CPS®

Advanced Tools
Smart Solutions

PRODUCT GUARANTEE

CPS guarantees 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.

Advanced Tools
# Smart Solutions

CPS® link™

🔒 **PATENTED**

Technology so advanced, CPS was awarded a patent (U.S. Patent 1,043,161). CPS Link™ combines the power of smart devices with our patented measurement technology and custom app to enhance diagnostic and service capabilities.

All CPS digital tools and test instruments are designed exclusively for use with our technology, making CPS products the most accurate measuring instruments with unsurpassed speed and reliability.

CPS Link™ for Android and iOS devices acts as the interface between the measurement technology built into CPS digital products and the user. This allows the most integrated and cross-platform flexibility of any other product to date.
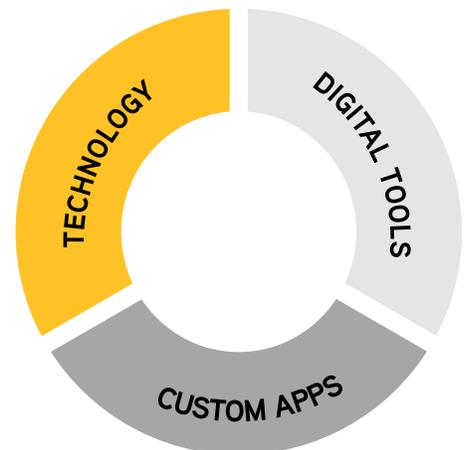
TECHNOLOGY

DIGITAL TOOLS

CUSTOM APPS

Connect to one or more CPS wireless tools simultaneously.

CPS Link™ combines our patented communication technology built inside every CPS wireless tool with powerful analytical and integrated management software that allows you to access the following features:

Data From Multiple Wireless Devices: Simultaneously gather data from one or more wireless CPS devices

Client Lists: Create and save client historical information

Job Checklist: Create and retain job reminders

Job Tracker: Create and retain record of services performed

Geolocation: Record and store where jobs were completed

Time Stamp: Record and store time and date

Monitor Readings: Remotely

Share/Send Data: Conveniently e-mail or save data

Selectable Language: Choose from different languages to work in

CPS Link™ enabled wireless products include:

- Digital Manifolds
- Vacuum Gauge
- Temperature and Pressure Gauge
- Refrigerant Charging Scales
- Airflow & Environmental Meter
- Airflow Capture Hood
- Temperature & Humidity Data Logger
- Static Pressure Meter & Probe Kit
- Clamp Power Meter
- Smart Indoor Air Quality Meter
- Vacuum Pump
- Recovery Machine
- Indoor Air Quality Meter
- Solenoid Valve
- Charging Scale

CPS® link™

Download on the **App Store**

GET IT ON **Google Play**
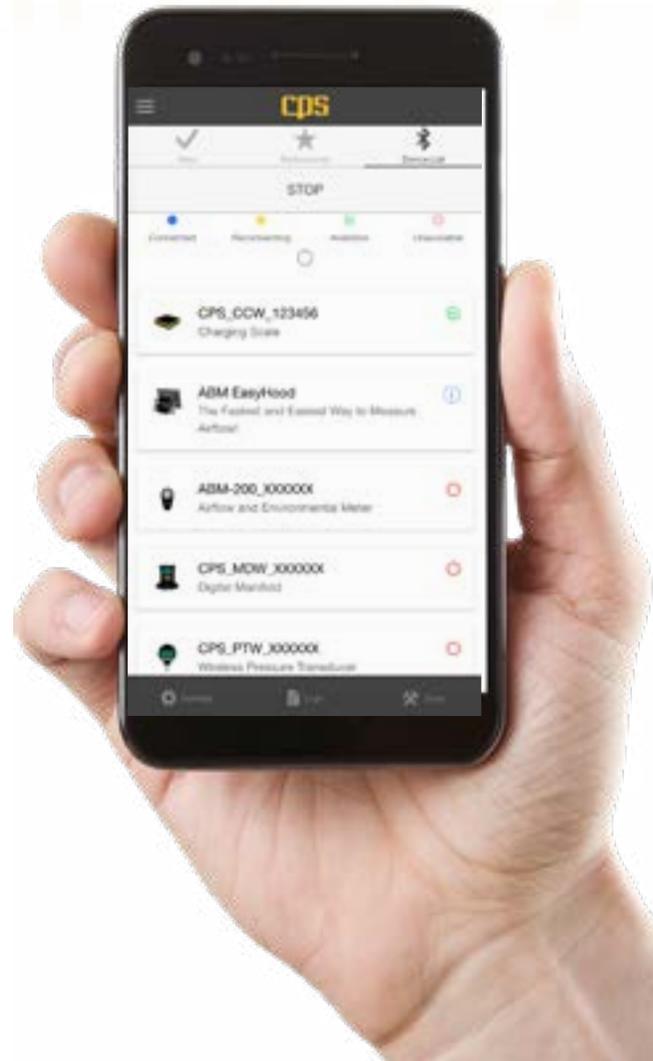
MOST SENSITIVE
RELIABLE
AND ACCURATE
PLUS LONGEST SENSOR LIFE

Fully Automatic

SYNONYMOUS WITH HIGH PERFORMANCE REFRIGERANT LEAK DETECTION FOR OVER 30 YEARS.

The manual-select Leak-Seeker® I and fully automatic Leak-Seeker® II, featuring our patented E_MOS® leak detection technology are the most sensitive, stable, reliable and accurate detection products, with the longest sensor life on the market today. *U.S. Patent # 8,555,701
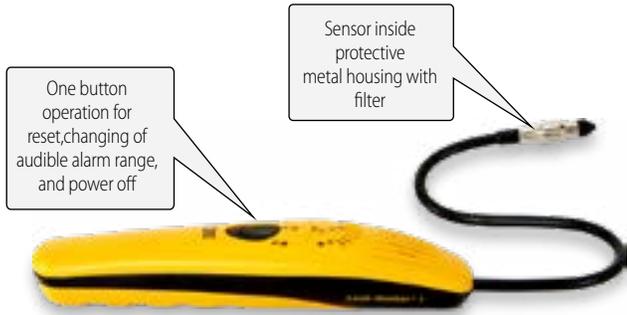
- Detects refrigerants including those with hydrocarbon components (CFC, HCFC, HFC, HFO, NH3, HC. Hydrogen trace gas in 95% N2, 5% H2 mixture)
- Patented E_MOS detection technology increases battery and sensor life, with replaceable sensor, filter and tip
- One button controls On/Off and all functions.
- Microprocessor controlled sensor improves sensitivity and reduces false alarms
- Metal sensor housing with patented water vapor stabilizing filter eliminates false alarms due to condensate
- Optimal leak-finding performance under a broad range of conditions
- Simple, intuitive bar graph LED display
- Software managed sensor rejuvenation at startup ensures highest sensitivity
- Ergonomic, high-impact housing with high output alarm speaker
- Designed and manufactured in U.S.A. with U.S. and globally sourced components.

One button operation for reset,changing of audible alarm range, and power off

Sensor inside protective metal housing with filter

LS1 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.

Six sensitivity levels

Bar graph displays relative leak size

High output alarm speaker

LS2 Leak-Seeker® Ii

- Simple, intuitive bar graph LED display
- 56 levels of sensitivity automatically selected by proprietary Powershift™ software

The only leak detector with fully automatic sensitivity selection and control. Simply turn it on and pinpoint the leak.

COMPARISON	Leak-Seeker® I	Leak-Seeker® II	Tech-Set™ LS780C	Leak-Seeker® LS790B
Detector Type	Patented E_Mos Detection Technology		Proprietary Ion-Pump sensor with built-in selective filter housing	
Sensitivity	Better than 0.1 oz (3g) / year		Better than 0.25 oz (7g) / year leak rate of HFC	
Sensitivity Selection	Manual	Fully automatic	Manual	
Refrigerant Sensitivity	All, including those with hydrocarbon components (CFC, HCFC, HFC, HFO, NH3, HC. Hydrogen trace gas in 95% N2, 5% H2 mixture)		All, including those with hydrocarbon components (CFC, HCFC, HFC, HFO, NH3, HC)	
Visual Alarm	Visual tachometer-like bar graph display with 8 high intensity LEDs		High intensity LED (Varies in brightness)	High intensity bar graph display
Flex Probe	15.5" flexible probe for hard-to-reach areas		18" metal flex probe	
Lock-Out Mode	N/A		N/A	Yes
Controls	One button controls on/off and all functions		OFF, LO & HI sensitivity modes	6 button keypad
Battery Life	3 "C" batteries (>50 hours continuous use)		4 "AA" alkaline batteries (>40 hours continuous use)	
Audible Alarms	In Progressive Mode: Extended tone range In Threshold Mode: Single high pitch tone	2 user selectable alarm ranges	128 computer generated tones to precisely guide user to the source of the leak	
Low Battery Indication	Green (middle) LED turns off when batteries at 10% capacity	Rightmost (No Battery) LED stays on when batteries at 10% capacity	Center LED above "＊" lights during operation	
Operating Temperature	0 to 140ºF (-18 to 60ºC)			
Auto-Off	Yes, after 10 minutes of inactivity		No	Yes, after 15 minutes of inactivity
Sensor Life	>500 hours continuous use		Replace seasonally	
Weight	18 oz (500g)			
Warranty	1 year	2 years	1 year	2 years
Standards	CE, Complies with European Standard EN14624: 2012		CE, SAE J1627	CE, SAE J1627
Certifications	Individually Calibrated To NIST Traceable Leak Standard			

LS780C Leak-Seeker

Easy-to-use rugged, 3-position slide switch to turn the instrument on and select either LO or HI sensitivity ranges. Visual indication of the leak size is provided by a high intensity LED varying in brightness with the concentration of the refrigerant detected.

LS790B Leak-Seeker

Combines the most advanced microcomputer circuitry with field proven Ion-pump® sensor technology creating a highly sensitive, accurate electronic refrigerant leak detector. Over 128 computer generated tones and a high intensity bar graph display quickly alerts the user to varying halogen concentrations. Patented automatic calibration design eliminates the need for manual balance or tick rate adjustments while the user selectable 10 sensitivity ranges enables the LS790B to detect leaks of all refrigerants.

REPLACEMENT PARTS (LS1, LS2)

EMOS2		E_MOS Technology Sensor
LS2XF		E_MOS Technology Sensor Filters (10-Pk)
LS2XVF		Vapor Filter Sensing Tip

REPLACEMENT PARTS (LS780C, LS790B)

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

EZSMOKE

Simply The Fastest, Most Effective and Accurate Method For Low Pressure Leak Testing!

NEW

MADE IN THE USA

3 Ways to catch the leak!

Visually with the WHITE vapor

Smell the citrus scent

Trace amount of UV dye

EZSMOKE CE-9i *Leak Detection System*

EZSMOKE allows a technician to use low pressure, non-toxic smoke, with a pleasant lemon scent and UV dye, to quickly locate annoying sewer gas leaks that are often difficult and time consuming to find in cuts, cracks, fractures, punctures, porosity or unsealed fittings inside or outside residential or commercial buildings.

EZSmoke uses patented technology to send non-toxic smoke containing a trace dye (UltraTrace UV) through the air (not a liquid) that is contained within pipes, wall cavities, or other forms of enclosed spaces. Any visible smoke immediately provides an indication of a large leak.

If white smoke alone does not locate the source of sewer gas odor, technicians can rely on UltraTrace UV, that is carried within the smoke vapor, to pinpoint the source of very small leaks of annoying sewer gas.

Patented in the U.S. and foreign countries.

SPECIFICATIONS

Height	26" (56.0 cm)
Width	16.5" (33.0 cm)
Depth	10.5" (24.0 cm)
Weight	40 lb. (18.1 kg)
Shipping Weight	44 lb. (20 kg)
Power Supply	100-240V 50/60 Hz
Power Consumption	10 amps
Max. Ultratrace UV Vol.	32 oz. (0.9 Liter)
Inlet Pressure Required	50 to 175 psi (3.4 to 12 bar)
Supply Pressure	5 psi (0.34 bar | 34 kPa)
Supply Volume	26.4 Gal (100 L) per min
Smoke Supply Line Hose	25 feet (7.6 m)
Power Cord	10 feet (3 m)
Remote Starter Cable	12 feet (3.6 m)
Operating Temp. Range	45°F to 140°F (7.2°C TO 60°C)
Max Altitude	Up to 2000 M (6,561 Ft)
Fuse	10A (two required)
Warranty	1 year

Dye Marks the Spot

EZSMOKE patented UltraTraceUV® dye travels with the white smoke and settles outside most leaks in the system, The included UV light UltraTraceUV® dye pinpoints the exact location of any leak.

Fast, Verifiable Results

EZSMOKE provides fast, verifiable results and easy testing of all repairs. After locating and repairing any leaks run a pressure decay test on the system again. If no pressure decay is found, all repairs are successful.

ACCESSORIES INCLUDED WITH CE-9I

CEA-63
25 ft. smoke supply hose. Connect as many hoses to each other as needed

CEA-60
Remote Control

CE0716UV
UltraTrace UV (16 OZ.) Smoke Producing Solution. (one bottle)

CEA-35
Combination white/ UV LED light, 2 'D' batteries and yellow glasses

CEA-64
¾" NPT Plastic Ball Valve, cam and groove connector and clip (connects to end of smoke supply hose CEA-63)

CEA-65
Adapter cone-standard size. (For introducing Diagnostic Smoke intro any system 1" to 3 ½" diameter). Threads on to adapter CEA-64

CEA-66
Adapter cone-large size. (For introducing Diagnostic Smoke intro any system 3 ½" to 6" diameter). Threads on to adapter CEA-64

CEA-36

OPTIONAL ACCESSORIES FOR CE-9I

CEA-36 Powerful Focused-Beam UV Light, yellow glasses, 12-VDC cigarette lighter adapter and 120-VAC charger

CEA-99
Accessories bag for smoke supply hose

CPS

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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.

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	Earphones

RM Refrigerant Monitor Control Box and Sensor Housing

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.

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

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 65ºC)
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

UV55 *Refrigerant UV Dye Leak Detection Kit*

Conduct a fast, easy, mess-free air conditioning leak test with our ultra-fluorescent universal dye.

KIT INCLUDES

- MoonLight™ flashlight with 9, true ultraviolet LEDs and 3 AAA batteries
- MoonShine™ blue light-blocking glasses
- **UVNJS** Mess-free and easy-to-use squeeze injector
- **UVS2** universal (orange) OEM approved dye cartridge
- R-34a 90° low side snap coupler
- Carrying case and instructions

UVPRO *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 LED engineered to maximize the fluorescing capabilities of today's most commonly used detection dyes used in AC systems, while greatly reducing the amount of "nuisance" background blue light emitted.

- Operates 8 hr (continuous on)
- Inspection range up to 3' (0.9 m)
- 100,000 hour LED life
- Instant "ON" with no heat produced
- Works with all common dye additives

REPLACEMENT PARTS

UVXG	UV Enhancing Safety Glasses
UVXB	12V Rechargeable Battery Pack for 50W or 100W Light
UVXBC	Battery Carrying Case
UVXC	110V Battery Charger

UVAL *50w 90˚ auto swivel light w/ battery clips*

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

REPLACEMENT PARTS

UVAL	50W 90˚ Auto Swivel Light w/ Battery Clips
UVXB	12V Rechargeable Battery Pack for 50W or 100W Light
UVXBLB	UV Bulb for 50W Light

UVNJS *Squeeze Injector*

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 then place it into the Squeeze Gun. Make your connection and inject the dye. It's that simple.

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

Step 1: Load cartridge.

Step 2: Connect and bleed hose.

Step 3: Inject, then discard empty cartridge.

REPLACEMENT PARTS

UVXSGA	Adapter Hose

UVNJ *Anodized Aluminum Flow Through 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 *Anodized Aluminum 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

REPLACEMENT PARTS

TLJX2H	Replacement Oil Injector Hose

CPS®

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MOONSHINE™ IN-LINE DYE CAPSULES

- Universal OEM approved dyes formula
- All MoonShine™ dye meets SAE J2297 standard
- See statement below
- All dyes include I.D. labels

S Ice machines, window AC units, autos, refrigerators
- For AC & R systems containing up to 2.9 lb (1.3 kg) refrigerant charge
- OR 15 fl. oz (0.4 L) of oil

M Residential systems
- For AC & R systems containing up to 4.9 lb (2.2 kg) refrigerant charge
- OR 1.6 qt (1.8 L) of oil

ML Light commercial and large residential systems
- For AC & R systems containing up to 5 to 9.9 lb (2.3 to 4.5 kg) refrigerant charge
- OR 1.7 to 3.2 qt. (1.9 to 3.7 L) of oil

L Commercial and light industrial, including all split systems
- For AC & R systems containing up to 10 to 25 lb (4.6 to 11.4 kg) refrigerant charge
- OR 3.3 to 2 gal (3.8 to 9.1 L) of oil

UV101 6 pack **UV1** 6 pack **UV2** 6 pack **UV3** 6 pack

MOONSHINE DYE CARTRIDGES

- Use with UVNJS Squeeze Gun Injector
- Cleanest, easiest and fastest method of injection
- 4 sizes to match capacity of system
- Locates source of air entering system
- Eliminates over-injection of dye
- All dyes include I.D. labels

UVS101 6 pack **UVS1** 6 pack **UVS2** 6 pack **UVS3** 6 pack

UVUD6

Moonshine™ Bottled Universal Refrigerant Dye
6 pack

- Built-in measuring cap
- 8 oz (237 ml)
- Lowest cost per application
- Excellent for large systems

UVUDS

Moonshine™ Universal Refrigerant Dye
6 pack

- 1 oz (30 ml) bottles
- Lowest cost per application

UVCLNR

Moonshine™ Dye Cleaner
1 pack

- 32 oz (946 ml)

MOONSHINE Dye is an OEM approved UNIVERSAL DYE for use with: Mineral, Ester, PAG and Alkyl Benzene lubricants.
MOONSHINE Dye is classified by UL in accordance with SAE-J2297 dye standards (Sept. 1996) (79XL)

OPEB6S eBOOST™ AC/R Performance Enhancer

- Restores older AC/R systems to original efficiencies
- Improves coil heat transfer
- Increases cooling capacity
- Increases lubricity of compressor oil
- Reduces compressor friction, vibration and noise
- Extends compressor oil and system life
- Reduces energy and maintenance costs
- 1 Oz (30 ml)

OPEBF6S eBOOST™ AC/R De-Icer

- Compatible with all refrigerant gases (including CFC, HFC and HCFC)
- Won't affect performance of refrigerant gas
- Neutralizes and prevents formation of acids
- Effective in all sizes of systems
- 1 Oz (30 ml)

OPEBA6S eBOOST™ AC/R Moisture Remover

eBOOST™ AC/R Moisture Remover is a dehydrating additive that eliminates moisture and prevents water molecules from forming in AC/R systems. Safe for all systems, compatible with all AB, mineral, POE and PAG oils used in refrigeration systems. Will not break down or leave behind any type of particulate matter, acids, gels or polymers.
1 Oz (30 ml)

OPEBM6S eBOOST™ AC/R Acid Neutralizer

- Prevents acids from forming
- Neutralizes acids caused by compressor burnout
- Neutralizes acids introduced by A/C recovery units
- Safe with all system components
- Ideal for preventive maintenance
- Fast and immediate results
- 1 Oz (30 ml)

OPEBAK eBOOST™ AC/R Acid Test Kit

Fast, easy and reliable way to determine the relative pH of any lubricant used in air-conditioning or refrigeration compressors. For all air-conditioning and refrigeration system lubricants. Enough for 4 tests. 1 oz (30 ml)

KIT INCLUDES

4 Vials (blue liquid) Lubricant pH Detector
4 Pipettes
1 Plastic Carrying Case

COMPUTE-A-CHARGE®

REFRIGERANT CHARGING SCALES & ACCESSORIES

THE MOST TRUSTED BRAND OF CHARGING/RECOVERY SCALES

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 todays advanced AC/R systems.

- Ideal for critical charging of large or small systems and all refrigerant recovery applications
- Environmentally sealed and temperature compensated for reliable operation in extreme environments
- Rugged cast aluminum platform and base assemblies for stability and long life
- Electronic and mechanical overload protected to withstand 150% of capacity
- Calibrated to strict NIST standards (National Institute of Standards & Technology)
- Designed and manufactured in the USA with U.S. and globally sourced components

CPS Link™

CC220EW *Enhanced Wireless Refrigerant Charging Scale*

- 220 lb (100 kg) capacity
- Accurate to 0.015% of Reading [or ± selected resolution, whichever >]
- 4 adjustable resolution settings
- 8.75″ (22.3 cm) square platform
- 7 button corded/wireless control – For manual or programmable operation
- Mobile device control – For added functions, including Tank Tracker™
- Audible and visual alarms for use during charging and recovery

REPLACEMENT PARTS FOR CC220, CC220E, CC220EW

CCXC	Protective carrying case
CCX220BC	Battery door with magnet

Bluetooth®

CHARGE   RECOVER   Color Sleeve

Take Control With TankTracker™

INVENTORY | COSTS | RECORD-KEEPING | USAGE | LOCATION

Supply and recovery tank inventory management system exclusively from CPS

The Tank Tracker™ feature (Patent Pending), developed by CPS Products, Inc., provides a convenient way to manage and track your inventory of refrigerant supply and recovery tanks in the field.

Tank Tracker is included within the CPS Link app (U.S. Patent # 9,043,061), and it allows technicians to set up an electronic inventory of all their supply and recovery tanks. Information such as tank size, type and amount of refrigerant contained in each can be entered.

Tank Tracker will then record the addition or subtraction of refrigerant from a tank, along with the date, place and time the tank was used, as well as the name of the job and the customer it was used for. All of this information can be e-mailed to clients, technicians, a home office, or others.

The Tank Tracker feature is available when the CPS Link app has been activated, and any CPS wireless scale has been paired to a mobile device. This allows technicians to perform programmable charging or recovery.

For automatic charging or recovery, pair any CPS wireless scale and the SVW Wireless Solenoid Valve to a mobile device running the CPS Link app. The SVW will turn ON or OFF to automatically control refrigerant flow.

Tank Tracker Screen

Track who, when, where and how much refrigerant is used on every job

Log refrigerant usage/disposal per EPA requirements

Track who, when, where and how much refrigerant is used on every job

NEW

SVW *Wireless Solenoid Valve*

The SVW is a compact, battery operated solenoid valve with ¼" SAE IN/OUT male ports that open and close in 100 milliseconds to control refrigerant flow. Operate it manually, or in automatic mode for more precise control. Works with all CPS wireless scales using our patented CPS Link™ technology.

- Operate manually for instantaneous On/Off control of refrigerant.
- Or, pair to any CPS wireless scale for automatic, precise control of refrigerant during service routines.
- Saves time, reduces cost and extends service equipment life
- Compatible with all common CFC, HFC, HCFC refrigerants and blends
- Operates with CPS Link app

SPECIFICATIONS

Bluetooth®

Transmission Range (Line Of Sight)	Up to 150 feet
Continuous Battery Life	Up to 500 hours
Maximum Working Pressure	500 Psig (34.5 Bar)
IN/OUT Fittings	Brass, 1/4 SAE male
Approvals	FCC, IC, CE
Dimensions	3" x 2-3/4" x 4.5" (76 x 70 x 114mm)
Packaging	Color box
Warranty	1 Year

RECOVER	SVW	CHARGE

CCD110 *Refrigerant Charging Scale*

- 110 lb (50 kg) capacity
- 0.20 oz (5 g) display resolution
- Accurate to 0.015% of reading (or +/- 0.2 oz/5g (whichever greater))
- 3 button corded control with large, high contrast, wide angle, display
- Cast aluminum platform and base
- 3 point non-rocking foot pattern for best stability
- Heavy duty rubber platform mat
- Padded carrying case with shoulder strap
- Unique patent pending "delta" shaped design

3 POINT BASE FOR BEST STABILITY
1
2
3

CC220 *Refrigerant Charging Scale*

THE ORIGINAL. TIME TESTED. AN INDUSTRY STANDARD!

- 220 lb (100 kg) capacity
- Accurate to 0.015% of Reading [or $\pm$ 0.25 oz (10 g) whichever >]
- 0.25 oz (10 g) resolution
- 8.75" (22.3 CM) square aluminum platform
- 3 button corded control with large LCD display

CC800A *Programmable Refrigerant Charging Scale*

- 220 lb (100 kg) capacity
- Accurate to 0.015% of Reading [or $\pm$ 0.25 oz (10 g) whichever >]
- 0.25 oz (10 g) resolution
- 8.75" (22.3 CM) square aluminum platform.
- Programmable for automatic charging or recovery via built-in solenoid valves
- 7 button corded control

CPS

Model #	CCD110	CC220	CC220EW	CC800A
Maximum Load	110 lb (50 Kg)	220 lb (100 kg)		

CONTROLS

Control To Scale Connection	Flexcord		Flexcord Or Wireless (CPS Link™)	Flexcord
Control Mount	360 swivel hook	Magnet back & 360 swivel hook		
Control Buttons (Physical Functions)	3 (On/Off, Lb/Kg, Tare)	7 (On/Off, Lb/Kg, Tare, Go/Hold, Increase, Set/Reset, Decrease)		
Tare (Empty) Weight Mode	Yes			
Programmable Solenoids	n/a			Yes
Auto Power Off Feature (ENABLED)	Display shows "APO ON" at power up. [Display will turn OFF after 10 minutes inactivity].Selectable	Display Turns OFF After 10 Minutes Inactivity	Default = Display Turns OFF After 10 Minutes Inactivity (Can re-set in increments of 5, 10, 15, 30, 60 mins or OFF)	10 mins (if weight on platform does not change by more than 1oz (30g) within 10 mins).
Auto Power Off Feature (DISABLED)	Display shows "APO OFF" at power up [Display will be constant ON]	Display shows "APO OFF" at power up [Display will be constant ON]		
Smart Awake	Display shows last weight measurement at time of Auto-Off, updated to current value	Scale displays last weight measurement at time of Auto-Off, updated to current value		

CHARGE/RECOVER ALARMS

Charge/Recover Alarm	n/a		Audible & visual alarms during charge and recovery	Continuous beep during charge

WIRELESS

Wireless Connectivity	n/a		Yes	n/a
Transmission Range	n/a		150' (45.7m) direct line of sight	n/a
Frequency Range	n/a		2.4 GHz, ISM Band (Worldwide)	n/a

BATTERY

Power Source	Hand Control: (1 or 2) 9V Alkaline (1 Included)	(1 or 2) 9V Alkaline (2 Included)	Hand Control: (2) 9V Alkaline (Included)	
Continuous Battery Life	One 9V = 75 hrs; Two 9V = 150 hrs.	One 9V = 75 hrs; Two 9V = 150 hrs.	One 9V = 50 hrs; Two 9V = 100 hrs.	30 Hrs
Battery Status Indicator	2 Segment Battery Icon	2 Segment Battery Icon	3 Segment Battery Icon	4 Segment Battery Icon

LCD DISPLAY

Units (Weight) Readout	lb & oz, or kg & gm			
Weight Accuracy	0.015% of Reading [or ± 0.2 Oz (5 g) whichever >]	0.015% of Reading [or ± 0.25 oz (10 g) whichever >]	0.015% of Reading [or ± selected resolution whichever >]	0.015% of reading, or ± 0.25 oz/10 gm (whichever greater)
Display Resolution (Increments)	0.20 Oz (5 g)	0.25 Oz (10 g)	Selectable: 0.1 Oz (2 g); 0.2 Oz (5g); 0.25 Oz (10 g); or 0.50 Oz (25g)	0.25 Oz (10 g)

WEIGHTS, DIMENSIONS, MATERIALS

Platform Dimensions	Delta shape [fits w/l 10.4″ (26.4 cm) circle]	8.75″ x 8.75″ (22.3 x 22.3 cm)		
Scale Weight (With Case)	5.5 Lb (2.5 Kg)	5.68 lb (2.6 kg)	5.62 lb (2.55 kg)	8.5 lb (3.9 kg)
Length Of Control Cord	6' (1.8 m), Extended			
Maximum Working Pressure	n/a			500 Psig (34,5 Bar)
Maximum Operating Differential	n/a			485 Psig (33,5 Bar)
Rubber Platform Cover	Yes	No		
Storage Case	Soft Case	Molded Case		
Overload Protection	Mechanical (Internal Overload Stop)	Mechanical (Internal Overload Stop)		
Operating Temperature Range	14°F to 122°F (-10°C to 50°C)	14°F to 122°F (-10°C to 50°C)		
Operating Humidity Range	0% to 95% (Non-Condensing)	0% to 95% (Non-Condensing)		

APPROVALS, CALIBRATION, WARRANTY

Approvals	CE		FCC,IC,CE	CE
Calibrated To NIST Standards	Yes			
Declaration Of Conformity	EN 61326-1:2013, CISPR 11:2009/A1:2010	EN 61326-1:2013, CISPR 11:2009/A1:2010	n/a	
Warranty	1 Year			

BLACK**MAX**®

THE ULTIMATE IN DEPENDABILITY.

Designed for servicing residential and commercial refrigeration systems, the BlackMax TR700 Series are the industry's best-performing refrigerant recovery machines 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.

FEATURES:

- 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

REPLACEMENT PARTS

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

Twin fans, high density polyethylene case, 4 skid-resistant rubber feet

Selectable manual or automatic shut-off mode settings

Large 2-1/4″ diameter gauges and indicator lights for high pressure or low pressure status

Replaceable, cleanable filter

Detachable power cord

Adjustable carrying strap

Pro-Set®

TR650W Series

The world's first recovery machine with a brushless DC motor that weighs only 19.5 lbs, and runs quieter, smoother and more efficiently than competitive models. The TR650W becomes even smarter when paired to a mobile device running the CPS Link app. Recovery data is automatically logged, stored and ready to share with others, thereby validating job completion.

Fast recovery, easy-to-use
High torque DC motor for ramp up starts and the shortest recovery times. Weighs 19.5 lbs, for easy transport to jobsites.

Safer operation
Ignition proof construction and high pressure shut-off provide for safe jobsite use.

Instantly share a job snapshot
The CPS Link app automatically logs jobsite readings for instant e-mailing to clients, home office, others

TR600 Series

FAST. COMPACT. RELIABLE.
We took six recovery machines and their verified recovery rates. The Pro-Set TR600 was the undisputed fastest recovery machine for 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
- Fastest R-410A flow rates in 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
- Quiet operation
- Worldwide patents pending

REPLACEMENT PARTS

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

TRS600 Series PRO-SET® Ignition-Proof Refrigerant Recovery Machine

The TRS600 includes the same features as the TR600, but with an ignition proof design for Class A1, A2, A2L, A3 refrigerants.

- Designed and tested to meet ANSI 12:12.01 Ignition Proof standards
- Maintenance free oil-less compressor
- Permanently lubricated and sealed main bearings
- Ignition proof power switch
- Sealed start relay
- Hard wired 9.8 ft. (3m) power cord

Ignition proof power switch

High pressure shut off indicator

RECOVERY MACHINE PERFORMANCE AND SPECIFICATION COMPARISON

	BLACKMAX® TR700 SERIES							PRO-SET® TR600 SERIES						
	TR700	TR710	TR700C	TR710C	TR700S	TR710S	TR700E	TR600	TR610	TR600K	TR600S	TRS600	TR600E	TR650W
Voltage (Hz)	115V (60 Hz)				220-240V (50 Hz)			115V (60 Hz)	220V (50 Hz) 230V (60 Hz)	220-240V (50 Hz)	115V (60 Hz)		220-240V (50 Hz)	100-115V (50-60 Hz)
Motor Size	2/3 HP							2/3 HP						1 HP
Display	Twin Gauge							Twin Gauge						Lighted LCD
Compressor Type	Two cylinder, oilless							Two cylinder, oilless						
Overload Protection	15 Amp		13 Amp		10 Amp			15 Amp		10 Amp				Multiple sensor monitor
Power Consumption	1000 W							1000 W						
Tank Overfill Sensor Cord	✗	✓	✗	✓	✗	✓	✗	✗	✓	✗		✗	✗	Optional Kit
High Pressure Shut-Off	550 psig (38 bar)		450 psig (31 bar)		550 psig (38 bar)		38 bar	550 psig (38 bar)		550 psig (38 bar)			36 bar	550 psig (38 bar)
Manual Reset Button	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
Ignition Proof Design	✗							✗				✓	✗	✓

Suction Pressure Gauge

		TR700				TR700S/TR710S	TR700E	TR600		TR600S		TRS600		TR650W
Suction Pressure Gauge	Outer Scale	-30″ Hg to 500 psig					-1 to 20 bar	-30″ Hg to 500 psig				3500 kPa		-30″ Hg to 500 psig Selectable units: PSIG, BAR, kPa, Mpa, KGCM2
	Inner Scale	-76 cm Hg to 35 kg/cm					115V (60Hz)	-76 cm Hg to 35 kg/cm		-30″ Hg to 500 psig		35 bar		
Discharge Pressure Gauge	Outer Scale	0 to 1000 psig					0 to 70 bar	0-550 psig				3800 kPa		0-600 psig Selectable units: PSIG, BAR, kPa, Mpa, KGCM2
	Inner Scale	0 to 70 kg/cm					0 to 7000 kPa					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						
ASHRAE Refrigerant Code		A1						A1		A1, A2, A2L, A3		A1		R-32, R-1234yf, R-1234ze only
Power Cord Length		6′ (1.82 m) Detachable						3.5 ft (1.06 m)				9.8 ft (3.0 m)	3.5 ft (1.06 m)	10 ft (3m) Nema 5-15P plug
Dimensions		9.75″ x 21″ x 14.0″ (24.7 cm x 53.3 cm x 35.6 cm)						8.5″ x 16.7″ x 12.3″ (21.6 cm x 42.4 cm x 31.2 cm)						
Weight		32 Lb (14.5 kg)						28 Lb (12.7 kg)						19.5 lb
Operating Temperature Range		32°F to 120° (0°C to 49° C)						32°F to 120°F (0°C to 49°C)						
Approvals		UL*	UL*	CSA	CSA	CE	CE, TUV		UL*	UL*	CE	CE	UL*, ANSI**	CE, TUV	UL*, CSA, TUV, FCC, ICES-003
Warranty (Years)		1						1						

Recovery Rates

Refrigerant	Direct Vapor	Direct Liquid	Push - Pull Liquid	High Temp Vapor Rate	Direct Vapor	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)	.703 lb/min (0.319 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)	.597 lb/min (0.271 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	.503 lb/min (0.228 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	.536 lb/min (0.243 kg/min)	29.14 lb/min (13.22 kg/min)	n/a	-

*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. Verified UL Refrigerant Recovery Rates @ 60Hz (Reduce 15% for all 50Hz models) *Results shown available at database.ul.com. **ANSI: Designed, tested and passed ANSI 12.12.01*

A2 refrigerants include R-152A **A2L** refrigerants include R-1234yf, R-1234ze, and R-32 **A3** refrigerants include R-290, R-600, and R-600A

CPS®

	PRO-SET® TR21 SERIES							TECH-SET® TR19 SERIES			
	TR21	TR21C	TR21S	TR21E	TRS21	TR22	TR22S	TR19	TRS19	TR19S	TR19K
Voltage	115V (60 Hz)	230 V (50Hz)	220-240 V (50Hz)	115V (60Hz)				115V (60Hz)	220-240V (50 Hz)		220-240 V 50 / 60 Hz
HP	2/3 HP							1/2 HP			
Motor	Two cylinder, oilless							Two cylinder, oilless			
Amp	✗	13 Amp	✗	10 Amp	✗	✗	✗			✗	
Wattage	1000W							550W			
			✗		✗		✓			✗	
Pressure	550 psig Auto Reset	450 psig Auto Reset	550 psig Auto Reset	36 bar	550 psig Auto Reset	550 psig Auto Reset		550 Psig (38 bar) Auto Reset	450 Psig (31 Bar)	550 Psig (38 bar) Auto Reset	
	✗			✓		✗				✗	
		✗		✓		✗		✗	✓	✗	✗
Gauges	No Gauges							No Gauges			
Refrigerants	R-12, R-134A, R-401C, R-406A, R-500							R-12, R-134A, R-401C, R-406A, R-500			
	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			
	R-402A, R-404A, R-407A/B, R-410A/B, R-507A							R-402A, R-404A, R-407A/B, R-410A/B, R-507A			
Safety class	A1				A1, A2, A2L, A3	A1		A1	A1, A2, A2L, A3	A1	
Cord	6 Ft.							6 Ft.	9.8 ft (3.0 m)	6 Ft.	
Dimensions	6″ x 12″ x 9″ (15cm x 30cm x 23cm)							6″ x 11″ x 9″ (15cm x 28cm x 23cm)			
Weight	24.3 lb (11.0 kg)							18.7 lb (8.5 kg)			
Temp	32°F to 120° (0°C to 49° C)							32°F to 120° (0°C to 49° C)			
Approvals	UL*	CSA	CE	CE, TUV	UL*, ANSI**	UL*	CE	UL*	UL*, ANSI**	CE	
Qty	1							1			

PRO-SET® TR21 SERIES

Direct Vapor	Direct Liquid	Push - Pull Liquid	High Temp Vapor Rate
.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)
.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)
.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
.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

TECH-SET® TR19 SERIES

Direct Vapor	Direct Liquid	Push - Pull Liquid	High Temp Vapor Rate
.273 lb/min (0.124 kg/min)	8.36 lb/min (3.79 kg/min)	24.25 lb/min (11 kg/min)	n/a
.311 lb/min (0.141 kg/min)	6.97 lb/min (3.16 kg/min)	24.25 lb/min (11 kg/min)	.280 lb/min (.127 kg/min)
.291 lb/min (0.132 kg/min)	4.30 lb/min (1.95 kg/min)	20.66 lb/min (9.37 kg/min)	n/a
.320 lb/min (0.145 kg/min)	6.64 lb/min (3.01 kg/min)	23.61 lb/min (10.71 kg/min)	n/a

TR21 SERIES *Refrigerant Recovery Machines*

The smallest, lightest, fastest and most reliable recovery machine in its class!

- Weighs only 25 pounds!
- Fastest ARI recovery rates in its class, best speed-to-weight ratio in the industry!
- Five unique patented and patent pending design elements
- Vapor or liquid recovery, including R-410A
- Compact and easy to carry
- Multi-language color box

REPLACEMENT PARTS

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

TRS21 *Ignition Proof Refrigerant Recover Machine*

- Designed and tested to meet ANSI 12:12.01 Ignition Proof standards
- Ignition proof ON-OFF switch
- Sealed start relay
- 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
- Multi-language color box

R-32 ready

TR19 SERIES *Tech-Set 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

REPLACEMENT PARTS

TR21X1	Valve Rebuild Kit
TR21X3	Piston/Connecting Rod Replacement
TR19X1	Complete Rebuilt Kit
TR19X2	Eccentric Crank Set
TR21X4	Complete Head Replacement

R-32 ready

MOLECULAR TRANSFORMATOR DRAMATICALLY INCREASES THE SPEED OF ANY RECOVERY MACHINE.

MT69

CUT YOUR RECOVERY TIME IN HALF!

This MT69 is the only commercialized

recovery sub-cooler manufactured for the professional A/C & R technician to work with ALL refrigerants. Use the MT69 in-line with the discharge line of any recovery machine to dramatically increase the speed of recovery!

• Increases the speed and performance of your recovery machine up to 95%! For example: The time needed to recover 15 lb of R-22 at 120oF is 32 minutes. Using the MT69, it takes only 17 minutes.

• Functions as a submersible condenser or evaporator

• Rugged, compact and easy to use
• Essential for recovering R410A on hot days and eliminates the need to change tanks
• Eliminates annoying shutdown due to high pressure switch limit

**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

SPECIFICATIONS

	MT69	MT69SS
Dimensions	4.25″ x 9″ (10.9 cm x 22.9 cm)	
Weight	3.50 lb (1.58 kg)	3.10 Lb (1.40 kg)
Maximum Operation Pressure	500 Psig	
Discharge Pressure Gauge	0 to 600 Psig	
Inlet/Outlet Connections	0 to 600 Psig	
Refrigerant Compatibility	CFC, HCFC, HFC, HC, and HFO	CFC, HCFC, HFC, HC, HFO, and NH3
Coil	Copper	Stainless Steel

HOW THE MT69/ MT69SS MOLECULAR TRANSFORMATOR WORKS:
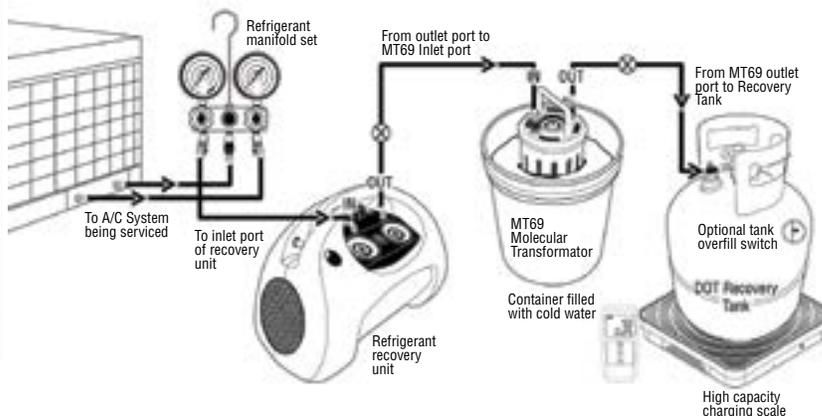
The effects of ambient temperature and elevated tank pressures on the speed of the refrigerant recovery process are in many cases more important than the speed of the recovery machine itself. As ambient temperature increases, pressure in the recovery cylinder increases, reducing the recovery speed and 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.

MOLECULAR TRANSFORMATOR
MT69SS

With stainless steel coil- for use on refrigerant systems utilizing Class A1, A2, A2L and A3 refrigerants

REFRIGERANT CYLINDER 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, reducing refrigerant transfer time.

CCXHB (120V)

CCXHBV (220V/240V)

SPECIFICATIONS

	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	

REFRIGERANT RECOVERY TANKS

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

(Automotive use)

30 lb   **50 lb**   **50 lb**   **90 lb**

CRX430T
CRX430TS with overfill sensor
- 1/4″ SAE Male

CRX400T
CRX400TS with overfill sensor
- 1/4″ SAE Male

ARX134T
ARX134TS with overfill sensor
- 1/2″ ACME Male fitting

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
- Auxiliary port for optional overfill sensor
- Liquid and Vapor UL listed Y-valve
- Powder coated for maximum rust protection

SPECIFICATIONS

		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

VP15W Series *Wireless Vacuum Pump*

The VP15W is the world's first wireless vacuum pump with an integral solenoid and ignition proof starting components. Weighing just 19.5lbs and built around a lightweight, variable speed DC motor, the VP15W is designed for efficient and safe operation. It can be paired to a mobile device running the CPS Link app to automate service routines.

Fast and easy to use
Variable speed, high torque DC motor for ramp up starts and a built-in solenoid for programmable evacuation routines. At 26 lbs, lightest weight in its category for easy transport to jobsites.

Safe to operate
Ignition proof starting components provide for a safe jobsite start up.

Instantly share a job snap-shot
The CPS Link app automatically logs jobsite readings for instant e-mailing to clients, home office, others

Features and Benefits:
- 2 stage, variable speed, brushless, 1 HP DC motor for deeper ultimate vacuum, greater efficiency, lighter weight and longer pump life
- Conventional or wireless operation with automatic evacuation (when paired to a mobile device with CPS Link and paired to CPS VG200W Wireless Vacuum Gauge
- Ignition proof design for safe operation using Class A1, A2, A2L, A3 & Ammonia
- Solenoid valve control inlet port prevents oil siphoning, allows for automatic vacuum
- Gas ballast valve reduces moisture level in oil and extends oil life
- Performance verification

Smart Features:
- Built-in solenoid valve for automatic operation
- Set test parameters for your specific needs
- Convenient, remote monitoring and/or operation from your mobile device for long evacuations up to 150 ft. (46m) away (line of sight)
- Log and store job data, and e-mail or export job files for paperless reference
- Geotag feature identifies where and when work performed
- Multi-language; Select from English, Spanish, French or German

Full Color Packaging

Hoist Feature

Gas Ballast Valve

Built-in Solenoid

SPECIFICATIONS

Stage	2
Ultimate Vacuum	20 Microns
Refrigerant Class	A1, A2, A2L, A3 & Ammonia
Dimensions (Inches)	15" x 6" x 11"
Weight	26.0 lb (11.7 kg)
Maximum Free Air Displacement	15 CFM
Motor Size (HP), RPM @ 50/60Hz	1 HP (4200 RPM Max)
Voltage	100-120VAC 50/60Hz
Power Cord Connection to Pump	Hard Wired Nema 5-15 Plug 10 Ft (3 m)
Ignition Proof Construction	Meets ANSI 12.12.1
Operating Temperature Range	32°F to 125°F (0°C to 52°C)
Vacuum Pump Oil Capacity	27 Oz (800 ml)
Intake Fittings	1/4" & 3/8" SAE Male
Agency Approvals	CE, FCC, TUV, ICES-003
Warranty (Years)	1

WHEN PAIRED TO A MOBILE DEVICE

Wireless Communication	Bluetooth
Wireless Transmission Range	150 Ft (45.7m) Direct Line Of Sight
View, Log Or Export Files	Vacuum Level, Total Run Time, Run Time Since Last Oil Change, On/Off Cycles, RPM, Watts
Integrate Other CPS Wireless Devices Into Service Routine	VG200W (Wireless Vacuum Gauge) to Automate Vacuum Procedures
Geotag Feature	Time, Date, Location

PRO-SET® VACUUM PUMPS

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!. Pumps are offered in a variety of single and dual stage models with numerous voltage, horsepower and free air displacement (CFM) options,

● *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

DUAL STAGE VACUUM PUMPS

	VP2D	VP2DE	VP4D	VP4DE	VP6D	VP6DE	VPS6DE	VPS6DU	VP8D	VP8DE	VP10D	VP10DE	VP12D	VP12DE	VPS12DE	VPS12DU	VP15W
Stage	2								2								
Ultimate Vacuum	10 Microns								25 Microns								25 Microns
Refrigerant Class	A1, A2						A1, A2, A3		A1, A2						A1, A2, A3		A1, A2, A3 & Ammonia
Dimensions (Inches)	12.2"x 5"x 9.6"		13.1"x 5.5"x 10"						14.9"x 5.7"x 10.6"								15"x 6" x 11"
Weight	17.7 lb (8.0 kg)		22.1 lb (10.0 kg)		22.5 lb (10.2 kg)				29.8 lb (13.5 kg)		30.3 lb (13.7 kg)		30.9 lb (14.0 kg)				26.0 lb (11.7 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)				8 CFM @ 60 Hz (192 l/m @ 50 Hz)		10 CFM @ 60Hz (240 l/m @ 50Hz)		12 CFM @ 60Hz (288 l/m @ 50Hz)				15 CFM
Motor Size (HP), RPM @ 50/60Hz	$1/3$ HP (1440, 1720 RPM)		$1/2$ HP (2880, 3440 RPM)						$2/3$ HP (2880, 3440 RPM)		$3/4$ HP (2880, 3440 RPM)		1 HP (2880, 3440 RPM)				1 HP (4200 RPM Max)
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	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	100-120VAC 50/60 Hz
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	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	10 ft. NEMA 5-15 plug
On/Off Power Switch	Yes						Yes (Ignition-proof sealed starting components)		Yes						Yes (Ignition-proof sealed starting components)		
Operating Temperature Range	32°F to 125°F (0°C to 52°C)								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)				29 oz (860 ml)		28 oz (830 ml)		27 oz (800 ml)				
Gas Ballast Valve	Yes								Yes								
Intake Fittings	SAE: $1/4$", $3/8$", ACME: $1/2$"						SAE $1/4$", $3/8$", $1/2$"		SAE $1/4$", $3/8$", $1/2$"								SAE $1/4$", $3/8$
Warranty (Years)	2	1	2	1	2	1			2	1	2	1	2	1			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)

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

● 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 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.

	SINGLE STAGE VACUUM PUMPS (Standard Size)			DUAL OR SINGLE STAGE VACUUM PUMPS (Compact Size)					
	VP2S	VP4S	VP6S	VPC2DU	VPC2DE	VPC2SU	VPC2SE	VPC4SU	VPC4SE
Stage	1			2		1			
Ultimate Vacuum	50 Microns			15 Microns		100 Microns			
Refrigerant Class	A1, A2			A1, A2					
Dimensions (Inches)	12.2" x 5" x 9.6"		13.1" x 5.5" x 10"	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	13.7 lb (6.2 kg)	15.0 lb (6.8 kg)	18.3 lb (8.3 kg)	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 @ 60Hz (96 l/m @ 50Hz)	6 CFM @ 60 Hz (144 l/m @ 50 Hz)	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 (1440 1720 RPM)	1/3 (HP) 2880/3440	1/2 HP (2880, 3440 RPM)	1/4 HP (2880 , 3440 RPM)		1/5 HP (2880, 3440 RPM)		1/4 HP (2880, 3440 RPM)	
Voltage	Dual (110-120V Or 220-240V @ 50/60Hz)			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	Universal IEC Socket, Voltage Selector Switch, Nema 15 Plug			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			Yes					
Operating Temperature Range	32°F to 125°F (0°C to 52°C)			32°F to 125°F (0°C to 52°C)					
Pro-Set® Vacuum Pump Oil Capacity	16 oz (470 ml)		19 oz (540 ml)	9 oz (250 ml)		9 oz (250 ml)		10 oz (300 ml)	
Gas Ballast Valve	No			No					
Intake Fittings	SAE: 1/4" & 3/8", ACME: 1/2"			SAE: 1/4", ACME: 1/2"					
Warranty (Years)	2			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)

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)

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.

VPAS4

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

TLOP *Hand Oil Pump*

AVCVAC *Vacuum Pump Cap Kit*

Vacuum pump cap kit with chains on one common ring.

Oil 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.

1/2″ ACME
1/4″ SAE
1/2″ SAE
3/8″ SAE

PRO-SET® PREMIUM VACUUM PUMP OILS

Pro-Set Premium Vacuum Pump Oil is an extremely high quality, severely hydro-treated vacuum pump oil and can be used in pumps made by most manufacturers.

Vacuum pump oil should always be clean and free of contaminants such as moisture, acids, vapors, dirt etc., to extend the life of your pump. So, change it after each use with Pro-Set Premium Vacuum Pump oil (available in pints, quarts and gallons).

VPOP12 (1 PINT, 12/CASE)

VPOQ12 (1 QUART, 12/CASE)

VPOG6 (1 GALLON, 6/CASE)

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.

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) increments
- 3/4″ FPT Brass Bell

GT4
- 0-30 Psi (0-2 bar)
- 1 Psi (0.05 bar) increments
- 1″ FPT Brass Bell

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

Bluetooth®

VG200W *Wireless Vacuum Gauge*

The VG200W is a precision digital vacuum gauge for obtaining accurate pressure measurements during evacuations of HVAC and refrigeration systems. It is also ideal for obtaining vacuum data while conducting time, target, dynamic and static vacuum tests. The VG200W may be used as a standalone gauge, or it may be paired with a mobile device (using the free CPS Link app) for greatly enhanced jobsite capabilities.

FEATURES:
- Large, 5 digit LCD display with low battery indicator
- Easy 2 button control (On/Off and Units)
- Select from 4 different vacuum units (at any time).
- Atmospheric to 0 micron pressure range
- Auto-Off after 10 minutes of no use
- Operates up to 20 continuous hours on one 9V alkaline battery (included)
- Compatible with all refrigerant gases (including ammonia)
- Field cleanable sensor
- Includes stainless steel T connector, hanger hook, vinyl storage case, and Quick Start Guide - all packed in a clear clamshell
- Designed and manufactured in the USA with US and foreign components

WHEN USED WITH CPS LINK™ APP
- Choose from 8 different languages to work in
- Log vacuum test data (viewable in real time graphs)
- Client Lists- Enter and retain client information
- Job Checklist- Create and retain job reminders
- Job Tracker- Create and retain record of services performed
- Geolocation- Record where (global coordinates) and when (time stamp) jobs performed
- Set low and high alarms
- Cloud backup of data

PT200W *Wireless Pressure, Temperature Gauge*

The PT200W is a compact, portable instrument for accurately measuring and calculating HVAC/R data such as pressure, SuperHeat, SubCool, and temperature differential (tH-tL) that are critical to properly servicing HVAC/R equipment. Use the PT200W as a stand-alone gauge or pair with a mobile device to set up, store or e-mail client and job lists, jobsite data, invoices and other convenient, time saving features.

Bluetooth®

FEATURES:
- High & low temperature probe connections
- Take measurements directly from system access ports
- Large, 5 digit LCD display with low battery indicator
- Compatible with all refrigerant gases (including ammonia)
- Includes thermistor sensor (clamp, with 6 ft. lead), stainless steel T connector, hanger hook, double wall cloth storage case, and quick start guide - all packed in a clear clamshell
- Designed and manufactured in the USA with US and foreign components.

WHEN USED WITH CPS LINK™ APP
- Client Lists - Enter and retain client information
- Job Checklist - Create and retain job reminders
- Job Tracker - Create and retain record of services performed
- Geolocation - Record where (global coordinates) and when (time stamp) jobs were performed
- Monitor readings remotely without refrigerant loss caused by manifolds and long hoses
- Share/Send Data - Conveniently e mail data to client, home office, others.
- Selectable Language - Choose from English or Spanish
- P/T tables for 105 refrigerants, and ability to add/delete
- Data Log - Pressure, temperature (tH, tL)
- Cloud backup of data

	VG200W	**VG200**	**VG100A**	**PT200W**
Accuracy	+/- 10% Of Reading	+/- 10% Of Reading	+/- 10% Value Of Lighted LED	1% of reading ± 0.1PSIG (0.01 bar)
Display Type	Large, 5 digit LCD display with low battery indicator	5 digit LCD display with continual digital readout	9 High Intensity LEDs	LCD, 5 Digit
Display Auto-Off	After 10 minutes of no use	After 5 minutes of operation		10 minutes = default if no key pressed, no wireless connection, gauge not logging data
Operating Vacuum Range	Atmospheric pressure to 0 microns		Atmospheric pressure to 25 microns	–
Operating Temperature Range	–			23 ˚F to 149 ˚F (-5 ˚C to 65 ˚C)
Maximum Working Pressure	400 Psig			750 PSIG MWP, 3000 PSIG Burst
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			23 ˚F to 149 ˚F (-5 ˚C to 65 ˚C)
Storage Temperature	-22° F to 185° F (-30° C to 85° C)			-40 ˚F to 185 ˚F (-40 ˚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	Up to 40 hours continuous use
Battery Indicator		Battery symbol with 3 segment Power Level Bar Graph	Symbol for 500 Microns Glows	Battery symbol with 3 segments
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 / Standard 1/4" Female SAE refrigerant hose with core depressor

AVT45

Solid Brass Adapter

AVT45SS

Stainless Steel Adapter

VGXH

Hook

VGXC

Padded Vinyl Pouch

VGXC

PTXC *Cloth Tool Pouch*

• Double wall
• Embroidered CPS logo
• 5.5" x 10" (13 x 26 cm)
• Zipper closure + carabiner

GAUGE REPLACEMENT PARTS	**VG200W**	**VG200**	**VG100A**	**PT200W**
Brass Adapter **#AVT45***	n/a	Included	Included	n/a
Stainless Steel Adapter **#AVT45SS***	Included	Optional	Optional	Included
Swivel Hanging Hook **#VGXH**	Included	Included	Included	Included
Storage Case (Padded Vinyl) **#VGXC**	Included	Included	Included	n/a
Embroidered Cloth Case (Double Wall) **PTXC**	Optional	Optional	Optional	Included

*1/4" SAE female knurl x ¼" SAE male x ¼" SAE male core

VOLT-100 *Wireless Clamp Power Meter*

FEATURES:
- Use with or without the CPS Link app. Connects to Apple and Android smart phones & tablets via Bluetooth
- Power factoring to determine true power consumption
- Data logging of electrical readings
- Utility data feed calculates actual cost/hour of appliances
- CAT. III 1,000 V rating
- True RMS measurements
- Non-contact voltage tester
- Maximum Voltage: 750 V AC; 1000 V DC
- Autorange and manual measuring
- Measuring range overload protection
- Display auto-off
- Display back light
- Automatic polarity indication
- Max/Min and relative measuring function

MEASURE:
- Inrush current
- AC current
- Resistance
- AC/DC voltage Phase angle
- Harmonics
- Frequency
- Capacitance
- Duty cycle
- Diode connection

INCLUDES:
- 39˝ (1 m) test leads
- Durable storage case
- 9V battery
- Owner's manual
- One year warranty

SPECIFICATIONS

|	
Data Logging	Up to 1,000 samples
Sampling Rate	1X/sec. for max of 16 mins., 40 secs.
Maximum Input Current	1000A AC
Maximum Input Voltage	750V AC (TRMS); 1000V DC
Wattage	3W/100W/4000W/10kW/100kW/750kW
AC Current	60A/600A/1000A
Inrush Current	60A/600A/1000A
Resistance	600Ω/6kΩ/60kΩ/600kΩ 6MΩ/60MΩ
Capacitance	9.999nF/99.99nF/999.9nF/9.999μF 99.99μF/999.9μF/9.999mF/99.99mF
Jaw Opening	1.6˝ (42mm) Max.
Size (H x W x D)	9.4˝ x 1.9˝ x 3.6˝ (238 x 50 x 92 mm)
Weight	0.92 lb (420 g)

Included items

Clamshell package

Screen Shots (When Paired To A Mobile Device Running The CPS Link App

Data Logging Capability
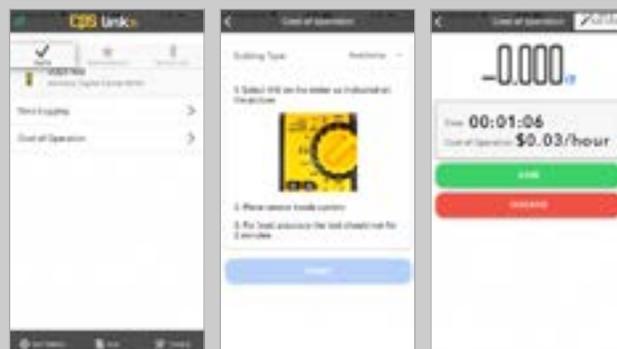
Cost Of Operation Capability

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 inrush measurements and non-contact voltage detection.

- Versatile for testing AC/DC voltage, AC/DC current, resistance, capacitance, and frequency
- True RMS Measurement
- Inrush Current Measurement
- Relative Measurement
- Non-Contact Voltage Detection
- Auto & Manual Ranging
- Diode Open Voltage 3.2V
- MAX/MIN
- Data Hold
- Display 6000 Counts
- Jaw Opening: 1.6" (40mm)
- Auto Power Off
- Continuity Buzzer <50Ω
- Display Backlight
- Work Light
- Low Battery Display
- Secondary injection molded case, safety as per IEC1010 1000V CAT III

Clamshell package

Included items

Back view

SPECIFICATIONS

DC Voltage	60mV/600mV/6V/60V/600V
AC Voltage	60mV/600mV/6V/60V/600V
DC Current	60A/600A/1000A
AC Current	60A/600A/1000A
Inrush Current	60A/600A/1000A
Resistance	600Ω/6kΩ/60kΩ/600kΩ 6MΩ/60MΩ
Capacitance	10nF/100nF/1000nF/10µF 100µF/1000µF/10mF/100mF
Frequency (A)	100Hz/1000Hz
Frequency (V)	100Hz/1000Hz/10kHz
Frequency (Hz/Duty)	10Hz/100Hz/1000Hz/10kHz 100kHz/1000kHz/10MHz
Duty Cycle	0.1%~99.9%
Battery	9V battery
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

REPLACEMENT PARTS

DMXTL	For AC750 and VOLT-100

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.

SPECIFICATIONS

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

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 SPECIFICATIONS

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

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. Optional accessory probes are available and offer the convenience of interchangeable use with other CPS manufactured products including our advanced line of digital manifolds.

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
- High accuracy silicon humidity transducer probe port
- 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

TM360 SERIES 4 Station Thermo-Psychrometer

TM360 Series 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. A dedicated special purpose port accommodates an optional humidity transducer probe for fast and accurate measurements during superheat calculations. A generous probe storage area is provided to contain all your job specific probes.

FEATURES:
- 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
- Integrated battery eliminator jack
- Rugged polyethylene carrying case

INCLUDES

TM360	includes accessory probes TMX2A, TMX2G, TMX2S
TM360C	includes accessory probes TMX2A, TMX2S, TMX3C

Item	Description	Common Uses	Qty	Operating Temperature Range	TM360	TM360C	H450
ACCESSORIES & SPECIFICATIONS	**FOR USE WITH SH450, TM360 AND TM360C**				**FOR USE WITH**		
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

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, 8 point laser 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.

SPECIFICATIONS

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	±2ºC (±4ºF) or ±2% of reading
Display	Digital Backlit LCD
Resolution	1ºC/ºF
Batteries	2 AAA
Warranty	1 year

Built in LED Light

TMXSK90 K-Type Temperature Probe

The **TMXSK90** is the fastest and most accurate hand-held 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)

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

Coiled lead   Flat-spring ribbons   K-type accessory probe

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)

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)
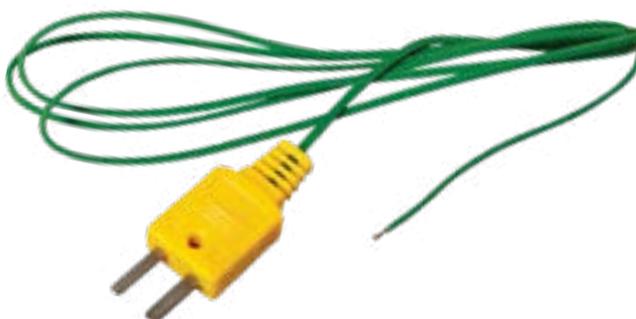
	TMAP	TMAPC	TMDP
	Analog Pocket Thermometer		**Digital Pocket Thermometer**
Temperature Scale:	Fahrenheit	Celsius	°F & °C (selectable)
Thermal Response:	Instant	Instant	Instant
Dial Size/ Lens	1" Clear polycarbonate	25mm Clear polycarbonate	LCD Power: One 1.5V button-cell battery (included), Auto-Off: After 45 minutes non-use
Probe/Case:	5" stainless steel, with protective pen type case & clip	127 mm stainless steel, with protective pen type case & clip	Stainless steel (5" (127mm) with Protective Plastic Sleeve for clip-on pocket
Measuring Range:	0~220°F	0~220°F	-58°F ~ 302°F, -50°C ~ 150°C
Graduation:	2°F	2°F	Resolution (C): 0.1C (Temps < 100C); 0.5C (Other Ranges)\
Accuracy:	+/- 2°F (30°F ~90°F); +/-5°F (other ranges)	+/- 2°F (30°F ~90°F); +/-5°F (other ranges)	Fahrenheit: +/- 1.8°F (30°F ~90°F); +/-3.6°F (Other Ranges) Celsius: +/-1°C (0°C ~100°C); +/- 2°C (Other Ranges) Meets RoHS/CE standard

Using your smart phone as a display, the ABM EasyHood takes accurate and affordable real-time airflow readings in a matter of seconds.

BECOME AN AIRFLOW PRO AND EARN MORE PROFITS!

ABM-HOOD-200

Up to 12" x 12" vents

Up to 24"x 24" vents with Expansion Hood

Low airflow adapter plate

Capture more than just airflow readings with the ABM EasyHood™.

- Use smart phone and CPS Link™ app to measure, display, store and send data
- Measures temperature, wet bulb, dew point and relative humidity (ABM-200 Meter)
- Easy operation with online guidance and visual instruction
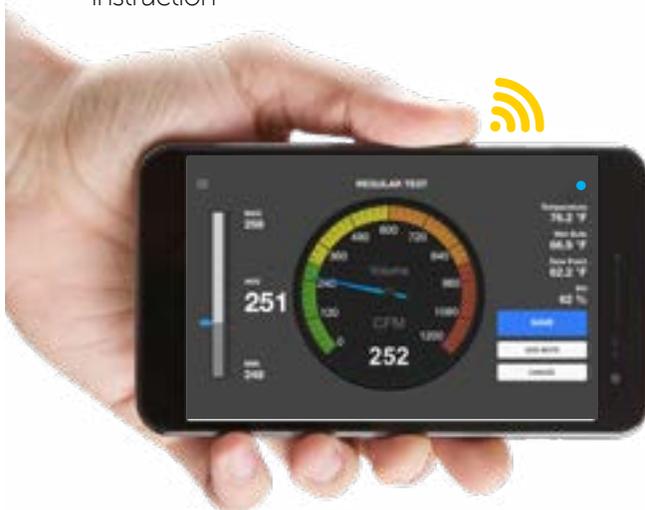
ABM-HOOD-200 includes:

- ABM-200 Airflow Environmental Meter
- Airflow capture hood with expansion hood
- Integrated vortex air straightener
- Low airflow adapter plate
- Protective storage case

ABM-HOOD includes:

Same items as ABM-HOOD-200 but without an ABM-200 meter.

EasyHood Replacement Parts

ABMHOODX1	Phone Base Door
ABMHOODX2	Rubber Seal
ABMHOODX3	Expansion Base
ABMHOODX4	Extension Fabric
ABMHOODX5	Expansion Pole
ABMHOODX6	Low Airflow Plate

CPS

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ABM-100

Airflow Meter

The ABM-100 easily plugs into a smart device and instantly converts air speed into air volume and records the data.

Accurately measures airflow in:
Linear feet per minute, cubic feet per minute, cubic meters per hour, linear meters per second

- Portable, fits in your pocket
- Easy to use — no math or formulas to remember
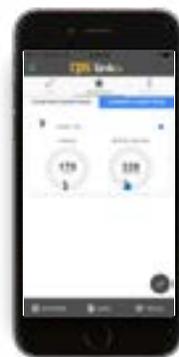- Automatically generates and emails detailed reports
- Rugged packaging serves as a reusable storage case
- 2.5" H x 1.75" W x .75" D
- Plastic storage case with color sleeve

Bluetooth®

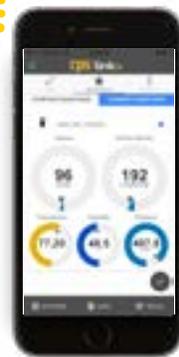Data Displayed in Current Conditions Screen

ABM-200

Airflow and Environmental Meter

Measures and records a variety of data, including: Airflow velocity, airflow volume, dry bulb temperature, wet bulb temperature, relative humidity, feels like temperature, dew point, air density, wind speed/direction/gusts, indoor vs. outdoor conditions and barometric pressure.

- On-screen guidance ensures accurate readings
- Rugged housing with 1/4" 20 mount fitting for hands-free use
- Attach to the EXP-64 – a 64" aluminum extension pole (sold separately) to take readings without using a ladder
- Connects over 20X faster than traditional Bluetooth
- Emails personalized, professional reports
- 3.3" H x 1.8" W x 0.6" D
- Plastic storage case with color sleeve

Bluetooth®

Data Displayed in Current Conditions Screen

Bluetooth®
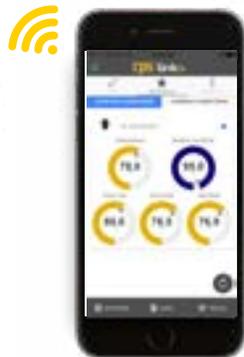
Data Displayed In Starting Conditions Screen

Reading Increments	Data Log Capacity	
	Hours	Days
5 Seconds	28	1.2
30 Seconds	167	7
1 Minute	333	14
5 Minutes	1,667	69
30 Minutes	10,000	417
Hourly	20,000	833
Daily	480,000	20,000

TS-100

Temperature and Humidity Data Logger

Easy to use and accurate, produces readings for: dry & wet bulb temperatures, relative humidity, feels like temperature, dew point

- Data Log stores the last 20,000 temperature and humidity readings that can be uploaded to your smart device for review and to generate professional reports
- Increases productivity, safety & enhances professionalism
- Includes a ¼"-20 metal D-ring connector, key chain split-ring and alligator clip for mounting in various configurations
- Can be mounted on the EXP-64 Extension Pole & TRI-MIN Tripod – no ladder needed!
- Emails professional personalized reports
- Rugged, weather resistant housing
- Plastic storage case with color sleeve

TS-100-6PK

Temperature and Humidity Data Logger

Our convenient 6-pack data logger kit makes it easy and cost effective to deploy multiple meters. Each meter can be individually named to make tracking data easy.

SPM-K1

Static Pressure Meter & Probe Kit

The SPM-K1 kit is the must-have smart tool that combines our popular SPM-100 manometer with our PRB-KIT and a brass gas fitting. This powerful and accurate dual port manometer harnesses the power of the smart phone to perform tests quickly, easily and accurately. Simple, intuitive and accurate readings for: static pressure, pressure differential, indoor vs. outdoor pressure, total external static pressure, gas pressure.

- Imports local weather data to ensure accurate testing
- Rugged housing with magnetic back for hands-free operation
- Two color coded (Red and Blue) stainless steel probes
- Two 6 ft. (1.8 m) rubber tubes
- One gas manifold fitting (brass)
- Plastic storage case with color sleeve

Bluetooth®
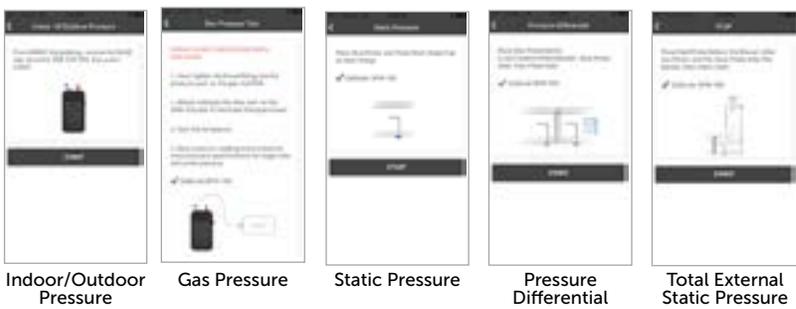
| Indoor/Outdoor Pressure | Gas Pressure | Static Pressure | Pressure Differential | Total External Static Pressure |

SPM-100

Static Pressure Meter

Harnessing the power of your smart phone or tablet with a free app that provides on-screen guidance, the SPM-100 takes the guesswork out of accurately measuring static pressure!
Simple, intuitive, and accurate readings for: static pressure, pressure differential, indoor vs. outdoor pressure, system external static pressure.

- Automatically imports local weather data based on GPS location
- Easily emails professional, detailed reports
- Rugged, weather resistant housing with hands-free magnetic holder
- Color display box with color sleeve

Bluetooth®

PRB-KIT

Static Pressure Probe Kit

Accurately measure and record: Static pressure, pressure differential, indoor/outdoor pressure, system external static pressure, gas pressure test.

Includes:
- Two color coded (lower case Red and Blue) stainless steel probes with magnetic bases
- Two 6 ft. (1.8 m) rubber tubes
- One gas manifold fitting (brass)
- Plastic storage case with color sleeve

Home Balancing Valves constrain airflow to precise factory calibrated volumes as marked on the front of the valve.

ABMHBK & ABMHBV Series

Home Balancing Valves

Traditional airflow balancing devices cannot respond to system changes. Too much ventilation means wasted energy, while too little ventilation leads to poor air quality.

CPS Home Balancing Valves are designed to maintain a constant, accurate airflow volume when installed in residential forced air ductwork.

Each Home Balancing Valve has an engineered damper calibrated to automatically adjust to varying pressures, which gives the airflow valves true pressure independence. This leads to greater comfort, saves energy and improves indoor air quality.

Features
- Eliminates hot/cold areas in your home
- Provides greater comfort
- Reduces energy use
- Improves indoor air quality
- Easy to set airflow volumes

Applications
- Precise airflow regulation in forced air ventilation systems in residential buildings.
- Automatic balancing of supply grilles in residential forced air heating and cooling systems.
- Any HVAC application with a static pressure between 0.2 and 2.0 inches w.c.
- For temperatures ranging from 25° to 150°F (-4° to 65°C)

Typical Uses
Multi-family condos, apartments, hotels, dorms, state energy efficiency programs, housing projects, assisted living facilities.

Use the convenient "Room Airflow Calculator" within the CPS Link app to help determine the size of Home Balancing Valve to use in each room of your home.

Room Airflow Calculator

Building Type — Residential

Room Type — Bedroom

Room Dimensions

Length — 10

Width — 12

Height — 10

Required CFM

104 - 125

Anti-microbial agent to prevent mold and bacteria.

Install Home Balancing Valve in air supply ductwork behind grilles

Raised rubber gasket seals into round ductwork.

20 or 24 adjustable CFM set points.

Airflow Direction

Lab Calibrated
Airflow lab-tested at each CFM set point.

SPECIFICATIONS

Product	ABMHBK410 (10 Pack Kit) or ABMHBV4 (Single Pack)	ABMHBK510 (10 Pack Kit) or ABMHBV5 (Single Pack)	ABMHBK610 (10 Pack Kit) or ABMHBV6 (Single Pack)
Outside Diameter (Rubber Gasket)	3.8" (97mm)	4.8" (122mm)	5.7" (149 mm)
Height	3.5" (88mm)	3.8" (122mm)	5.2" (134mm)
Weight (One Valve)	.203 Lb (90g)	.437 lb (200g)	.609 Lb (280g)
Number of Unique Set Points (CFM)	20	20	24
Airflow Range (CFM)	25-130 CFM	25-130 CFM	50-275 CFM
Airflow Lab Tested at Each Set Point	Yes		
Airflow Accuracy Range	±10% Within 0.2 to 2.0 w.c.		
Temperature Range (Suitable Applications)	25F to 150F (-4C to 65C)		
Static Pressure Range	0.2 to 2.0 Inches w.c.		
Rubber Gasket (Insertion Into Round Duct)	Reversible- Use on either end		
Blade Damper for Quiet Operation	Yes		
Anti-Microbial Plastic Compound	Yes		
UL Tested & Classified	UL 2043		
Warranty	1 Year		

ABMHBK Series

10 Pack Boxes

ABMHBK410
Home Balancing Valve Kit
(4" Balancing Valves)
10 valves per color box

ABMHBK510
Home Balancing Valve Kit
(5" Balancing Valves)
10 valves per color box

ABMHBK610
Home Balancing Valve Kit
(6" Balancing Valves)
10 valves per color box

ABMHBV Series

Single Pack Boxes

ABMHBV4
Home Balancing Valve
(4" Balancing Valve)
1 valve per box

ABMHBV5
Home Balancing Valve
(5" Balancing Valve)
1 valve per box

ABMHBV6
Home Balancing Valve
(6" Balancing Valve)
1 valve per box

Smart Air Quality Solutions

The industry's first smart tool that helps HVAC professionals identify indoor air quality issues, determine potential causes and recommend and provide effective solutions.

IAQ PRO SmartAir *Smart Indoor Air Quality Meter*

The industry's first smart tool that helps HVAC professionals identify indoor air quality issues, determine potential causes, and recommend and provide effective solutions. The IAQ SmartAir™ diagnostic program is designed for the residential market, but has the accuracy and performance to measure indoor air quality in commercial environments as well.

Become an air quality professional
Independent sensors automatically test for: Volatile organic compounds, particulate matter, combustible & non-combustible gases, temperature, humidity, static pressure. The technician now has objective, numerical air quality data.

Sell additional products and services
The CPS Link app generates a customizable report of products, services and prices for the technician to resolve any air quality problems.

Instantly share a job snap-shot
The CPS Link app automatically logs jobsite readings for instant e-mailing to clients, company office, others. This data validates that an analysis was performed.

Operation
Pair this meter to a wireless smart device running the CPS Link app. Place it on an interior surface to begin air diagnostics. LED lights on the housing will change color (Red-Yellow-Green) based on air quality conditions found. The CPS Link app will create a customizable, consumer friendly report showing analysis results. The report can be viewed on screen, printed or e-mailed as a PDF.

SPECIFICATIONS

Size (HWD)	5" x 3.5" x 2.9" (12.7 x 8.9 x 7.4 cm)
Weight	0.65 Lb (0.3 kg)
Wireless Transmission Range	150 Ft (45.7m) Direct Line Of Sight
Data Log	30 Minutes (Default)
Power Cord	6.66 Ft. (2.02 m)
Storage Case	Molded Soft Case, With Carrying Handle
Agency Approvals	FCC, CE, ICES-003, TUV
Warranty	1 year
Geotag Feature	Time, Date, Location (Where Work Done)

4 Sensors Inside

VOC's - Detects the presence of Volatile Organic Compounds (chemical pollution) commonly given off by interior building materials such as carpet, paint, upholstery, vinyl flooring, cleaning products, cosmetics, burning wood etc.

NDIR (Non-Dispersive Infrared) – Detects combustible gases and non-combustible inert gases (carbon dioxide, nitrogen, etc.) any of which may pose a threat to humans if found in high enough concentrations inside a home or business.

Particulate Matter (2.5PM-10.0PM) - Measures the amount of inhalable particle matter that can penetrate the lungs and cause health problems. Examples include dust, pet dander, pollen and other airborne allergens with a diameter below 2.5 and 10 microns.

Temperature, Humidity and Pressure – Measures indoor air temperature (in ºF or ºC), relative humidity (%) and atmospheric pressure (in Hg, atm, kPa, or mb units).

EXP-64

Telescopic Extension Pole

Take accurate airflow readings without using a ladder. Mount an ABM-200 or TS-100 to the 1/4"-20 universal threaded end to obtain fast, easy readings from vents mounted on ceilings, high walls or other hard to reach places.

The EXP-64 has a rubber grip handle and telescopes from 18" to 64". It has a second 1/4"-20" threaded fitting on the handle end to allow the EXP-64 to be mounted on a floor tripod.

Attach the ABM-200, or TS-100 to the end of the EXP-64, to access hard-to-reach areas.

Thumbwheel for attaching/removing threaded universal end

The EXP-64 can be mounted on tripods for longer term analysis of airflow from wall or ceiling vents

TRI-MIN

Mini-Tripod

This mini tripod has a 1/4"-20 top fitting to attach the TS-100 or ABM-200. It adjusts from 6-8" in height and is collapsible for compact storage.

Makes extended environmental condition readings easy.

MERCHANDISING SMART TOOL PRODUCTS IN YOUR SHOWROOM

Gondola end caps are an excellent way to display Smart Tool products in your showroom. A standard 60" x 36" x 16" (1.5m x 0.91m x 0.4m) end cap holds a large quantity of Smart Tool products (see chart below) and makes them visible and accessible to your customers.

Thirty percent of all store sales come from end-of-aisle displays, so contact your CPS sales representative to purchase Smart Tool products for your showroom!

60" (1.5m)

16" (.40m)

36" (.91m)

WIRELESS SMART TOOLS FOR A TYPICAL END CAP AS SHOWN

Product	Qty
ABM-HOOD Airflow Meter	2
ABM-100 Airflow Meter	6
ABM-200 Airflow And Environmental Meter	6
TS-100 Temperature and Humidity Data Logger	6
TS-100-6PK Temperature and Humidity Data Logger	3
SPM-K1 Static Pressure Meter & Probe Kit	3
SPM-100 Static Pressure Meter	3
PRB-KIT Static Pressure Probe Kit	3
IAQP Smart Indoor Air Quality Meter	2
EXP-64 Telescopic Extension Pole	4
TRI-MIN Mini-Tripod	4
MD100WVHE Digital Manifold	3
CC220EW Enhanced Wireless Scale	3

BLACK**MAX**®

WIRELESS MD SERIES

BLACKMAX wireless digital manifolds combine industry-leading accuracy with a rugged nylon water-resistant housing, durable elastomeric keypad and large backlighted LCD display. For use with or without CPS Link™ app— can work as a standalone device.

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

Rugged Design

- Water-resistant, high-strength, glass-filled nylon housing
- Precision machined anodized aluminum manifold body
- Proprietary Vortech valve system certified to 10 microns
- High-impact polycarbonate LCD window
- Advanced sight glass design

Simplicity & Versatility

- Preloaded with over 100 refrigerants with quick access to your favorite five
- One-touch access to your 5 favorite refrigerants

Full System Measurement

- 2 Pressures, 2 temperatures and vacuum (using MDXVG accessory)
- Vacuum hold and pressure hold test functions
- Simultaneously displays:
  HI and LO pressures, superheat and subcooling
  HI and LO pressures, T1 and T2
  HI and LO pressures, saturation T1 and saturation T2
  HI and LO pressures, displays T1, T2 and Delta T

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
- Perform and monitor system measurements—in real time without the need to physically touch the manifold
- Color scheme change according to refrigerant
- Pressure or vacuum tests can be saved, stored or emailed as a graph
- Select from different languages to work in.

DIGITAL MD SERIES

BLACKMAX® digital manifolds have the same features as the wireless models, without the patented built-in sensor technology access to CPS Link™.

MD50
Digital 2 valve series

MD100
Digital 4 valve series

Wireless Digital		Digital		Includes: (items may be purchased separately)				Optional Accessories
				Two thermistor sensors with 6' leads **MDXCP**	Three 5' Black & Chrome Ball Valve Charging Hoses **HP5BKEZ3**	One 5' Heavy Duty Black & Chrome Vacuum Hose **HV5Z**	Vacuum Gauge Accessory Kit* **MDXVG**	Rechargeable NiMH Battery and Universal Plug Kit** **MDXBK**
2 Valve	4 Valve	2 Valve	4 Valve					
MD50W	MD100W	MD50	MD100	✓	✗	✗	✗	Soft Case For All MD Series **MDXSC**
MD50WHE	-	MD50HE	-	✓	✓	✗	✗	
-	MD100WHE	-	MD100HE	✓	✓	✓	✗	
MD50WVHE	MD100WVHE	MD50VHE	MD100VHE	✓	✓	✓	✓	

*Includes Vacuum Accessory & 1 AVT45 ¼" 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.

Vacuum Gauge Accessory Port

Connections For Thermistor Sensors

9V DC Charger Port

Accuracy	+/- 10% of reading or +/- 10 microns, whichever is greater	**High side temperature range**	-58.0 °F to 302 °F (-50 °C to 150°C)
Sensor Type	Self - heated thermistor bridge with integral temperature compensation from 0 to 50 °C (32 to 122 °F).	**Low side temperature range**	-58.0 °F to 302 °F (-50 °C to 150°C)
		Temperature reading accuracy	+/- 0.36 °F (+/- 0.2°C)
Operating Temperature Range	Compensated (accuracy as stated): 0°C TO 50°C (32°F TO 122°F)	**Vacuum indication accuracy**	+/- 10 microns (requires MDXVG accessory)
	Non-compensated (add +/- 0.5% of reading error for every °C outside compensated range): -10 to 0°C (14 to 32°F)	**SH, SC & saturation temperature accuracy**	+/- 0.5°F (+/- 0.3°C)
Operating and Storage Humidity	0 to 95%, non-condensing	**Instrument working temperature**	-4.0 °F to 122°F (-20°C to 50°C)
Storage Temperature	-40 to 85°C (-40 to 185°F)	**Communication range (with CPS Link™)**	300 ft. (max) (Depends on device capabilities)
		Instrument working RH range	0% to 100% non-condensing

AUTO-RANGING SCALES:

0 to 99 microns	1 micron resolution
100 to 990 microns	10 micron resolution
1000 to 9900 microns	20 micron resolution
10000 to 25000 microns	50 micron resolution

Display Pressure Range

High side pressure range	-14.5 to 800.0 PSIG (-1.0 to 55 bar)	**APO (Automatic Power Off)**	10 minutes. Can be disabled by user.
Low side pressure range	-14.5 to 800.0 PSIG (-1.0 to 55 bar)	**4 valve size (L x H x W)**	8.1" x 3.5" x 7.0" (20.5 cm x 8.9 cm x 17.8cm)
Pressure reading accuracy	+/- 1% of reading or +/- 0.5 PSIG (+/- 0.05 bar)	**4 valve weight**	3.3 lb. (1.5 kg)
Pressure reading resolution	0.5 PSIG (0.05 bar)	**2 valve size (L x H x W)**	8.1" x 2.5" x 7.0" (20.5 cm x 6.4 cm x 17.8cm)
High and low side burst pressure	1500.0 PSIG (103.4 bar)	**2 valve weight**	3.0 lb. (1.4 kg)

Display Life using 4 industrial alkaline AA batteries (included)	**Backlight full ON:**	25+ hrs. continuous duty
	Backlight full OFF:	60+ hrs. continuous duty
Display Life using 4 Rechargeable NiMH AA batteries (not included)	**Backlight full ON:**	20+ hrs. continuous duty from full charge
	Backlight full OFF:	50+ hrs. continuous duty from full charge

TRIPLE-SEAL™ VALVES

Our proprietary Triple-Seal Valve System is engineered for superior performance using an innovative three 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

VORTECH® VALVES

Superior performance that actually can be measured!
The Vortech Deep Vacuum Valve System is an advanced diaphragm valve system, certified 15 micron vacuum rating using precision-machined virgin Teflon™ core provides a full, unrestricted refrigerant flow and allows a light touch valve operation.

Manifold Body			Refrigerant(s)					Gauges						Manifold and Gauge Set		
Description	Valves	Fittings	R-22	R-134 A	R-404 A	R-407 C	R-410 A	Gauge Size	Accuracy	Scale	Pressure	Low Gauge	High Gauge	Manifold and Gauge only (No Hoses)	With (3) 5' Premium Black & Chrome™ Hoses	With (3) 5' with Ball Valve
BLACK AND CHROME VORTECH™ VALVE SERIES	2	1/4" SAE 45°	●	●	●		●	3-1/8"	Class 1.0	°F	Psi	RGH4L	RGH4H	-	MV2H4P5Z	MV2H4P5EZ
			●			●	●			°C	bar/Psi	-	-	-	MV204P5Z	MV204P5EZ
	4	1/4" SAE 45°	●	●	●		●	3-1/8"	Class 1.0	°F	Psi	RGH4L	RGH4H	-	MV4H4P5Z	MV4H4P5EZ
			●			●	●			°C	bar/Psi	-	-	-	MV404P5Z	MV404P5EZ
BLACK AND CHROME TRIPLE SEAL™ SERIES	2	1/4" SAE 45°	●	●	●		●	2-1/2"	Class 1.6	°F	Psi	RGH5L	RGH5H	MBH5Z	MBH5P5Z	MBH5P5EZ
							●			°F/°C	Psi/kPa	RGB5L	RGB5H		MBB5P5Z	MBB5P5EZ
			●	●	●		●	3-1/8"	Class 1.0	°F	Psi	RGH4L	RGH4H	MBH4Z	MBH4P5Z	MBH4P5EZ
			●			●	●			°C	bar/Psi	RG04L	RG04H	MB04Z	MB04P5Z	MB04P5EZ

BLACK**MAX**®

BLACK & CHROME™ VORTECH™ VALVE SERIES

- Two and four valve black anodized aircraft aluminum machined body
- Vortech™ deep vacuum valves
- 3-1/8" (80 mm) class 1.0 accuracy gauges built with internal silicon dampening cup for flutter-free operation
- Nickel plated 1/4" SAE fittings; 3/8" SAE fitting (4 valve units)
- Large sight glass
- Heavy duty nickel plated metal handles
- Auxiliary center access port with Schrader valve
- Protective gauge boots
- Packaged in display tin
- Designed and manufactured in USA with US and globally sourced components

VALVES

Large sight glass with Vortech™ valves
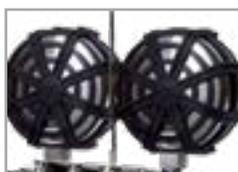
Protective gauge boots #RGX80B

American made non-permeating premium refrigerant hose(s)

BLACK**MAX**®

BLACK & CHROME™ TRIPLE-SEAL™ SERIES
(includes VORTECH™ Valves)

- Two valve black anodized aircraft aluminum machined body
- Vortech™ deep vacuum valves
- Triple Seal™ piston valves
- Available in 3-1/8" (80 mm) class 1.0 accuracy gauges or 2 ½" (68 mm) class 1.6 accuracy gauges built with internal silicon dampening cup for flutter-free operation
- Nickel plated 1/4" SAE fittings; 3/8" SAE fitting (4 valve units)
- Auxiliary center access port with Schrader valve
- Protective gauge boots
- Packaged in display tin
- Designed and manufactured in USA with US and globally sourced components

VALVES

TRIPLE SEAL™ VALVES

Black anodized aircraft aluminum machined body

Protective gauge boots

Packaged in display tin

Manifold Body			Refrigerant(s)							Gauges						Manifold and Gauge Set				
Description	Valves	Fittings	R-12	R-22	R-134 A	R-404 A	R-407 C	R-410 A	R-502	Gauge Size	Accuracy	Scale	Pressure	Low Gauge	High Gauge	Manifold and Gauge only (No Hoses)	with (3) 3' Premium Pro-Set Barrier Hoses	with (3) 5' Premium Pro-Set Barrier Hoses	with (3) 3' Premium Pro-Set Barrier Hoses with Anti-Blowback valves	with (3) 3' Premium Pro-Set Barrier Hoses with Ball Valves
WORKINGMAN'S CHOICE SERIES	2	1/4" SAE 45°	●	●	●	●		●		3-1/8"	Class 1.0	°F	Psi	RGH7L	RGH7H	MT2H7		MT2H7P5	MT2H7P5A	MT2H7P5E
				●			●	●				°C	bar/Psi	RG07L	RG07H	MT207		MT207P5	MT207P5A	MT207P5E
BLACK BODY SERIES	2	1/4" SAE 45°	●	●	●					2-1/2"	Class 1.6	°F/°C	Psi/kPa	RGZL	RGZH	MBZ	MBZS3	MBZS5		
			●	●					●				Psi	RGCL	RGCH	MBC	MBCS3	MBCS5		
				●	●	●						°F	Psi	RGDL	RGDH	MBD	MBDP3	MBDP5	MBDP5A	MBDP5E
				●		●		●					Psi	RGHL	RGHH	MBH	MBHP3	MBHP5	MBHP5A	MBHP5E
				●	●	●						°C	Psi/kPa	RGTL	RGTH	MBT	MBTP3	MBTP5	MBTP5A	MBTP5E
				●			●	●					Psi/kPa	RG0L	RG0H	MB0	MB0P3	MB0P5	MB0P5A	MB0P5E
PINK BODY SERIES	2	1/2"-20 UNF						●		2-1/2"	Class 1.6	°F/°C	Psi/kPa	RGBL	RGBH	MCB	MCBJ3	MCBJ5	MCBJ5A	MCBJ5E
		1/4" SAE 45°						●		2-1/2"	Class 1.6	°F/°C	Psi/kPa	RGBL	RGBH	MEB	MEBP3	MEBP5	MEBP5A	MEBP5E
				●		●		●				°F	Psi	RGHL	RGHH	MEH	MEHP3	MEHP5	MEHP5A	MEHP5E
DEEP VACUUM SERIES	2	1/4" SAE 45°		●	●	●		●		3-1/8"	Class 1.6	°F	Psi	RGH2LB	RGH2HB	MV3H2		MV3H2P5	MV3H2P5A	MV3H2P5E
				●	●	●								RGH3L*	RGH3H*	MV3H3*		MV3H3P5*	MV3H3P5A*	MV3H3P5E*
				●			●	●				°C	Psi/bar	RG02LB	RG02HB	MV302		MV302P5	MV302P5A	MV302P5E
								●				°F/°C	Psi/kPa	RGB3L*	RGB3H*	MV3B3*		MV3B3P5*	MV3B3P5A*	MV3B3P5E*
	4	1/4" SAE 45°		●	●	●		●		3-1/8"	Class 1.6	°F	Psi	RGH2LB	RGH2HB	MV13H2		MV13H2P5	MV13H2P5A	MV13H2P5E
				●	●	●		●						RGH3L*	RGH3H*	MV13H3		MV13H3P5*	MV13H3P5A*	MV13H3P5E*
				●			●	●				°C	Psi/bar	RG02LB	RG02HB	MV1302		MV1302P5	MV1302P5A	MV1302P5E
								●				°F/°C	Psi/kPa	RGB3L*	RGB3H*	MV13B3*		MV13B3P5*	MV13B3P5A*	MV13B3P5E*
BALL VALVE SERIES	2	1/4" SAE 45°		●		●		●		2-1/2"	Class 1.6	°F	Psi	RGHL	RGHH	MGH		MGHP5	MGHP5A	MGHP5E
				●			●	●				°C	bar/Psi	RG0L	RG0H	MG0		MG0P5	MG0P5A	MG0P5E

* oil-filled gauges

Pro-Set®
WORKINGMAN'S CHOICE SERIES

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

MT2H7P5

MT207P5

Pro-Set®
PREMIUM PISTON SERIES
BLACK BODY

- 2 ½" (68 mm) class 1.6 accuracy gauges
- Two valve anodized aluminum black body
- Triple Seal™ piston valves
- 1/4" SAE 45° fittings
- Sure grip rubber over metal valve handles
- Protective gauge boots
- Extra access port in center with Schrader valve and hanging hook

MBTP5E

MBHP5E

Pro-Set®
PREMIUM PISTON SERIES
PINK BODY

- 2 ½" (68 mm) class 1.6 accuracy gauges
- Two valve anodized aluminum pink body
- Triple Seal™ piston valves
- 1/4" SAE 45° fittings
- Sure grip rubber over metal valve handles
- Protective gauge boots
- Extra access port in center with Schrader valve and hanging hook

MCBJ5E

MEHP5A

Pro-Set®
VORTECH™
DEEP VACUUM SERIES

- 3-1/8" (80 mm) class 1.0 accuracy gauges
- Two and four valve anodized aluminum pink block body
- Vortech™ deep vacuum valves
- 1/4" SAE 45° fittings
- Extra large sight glass
- Protective gauge boots
- Extra access port in center with Schrader valve and hanging hook

MV3H3P5A

oil-filled gauges

MV13H2P5E

Tech-Set™
BRASS BODY SERIES

TRIPLE SEAL™ VALVES 1 2 3

- 2 valve forged brass body
- ¼" SAE 45° fittings
- TripleSeal™ piston valves
- Quality forged brass body
- Full sized porting for maximum flow
- No flutter gauges with rugged molded housings
- Large easy-to-grip knobs
- Integrated hose storage fittings
- Hanging hook
- Trilingual clamshell packaging

Manifold Body			Refrigerant(s)					Gauges					Manifold and Gauge Set	
Description	Valves	Fittings	R-22	R-134 A	R-404 A	R-410 A	R-507 A	Gauge Size	Accuracy	Scale	Pressure	with (3) 3' Prem-Flex Hoses	with (3) 5' Prem-Flex Hoses
Tech-Set Brass Body Series	2	1/4" SAE 45°	●	●	●	●		3-1/8"	Class 1.6	°C	bar/Psi	-	M61PF5
			●	●	●	●				°F	Psi/bar	-	M62PF5
			●	●	●		●	2-5/8"		°C	bar/Psi	M63G3	-
			●	●	●		●			°F	Psi/bar	M64G3	-

--- **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

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

Let us help you choose the right
HOSE FOR THE JOB:

	PRO-SET® PREMIUM UL/ SAE BARRIER REFRIGERANT SERVICE HOSES	PRO-SET® STANDARD REFRIGERANT SERVICE HOSES
Compatible with CFC, HCFC, HFC refrigerants and blends	✓	✓
Leak-proof 8-sided crimps	✓	✓
Working pressure (Psi)	800	750
Burst pressure (Psi)	4,000	3,000
Blow off grooves preventing spray back	✓	✓
Adjustable valve core depressor	✓	✓
Extra deep knurling on nuts for easy grip	✓	✓
Nylon permeation barrier (Meets SAE J2196)	✓	✗

		1/4" Hoses for all refrigerants		1/4" Hoses w/45° ball valve on end		1/4" Hoses w/Microseal™ anti-blowback valve		1/4" In-line ball valve hoses		R-410A Hose w/ special 1/2"-20 UNF fittings	w/45° ball valve fitting
		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		HS4Y*								
	Blue		HS4B*								
	Red		HS4R*								
	3-Pack		HS4*								
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*		
	Blue	HP6B	HS6B*	HP6BE	HS6BE	HP6BA	HS6BA	HP6BL	HS6BL*		
	Red	HP6R	HS6R	HP6RE*	HS6RE*	HP6RA*	HS6RA*	HP6RL*	HS6RL*		
	3-Pack	HP6*	HS6	HP6E	HS6E*	HP6A*	HS6A	HP6L*	HS6L*		
8' (240 cm)	Yellow		HS8Y*		HS8YE*		HS8YA*		HS8YL*		
	Blue		HS8B*		HS8BE*		HS8BA*		HS8BL*		
	Red		HS8R*		HS8RE*		HS8RA*		HS8RL*		
	3-Pack		HS8*		HS8E*		HS8A*		HS8L*		
10' (300 cm)	Yellow		HS10Y*								
	Blue		HS10B*								
	Red		HS10R*								
	3-Pack		HS10*								

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

HP5BKEZ3

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

HP5BKZ3

5' premium Black & Chrome™ charging hose

HV5Z

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

PRO-SET® PREMIUM 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 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

	1/4 "SAE		1/2"- 20 UNF
	6 " (15,2 cm)	12 " (30,5 cm)	6 " (15,2 cm)
Yellow	HTYE	HT1YE	HT410YEJ*
Blue	HTBE	HT1BE	HT410BEJ*
Red	HTRE	HT1RE	HT410REJ*
3-Pack	HTE	HT1E	HT410EJ

PRO-SET® PREMIUM PRESSURE CONTROL HOSES

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.

	2' (60 cm)	3' (90 cm)	4' (120 cm)
90° x 90°	HHC2*	HHC3*	HHC4*
Straight x 90°	HHC2S	HHC3S	HHC4S*
Straight x Straight	HHC2SS*	HHC3SS*	HHC4SS*
Fitting	1/4 " SAE Hex Style. Straight & 90°, With Copper Gaskets		

*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
- 460 Psi working pressure; 2300 Psi burst
- Nylon permeation resistant barrier
- 3/8″ SAE Leak Proof 8 Sided Crimp
- Deep Knurl Brass Fittings

	3' (90 cm)	5' (150 cm)	6' (180 cm)	8' (240 cm)
Without Ball Valve	HV3*	HV5	HV6*	HV8*
With In-Line Ball Valve	na	HV5E	na	na

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
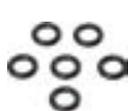
HX38G

(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®

PRO-SET® COMPACT BALL VALVES

Pro-Set® premium ball valves can be added to any existing hose to eliminate refrigerant loss and comply with EPA regulations.
- Easy 1/4 turn open/close with rugged plastic composite color-coded handles
- Oversized chrome ball for smooth operation and non-restrictive flow
- Individual valves include all three color-coded handle inserts

FPT: female(internal) National Pipe Taper Threads
MPT: male(external) National Pipe Taper Threads

Item	Qty/Pk	Female	Male	Other
BV	1	$^1/_4$" SAE	$^1/_4$" SAE	Straight
BV3	3	$^1/_4$" SAE	$^1/_4$" SAE	Straight
BV38	1	$^3/_8$" SAE	$^3/_8$" SAE	Straight
BV410	1	5/16" ($^1/_2$" - 20 UNF)	5/16" ($^1/_2$" - 20 UNF)	45°
BV410A	1	5/16" ($^1/_2$" - 20 UNF)	$^1/_4$" SAE	Straight
BV45	1	$^1/_4$" SAE 45°	$^1/_4$" SAE	45°
BV453	3	$^1/_4$" SAE 45°	$^1/_4$" SAE	45°
BV90	1	$^1/_4$" SAE 90°	$^1/_4$" SAE	90°
BV903	3	$^1/_4$" SAE 90°	$^1/_4$" SAE	90°
BVAD38	1	$^3/_8$" SAE	$^1/_4$" SAE	Straight
BVM	1	$^1/_4$" SAE	$^1/_4$" SAE	Straight
BVM3	3	$^1/_4$" SAE	$^1/_4$" SAE	Straight
BVXH	1 Ea	Replacement Ball Valve Handle w/1 ea (Yellow, Blue, Red) inserts		

PRO-SET® MICROSEAL™ ANTI-BLOW BACK VALVES

Item	Qty/Pk	Female	Male	Other
AB	1	$^1/_4$" SAE	$^1/_4$" SAE	Straight
AB3	3	$^1/_4$" SAE	$^1/_4$" SAE	Straight
AB410A	1	5/16" SAE ($^1/_2$" - 20 UNF)	$^1/_4$" SAE	Straight
AB41090A	1	5/16" SAE ($^1/_2$" - 20 UNF) 90°	$^1/_4$" SAE	90°
AB90	1	$^1/_4$" SAE 90°	$^1/_4$" SAE	90°
ABG18	1	$^1/_4$" SAE 45°	1/8" FPT	$^1/_8$" FNPT is not an AB
AB45	1	$^1/_4$" SAE 45°	1/4" SAE	Straight

BLACK**MAX**®

PREMIUM TUBE CUTTERS
WITH PATENTED Set **N** Cut™

- All BLACKMAX tube cutters feature our patented Set-N-Cut™ spring-loaded center groove rollers and cutting wheels for a fast and smooth cut every time, even on slightly deformed tube
- Quick release pin for fast replacement of cutting wheels

BTC100 *Ultra Mini Tube Cutter*
- Great for confined spaces
- Cutting Range: 1/8″ - 5/8″ (4-16 mm) O.D.
- Chromed, hardened cutting wheel
- For soft/hard copper, aluminum tube Soft/Hard cutting settings
- Durable cast aluminum
- Size (HWD) 1.9″ x 1.5″ x 0.6″ (50 x 37 x 15 mm)
- Clamshell package with color insert card

BTC200 *Mini Tube Cutter*
- Cutting Range: 1/8″ - 7/8″ (3-22 mm) O.D.
- Chromed, hardened cutting wheel
- Provides a smooth cut, even for slightly deformed tube
- Soft/Hard cutting settings
- Durable aluminum and rubber knob

BTC200R *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
- Chromed, hardened cutting wheel
- Soft/Hard cutting settings
- Durable aluminum and rubber knob

BTC300 *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

BTC400 *HEAVY DUTY TUBE CUTTER*
- Cutting Range: 1/4″ -1-1/4″ (6 - 32 mm) O.D.
- Heavy duty performance from lightweight aluminum forged body for brass, copper, aluminum, stainless tube and electrical conduit
- Titanium finish cutting wheel included

BTC500 *LARGE TUBE CUTTER*
- Cutting Range: 3/8″ -2-5/8″ (10 - 67 mm) O.D.
- 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

BTLDB3 *BLACKMAX® Deburring Tool*
- Solid aluminum handle. For soft copper and aluminum tube. Includes (2) spare blades in handle
- Clamshell package with color insert card

REPLACEMENT BLADE FOR BTLDB3

TLDB2X	Replacement Blade

REPLACEMENT PARTS FOR TUBE CUTTERS		BTC100	BTC200	BTC200R	BTC300	BTC400	BTC500
BTCXCT2*	Cutting Wheel (Titanium Coated)					Standard	Optional
BTCXC1	Cutting Wheel (Zinc Plated)		Standard	Standard	Standard		
BTCXC2	Cutting Wheel (Chrome Plated)					Optional	Standard
BTCXC3	Cutting Wheel (Nickel Plated)	Standard					
BTCXCT1	Cutting Wheel (Titanium Coated)		Optional	Optional	Optional		
BTCXP1	Quick Release Pin		Standard	Standard	Standard		
BTCXP2	Quick Release Pin					Standard	
BTCXP3	Quick Release Pin						Standard
BTCXP4	Quick Release Pin	Standard					
BTCXR	Plastic Ratchet (For BTC200R)		Optional	Standard			
BTCXB**	Bearing				**		

*Only for use with BTCXB Cutting Wheel Bearing and BTC400 (optional for BTC500)
**Only for use with BTCXCT2 cutting wheel.

MERCHANDISING BLACKMAX TOOLS IN YOUR SHOWROOM

Gondola end caps are an excellent way to display BLACKMAX products in your showroom. A standard 60″ x 36″ x 16″ (1.5m x 0.91m x 0.4m) end cap holds a large quantity of BLACKMAX products (see chart below) and makes them visible and accessible to your customers.

Thirty percent of all store sales come from end-of-aisle displays, so contact your CPS sales representative to purchase BLACKMAX products for your showroom!

BLACKMAX PRODUCTS FOR A TYPICAL END CAP SHOWN

Product	Qty
BTC-100 Ultra Mini Tube Cutter	8
BTC-200 Mini Tube Cutter	6
BTC-200R Mini Ratchet Tube Cutter	3
BTC-300 Tube Cutter	4
BTC-400 Heavy Duty Tube Cutter	3
BTC-500 Large Tube Cutter	3
BTLDB3 Debur Tool	8
BTB300 Tube Bender Set	4
BTLE9 Tube Expander Set	4
BTLH5E Hydraulic Tube Expander	4
BFT850 Flaring Tool	3
BFT850D Drill Powered Flaring Tool	3
BTLDTW Digital Torque Wrench	2
BTLGP4 Gear & Pulley Remover 3″ to 4″	2
BTLGP7 Gear & Pulley Remover 3″ to 7″	2
TR700 Blackmax 2 Cylinder Recovery Machine	2
MV4H4P5EZ Spider Manifold	2

BLACKMAX® PREMIUM TUBE BENDER KIT
- Available in 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
- Durable molded carrying case
- Packaging: Color box

FORWARD BEND CONFIGURATION

REVERSE BEND CONFIGURATION
(Great For Confined Spaces)

BTB300 BLACKMAX® Imperial Tube Bender Kit

	Item	Tube O.D.	Mandrel Color	Inside Radius Of Bent Tube
Mandrels	BTBX14	1/4″ O.D.	Chrome	1-1/8 ″
	BTBX516	5/16″ O.D.	Copper	1-1/4 ″
	BTBX38	3/8″ O.D.	Red	1-1/4 ″
	BTBX12	1/2″ O.D.	Yellow-Orange	1-3/8 ″
	BTBX58	5/8″ O.D.	Blue	1-5/8 ″
	BTBX34	3/4″ O.D.	Green	1-7/8 ″
	BTBX78	7/8″ O.D.	Red-Violet	2 ″
	BTBXH	Ratchet Tool, Imperial		
	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

BTB300M BLACKMAX® Metric Tube Bender Kit

	Item	Tube O.D.	Mandrel Color	Inside Radius Of Bent Tube
Mandrels	BTBX6M	6 mm O.D.	Chrome	29mm
	BTBX8M	8 mm O.D.	Copper	32mm
	BTBX10M	10 mm O.D.	Red	32mm
	BTBX12M	12 mm O.D.	Yellow-Orange	35mm
	BTBX15M	15 mm O.D.	Yellow-Green	41mm
	BTBX16M	16 mm O.D. (Optional for BTB300M)	Blue	41mm
	BTBX18M	18 mm O.D.	Titanium	48mm
	BTBX22M	22 mm O.D.	Red-Violet	51mm
	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

BLACKMAX® Lever Tube Benders

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

BTB06
BTB10MM

BTB08
BTB12MM

BTB10
BTB15MM

BTB12
BTB16MM

BLACKMAX® Imperial Lever Tube Benders

Item	Tube O.D.	Mandrel Color	Inside Radius Of Bent Tube	Bender Overall Length
BTB06	3/8 ″	Violet	15/16	15 ″
BTB08	1/2 ″	Gold	1-1/2 ″	20 ″
BTB10	5/8 ″	Blue	2-1/4 ″	29 ″
BTB12	3/4 ″	Green	3 ″	32 ″
BTB14	7/8 ″	Purple	3-1/4 ″	32 ″

BLACKMAX® Metric Lever Tube Benders

Item	Tube O.D.	Mandrel Color	Inside Radius Of Bent Tube	Bender Overall Length
BTB10MM	10mm	Violet	24mm	31cm
BTB12MM	12mm	MM	38mm	51cm
BTB15MM	15mm	Blue	57mm	74cm
BTB16MM	16mm	Green	57mm	81cm
BTB18MM	18mm	Purple	76mm	81cm

BTB14
BTB18MM

CPS®

BTLH5E Hydraulic BLACKMAX® Tube Expander

- Hydraulic power- the easiest way to swage tubing!
- Includes hydraulic tool, plus 5 quick change, color coded expander heads and tube reamer
- Five heads for expanding 3/8", 1/2", 5/8", 3/4", 7/8" O.D. soft copper or aluminum tube
- Expander heads and replaceable blades are interchangeable with BLACKMAX BTLE9/BTLE9M models
- Cast aluminum body with durable, rubber grip handle.
- Extra storage for additional expander heads

BTLE9 BLACKMAX® PREMIUM TUBE EXPANDER KIT

- Swaged ends means less couplings & less refrigerant leaks
- Imperial or metric
- For soft copper and aluminum tube
- Nine quick-change tube expanders (Imperial or Metric-See chart below)
- Durable, color-coded, aluminum heads
- Compact, professional, patented design
- Strong carrying case
- Packaging: Color box

REPLACEMENT PARTS FOR BTLH5E

BTLEXH	Tube Expander (Replacement Tool)

Replacement Parts for BTLE9/BTLH5E Imperial Tube Expander Kit

Size	Expander Heads		Blades (6 Pk)
	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

Replacement Parts for BTLE9M Metric Tube Expander Kit

Size	Expander Heads		Blades (6 Pk)
	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

1/4˝ Driver Bit

USE WITH OR WITHOUT CORDLESS DRILLS

Built-in clutch

Removable & Interchangeable Handles

Quick Change

Slide Gauge

Eccentric Forming Cone

Molded Storage Case

BFT850 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.
- Built in slide gauge for tube height adjustment
- Packaging: Color box

BFT850K BLACKMAX® Flaring Tool Kit

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

	BFT850D	BFT850K	BFT850
	Cordless Drill Powered Flaring Tool	Manually Operated Flaring Tool Kit	Manually Operated Flaring Tool
Tube Sizes (Outside Diameter)	3/16, 1/4, 5/16,3/8,1/2, 5/8, 3/4		
Aluminum body / flaring bar	Yes		
Internal Clutch	Yes (Releases when flare is complete)		
¼" Driver Bit Included?	Yes	No	
Quick Change Removable Handles	Yes (Top and side handles)	No	
Built In Slide Gauge	Yes (for fast tube alignment)		
Eccentric Hardened Steel Cone	Yes		
Durable Carrying Case	Yes		

Pro-Set®
PROFESSIONAL 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

TCT127 PRO-SET®
Mini Titanium Tube Cutter
- Cutting Range: 1/8˝ to 5/8˝, (3 to 16 mm)

TCT174 PRO-SET®
Mini Titanium Tube Cutter
- Cutting Range: 1/8˝ to 1-1/8˝, (3 to 30 mm)

TCT206 Heavy Duty Titanium Sliding Tube Cutter
- Cutting Range: 1/4˝ to 2-5/8˝ (6 to 68 mm)

TCT274 Titanium Tube Cutter
- Cutting Range: 1/8˝ to 1-3/8˝ (3 to 35 mm)

TCT312 Heavy Duty Titanium Tube Cutter
- Cutting Range: 1/8˝ to 1-3/4˝, (3 to 45 mm)

TCPVC Heavy Duty Titanium PVC Tube Cutter
- Cutting Range: 1/4˝ to 2-5/8˝ (6 to 68 mm)

TC174 PRO-SET® Mini Tube Cutter
- Cutting Range: 3/8˝- 1-1/8˝ (10 - 29 mm)

FTXSG R410A Flare Size Gauge
- 1/4˝, 6.4 mm
- 3/8˝, 9.5 mm
- 1/2˝, 12.7 mm
- 5/8˝, 15.9 mm
- 3/4˝, 19.1 mm

TLRM Reaming And Deburring Tool
- Rugged die cast metal for long life
- Removes burrs from inside and outside edges of tube
- Ergonomic shape

TLDB2 Pocket Deburring Tool
- Remove burrs and surface defects from inner/outer straight and hole edges.

REPLACEMENT PARTS

TLDB2X	Replacement Blade

REPLACEMENT PARTS	TCT127	TCT174	TCT206	TCT274	TCT312
CUTTING WHEELS (& Screws)					
TCXT127C	Standard				
TCXT174C		Standard			
TCXT206C			Standard		
TCX4CTS	Titanium nitride coated + screw			Standard	Standard
TCXT274C				Standard	
TCXT312C					Standard
REAMER BLADE					
TCXT206R	Reamer blade		Standard		
TCXT274RB				Standard	

TB250

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 Pro-Set 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
TC274	Pro-Set Tube Cutter
TLR M	Reaming and Deburring Tool

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 5/8˝ O.D.
TB10XH Replacement Hook with Screw

TB12 3/4˝ 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.

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

INCLUDES

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.

INCLUDES

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.

INCLUDES

FTX800BA	Imperial flaring bar
FTX800R	Ratchet
FTX800Y	Yoke assembly

PRO-SET® TUBE EXPANDER/SETS

• 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.

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

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

CPS®

TC127 *Mini Tube Cutter*

- Cutting Range: 1/8″ to 5/8″ (3 to 16 mm)
- Ideal for cutting in limited access areas
- Ratchet mechanism speeds precision machined chromium steel cutting wheels

REPLACEMENT PARTS

TCX7C	(10) Cutting wheels
TCX7S	(10) Cutting Wheel Screws
TCX7CTS	(1) Titanium Cutting Wheel & (1) Screw
TCX7CS	(1) Cutting Wheel and (1) Screw

TC274 *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

REPLACEMENT PARTS

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 *Heavy Duty Tube Cutter*

- Cutting Range: 1/4″ to 1-5/8″ (6 to 41 mm)
- Spare cutting wheel located under retractable locking reamer

REPLACEMENT PARTS

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 *Sliding tube cutter*

- Cutting Range: 3/8″ to 2-5/8″ (10 to 67 mm)
- Cutting wheel adjustment

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

TCSET *Tube Cutter Combo Pack*

- Cutting Range: 1/8″ to 1-1/8″ (3 to 29 mm)
- Includes TC127 & TC274

TCAP *Capillary Tube Cutter*

Cleanly cuts all types of refrigerant capillary tubing without constricting, swaging or flattening.

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 *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

TLDB *Pocket Deburring Tool*

For soft copper and aluminum tubing

- Remove burrs and surface defects from inner/outer straight and hole edges

REPLACEMENT PARTS

TLDBX	Reamer Blade & Screw

TCX4S
Cutting Wheel Replacement Screw (10 Pk). For TC274, TC312

TCX4C
Cutting Wheels (10 Pk) For TC174, TC274, TC312

TCX4R

FS275, FS275M *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

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
FSX513	FS275 Compressor Cone

Metric Swaging Adapters, 5 Pc. (8,12,14,16,22 mm)

	FSX507	FS275M 8,12,14,16,22 MM SWAG. ADPTRS-5PC
FS275 Metric	**FSX511**	FLARING BAR 4,6,8,12,15,16MM FOR FS275M
	FSX512	FS275M 4,18,22MM FLARING BAR METRICFS275M 4,18,22MM FLARING BAR METRIC

FT525 *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

REPLACEMENT PARTS

FTX516	Yoke assembly
FTX517	Tube holding assembly
FTX518	Flaring cone

FT195 *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

REPLACEMENT PARTS

FTX500	Yoke assembly
FTX501	Flaring bar
FTX509	Compressor cone
FTX510	Wing nut

FT203 *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 *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

REPLACEMENT PARTS

FTX500	Yoke assembly
FTX501	Imperial Flaring bar
FTX509	Compressor cone
FTX510	Wing nut
FTX514	FT500 Die Holder Assembly
FTX515	FT500M Die Holder Assembly

MINI-SPLIT TOOL KITS

Kit Contents	TLB410A	TLB410SAE	TLB410KIT	TLB410KIT2	TLB410AC	TLB410ACE	TLB410M
2 Valve Manifold	Pro-Set® Piston Pink Body 1/4″ SAE 45° fittings "H" Gauge #MEHP5E		Pro-Set® Premium Piston Series Manifold #MT2HP	BlackMax® Black and Chrome Series Manifold #MV4HP410A	BlackMax® Black & Chrome 1/4″ SAE 45° fittings "H5" Gauge #MBH5P5Z	BlackMax® Black & Chrome 1/4″ SAE 45° fittings "H5" Gauge #MBH5P5EZ	No Manifold
Hoses	Pro-Set® Premium (3) 5' red/blue/yellow ball valve hoses			BlackMax® Black & Chrome Premium Hose Set #HP5BKEZ and Vacuum Hose #HV5BK	Pro-Set® Premium (3) 5' Black & Chrome hoses	Pro-Set® Premium (3) 5' Black & Chrome ball valve hoses	No Hoses
Flaring Tool	FT800N		BFT850	BFT850	FT800N		
Flare Gauge	No			#FTXSG	No		
Torque Wrench Set	Metric #TLTWSM	SAE/Imperial #TLTWSAE	Universal Handle with SAE/Imperial & Metric Heads	#BTLDTW Digital torque wrench	Metric #TLTWSM		
Tube Cutter	No			#BTC300	No		
Deburring Tool	No			#BTLDB3	No		
Hex Wrench Set	(1) # TLSWHM (metric) and (1) # TLSWH (imperial)						
Valve Core Tool	TLVC410A			TLVC410A. TLVCS410	TLVC410A		
Brass Adapters and Brass Caps	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						
Tool Organizer	TLBAG1			TLBAG2	TLBAG1		

CPS® EXTRA DURABLE TOOL BAGS

Organize and protect your tools with extra strong, premium built tool bags from CPS.

TLBAG1
Square Tool Organizer
10" x 10" (25 x 25 cm)

TLBAG2
Rubber Bottom Tool Organizer
9" x 16" (23 x 41 cm)

TLBAG3
**Tool Belt Tool Organizer**

PTXC Cloth Tool Pouch
• Double wall
• Embroidered CPS logo
• 5.5" x 10" (13 x 26 cm)
• Zipper closure + carabiner

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

PLUNGER CLOSED POSITION

PLUNGER OPENED WITH MAGNET

ILLUSTRATED MAGNETIC FORCE
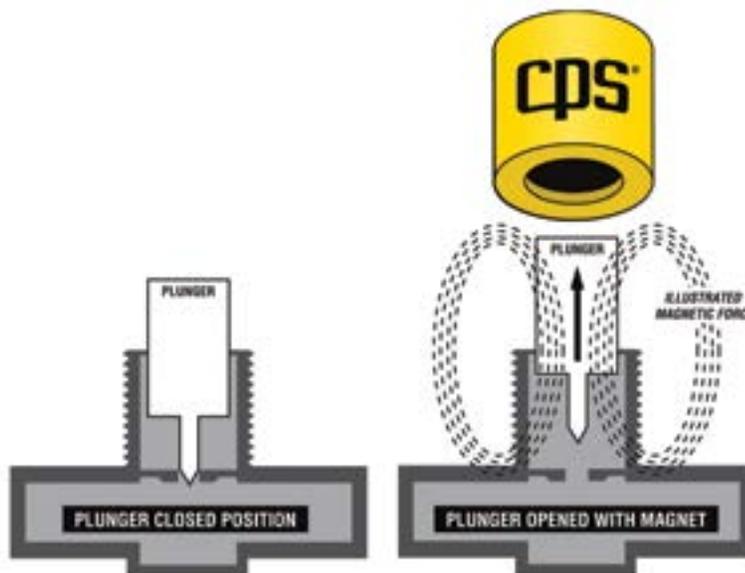
TLMAG1 Compact Magnetizer/Demagnetizer

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"

Inch scale
(Metric on reverse)

Green LED (torque
within 50-98% of
preset value)

Lighted
Display

On/Off

Scroll

Durable
Molded
Handle

Rubber
Grips

BLACKMAX

Movable Jaw

Pivot Point

Speaker

Red LED (torque within
2% of preset value)

Reset

Memory/Mode

Next Entry/
Display Light

Battery Compartment

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.

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. Operates on 2 AAA batteries (included).

- 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 factory programmed, 5 open to enter custom torque values
- **Track mode:** View real-time torque value during use
- **Peak mode:** Maximum torque value reached is stored temporarily
- **Auto-Off (Selectable):** Conserves battery life
- Backlighted display

KEY FEATURES

Color Box

Molded Storage Case

Torque Units (Selectable)	Lbf.ft	Lbf.in	N-m	Kgf.m
Torque Measurement Range	6-63	71-752	8-85	1-8
Display Resolution	0.1 Lbf.ft	1.0 Lbf.in	0.1 N-m	0.1 Kgf.m
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	32ºF~104ºF (0ºC ~ 40ºC)			
Storage Temperature	-4ºF ~113ºF (-20ºC ~ 45ºC)			
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			

Handle Edge

Locking Knob

Removable Wrench End

Arrow Indicates Tightening Direction

Pivot Point

Torque Values

Handle Scale (0 to 5)

Imperial

Metric

Front

Back

Front

PRO-SET®
MECHANICAL TORQUE WRENCHES

Professional interchangeable jaw torque wrench sets ensure 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 easy instructions sheet and molded storage case
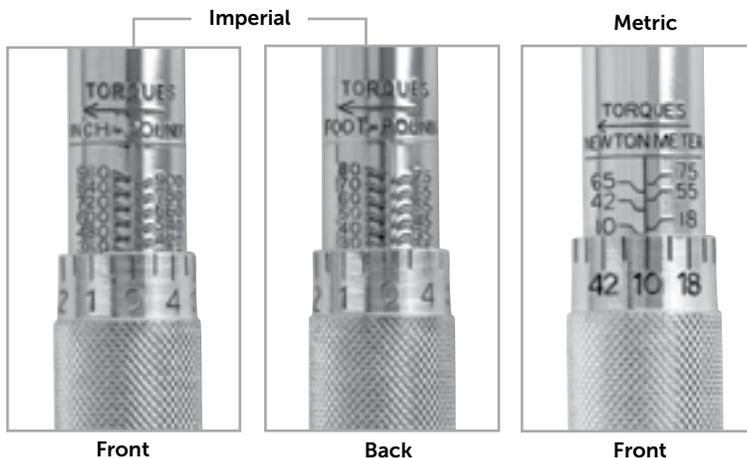
TLTWSAE

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

CPS®

PRO-SET WRENCHES

TLAW12
TLAW10
TLAW08
TLAW06

PRO-SET® ADJUSTABLE JAW HANDLE WRENCHES
- Precision machined for smooth operation
- Comfortable grip, permanently molded rubber handles reduces fatigue
- Durable and environment-resistant
- With printed display card
- Packed in clear sealed clamshell
- One year warranty
- Jaw opening (inch marks) on front

	TLAW06	TLAW08	TLAW10	TLAW12
Size	6″	8″	10″	12″
Jaw capacity	1″ (25 mm)	1-1/4″ (30 mm)	1-3/8″ (35 mm)	1-1/2″ (40 mm)

PRO-SET SERVICE WRENCHES

TLSWL
SHAPE - ☐ ⬡
- Large, straight. Square & hex drive
- 3/16˝, 1/4˝ Square Drive
- 1/2˝, 9/16˝ Hex Drive
- Embossed fractions and logo
- Durable, high quality, polished chrome finish

TLSWLB IN BULK (100 PCS)

TLSWO
SHAPE - ☐
- Small, offset. Square drive
- 3/16˝, 1/4˝, 5/16˝, 3/8˝ Square Drive
- Offset ends
- Embossed fractions and logo
- Durable, high quality, polished chrome finish

TLSWOB IN BULK (100 PCS)
TLSWOA WRENCH PLUS 3/16˝ & 5/16˝ HEX DRIVER BIT

TLSWS
SHAPE - ☐
- Small, straight. Square drive
- 3/16˝, 1/4˝, 5/16˝, 3/8˝ Square Drive
- Embossed fractions and logo
- Durable, high quality, polished chrome finish

TLSWSB IN BULK (100 PCS)
TLSWSA WRENCH PLUS 3/16˝ & 5/16˝ HEX DRIVER BIT

TECH-SET SERVICE WRENCHES

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

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

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

PRO-SET HEX, TORX, BALL END FOLDING WRENCHES

TLSWH

SHAPE -

- 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

TLSWHM

SHAPE -

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

TLSWT

SHAPE -

- Torx ends
- Nickel Plated

TLSWB

SHAPE -

- 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

TLSWHB Combo Set: Includes TLSWH (Inch Hex Key) & TLSWB (Inch Ball Point Key Set)
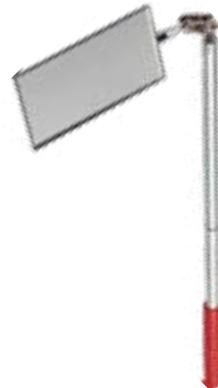
TECH-SET INSPECTION MIRRORS

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
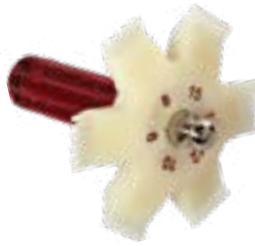- 1˝ x 2˝

TLDKRH *Duct Knife*

For cutting fiberglass duct board. Stainless steel double edge resharpenable blade facilitates easy piercing for inside cuts. The double edge is also ideal for tapping into and trimming flex duct. Ergonomic cushioned handle.

- 6˝ (152 mm) Duct Knife With Rubber Handle
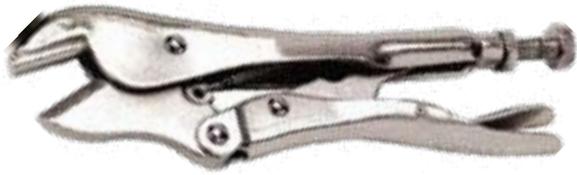- One edged serrated for sawing.

TLFC1 *Universal Metal Fin Comb*

TLFC6

Universal 6-sided fin comb straightening tool
- Repair bent condenser fins
- For 8,9,10,12, 14 or 15 fins per inch

TLFC2 *Fin Straightener*
- Large durable, easy grip handle

TLPO *Pinch-Off Pliers*
- Tool locks onto tubing to prevent loss of refrigerant during service
- Rounded jaws to avoid cutting tubing
- 1 year warranty

TLPP *Tube Piercing Pliers*
- Tube Piercing Pliers 1/4″
- TLPPX Replacement Tip
- Quick release handle

TLPK *Swage Punch Set*
- 5 Punches (1/4″, 5/16″, 3/8″, 1/2″, 5/8″)

TLMSP *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

BLACKMAX®

GEAR & PULLEY REMOVERS

3 Jaw (in)

2 Jaw (in)

2 Jaw (out)

3 Jaw (out)
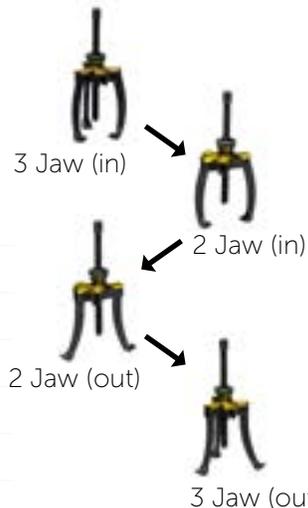
	BTLGP4	**BTLGP7**
Description	3" to 4" (76 to 102mm)	3" to 7" (76 to 178mm)
Jaw Reach	3.75" (95mm)	5.5" (140mm)
Jaw Spread	11.5" (292mm)	17" (432mm)
Max. Force	24,000 Lbs(106,500 N)	42,000 Lbs(186,500 N)
Removable Jaws	2 or 3 (Quick Change, Spring Loaded)	2 or 3 (Quick Change, Spring Loaded)

BRRN1 *Nitrogen Regulator*

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

BRHTS1 *Swivel Hand Torch*

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

REPLACEMENT PARTS

BRXHTS1   Replacement Torch Burner Tube Assembly

BRHT1 *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

REPLACEMENT PARTS

BRXHTST1   Replacement Torch Tip

BRHTS1A *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

REPLACEMENT PARTS

BRXHTST1   Replacement Torch Tip

BRHT5 *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

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
	1/4″ SAE	with valve core	Automotive adapter	1	AD36C
	1/4″ SAE 90°	w/ valve core	Automotive adapter	1	AD369C
1/4″ SAE	1/8″ SAE	w/ valve core	Manifolds, compressors	1	AD18C
	1/4″ SAE 90°	w/ valve core	Automotive adapter	1	AD149C
	1/2″ ACME	w/ valve core	Vacuum pumps/manifolds/recovery/tanks	3	AD48
				50	AD48B
	3/8″ SAE	w/core & depressor	Vacuum pumps	1	AD64
	5/16″ SAE	w/ valve core	R-410A International	1	AD78
				100	AD78B
5/16″ SAE	1/4″ SAE	w/ valve core	R-410A International	1	AD87
				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
		w/ valve core		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
				100	AD47B
21.8 Whitworth	3/8″ SAE	w/ gasket	Large cylinder adapter	1	AD91
				100	AD91B
Replacement fiber washer for AD41 /61 /71 /81 tank adapters				1	ADXFW

CPS®

AVT2P **AVT4** **AVT44** **AVT45** **AVT48**

AVT4M **AVT4P** **AVT64/ AVT64B** **AVT64Z** **AVT87**

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**

AV2 **AV2R** **AV3** **AV3R**

AV4 **AV4R** **AV5** **AV4410**

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
				AVB346BO
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
	SAE brass cap w/core remover	6	AVC4R
		100	AVC4RB
5/16˝	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

CPS®

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

AB/ AB3

AB45

AB90/ AB903

ABG18

AB12

AB410/ AB4103

AB41090A

AB410A

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

BV/BV3

BV45/BV453

BV90/BV903

BV410

BV41090A

BV38

BVM

BVXH

BV12

WITHOUT COMPRESSOR SAVER 92.6

WITH COMPRESSOR SAVER 45.7

5-2-1®
COMPRESSOR SAVER®

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%.

Remember: 5-2-1
Common-Start-Run

COMMON

START

RUN
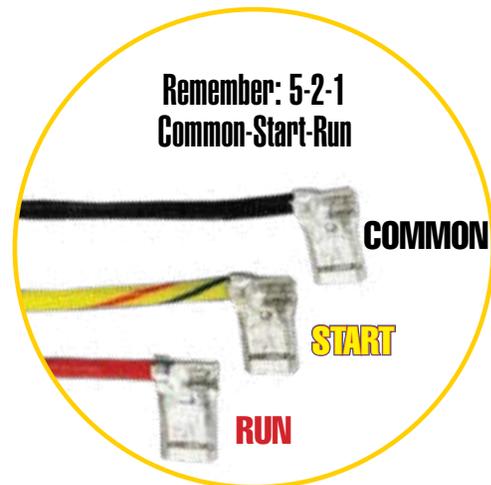
Watch the video by scanning the QR Code.

CSRU1
For 1 to 3 Ton units

CSRU2
For 3-1/2 to 5 Ton units

CSRU3
For 4 to 5 Ton units

5-2-1® PRODUCTS

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
• 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

SPD60
Rated up to 60,000 amps

SPD150
Rated up to 100,000 amps

Watch the video by scanning the QR Code.

*Based on maximum energy dissipation (Joule) rating

5-2-1 PRODUCTS

MAXIMUM SURGE PROTECTION

TPSPD 5-2-1® TPSPD SURGE PROTECTOR

The 5-2-1 Thermally Protected Surge Protective Device incorporates the latest in Thermally Protected MOV technology and ease of installation. These devices are designed to protect your equipment by suppressing the harmful energy produced by lightning strikes and other power line transients commonly found in HVAC installations. The voltage surges or spikes can be very damaging to HVAC equipment, shortening the life of the compressor and reducing its efficiency.

Protection For:
- Entire HVAC unit
- Furnaces
- Heat pumps
- Motors
- Refrigeration systems
- Electro-mechanical devices

Features:
- Patented thermal protection MOV technology
- Type 1 or 2 device offers easy installation at the A/C disconnect, junction box or electrical panel
- Highest SCCR (short-circuit current rating)
- Certified to **UL-1449** 4th edition
- Diagnostic Light: Green LED indicates surge protection is present
- Type 4X enclosure
- 3 year warranty

Contractor Benefits:
- Protect your customer's equipment
- Promote additional profits
- Marketing materials available FREE of charge

SPECIFICATIONS

Type	1 or 2 - 120/240VAC 50-60Hz
Maximum Surge Current	100 000 Amps
In	20kA, SCCR = 200kA
MCOV	150VAC L-N 300VAC L-L
VPR	600VAC L-N/G 1200VAC L-L
Approvals	ANSI/UL 1449 4th
Enclosure	Nema Type 4X

MERCHANDISING 5-2-1 PRODUCTS IN YOUR SHOWROOM

Gondola end caps are an excellent way to display 5-2-1 products in your showroom. A standard 60" x 36" x 16" (1.5m x 0.91m x 0.4m) end cap holds a large quantity of 5-2-1 products (see chart below) and makes these products visible and accessible to your customers.

An additional way to attract customers is to purchase the optional 5-2-1 Compressor Saver end cap header.

Thirty percent of all store sales come from end-of-aisle displays, so contact your CPS 5-2-1 sales representative to purchase 5-2-1 products for your showroom end cap!

60" (1.5m)

16" (.40m)

36" (.91m)

FOR A TYPICAL END CAP SHOWN

Product	Qty
CSRU1 Compressor Saver	25
CSRU2 Compressor Saver	25
CSRU3 Compressor Saver	25
SPD60 Surge Protector	20

Optional Accessories For End Cap

GECH521 *Header - For 5-2-1 Products*

Attach to pegboard, slatwall or an end cap

- 33.75" L x 8" H x 1/8"

CPS®

Advanced Tools
Smart Solutions

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