

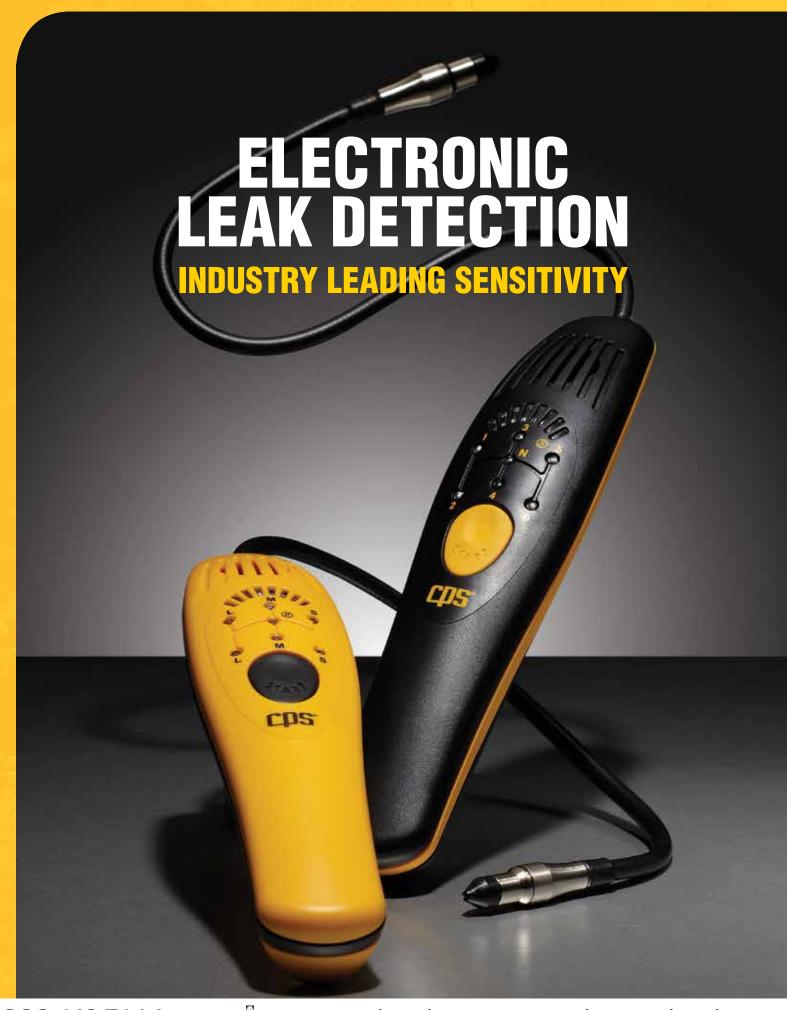
Just some of the reasons to choose CPS®....

Electronic Leak Detection	4-8
UV Leak Detection	9-12
Refrigerant Charging Scales	13-16
Charging Stations	17-18
Recovery Equipment	19-28
Vacuum Pumps	29-36
Digital Vacuum Gauges	37-38
Electrical and Specialty Meters	39-42
Temperature and System Measurement	43-48
Service Manifolds and Gauges	49-65
Charging Hoses	66-69
Charging Hose Valves	70-71
Tubing Tools	72-83
Specialty Hand Tools	84-90
Brazing and Soldering	91-93
Brass Adapters, Fittings and Valve Core Tools	94-97



The Leader in **Intuitive Innovation.**

You already work hard. CPS tools are designed to help you work smarter, too—and to get more done—quicker. And while everybody wants to be innovative, few launch as many new products each year or can use *patent pending* as a descriptor as often. That's because we make most of what we design at our 100,000 sq. ft. headquarters in Hialeah, Florida. So you get American engineered tools and equipment—at reasonable pricing. Use your hands. Use your head. CPS designs for both.





LEAK-SEEKER® ELECTRONIC REFRIGERANT LEAK DETECTORS



CPS Products has raised the bar again for leak detectors. The revolutionary E_MOS Technology developed by CPS is more sensitive, stable and accurate than any other detection method on the market.

FEATURES AND BENEFITS

- One button controls On/Off and all functions
- Microprocessor controlled sensor improves sensitivity and reduces false alarms
- Patented E MOS detection technology increases battery and sensor life
- Replaceable EMOS2 sensor, sensor filter and sensor tip
- 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
- Meets or exceeds all US and international standards for automotive and commercial use
- Ergonomic, high-impact housing with high output alarm speaker
- Low battery indication
- Includes owner's manual
- Designed and manufactured in U.S.A. with U.S. and globally sourced components

LEAK-SEEKER® I

Progressive Alarm Mode:

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

Threshold Alarm Mode:

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

LEAK-SEEKER® II SIMPLY TURN IT ON AND PINPOINT THE LEAK.

- Simple, intuitive bar graph LED display
- 56 levels of sensitivity automatically selected by proprietary Powershift™ software
- Optimal leak-finding performance under a broad range of conditions
- The world's only leak detector with fully automatic sensitivity selection and control.

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

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









		·		- Lossesol			
Specifications	Leak-Seeker® I	Leak-Seeker® II	Tech-Set™ LS780C	Leak-Seeker® LS790B			
Detector Type	Patented E_Mos	Detection Technology	Proprietary Ion-Pump sensor w	ith built-in selective filter housing			
Sensitivity	Better than (0.1 oz (3g) / year	Better than 0.25 oz (7g	g) / year leak rate of HFC			
Sensitivity Selection	Manual	Fully automatic	Ma	anual			
Refrigerant Sensitivity	HFC, HFO, NH3, HC. Hydro	ocarbon components (CFC, HCFC, gen trace gas in 95% N2, 5% H2 ixture)	All, including those with (CFC, HCFC, HF	hydrocarbon components FC, HFO, NH3, HC)			
Visual Alarm		raph 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" long metal flex probe				
Operating Temperature	0 to 140°F (-18 to 60°C)						
Controls	One button controls	on/off and all functions	OFF, LO & HI sensitivity modes	6 button keypad			
Power (Battery Life)	3 "C" batteries (>	50 hr continuous use)	4 "AA" alkaline batterie	s (>40 hr continuous use)			
Weight		18 oz	(500g)				
Audible Alarms	In Progressive Mode: Extended tone range In Threshold Mode: Single high pitch tone	2 user selectable alarm ranges		es to precisely guide user to the of the leak			
Lock-Out Mode		N/A	N/A	Yes			
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				
Auto-Off	Yes, after 10 m	ninutes of inactivity	No	Yes, after 15 minutes of inactivity			
Sensor Life	>500 hr c	ontinuous use	Replace	seasonally			
Warranty	1 year	2 years	1 year	2 years			

GAS-SEEKER® PORTABLE COMBUSTIBLE GAS DETECTOR

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

		10
	GAS SEEKER® 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 0.71in (183 x 18 mm)	
Weight	18 oz (500g) including battery	

REFRIGERANT MONITORS

Compact, highly reliable, yet economical refrigerant leak monitoring systems. Designed to monitor a single refrigerant in a single zone providing early warning of costly and environmentally damaging refrigerant leakage. 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 RM SPECIFICATIONS						
Sensitivity	100 to 1,000 ppm					
Accuracy	±3% of setting (or ± 25 ppm)					
Visual Alarms	High intensity LED display					
Audible Alarm	85 dB @ 12"					
Operating Temperature (Control Module & Sensor)	14 to 150°F (-10 to 65°C)					
Relative Humidity Range (Control Model & Sensor)	10 to 95% (Non-condensing)					
Power	12 to 24V AC or DC					
Sensor Failure Indicator	Visual indication in control module					
Weight	18 oz (500 g)					

1 year



GS40

Refrigerant Monitor Control Box and Sensor Housing



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

Warranty



	REPLACEMENT PARTS FOR LEAK-SEEKER® & GAS-SEEKER®										
ITEM	Description	LS780A*	LS780B*	LS780C	LS790A*	LS790B	LS3000*	LS3000B*	LS1	LS2	GS40
LSXSF	Selective Filter Housing (replaces LSXVF)	\checkmark	\checkmark	\checkmark	\checkmark	√					
LSXBMK	Maintenance Kit: (1) LSXS + (1) LSXSF (replaces LSXMK)	\checkmark	\checkmark	√	\checkmark	\checkmark					
LSXS	Ion-Pump Sensor	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark					
LSXBC	Battery Compartment Cover (Yellow)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark					
LSXC	Carrying Case (Fabric)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark					\checkmark
LSXE	Earphone	\checkmark	\checkmark	\checkmark	\checkmark	√					\checkmark
EMOS2	E_MOS Technology Sensor								\checkmark	\checkmark	
LS2XF	E_MOS Technology Sensor Filters (10-Pk)								√	\checkmark	
LS2XVF	Vapor Filter Sensing Tip								√	\checkmark	
LSXC3	Molded Carrying Case						\checkmark	\checkmark	✓	√	
LSXS3	CCD Sensor						\checkmark	\checkmark			

^{*} Discontinued model

UV LEAK DETECTION VISUAL LEAK DETECTION

UVPRO KIT INCLUDES BOTH MOONLIGHT™ FLASHLIGHT AND MOONSHINE™ GLASSES

Our MoonLight™ flashlight is the most compact and efficient ultraviolet light we have ever designed. It contains nine high intensity, true ultraviolet 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. MoonLight™ components are housed in a rugged, anodized aluminum body with an O-ring sealed battery compartment that will stand up to handle harsh field conditions.

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



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





OTHER ACCESSORIES FOR UV LEAK DETECTION Squeeze-Injector Universal Automotive Dye-Cartridges (4 Pk),(1 cartridge = 5 Applications) UVS5

UVMINI Clip-on UV light

UVXB 12V Rechargeable Battery Pack for 50W or 100W Light

UVXBC Battery Carrying Case

UVXBLB UV Bulb for 50W Light

UVXC 110V Battery Charger

MOONSHINE™ BOTTLED UNIVERSAL REFRIGERANT DYE

- Works with alkyl benzene, PAG, ester and mineral oil
- Lowest cost per application
- Excellent for large systems
- Built-in measuring cap
- For A/C&R, add 1/4 o.z (7.5 ml) per 20 oz (591 ml) of system lubricants
- For automotive applications, use 1/4 oz (7.5 ml) per vehicle (32 vehicles per bottle)

MOONSHINE™ UNIVERSAL DYE AND CLEANER

UVUD6	MoonShine™ Bottled Universal	8 oz (237 ml)		
UVUDS	Refrigerant Dye	1 oz (30 ml)		
UVCLNR	MoonShine™ Dye Cleaner	32 oz(946 ml)		



MOONSHINETM PREFILLED/ **DISPOSABLE REFRIGERANT DYE CAPSULES AND CARTRIDGES**

- Universal OEM approved dye formula
- · Cleanest, easiest and fastest method of injection
- No refigerant to inject dye
- 4 sizes to match capacity of system
- · Eliminate air entering system
- · Eliminates overinjection of dye
- All dyes include I.D. labels
- All MoonShine™ dye meets SAE J2297 standard.

AC System Size	For Refrigerant Charge Size	Refrigerant Oil	MoonShine™ Refrigerant Dye Capsule (Qty. 6)	MoonShine™ Refrigerant Dye Squeeze Cartridges (Qty. 6)
SMALL Ice machines, window AC units, autos, refrigerators	Up to 2.9 lbs. (1.3 kg)	Up to 15 oz (.44 L)	Moonsumer Season	UVS101 (Gold)
MEDIUM Residential systems	3 to 4.9 lbs. (1.4 to 2.2 kg)	16 oz to 1.6 qt. (.45 to 1.8 L)	UV1	UVS1 (Purple)
MEDIUM-LARGE Light commercial and large residential systems	5 to 9.9 lbs. (2.3 to 4.5 kg)	1.7qt. to 3.2 qt. (1.9 to 3.7 L)	UV2	UVS2 (Orange)
LARGE Commercial and light industrial, including all split systems	10 to 25 lbs. (4.6 to 11.4 kg)	3.3 qt. to 2 gal. (3.8 to 9.1 L)	IIV3	UVS3 (Green)

REFILLABLE. EXPANDABLE **SQUEEZE GUN™ DYE INJECTORS**

Step 1: Load Cartridge



Step 2: Attach hose



Step 3: Connect and inject



Step 4: Clean port and discard empty cartridge



R-12 1/4" SAE oil dye injector



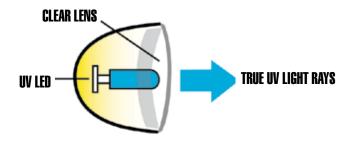
TECH-SET™ DYE BASED REFRIGERANT **LEAK DETECTION KIT**

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

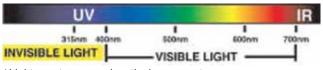
The Tech-Set™ **UV55** Leak Detection Kit enables you to conduct a fast, easy, mess-free air conditioning "leakdown" test whereby an orange, universal dye is injected into a closed (sealed) A/C system under full pressure. The orange dye will be visible under a "correctly tuned" ultraviolet light at the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

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





UV LEDs produce only true and efficient UV light. The CPS UVPRO provides UV-A (Long wave UV) 325-375nm. Instant on LED provides the fastest leak inspection of any light available.



*Light spectrum wavelengths in nanometers

WHY BLUE IS NOT NECESSARILY **COOL...**

A correctly tuned ultraviolet (UV) lamp should predominantly emit invisible UV light waves, with a trace of visible "purple" or "blue" light. A small amount of visible light is required to direct the user's eyes to the leak search area, while the invisible UV light rays actually illuminate a leaking dye.

Lamps that emit large amounts of visible blue light have been marketed as being more powerful and more effective at fluorescing leaks, backed by the obvious high output of visible light.

Knowing that UV dye additives require invisible true UV light rays to effectively fluoresce dispels this claim altogether. In fact, special "blue blocking" glasses are required for use with these high output blue lamps in order to remove the nuisance blue light from the vision of the user during the leak search process. Otherwise, the high output of light will mask the actual leak or illuminating dye additive.

TE-A-CHARGE® REFRIGERANT ARGING SCALES **WORTH THEIR WEIGHT IN COLD**

COMPUTE-A-CHARGE® THE MOST TRUSTED BRAND OF CHARGING/ **RECOVERY SCALES ON THE PLANET**

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

FEATURES AND BENEFITS (ALL UNITS)

- The world's most advanced strain gage bridge load cell technology
- Unparalleled accuracy, precision and reliability
- Calibrated to strict NIST (National Institute of Standards & Technology) standards
- Ergonomic hand held remote controls with large, high contrast wide angle LCD displays
- Rugged cast aluminum platform and base assemblies for stability and long life
- Electronic and mechanical overload protected to withstand 150% of capacity

- Environmentally sealed and temperature compensated for reliable operation in extreme environments
- Automatic tare upon every start up and manual zero function
- Magnetic backing on hand held display for mounting to metal services or 360° swivel hanging hook
- Durable protective transport case enables operation of scale in or out of enclosure
- Ideal for critical charging of systems large or small and all refrigerant recovery applications
- The widest range of programmable, manual, or wireless/hand-held configurations
- Designed and manufactured in the U.S.A. with U.S. and globally sourced components
- RF controlled unit, featuring "set it and forget it" software (CC240RF is non-programmable)
- CC840RF features 4 operating modes: Weigh, Set, Handle, Hold
- **CC840RF** is fully programmable in charging/ recovery mode using the hand-held remote
- Weight Resolution: ±0.25 oz

/IRELESS HIGH CAPACITY CHARGING/RECOVERY SCALES

Full specifications listed on page 16



CC240RF HIGH CAPACITY SCALE

- 220lb (100kg) capacity / 0.25oz (10g) resolution
- · Wireless remote, best-in-class accuracy & large
- Accommodates 30, 50, 90 & 125lb cylinders
- Removable platform for operation in or out of protective
- Easy to read, fast response measurement on large LCD
- Visual and mechanical overload protection





CC840RF HIGH CAPACITY SCALE

- 220lb (100kg) capacity / 0.25oz (1g) resolution
- Programmable for automatic charging or recovery via integrated solenoid valve
- Accommodates 30, 50, 90 & 125 Ib cylinders
- · Easy to read, fast response measurement
- Visual and mechanical overload protection







CC50 HIGH RESOLUTION SCALE

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



CC110 STANDARD SCALE

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



CC220 HIGH CAPACITY SCALE

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

AUTOMATIC PROGRAMMABLE CHARGING/RECOVERY SCALES

Full specifications listed on page 16



CC850 HIGH RESOLUTION SCALE

- 55lb (25kg) capacity / 0.05oz / 1g resolution
- Ideal for critical charge, small volume systems
- Programmable for automatic charging or recovery via integrated solenoid valve
- · Versatile with best in class accuracy and resolution
- Easy to read, fast response measurement
- Visual and mechanical overload protection

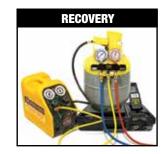


CC800A HIGH CAPACITY SCALE

- 220lb (100kg) capacity / 0.25oz (1g)
- Programmable for automatic charging or recovery via integrated solenoid valve
- Accommodates 30, 50, 90 & 125 lb cylinders
- Easy to read, fast response measurement
- · Visual and mechanical overload protection







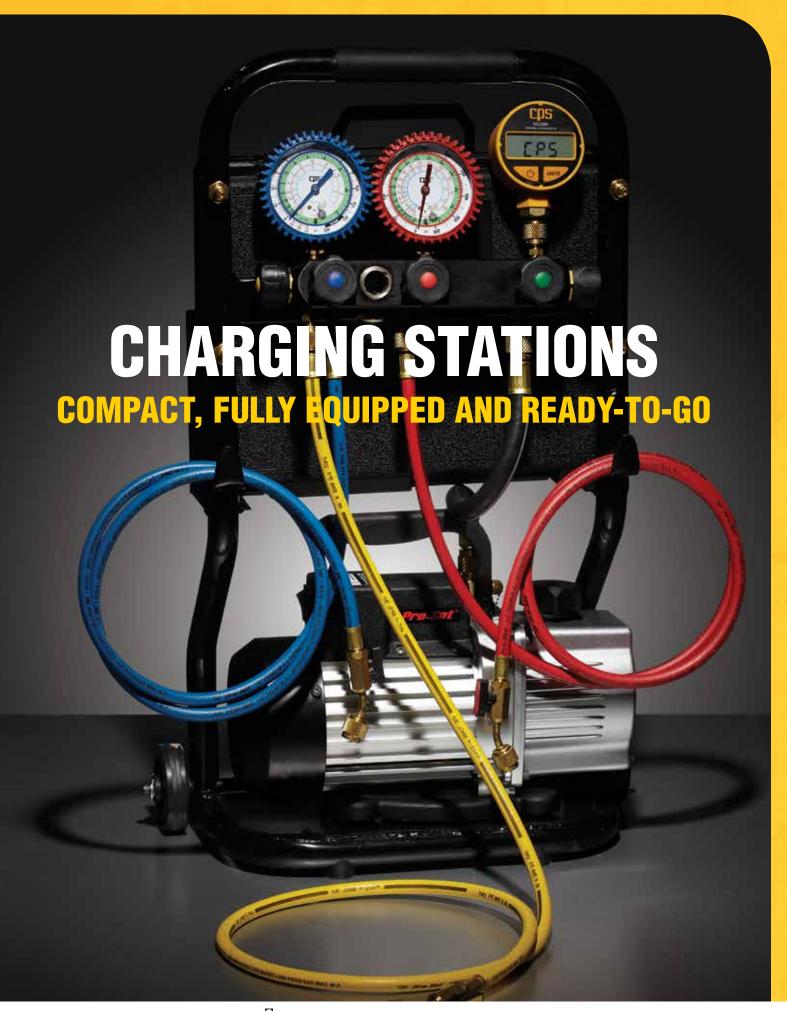
REPLACEMENT PARTS FOR COMPUTE-A-CHARGE SCALES

CCXC Protective carrying case for CC50, CC110, CC110, CC220 CCXC1 Protective carrying case for CC240RF, CC840RF CCXHB 110V heater blanket for refrigerant cylinders **CCXHBV** 220V heater blanket for refrigerant cylinders CCX220BC Battery door with magnet for CC50, CC110, CC220, CC800A, CC240RF, CC840RF



CHARGING/RECOVERY SCALE SPECIFICATIONS

		9						
Specifications	CC850	CC840RF	CC800A	CC240RF	CC220	CC110	CC50	CCLT
Programmable Recovery Mode		Yes				No		
Display (Maximum Load)	55 lbs (25 kg)	240 lbs (108.8 kg)	220 lbs (100 kg)	240 lbs (108.8 kg)	220 lbs (100 kg)	110 lbs (50 kg)	55 lbs (25 kg)	50 kg
Platform Dimensions	10" x (25.4 cm x	10" 25.4 cm)	8.75" x 8.75" (22.3 x 22.3 cm)	10" x 10" (25.4 cm x 25.4 cm)		8.75" x 8.75" (2	2.3 x 22.3 am)	
Display to Scale Connection	Flexcord	Wireless (RF)	Flexcord	Wireless (RF)		Flexo	ord	
RF Transmission Range	n/a	30' (9.1 m)	n/a	30' (9.1m)		n/a	l	
RF Frequency Range	n/a	2.4 GHz, ISM Band (Worldwide)	n/a	2.4 GHz, ISM Band (Worldwide)		n/a	l	
Power Source	Remote: (2) 9V Alkaline (Included)	Remote: (1) 9V Alkaline, (Included); Scale Platform: (4) AA Alkaline (Included)	Remote: (2) 9V Alkaline (Included)	Remote: (1) 9V Alkaline, (Included); Scale Platform: (4) AA Alkaline (Included)	Remote: (2)9V Alkaline (Included)			
Continuous Battery Life	30 hr	32 hr	30 hr	32 hr		60 h	nr	
Display Resolution, oz (Gm) Increments	.05 oz /1 Gm		.25 (oz /10 Gm		.20 oz /5 Gm	.05 oz /1 Gm	20 Gm
Weight Accuracy	0.05% of reading, or ± 0.05 oz/1 gm (whichever greater)	0.05% of re	eading, or ± 0.2	25 oz/10 gm (whichev	ver greater)	0.05% of reading, or ± 0.20 oz/5 Gm (whichever greater)	0.05% of reading, or ± 0.05 oz/1 gm (whichever greater)	Class III (Legal for Trade)
Legal for Trade				n/a				Yes
Unit Weight	9.8 lbs (4	4.4 kg)	8.5 lbs (3.9 kg)	8.9 lbs (4 kg)		5.6 lbs (2	2.5 kg)	
Display Flex Cord Length	6' Extended	n/a	6' Extended	n/a		6' Exter	nded	
Maximum Working Pressure	n/a	500 Psig	500 Psig	n/a		n/a	L	
Maximum Operating Differential	n/a	485 Psig	485 Psig	n/a		n/a	ı	
Rubber Platform Cover	Yes	S	No	Yes		No		
Weight Readout				lbs, oz, kg, g				kgs
Molded Carrying Case				Yes				
Tare (Empty) Weight Mode				Yes				
Overload Protection			N	Mechanical (Internal (Overload Stop)			
Battery Status Indicator				3 Segment Symbo	l (Display)			
Remote Control Mount	Magnetic Back and 360° Swivel Hook							
Operating Temperature Range				14°F to +122°F (-10	°C to +50°C)			
Operating Humidity Range				0% to 95% (Non-C	Condensing)			





PRO-SET® PORTABLE VACUUM CHARGING STATIONS

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

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







All components store easily on cart

				17				
Specifications	CS12 SMBDS5E	CS12 SMBHP5E	CS12 DMV4TP6Q	CS14 CMBHP5E	CS16 SMV4H2P5E	CS16 DMV4D2P5E	CS16 DMV5H2P5E	CS16 DMV5D2P5E
Application	Appliance, Light Refrigeration	Air Conditioning	Air Conditioning, Refrigeration	Air Con	ditioning	Refrigeration	Air Conditioning	Refrigeration
Manifold Type	2 Valve (BLA	CKMAX®)	4 Valve (Vortech™)	2 Valve	4 Valve	4 Valve	5 Valve	5 Valve (Vortech™)
Refrigerant	R22, R134A, R404A	R22, R404A, R410A	R22, R134A, R404A	R22, R404A, R410A	R22, R134A, R404A, 410A	R22, R134A, R404A	R22, R134A, R404, 410A	R22, R134A, R404A
Gauge Diameter		2.5" (68	3 mm)	3¹/ ₈ " (80 mm)				
Pressure Temperature Scales	Psi / '	°F	kPa / Psi / °C	Psi / °F				
Charging Hoses	3-Pk, Standard Yellow (Bal	5' Blue, Red I Valve)	3-Pk Premium 6' Blue, Red, Yellow Hoses & Cplrs.	O. Div. Drawsians 52 Divo. Dod. Vollage (Doll Value))
Vacuum Pump	One Stage, Dual Voltage	2 CFM, e (VP2S)	Two Stage 2 CFM, Dual Voltage (VP2D)	One Stage, 4 CFM, Single Voltage (VPC4SU)	ngle CFM, Dual Two Stage, 6CFM, ge Voltage Dual Voltage (VP6D			j)
Vacuum Gauge			n/a	,	, ,		VG200	n/a
Charging, Recovery Scale	Compute A. Charge® (Diaplay Mayimum Load: 220 Lb: 100 kg)							

RECOVERY EQUIPMENT

RECOVER REFRIGERANTS
QUICKLY and EFFICIENTLY





The ultimate in dependability.

TR700 SERIES REFRIGERANT RECOVERY MACHINES

Designed for servicing residential and commercial refrigeration systems, the BLACKMAX® TR700 is the industry's bestlooking and best-performing refrigerant recovery machine incorporating nonrestrictive 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.

- Designed with high temperature materials
- High strength bourdon tubed gauges
- Twin fan design for ultra cool operation
- Simple inlet and outlet valve blocks
- 2 year warranty

KEY FEATURES

- Powerful 2/3 HP oil-less 2 cylinder reciprocating recovery 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 completed
- Rugged high density, double walled, 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 - weighs 32 lbs (14.5 kg)
- Built-in, removable, replaceable suction filter located under suction port
- Worldwide patents pending
- Compact design with easy 4 bolt access
- Externally serviceable valves and gauges
- Integrated component moorings for quiet operation
- Less parts provide greater reliability





COMPETITOR COMPARISON

Refrigerant	TEST CO	ONDITIONS (kg/s)	CPS TR700	Appion G5	Yellow Jkt 95760	Promax RG5410EX	Promax RG5410A	Inficon Vortex AC	Stinger 2000-3300
		Liquid	5.42	1.58	0.76	2.33	1.85	1.66	1.37
R410a	@ 75°F	Push / Pull	14.38	4.63	5.54	6.39	4.91	5.15	6.63
		Vapor	0.32	0.3	0.22	0.2	0.16	0.08	0.1
		Liquid	4.02	2.82	0.9	1.9	1.81	1.35	1.6
R22	@ 75°F	Push / Pull	14.3	7.54	6.12	6.58	4.32	2.5	5.58
NZZ		Vapor	0.27	0.28	0.15	0.18	0.15	0.11	0.13
	@ 104°F	High Temp Vapor	0.39	0.19	0.15	0.14	0.13	0.13	0.13
		Liquid	3.54	1.97	1.13	1.09	1.57	1.13	1.21
R134a	@ 75°F	Push / Pull	11.64	5.03	6.12	5.3	3.63	3.44	4.98
		Vapor	0.23	0.19	0.1	0.14	0.11	0.1	0.1
	ARI Ratin	gs	(UL) QVBC SA12068	(UL) QVBC SA13136	(UL) QVBC \$A12038	(UL) QVBC SA12994	(UL) QVBC \$A12994	(UL) QVBC \$A12798	(AR) RRRE-05040-1Q

All trademarks are owned by their respective companies.

	REPLACEMENT PARTS AND ACCESSORIES FOR CR & TR SERIES RECOVERY MACHINES						
CRXCR1	Compressor Rebuild Kit for CR600 series (all)						
CRXCR2	Compressor Rebuild Kit for CR500 (115V)						
CRXCR3	Compressor Rebuild Kit for CR500 (230V)						
CRXCR8	Compressor Rebuild Kit for CR700 series (all)						
CRXTOS2	Overfill Sensor Cord Kit 115V						
CRXTOS3	Overfill Sensor Cord Kit 230V						
CRXF2	(6) Suction Filters for CR300, 400, 500, 600						
CRXF3	(6) Suction Filters for CR700, TR700, TR19, TR21, TR600						

	TR700 SERIES SERVICE PARTS					
Item	Description	Where Used (Series)				
TR21X1	Valve Rebuild Kit	All TR Recovery				
TR21X3	TR21 Piston/Connecting Rod Replacement	Machines				
TR21X2	Complete Rebuild Kit					
TR21X5	TR21X5 Eccentric Crank Set TR700					
TR700X1	Head Replacement					

	BLACKMAX® TR700 SERIES SPECIFICATIONS						
Attribute		TR700	TR710	TR700C	TR710C	TR700S	TR710S
Voltage		115V (50 Hz) 220-240V (50/60 Hz)					′ (50/60 Hz)
Motor Size (Horsep	ower)			2	/3 HP		
Overload Protection			15 /	Amp		10	Amp
Power Consumption	1			1	000W		
Tank Overfill Switch		×	\checkmark	×	\checkmark	×	\checkmark
Two Cylinder, Oil-les Compressor	ss Reciprocating				\checkmark		
ON-Off Power Switch	ch				√		
Selectable Manual (Automatic Shut-Off)R f Mode Settinas				\checkmark		
	-			-30" hg	to 350 Psig		
Suction Pressure G	auge			-76 cm h	g to 35 kg/cm		
				0-8	00 Psig		
Discharge Pressure Gauge		0 to 55 kg/cm					
High Pressure Shut-Off		550 Psig (38 bar) 450 Psig (31 bar)			550 Psig (38 bar)		
	Direct Vapor	2.1 lb/min (57 kg/hr)					
Maximum Flow Rate @ 60 Hz (Reduce 15% for	Direct Liquid	11 lb/min (293 kg/hr)					
50 Hz)	Push-Pull Liquid	860 lb/min (830 kg/hr)					
Refrigerants		R-12, R-22, R-134a, R-401A/B/C, R-402A/B, R-404A, R-406A, R-407A/B/C/D/E/F, R408A, R-409A, R-410A, R-411A/B, R-412A, R-500, R-502, R-507					
Operating Temperat	ure Range	32° to 120°F (0° to 49°C)					
Twin Fans, High Air Condensing Capabil	flow, High Efficiency lity	\checkmark					
Suction and Discha		\checkmark					
Large 2-1/4"(44 mn Discharge Gauges	n) Diameter Suction &	\checkmark					
	h Screen Filtration (Into	\checkmark					
Indicator Lights for High Pressure or Low Pressure Status		\checkmark					
Heavy Gauge Aluminum Chassis & High Density Polyethylene Case		\checkmark					
Skid Resistant Rubber Feet		✓					
Power Cord Length, Type		6' (1.82 m) Detachable					
Dimensions (W x L x H)		Inch: 9.75" x 21" x 14.0" (cm: 24.7x 53.3x 35.6)					
Weight		28 lbs (12.7 kg)					
Certifications		UL, CSA. Meets Or Exceeds EPA Regulations per ARI Standard 740-98					
Warranty		1 Year					



Pro-Set

Reliable. Compact. Fast.

TR600 SERIES REFRIGERANT RECOVERY MACHINES

CPS introduces a new addition to its recovery machine line-up, the Pro-Set TR600. A lightweight, efficient and reliable refrigerant recovery machine in a compact, rugged, contemporary housing - the TR600 offers the ideal combination of form and function to make refrigerant recovery fast and easy!





KEY FEATURES

Powerful 2/3 HP oil-less 2 cylinder reciprocating recovery compressor

TR600 Series

- Exceptional compressor, condensing and cooling systems allow fast recovery in high temperature environments
- Automatic low pressure shutoff feature turns unit off when recovery is completed
- Rugged high density, double walled, 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 weighs 28 lbs (12.7 kg)
- No tool access suction housing for easy filter clean/ change
- Worldwide patents pending
- Durable inlet and outlet ball valve construction with gauges
- Integrated component moorings for quiet operation
- Less parts provides greater reliability



	TR600 SERIES SPECIFICATIONS					
Attribute		TR600	TR610	TR600C	TR610C	
Voltage		115V (50Hz)				
Motor Size (Horsep	ower)	2/3 HP				
Overload Protection			15 8	amp		
Power Consumption	n		100	0W		
Tank Overfill Switch		×	\checkmark	X	\checkmark	
Two Cylinder, Oil-les Compressor	ss Reciprocating		v			
ON-Off Power Switch	ch		٧			
Selectable Manual (Automatic Shut-Of	DR Mode Settings		v			
			-30" hg to	350 Psig		
Suction Pressure G	auge		-76 cm hg t	:o 35 kg/cm		
5: 1 5	•	0-800 Psig				
Discharge Pressure	Gauge	0 to 55 kg/cm				
High Pressure Shut-Off		550 Psig (38 bar)		450 Psig (31 bar)		
Maximum Flow	Direct Vapor	2.1 lb/min (57 kg/hr)				
Rate @ 60 Hz (Reduce 15% for	Direct Liquid	11 lb/min (293 kg/hr)				
50 Hz)	Push-Pull Liquid	860 lb/min (830 kg/hr)				
Refrigerants		R-12, R-22, R-134a, R-401A/B/C, R-402A/B, R-404A, R-406A, R-407A/B/C/D/E/F, R408A, R-409A, R-410A, R-411A/B, R-412A, R-500, R-502, R-507				
Operating Temperat	ure Range	32° to 120°F (0° to 49°C)				
Single Fan, High Air Condensing Capabi	flow, High Efficiency lity	\checkmark				
Suction and Discha	rge Shut-Off valves	\checkmark				
Large 2-1/4" (44 mm) Diameter Suction & Discharge Gauges		\checkmark				
Cleanable, 100-Mesh Screen Filtration (Into Suction Port)		\checkmark				
Skid Resistant Rubber Feet			٧			
Power Cord Length		3' (1.82 m)				
Dimensions (W x L x H)		Inch: 9.75" x 21" x 14.0" (cm: 24.7x 53.3x 35.6)				
Weight			28 lbs (12.7 kg)		
Certifications		UL, CSA. Mee	ets Or Exceeds EPA Re	egulations per ARI Sta	andard 740-98	
Warranty		1 Year				

TR600 SERIES SERVICE PARTS					
Item	Description	Where Used (Series)			
TR21X1	Valve Rebuild Kit	All TD Deceyory Machines			
TR21X3	TR21 Piston/Connecting Rod Replacement	All TR Recovery Machines			
TR21X2	Complete Rebuild Kit				
TR21X5	TR19/TR21 Eccentric Set	TR600			
TR700X1	Head Replacement				

RECOVER LOST TIME

The <u>smallest, lightest,</u> <u>fastest</u> and <u>most reliable</u> recovery machine found anywhere in the world!

Anybody can say they are the "fastest." We can prove it!

Pro-Set® TR21 certified ARI recovery rates are shown below as well as online at UL http://database.ul.com . Compare them to other brands (competing machines are listed on our website) **NOBODY** is

FASTER or MORE RELIABLE!

FEATURES & BENEFITS:

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



	TR19, TR21, TR22 SERIES SERVICE KITS					
Item	Description	Where Used (Series)				
TR21X1	Valve Rebuild Kit	All TR Recovery				
TR21X3	TR21 Piston/Connecting Rod Replacement	Machines				
TR19X1	TR 19 Complete Rebuilt Kit	TD10				
TR19X2	Eccentric Crank Set	TR19				
TR21X4	TR21 Complete Head Replacement	TR19, TR21, TR22				
TR21X2	Complete Rebuild Kit	TD01 TD00				
TR21X5	Eccentric Set	TR21, TR22				



Premium Brass Fittings

TR21 SERIES	RECOVERY RATES	PFR ARI-740 - 98
IIIZ I OLIIILO	HILUUVLIII HAILU	I LII AIII- <i>I</i> 40 - 30

Туре	Push Pull	Liquid	Vapor	High Temp Vapor (104°F)	Push Pull	Liquid	Vapor	High Temp Vapor (104°F)
		lbs/mir	1			k	(g/min	
R22	31.53	8.86	0.597	0.86	14.3	4.02	0.271	0.39
R134a	25.66	7.8	0.503	N/A	11.64	3.54	0.228	N/A
R407C	29.14	9.5	0.536	N/A	13.22	4.31	0.243	N/A
R410A	31.7	11.95	0.703	0.816	14.38	5.42	0.319	0.37

	RECOVERY EQUIPMENT SPECIFICATIONS									
			TECH-SET®)			PRO)-SET®		
Attribute		TR19	TR19C	TR19S	TR21	TR21C	TR21S	TRS21 Ignition Proof	TR22	TR22C
Voltage 115V (60Hz)			(60Hz)	220-240V (50 Hz)	115V (6	0 Hz)	220- 240V (50 Hz)	1	15V (60Hz)	
Motor Size (H	orsepower)					2/3 HP				
Overload Prot	ection	15 Amp 10 Amp 15 Amp 15 Amp					15 Amp			
Power Consur	mption		550W				8	50W		
Two Cylinder, Reciprocating	Oil-less Compressor					\checkmark				
ON-Off Power	Switch					\checkmark				
Spark Proof S Components	tarting			No)			\checkmark	N	0
High Pressure (Psig/bar)	Shut-Off	550 Psig (38 bar)	450 Psig (31 Bar)	550 Psig (38 bar)	550 Psig (38 bar)	450 Psig (31 Bar)	550 Psig (38 bar)	550 Psig (38 bar)	550 Psig (38 bar)	450 Psig (31 Bar)
Selectable Ma Automatic Shi Settings	nual OR ut-Off Mode	Auto Reset High Pressure Switch								
Tank Overfill S	Switch Kit				No ✓					
Maximum Direct Vapor Flow Rate		Up to 1	Jp to 1.2 lb/min (33 kg/hr) Up to 2.5 lb/min (67 kg/hr)							
@ 60 Hz (Reduce	Direct Liquid	Up to 9.5 lb/min (260 kg/hr) Up to 12 lb/min (271 kg/hr)								
15% for 50 Hz)	Push-Pull Liquid	Up to 20	.3 lb/min (5	50 kg/hr)		Up to 34 lb/min (922 kg/hr)				
Refrigerants		R-12, R-134a, R-22, R-401A, R-401B, R-401C, R-402A, R-402B, R-404A, R-406A, R-407A, R-407B, R-407C, R-407D, R-407E, R-407F, R408A, R-409A, R-410A R-411A, R-411B, R-412A, R-500, R-502, R-507, R-509					R-402B,			
Operating Tem Range	perature				32° to 1	20°F (0° to	49°C)			
Cleanable, 100 Filtration (Into	O-Mesh Screen Suction Port)					\checkmark				
High Pressure	Cutout LED	\checkmark								
Heavy Gauge Chassis	Aluminum	\checkmark								
Skid Resistant	t Rubber Feet	ubber Feet								
Power Cord L	ength, Type	pe 6' (1.82 m) Detachable								
Dimensions (\	W x L x H)				6" x 12" x !	9" (15 x 30	x 23 cm)			
Weight		18	3.7 lbs (8.5 k	(g)			24.3 lb	s (11 kg)		
Certifications		UL(ARI740-98)	CSA	UL (ARI740-98)	UL (AR1740-98)	CSA	UL (ARI740-98)	UL (AR1740-98)	UL (ARI740-98)	CSA
Warranty						1 Year				

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

CUT YOUR RECOVERY TIME IN HALF.

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

FEATURES & BENEFITS:

- Dramatically increases the speed and performance of your recovery machine- (up to 95% increase in recovery speed!)
- The hotter it gets, the better it works
- Functions as a submersible condenser or evaporator
- Rugged, compact and easy to use Eliminates the need to change tanks when recovering R410A
- Patents Pending

- Eliminates annoying shutdown due to high pressure switch limit
- Essential for recovering R410A on hot davs
- · Essential for recovering liquid refrigerant on cold days
- Eliminates liquid slugging at colder temperatures
- · Designed and manufactured in U.S.A. with U.S. and globally source components



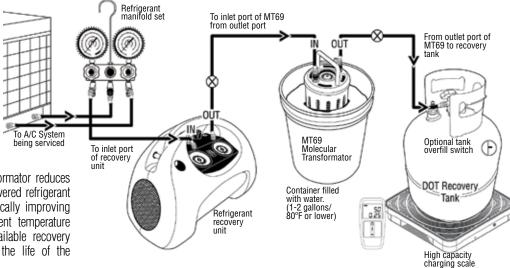
MT69 SPECIFICATIONS				
Dimensions	4.25" Dia x 9" H. (10.9 cm Dia. x 22.9 cm H)			
Weight	3.6 Lb (1.6 kg)			
Maximum Operation Pressure	500 Psig			
Discharge Pressure Gauge	0 to 600 Psig			
Inlet/Outlet Connections	1/4" SAE male			
Refrigerant Compatability	All			

COMPARATIVE DATA					
Time needed to recover 15 lbs of	WITH CPS MT69	WITHOUT CPS MT69			
R22 at 120° F:	17 minutes	32 minutes			
Item	Description				
MT69	MT69 Molecular Transformator				
TR21MT69KIT	TR21 & MT69 kit				

HOW THE MT69 MOLECULAR TRANSFORMATOR WORKS:

The effects of ambient temperature and elevated tank pressures on the speed of the refrigerant recovery process are in many cases more important than the speed of the recovery machine itself. As ambient temperature increases, pressure in the recovery cylinder increases, reducing the recovery speed and in many cases can lead to a high pressure shutdown as the recovery equipment and tank pressure limits are reached.

The Pro-Set MT69 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.





REFRIGERANT RECOVERY TANKS

- Recover, reclaim, transport, recycle, and use for storage
- Available in sizes ranging from 30 to 90 lbs
- All cylinders meet DOT specifications 4BA and 4BW
- Cylinders for R11, R12, R22, R134A, R500, R502, R410A, and many others
- Reusable and refillable
- Working pressures of 260-400 Psi
- Cylinders available for automotive or HVAC use
- All cylinders have powder coat paint for maximum rust protection
- **UL** listed valves



ITEM	DESCRIPTION	WATER CAPACITY	DOT SPECIFICATION	SERVICE PRESSURE
ARX134T	Automotive 50 lb tank with 1/2" ACME male fitting	47.7 lb	DOT04BA-400	
ARX134TS	Automotive 50 lb tank with 1/2" ACME male fitting and overfill sensor	(21.7 kg)	D0104BA-400	
CRX390T	90 lb tank with 1/4" SAE male fitting on tank. 1 / $_{4}$ " SAE female x 1 / $_{2}$ " ACME male adapter fitting included	92 lb		
CRX390TS	90 lb tank with $^{1}\!/_{4}$ " SAE male fitting on tank and overfill sensor. $^{1}\!/_{4}$ " SAE female x $^{1}\!/_{2}$ " ACME male adapter fitting included	(41.7 kg)	400 Psig	
CRX400T	50 lb tank with 1/4" SAE male fitting	47.7 lb		
CRX400TS	50 lb tank with 1/4" SAE male fitting and overfill sensor	(21.7 kg)	DOT04BA-400	
CRX430T	30 lb tank with 1/4" SAE male fitting	26.2 lb	D01046A-400	
CRX430TS	30 lb tank with 1/4" SAE male fitting and overfill sensor	(11.9 kg)		

	RECOVERY TANK ACCESSORIES
CCXHB	Refrigerant Cylinder Heater/Strap (110V)
CCXHBV	Refrigerant Cylinder Heater/Strap (220V/240V)



VACUUM PUMPS LIGHT WEIGHT DESIGN HEAVY WEIGHT PERFORMANCE

Pro-Set®

PRO-SET® VACUUM PUMPS

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

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

PRO-SET® VACUUM PUMP KEY FEATURES

- All models are for use with class A1 (nontoxic, 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



Sealed starting switch on ignition-proof models



PUMPS Pro Set® Pivel Store Veguum

Pro-Set® Dual Stage Vacuum Pumps

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









Pro-Set® Dual Or Single Stage Compact Vacuum Pumps

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



Pro-Set® Single Stage Vacuum Pumps

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



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

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

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)



VPOP12





PRO-SET® PREMIUM VACUUM PUMP OILS

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

Model Stage	VP8D	VP8DE	VP10D	VP10DE 2	VP12D	VP12DE	VPS12DE	VPS12DU
Ultimate Vacuum	25 Microns							
Refrigerant Class				A1,	A2			
Dimensions (Inches)				14.9" x 5.7	7" x 10.6"			
Weight	29.8 lb (1	3.5 kg)	30.3 lb	(13.7 kg)		30.9 lb	(14.0 kg)	
Free Air Displacement	8 CFM @ (192 l/m @		10 CFM @ 60Hz (240 l/m @ 50Hz)		12 CFM @ 60Hz (288 I/m @ 50Hz)			
Motor Size (HP), RPM @ 50/60Hz	² / ₃ HP (2880, 3440 RPM) ³ / ₄ HP (2880, 3			0, 3440 RPM)	1 HP (2880, 3440 RPM)			
Voltage	110-120V Or 220-240V @ 50/60Hz	220-240V, 50 Hz	110-120V Or 220- 240V @ 50/60Hz	220-240V, 50 Hz	110-120V Or 220-240V @ 220-240 50/60Hz		0V, 50 Hz	115V 60Hz
Power Cord Connection to Pump	Universal IEC Socket, Voltage Selector Switch	Universal IEC Socket	Universal IEC Socket, Voltage Selector Switch	Universal IEC Socket	Universal IEC Socket, Voltage Selector Switch	Universal IEC Socket	Hard Wired Schuko Plug	Hard wired
On/Off Power Switch			١	⁄es			Yes (Ignition starting co	n-proof sealed omponents)
Operating Temperature Range	32°F to 125°F (0°C to 52°C)							
Pro-Set® Vacuum Pump Oil Capacity	29 oz (860 ml) 28 oz (830 ml)			(830 ml)	27 oz (800 ml)			
Gas Ballast Valve	Yes							
Intake Fittings	SAE 1/4", 3/8", 1/2"							
Warranty	1 Year							







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

	5			5			
Model	VPC2DU	VPC2DE	VPC2SU	VPC2SE	VPC4SE	VPC4SU	
Stage	2				1		
Ultimate Vacuum	15 Mi	crons		100	Microns		
Refrigerant Class			А	1, A2			
Dimensions (Inches)	11.3" x 4.	5" x 8.0"	9.1" x ²	9.1" x 4.5" x 8.0"		11.3" x 4.5" x 8.0"	
Weight	12.1 lb	(5.5 kg)	9.3 lb	9.3 lb (4.2 kg)		11.0 lb (5 kg)	
Free Air Displacement		2 CFM @ 60Hz (4	18 I/m @ 50Hz)		4 CFM @ 60 Hz (96 I/m @ 50 Hz)		
Motor Size (HP) RPM @ 50/60Hz	¹ / ₄ HP (2880 , 3440 RPM)		¹ / ₅ HP (2880, 3440 RPM)		¹ / ₄ HP (2880, 3440 RPM)		
Voltage	115V @ 60 Hz	220-240V @ 50 Hz	115V @ 60 Hz	220-240V @ 50 Hz	115V @ 60 Hz	220-240V @ 50 Hz	
Power Cord Connection to Pump (& Plug Type)	Hardwired, Nema 115V Plug	Universal IEC, Schuko Plug	Hardwired, Nema 115V Plug	Universal IEC, Schuko Plug	Hardwired, Nema 115V Plug	Universal IEC, Schuko Plug	
On/Off Power Switch	Yes						
Operating Temperature Range	32°F to 125°F (0°C to 52°C)						
Oil Capacity	9 oz (250 ml)		9 oz (250 ml)		10 oz (300 ml)		
Gas Ballast	No						
Intake Fittings	SAE: 1/ ₄ ", ACME: 1/ ₂ "						
Warranty			1	Year			

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)





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



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

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

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)





VACUUM PUMP CAP KIT

Vacuum pump cap kit with chains on one common ring



Tech-Set **

SINGLE STAGE, COMPACT VACUUM PUMPS

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



No. del	TAMBO 40011	TAMPO 400F	TAMPOOCOU	TAMPAGGE	TAMPONAMOU	TAMPOAAAOE		
Model	TAVPC48SU	TAVPC48SE	TAVPC96SU	TAVPC96SE	TAVPC144SU	TAVPC144SE		
Stage	<u> </u>							
Ultimate Vacuum		10	0		50			
Refrigerant Class			А	1, A2				
Dimensions (Inches)	8.75" x 4.	1" x 9.25"	11.25" x 4.1" x 9.25"		12.62" x 4.8" x 9.62"			
Weight	9.5 lbs (4.3 kg)	11 lbs (5.0 kg)		14.8 lbs (6.7 kg)			
Free Air Displacement	1.5 CFM @ 60 Hz	(48 l/m @ 50 Hz)	3 CFM @ 60 Hz	(96 l/m @ 50 Hz)	5 CFM @ 60 Hz (144 I/m @ 50 Hz)			
Motor Size (HP) RPM @ 50/60Hz	¹/₅ HP (2880,	3440 RPM)	¹ / ₄ HP (2880, 3440 RPM)		¹ / ₃ HP (2880, 3440 RPM)			
Voltage	115V @ 50/60 Hz	220-240V @ 50 Hz	115V @ 50/60 Hz	220-240V @ 50 Hz	115V @ 50/60 Hz	220-240V @ 50 Hz		
Power Cord Connection to Pump (& Plug Type)	Hardwired, Nema 115V Plug	Universal IEC, Schuko Plug	Hardwired, Nema 115V Plug	Universal IEC, Schuko Plug	Hardwired, Nema 115V Plug	Universal IEC, Schuko Plug		
On/Off Power Switch	Yes							
Operating Temperature Range	32°F to 125°F (0°C to 52°C)							
Oil Capacity	9 oz (2	50 ml)	14 oz (400 ml)					
Gas Ballast	No							
Intake Fittings	SAE: 1/4". ACME: 1/2"							
Warranty	1 Year							

Legend: T = Tech-Set; VP = Vacuum Pump; C = Compact; 48, 96 or 144 = IpM; E = 220-240VAC 50 Hz; C = Single Stage; $C = \text{Si$

PORT CAPS

Oil mist preventer exhaust port.

VPX0MP for 2-6 CFM Models VPX0MP2 for 8-12 CFM Models



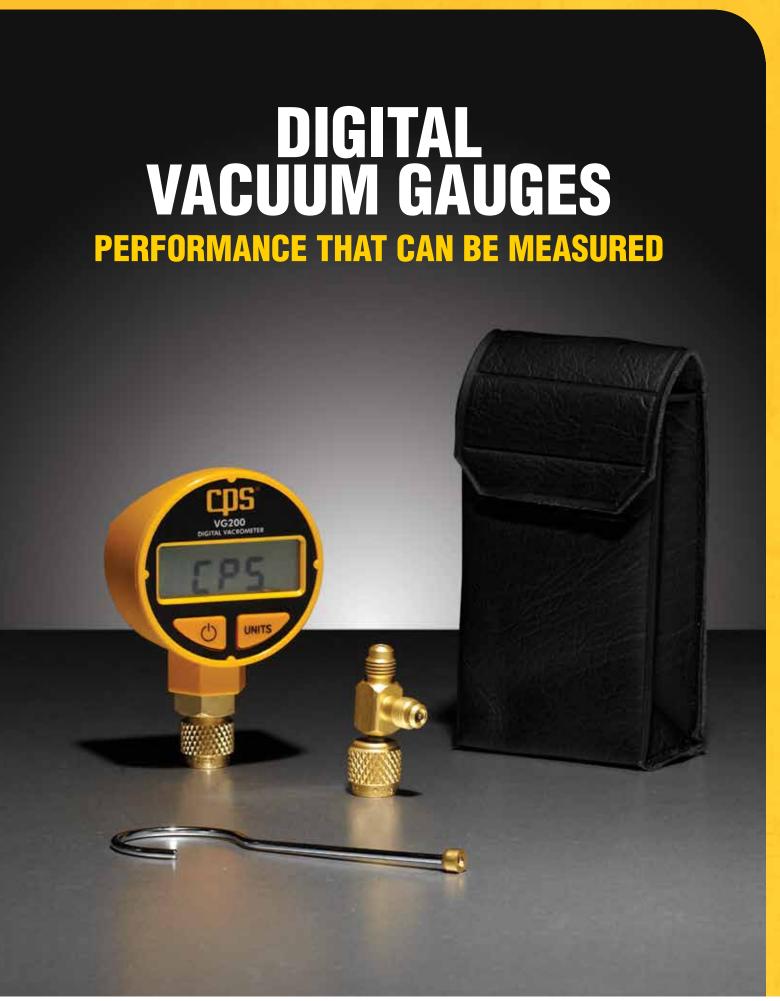
JUMPER CORD KIT

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



VPXJ220





VG100A & VG200 VACROMETER **DIGITAL VACUUM GAUGES**

VG100A & VG200:

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

VG100A:

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

VG200:

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









		190		1984		
Specifications	VG200	VG201	VG100A	VG101		
Sensor Type	Self - heated thermistor bridge [with integral temperature compensation from 32 to 122° F (0 to 50° C)]					
Field Cleanable Sensor		Yes				
Accuracy	+/- 10% (Of Reading	+/- 10% V	alue Of Lighted LED		
Display Type	5 Dig	it LCD	9 Hig	h Intensity LEDs		
Display Auto-Off		After 5 Minutes Of	f Operation			
Operating Vacuum Range	Atmospheric pres	ssure to 0 microns	Atmospheric	pressure to 25 microns		
Maximum Working Pressure		400 Psi	g			
Operating Temp Range	Co Non-compe	mpensated (accuracy as stated) nsated: Add +/- 0.5% error for 6	: 32°F - 122°F (0°C - 5 every °C outside comp	50°C) ensated range		
Storage Temperature		-22° F to 185° F (-30)° C to 85° C)			
Operating & Storage Humidity		0 - 95%, Non-co	ndensing			
Power Source	One	e 9V Alkaline Battery (ANSI 160-	4AC – IEC 6LR61), inc	luded		
Battery Life	20 hr cont	inuous use	18 hr	continuous use		
Battery Indicator	Battery symbol with 3 segr	nent Power Level Bar Graph	Symbol fo	r 500 Microns Glows		
Weight (Excluding Battery)	5.5 oz (156 g) 4.8 oz (136 g)					
Dimensions	2.7	2.7" dia. by 1.6" Dp x 5" H (68 mm Dia. x 40 mm Dp x 124 H)				
Mechanical Connection	Standard 1/4" female SAE refrigerant hose w/core depressor	¹ / ₈ " NPT thread connection	Standard 1/4" female SAE refrigerant hose w/ core depressor	1/8" NPT thread connection		

GAUGE ADAPTERS

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



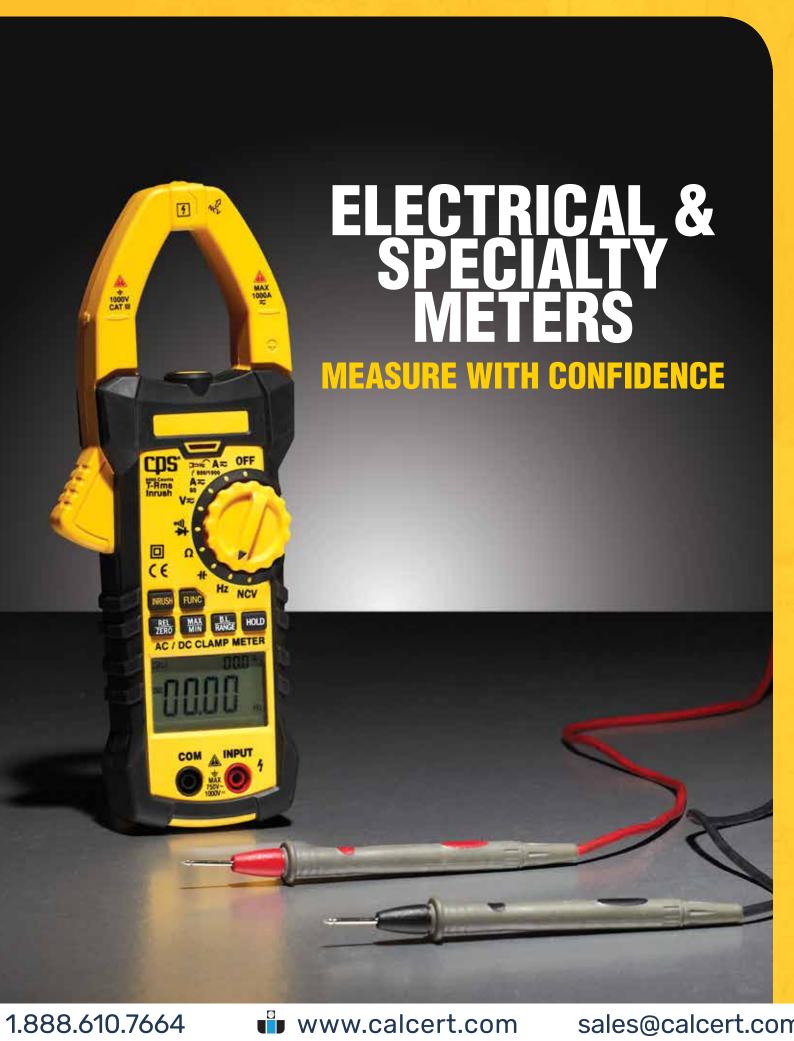




AVT45

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

	,,,,,,,,,
AVT44	1/4" SAE female hex nut x 1/4" SAE male x 1/4" SAE male w/cap & core
AVT45	1/4" SAE female knurl nut x 1/4" SAE male x 1/4" SAE male w/cap & core
AV87	1/4" SAE male x 1/2-20" SAE female x 1/2-20" SAE male tee adapter
VGXC	Carrying case for VG Series
VGXH	Hanging hook for VG Series



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, non-contact voltage detection, and data logging of output readings to a PC (USB connection cable included).

FEATURES AND BENEFITS

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



USB data connection



Extra strength grip clamp



Built-in flashlight



Back view



AC750 DIGITAL CLAMP METER SPECIFICATIONS

No 100 Bid in E OLI iiii iii E I E Oi I Oi I Oi I Oi I Oi				
Display	6000 count dual display			
Range Control	Auto range mode			
Battery	9V battery (one piece)			
Dimensions (W,H,D)	8.8" x 3.4" x 1.3" (225 mm x 86 mm x 33 mm)			
Weight	0.70 lb (320 g)			

DMXTL 1000V CAT 3 TEST LEADS







VELOCITOR™ AIR VELOCITY METER

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

AM50 AIR VELOCITY METER SPECIFICATIONS						
Temperature Sensor	K-type thermocouple					
Average Period (Seconds) for Wind Speed Measurement	Feet/Minute Meters/Sec Knots Km/Hr	Ť	~1.2 ~0.6 ~1.2 ~2.2	~0.6 ~1.2		
Flex Cord	5'					
Power Consumption	Approx 6 m	nΑ				
Battery Life	9V					
Battery Type	50 hr (for 3	300 mA-hr ba	attery)			
Operating Pressure	500 mb ~ 2	2 Bar				
Operating Temperature Range (Meter)	32°F to 122°F (0°C to 50°C)					
Operating Temperature Range (Vane)	32°F to 140°F (0°C to 60°C)					
Operating Humidity for Thermocouple	<80% RH					
Storage Temperature Range	-40°F to 14	0°F (-40°C t	o 60°C)			
Bearing	Ultralow fri	ction sapphi	re jewel			
Weight	12.3 oz (35	i0 g)				
Mounting Nut	1⁄4" x 20					
Dimensions (L x W x H)	Inch: 6.6" >	(3.5" x 1"; n	nm: 168 x 88	x 26		
Units	Range	Threshold	Resolution	Accuracy		
Feet/Minute	0 to 8,800	60				
Meters/Second	0 to 45	0.3	0.1	±3% or		
Kilometers/Hour	0 to 140	1.0		0.1		
Knots	0 to 88					

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.

DM350 AUTO-RANGING DIGITAL MULTIMETER SPECIFICATIONS					
Display	4 digit large character LCD				
Range Control	Auto range mode				
Battery	(2) 1.5V AA batteries				
Dimensions	158 x 74 x 31mm				
Weight	Approx. 220g (including batteries)				
DC Voltage	200m / 2 / 20 / 200 / 600V ±0.7%				
AC Voltage	200m / 2 / 20 / 200 / 600V ±0.7%				
DC Current	200μ / $2000~\mu$ / $20m$ / $200mA \pm 1.2\%, 2/10A \pm 2.0\%$				
(with optional clamp)	200/2000A (0.1mV/0.1A) ±1.2%				
AC Current	$200~\mu$ / $2000~\mu$ / $20m$ / $200mA \pm 1.5\%, 2/10A \pm 3.0\%$				
(with optional clamp)	200/2000A (0.1mV/0.1A) ±1.5%				
Resistance	200 / 2k / 20k / 200k / 2M ± 1.2%: 20M ± 2.0%				
Temperature	-20°C - 1000°C ± 3.0%, 0°F ~ 1800°F ± 3.0%				
Capacitance	$20n$ / $200n$ / 2μ / 20μ / 200μ / 2000μ = 4.0%				









TECH-SET™ DIGITAL CLAMP METER

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



AC400 ⟨€ ②N11445

SOUND LEVEL METER

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

SM150 SOUND LEVEL METER SPECIFICATIONS					
Frequency Range	20 Hz ~ 8KHz				
Measuring Level Range	35~ 130 dB				
Frequency Weighting	A/C				
Time Weighting	Fast (125 mS), Slow (1 sec.) Impulse (35 mS)				
Microphone	½" Electret Condenser				
Display	LCD (4 Digits)				
Resolution	0.1 dB				
Display Period	0.5 sec.				
Level Ranges	Lo (35-95dB); Hi (65~130dB)				
Accuracy	±1.4dB (Under Reference Conditions)				
Dynamic Range	65 dB				
Alarm Function	"OVER" displays when input out of range				
Weight	12.3 oz (350 g)				
Mounting Nut	½" x 20				
Dimensions (LxWxH)	Inch: 6.6" x 3.5" x 1"; mm: 168 x 88 x 26				
Maximum Hold	Hold readings, with decay , 1 dB/3 minutes				
Calibration	Electrical calibration via internal oscillator (1 KHz) sine wave				
AC Output	0.6 Vrms at FS (full scale), output impedance approx. $5 K\Omega$				
DC Output	10mV/dB, output impedance approx. $5 \text{K}\Omega$				
Power Supply	One 9V battery				
Power Life	Approx 50 hr (alkaline)				
Operating Temperature Range	32° F to 104°F (0°C to 40°C)				
Operating Humidity Range	25% to 90% RH				
Storage Temperature	14°F to 140°F (-10°C to 60°C)				
Storage Humidity	10% to 70% RH				
Dimensions (L x W x H)	Inch: 9.4" x 2.7" x 0.98" mm: 240 x 68 x 25				
Weight	7.5 oz (215 g)				

SYSTER

INNOVATIVE SYSTEM ANALYSIS INSTRUMENTATION

SH450 MULTI-FUNCTION SUPERHEAT THERMOMETER & SYSTEM ANALYZER

The **SH450** system analyzer is a versatile diagnostic tool for accurately measuring and evaluating the performance of today's advanced HVAC/R systems. Measurement capabilities include pressure, superheat, sub cooling, relative humidity, wet bulb, dry bulb and dew point with a range of highly accurate, job specific probes and sensors. The unit is also an advanced multi-channel thermometer, incorporating 4 discrete temperature channels with temperature differential between any 2 of the 4 inputs, min/max, scan and data record functions. Powered by one 9V alkaline battery (included), the unit is designed for portability, yet can still be powered via an optional 110V power supply for permanent, stationary applications.

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

SH450 SUPERHEAT/SUBCOOL SPECIFICATIONS						
Pressure Range	-14.7 Psig to 725.0 Psig (-100 kPa to 5000 kPa)					
Pressure Accuracy	±1% of reading or ± 0.5 Psig (± 3.5 kPa)					
Pressure Units	Psig, kPa, bar, Hg, kg/cm2					
Proof Pressure	1000 Psi (7000 KPa)					
Dew or Bubble Saturation Temperature	±1.8°F (±1.0°C)					
SH450 TEMPERATUR	RE & HUMIDITY SPECIFICATIONS					
Measurement Temperature Range	-40°F to +300°F (-40°C to +150°C) Actual temp range depends on the probe being used					
Temperature Resolution	±0.1°F or °C					
Superheat/Subcool Accuracy	$\pm 0.4^{\circ}F$ / $\pm 0.2^{\circ}C$ from 14.0°F to 158°F / -10.0°F to 70°C; 0.6°F / 0.3°C elsewhere in the range					
RH Range	0 to 100%RH					
RH Accuracy (TMX3RH)	±1.8%RH from 10 to 90%RH; ± 3% elsewhere in the range					
DB Accuracy (TMX3RH)	$\pm 1.2\%$ of reading $\pm 1.0^\circ$ F from -40° F to 200° F ($\pm 1.2\%$ of reading $\pm 0.5^\circ$ C from -40° C to 90° C)					
SH450 GEN	IERAL SPECIFICATIONS					
Power Source	9V alkaline battery or optional TMX3PS AC adapter for 100 to 240VAC (40 to 60 Hz) - USA Plug					
Battery Life	30hr continuous use					
Automatic Power Off	After 10 minutes of inactivity					
Dimensions	12" x 10" x 3" (30.5 x 25.4 x 7.6cm)					



SH450 KEY FEATURES:

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



Premium build pressure port



3lb (1.4 kg) with probes

Weight

Warranty

TM360 SERIES, 4 STATION THERMO-PSYCHROMETER

TM360 Series are professional grade instruments that can accommodate all your temperature, humidity, dry/wet bulb and dew point measurements. TM360 incorporates 4 discrete temperature ports capable of min/max and memory functions including temperature differential between any 2 of the 4 available ports. Press the SCAN key and the display will alternate between all 4 ports in 3 second intervals, providing continuous monitoring of multiple probe points during critical system diagnosis.

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



TM360 SERIES THERMO-PSYCHROMETER SPECIFICATIONS

Temperature Resolution	±0.1°F or °C				
Temperature	$\pm 0.4^{\circ}\text{F}$ / $\pm 0.2^{\circ}\text{C}$ from 14.0 to 158°F -10.0 to 70°C; 0.6°F / 0.3°C elsewhere in the range				
RH Range	0 to 100%RH				
RH Accuracy (TMX3RH)	±1.8% RH from 10 to 90%RH; ± 3% elsewhere in the range				
DB Accuracy (TMX3RH)	$\pm 1.2\%$ of reading $\pm 1.0^\circ F$ from $-40^\circ F$ to $200^\circ F$ ($\pm 1.2\%$ of reading $\pm 0.5^\circ C$ from $-40^\circ C$ to $90^\circ C$)				
TM	TM360 SERIES GENERAL SPECIFICATIONS				
Power Source	9V alkaline battery or optional TMX3PS AC adapter for 100 to 240VAC (40 to 60 Hz)				
Battery Life	30hr continuous use				
Automatic	Off After 10 minutes of non-use, or user selectable				

continuous ON mode

3lb (1.4 kg) with probes

15 seconds

1 year

TM360 KEY FEATURES:

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



12" x 10" x 3" (30.5cm x 25.4cm x 7.6cm)

Power

Backlight

Dimensions

Weight

Warranty

TMX3RH

TMX3C

TMX2A

TMX2G

TMX2GA

TMX2P

ACCESSORIES & SPECIFICATIONS FOR USE WITH SH450, TM360 AND TM360C					fo	or Use Wit	h
Item	Description	Common Uses	Qty	Operating Temperature Range	TM360	TM360C	SH450
TMX2A	Moving Air Probe, 15' (4.5 m) Lead	Air: Ducting, registers, aire movement across concensers, am bient 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*
MX2GA	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
MX2P	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
MX2S	Velcro Strap Pipe Probe, 15' (4.5 m) Lead	Surface: Surface temperatures of copper tubing	1	-40°F to 257°F / -40°C to +125°C	Yes*	Yes*	Yes
гмхзс	Clamp-On Surface Probe, 15' (4.5 m) Lead	Surface: Surface temperatures of copper tubing	1	-40°F to 221°F (-40C to +105°C)	Yes	Yes*	Yes*
MX2RH	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)	Yes	Yes	No
MX3RH	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
MX3WB	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, laser point sighting, a backlit LCD display, °C/°F 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.





TECH-SET™ DIGITAL AND ANALOG POCKET THERMOMETER SPECIFICATIONS

Item	Description	Temperature Range	Probe Length	Probe Cord Length
TM50	Hand held digital pocket thermometer with stainless steel puncture probe	-58° to 572°F (-50° to 300°C)	3.8" (96 mm)	4' (122 cm)
TMDP	Digital pocket thermometer with stainless steel probe	-58° to 302°F (-50° to 150°C)	5" (127 mm)	n/a
TMAP	Analog pocket thermometer (Fahrenheit scale) with 1" dial and stainless steel probe and pocket clip	0°F to 220°F	5" (127 mm)	n/a
TMAPC	Analog pocket thermometer (Celsius scale) with 1" dial and stainless steel probe and pocket clip.	-40°C to 80°C	5" (127 mm)	n/a

TM50 DIGITAL POCKET THERMOMETER

A step above the standard pocket thermometer, the **TM50** is packed full of features, including a user selectable temperature alarm, a countdown timer, min/max, °F/°C selectable and memory functions. The unit incorporates a highly accurate stainless steel 3.8" (96 mm) puncture probe with a 4' (122 cm) cord. Temperature measurement range is -58° to 572°F (-50° to 300°C). The TM50 operates on a single AAA alkaline battery with 25 hr of battery life and a low battery indicator.





TMXSK90 K-TYPE TEMPERATURE PROBE

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

TMXSK TEMPERATURE PROBE

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





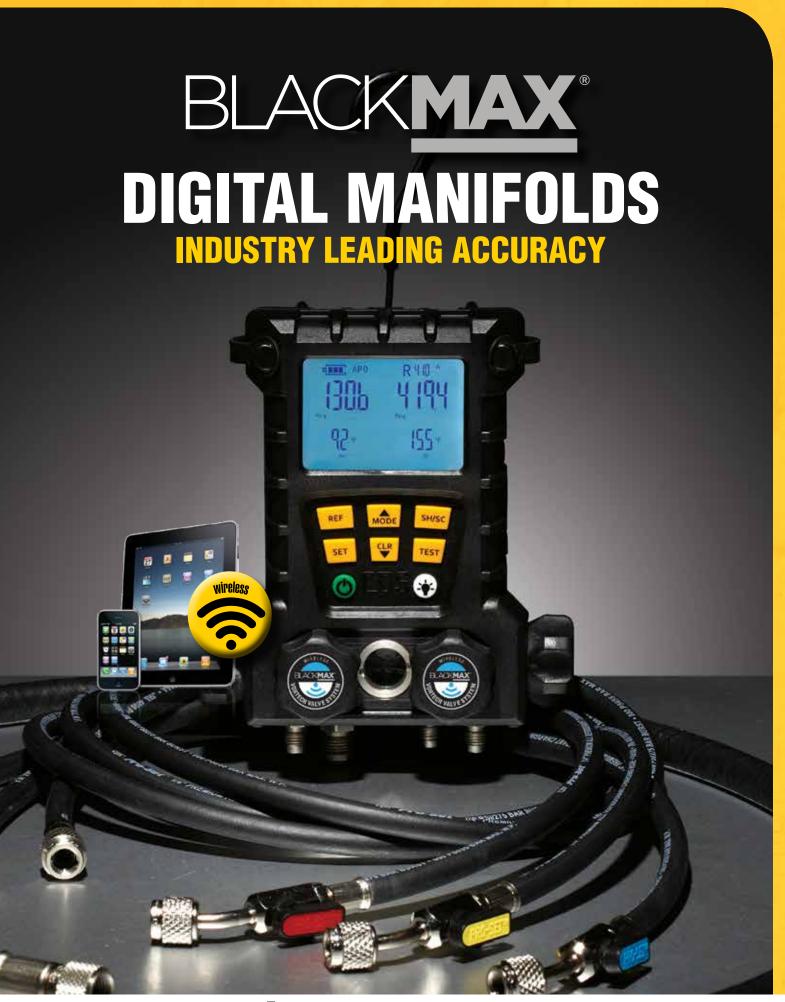
TMXKBEAD TEMPERATURE PROBE

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 over -58° to 400° F (-50 to 204° C) range.

THERMOMETER ACCESSORY SPECIFICATIONS					
TMXSK90	K-Type Surface Probe (Angled, 90 Degree Head)	Max Temp: 752°F (400°C)			
TMXSK	K-Type Surface Probe (Straight Head)	Max Temp: 752°F (400°C)			
TMXKBEAD	K-Type Flexible 36" Probe (0,9 M))	Max Temp: 400°F (204°C) Min Temp: -58°F (-50°C)			







Perform any function on your manifold using your iPhone, iPad, or Android device.

BLACKMAX® WIRELESS DIGITAL MANIFOLDS

CPS is pleased to announce the introduction of a mobile application (APP) for either iOS or Android operated mobile devices that will communicate and control wireless versions of BLACKMAX Digital Manifolds.

FULL SYSTEM CONTROL FROM ANY SMART DEVICE

Monitor full system measurements as they happen. Export, save or e-mail results to your company, yourself or your customer.

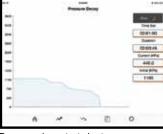
- Perform and monitor full system measurements-in real time
- Fast, convenient touch screen control
- Perform all key manifold functions without the need to physically touch the manifold
- Data logging
- Alternate views for smaller mobile devices
- Color scheme change according to refrigerant
- Real-time information displayed on
- Perform multiple system tests
- Pressure decay test can be viewed, saved, stored or emailed as a graph
- Support over 90 common refrigerants, with quick access to your favorite five
- Change manifold units; (Pressure, Temperature, Vacuum)







Small screen option



Pressure decay test chart



Data Logging



BLACKMAX® DIGITAL MANIFOLDS

BLACKMAX® digital manifolds from CPS Products, Inc. combine the latest manifold design and electronic measurement features into one easyto-use, accurate and water resistant product in a rugged nylon plastic housing, incorporating a durable elastomeric keypad and large backlighted LCD display. Two and four valve manifolds are designed and manufactured in the U.S.A. with U.S. and globally sourced components.

BEST-IN-CLASS ACCURACY

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

SIMPLICITY AND VERSATILITY

- One key ON/OFF and function select
- · Preloaded with over 93 refrigerants
- Compatible with R744 subcritical CO2 refrigerants
- One-touch access to your 5 favorite refrigerants
- Performs pressure decay and vacuum rise
- Uses 4AA alkaline or rechargeable batteries
- 25 hours of continuous battery life with backlight; 40 hours without

FULL SYSTEM MEASUREMENT

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

RUGGED DESIGN

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







				3000				
BLACKMAX® Digital Manifolds	Number Of Valves	Wireless	5' Black & Chrome Ball Valve Charging Hoses 3 Pk (HP5BKEZ)	5' Heavy Duty Black & Chrome Vacuum Hose (1) (HV5Z)	Thermistor Sensor with 6' leads (MDXCP) x 2	Vacuum Gauge Accessory Kit* (MDXVG)	Rechargeable NiMH Battery & Universal Plug Kit** (MDXBK)	Soft Case for MD Series (MDXSC)
MD50					\checkmark	Optional	Optional	Optional
MD50W		√			\checkmark	Optional	Optional	Optional
MD50HE	0		\checkmark		\checkmark	Optional	Optional	Optional
MD50WHE	2	\checkmark	\checkmark		\checkmark	Optional	Optional	Optional
MD50VHE			\checkmark		\checkmark	\checkmark	Optional	Optional
MD50WVHE		√	\checkmark		\checkmark	\checkmark	Optional	Optional
MD100			Optional		\checkmark	Optional	Optional	Optional
MD100W		✓			\checkmark	Optional	Optional	Optional
MD100HE	4		\checkmark	\checkmark	\checkmark	Optional	Optional	Optional
MD100WHE	4	✓	\checkmark	\checkmark	\checkmark	Optional	Optional	Optional
MD100VHE			\checkmark	\checkmark	\checkmark	\checkmark	Optional	Optional
MD100WVHE		√	\checkmark	\checkmark	\checkmark	\checkmark	Optional	Optional

*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 Zeeland/China Plug, 1 UK/Ireland/Singapore/Hong Kong Plug.

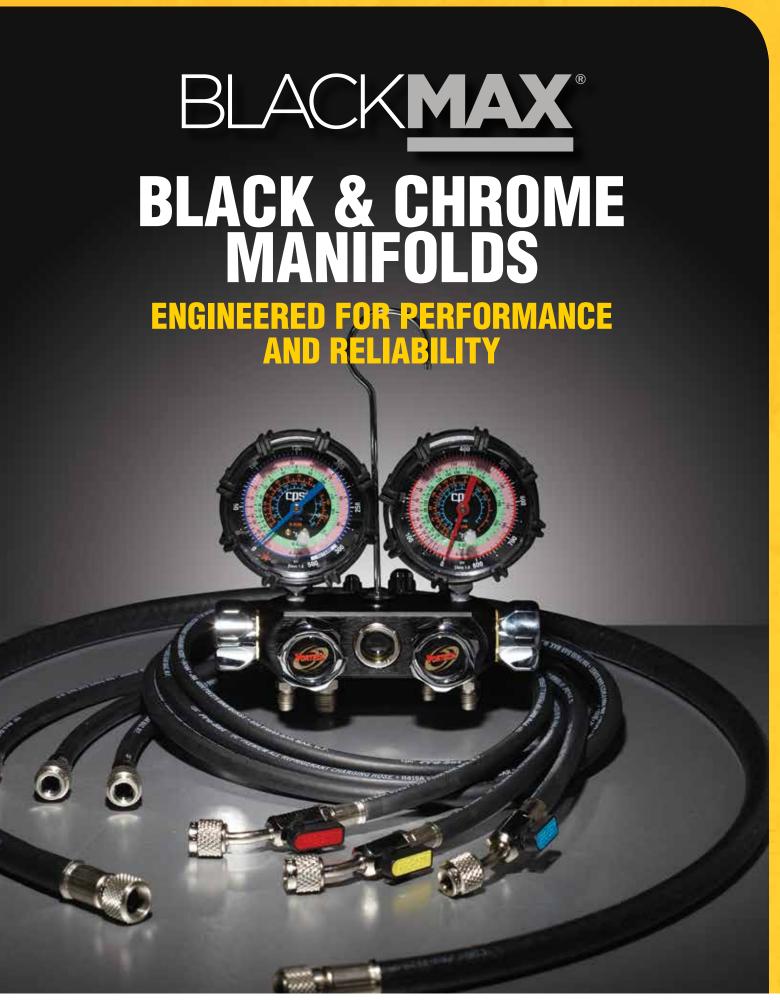












BLACKMAX® BLACK & CHROME MANIFOLDS WITH VORTECH™ VALVES

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



BLACK	MAX® BLACK & CHRON	ME VORTECH™ VALVE	MANIFOLDS		
·	manifications	3 ½ (80 mm)			
.	pecifications	North America	South America		
	Refrigerant Scales	R134a, R22, R404a, R410a	R410a, R22, R407c		
_		Class 1.0 a	ccuracy		
Gauge Description	Gauge Size / Type	* Gauges built with internal silicon dampening cup for flutter-free operation			
	Pressure Scales	Psi	bar / Psi		
	Temperature Scales	°F	°C		
Fittings	Manifold & Hose fittings	1/4" SAE 45° fittings			
Two Valve	3 Premium 5' Pro-Set® Black & Chrome Hoses	MV2H4P5Z	MV204P5Z		
Manifolds	3 Premium 5' Pro-Set® Black & Chrome BV Hoses	MV2H4P5EZ	MV204P5EZ		
Four Valve	3 Premium 5' Pro-Set® Black & Chrome Hoses	MV4H4P5Z	MV404P5Z		
Manifolds	3 Premium 5' Pro-Set® Black & Chrome BV Hoses	MV4H4P5EZ	MV404P5EZ		
	Low Side Gauge	RGH4L	RG04L		
Replacement Gauges	High Side Gauge	RGH4H	RGO4H		
uauyes	Gauge Boot	RGX80B	RGX80B		



BLACKMAX® BLACK & CHROME BARRIER CHARGING HOSES









BLACKMAX® BLACK & CHROME MANIFOLDS WITH TRIPLE-SEAL **VALVES**





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



RGH5L







MBH4P5EZ

BLACKMA

RGH5H **BLACKMAX® BLACK & CHROME TRIPLE SEAL VALVE MANIFOLDS**

Specifications		3 1/8" (80 mm)	2 ½" (68 mm)		
		cations		North America		
J	podindationo	North America	South America	South America	North America	
				Australia		
	Refrigerant Scales	R134a, R22, R404a, R410a	R410A, R22, R407C	R410a	R134a, R22, R404a, R410a	
Cougo	Gauge Size / Type	Class 1.0) accuracy	Class 1.6	accuracy	
Gauge Description	dauge Size / Type	* Gauges bui	It with internal silicon dampenir	g cup for flutter-free operation		
	Pressure Scales	Psi bar / Psi		Psi / kPa	Psi	
	Temperature Scales	°F	°C	°F/°C	°F	
Fittings	Manifold and Hose Fittings		¹ / ₄ " SAE 45° fittir	ngs		
	Manifold & Gauges Only	MBH4Z	MBO4Z	MBB5Z	MBH5Z	
Two Valve Manifolds	3 Premium 5' Pro-Set® Black & Chrome Hoses	MBH4P5Z	MBO4P5Z	MBB5P5Z	MBH5P5Z	
	3 Premium 5' Pro-Set® Black & Chrome BV Hoses	MBH4P5EZ	MBO4P5EZ	MBB5P5EZ	MBH5P5EZ	
	Low Side Gauge	RGH4L	RGO4L	RGB5L	RGH5L	
Replacement	High Side Gauge	RGH4H	RG04H	RGB5H	RGH5H	
Gauges	Gauge Boot	RGX801B Ribbed	RGX801B Ribbed	RGX681B Snider	RGX68SB Snider	





PREMIUM PISTON SERIES

PROPRIETARY TRIPLE SEAL VALVES
BEST IN CLASS 1% MEASUREMENT ACCURACY





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

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

TRIPLE SEAL™ VALVES

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





Durable, protective gauge boots



PRO-SET® WORKINGMAN'S CHOICE 2 VALVE MANIFOLDS								
0		31/ ₈ " (80 mm)						
5р	ecifications	North America	South America					
	Refrigerant Scales	R134a, R22, R404a, R410a	R410a, R22, R407c					
		Class	1.0 accuracy					
Gauge Description	Gauge Size / Type	* Gauges built with int for flutte	ternal silicon dampening cup r-free operation					
	Pressure Scales	Psi	bar / Psi					
	Temperature Scales	°F	°C					
Fittings	Manifold and Hose fittings	1/ ₄ " SAE 45° fittings						
	Manifold & Gauges Only	MT2H7	MT207					
Two Valve	3 Premium 5' Pro-Set® Hoses	MT2H7P5	MT207P5					
Manifolds	3 Premium 5' Pro-Set® AB Hoses	MT2H7P5A	MT207P5A					
	3 Premium 5' Pro-Set® BV Hoses	MT2H7P5E	MT207P5E					
	Low Side Gauge	RGH7L	RG07L					
Replacement Gauges	High Side Gauge	RGH7H	RG07H					
dauges	Replacement Gauge Boot	RGXBW	RGXBW					



	TR	IPLE SEAL™	PISTON 2 VA	LVE BLACK B	ODY MANIFOLDS				
					2 ½" (68 mm)				
Sp	ecifications		North America		South America	South America	South		
			North America	1	Asia	Australia	America		
	Refrigerant Scales	R12, R22, R502	R134a, R22, R404a	R22, R404a, R410a,	R12, R134a, R22	R134a, R22, R404a	R410a, R22, R407c		
Gauge	Gauge Size / Type			Cla	ass 1.6 accuracy				
Description	dauge Size / Type	* Gauges built with internal silicon dampening cup for flutter-free operation							
	Pressure Scales	Psi			Psi / kPa	Psi / kPa			
	Temperature Scales	°F			°F/°C	°C			
Fittings	Manifold & Gauges Only			1/4"	SAE 45° fittings				
	Manifold & Gauges Only	MBC	MBD	MBH	MBZ	MBT	MBO		
	Three 3' Pro-Set® Hoses	MBCS3	MBDP3	MBHP3	MBZS3	MBTP3	MBOP3		
Two Valve	Three 5' Pro-Set® Hoses	MBCS5	MBDP5	MBHP5	MBZS5	MBTP5	MBOP5		
Manifolds	Three 5' Pro-Set® AB Hoses	NA	MBDP5A	MBHP5A	NA	MBTP5A	MB0P5A		
	Three 5' Pro-Set® BV Hoses	NA	MBDP5E	MBHP5E	NA	MBTP5E	MB0P5E		
Replacement	Low Side Gauge	RGCL	RGDL	RGHL	RGZL	RGTL	RGOL		
Gauges	High Side Gauge	RGCH	RGDH	RGHH	RGZH	RGTH	RGOH		





PISTON PINK BODY MANIFOLD SERIES

Piston series 2 valve anodized aluminum block body with 1/4" SAE 45° fittings, Triple Seal piston valves, 21/2" (68 mm) Class 1.6 accuracy gauges, extra access port in center with Schrader valve and hanging hook.

NON-FLUTTER GAUGE

Design with Rugged • 3 super Metal Housing

FRONT CALIBRATION Access Port

ANODIZED ALUMINUM Block Body

EASY-TO-GRAB Large Knob

TRIPLE SEAL™ **VALVES**

- 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

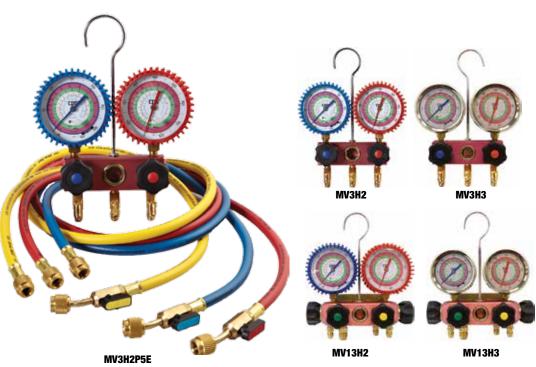




TRIPLE SEAL™ PISTON 2 VALVE PINK BODY MANIFOLDS								
		2 1/2" (68 mm)						
Spe	Specifications		America	South America				
			7	Australia				
	Refrigerant Scales	R410a	R410a, R22, R404a	R410a				
			Class 1.6 accuracy	1				
Gauge Description	Gauge Size / Type	*Gauges built	with internal silicon d flutter-free operation	ampening cup for n				
	Pressure Scales	Psi / kPa	Psi	Psi / kPa				
	Temperature Scales	°F/°C °F		°F/°C				
Fittings	Manifold & Gauges Only	1/ ₄ " SAE	1/2" - 20 UNF					
	Manifold & Gauges Only	MEB	MEH	MCB				
	3 Premium 3' Pro-Set® Hoses	MEBP3	MEHP3	MCBJ3				
Two Valve Manifolds	3 Premium 5' Pro-Set® Hoses	MEBP5	MEHP5	MCBJ5				
	3 Premium 5' Pro-Set® AB Hoses	MEBP5A	MEHP5A	MCBJ5A				
	3 Premium 5' Pro-Set® BV Hoses	MEBP5E	MEHP5E	MCBJ5E				
Replacement	Low Side Gauge	RGBL	RGHL	RGBL				
Gauges	High Side Gauge	RGBH	RGHH	RGBH				

VORTECH™ DEEP VACUUM **MANIFOLD SERIES**

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



VORTECH™ DEEP VACUUM VALVE MANIFOLDS									
		31/8" (80 mm)							
S	pecifications	North America	North America	South America	South America				
		North America	North America	Oddii America	Australia				
	Refrigerant Scales	R410a. R22, R404a, R134a	R410a, R22, R404a, R143a	R410a, R22, R407c	R410a				
			Class 1.6 accu	racy					
Gauge	Gauge Size / Type	* Gauges bu	ilt with internal silicon dampen	ing cup for flutter-free o	peration				
Description			*Oil-Filled		*Oil-Filled				
	Pressure Scales	Psi	Psi	Psi / bar	Psi / kPa				
	Temperature Scales	°F	°F	°C	°F/°C				
Fittings	Manifold & Gauges Only		1/ ₄ " SAE 45° fitt	ings					
	Manifold & Gauges Only	MV3H2	MV3H3	MV302	MV3B3				
Two Valve	3 Premium 5' Pro-Set® Hoses	MV3H2P5	MV3H3P5	MV302P5	MV3B3P5				
Manifolds	3 Premium 5' Pro-Set® AB Hoses	MV3H2P5A	MV3H3P5A	MV302P5A	MV3B3P5A				
	3 Premium 5' Pro-Set® BV Hoses	MV3H2P5E	MV3H3P5E	MV302P5E	MV3B3P5E				
	Manifold & Gauges Only	MV13H2	MV13H3	MV1302	MV13B3				
Four Valve	3 Premium 5' Pro-Set® Hoses	MV13H2P5	MV13H3P5	MV1302P5	MV13B3P5				
Manifolds	3 Premium 5' Pro-Set® AB Hoses	MV13H2P5A	MV13H3P5A	MV1302P5A	MV13B3P5A				
	3 Premium 5' Pro-Set® BV Hoses	MV13H2P5E	MV13H3P5E	MV1302P5E	MV13B3P5E				
Replacement	Low Side Gauge	RGH2LB	RGH3L	RG02LB	RGB3L				
Gauges	High Side Gauge	RGH2HB	RGH3H	RG02HB	RGB3H				





BALL VALVE BODY MANIFOLD SERIES								
9,	Specifications 2 ½" (68 mm)							
اد	Jecinications	North America	South America					
	Refrigerant Scales	R410a, R22, R404a	R410a, R22, R407c					
	Gauge Size / Type	Class 1.	6 accuracy					
Gauge Description	Gauge Size / Type	* Gauges built with internal silicon dampening cup for flutter-free operation						
	Pressure Scales	Psi	bar / Psi					
	Temperature Scales	°F	°C					
Fittings	Manifold and Hose Fittings	1/ ₄ " SAE	45° fittings					
	Manifold & Gauges Only	MGH	MGO					
Two Valve	3 Premium 5' Barrier Hoses	MGHP5	MGOP5					
Manifolds	3 Premium 5' Barrier AB Hoses	MGHP5A	MGOP5A					
	3 Premium 5' Barrier BV Hoses	MGHP5E	MG0P5E					
Panlacement Course	Low Side Gauge	RGHL	RGOL					
Replacement Gauges	High Side Gauge	RGHH	RGOH					

Tech-Set M **BRASS BODY SERIES**

THE ORIGINAL MANIFOLD DESIGN



TECH-SET™ BRASS BODY MANIFOLD SERIES

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

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

TRIPLE SEAL VALVES

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



TECH-SET™ BRASS BODY 2 VALVE MANIFOLDS & HOSE SETS								
	SPECIFICATIONS	N. America	S. America	N. America	S. America			
	Refrigerant Scales	R410a, R22, R	404a, R134a	R22, R134a,	R404a, R507			
Gauge	Gauge Size / Type Gauges built with internal silicon dampening cup for flutter-free operation	3-1/8" (80 mm) Cl	lass 1.6 accuracy	2-5/8" (68 mm) (Class 1.6 accuracy			
Description	Pressure Scales	Psi/bar	bar/Psi	Psi/bar	bar/Psi			
	Temperature Scales	°F	°C	°F	°C			
Fittings	Manifold and Hose fittings	1/4" SAE 45° fittings						
Two Valve	3 Standard 3' Hoses	NA	NA	M64G3	M63G3			
Manifolds	3 Prem-Flex 5' (1.52 m) Hoses	M62PF5	M61PF5	NA	NA			
	3 Prem-Flex 3' (0.91 m) Hoses	HPF3	HPF3	HPF3	HPF3			
Replacement Hoses	3 Prem-Flex 5' (1.52 m) Hoses	HPF5	HPF5	HPF5	HPF5			
	3 Standard 3' (0.91 m) Hoses	HG3	HG3	HG3	HG3			
	3 Standard 5' (1.52 m) Hoses	HG5	HG5	HG5	HG5			



MANIFOLD/GAUGE 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.









ITEM	DESCRIPTION
M2XHA	2-way hose anchor bracket for Vortech™ & diaphragm
M2XRK	Diaphragm valve repair kit: sevices 2 valves
M4XHA	4-way hose anchor bracket for Vortech™ & diaphragm
M4XRK	Diaphragm valve repair kit: sevices 4 valves
M5XRK	Diaphragm valve repair kit: sevices 5 valves
MV2XRK	Vortech™ valve repair kit: services 2 valves
MV4XRK	Vortech™ valve repair kit: services 4 valves
MV5XRK	Vortech™ valve repair kit: services 5 valves
MVXK	Replacement valve handle w/ plugs for Vortech™ manifolds
MXBK	Replacement valve handle for brass manifold
MXC	Plastic carrying case for manifolds
MX2C	Rugged canvas carrying case for manifolds
MXK	Replacement valve handle w/ labels for diaphragm manifolds
MXMH	Hanging hook for all manifolds
MXPK	Replacement valve handle w/ labels for BLACKMAX® manifolds
MXPV	Complete BLACKMAX® piston valve assembly
MXPV0	BLACKMAX® piston valve seals repair kit: services 2 valves





















GT SERIES GAS TEST GAUGES

Our **GT Series** are designed to test the integrity of new installations for pressure leaks. Available with either a 3/4" or 1" FPT brass bell.

Simply connect the gauge, pressurize the system using the supplied access port and monitor the easy-to-read 31/2" 80 mm gauge for potential pressure drops that would indicate a leak.

GAS TEST GAUGE SPECIFICATIONS									
Test Gauge Model	Large 3-1/8" (80 mm) Gauge	Psi (bar) Pressure Scale Range	Gauge Psi (bar) Increments	Brass Bell	Access Valve				
GT1	\checkmark	0-30 Psi (0-2 bar)	1 Psi (0.05 bar)	3⁄4" FPT	\checkmark				
GT2	\checkmark	0-100 Psi (0-7 bar)	2 Psi (0.20 bar)	3⁄4" FPT	\checkmark				
GT4	\checkmark	0-30 Psi (0-2 bar)	1 Psi (0.05 bar)	1" FPT	\checkmark				





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 lbs
- 12" hose 1/4" female swivel x 1/4" female 45° swivel
- 1/8 NPT x 1/4 Male SAE adapter
- 1/8 NPT x 1/4 Male SAE 90° adapter
- 1/4 NPT x 1/4 Male SAE adapter
- 1/4 NPT x 1/4 Male SAE 90° adapter
- Carrying Case

CHARGING HOSES OUR OFFERING IS AS FLEXIBLE AS OUR HOSES



PRO-SET® CHARGING HOSES

PREMIUM UL/SAE BARRIER REFRIGERANT **SERVICE HOSES**

- Nylon permeation barrier (Meets SAE J2196)
- Leak-proof 8-sided crimp
- 800 Psi working pressure (per UL1963)
- 4000 Psi burst pressure
- Extra deep knurling on nuts for easy grip
- Adjustable valve core depressor
- Blow off grooves preventing spray back
- R-410A compatible, as well as CFC, HCFC and HFC refrigerants and blends
- * UL listed, File SA11622

STANDARD REFRIGERANT SERVICE HOSES

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

		0				•	3	600			1 Com
Hos	se Length d Color	1/4" H for all refi		1/4" Hos ball valv	ses w/45° ve on end	anti-blow	v/Microseal™ back valve ne end		n-line ve hoses	R-410A Hose w/ special ¹ / ₂ "-20 UNF fittings	w/45° ball valve fitting in one end
		Premium	Standard	Premium	Standard	Premium	Standard	Premium	Standard	Premi	um
	Yellow	HP3Y	HS3Y*	HP3YE	HS3YE*	HP3YA*	HS3YA*	HP3YL*	HS3YL*	HJ3Y*	HJ3YE*
3' (90 cm)	Blue	HP3B	HS3B*	HP3BE	HS3BE*	HP3BA	HS3BA	HP3BL	HS3BL*	HJ3B*	HJ3BE*
3' (9(Red	HP3R*	HS3R	HP3RE*	HS3RE*	HP3RA	HS3RA*	HP3RL*	HS3RL*	HJ3R*	HJ3RE*
	3-Pack	HP3*	HS3	HP3E*	HS3E	HP3A*	HS3A	HP3L*	HS3L*	HJ3*	HJ3E*
	Yellow	na	HS4Y*	na	na	na	na	na	na	na	na
0 cm	Blue	na	HS4B*	na	na	na	na	na	na	na	na
4' (120 cm)	Red	na	HS4R*	na	na	na	na	na	na	na	na
	3-Pack	na	HS4*	na	na	na	na	na	na	na	na
	Yellow	HP5Y*	HS5Y*	HP5YE	HS5YE	HP5YA	HS5YA	HP5YL	HS5YL*	HJ5Y*	HJ5YE*
0 cm	Blue	HP5B	HS5B*	HP5BE	HS5BE*	HP5BA	HS5BA	HP5BL	HS5BL*	HJ5B*	HJ5BE*
5' (150 cm)	Red	HP5R	HS5R	HP5RE*	HS5RE	HP5RA*	HS5RA	HP5RL	HS5RL*	HJ5R*	HJ5RE*
	3-Pack	HP5*	HS5*	HP5E	HS5E*	HP5A*	HS5A	HP5L*	HS5L	HJ5*	HJ5E*
	Yellow	HP6Y*	HS6Y*	HP6YE	HS6YE*	HP6YA*	HS6YA*	HP6YL*	HS6YL*	na	na
6' (180 cm)	Blue	HP6B	HS6B*	HP6BE	HS6BE	HP6BA	HS6BA	HP6BL	HS6BL*	na	na
3' (18	Red	HP6R	HS6R	HP6RE*	HS6RE*	HP6RA*	HS6RA*	HP6RL*	HS6RL*	na	na
	3-Pack	HP6*	HS6	HP6E	HS6E*	HP6A*	HS6A	HP6L*	HS6L*	na	na
	Yellow	na	HS8Y*	na	HS8YE*	na	HS8YA*	na	HS8YL*	na	na
8' (240 cm)	Blue	na	HS8B*	na	HS8BE*	na	HS8BA*	na	HS8BL*	na	na
3' (24	Red	na	HS8R*	na	HS8RE*	na	HS8RA*	na	HS8RL*	na	na
	3-Pack	na	HS8*	na	HS8E*	na	HS8A*	na	HS8L*	na	na
	Yellow	na	HS10Y*	na	na	na	na	na	na	na	na
)0 cm	Blue	na	HS10B*	na	na	na	na	na	na	na	na
10' (300 cm)	Red	na	HS10R*	na	na	na	na	na	na	na	na
	3-Pack	na	HS10*	na	na	na	na	na	na	na	na

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



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

• Nylon permeation barrier (Meets SAE J2196)

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

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



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

Length	90° x 90°	Straight x 90°	Straight x Straight	Fitting	Operating Temperature Range	Minimum Bend Radius
2' (60 cm)	HHC2*	HHC2S	HHC2SS*	1/4" SAE Hex Style.	E Hex Style.	
3' (90 cm)	HHC3*	HHC3S	HHC3SS*	Straight & 90°, With	-49° F to 266°F (-45° to 130°C)	4" 102 mm
4' (120 cm)	HHC4*	HHC4S*	HHC4SS*	Copper Gaskets (43 to 130 o)	102 111111	





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

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

Length	Without Ball Valve	With In-Line Ball Valve	Nylon Permeation Barrier	Leak Proof 8 Sided Crimp	Working Pressure	Burst Pressure	Deep Knurl On Fittings
3' (90 cm)	HV3*	na					
5' (150 cm)	HV5	HV5E	Yes	³/₃" SAE	460 Psi	2300 Psi	Yes
6' (180 cm)	HV6*	na	162	7 ₈ SAE	400 PSI	2300 FSI	162
8' (240 cm)	HV8*	na					



TECH-SET™ CHARGING HOSES

Tech-Set chargings hoses are all-weather resistant with rugged flexiblity and durabliity.

- Leak-proof 8-sided crimp
- 800 Psi working pressure
- 4000 Psi burst pressure
- Extra deep knurling on nuts for easy grip
- Adjustable valve core depressor
- Blow off grooves (prevent spray back)
- Compatable with CFC, HCFC, HFC refrigerants and blends

TECH-SET™ 1/4" CHARGING HOSES			
Length	3-Pack	Hose Type	
3' (90 cm)	HG3	Standard	
5' (150 cm)	HG5	Standard	
3' (150 cm)	HPF3	Prem-Flex Premium	
5' (150 cm)	HPF5	Prem-Flex Premium	

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

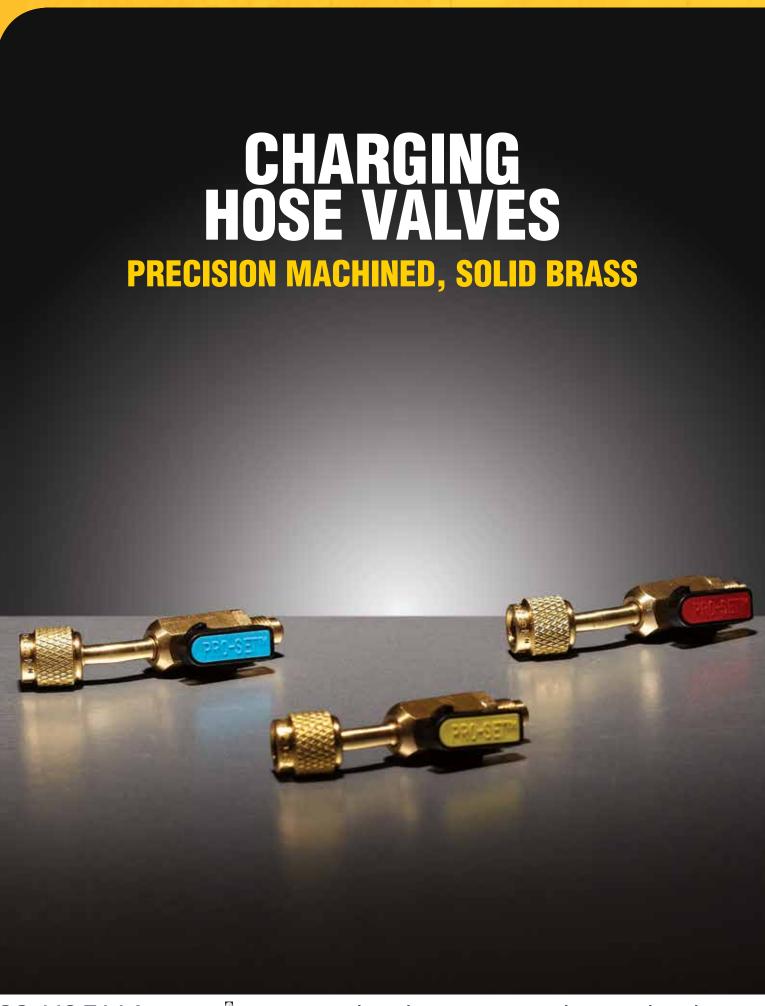


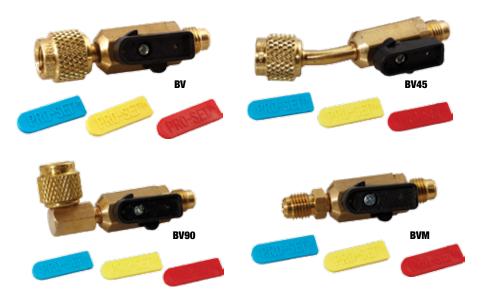
REPLACEMENT HOSE GASKETS, DEPRESSORS & O-RINGS

REPLACEMENT PARTS FOR ALL PRO-SET® HOSES				
Item	Description	Qty		
HXG	Hose Gaskets, 1/4" SAE Neoprene	10		
HXGD	Hose Gasket & Core Depressor 1/4" SAE Neoprene	10+10		
HX38G	Hose Gaskets, 3/8" SAE Neoprene	10		
HXGD2	Hose Gaskets, 1/2"-20 UNF	6,6		
HXG2	Hose Gaskets, Core Depressors, 1/2" UNF	10+10		
HXGA	Hose Gaskets, 1/4" SAE Microseal Antiblowback	10		
HXGA410	Hose Gaskets, 1/2"-20 UNF Microseal Antiblowback	10		
HXTG	Hose Gaskets, 1/4" SAE Teflon	10		
HXTG2	Hose Gaskets, 1/2"-20 UNF & 1/2" ACME Teflon	10		









PRO-SET® PREMIUM BALL VALVES

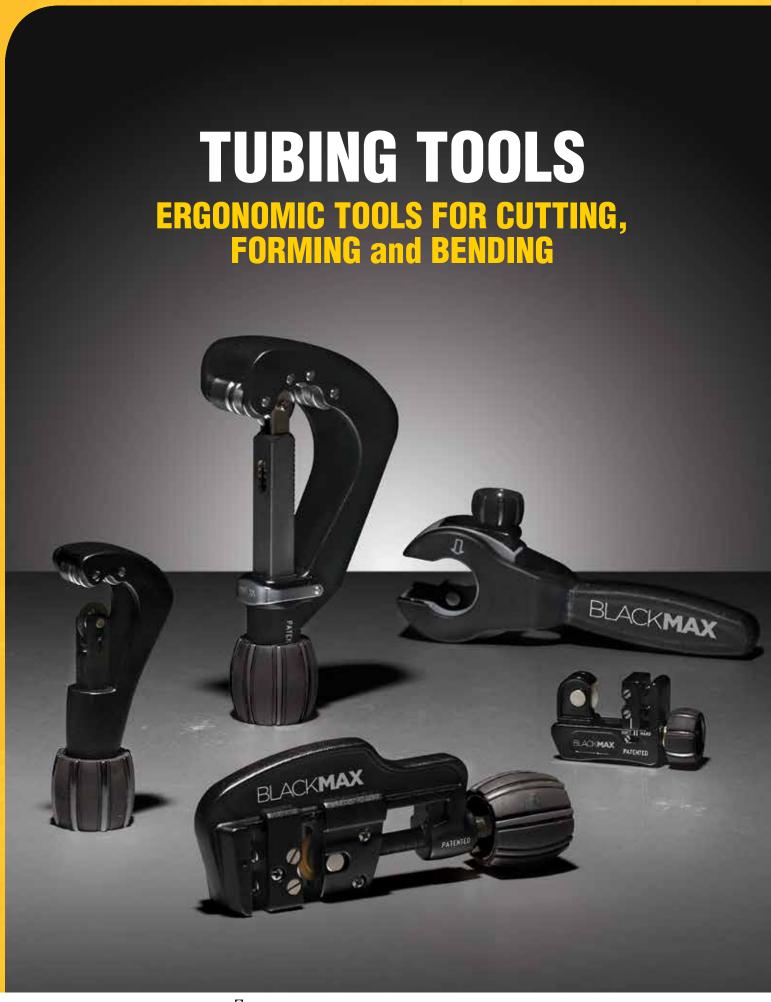
Pro-Set® premium ball valves can be added to any existing hose to eliminate refrigerant loss and comply with EPA regulations.

- Easy 1/4 turn open/ close with rugged plastic composite color-coded handles
- Oversized chrome ball for smooth operation and nonrestrictive flow
- Individual valves include all three color-coded handle inserts

PRO-SET® BALL VALVE SPECIFICATIONS				
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	½" - 20 UNF	½" - 20 UNF	Straight
BV410A	1	½" - 20 UNF	1/ ₄ " SAE	Straight
BV45	1	¹/₄" SAE 45°	1/ ₄ " SAE	45° female
BV453	3	¹/₄" SAE 45°	1/ ₄ " SAE	45° female
BV90	1	1/ ₄ " SAE 90°	1/ ₄ " SAE	90° female
BV903	3	1/ ₄ " SAE 90°	1/ ₄ " SAE	90° female
BVAD38	1	³ / ₈ " SAE	1/ ₄ " SAE	Straight
BVM	1		1/4" SAE x 1/4" SAE	Straight
BVM3	3		1/4" SAE x 1/4" SAE	Straight
BVXH	3	Replacement	Ball Valve Handle w/1 ea (Yellow, Bl	lue, Red) inserts

MICROSEAL™ ANTI-BLOWBACK VALVE SPECIFICATIONS				
AB	1	1/ ₄ " SAE	1/4" SAE	Straight
AB12	1	½" ACME	½" ACME	Straight
AB3	3	1/ ₄ " SAE	1/4" SAE	Straight
AB41090A	1	½" - 20 UNF	1/4" SAE	90° female
AB410A	1	½" - 20 UNF	1/4" SAE	Straight
AB90	1	¹ / ₄ " SAE 90°	1/4" SAE	90° female
AB903	3	¹ / ₄ " SAE 90°	1/4" SAE	90° female
ABG18	1	1/4" SAE x 1/8"FNPT		1/8" FNPT is not an AB





BLACKMAX® PREMIUM TUBING TOOLS

Introducing BLACKMAX® hand tools- a new line of premium grade, goodlooking and hard-working hand tools from CPS. BLACKMAX tools make easy work out of cutting, deburing, flaring, expanding and bending soft copper and aluminum tubing. BLACKMAX tubing tools also include a line of 2 and 3 jaw gear and pulley removers. Premium form, function and ergonomics at affordable prices. Try them today and see the difference!







- Quick release pin for fast replacement of cutting wheels
- Chromed, hardened cutting wheel

Durable aluminum

- Patented SetNCut[™] spring-loaded center groove rollers for fast, automatic cuts. Provides a smooth cut, even for slightly deformed tube
- "Soft" setting for annealed or soft copper and aluminum
- "Hard" setting for rigid copper and aluminum
- Durable aluminum and rubber knob

Set N Cut[™]

BLACKMAX® MINI RATCHET TUBE CUTTER

- Excellent for small tube, confined spaces
- Use with or without ratchet handle
- Quick release pin for fast replacement of cutting wheels
- Chromed, hardened cutting wheel
- Patented SetNCut™ springloaded center groove rollers for fast, automatic cuts. Provides a smooth cut, even for slightly deformed tube
- "Soft" setting for annealed or soft copper and aluminum
- "Hard" setting for rigid copper and aluminum
- Durable aluminum and rubber knob

BLACKMAX® TUBE CUTTER

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

	BLACKMAX® TUBE CUTTERS
Item	Description
BTC 200	Mini Tube Cutter (1/8" - 7/8") 3-22 mm O.D.
BTC 200R	Mini Ratchet Tube Cutter (1/8" - 7/8"), 3-22 mm O.D.
BTC 300	Tube Cutter (3/16" -1 1/4"), 5 - 32 mm O.D.
BTC 400	Heavy Duty Tube Cutter (1/4" -1 1/4"), 6 - 32 mm O.D. (shown next page)
BTC 500	Large Tube Cutter (3/8" -25/8"), 10 - 67 mm O.D. (shown next page)

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



Soft or hard setting for copper or aluminum tube



Quick release pin for fast replacement of cutting wheels



Set N Cut™

BLACKMAX® HEAVY DUTY TUBE CUTTER

- For brass, copper, aluminum, stainless tube and electrical conduit
- Patented SetNCut™ technology for the perfect cut every time
- Spring-loaded rollers for easy, precision cut
- Heavy duty performace from lightweight aluminum forged body
- Quick change cutting wheel
- Titanium finish cutting wheel included











Set N Cut™

BLACKMAX® LARGE TUBE CUTTER

- Patented SetNCut™ Technology for the perfect cut every time
- Two hardened cutting wheels with quickchange 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

Item	Description	
BTCXB	Cutting Wheel Bearing (Std for BTC400, optional for BTC500)	
BTCXR	Plastic Ratchet (for BTC 200R)	
BTCXC1	Cutting Wheel (Chrome Plated) for BTC 200, 300	
BTCXC2	Cutting Wheel (Chrome Plated) for BTC 400, 500	
BTCXCT1	Cutting Wheel (Titanium Coated) for BTC200, 300	
BTCXCT2	Cutting Wheel (Titanium Coated) for BTC400, 500	
BTCXP1	Quick Release Pin (BTC200, 200R, 300)	
BTCXP2	Quick Release Pin (BTC400)	
BTCXP3	Quick Release Pin (BTC500)	



BLACKMAX® TUBE EXPANDERS

- Nine quick-change tube expanders for soft copper and aluminum tube
- Durable, color-coded, aluminum heads
- Compact, professional, patented design
- Strong carrying case











BLACKMAX® TUBE EXPANDERS (IMPERIAL)			
Item		em	Description
	BTLE9		Tube Expander Set (9 Heads) includes all parts listed below:
		R	EPLACEMENT PARTS
	BTLEXH		Tube Expander (Replacement Tool)
		BTLEX14	1/4"
		BTLEX516	5/16"
	Sp	BTLEX38	3/8"
	Expander Heads	BTLEX12	1/2"
	ıder	BTLEX58	5/8"
	храп	BTLEX34	3/4"
rial	ш	BTLEX78	7/8"
Imperial		BTLEX1	1"
		BTLEX118	11/8"
		BTLEX14B	1/4"
		BTLEX516B	⁵ / ₁₆ "
	es	BTLEX38B	3/8"
	Blad	BTLEX12B	1/2"
	der	BTLEX58B	5/8"
	Expander Blades	BTLEX34B	3/4"
	û	BTLEX78B	7/8"
		BTLEX1B	1"
		BTLEX118B	11/8"

BLACKMAX® TUBE EXPANDERS (METRIC)			
ltem		Description	
BTLE9M		Tube Expander Set (9 Heads) includes all parts listed below:	
REPLACEMENT PARTS			
BTLEXH		Tube Expander (Replacement Tool)	
	BTLEX6M	6 mm	
	BTLEX8M	8 mm	
sp	BTLEX10M	10 mm	
Неа	BTLEX12M	12 mm	
ıder	BTLEX15M	15 mm	
храг	BTLEX18M	18 mm	
ш	BTLEX22M	22 mm	
	BTLEX28M	28 mm	
	BTLEX32M	32 mm	
Blades	BTLEX6MB	6 mm	
	BTLEX8MB	8 mm	
	BTLEX10MB	10 mm	
	BTLEX12MB	12 mm	
ıder	BTLEX15MB	15 mm	
храг	BTLEX18MB	18 mm	
ш	BTLEX22MB	22 mm	
	BTLEX28MB	28 mm	
BTLEX32MB		32 mm	
	Expander Blades Expander Heads	Septem	



	BLACKMAX® TUBE BENDERS (IMPERIAL)		
	Item		Description
	BTB300		Tube Bender Set (7 Benders) includes all parts listed below:
			REPLACEMENT PARTS
		BTBX14	¹/₄" O.D.
		BTBX516	⁵ / ₁₆ " O.D.
	sls	BTBX38	³ / ₈ " O.D.
_	Mandrels	BTBX12	¹/₂" O.D.
mperial	Ma	BTBX58	⁵ / ₈ " O.D.
트		BTBX34	³ / ₄ " O.D.
		BTBX78	⁷ / ₈ " O.D.
	BTBXH		Ratchet Tool
	BTBXA1		¹ / ₄ "- ³ / ₈ " Shoe Arm
		BTBXA2	¹/2"-²/8" Shoe Arm
		BTBXR1	Reverse Bender Mandrel Arm
	BTBXR2		Reverse Bender Shoe Arm

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

	BLACKMAX® TUBE BENDERS (METRIC)			
	Item		Description	
	BTB300M		Tube Bender Se	et (7 Benders) includes ed below. (not BTBX16M)
			REPLACEMENT	,
		BTBX6M	6 mm O.D.	
		BTBX8M	8 mm 0.D.	
		BTBX10M	10 mm 0.D.	
	drels	BTBX12M	12 mm 0.D.	
ပ	BTBX15M BTBX16M	BTBX15M	15 mm 0.D.	
Metric		BTBX16M	16 mm 0.D.	Optional for BTB300M
		BTBX18M	18 mm O.D.	
		BTBX22M	22 mm 0.D.	
		BTBXHM	Ratchet Tool, Metric	
		BTBXA1	6-10 mm Shoe Arm	
		BTBXA2	12 - 22 mm Sh	oe Arm
		BTBXR1	Reverse Bender Mandrel Arm	
	BTBXR2		Reverse Bender Shoe Arm	

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



BLACKMAX® TUBE FLARING TOOL

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









Slide gauge for perfect tube alignment



Eccentric flaring cone for precision flares

BLACKMAX® TUBE FLARING TOOLS			
Item		Description	
Imperial BEL 820	Tube Flaring Tool, Imperial Eccentric		
	BFT 850	(7 Position for: 3/16", 1/4" 5/16", 3/8", 1/2", 5/8", 3/4" O.D. Tube)	
Metric	BFT 850M	Tube Flaring Tool, Metric Eccentric	
		(7 Position for: 6, 8, 10, 12, 15, 16, 18 mm O.D. Tube)	

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



BLACKMAX® Premium Deburring Tool Replacement Blade for BTLDB3 BTLDB3 TLDB2X





BLACKMAX® GEAR PULLER

- Quick-change: 2 or 3 reversible jaw
- Internal/external pull
- 3.75" reach, 5.75" spread
- Forged chrome, vanadium steel
- Patented design enables fast configuration of two or three puller arms for inward or outward gripping positions.

BLACKMAX® GEAR & PULLEY REMOVERS

Item	Description
BTLGP4	Gear Pulley Remover, 4" (10.1 cm)
BTLGP7	Gear Pulley Remover, 7" (17,8 cm)



BLACKMAX® LEVER TUBE BENDERS

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



Quick

arms

release



	LEVER TUBE BENDERS (IMPERIAL)				
		Item	Description		
Imperial		BTB06	Lever Tube Bender, for 3/8" O.D. Tube		
	erial	BTB08	Lever Tube Bender, for 1/2" O.D. Tube		
	BTB10	Lever Tube Bender, for 5/8" O.D. Tube			
		BTB12	Lever Tube Bender, for 3/4" O.D. Tube		

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

LEVER TUBE BENDERS (METRIC)				
	Item	Description		
	BTB10MM	Lever Tube Bender, for 10 mm O.D. Tube		
Metric	BTB12MM	Lever Tube Bender, for 12 mm O.D. Tube		
Me	BTB15MM	Lever Tube Bender, for 15 mm O.D. Tube		
	BTB16MM	Lever Tube Bender, for 16 mm O.D. Tube		
	BTB18MM	Lever Tube Bender, for 18 mm O.D. Tube		

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



Lever Tube Bender, for 7/8" O.D. Tube



PRO-SET® HEAVY DUTY TITANIUM TUBE CUTTERS

You need tools that work as hard as you do and nothing outperforms like the power of the Pro-Set® Titanium HD series. Put them to work for you on your next job.

- All cutter wheels are precision machined from high grade chromium steel and plated with titanium nitride to extend life—up to 5 times lonaer!
- Precision machined rollers feature cut-off groove to reduce tube loss in damaged flare
- Durable metal handle with industrial grade rubber boot provides comfortable grip
- Integrated retractable and replaceable rotary reamer tool for ease in deburring pipe
- Enclosed hardened steel, thrust bearing feed mechanism for smooth cutting action and trouble free operation
- Available in 5 popular configurations to accommodate cutting of 1/8" (4 mm) up to 2 5/8" (66 mm) O.D. tubing
- Produces clean right angle cuts every time

PRO-SET® TITANIUM TUBE CUTTERS			
ITEM	Cutting	Range	
IIEIVI	Inches	Millimeters	
TCPVC	1/4" to 25/8"	6 to 68 mm	
TCT174	1/8" to 11/8"	3 to 30 mm	
TCT206	1/4" to 25/8"	6 to 68 mm	
TCT127	¹ / ₈ " to ⁵ / ₈ "	3 to 16 mm	
TCT274	¹ / ₈ " to 1 ³ / ₈ "	3 to 35 mm	
TCT312	1/8" to 13/4"	3 to 45 mm	

PRO-SET® TUBE CUTTERS

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

	PRO-SET® TUBE CUTTERS
ITEM	DESCRIPTION
TC100	Tube Cutter for $\frac{1}{4}$ - $\frac{7}{8}$ (6 - 22 mm) 0.D.
TCX100CS	TC 100 Cutting Wheel (1) & Screw (1)
TC174	Big Mini Tube Cutter for $3/8$ " - $1^{1}/8$ " (10 - 29 mm) O.D.
TCX4CTS	Titanium Cutting Wheel and Screw for TCTC174/274/312
TCPVC	Ratcheting PVC Tube Cutter up to 5/8" (16 mm) 0.D.









	PRO-SET® LEVER TUBE BENDERS				
		1			
	ITEM	DESCRIPTION			
	TB04	¹ / ₄ " O.D. Lever Tube Bender			
	TB05	⁵ / ₁₆ " O.D. Lever Tube Bender			
Imperial	TB06	³ / ₈ " O.D. Lever Tube Bender			
lmp	TB08	¹ / ₂ " O.D. Lever Tube Bender			
	TB10	³ / ₄ " O.D. Lever Tube Bender			
	TB12	⁵ / ₈ " O.D. Lever Tube Bender			
	TB14	⁷ / ₈ " O.D. Lever Tube Bender			
	TB6 MM	6 mm O.D. Lever Tube Bender			
	TB10 MM	10 mm O.D. Lever Tube Bender			
	TB12 MM	12 mm O.D. Lever Tube Bender			
Metric	TB15 MM	15 mm O.D. Lever Tube Bender			
	TB16 MM	16 mm O.D. Lever Tube Bender			
	TB10XH	TB10 Replacement Hook with Screw			
	TB12XH	TB12 Replacement Hook with Screw			
	"O D " – Outoid	de Diameter (of tube)			







TB16MM











	PRO-SET® RATCHET TUBE BENDER				
	TB250	Ratchet Tube Bender Set: includes all parts shown below plus TC274, Reamer (1)			
		REPLACEMENT PARTS			
	TBXM6	Molded Plastic Mandrel 1/4" (6 mm)			
etric	TBXM8	Molded Plastic Mandrel 5/16" (8 mm)			
M P	TBXM10	Molded Plastic Mandrel 3/8" (10 mm)			
Imperial and Metric	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			

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

Efficiently connect gas pipes and copper tubing with premium Pro-Set® branded flaring and swaging tools.

R-410A Imperial Concentric Flaring Tool & Ratchet

- Engineered specifically to create stronger flare joints for higher pressure R-410A systems
- Unique clutch driven feed screw and eccentrically mounted cone produces uniform, clean flare walls without galling
- Exclusive 3/8"sq drive incorporated directly in yoke handle for use with ratchet (included)
- Rugged polyethylene storage case included



	PRO-SET® FLARING TOOLS			
ITEM DESCRIPTION		DESCRIPTION		
FS226 Tube Cutting/Double Flaring Set 1/8"-3/4"		Tube Cutting/Double Flaring Set 1/8"-3/4"		
<u>a</u>	FT806A	Imperial Eccentric Flaring Tool & Ratchet (3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4")		
Imperial	FT800FN	R-410A Imperial Concentric Flaring Tool & Ratchet (3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4")		
	FTX800B410	FT800FN R410A Imperial Flaring Bar (Replacement)		
	FTX800BA	FT806A Imperial Flaring Bar (Replacement)		
ပ	FT806M	Metric Eccentric Flaring Tool & Ratchet (6, 8, 10, 12, 15, 16, 18 mm)		
Metric	FTX800BM	FT806M Metric Flaring Bar (Replacement)		
	FTX800Y	Yoke Assembly (for FT800FN, FT806A, FT806M)		



TECH-SET™ FLARING/SWAGING TOOLS AND REPLACEMENT PARTS					
	ITEM	DESCRIPTION			
	FS275	45° Flaring & Swaging Kit 1/8" - 3/4"			
	FSX501	FS275 Bar (7/16", 1/4, 1/8", 3/16", 5/16", 3/8")			
	FSX502	FS275 Short Bar (1/2", 5/8", 3/4" O.D)			
	FSX503	FS275 ⁵ / ₁₆ " Swaging Adapter			
Imperial	FSX504	FS275 ³ / ₁₆ " Swaging Adapter			
dml	FSX505	FS275 1/2" Swaging Adapter			
	FSX506	FS275 ⁵ / ₈ " Swaging Adapter			
	FSX509	FS275 Yoke Assembly			
	FSX513	FS275 Compressor Cone			
	FSX508	FS275 ³ / ₄ " Swaging Adapter			
ပ	FS275M	45° Flaring & Swaging Kit, Metric			
Metric					
≥	FSX507	FS275M 8, 12, 14, 16, 22 mm Swaging Adapter			

Pocket Deburring Tool

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



TLRM Pocket Deburring Tool



PRO-SET® DEBURRING AND **UNIVERSAL REAMER TOOL**

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



TECH-SET™ TUBE CUTTERS

You need tools that work as hard as you do and nothing outperforms like the power of the Tech-Set series. Put them to work for you on your next job.

TECH-SET™ TUBE CUTTERS AND REPLACEMENT PARTS			
ITEM	DESCRIPTION		
TC127	Mini Tube Cutter for $1/8$ " to $5/8$ " (3 to 16 mm) O.D.		
TCX7C	TC127 Cutting Wheel (10 PK)		
TCX7S	TC127 Cutting Wheel Screws (10 PK)		
TCX7CTS	TC127 Titanium Cutting Wheel (1) & Screw (1)		
TCX7CS	TC127 Cutting Wheel (1) and Screw (1)		
TCSET	TC127 Tube Cutter (1) & TC274 Tube Cutter (1) Combo Pack		
TC206	Sliding Tube Cutter for $3/8$ " to $25/8$ " (10 to 67 mm) O.D.		
TCX6CTS	TC 206 Titanium Cutting Wheel (1) and Screw (1)		
TC274	Tube Cutter for $\frac{1}{8}$ " to $\frac{1}{8}$ " (3 to 29 mm) O.D.		
TCX4R	TC274/TC312 Reamer Blade		
TCX4RS	TC274/TC312 Reamer Blade Screw		
TCX4C	TC274/312 Cutting Wheel (10 PK)		
TCX4CS	TC274/TC312 Cutting Wheel and Screw		
TCX4S	TC274/TC312 Cutting Wheel Screw- (10 PK)		
TCX4C	TC274/TC312 Cutting Wheel (10-pack)		
TCX4CS	TC274/TC312 (1) Cutting Wheel and (1) Screw		
TCX4R	TC274 Reamer Blade B636 (1) and Screw (1)		
TCX4S	TC274/TC312 Cutting Wheel Screws (10-pack)		
TC312	Tube Cutter for $\frac{1}{4}$ " to $\frac{15}{8}$ " (6 to 41 mm) O.D.		
TCAP	Capillary Tube Cutter		



TC127

- · Ideal for cutting pipe in limited access areas
- Screw feed mechanism for smooth operation
- Precision machined chromium steel cutting wheels
- Rollers feature flare cut-off groove to reduce tube loss



* Ratchet feed mechanism speeds up cutting operation.

TC274

- Hardened steel thrust bearing feed mechanisms for smooth operation Precision machined chromium steel
- cutting wheels
 Rollers feature flare cut-off groove to reduce tube loss
- Foldaway hardened steel reamers for deburring







Pocket Deburring Tool (With Blade Storage)

• for soft copper and aluminum tubing

• Remove burrs and surface defects from inner/outer straight and hole edges **TLDBX** Replacement Blade for TLDB

TECH-SET™ TUBE BENDERS		
ITEM	DESCRIPTION	
TB368	Tech-Set Universal Tube Bender (1/4", 5/16", 3/8")	
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	





TECH-SET™ TUBE FLARING TOOLS AND REPLACEMENT PARTS				
	ITEM	DESCRIPTION		
	FT195	45° Flaring Tool ($^{3}/_{16}$ ", $^{1}/_{4}$ ", $^{5}/_{16}$ ", $^{3}/_{8}$ ", $^{7}/_{16}$ ", $^{1}/_{2}$ ", $^{5}/_{8}$ ")		
-E	FTX501	FT195 Flaring Bar (5/16", 3/8", 7/16")		
Imperial	FT500	45° Flaring/Burnishing Tool (3/16" to 5/8")		
<u> </u>	FTX514	FT500 Die Holder Assembly		
	FT203	45° Flaring Tool ($^{5}/_{8}$ ", $^{3}/_{4}$ ", $^{7}/_{8}$ ", 1 $^{1}/_{18}$ ") O.D. Tube		
	FT500M	45°Flaring/Burnishing Tool (6 - 16 mm)		
Metric	FT525	Universal Adjustable Flaring Tool ³ / ₁₆ " to ⁵ / ₈ " (5 to 16 mm)		
	FTX515	FT500M Die Holder Assembly		

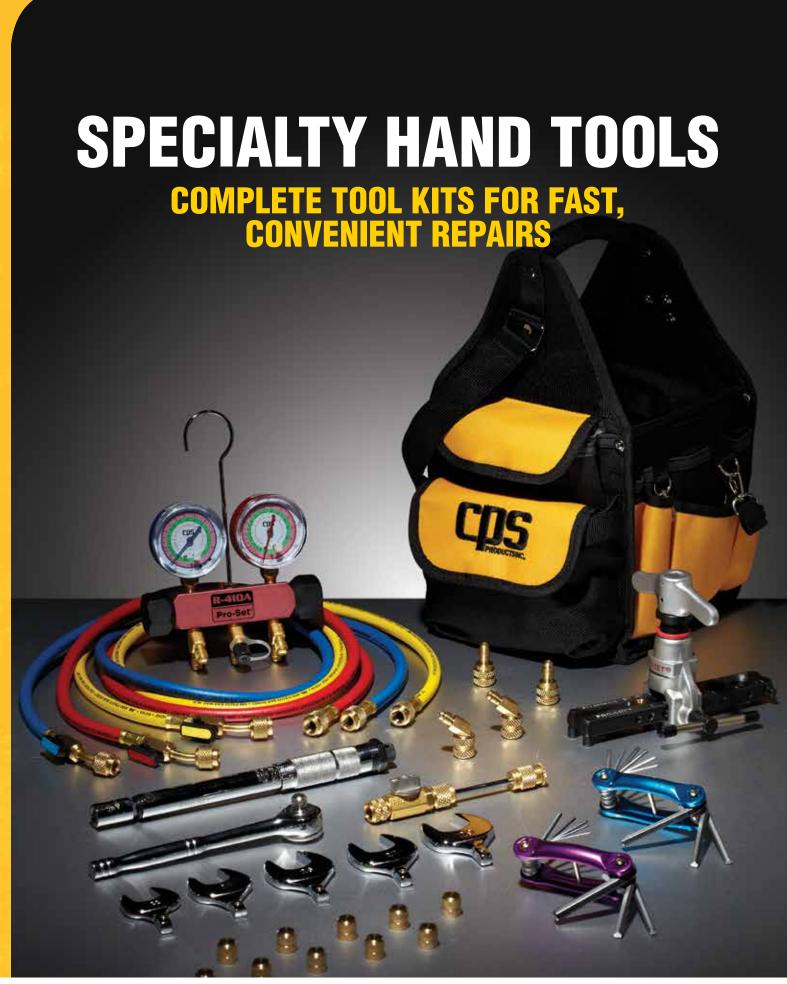
PRO-SET® TUBE EXPANDER/ SWAGING SET

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



	TECH-SET TUBE EXPANDERS (IMPERIAL)				
	ITEM	DESCRIPTION			
	TLE6	Tube Expander Set With Case (6 Heads) includes all parts shown below, plus Debur Tool (1)			
	REPLACEMENT PARTS				
	TLE601	Expander Tool			
	TLH06	3/8" Expander Head (Standard in TLE6)			
_	TLH08	¹ / ₂ " Expander Head (Standard in TLE6)			
Imperial	TLH10	⁵ / ₈ " Expander Head (Standard in TLE6)			
區	TLH12	³ / ₄ " Expander Head (Standard in TLE6)			
	TLH14	⁷ / ₈ " Expander Head (Standard in TLE6)			
	TLH16	1" Expander Head (Optional)			
	TLH18	11/8" Expander Head (Standard in TLE6)			
	TLH22	1 ³ / ₈ " Expander Head (Optional)			
	TLH26	15/8" Expander Head (Optional)			

	TECH-SET TUBE EXPANDERS (METRIC)						
	ITEM	DESCRIPTION					
	TLE6M	Tube Expander Set With Case includes all parts shown below, plus Debur Tool (1)					
		REPLACEMENT PARTS					
	TLE601	Expander Tool					
	TLHM10	10 mm Expander Head (Standard in TLE6M)					
	TLHM12	12 mm Expander Head (Standard in TLE6M)					
Metric	TLHM15	15 mm Expander Head (Standard in TLE6M)					
	TLHM16	16 mm Expander Head (Optional)					
	TLHM18	18 mm Expander Head (Standard in TLE6M)					
	TLHM20	20 mm Expander Head (Optional)					
	TLHM22	22 mm Expander Head (Standard in TLE6M)					
	TLHM28	28 mm Expander Head (Standard in TLE6M)					
	TLHM35	35 mm Expander Head (Optional)					
	TLHM42	42 mm Expander Head (Optional)					



UNIVERSAL R-410A SERVICE TOOL KITS

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





Two Valve Service Manifold (Varies by kit. See chart below)

- R-410A/R-22/R404A gauges
- 1/4" SAE fittings
- Triple seal valve system



Premium 3-Pack 5' Hoses (Varies by kit. See chart below)

- 1/4" SAE 45° fittings
- 800Psi working pressure
- 4000Psi burst pressure



Flaring Tool

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



Torque Wrench Sets;

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



(1) Imperial and (1) Metric Hex Key Set Metric Set: 1.5, 2, 2.5, 3, 4, 5,

- Imperial Set: 3/22", 7/64", 1/8", 9/64", 5/52", 3/16", 7/52", 1/4"



Valve Core Tool

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



Brass Adapters and Caps

(10) ½"-20 UNF Caps, (2) Male: 1/4" SAE 55D; female; 1/2"-20 UNF SWVL, and (2) Male: 1/4" SAE female; ½"-20



13" Large Square Tool Bag

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

	Kit Contents				UNIVERSAL SERVICE TOO	L KITS	
			TLB410A	TLB410SAE	TLB410AC	TLB410ACE	TLB410M
1	2 Valve Manifold	1	Pro-Set® Pisto 1/4" SAE 45 "H" Gauge	on Pink Body s° fittings (MEHP5E)	BLACKMAX® Black & Chrome 1/4" SAE 45° fittings "H5" Gauge (MBH5P5Z)	BLACKMAX® Black & Chrome 1/4" SAE 45° fittings "H5" Gauge (MBH5P5EZ)	No Manifold
2	Hoses	1	Pro-Set® I (3) 5' red/b ball valve		Pro-Set® Premium (3) 5' Black & Chrome hoses	Pro-Set® Premium (3) 5' Black & Chrome ball valve hoses	No Hoses
3	Flaring Tool	1			FT800N		
4	Torque Wrench Set	1	Metric TLTWSM	SAE/Imperial TLTWSAE	J	Metric TLTWSM	
5a	Hex Wrench Set (Metric)	1	TLSWHM				
5b	Hex Wrench Set (Imperial)	1	TLSWH				
6	Valve Core Tool	1	TLVC410A				
7	Brass Adapters and Brass Caps	14	Includes; (10) AVC410 ½"-20 UNF SAE Brass Caps, (2) AD87 Brass Adapter Male: 1/4" SAE 55D; female; ½"-20 UNF SWVL w/ Valve Core Tool, and (2) AD87S Brass Adapter (Male: 1/4" SAE; female; ½"-20 UNF) w/Valve Core Tool				
8	Tool Bag	1	TLBAG1				

CPS® EXTRA DURABLE TOOL BAGS

Organize your tools with care with this extra strong, premium built series of tool bags from







Square Tool Organizer

16" Rubber Bottom Tool Organizer

TLBAG2

TLBAG3 Tool Belt Tool Organizer

ALUMINUM, RECHARGEABLE **WORK LIGHT- WITH 53 LEDS, HANGING HOOK, CAR & WALL** PLUG CHARGER

Simply the best work light you will ever own, the TLWL53A is precision machined from aircraft grade aluminum and anodized for long life. Fifty three proprietary high output LEDs are incorporated in the work light segment with a 1W Luxeon LED integrated in the top. A powerful 2500mAh Ni-Mh rechargeable battery keeps the lights burning for hours; 7-8 hr for Luxeon spot, 4-5 hr for 53 white LEDs. The professional quality and intense output of the **TLWL53A** outperforms many competitive units incorporating 70 or more standard LEDs. Ideal for air conditioning contractors municipalities, law enforcement, fire fighters,

automotive technicians, and wherever else a high performance, professional, durable work light is needed.

- Rugged anodized aluminum body
- Super bright 1w Luxeon spot
- 53 Proprietary high lumen output **LEDs**
- Integrated 2500mah 3.5V rechargeable battery
- Strong magnetic base for attaching to metal surfaces
- Universal UL/CUL electronic wall and car chargers included
- Superior durability and shock resistance
- High quality reflector lens
- Wall and car charger included
- One year warranty









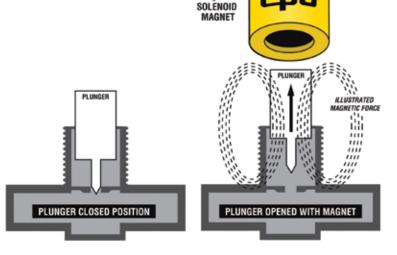


TLMKC18

CPS® 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



CDS.

CPS® 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"



TLMAG1

CPS® DUCT KNIVES

Used to fabricate 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. Available with either ergonomic cushioned or a comfortable walnut wooden handle.







SUPER-STRONG TOOLS THAT EXCEED ANSI SPECIFICATIONS, PROVIDING YEARS OF SERVICE

PRO-SET® ADJUSTABLE HANDLE WRENCH

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



Size: 6" Jaw Capacity: 1⁵/₁₆" / 24 mm

Size: 8" Jaw Capacity: 11/8" / 29 mm

Size: 10" Jaw Capacity: 1⁵/₁₆" / 33 mm

PRO-SET® HEX KEY WRENCH SETS

Item	Description
TLSWH	Inch Hex Key Set (3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"). Nickel plated finish
TLSWHM	Metric Hex Wrench Set (1.5, 2, 2.5, 3, 4, 5, 5, 6, 8 mm). Nickel Plated
TLSWT	Torx Wrench Set (Nickel Plated)
TLSWB	Inch Ball Point Key Set ($^3/_{32}$ ", $^7/_{64}$ ", $^1/_8$ ", $^9/_{64}$ ", $^5/_{32}$ ", $^3/_{16}$ ", $^7/_{32}$ ", $^1/_4$ "). Nickel plated finish
TLSWHB	Inch Hex Wrench Combo Set: Includes TLSWH (Inch Hex Key) & TLSWB (Inch Ball Point Key Set)





PRO-SET® SERVICE WRENCHES					
Item	Description				
TLSWL	³ / ₁₆ ", ¹ / ₄ " Square; ¹ / ₂ ", ⁹ / ₁₆ " Hex				
TLSW0	Offset 3/16", 1/4", 5/16", 3/8" Square				
TLSWS	³ / ₁₆ ", ¹ / ₄ ", ⁵ / ₁₆ ", ³ / ₈ " Square				
TLSWSA	$^{3}/_{16}$ ", $^{1}/_{4}$ ", $^{5}/_{16}$ ", $^{3}/_{8}$ " Square , $^{3}/_{16}$ " & $^{5}/_{16}$ " Hex Driver Bit				



PRO-SET® TORQUE WRENCHES

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

- Interchangeable 17, 22, 24, 26, 27 & 29 mm jaw
- Corresponding settings clearly marked on torque wrench in Newton Meters (10-75Nm)
- Provides consistently accurate readings and rugged, trouble free performance
- Includes storage case for long-term protection

PRO-SET® TORQUE WRENCHES				
Item	Description			
TLTWSM	Metric Multi-Head Torque Wrench Set (17, 22, 24, 26, 27, 29 mm)			
TLTWSAE	SAE Multi-Head Torque Wrench Set $(5/8", 11/16", 13/16", 15/16", 11/16", 15/16", 15/16")$			



PRO-SET® SWAGE PUNCH SET 5 Punches (1/4", 5/16", 3/8", 1/2", 5/8")

PRO-SET® TUBE PIERCING PLIERS Tube Piercing Pliers 1/4"

PRO-SET® HAND OIL PUMP





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

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





PINCH-OFF PLIERS

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



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



TLFC1 Universal Metal Fin Comb



TLFC6Repair bent condenser fins with the TLFC6 Universal 6-sided fin comb straightening tool.



TLFC2 Fin Straightener with large durable, easy grip handle.



TECH-SET™ SERVICE WRENCHES				
Item	Description			
TSWS	Small Service Wrench: $^3/_{16}$ ", $^1/_4$ ", $^5/_{16}$ ", $^3/_8$ " Square Drive			
TSWS0	Small Offset Service Wrench: 3/16", 1/4", 5/16", 3/8" Square Drive			
TSWSH	Large Service Wrench: $^3/_{16}$ & $^1/_4$ Square Drive; $^1/_2$ & $^9/_{16}$ Hex Drive			

TECH-SETTM INSPECTION MIRRORS

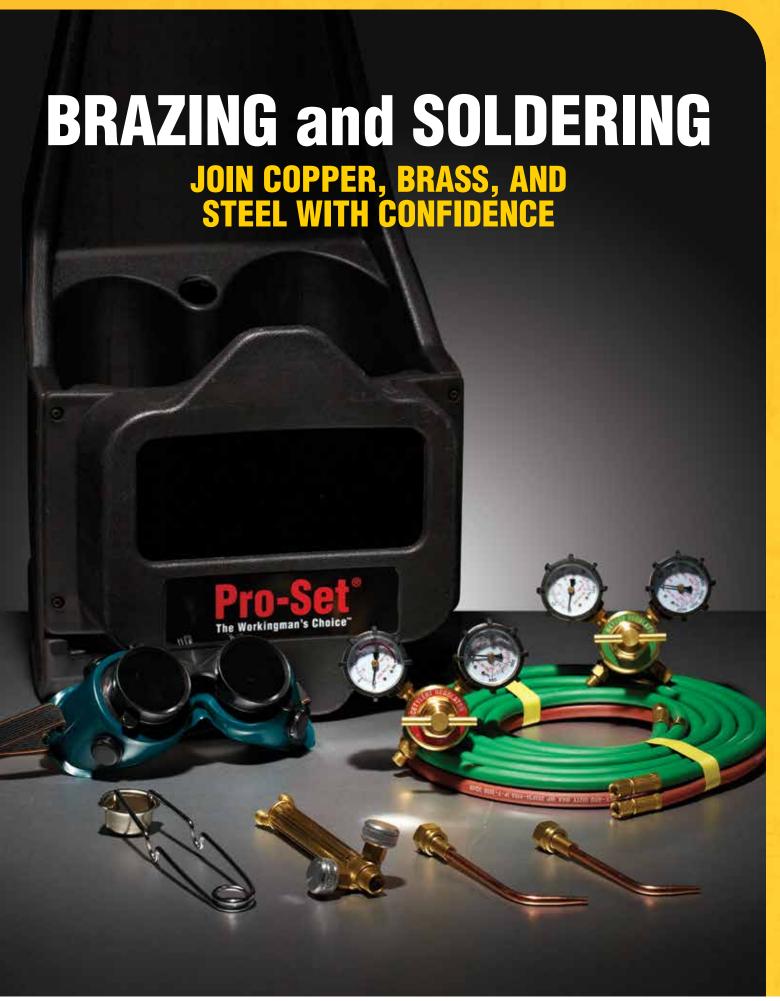
For fast, accurate inspection of any hidden area. Universal ball joints hold mirrors firmly at any angle.





TLMIR4 Oval Pocket Mirror 1" x 2"







PRO-SET® RRAZING & SOLD	EDIMO ACCECCADIFC (AD DEDI ACEMENT DADTO
PRII-SEI® RRAZINIA & SIII III	FRINI: ALLENNIRIEN I	IR REPLAILEIVIENT PARTS

tanks not included

	PRO-3E1 BRAZING & SULDERING ACCESSURIES ON REPLACEMENT PARTS					
Item	Optional Replacement Part	Description				
BRRA1	\checkmark	cetylene/Fuel Regulator "A" Ftg. Outlet / CGA 200 Inlet (UL Listed)				
BRRN1		Nitrogen Regulator				
BRR01	\checkmark	Oxygen Regulator "A" Ftg. Outlet CGA / 540 Inlet (UL Listed)				
BRXCVA1	\checkmark	Check-Valve Set / Left & Right "A" Ftg.				
BRXG1	\checkmark	Welding / Brazing Goggles				
BRXHTA12	\checkmark	12.5', 3/16" Oxy-Acetylene Twin Hose Set "A" Ftg.				
BRXHTPTB1		C-Shaped Burner Head Accessory for BRHTPKIT				
BRXHTPTB2	Flame Spreading Burner Head Accessory for BRHTPKIT					
BRXHTS1	RXHTS1 Replacement Torch Burner Tube Assembly for BRHTS1					
BRXHTST1		Replacement Torch Tip for BRHT1 and BRHTS1A				

Be Brazen, with our new Pro-Set® Workingman's Choice Torch...

PRO-SET® PREMIUM HAND TORCH WITH INTERCHANGEABLE TIPS

Auto-Ignite Hand Torch for MAPP, propane or propylene and 3 changeable tips with plastic case.

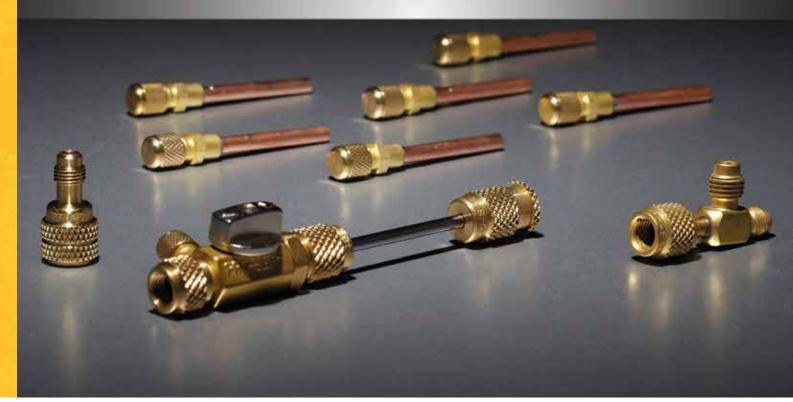


BRAZING AND SOLDERING TORCHES							
Specifications		Pro-Set					Pro-Set
Specifications	BRHT1	BRHT2	BRHT5	BRHTS1A	BRHTPKIT	BRHTS1	BRHVACR1
Torch Type	Auto-Ignite Hand Torch	Auto-Ignite Power Torch	Auto-Ignite Hand Torch w/5' hose & valve	Auto-Ignite Swivel Hand Torch	Pencil Flame Hand Torch (Manual Ignition)	Swivel Hand Torch (Manual Ignition)	Oxy-Acetylene Brazing Kit
Flame Control				Adjustable			
For Use With	Propylene (MAPPRO), MAPP and Propane Oxy-Acetylene			Oxy-Acetylene			
Inlet Connection	CGA600 Inlet Connection			CGA540/ CGA200			
Construction	Cast Aluminum & stainless steel burn tube	Reinforced Plastic & stainless steel burn tube	Brass regulator, composite handle & stainless steel burn tube	Brass regulator & stainless steel burn tube	All brass construction	All brass and stainless steel	Brass components
Other	Flame lock button, precise flame adjustment	Tips & storage case with space for 2 cylinders	New brass regulator and 5' hose length	Torch tube swivels 360 degrees, operates in any position	Pencil flame torch, general heating and round tip included	High output swirl flame	Includes complete kit for brazing, welding, soldering

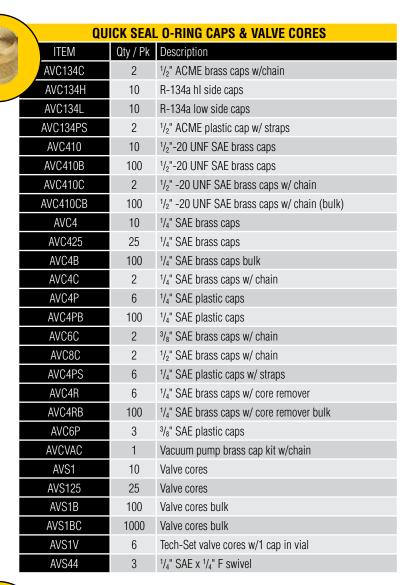


BRASS ADAPTERS, FITTINGS & VALVE CORE TOOLS

MANUFACTURED TO STRINGENT INDUSTRY STANDARDS









Brass Caps





AVC4

AVC4R

Brass Caps with Chains



	\	VALVE CORE TOOL ACCESSORIES
1	Item	Description
No. of London	TLVC	1/4" SAE valve core remover and installer
	TLVCS	1/4" SAE valve core remover and installer w/side port
	TLVC1	Standard valve core tool w/3 core
	TLVC2	Dual valve core standard and large bore tool
	TLVC2B	Dual valve core tool (bulk 100pk)
	TLVC4	Valve core tool with port rethreader
	TLVC6	JRA 6 mm valve core tool
	TLVC410	1/2"-20 UNF valve core remover and installer
	TLVCS410	1/2"-20 UNF valve core remover and installer w/side port
	TLVC810	EATON 8 and 10 mm valve core remover and installer
	TLVCD1	$^{1}\!/_{4}$ " SAE male x $^{1}\!/_{4}$ " SAE female swivel valve core depressor tool back seating type
	TLVCD2	$^{5}\!/_{16}$ " SAE male x $^{5}\!/_{16}$ " SAE female valve core depressor tool back seating type
	TLVCD3	$^{1}\!/_{4}$ SAE male x $^{5}\!/_{16}$ SAE female swivel valve core depressor tool back seating type
	TLXVCRT	Schrader rethreading tool for TLVC/TLVCS
	TLXVCT	Digital thermometer accessory for TLVC/TLVCS
	TLXVCBC	Broken Schrader extractor tool for TLVC/TLVCS
TL	LXVC410BC	Broken Schrader extractor tool for TLVC410/TLVCS410
T	LXVC410RT	Schrader rethreading tool for TLVC410/TLVCS410





TLXVCBC



1	1/4"SAE TEE CONNECTORS			
	ITEM	Qty / Pk	Description	
	AVT2P	3	1 / ₄ " male w/cap and valve core x 1 / ₄ " male x 1 / ₈ " MNPT	
1	AVT4	3	$^{1}\!/_{\!4}$ male w/cap and valve core x $^{1}\!/_{\!8}$ MNPT x $^{1}\!/_{\!4}$ male	
	AVT4P	3	1/4" male w/cap and valve core x 1/4" male x 1/4" MNPT	
	AVT44	3	$^{1}/_{4}$ " female hex x $^{1}/_{4}$ " SAE male x $^{1}/_{4}$ " male w/cap and valve core	
	AVT45	3	1/4" male x 1/4" female knurl x 1/4" male	
	AVT48	1	$^{1}/_{4}$ " male x $^{1}/_{4}$ " female knurl x $^{1}/_{2}$ " Acme male	
	AVT64	3	1 / ₄ " male w/cap and valve core x 1 / ₄ " male x 1 / ₄ " female hex	
	AVT64B	100	1/4" male w/cap and valve core x 1/4" male 1/4" female Hex	
	AVT64Z	1	$^{1}\!/_{4}$ male w/cap and valve core x $^{1}\!/_{4}$ male x $^{1}\!/_{4}$ female, no depressors	
	AVT87	1	$^{1}\!/_{\!4}"$ male x $^{1}\!/_{\!2}"$ –20 UNF female x $^{1}\!/_{\!2}"$ –20 UNF male (R-410A)	





Standa	Standard Cap		ch Cap	Description
6pk	100pk	6pk	100pk	Description
AV2	AV2B	AV2R	AV2RB*	¹/8" O.D.x 1/16" I.D.
AV3	AV3B	AV3R	AV3RB	³ / ₁₆ " O.D. x ¹ / ₈ " I.D.
AV4	AV4B	AV4R	AV4RB*	¹ / ₄ " O.D. x ³ / ₁₆ " I.D.
AV4L	AV4LB*	AV4LR	AV4LRB	¹ / ₄ " O.D. x ³ / ₁₆ " I.D. W/4" COP-TB EXT
AV5	AV5B*	AV5R	AV5RB*	⁵ / ₁₆ " O.D. x ¹ / ₄ " I.D.
AV6	AV6B	AV6R	AV6RB*	³ / ₈ " O.D. x ⁵ / ₁₆ " I.D.
AV6 MM	AV6MB	AV6MR	AV6MRB	6 mm O.D. x 5 mm I.D.
AV4410	AV4410B	N/A	N/A	¹ / ₂ -20 ACCES, ¹ / ₄ " O.D.X ³ / ₁₆ " I.D.

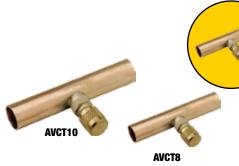
^{*}Non-stock item. Call for availability







	MISCELLANEOUS ACCESS FITTINGS						
	6pk	100pk	Description				
	AVB34	AVB34B	$^{3}/_{16}$ " ID x $^{1}/_{4}$ " OD solder				
	AVB46	AVB46B	³ / ₁₆ "I.D.X ¹ / ₄ "O.D. x ³ / ₈ " solder				
		AVB346B (assembled)					
	AVB346	AVB346BU (unassembled)	³ / ₁₆ " ID x ¹ / ₄ " OD x ³ / ₈ " OD				
	AVD340	AVB346RB (cap w/core tool)	7 ₁₆ ID X 7 ₄ OD X 7 ₈ OD				
		AVB346B0					
	AVB456	AVB456B	¹ / ₈ " ID x ³ / ₁₆ ", ¹ / ₄ ", ⁵ / ₁₆ "				
	AVB6	AVB6B (w/caps)	6-8-10 mm OD solder				
Į	AVDU	AVB6BC (w/o caps)	0-0-10 Hilli OD Soldel				
	AVB456	AVB456B	¹ / ₈ " ID x ³ / ₁₆ ", ¹ / ₄ ", ⁵ / ₁₆ "				
_							





-	1/4" SAE ACCESS VALVE WITH CUPPER TUBE ON BRANCH				
	ITEM	Qty / Pk	Description		
1	AVCT4	3	¹/₄" SAE x ¹/₄" O.D.F		
	AVCT5	3	¹ / ₄ " SAE x ⁵ / ₁₆ " O.D.F		
	AVCT6	3	1/ ₄ " SAE x ³ / ₈ " O.D.F		
	AVCT8	3	1/ ₄ " SAE x 1/ ₂ " O.D.F		
	AVCT10	1	¹ / ₄ " SAE x ⁵ / ₈ " O.D.F		
	AVCT12	1	¹ / ₄ " SAE x ³ / ₄ " O.D.F		
	AVCT14	1	1/ ₄ " SAE x ⁷ / ₈ " O.D.F		
	AV/OT4.0	4	1/ " CAF 41/ " O D F		



Product Guarantee

CPS guarantees that all products are free of manufacturing and material defects for one year from the date of purchase. If a product should fail during the guarantee period due to defective material or workmanship, it will be repaired or replaced (at our office) at no charge. This guarantee does not apply to products that have been altered, misused, or are in need of field service maintenance. All repaired products will carry an independent 90 day warranty. The LS3000 and LS790B carry a 2 year warranty and the LS780B has a 1 year warranty.