWH PRO-SET® HEX

- Hex ends (Inch)
- Nickel Plated
- 5/64", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"
- Clamshell packaging with display card



TLSWB PRO-SET® HEX BALL POINT

- Ball point ends (Inch)
- Nickel Plated
- 5/64", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"
- Clamshell packaging with display card



TLSWT PRO-SET® TORX

- Torx ends
- Nickel Plated



TLSWHM PRO-SET® HEX

- Hex ends (Metric)
- Nickel Plated
- 1.5, 2, 2.5, 3, 4, 5, 6, 8 mm
- Clamshell packaging with display card



TLSWHB PRO-SET® COMBO SET

Inch Hex Wrench Combo Set: Includes TLSWH (Inch Hex Key) & TLSWB (Inch Ball Point Key Set)



TLPK PRO-SET® SWAGE PUNCH SET

5 Punches (1/4", 5/16", 3/8", 1/2", 5/8")



TLMSP PRO-SET® 6-in-1 SWAGING PUNCH

- (3/16", 1/4", 5/16", 3/8", 1/2", 5/8")
- Swages six sizes of tubing
- Chrome plated for strength and durability



TLPORR PRO-SET® PINCH-OFF & RE-ROUND TOOL

Pinch-Off tool & rerounds 1/4", 5/16", 3/8", and 1/2" copper and tubing



**TLFC1 PRO-SET®
UNIVERSAL METAL FIN
COMB**



**TLFC6 PRO-SET® UNIVERSAL
6-SIDED FIN COMB
STRAIGHTENING TOOL**
Repair bent condenser fins



**TLFC2 PRO-SET® FIN
STRAIGHTENER**
Large durable, easy grip handle



**TSWS TECH-SET™ SMALL
STRAIGHT SERVICE WRENCH**

- Square Drive: 3/16", 1/4", 5/16", 3/8"
- Metal handles with frosted finish and blister card packaging



**TSWSO TECH-SET™ SMALL
OFFSET SERVICE WRENCH**

- Square Drive: 3/16", 1/4", 5/16", 3/8"
- Metal handles with frosted finish and blister card packaging



**TSWSH TECH-SET™ LARGE
STRAIGHT SERVICE WRENCH**

- Square Drive: 3/16 & 1/4
- Hex Drive: 1/2 & 9/16
- Metal handles with frosted finish and blister card packaging

TECH-SET™ INSPECTION MIRRORS

For fast, accurate inspection of any hidden area.
Universal ball joints hold mirrors firmly at any angle.



TLMIR1
Circular
Telescoping Mirror
1-1/4" diameter



TLMIR2
Circular
Telescoping Mirror
2-1/4" diameter



TLMIR3
Rectangular
Telescoping Mirror
3-1/2" x 2"

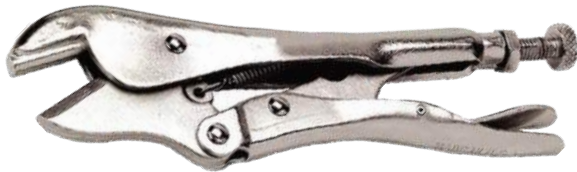
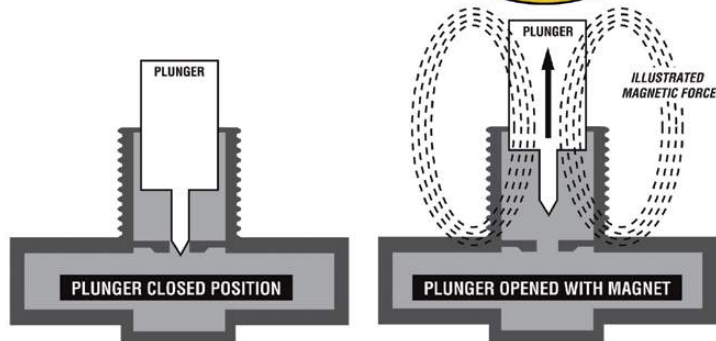


TLMIR4
Oval Pocket Mirror
1" x 2"

TLMKC18 SOLENOID MAGNET

The **TLMKC18** is designed to manually open solenoid valves by magnetically lifting the stem assembly and plunger. Simply slide the **TLMKC18** over the valve's enclosing tube and the industrial grade magnets incorporated inside the rugged ABS plastic housing does the rest. It is an ideal tool for trouble shooting/servicing both direct connected or pilot operated 2-way solenoid, 3-way reclaim or 4-way reversing valves.

- 0.75"/18 mm opening fits all common manufactured valves



TLPO PRO-SET® PINCH-OFF PLIERS

- Tool locks onto tubing to prevent loss of refrigerant during service
- Rounded jaws to avoid cutting tubing
- Fast release mechanism
- 1 year warranty



TLPP PRO-SET® TUBE PIERCING PLIERS

Tube Piercing Pliers 1/4"
TLPPX Replacement Tip



TLDWH WOOD DUCT KNIFE

Used to fabricate fiberglass duct board. Stainless steel 6" double edge resharpenable blade facilitates easy piercing for inside cuts. The double edge is also ideal for tapping into and trimming flex duct.



TLDKRH RUBBER DUCT KNIFE

Used to fabricate fiberglass duct board. Stainless steel 6" double edge resharpenable blade facilitates easy piercing for inside cuts. The double edge is also ideal for tapping into and trimming flex duct.



TLMAG1 COMPACT MAGNETIZER/DEMAGNETIZER

Use the **TLMAG1** to magnetize tools in order to keep small screws and nuts in position, especially helpful when working in confined spaces, or demagnetize tools when working on or near electronic circuit boards. Simply insert a screwdriver or nut driver into the (+) opening, slowly draw it out and it's magnetized. Leave the magnetizer on the tool for extra strength. To demagnetize, slowly draw the tool through the smallest area of the (-) opening.

- Instantly magnetize or demagnetize steel tools & parts
- Incorporates two C5 industrial strength magnets
- Impact resistant ABS molded plastic
- No batteries or electricity required
- Compact design: 2" x 2" x 1"

BLACKMAX® GEAR & PULLEY REMOVERS

- Quick-change: 2 or 3 reversible jaw
- Internal/external pull
- Forged chrome, vanadium steel
- Patented design enables fast configuration of two or three puller arms for inward or outward gripping positions.



BTLGP4

- Remover 3"-4" (76-102 mm)
- 3.75" Reach
- 11.5" Spread

Center point prevents slippage



BTLGP7

- Remover 3"-7" (76-178 mm)
- 5.5" Reach
- 17" Spread



BRRN1 PRO-SET® NITROGEN REGULATOR

- UL Listed
- Delivery Pressure 0-400 PSI
- Easy-to-read gauges with protective rubber gauge boots



BRHT2 PRO-SET® POWER TORCH

- Auto-ignite torch
- Adjustable flame control
- For use with propylene (MAPPRO), MAPP and Propane
- CGA600 Inlet Connection
- Reinforced plastic and stainless steel burn tube
- 3 changeable tips with space for 2 cylinders
- Molded case



BRHT1 PRO-SET® HAND TORCH

- Auto-ignite torch
- Adjustable flame control
- For use with propylene (MAPPRO), MAPP and Propane
- CGA600 Inlet Connection
- Cast aluminum and stainless steel burn tube construction
- Flame lock button, precise flame adjustment
- Clamshell packaging

BRXHTST1 Replacement Torch Tip



BRHT5 PRO-SET® HAND TORCH WITH 5' HOSE & VALVE

- Auto-ignite torch
- Adjustable flame control
- For use with propylene (MAPPRO), MAPP and Propane
- CGA600 Inlet Connection
- Brass regulator, composite handle & stainless steel burn tube
- New brass regulator with 5 ft hose and valve
- Clamshell packaging



BRHTS1A PRO-SET® SWIVEL HAND TORCH

- Auto-ignite torch
- Adjustable flame control
- For use with propylene (MAPPRO), MAPP and Propane
- CGA600 Inlet Connection
- Brass regulator & stainless steel burn tube
- Torch tube swivels 360 degrees, operates in any position
- Clamshell packaging

BRXHTST1 Replacement Torch Tip



BRHTS1 TECH-SET® SWIVEL HAND TORCH

- Manual Ignition
- Adjustable flame control
- For use with propylene (MAPPRO), MAPP and Propane
- CGA600 Inlet Connection
- Clamshell packaging

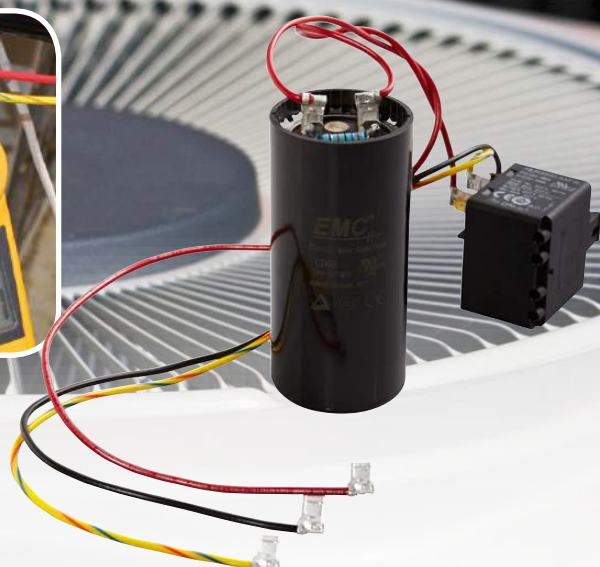
BRXHTS1 Replacement Torch Burner Tube Assembly

5-2-1[®]

COMPRESSOR SAVER[®]

**PROTECT YOUR CUSTOMERS
WHILE EARNING ADDITIONAL PROFITS**





REDUCES DAMAGING IN-RUSH CURRENT BY UP TO 50%!

5-2-1® COMPRESSOR SAVER®

Start-up is the most punishing task for any type of electrical equipment due to the surge of current when power is first applied. A/C compressors can consume up to 45,000 watts!

The 5-2-1 Compressor Saver significantly reduces the time the compressor draws high amperage at start-up by combining a powerful multi-layer starting capacitor with a smart switch to safely give the compressor the burst it needs to start up quickly and reliably, while drawing less power. Less power means lower energy bills, too.

- Perfect add-on service for HVAC technicians—high profit, easy and fast to install, and easy to sell.
- Customers experience immediate results.
- Adds years to the life of your compressor and other electrical components associated with your A/C system.
- Reduce damaging in-rush current by up to 50%.



Watch the video by scanning the QR Code.



CSRU1
For 1 to 3 Ton units



CSRU2
For 3-1/2 to 5 Ton units



CSRU3
For 4 to 5 Ton units

MAXIMUM SURGE PROTECTION

5-2-1® SURGE PROTECTOR

The 5-2-1 Surge Protection device incorporates the latest in patented surge protection technology providing up to **70% MORE PROTECTION** than similar value priced alternatives*. Plus, no other brand has a separate visible alarm that indicates when the unit has suffered significant damage and needs to be replaced.

Professionally Installed Surge Protection

- Protects against power surges
- Protects against lightning strike surges
- Protects against utility grid "Spikes"
- Protects vital system components

Dual Visual Indicators

Home owners and contractors alike love our dual indicator lights. No more wasting time or money dealing with a single indicator light. Our products come with two lights - a red light to indicate if power is present and a green light to indicate that the product is providing protection. With two lights on, you can rest assured knowing that the system is properly protected.

Features:

- Device built with patented MOV parts
- Green LED indicates surge protection is present
- Red LED indicates that power is present independent of the surge protection status
- TUV Certified UL 1449 3rd Edition
- Type 4X enclosure IP67 rated
- Easy installation
- Low cost, high performance

Contractor Benefits:

- Promote additional profits
- Marketing materials available FREE of charge
- Protect your customer's equipment
- Reduce callbacks
- Increase customer referrals

Single Phase Surge Protection

- Circuit Boards
- Air Conditioners
- Furnaces
- Heat Pumps
- Refrigeration Systems



Watch the video by scanning the QR Code.



SPD60
Rated up to 60,000 amps



SPD150
Rated up to 100,000 amps



*Based on maximum energy dissipation (Joule) rating

QUICKEST AND EASIEST WAY TO BRING NEW LIFE TO OLD REFRIGERATION SYSTEMS!

5-2-1® QUIKSTART® COMPRESSOR START KIT

The 5-2-1 QUIKSTART is an easy-to-install 115V combination starter, pre-wired to work with or without a run capacitor. The 5-2-1 QUIKSTART works by administering essential power boosts to the compressor.

The 5-2-1 QUIKSTART is designed to replace all three electrical components on all domestic and commercial refrigerators and freezers using CSIR or CSCR type compressors (relay, overload and start capacitor) and comes pre-wired, complete installation instructions and extra wiring nuts.

Features:

- 3-in-1 product: replaces relay, start capacitor and overload
- Provides a boost for hard start and unbalanced systems
- Start assist in low voltage conditions
- UL recognized



| 5-2-1® QUIKSTART® COMPRESSOR START KITS | | | |
|---|---|------------|---------------|
| ITEM | | HP | Maximum Volts |
| QURCO410 | For Systems With Run Capacitors | 1/4 - 1/3 | 115V |
| QURCO810 | | 1/12 - 1/5 | 115V |
| QRCO410 | For Systems Without Run Capacitors | 1/4 - 1/3 | 115V |
| QRCO810 | | 1/12 - 1/5 | 115V |

CPS Products, Inc. USA (Headquarters)

1010 East 31st Street, Hialeah, Florida 33013, USA
Tel: 305-687-4121, 1-800-277-3808, Fax: 305-687-3743
E-mail: info@cpsproducts.com
Website: www.cpsproducts.com

CPS Products Canada Ltd.

1324 Blundell Road, Mississauga, ON, L4Y 1M5
Tel: 905-615-8620, Fax: 905-615-9745
E-mail: info@cpsproducts.com
Website: www.cpsproducts.com

CPS PRODUCTS N.V

Krijgsbaan 241, 2070 Zwijndrecht, Belgium
Tel: (323) 281 30 40, Fax: (323) 281 65 83
E-mail: info@cpsproducts.be
Website: www.cpsproducts.be

CPS AUSTRALIA PTY. LTD.

109 Welland Avenue, Welland, South Australia 5007
Tel: +61 8 8340 7055, Fax: +61 8 8340 7033
E-mail: sales@cpsaustralia.com.au



Product Guarantee

CPS guarantees that all products are free of manufacturing and material defects for one year from the date of purchase. If a product should fail during the guarantee period due to defective material or workmanship, it will be repaired or replaced (at our office) at no charge. This guarantee does not apply to products that have been altered, misused, or are in need of field service maintenance. All repaired products will carry an independent 90 day warranty.

Connect with us at:

