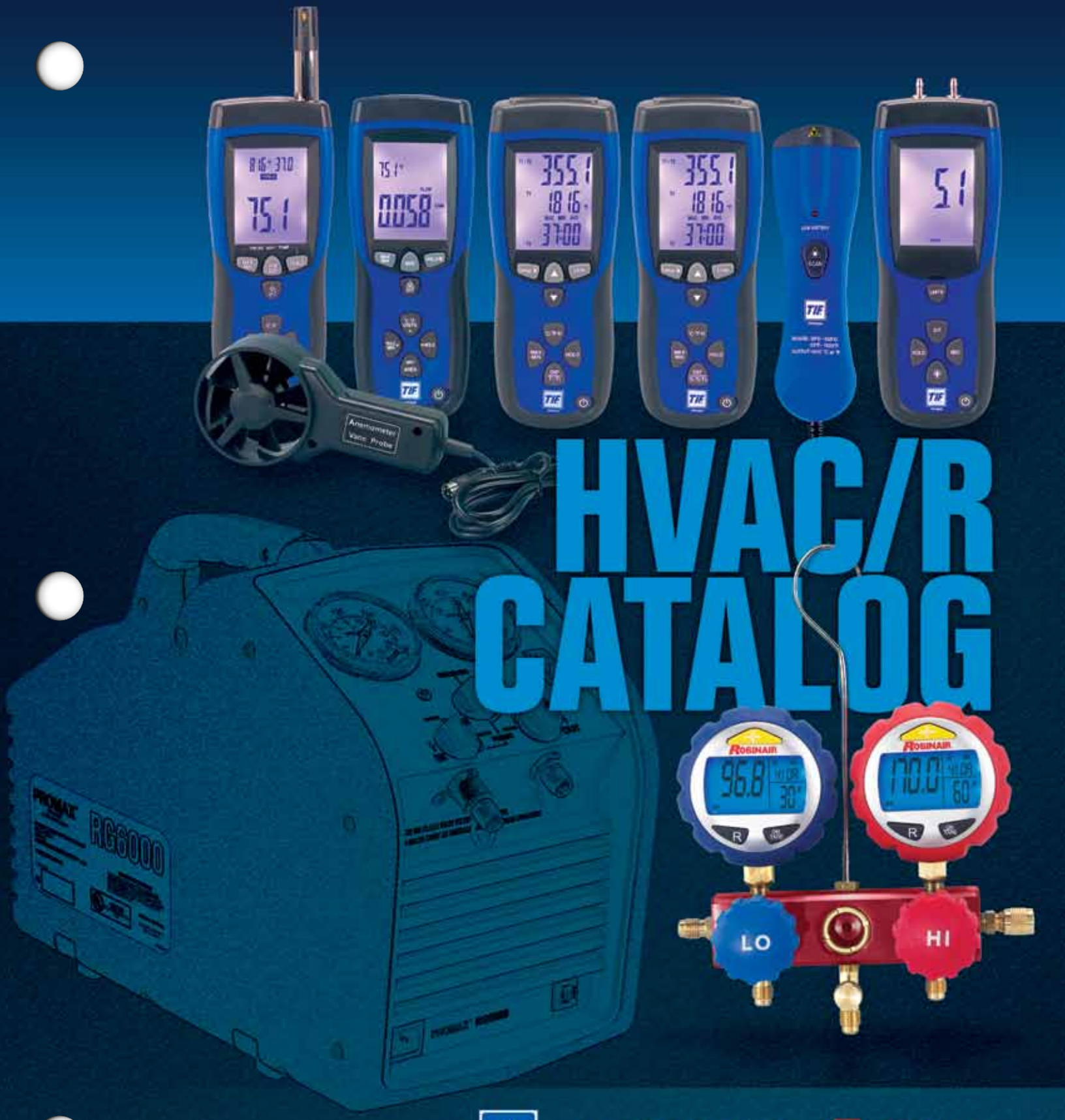

HVAC/R CATALOG

TIF PROMAX ROBINAIR

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Heated Pentode™ Refrigerant Leak Detector

U.S. Patent # D458,854; 6,644,098; D458,854; 6,644,098; 6,649,876; 6,703,840

- Patent pending Heated Pentode™ Sensor technology:
  - Refrigerant specific detection
  - Elimination of false alarms
  - Unaffected by rapid temperature change.
  - Sensor cannot be "poisoned" by excessive refrigerant.
- Detects ALL Halogenated refrigerants, including RG5410A.
- True Mechanical Pump provides instant response and clearing.
- Tri-color visual leak size indication.
- Tactile keypad controls.
- Adjustable sensitivity and one touch reset.
- Mute feature silences audible alarm.
- Sensor status indication.
- Battery self test.
- 16" Flexible Stainless Probe.
- Ballistic Nylon Carrying Case and Battery Charger included.
- Certified to SAE J1627.
- CE approved.
- 25 year warranty.

CE

Design Certified by MET Laboratories, Inc. to meet SAE J1627 for R134a, R12 and R22

International Versions	Model No.
European – 230V, 50 Hz Charger	TIFZX-1E
Japan – 100V, 50/60 Hz Charger	TIFZX-1J
Australia – 230V, 50 Hz Charger	TIFZX-1A

Replacement Parts (supplied with product)	Part No.
Replacement Heated Pentode™ Sensor	TIFZX-2
110V-60 Hz Battery Charger	TIFZX-3
Ballistic Nylon Carrying Case	TIFZX-5
Maintenance kit: Filter, Probe tip & Oring	TIFZX-14
Filter Elements (5 pack)	TIFZX-15
Flexible Probe (includes Probe Tip)	TIFZX-10

Optional Accessories	Part No.
230V, 50 Hz Battery Charger (International)	TIFZX-3E
100V, 50/60 Hz Battery Charger (Japan)	TIFZX-3J
230V, 50 Hz Battery Charger (Australia)	TIFZX-3A
Remote Battery Charging Base	TIFZX-6
Nickel-Metal Hydride (NiMH) Battery Pack	TIFZX-7
12VDC Battery Charger (cigarette lighter style)	TIFZX-11
Hard Carrying Case	TIFZX-12

Specifications

Ultimate Sensitivity	0.1 oz/yr (3 gr/yr) for all refrigerants, as low as 0.05 oz/yr (1.5 gr/yr) for R12
Power Supply (Standard)	4.8V Nickel-Cadmium Rechargeable Battery Pack
Power Supply (Optional)	Nickel-Metal Hydride, (Ni-MH) Rechargeable Battery Pack
Battery Life	Ni-MH (5 to 6 hours)
Sensor Life	100 hours
Operating Temp	32° to 122° F (0° to 50° C)

Heated Pentode™ Refrigerant Leak Detector Kit

- TIFZX-1 Leak Detector, complete in Hard Carrying Case, with all Accessories.
- Case includes individual compartments for each item.
- Kit Includes:
  - Two (2) replacement sensors.
  - Spare filter Elements (pkg. of 5).
  - Nickel Cadmium Rechargeable Battery Pack.
  - Nickel-Metal Hydride Battery Pack.
  - Remote Battery Charging Base.
  - 110V, 60 HZ – Battery Charger.
  - 12VDC Battery Charger.
- 25 year warranty on the TIF ZX-1 (See TIFZX-1 for specific features and specifications).

TIF ZX-1KIT

CE

Design Certified by MET Laboratories, Inc. to meet SAE J1627 for R134a, R12 and R22

International Versions	Model No.
European – 230V, 50 Hz Charger	TIFZX-1KIT
Japan – 100V, 50/60 Hz Charger	TIFZX-1J

Optional Accessories & Replacement Parts
Listed under TIF ZX-1 Heated Pentode™ Refrigerant Leak Detecto

Electronic Refrigerant Leak Detector

- Proven Corona Discharge technology.
- Detects all CFC, HCFC and HFC Refrigerants.
- Easy – One Hand operation.
- Audible and visual leak indicators.
- Adjustable Sensitivity Control – infinite control in contaminated areas.
- Adjustable Volume Control.
- 16" Flexible Probe.
- Includes spare Sensing Tip.
- UL Design Certified to SAE J1627.
- One year warranty.

Specifications

Ultimate Sensitivity	Less than 0.5 oz. per year (14 gr/yr)
Power Supply	Four "AA" Alkaline Batteries (Included)
Operating Temp	32° to 105° F (0° to 40° C)

Replacement Parts (supplied with product)	Part Number
Sensing Tip	16503

16600

Refrigerant Leak Detectors

U.S. Patent #'s Re: 32,552; 4,282,521; 5,400,015

- Microprocessor controlled circuit with Advanced Digital Signal Processing, monitors the sensing tip up to 2000 times per-second.
- Detects all Halogenated refrigerants.
- Variable frequency audible alarm.
- 14" Flexible stainless steel probe with liner.
- Rubber cushion grip.
- Constant Power Indication.
- Power Supply: 3VDC, two "C" cell alkaline batteries (included).
- Sensing Tip Life: approx. 20 hours (two tips included).
- Operating Temp: 30º to 125º F (0º to 52º C).
- Blow Molded Carrying Case included, optional holster.
- Certified to SAE J1627.
- UL Classified & CE approved.
- See chart for warranty information.

Specifications	TIF XL-1A	TIF RX-1A	TIF XP-1A
Ultimate Sensitivity	< 0.4 oz. per year (11 gr/yr)	< 0.25 oz. per year (7 gr/yr)	< 0.1 oz. per year (3 gr/yr)
True Mechanical Pump	n/a	Yes	Yes
Visual Leak Indication Levels	n/a	6 (single color)	18 (tri-color)
Sensitivity Levels	1	2	7
One Touch Reset and Keypad Controls	n/a	Yes	Yes
Mute Button	n/a	n/a	Yes
Battery Test	n/a	n/a	True voltage indication
Battery Life	Approx. 40 hrs.	Approx. 30 hrs.	Approx. 30 hrs.
Warranty	2 Years	2 Years	3 Years

TIF XP-1A

TIF XL-1A

TIF RX-1A

Optional Accessories	Part No.
Maintenance Kit (3 tips w/ protectors)	TIFXP-2

Replacement Parts (supplied with product)	Part No.
Blow Molded Carrying Case	TIFXP-4A
Battery Cover	TIFXP-5A

"Super Scanner™" Refrigerant Leak Detector

U.S. Patent #'s Re: 32,552; 4,282,521; 5,400,015

- LED Leak Size Indicators.
- Two Sensitivity positions, including our unique ScanMode.
- Reset Button for instant re-calibration.
- Detachable probe.
- High efficiency pump.
- Certified to SAE J1627.
- Detects ALL Halogenated Refrigerants.
- UL Classified for Intrinsic Safety.
- Constant Power Indication .
- Carrying case and spare sensing tip included.
- One year warranty.

UL LISTED CE

Design Certified by MET Laboratories, Inc. to meet SAE J1627 for R134a, R12 and R22

Optional Accessory	Part No.
Maintenance Kit (3 tips, 3 protectors)	TIF555

TIF5750A

Specifications

Ultimate Sensitivity for R12	Less than 0.1 ounces per year (3 gr/yr).
Power Supply	(Two) 1.5V "C" Batteries
Battery Life	30 Hours (Alkaline)
Probe/Cord Length	Probe = 14" (35cm) Cord = 36" (91.4cm)
Operating Temperature	32º–125º F (0º–52º C)

16330

16332

UV Leak Detection, HVAC/R Dye Kit

- Complete HVAC/R Leak Detection Kit Includes:
  Cordless UV light, Injector, 6 Dye Cartridges, Charger, UV Glasses, Connecting Hose (1/4" FFL), "Date Installed" Labels, Dye Cleaner, Protective Carrying Case.
- Great for pinpointing those elusive "hard to find" leaks.
- Super Bright 12 LED array - Cordless, Rechargeable UV Light.
- Drop / Shock Proof Light – produces NO heat.
- Universal HVAC/R Dye Cartridges – Compatible with ALL Lubricants & Refrigerants.
- Compact Injector & Cartridge system – Pre-measured: No mess or waste.
- One Year Warranty.

Specifications

Battery Type	Nickel Metal Hydride - Rechargeable
Battery Life/Charge	3 Hours of continuous use
UV LED working life	100,000 hours

International Versions	**Model Number**
European HVAC/R Master Kit w/ 220 Volt battery charger	16331
Battery Charger (replacement), 220V	16349
UV Light, LED- Rechargable (Includes 220V Charger)	16353

Replacement Parts (supplied with product)	**Part No.**
UV Light, LED - Rechargeable (includes 120V charger)	16345
Injector Gun	16339
Hose, replacement	16340
Replacement Dye Cartridges, 1/4 oz. (6 ea.)	16336
Replacement Dye Cartridges, 1/2 oz. (6 ea.)	16337
Replacement Dye Cartridges, 3/4 oz. (6 ea.)	16338
Dye Cleaner, 32 oz. Bottle	16263
Glasses, UV	16257

Optional Accessories	**Part No.**
Dye Injector Kit - HVAC/R	16332
UV Lamp - 115 Volt (Non-rechargeable, w/power cord)	16291

16345

True UV LED Leak Detection Lights

Cordless and Rechargeable True UV Led Light

- 12 Leds producing hi-intensity true UV light.
- UV enhancing glasses.
- Battery charger included.

16336

16337

16338

HVAC/R Dye Cartridge

A/C Dye Replacement Cartridges

Pinpoint leaks in A/C Systems

16336

- 6 Cartridges (0.25 OZ./7.5 ml).
- For Medium Systems: Residential systems up to 4.9 lbs. (2.2 kg) of refrigerant or up to 1.6 qt. (1.8 l) of oil.
- For kits: No.16330, 16331, 16331 and 16332.

16337

- 6 Cartridges (0.5 oz./15 ml).
- For Medium-Large Systems: Light commercial & large residential systems 5 to 9.9 lbs. (2.3 to 4.5 kg) of refrigerant or 1.7 to 3.2 qt. (1.9 to 3.7 l) of oil.
- For kits: No.16330, 16331, 16331 and 16332.

16338

- 6 Cartridges (0.75 OZ./22.5 ml).
- For Large Systems: Commercial & light industrial, including all split 10 to 25 lbs. (4.6 to 11.4 kg) of refrigerant or 3.3 qt. to 2 gal. (3.8 to 9.1 l) of oil.
- For kits: No.16330, 16331 and 16332.

Combustible Gas Detector

U.S. Patent #'s Re: 32,552; 4,282,521; 5,400,015

- Solid state sensor technology, long life and precision.
- Broad band of combustible gas detection.
- Sensitivity as low as 5 ppm.
- Adjustable sensitivity.
- Audible "Geiger counter" signal.
- LED Leak Intensity Lights.
- Automatic warm up.
- Cordless operation.
- Flexible 16" stainless probe for hard to reach places.
- Rechargeable battery and charger included.
- Rugged custom carrying case.
- Made in the USA.

Applications and Uses:

- Gas lines and Pipes.
- Exhaust and Fuel leaks.
- Propane filling stations.
- Fuel in marine bilges.
- Heat Exchanger leaks.
- Check manholes for safety.
- Detect arson residue.
- IAQ tests.
- Liquid or gas fired heating systems.

Specifications

Voltage (Charger)	115V, 60Hz
Probe Length	15" (38cm)
Power Supply	(Two) 2.4V Ni-Cad Batteries
Battery Life	4 Hours/Charge
Operating Time	Instantaneous
Warm-up Time	30 seconds

Optional Accessories	**Part No.**
Cigarette lighter charger	TIF8805

Replacement Parts (supplied with product)	**Part No.**
Sensor	TIF8801
Rechargeable Ni-Cad batteries (2 each)	TIF8806A
115V battery charger	TIF8803A
220V battery charger	TIF8806B
Carrying Case	ATP-7038
Battery Cover	527690RED

classified by underwriters laboratories inc® only as to intrinsic safety in class I Groups a,b,c, & d hazardous locations.

71M3

TIF8805

TIF8803A

ATP-7038

TIF8801

527690RED

TIF8806A

TIF8850 TIF8800A TIF8800

Combustible Gas Detectors

- Detects dangerous explosive gases.
- Used in almost any situation where combustible gasses, vapor or residues need to be found.
- Applications include: Gas lines and pipes, aids in identifying Heat Exchanger leaks and hazardous living/working environments (Note: NOT an effective Carbon Monoxide detector – see TIF-8500A).
- Instantaneous response.
- 15" Flexible stainless steel probe.
- Automatic warm up.
- Ultimate sensitivity as low as 1 ppm (gasoline).
- Adjustable sensitivity.
- Audible "Geiger counter" type signal.
- UL, CE and MSHA approved.

Replacement Parts	**Part No.**
Sensor	TIF8801
Rechargeable Ni-Cad batteries (2 each)	TIF8806A
115V battery charger	TIF8803A
220V battery charger	TIF8806B
Carrying Case	TIF549
Battery Cover	A10015RR

Features	**TIF8800**	**TIF8800A**	**TIF8850**	**TIF8800INTL**	**TIF8800AINTL**	**TIF8850I**
Battery Charger	115V	115V	115V	220V	220V	220V
LED Leak Sensitivity Lights		6 Lights	6 Lights		6 Lights	6 Lights
Audio Mute button to silence alarm			Yes			Yes
Probe Length	15" (38cm)					
Power Supply	(Two) 2.4V Ni-Cad Batteries					
Battery Life	4 Hours/Charge					
Operating Temp	32° F to 125° F (0° C to 52° C)					

TIF INSTRUMENTS, INC.
MODEL NO. TIF 8800
PERMISSIBLE GAS DETECTOR
MSHA APPROVAL NO. 2G-3668=0
TESTED FOR INTRINSIC SAFETY
IN METHANE-AIR MIXTURES ONLY
WARNING: MSHA APPROVED FOR USE WITH SAFT PART NO. KR401
NOT APPROVED FOR COMPLIANCE DETERMINATIONS REQUIRED
BY 30 CFR, PART 75, SUBPART D.

T.O.C. Index

11920

11910

Robinair 11910/11920 Digital Gauges

Calibrated to measure 17 different refrigerants (R12, R22, R123, R124, R134a, R401A, R401B, R402A, R402B, R404A, R407C, R408A, R409A, R410A, R502, R507, R508B) these accurate gauges allow you to choose the temperature (°F or °C) and pressure units (PSI, bar, kPa and kg/cm3) your most comfortable using. The low side gauge has a pressure scale of 30 inHg VAC to 250 psig and the high side gauge has a pressure scale of 0 to 800 psig. Gauges come with a backlight to enhance the view and make the gauges easy to see in low light conditions.

- Includes profiles for 17 common refrigerants.
- Detects vacuums in "Hg.
- Selectable temperature and pressure units of measure.
- Easy to read LCD screen with large digits.
- Automatic shutdown after 15 minutes of inactivity.
- Low battery indicator.

Item #	Description
11910	Low side digital gauge
11920	High side digital gauge
43160	4-Way Manifold w/ Digital Gauges - No hoses
43166	4-Way Manifold w/ Digital Gauges - 60" Enviro-Guard Hoses w/ Quickseal fittings
43180	2-Way Manifold w/ Digital Gauges - No hoses
43186	2-Way Manifold w/ Digital Gauges - 60" Enviro-Guard Hoses w/ Quickseal fittings

43160

43180

Operating Temperature	0°C – 50°C; 32°F – 122°F
Storage Temperature	-20°C – 70°C; -4°F – 158°F
Measurement Units	psi; BAR; kPa; kg/cm2 °C (Celsius); °F (Fahrenheit)
Operating Range	
Low Pressure Gauge	30~0inHg, 0~250 psi, -1~17.5 BAR, -100~1750 kPa, -1~17.5 kg/cm2
High Pressure Gauge	0~800 psi, -1~55.15 BAR, -100~5515 kPa, -1~56.25 kg/cm2
Accuracy	
Low Pressure Gauge	± 1% FSO ±1 LSD
High Pressure Gauge	± 1% FSO ±1 LSD for 0~500 psi range
	± 5% FSO ±1 LSD for 500~080 psi range
Resolution	
Low Pressure Gauge	0.2 psi; 0.05 BAR; 1 kPa; 0.05 kg/cm2
High Pressure Gauge	0.5 psi; 0.05 BAR; 5 kPa; 0.05 kg/cm2
Temperature	1°C / 1°F
Display	Positive LCD 50 mm x 30 mm w/ blue backlight (backlight has 30-second auto-shutoff)
Power Requirement	Three 1.5V AAA alkaline batteries
Battery Life	140 hours
ESD	Contact at ± 4 kV; air discharge at ± 8 kV

FSO = Full Scale Output
LSD = Least Significant Digit

41174

41170

Refrigerant	Part No.	Hoses
R410A	41140	Manifold Only
	41146	3 – 60" ¼" Enviro-Guard hoses with Quickseal™ fittings
	41148	3 – 60" ¼" Enviro-Guard hoses with 45° in-line compact ball valves
R22/404A/410A	41170	Manifold Only
	41174	3 – 60" ¼" Enviro-Guard hoses with Quickseal™ fittings
	41178	3 – 60" ¼" Enviro-Guard hoses with 45° in-line compact ball valves
R12/22/502	41160	Manifold Only
	41162	3 – 60" ¼" Standard hoses with standard fittings
	41166	3 – 60" ¼" Enviro-Guard hoses with Quickseal™ fittings
R134a/404A/407C	41180	Manifold Only
	41182	3 – 60" ¼" Standard hoses with standard fittings
R22/134a/404A	41190	Manifold Only
	41192	3 – 60" ¼" Standard hoses
	41194	3 – 60" ¼" Enviro-Guard hoses with Quickseal™ fittings

2-Way Aluminum Gauges

Constructed from solid aluminum for added durability needed for repeated, tough daily use. Contoured easy to grip hand wheels are color coded for quick and easy identification.

- Improved face seal valves. Better design provides a tighter seal, less wear and improved flow.
- Proven, double O-ring piston design for extra reliability and longer service life.
- Easy to read 2-½" gauges protected by Lexan lenses.
- Available with various length hoses or as manifold only.

Refrigerant	No.	Hoses
R410A	42240	Manifold Only
	42248	3 – 60" ¼" Enviro-Guard hoses (RYB), 45° in-line compact ball valves, 1 – 60" 3/8" black evac hose, 45°
R22/404A/410A	42270	Manifold Only
	42278	3 – 60" ¼" Enviro-Guard hoses (RYB), 45° in-line compact ball valves, 1 – 60" 3/8" black evac hose, 45°
R12/22/502	42260	Manifold Only
	42266	3 – 60" ¼" Enviro-Guard hoses (RYB), 45°, 1 – 60" 3/8" black evac hose, 45°
R134a/404A/407C	42210	Manifold Only
	42216	3 – 60" ¼" Enviro-Guard hoses (RYB), 45°, 1 – 60" 3/8" black evac hose, 45°
R22/134a/404A	42290	Manifold Only
	42296	3 – 60" ¼" Enviro-Guard hoses (RYB), 45°, 1 – 60" 3/8" black evac hose, 45°

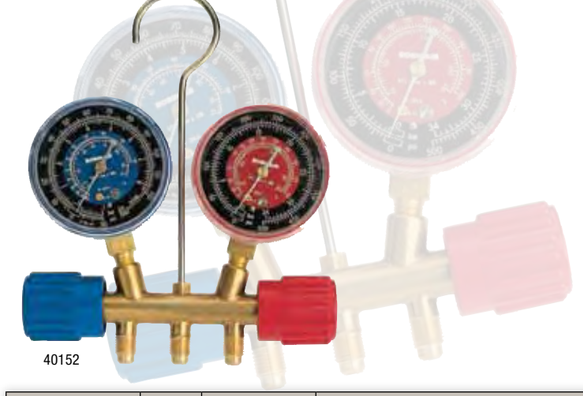
4-Way Aluminum Gauges

Constructed from solid aluminum for added durability needed for repeated, tough daily use. Contoured easy to grip hand wheels are color coded for quick and easy identification. Full 3/8" bores through the body aids in getting the job done quickly and efficiently.

- Large, easy to read 3-1/8" (80mm) gauges protected by Lexan lenses.
- 3/8" vacuum port for use with larger hose to cut evacuation time.
- Improved face seal valves. Better design provides a tighter seal, less wear and improved flow.
- Proven, double O-ring piston design for extra reliability and longer life.
- Available with various length hoses or as manifold only.

42260

42266



40152

	Item #	Gauge	RYB Hose
R12/22/502	40160	2 1/2" Red/Blue	Manifold only
	40161	2 1/2" Red/Blue	36" Standard hoses with standard fittings
	40162	2 1/2" Red/Blue	60" Standard hoses with standard fittings
	40163	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R22/404A/410A	40170	2 1/2" Red/Blue	Manifold only
	40174	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R134a/404A/507	40180	2 1/2" Red/Blue	Manifold only
	40181	2 1/2" Red/Blue	36" Standard hoses with standard fittings
	40182	2 1/2" Red/Blue	60" Standard hoses with standard fittings
	40186	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R22/134a/404A	40190	2 1/2" Red/Blue	Manifold only
	40192	2 1/2" Red/Blue	60" Standard hoses with standard fittings
	40194	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R22/134a	40152	2 1/2" Red/Blue	Manifold only
	40153	2 1/2" Red/Blue	36" Standard hoses with standard fittings
	40169	2 1/2" Red/Blue	60" Standard hoses with standard fittings
R410	41671	2 1/2" Red/Blue	Manifold only
	41670	2 1/2" Red/Blue	60" Enviroguard hoses with in-line ball valve fittings

Two Way Brass Manifolds

- Our popular Side Wheel Manifold is durable and easy to use.
- Forged brass for long life; durable handwheels, color-coded Lexan®.
- Universal Gauges – Clearly marked so they're easy to read and protected with Lexan™ lenses.
- Field Proven Face Seal Valves – Tight seal, less wear and improved flow.
- Works with *all* refrigerants.
- New gauge combinations that measure up to three different refrigerants with one manifold.
- Our popular Side Wheel Manifold is durable and easy to use.
- Solid forged brass for long life; hand wheels are durable, color-coded Lexan®.
- Universal Gauges – Clearly marked so they're easy to read and protected with Lexan™ lenses.
- Improved Face Seal Valves – Provide a tighter seal, less wear and improved flow.

Optional Accessories	Part No.
Protective Boot	40001

Item	Description	Size	Press Scale	Refrigerants
11724	Compound Gauge - Blue	2 1/2"	30"- 0 - 250 PSI	R22/404A/410A
11725	Pressure Gauge - Red	2 1/2"	0 - 800 PSI	R22/404A/410A
11734	Compound Gauge - Blue	2 1/2"	30"- 0 - 120 PSI	R12/22/502
11735	Pressure Gauge - Red	2 1/2"	0 - 500 PSI	R12/22/502
11744	Compound Gauge - Blue	2 1/2"	30"- 0 - 120 PSI	R134a/404A/507
11745	Pressure Gauge - Red	2 1/2"	0 - 500 PSI	R134a/404A/507
11754	Compound Gauge - Blue	2 1/2"	30"- 0 - 120 PSI	R22/134a/404A
11755	Pressure Gauge - Red	2 1/2"	0 - 500 PSI	R22/134a/404A
11794	Compound Gauge - Blue	2 1/2"	30"- 0 - 120 PSI	R22/134a
11795	Pressure Gauge - Red	2 1/2"	0 - 500 PSI	R22/134a
13149	Compound Gauge - Blue	2 1/2"	30"- 0 - 250 PSI	R410A
41676	Pressure Gauge - Red	2 1/2"	0 - 800 PSI	R410A
11797	Compound Gauge - Blue - °C	2 1/2"	-1 - 0 - 24 BAR	R22/134a
11798	Pressure Gauge - Red - °C	2 1/2"	0 - 34 BAR	R22/134a
11804	Compound Gauge - Blue	3 1/8"	30"- 0 - 250 PSI	R410A
11805	Pressure Gauge - Red	3 1/8"	0 - 800 PSI	R410A
11824	Compound Gauge - Blue	3 1/8"	30"- 0 - 120 PSI	R22/404A/410A
11825	Pressure Gauge - Red	3 1/8"	0 - 500 PSI	R22/404A/410A
11834	Compound Gauge - Blue	3 1/8"	30"- 0 - 120 PSI	R12/22/502
11835	Pressure Gauge - Red	3 1/8"	0 - 500 PSI	R12/22/502
11854	Compound Gauge - Blue	3 1/8"	30"- 0 - 120 PSI	R22/134a/404A
11855	Pressure Gauge - Red	3 1/8"	0 - 500 PSI	R22/134a/404A
11874	Compound Gauge - Blue	3 1/8"	30"- 0 - 120 PSI	R22/404A/407C
11875	Pressure Gauge - Red	3 1/8"	0 - 500 PSI	R22/404A/407C

Replacement Gauges

General usage gauges for multiple applications where pressure or vacuum readings are required. Dampening helps reduce excessive needle fluttering making the gauge much easier to read. Internal components are compatible with many industry applications. The ability to recalibrate the gauge is a standard feature on all gauges. Temperature scale reads in °F and pressure is displayed in either PSI or BAR.

Metric gauges with a temperature scale that reads in °C and pressure is displayed in either PSI or BAR.

17026

HVAC Replacement Parts Kit

Contains an assortment of the most commonly needed replacement parts for repairing manifolds, hoses and various other A/C tools. Kit contains:

- 2 Manifold Stem Repair Kits (Conical Seal).
- 2 Manifold Stem Repair Kits (Face Seal).
- 12 Valve Cores.
- 12 Valve Core Depressors, 1/4".
- 12 Hose Gaskets.
- 6 Quick Seal Caps, 1/4".
- 6 Quick Seal Gaskets.
- O-rings for Quick Seal Fittings.
- 1 Valve Core Remover/Installer with 6 Valve Cores.
- 2 Sets of Color-coded Lexan®, Handwheels (red and blue).

Refrigeration Charging Hoses

Robinair Premium Refrigerant Charging Hoses are built for long life and dependability.

A strong, six-sided crimp provides a reliable connection between the hose and the barb, even at maximum pressure. The coupler nuts are deeply knurled for quick finger-tightening. Enviro-Guard™ hoses are ideal for high pressure applications, including R-410A systems.

- Enviro-Guard™ Hoses – Special barrier material prevents permeation of refrigerant, yet remains flexible. 740 psi working pressure/3700 psi burst pressure.
- Standard Hoses – Neoprene-coated for flexibility and wear resistance, 500 psi working pressure/2500 psi burst pressure.
- Quick Seal™ Fittings – Automatically seal and prevent refrigerant from discharging when hoses are disconnected.
- All hoses are equipped with a 45º bend fitting on one end, for convenient access to the system.

Hose Selection Chart

1/4" FFL Enviro-Guard™ High Pressure (R-410A) Hoses with Quick Seal™ fittings 740 psi working pressure/3700 psi burst pressure.

Length (inches)	Yellow	Blue	Red	Set (Yellow, Blue, Red)
36	68136A	68236A	68336A	69036A
60	68160A	68260A	68360A	69060A
72	68172A	68272A	68372A	69072A
96	68196A	68296A	68396A	69096A

1/4" FFL Standard Hoses with Quick Seal™ fittings 500 psi working pressure/2500 psi burst pressure.

Length (inches)	Yellow	Blue	Red	Set (Yellow, Blue, Red)
72	38172A	38272A	38372A	39072A

1/4" FFL Standard Hoses with standard fittings 500 psi working pressure/2500 psi burst pressure.

Length (inches)	Yellow	Blue	Red	Set (Yellow, Blue, Red)
36	31036	32036	33036	30036
60	31060	32060	33060	30060
72	31078	32072	31079	30072
96	31096	32096	33096	N/A

Special Hoses for Special Jobs

20' Charging Hoses

68020
20' Enviro-Guard™, 1/4" FFL hose, with standard fittings – Set, Red and Blue.

68420
20' Enviro-Guard™, 1/4" FFL hose, with Quick Seal™ fittings – Set, Red and Blue Enviro-Guard™ Hoses with Ball Valves.

Ball Valve Hoses

In-line ball valves control refrigerant flow with a quarter turn.

65060
60" Enviro-Guard™, 1/4" FFL hoses, with Ball Valves – Set of three (Yellow, Blue, Red).

65160
60" Enviro-Guard™, 1/4" FFL hose, with Ball Valve – Yellow.

65260
60" Enviro-Guard™, 1/4" FFL hose, with Ball Valve – Blue.

65360
60" Enviro-Guard™, 1/4" FFL hose, with Ball Valve – Red.

3/8" Charging and Vacuum Hoses

3/8" FFL Charging and Vacuum Hoses Reduce pull-down time by as much as 40% with these larger diameter hoses

34105
36" Standard Hose, 3/8" FFL, with standard straight fittings – Yellow.

36060
60" Standard Hose, 3/8" FFL, with standard straight fittings – Yellow.

68060
60" Enviro-Guard™ Hose, 3/8" FFL, with standard straight fittings – Yellow.

67560
60" Enviro-Guard™ Hose, 3/8" FFL, with standard straight fittings – Black.

Hose Adapters

These six inch adapters connect to any 1/4" FFL charging hose for convenient in-line control of refrigerant flow.

18501
1/4" MFL x 1/4" FFL, Blue.

18512
1/4" MFL x 1/4" FFL, Red.

18513
1/4" MFL x 1/4" FFL, Yellow.

18514
1/4" MFL x 1/4" FFL, Blue, Red and Yellow (set of 3).

18511
1/4" MFL x 3/16" FFL, Red.

Flexible Adapters

Flexible adapters feature brass fittings and durable neoprene-coated hose, 6".

10293
1/4" MFL x 1/8" FFL, Blue.

10470A
1/4" MFL x 3/16" FFL, Red.

10778
1/4" MFL x 1/4" FFL, Yellow.

Hose Extension Coupler

Connect any number of hoses to get the required length

40404
1/4" MFL x 1/4" MFL (with valve core), pkg/3.

90° Style Adapters

Solid brass fitting is ideal for tight spots.

10469A
1/4" MFL x 3/16" FFL.

40563A
1/4" MFL x 1/4" FFL.

Straight Style Adapters

10468A
1/4" MFL x 3/16" FFL.

40560A
1/4" MFL x 1/4" FFL.

Quick Seal™ Adapters

Quick Seal™ fitting automatically shuts off the charging hose when you disconnect it from the system, so any refrigerant left in the hose is not released. This also prevents "finger burn" and adds an extra measure of safety. Made of solid brass.

10102
Side can tap (R12/R134A and Respective oils).

10292
1/4" MFL to 1/4" FFL.

10296
1/4" MFL to 3/16" FFL.

10250
1/4" MFL to 1/4" FFL, 90° Elbow.

Quick Seal™ Repair Kits

(for hoses and adapters)

40300
1/4" Quick Seal Repair Kit.

18451
45°, 1/4" Quick Seal Repair Kit.

18180
1/4" Quick Seal O-Rings Set, pkg/6.

Brass Caps

40572
1/4" solid brass Quick Seal™ caps, pkg/6.

50570
1/4" solid brass Quick Seal™ cap, with chain.

Replacement Parts for Hoses, Adapters & Couplers

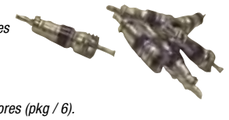
40653B
3/16" Valve Core Depressors for Hoses & Adapters (pkg / 6).

40082
1/4" Valve Core Depressors for Hoses & Adapters (pkg / 6).

40677
3/16" Gaskets for Hoses & Adapters (pkg / 6).

40083
1/4" Gaskets for Hoses & Adapters (pkg / 6).

40084
3/8" Gaskets for Hoses & Adapters (pkg / 6).



40352
Replacement Valve Cores (pkg / 6).

General Purpose Valves

Straight Type

40464
Straight Type 1/4 MFL x 1/4 MFL.

13144
Straight Type 1/4 MFL x 1/4 FPT.

Quick Coupler Style Valve

40380
Quick Coupler Style Valve 1/4 FFL Coupler x 1/4 MFL.

Gauge Cocks - Brass Tee Handle

40479
1/4 FPT x 1/4 MPT.

Tube Piercing Valves

Piercing Valves with Flow Control and 1/4 S.A.E. Connector Size.

40288
Fits 3/16, 1/4, 5/16, 3/8 OD.

13139
Fits 1/2, 9/16, 5/8 OD.

40291
Gaskets for 40288/40330, pkg/3.

Piercing Valves with Valve Cores

40330
Fits 3/16, 1/4, 5/6, 3/8 OD.

40336
Fits 1/2, 5/8 OD.

Straight Line Top Valves

40472
Fits 1/4, 5/16, 3/8 OD.

"Easy Tap" Line Tapping Valves

14809
90° Line Tap (R-2) Fits 1/2, 5/8 OD.

General Purpose Fittings

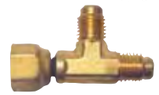
Tees/Fittings

40382
1/4 MFL Branch with core x 1/4 OD tube or 3/8 OD solder, pkg/3.*

40383
1/4 MFL Branch with core x 5/16 OD tube or 3/8 OD solder, pkg/3.*

40384
1/4 MFL Branch with core x 3/8 OD tube or 1/2 OD solder, pkg/3.*

40386
1/4 MFL run x 1/4 FFL run with depressor x 1/4 MFL Branch with core, pkg/3.



40396
1/4 MFL Branch with core 1/4 MFL run x 1/4 FFL swivel run, pkg/3.

40390
1/4 MFL Branch with core x 1/8 MPT run x 1/8 MPT, pkg/3.

40423
1/8 MPT Branch x 1/4 MFL run x 1/4 MFL run with core, pkg/3.

40398
1/4 FFL Swivel Branch with depressor x 1/4 MFL run with core x 1/4 MFL run, pkg/3.

40399
1/4 FFL Swivel Branch x 1/4 MFL run x 1/4 MFL run with core, pkg/3.

**Comes with 40535 Valve Core Remover.*

FFL Coupling

40410
1/4 MFL with core x 1/4 FFL with copper gasket, pkg/6.

Quick Couplers with Depressors

40553
1/8 FPT x 1/4 FFL, ea.

Screw-on Inlet Tee Adapter

15555
1/4" FFL Coupler x 1/4" MFL x 1/2" Acme Converts any vacuum pump to dual inlet, R-12/R-134a.

Optional Vacuum Pump Intake Fitting Adapters

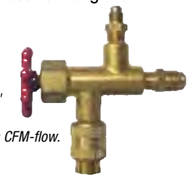
10459
1/2" FFL to 1/4" MFL.

13110
3/8" FFL to 1/4" MFL.

13066
1/2" FFL to 3/8" MFL.

Vacuum Valve Assembly

Valve assemblies give the service technician maximum control during evacuation and recharging. Installed directly to the vacuum pump, they connect the pump, manifold and thermistor gauge, providing one central control. Saves time – no need to connect/disconnect hoses. Made of durable forged brass for long life.



13047A
1/2" FFL Coupler x 1/4" MFL x 3/8" MFL, Large internal porting for high CFM-flow.

Access Fittings

40555
1/4 FPT x 1/4 FFL, ea.

Solder Union Type

40416
1/4 MFL x 1/8 OD Copper Tube Ext., pkg/6.

40417
1/4 MFL x 3/16 OD Copper Tube Ext., pkg/6.

13142
1/4 MFL x 1/4 OD Copper Tube Ext., pkg/6.

40419
1/4 MFL x 5/16 OD Copper Tube Ext., pkg/3.*

40420
1/4 MFL x 3/8 OD Copper Tube Ext., pkg/3.*

13143
1/4 MFL x 1/4 OD or 3/8 ID Solder with cap and chain.*

40427
1/4 MFL x 1/4 OD or 3/8 ID Solder, pkg/6.*

**Comes with 40535 Valve Core Remover.*

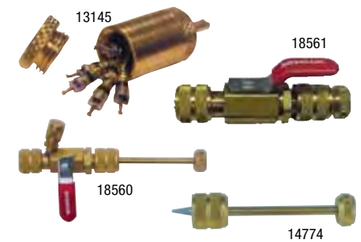
Elbow Access Fitting

40422
1/4 MFL with core x 1/8 MPT Elbow, pkg/6.

Straight Swivel Fitting

40421
1/4 FFL Swivel x 1/4 MFL with core, pkg/6.

1/4" Valve Core Remove Installers



13145
Valve core remover/installer with 6 valve cores.

Charging Valve

43657
Replacement spine valve for 14476 Charging Valve.

Valve Core Remover/Installer

18560
Remove and install valve cores from a 1/4" male flare access fitting without the loss of refrigerant. Durable, solid brass tool has a ball valve that can be opened or closed in just a quarter-turn, rather than a stem-type valve. Designed with a stainless steel ball and brazed side fitting for durability and long life.

Valve Core Remover/Installers

18561
Replace leaking valve cores quickly and easily, or remove the valve core and hold it out of place for evacuation or charging. Features a solid brass body with a convenient handle that opens and closes in a quarter-turn to speed service. Compact design easily fits most locations.

Pick Extractor

14774
For use with 14599 or 14650, extractor lets you remove damaged cores in the service line while the system is fully charged, without releasing refrigerant into the atmosphere.

T.O.C. Index

Specifications

Power	115V AC 60Hz
Weight	26 Lbs.
Dimensions	12" H x 9" W x 16" D

Accessories

Part No.	Description
SK-6002	Filter / Drier Kit (includes filter / drier, 6 inch hose)
SK-5001	80% Tank Shut-off Kit

RG6000 Recovery Machine

Minimum Size — Maximum Performance

- **Easy to carry.** Compact package that is small and light.
- **Fast, Fast, Fast.** Save time on each job with best in class recovery performance.
- **Rugged.** Designed to withstand the rigors of daily use in extreme conditions.
- **Easy to Use.** Large oversized pressure gauges are easy to read.
- **Convenient.** Self purge manifold makes it easy to prepare the machine for the next job.
- **Field Serviceable.** Easy to dis-assemble and repair with kits available to replace wearable components helping limit downtime.
- Ergonomic handle design makes it comfortable to grip and move from site to site.
- Internal filter helps protect the machine from harmful foreign objects.
- Proprietary dual "oil-less" compressors capable of handling both liquid and vapor.
- High pressure safety shut-off switch - If system pressure rises above 550 psi, the unit shuts off. The shut-off switch automatically resets itself after pressure drops below 400 psi.
- Works with all CFC, HFC, HCFC refrigerants including R-410A.
- One year warranty.

RG5410EX Refrigerant Recovery Machine

- Extremely durable.
- Heavy-duty components deliver maximum performance in the harshest conditions.
- Save time and money.
- Move more refrigerant in less time saving time spent on a job, putting more money in your pocket.
- Recovers all commonly used CFC, HFC, HCFC Refrigerants (including R410-A [Puron™]).
- Designed for use with high pressure refrigerants.
- Selectable high pressure safety "cut off" switches (400 or 550 psi).
- Proprietary "oil-less" compressor capable of handling both liquid and vapor.
- 3/8" – 3-row condenser for maximum performance in even the harshest conditions.
- Field serviceable semi-hermetic compressor.
- Self purge feature.
- Includes filter-drier.
- Power Source – 115 V 60 Hz.

Recovery Ratings per UL

	lbs./min			kg/min		
	Vapor	**Liquid**	**Push/Pull**	**Vapor**	**Liquid**	**Push/Pull**
R-12	.41	4.77	14.50	.18	2.17	6.59
R-22	.41	4.77	14.50	.18	2.17	6.59
R-134A	.32	4.14	11.70	.14	1.80	5.32
R-407C	.34	4.78	11.40	.15	2.17	5.18
R-410A	.44	5.13	14.10	.20	5.13	6.41

Optional Accessories	Part Number
80% Tank Shut Off Kit	KT-5001
30Lb (14kg) Recovery Tank	17121
30Lb (14kg) Recovery Tank with 80% capacity sensor	17605
50Lb (23kg) Recovery Tank	17506
50Lb (23kg) Recovery Tank with 80% capacity sensor	17572
50Lb (23kg) High Pressure Recovery Tank with 80% capacity sensor (use with R-410A)	RGT50HP

ProVax NextGen Portable AC Service System

US Patent #4,523,897; 5,209,653; others pending

A Revolution in Refrigerant Recovery and Evacuation

- Combines a Refrigerant Recovery Unit and Vacuum Pump in one portable system.
- Recovers all halogenated refrigerants (CFC/HCFC/HFC), including the new high pressure refrigerants, R410A.
- Proprietary "Oil-Less" compressor capable to handling both.
- Selectable high pressure safety "cut-off" switches (400 or 550 psi).
- 2 Stage , 6 CFM Vacuum Pump, rated to 20 microns.
- Portable wheels and handle for all types of terrain.
- 1/2 HP motor drives both recovery and vacuum processes.
- Easy operation, one connection for Recovery and Evacuation, no additional hoses needed.
- 2 powerful fans and 3-row condenser provides better cooling and flow rates.
- All units pre-wired to accept ProVax 80% Tank Shut Off Kit (KT-5002).
- Weight: 57 lbs; Dimensions: 25" H x 22" W x 10" D.
- One year warranty with full year over-the-counter exchange.
- Made in the USA.

Optional Accessories	Part No.
ProVax 80% Tank Shut Off Kit	KT-5002
30Lb (14kg) Recovery Tank	17121
30Lb (14kg) Recovery Tank with 80% capacity sensor	17605
50Lb (23kg) Recovery Tank	17506
50Lb (23kg) Recovery Tank with 80% capacity sensor	17572

International Versions	Model No.
Europe–Bar gauge/°C scale 220V 50 Hz	ProVax-E
Japan–Kpa gauges/°C scale 100V 50/60 Hz and 80% Shut Off Kit included	ProVax-J
Australia–230V 50 Hz	ProVax-A

Replacement Parts (supplied with product)	Part No.
Filter-Drier, 1/4" MFL x 1/4" MFL	100343
Hose, Blue 4" Long	100345

CE TÜV PRODUCT SERVICE

UL CERTIFIED To meet EPA Regulations per ARI 740

8EA7

Refrigerant Tanks

17121

17605

30 lb recovery tanks

17605 (w/ 80% tank full sensor)
17121 (w/o 80% tank full sensor)

UL CERTIFIED To meet EPA Regulations per ARI 740

17506

17572

50 lb recovery tanks

17572 (w/ 80% tank full sensor)
17506 (w/o 80% tank full sensor)

UL CERTIFIED To meet EPA Regulations per ARI 740

25175B

Refrigerant Recovery Machines

- Recovers all commonly used CFC, HCF, HFCF refrigerants, including R-410A.
- Automatic High Pressure cut-out switch for safety.
- Direct liquid recovery without damaging the compressor.
- All new proprietary "Oil-less" compressor and 1/2 hp motor.
- Field serviceable compressor .
- Multi-refrigerant capable with Self-Clearing feature, which prevents cross-contamination.
- Especially suited for residential and commercial HVAC applications.
- Efficient fan for cooling compressor and large 3-row condenser for use in high temperatures.
- One 60" hose included.
- 1/4" MFL fittings.
- Optional Float Cable provides automatic shut off when tanks are 80% full.
- Power Source – 115V 60 Hz.
- Weight: 34 lbs.; Dimensions: 20" H x 12.5" W x 10.5" D.

International Versions	Model #
220V-240V 50/60 Hz, metric gauges, CE approved (power cord not included)	25176B
100V 60 Hz, metric gauges, includes tank overfill cable	25177B

Optional Accessories	Part No.
30Lb (14kg) Recovery Tank	17121
30Lb (14kg) Recovery Tank with 80% capacity sensor	17605
50Lb (23kg) Recovery Tank	17506
50Lb (23kg) Recovery Tank with 80% capacity sensor	17572
50Lb (23kg) High Pressure Recovery Tank with 80% capacity sensor (use with R-410A)	RGT50HP
100V Optional Float Cable Assembly	KT-5001
Filter-Drier, 1/4" MFL x 1/4" MFL	100343
Hose, Blue 4" Long	100345

UL CERIFIED To meet EPA Regulations per ARI 740 8EA7

25200B

Refrigerant Recovery Machine

- Designed for the recovery medium and high-pressure refrigerants, including R-410A.
- Automatically switches from liquid to vapor recovery.
- Provides continuous recovery without the need to change the hose or flip a switch.
- Automatic high pressure cut-out switch for safety.
- Direct liquid recovery without damaging the compressor.
- Oil-less compressor allows rapid transfer of large amounts of liquid.
- Efficient fan and large condenser can handle high ambient temperatures.
- Multi-refrigerant capable with Self-Clearing feature, which prevents cross-contamination.
- Four 60" hoses, with ball-valves incl.
- Optional Float Cable provides automatic shut off when tanks are 80% full.
- 1/4" MFL fittings.
- Power Source – 115V 60 Hz.
- Weight: 32 lbs.
- 20" H x 12.5" W x 10.5" D.

International Versions	Model #
220V-240V 50/60 Hz, metric gauges, CE approved (power cord not included)	5201B
220V Optional Float Cable Assembly	19498

Optional Accessories	Part No.
30Lb (14kg) Recovery Tank	17121
30Lb (14kg) Recovery Tank with 80% capacity sensor	17605
50Lb (23kg) Recovery Tank	17506
50Lb (23kg) Recovery Tank with 80% capacity sensor	17572
50Lb (23kg) High Pressure Recovery Tank with 80% capacity sensor (use with R-410A)	RGT50HP
100V Optional Float Cable Assembly	KT-5001
Filter-Drier, 1/4" MFL x 1/4" MFL	100343
Hose, Blue 4" Long	100345

UL CERIFIED To meet EPA Regulations per ARI 740 8EA7

17800B

Refrigerant Recovery, Recycle, Evacuate & Recharge Machine

- Continuous operation – one hook up.
- In-plant maintenance – Ideal for departments that use different types of refrigerants for various systems.
- Multiple Refrigerants – R-12, R-134a, R-22, R-500, R-502, MP and HP Blends – and many more.
- Microprocessor controlled functions prompt you through programming and signal preventative maintenance.
- Float Chamber – Auto adjusts from liquid to vapor for efficient recovery.
- Electronic Scale – Makes it simple to recharge to factory specifications; also weighs recovered refrigerant and provides tank overfill protection.
- Cool-Tech Vacuum Pump – 6 CFM, has the capacity to thoroughly evacuate system.
- Lockout Panel – Prevents mixing of refrigerants; slides to one side for 1/4" fittings - to other for 1/2" Acme fittings.
- Single Pass Recycling – Makes an initial pass through the filter-drier; additional recycling can be programmed in case of compressor burn-out, or other conditions.
- Heavy Duty Filter-Drier – Removes moisture and acid from the refrigerant; can handle up to 300 Lbs. between changeovers.
- Power Supply – 115V 60 Hz.
- Supplied with two 50 Lb. Tanks; one with 1/4" fittings and the other with 1/2" Acme fittings.
- Includes three sets of hoses – Two sets for refrigerants using 1/4" SAE fittings and one set with R-134a field service couplers.
- Design cert. by UL to meet SAEJ-1770.

International Versions	Model No.
220V-240V 50 Hz, readout in Kg	17801B

Replacement Parts (supplied with product)	Part No.
Recycling Filter-Drier	17677
50 lb. (23 kg) Refillable Tank. 1/4"	17506
50 lb. (23 kg) Refillable Tank. 1/2" Acme	34750

The Importance of Deep Vacuum

The purpose of a vacuum pump is to remove moisture and air from an A/C-R system.

Modern systems are built tighter and charges are more critical. That means these systems have a greater sensitivity to moisture and other contaminants, making thorough evacuation more important than ever before.

Moisture in a refrigeration system, directly or indirectly, is the cause of most problems and complaints. First, moisture can cause freeze-up in a system. Moisture is picked up by the refrigerant and transported through the refrigerant line in a fine mist, with ice crystals forming at the point of expansion.

"Freeze-up" is not the only problem caused by moisture. It can also result in corrosion, the effects of which are not apparent until the real damage has occurred. Moisture alone is bad enough, but combined with refrigerants containing chlorine, hydrochloric acids can form. These greatly increase the corrosion of metals.

Also, refrigerant oil rapidly absorbs moisture. Water-formed acids combine with the refrigerant, forming a closely bonded mixture of fine globules. The effect is called sludging and it greatly reduces the lubricating ability of the oil.

A vacuum pump removes troublesome moisture by lowering the pressure within the system and vaporizing (or boiling off) the moisture, then exhausting it along with air.

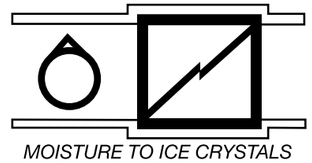
CoolTech™ – The Inside Story

A vacuum pump that's fast and thorough saves you not only time, but also the expense of callbacks and dissatisfied customers. Robinair pumps perform better than other pumps in the industry, ensuring you complete dehydration before recharging.

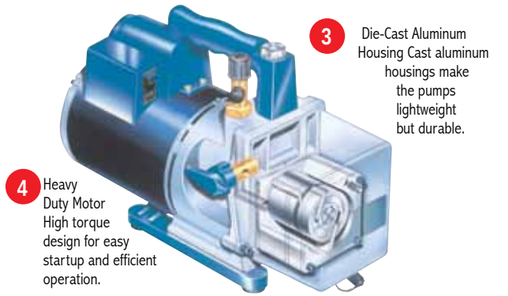
Robinair pumps are engineered specifically to meet the needs of the kind of A/C work you're doing today, and to give you trouble-free operation. We've put our years of experience and know-how into developing pumps that help you do the job faster and better.

All Robinair pumps are backed by our exclusive "No Hassle" over-the-counter replacement warranty. You can return a pump to your Robinair distributor for an immediate exchange — with no hassle! (In U.S. and Canada only; in other locations, see your Robinair distributor.)

Robinair CoolTech vacuum pumps are designed for use on A/C-R systems using CFCs, HCFCs, and HFCs in conjunction with mineral oil, ester oil, alkylbenzene oil, and PAG oil as lubricants. Do not use them with ammonia or lithium bromide systems; not for use with flammable refrigerants.

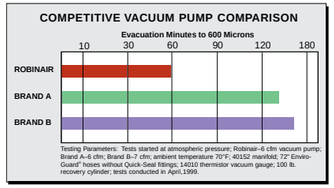


U.S. Patent Numbers: 4,523,897; 4,631,006; 5,209,653.



Selecting the Right Size Pump

The more air a pump moves, the faster it can reach an acceptable vacuum. A smaller pump takes more time to evacuate a system than one that's the correct size for the job.



Tests done under the same laboratory conditions confirm that Robinair vacuum pumps consistently out perform other major brands. Our Model 15600 reaches a vacuum of 600 microns in just 60 minutes, while the competition's pumps took more than two hours to reach the same micron level.

Use this Chart as a Guide to Selecting the Right Size Pump

System	Recommended Pump Size	
	CoolTechTM	VacuMasterTM
Up to 10 tons (35kW); Domestic Refrigeration, Passenger Cars	1.2 CFM (28 l/m)	1.5 CFM (35 l/m)
Up to 30 tons (105kW); Residential A/C, Panel Trucks & RV's	4 CFM (93 l/m)	3 CFM (71 l/m)
Up to 50 tons (176kW); Rooftop A/C systems, Tractor/Trailers, Buses	6 CFM (142 l/m)	5 CFM (118 l/m)
Up to 70 tons (246kW)	10 CFM (236 l/m)	-

	Oil Fill Port	Heavy Duty Motor	Two-Stage Design	Molded Base	Die Cast	Oil Drain Valve	Offset Rotary Vanes	Iso-Valve	Gas Ballast
CoolTechTM	●	●	●	●	●	●	●	●	●
VacuMaster®	●	●	●		●	●			

Robinair pumps weigh less!

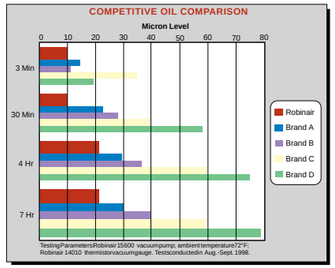
You'll appreciate the difference a few pounds make when you're carrying the pump up a ladder or through an access hatch.

Robinair (6 CFM)	27 lbs
Brand A (6 CFM)	34.5 lbs
Brand B (7 CFM)	27.5 lbs

Robinair pumps use less oil!

Smaller oil capacity means that your maintenance costs will be lower over the life of the pump.

Robinair	15 oz.
Brand A	24 oz.
Brand B	30 oz.



Premium High Vacuum Pump Oil

The performance of your pump depends largely on the quality and purity of the vacuum pump oil. Robinair's oil is engineered to maintain maximum viscosity at high running temperatures and to improve cold weather starts.

To keep the pump operating at peak efficiency, change the oil frequently. Moisture and other contaminants can quickly deteriorate the purity of the oil, thinning the oil, and reducing the pump's ability to reach deep vacuum conditions.

Thermally Stable

Laboratory tests prove that Robinair oil is more thermally stable in comparison to other leading brands, which means it resists breaking down due to heat for a longer period of time.

Lower Moisture Content

Robinair oil has a lower moisture content than other oils, thanks to our special packaging and handling procedures. Moisture degrades the oil's purity, thinning it, and reducing the pump's ability to reach a deep vacuum.

13119 *Pint bottle, 12 per case.*

13203 *Quart bottle, 12 per case.*

13204 *Gallon bottle, 4 per case.*

Also Available

17191
Oil spout for quart bottle, 10" long, handy for adding oil to a pump mounted on a station.

Change Your Vacuum Pump Oil Frequently

Clean oil is important for peak vacuum pump performance. When the oil is contaminated, it reduces your pump's ability to remove moisture from a system. You should change the pump oil frequently, and especially in the following situations:

- You have just evacuated a system that you suspect was overly moisture-laden.
- You have just evacuated a system with a compressor burnout.
- The pump oil looks cloudy or milky.
- The pump will not pull to factory specifications when blanked off to an electronic thermistor vacuum gauge.
- Every 10 hours of operation.

CoolTech® Vacuum Pumps

- Power and capacity for a wide range of service applications.
- High CFM rating for fast, thorough evacuation.
- Two-stage rotary vane design.

Iso-Valve™ – Isolates the pump from the system with just a quarter-turn.

Gas Ballast – Moisture laden air passing through the pump mixes with relatively dry air so compression does not cause condensation.

Two-stage Design – Cleans the system more thoroughly than a single-stage pump; the second stage starts pumping at a lower pressure so you can pull a deeper, ultimate vacuum.

Oil Drain Valve – Positioned at the bottom of the oil reservoir and angled for faster, more complete draining.

Oil Fill Port – Makes adding oil simple since the port is accessible from the front or either side. The sight glass on the front of the pump shows you when enough oil has been added.

Heavy-Duty Motor – High torque design for easy startup and efficient operation.

Offset Rotary Vanes – Our proven design builds a powerful compression within the pumping chamber to reduce system pressure and vaporize moisture so it can be exhausted along with air.

Molded Base – Durable polycarbonate base improves pump balance and minimizes vibration during operation.

Die-Cast Aluminum Housing – Cast aluminum housings make the pumps lightweight but durable.

15120A
10 CFM

15600 – 6 CFM
15400 – 4 CFM
15434 – 4 CFM

15234
1.2 CFM

Model	Free Air Displacement	Factory Micron Rating	No. of Stages	Intake Fitting	Oil Capacity	Motor Size	Voltage	Approvals	Weight	Dimensions
Domestic Models										
15234	1.2 CFM	50 microns	2	1/4" MFL and 1/2" Acme	5 oz. (148 ml)	1/8 hp	115V 50/60 Hz	UL	10 lbs. (4.5 kg)	8.5" H x 4.3" W x 9.5" L 215 mm x 108 mm x 240 mm
15400	4 CFM	20 microns	2	1/4" MFL and 1/2" MFL	13 oz. (445 ml)	1/3 hp	115V 60 Hz	UL	29 lbs. (12.2 kg)	9.75" H x 5.625" W x 15" L 247 mm x 142 mm x 381 mm
15434	4 CFM	20 microns	2	1/4" MFL and 1/2" Acme	13 oz. (384 ml)	1/3 hp	115V 60 Hz	UL	29 lbs. (12.2 kg)	9.75" H x 5.5" W x 15" L 247 mm x 142 mm x 381 mm
15600	6 CFM	20 microns	2	1/4" MFL and 1/2" MFL	13 oz. (445 ml)	1/2 hp	115V 60 Hz	UL	30 lbs. (12.2 kg)	9.75" H x 5.625" W x 15" L 247 mm x 142 mm x 381 mm
15120A	10 CFM	20 microns	2	1/4" MFL and 1/2" MFL	16.5 oz. (445 ml)	1/2 hp	115V 60 Hz	UL	30 lbs. (12.2 kg)	10.75" H x 5.625" W x 16" L 247 mm x 142 mm x 381 mm
International Models										
15226	28 liters/minute	50 microns	2	1/4" MFL and 1/2" Acme	5 oz. (148 ml)	1/8 hp	220V 50/60 Hz	CE	10 lbs. (4.5 kg)	8.5" H x 4.5" W x 9.5" L 215 mm x 108 mm x 240 mm
15401	93 liters/minute	20 microns	2	1/4" MFL and 1/2" MFL	15 oz. (445 ml)	1/3 hp 50/60 Hz	115V/220-250V	CE	32 lbs. (14.5 kg)	9.5" H x 5.5" W x 15" L 247 mm x 142 mm x 381 mm
15424	93 liters/minute	20 microns	2	1/4" MFL and 1/2" Acme	15 oz. (445 ml)	1/3 hp 50/60 Hz	115V/220-250V	CE	29 lbs. (14.5 kg)	9.5" H x 5.5" W x 15" L 247 mm x 142 mm x 381 mm
15601	142 liters/minute	20 microns	2	1/4" MFL and 1/2" MFL	15 oz. (445 ml)	1/3 hp 50/60 Hz	115V/220-250V	CE	33 lbs. (15 kg)	9.5" H x 5.5" W x 15" L 247 mm x 142 mm x 381 mm
15121A	236 liters/minute	20 microns	2	1/4" MFL and 1/2" MFL	17 oz. (500 ml)	1/2 hp	115V/220V 50/60 Hz	CE	38 lbs. (17.2 kg)	10" H x 5.5" W x 16" L 272 mm x 142 mm x 419 mm

The Importance of Measuring Vacuum

Moisture in an A/C system is a serious problem for the technician – it causes freeze-ups and corrosion, seriously damaging the A/C system. The most effective way to eliminate moisture is to create a vacuum deep enough to boil it away. For that, you need a high vacuum pump, and a tool to tell you when the vacuum is deep enough to adequately dehydrate the system.

Without a means of measurement, evacuation time is based on guesswork. The length of time required for thorough dehydration will vary from system to system because of several factors – so using a clock isn't foolproof. You risk not removing all the moisture – or wasting time by running the pump long after evacuation is complete.

Many service technicians rely on the compound gauge of the manifold to read vacuum. While the manifold is good for gross measurements, it's simply not accurate enough to determine exact vacuum levels. It's designed to read low pressures in inches of mercury, but there's no way to read exact levels when you're pulling the last, most critical inch of vacuum.

If you look at the compound gauge face, you can see that it's not possible to clearly differentiate between 29" Hg and 29.9" Hg, for example. But in microns – the precise measurements for the last inch of vacuum – that's the difference between roughly 23,000 and 250 microns.

A closed-end, U-tube, mercury manometer is capable of reading to 500 microns. However, it's a delicate instrument, more suited to a laboratory or controlled environment.

The most economical, effective, and easy-to-use option is an electronic thermistor vacuum gauge. It eliminates the guesswork by measuring the vacuum to precise micron levels, ensuring the system is leak-free, moisture-free, and ready to be recharged. Although originally developed as a laboratory instrument, today's thermistor vacuum gauges are rugged enough – and reliable enough – for field service work.

ROBINAIR VacuMaster® HIGH PERFORMANCE VACUUM PUMP

VacuMaster™ Economy Vacuum Pumps

- Performance tested to meet Robinair's high standards.
- Power and capacity for a wide range of service applications.
- High CFM rating for fast, thorough evacuation.
- Two-stage rotary vane design.

Two-stage Design – Cleans the system more thoroughly than a single-stage pump; the second stage starts pumping at a lower pressure so you can pull a deeper, ultimate vacuum.

Oil Drain Valve – Positioned at the bottom of the oil reservoir and angled for faster, more complete draining.

Oil Fill Port – Makes adding oil simple since the port is accessible from the front or either side. The sight glass on the front of the pump shows you when enough oil has been added.

Heavy-Duty Motor – High torque design for easy startup and efficient operation.

Die-Cast Aluminum Housing – Cast aluminum housings make the pumps lightweight but durable.

Model	Free Air Displacement	Factory Micron Rating	No. of Stages	Intake Fitting	Oil Capacity	Motor Size	Voltage	Weight	Dimensions
Domestic Models									
15150	1.5 CFM	50 microns	2	1/4" MFL and 3/8" Acme 3/8" FFL x 1/2" Acme adaptr.	7.4 oz. (219 ml)	1/4 hp	115V 60Hz	22 lbs. (10 kg)	9.5" H x 4.75" W x 12.5" L 240 mm x 120 mm x 315 mm
15300	3 CFM	40 microns	2	1/4" MFL and 3/8" MFL 3/8" FFL x 1/2" Acme adaptr.	7.5 oz. (220 ml)	1/3 hp	115V 60Hz	28 lbs. (12.5 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm
15500	5 CFM	40 microns	2	1/4" MFL and 3/8" Acme 3/8" FFL x 1/2" Acme adaptr.	7.5 oz. (220 ml)	1/3 hp	115V 60Hz	28 lbs. (12.2 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm
15800	8 CFM	40 microns	2	1/4" MFL and 3/8" MFL	18.6 oz. (550 ml)	1 hp	115V 60Hz	37 lbs. (16.8 kg)	16" H x 6" W x 10" L 406" mm x 152mm x 254mm
International Models									
15301 3 CFM	71 liters/minute	40 microns	2	1/4" MFL and 1/2" MFL 3/8" FFL x 1/2" Acme adaptr.	7.5 oz. (220 ml)	1/3 hp	220V 50Hz	28 lbs. (12.5 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm
15501 5 CFM	118 liters/minute	40 microns	2	1/4" MFL and 1/2" Acme 3/8" FFL x 1/2" Acme adaptr.	7.5 oz. (220 ml)	1/3 hp	220V 50Hz	28 lbs. (12.5 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm

Digital Micron Gauge

U.S. Patent # 5,136,8855

- Patented sensor technology – requires no calibration for fluctuating ambient and/or sensor housing temperatures.
- Not affected by the specific gas being evacuated.
- Liquid Crystal Display (LCD) – Reads 500,000 to 200 microns.
- Dual power supply – 9V battery or auxiliary A/C adapter (not included).
- Three foot sensor cord.
- Built into ABS Carrying Case.
- One year warranty.

Specifications

Range	500,000 to 200 microns Hg (auto ranging)
Resolution	100/10/1 microns Hg
Vacuum Fitting	1/4" FFL
Power Supply	One 9V battery or 9VDC optional adapter
Battery Life	8 hours (Alkaline)
Probe Cord Length	36" (91.4 cm)
Operating Temp	32° to 125° F (0° to 52° C)

Replacement Parts (supplied with product)	Part No.
Sensing Probe Assembly	TIF9453
Connector hose with Filter	TIF9454

TIF 9450D

14777

Compact Electronic Thermistor Vacuum Gauge

- Compact, pocket-size – 2.5" x 3".
- Takes guess work out of evacuation – accurately indicates when system is ready for recharge.
- Designed for use under high vacuum, reads down to 10 microns.
- Easy-to-read LCD, automatically registers smaller numeric segments as system pulls-down.
- 6' long lead and magnetic mounting strip – allows for convenient, easy to read, positioning.

Specifications

Range	25,000 to 10 microns
Vacuum Fitting	1/4" MFL
Power Supply	One 9V battery (included)

14830A

Thermistor Vacuum Gauge

- Solid-state instrument constantly monitors and visually indicates the vacuum level in 10 segments from atmosphere to 50 microns.
- LCD screen can be read even in direct sunlight and minimizes battery consumption.
- There are no adjustments to make, no calibrations for atmospheric pressure or altitude.
- Durable carrying case protects the instrument and has a built-in compartment for storing the 24" charging hose (included).

Specifications

Range	25,000 to 50 microns in 10 segments
Power Supply	Four "D" cell batteries (not included) or optional A/C adapter
Display	Custom LCD, 10 segments
Weight	2.38 lbs. (1.08 kg) without batteries
Dimensions	10" H x 7.5" W x 3.375" D (25.4 cm x 19 cm x 8.6 cm)

14010A

Thermistor Vacuum Gauge

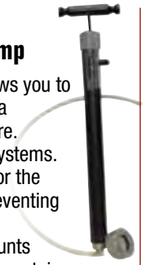
- Large analog meter – clearly marked for easy reading of micron levels.
- Indicates actual vacuum level.
- Measures from 25,000 to 0 microns.
- Two operation modes – select between the null method for greatest accuracy or direct meter reading for continuous monitoring of the evacuation process.
- Proven bridge circuit compensates for changes in ambient temperature from 30° to 120° F (-1° to 49° C) and also for variances in battery voltage.
- Rugged Carrying Case.

Specifications

Range	25,000 to 0 microns
Vacuum Fitting	1/4" FFL
Power Supply	Six "C" cell batteries

Optional Accessories	Part No.
Optional A/C Power Adapter	17160

Replacement Parts (supplied with product)	Part No.
Replacement Thermistor Tube	17162



Refrigerant Oil Pump

- Oil-Pump design allows you to add refrigerant oil to a system under pressure.
- Designed for larger systems.
- Siphon hose allows for the removal of old oil, preventing over-charging.
- Pump universally mounts directly to one-gallon containers.
- Allows the pumping of oil directly from the container, keeping oil free from dirt & moisture.
- Pump can remain mounted on oil container during storage.
- Oil is pumped at a rate of 3 ounces (90 ml) per stroke.

Optional Accessories / Replacement Parts	Part No.
Adapter	44885
Oil Pump Rebuild Kit	18171
Cap and Seal Assembly	44884

16258

Oil Injector

- Syringe-Type, allows you to add refrigerant oil to a fully charged A/C system.
- Simply fill the barrel with the amount of oil required.
- Check valve prevents any "back flow" of refrigerant.
- 1/4" SAE fitting.
- Capacity – 1/2 ounce (15 ml).

Replacement Parts (supplied with product)	Part No.
Replacement Plunger	16262
Replacement O-Ring for Plunger (pkg. of 5)	16267

10994
(Tank not included)

Heater Blanket

- Speeds charging by raising temperature, thus creating a positive pressure difference between tank and A/C system.
- Fits 30 and 50 pound refrigerant tanks.
- Includes Thermostat – set at 125° F (55° C).
- Safety thermal cut-off switch protects against overheating.
- 300 watts, 2.6 amps.

TIF9035 Charging Scale and Manifold Storage Combo

In many service situations two tools are almost always sure to be found, the charging scale, and the manifold and hose kit. This TIF9035 allows the charging scale, service manifold and hoses to be stored and carried to the work site in one convenient package. A tough plastic outer case helps protect your manifold gauge set. A flat top and bottom surfaces make storage easy and convenient. The new TIF9035 limits the number of items that need to be carried to the job site.

- New molded design, easy to carry.
- Integrated manifold and hose storage.
- Can be used with ALL refrigerants.
- High weight capacity, up to 200 Lbs.
- Excellent accuracy and resolution.
- Display provides Lbs/oz; decimals Lbs and Kg measurements.
- Battery powered, one 9V battery.
- Platform adapts to most existing tanks (9" x 9").
- Multifunction LCD readout.
- Color-coded tactile integrated keypad.
- 3 Control keys: ON/OFF, zeroing and measurement units.
- CE approved.
- 1 Year Warranty.

TIF9010A

Slimline Refrigerant Scale

- Touch Key controls.
- Three display modes – Lbs./oz.; Decimal Lbs., Kilograms.
- High Resolution – 0.1 oz./0.005 Lbs./2 grams.
- Extremely Accurate.
- 110 Pound/50kg capacity.
- Auto Zero.
- Removable platform and control box with prop stand/hanging hook.
- Compact design, completely portable.
- Can be used with all refrigerants.
- Removable control box with prop stand/hanging hook.
- Compatible with TIF9020 for automatic capability.
- CE approved.
- Two year warranty.

ADS-100

Slimline Refrigerant Scale

- 200Lb or 100Kg capacity.
- Three display modes, Lbs./oz.; Decimal Lbs.; Kilograms.
- High resolution – 0.2 oz./0.010 Lbs./4 grams.
- Compact design and completely portable.
- Extremely Accurate.
- Auto Zero.
- Removable platform and control box with prop stand/hanging hook.
- Charging and recovery capabilities.
- Compatible with TIF9020 for automatic capability.
- CE approved.
- Two year warranty.

Specifications

	TIF9010A	ADS-100
Range 15.8 oz., OR	0 lbs. 0.0 oz. to 110 lbs. 0.0 oz., 0.000 lbs. to 110.000 lbs., OR 0.000 kg to 55.000 kgs	0 lbs. 0.0 oz. to 199 lbs.0.000 lbs. to 199.990 lbs., OR 0.000 kg to 100.000 kg
Resolution	0.1 oz./0.005 lbs./2 grams	0.2 oz./0.010 lbs./4 grams
Accuracy	± 0.5% of reading	± 0.5% of reading ± 1 digit
Operating Temp	32º to 120ºF (0º to 49ºC)	32º to 120ºF (0º to 49ºC)
Power Supply	9VDC	9VDC
Battery Life	30 hours	20 hours
Coil Cord Length	6 ft. (1.8m)	6 ft. (1.8m)

Programmable Charging/ Recovery Meter

- 220 pound OR 100 kg capacity
- Allows automatic Charging or Recovery operations.
- Color-coded keypad controls.
- Three display modes – Lbs./oz.; Decimal Lbs.; Kilograms.
- Very High Resolution – 0.2 oz./0.010 Lbs./4 grams.
- Can be used with all refrigerants, including High Pressure (R-410A).
- Advanced Charge and Recovery Modes – uses tare weight & Max. capacity of cylinder to calculate maximum Charge/Recovery available.
- User Programmable memory for up to 99 different stored values.
- "Repeat" charge feature.
- Removable platform and control box with prop stand/hanging hook.
- Compact Design – completely portable, battery powered.
- Low battery indicators.
- Five year warranty.

TIF9055

Specifications

Range Resolution	0 lbs. 0.0 oz. to 219.99 lbs. 0.0 oz., OR 0.000 lbs. to 219.990 lbs., OR 0.000 kg to 100.000 kg 0.2 oz./0.010 lbs./4 grams
Accuracy	+/- 0.5% of reading
Power Supply	Four AA batteries and one 9V battery
Battery Life	30 hours
Max. Solenoid operating pressure	500 psi
Operating Temp	32 to 120º F (0 to 49º)
Inlet/Outlet Ports	1/4" MFL fittings with 1/2" ACME adapters

TIF9030

Compact Refrigerant Scale

- New molded design, easy to carry and storage.
- Capacity up to 220 Lbs (100 Kg).
- High accuracy (±0.5 oz) and resolution (0.1oz).
- Display provides Lbs/oz; decimals Lbs and Kg measurements.
- 9V Battery powered.
- Platform adapts to most existing tanks (9" x 9").
- 3 Control keys: ON/OFF, Automatic zeroing and measurement units.
- Charging and Recovery capabilities.
- CE approved.
- One year warranty.

Optional Accessories	Part No.
Soft case	TIF9031

Dial-A-Charge® Charging Cylinders

U.S. Patent No. 3,052,101; Canadian Patent No. 688,223

- Allows systems to be charged quickly, with the precise amount of refrigerant required by the manufacturer.
- Simply "dialing" the shroud to correspond with the pressure gauge, allows you to compensate for any ambient temperature changes.
- Sight glass allows you see the level of refrigerant in the cylinder.
- Accurate charging eliminates call-backs caused by under or over-charging.
- Cylinders may be economically filled from a bulk tank.
- Includes Heater, to increase cylinder pressure and speed refrigerant transfer.
- For safety, all cylinders are equipped with pressure relief valves, which automatically reset once a safe working pressure is restored.
- Includes a durable Polyethylene Case.
- Made in USA.

Model No.	R-12, R-22, R-502	R-134a	110V	220V CE Approved	Graduations	Capacity
43299B	✔		✔		1 oz.	2.5 lb.
43678B	✔		✔		1 oz.	5 lb.
43134B		✔	✔		1 oz. 25 g	2.5 lb. 1100 g
43534B		✔	✔		1 oz. 25 g	5 lb. 2200 g
20349B	✔			✔	25 g	2200 g

Note: All Models are equipped with 1/4" SAE fittings

TIF VA500A

- Measures Temperature (ºF) and Humidity (%RH).
- Measures Dew Point (ºF).
- Measures Velocity (FPS) and Volume (CFM).
- Measures Power in BTU/HR.
- Direct Readings – no additional calculations needed.
- Allows measurement of rectangular and round grills.
- Lightweight and Completely portable.
- Three simple keypad controls operate ALL FUNCTIONS.
- Low Battery Indication.
- Audible and Visual Prompts.
- Large 3/4" LCD Readout.

Specifications

Ranges	
Temperature Humidity	23ºF to 149ºF (-5º to 65ºC) 10-95% RH
Velocity Range	2.6 to 49.2 FPS (0.8 to 15 m/sec)
Accuracy	
Temperature	± 2ºF
Humidity	± 3%
Dew Point	± 3%
Velocity	± 3% of rdg
Response Time	
Temperature	< 5 secs
Humidity	<10 secs
Velocity	< 3 secs
Display	4 digit 3/4" LCD
Coil Cord Length	72 inches (1.8m)
Operating Temperature	32ºF to 122ºF (0º to 50ºC)
Power Supply	One 9V Alkaline battery
Battery Life	Approx. 8 hours continuous

- Memory holds cumulative volume (CFM) and power (BTU/HR) measurements.
- Six foot connector cord to probe.
- 9V Battery Operated.
- CE approved.
- Protective Carrying Case Included.
- One year warranty.

Digital HVAC Analyzer

The TIF VA500A offers a range of features never before included in a single instrument. More than just an Anemometer, the VA500A measures all HVAC inlet and outlet variables, allowing an intelligent analysis of system performance. This one tool can replace up to four others, and eliminates the need for cumbersome flow hoods, psychrometers, etc. So easy to use, you will be performing complex measurements within minutes of unpacking the tool.

Applications

Ambient Temperature, Inlet and Outlet Temperatures, Cooling Efficiency, Ambient Humidity, Inlet and Outlet Humidity, (De-) Humidification Efficiency, Inlet and Outlet Velocity, System Balancing, Calibrating/ Setting Vents, Airflow Measurements, Power Measurements (BTU), System Efficiency (BTU IN vs BTU OUT), System Adjustments, Performance Checks, Fan Adjustments, Blower Performance, Heating and Air Conditioning, Air Circulation and Exchange, Refrigeration, Industrial.

TIF3880 Video Inspection Scope

- Easy to see high resolution color image (Resolution = 320x240 pixels).
- Large 2.5" full color monitor for easy viewing.
- Autofocus camera helps keep the image clear and sharp.
- Waterproof, flexible 72" Staylock™ shaft.
- Small 10mm shaft diameter.
- 5 hours of operation (4-AA batteries included).
- Video output for optional recording.
- Storage case.
- 1-year warranty.

3665

Phototach (Contact/Non-Contact)

- Can be used as a contact as well as a non-contact tachometer.
- Four styles of contact adapter tips clip easily to the top of the phototach.
- Infrared technology makes the phototach accurate, convenient, and easy to use.
- Infrared beam not affected by ambient light.
- Non-contact design results in zero torque loss for true precision.
- Phototach is equipped with a laser pointer for accurate targeting.
- Reflective tape placed on a revolving object can be measured at distances from 2" to 20".
- Wide measuring range and high resolution, 2.5 to 99,999 rpm with a large 5-digit display, autoranging, min/max memory storage, and low-battery indicator.

TIF3310 TIF3320 TIF3320A TIF3110 TIF3420 TIF3220

TIF3310/TIF3320 Thermocouple Thermometer and IR

The TIF3310 / TIF3320 easily take differential temperature readings with the dual type-K thermocouple probes plus non-contact surface temperatures using the IR thermometer probe (included in item TIF3320).

Features

- Use contact differential temperature measurements (T1-T2) to display HVAC Superheat measurements.
- Display temperature differentials between both contact and IR temperature readings (T1, T2, T3).
- Rugged design that is easy to grip and hold.
- Large easy to view LCD display is easy to read from a distance.
- Store MIN/MAX and AVG readings.
- Use the IR thermometer probe to measure non-contact surface temperatures up to 1022 °F. Laser pointer helps locate the target easily.
- Includes 2 bead type wire temp probes, IR Thermometer probe (TIF3320), rugged carrying case, and 9V battery.

TIF3110 IR Thermometer/ Psychrometer

The new TIF3110 IR Thermometer/ Psychrometer combines the function of a humidity meter, type-K thermocouple thermometer, and an infrared thermometer into one convenient handheld device. Ideal for quickly checking indoor air quality in offices, production rooms or in warehouses.

Features

- Built in Infrared thermometer for non-contact temperature measurement to 932 °F with a 30:1 distance to spot ratio.
- Type K temperature input for contact temperature measurement to 2500 °F.
- Display air temperature, relative humidity, dew point and wet bulb temperatures.
- Highly accurate and dependable readings – within 2% RH.
- Rugged design that is easy to grip and hold.
- Large easy to view LCD display is easy to read from a distance.
- Rugged carrying case.

TIF3420 Differential Pressure Meter

The TIF3420 easily takes differential pressure readings with the dual input pressure manometer. Use to measure differential, absolute and static pressures in most HVAC systems.

Features

- Chose the units of measure your most comfortable with – 11 selectable units of measure to choose from.
- Store MIN/MAX and AVG readings.
- Rugged design that is easy to grip and hold.
- Large easy to view LCD display is easy to read from a distance.
- Zero function lets you correct for any offsets in readings or measurements.

TIF3220 Thermo-Anemometer and IR Thermometer

The new TIF3220 measures air speed and temperature. It is ideal for spot air flow measurements at various air returns and vents.

Features

- Simultaneously display both air flow or air velocity and ambient temperature measurements.
- Easy to set area dimensions for measuring CFM/CMM that can be stored in the meters internal memory and recalled during the next use of the instrument.
- Built in Infrared thermometer for non-contact temperature measurement to 932 °F with a 30:1 distance to spot ratio.
- Rugged design that is easy to grip and hold.
- Large easy to view LCD display is easy to read from a distance.
- Store MIN and MAX readings. Hold specific readings with the data hold function.
- 3 ½ ft cable connects the vane sensor to the instrument making it easy to reach ceiling vents.

T.O.C. Index

Diagnostic Instruments

HVAC

IR Thermometer PRO

- Complete IR design is incorporated inside of a single chip, reducing space and creating a compact and light weight product.
- Laser pointer – Easy to define the target area to be measured.
- Extend temperature – TIF7612 and TIF7620 have a thermocouple interface that can extend the temperature up to 1999°F.
- Simple and easy to operate – Point at desired target and press the trigger button for a temperature reading.
- Set alarm temperatures (Low and High Temperatures) to receive alert information when the you are measured out of the range (TIF7612 and TIF7620 only).
- (MAX), (MIN), Difference between MAX and MIN (DIF), and average (AVG) modes are available in TIF7612 and TIF7620.
- The new TIF IR thermometers incorporate visual low battery indication and simple operation of two "AAA" batteries.
- Innovative optical lens – accurate measurements; wide temp range.

Specification	TIF7610	TIF7612	TIF7620
Measurement Range	-76 to +932˚F (-60 to +500˚C)	-76 to +932˚F (-60 to +500˚C)	-76 to +1400˚F (-60 to +760˚F)
Thermocouple Measurement Range	N/A	-83.2 to +1999˚F (-64 to +1400˚C)	
Accuracy: Tobj=59˚–95˚F (15–35˚C) Tamb= 73˚F (25˚C)	±1.8˚F (1.0˚C)		
Accuracy: Tobj=27˚–932˚F (-33–500˚C) Tamb= 73˚F ±5˚F (23 ± 3˚C)	±2% of reading or 4˚F (2˚C) whichever is greater		
Thermocouple Accuracy	N/A	±1% of reading or 1.8˚F (1˚C) whichever is greater (Test under Tamb = 73 ± 11˚F [23+6˚C])	
Emissivity	0.95 fixed	Adjustable	
Resolution: 14.2˚ F~199.9˚F (-9.9~199.9˚C)	0.1˚F/0.1˚C (1˚ below 9.9 and about 199.9)		
Spectral Response	5 ~ 14µm	8 ~ 14µm	
Response Time (90%)	.5 sec		
Distance: Spot	10:1	12:1	20:1
Battery Life	Typ.18 hours		
Dimensions	175.2 x 39.0 x 71.9mm		
Weight	179 grams including batteries (AAA *2pcs)		

Replacement Parts (supplied with product)	Part No.
Thermocouple	TPK-56

10945

Analog Thermometers

- Pocket thermometers include a protective sheath with pocket clip.

Model No.	Temperature Range	Dial Diameter
10596	–40º to 160ºF	1"
10597	0º to 220ºF	1"
40859	–40º to 70ºC	1"
10945	0º to 220ºF	1-3/4"

Pocket IR Thermometer

- System-on-a-Chip SoC technology: compact and lightweight.
- Backlit LCD display w/ dual readings.
- °C / °F Switch and MAX function.
- Auto power off after 15 sec.
- Battery level indication.
- Distance to spot (D/S): 1:1.

TIF7201D

Applications:

- Automotive
- Electrical
- General home use
- HVAC/R

Specifications

Temperature measurement range	-27° to +428°F (-33° to +220°C)
Operating temperature range	14 to +122°F (-10 to +50°C)
Accuracy (Tamb=23±3°C)	±2% of reading or ±4°F (2°C)
Resolution	0.1 °F/°C
Distance to Spot	1:1 optical
Emissivity setting	0.95 fixed
Field of View	1:1
Battery Life	Typ.25 hours / Min.20 hours
Battery	1 CR2032 lithium cell battery

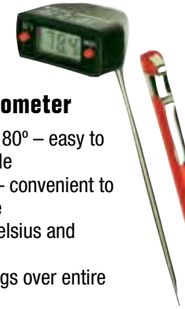
43240

43240 Digital Thermometer

- Compact – with many capabilities.
- Accurate.
- Celsius or Fahrenheit selectable.
- Min./Max. and Hold features.
- Battery saver mode.
- For surface, liquid & air temperatures.
- Durable cover to protect probe.

Specifications

Temp Range	–40º to 390º F (-40º to 200º C)
Accuracy	± 2º F between –14º and 212º F ± 1º C between –10º and 100º C (otherwise ± 3º F or ± 1º C)
Display Resolution	0.1º F/C throughout range
Sampling Time	One second
Battery	One 1.5 Volt, size LR44



Swivel-Head Digital Thermometer

- Head swivels 180º – easy to see at any angle
- Compact size – convenient to carry and store
- Selectable – Celsius and Fahrenheit
- Reliable readings over entire range
- For surface, liquid and air temperatures
- Protective sheath with pocket clip

Temp Range	–58º to 302º F (–50º to 150º C)
Accuracy	± 2º F between –4º and 248º F ± 1º C between –20º and 120º C (otherwise ± 4º F or ± 2º C)
Display Resolution	0.1º between –19.9 and 199.9, otherwise 1º
Sampling Time	One second
Auto Power off	10 minutes
Battery	One 1.5 Volt, size LR44
Probe Cord Length	36" (91.4cm)

TIF4000A

Electronic Sight Glass

U.S. Patents 4,138,879; 4,235,095

The TIF4000A "sees" into the refrigerant tubing by means of ultrasonics. Two sensors are used, one for transmitting and one for receiving. These sensors are in the form of clamps which attach to any metallic refrigeration tubing. An audible beeping sound quickens as bubbles or floodback are sensed, and a row of LED's light, simulating bubble movement in the tubing.

- Optimizes refrigerant charge for maximum cooling.
- Operates on any metal tubing.
- Four foot cord.
- Operates through use of ultrasonics.
- Eliminates the need for an optical sight glass.
- Checks for refrigerant floodback.
- Built into ABS carrying case.
- One year warranty.

Specifications

Operating Temp	32º to 125ºF (0º to 52ºC)
Power Supply	(1) 9V battery
Battery Life	60 hours (alkaline)
Response Time	Instantaneous
Probe Cord Length	48" (1.2 m)

3591

Fluorescent Dye Flex-View

- Quick detection of leak dye in hard-to-see and reach places.
- Ability to inspect inside components.
- Confirms leaks where component removal would normally be required.
- Flex-scope fluoresces UV dyes.
- Also used as a traditional bore-scope.
- Battery powered.

Uses

- A/C Systems — Evaporator/ Condenser, Hoses, Compressor.

Gas Manifold Pressure Test Kit

- Use these handy kits to Measure Natural gas or LP gas pressure across appliance manifolds.
- Test gas stoves, furnaces, dryers and other gas appliances.
- Economical and accurate – easier to use than a manometer.
- Diaphragm gauge is calibrated in inches of water column, also shows ounces per square inch.
- Includes fitting for quick connection to the appliance manifold.
- Packed in high impact plastic case for protection during transit and use.

42160
Manifold Pressure Test Kit, Pressure measurements from 0–35" of water col.

42162
Manifold Pressure Test Kit, Pressure measurements from 0–10" of water col.

TIF8500A

Carbon Monoxide Analyzer

The TIF8500A is a professional grade service tool for accurate measurements of Carbon Monoxide (CO) levels in any environment or application, including ambient, appliance surroundings and furnace flues.

- Measures level of Carbon Monoxide (CO) in any environment.
- Voice feature for audible read out.
- Tactile keypad controls.
- Protective Rubber "Boot".
- 15" Stainless Probe, with 5' hose.
- Field replaceable electrochemical sensor.
- Rapid warm up.
- Headphones included for high noise areas or for privacy.
- Cordless and portable.
- Ranges from 1 – 10,000 ppm w ith resolution of 1-ppm.

Replacement Parts (supplied with product)	Part No.
Replacement Filter	TIF8501
Replacement Sensor	TIF8505
Sensor Cover and Tubing	TIF8507

16910

Refrigerant Identifier Plus

- Identifies refrigerant type and purges damaging air.
- Displays the actual percent of R-12, R-134a, R-22, and air in the system or tank.
- Air purge.
- Visual and audible hydrocarbon alarm.
- On-board printer port.

HVAC
Diagnostic Instruments

12294

Pinch-Off Tool

12294
- Patented clamping mechanism quickly and securely pinches off tubing and cloth-reinforced hose.
- Comfortable cushion grip.
- Ideal for closing off compressor process tubes.
- For 3/16", 1/4", 5/16" and 3/8" tubing.

42022

Mini Tubing Cutter

42022
- Short swing radius for tight spots.
- Wide capacity range.
- For 1/8" to 1-1/8" O.D. tubing.

42024

Mini Tubing Cutter

42024
- Smallest cutting radius in the industry.
- Ideal for extremely tight places.
- Fine thread screw provides easier tightening.
- For 1/8" to 5/8" O.D. tubing.

42028

Tubing Cutter with Deburring Tool

- Aluminum alloy body and nickel-chrome durable finish.
- Includes tubing deburring tool located on the head of cutter.
- For use on cooper, aluminum, steel and stainless steel tubing.
- Wide capacity range.
- For 1/4" to 1-1/2" tubing.

42090 42080 42071

Ratcheting Tubing Cutter

- Designed for confined spaces.
- Unique ratcheting action operates like a socket ratchet but cuts copper, aluminum, stainless steel, and PVC.
- Spring-loaded adjusting screw applies continuous pressure while cutting.

42071
Ratcheting tubing cutter for 1/8" to 1/2" tubing.

42080
Ratcheting tubing cutter for 1/4" to 7/8" tubing.

42090
Ratcheting tubing cutter for 1/4" to 1-1/8" tubing.

42035

Slip-Adjust Tubing Cutter

- All metal construction.
- Spring-loades cutting tool for faster cutting.
- Rwo locations for spare cutting wheels (included).
- Includes attached reaming tool.
- For 1/4" to 2" tubing.

Double Flaring Tool Set

6506
- Also performs 45° single flares on 4mm, 4.75mm, 6mm,8mm, 10mm, 12mm, and 14mm copper, aluminum, brass, and magnesium tubing.
- Includes tubing cutter and adapters for doubleflaring 4mm, 4.75mm, 6mm, 8mm, and 10mm tubing.

6503
- Also performs 45° single flares on 3/16", 1/4", 3/8", 7/16",.1/2", and 5/8" copper, aluminum, brass, and magnesium tubing.
- Includes tubing cutter and adapters for double flaring 3/16", 1/4", 5/16", 3/8", and 1/2" tubing.

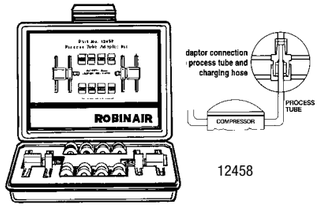
12479

Six-in-One Swaging Tool

- One convenient tool, forms solder cups on six (6) different sizes of-tubing.
- Made of fatigue proof steel.
- Works on 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" tubing.

Double Flaring Tool Kit

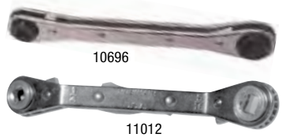
4503
- Designed for double or single flare in copper, aluminum, soft steel brake line, and brass tubing (to 45 degrees).
- Includes five adapters 3/16" through 1/2" (4.8mm through 12.7mm).
- Chrome swivel, made of alloy steel reduces friction.
- Forged yoke made of heat-treated steel.
- Housed in a blow-molded storage case.



12458

Process Tube Adapter Kit

12458
- Kit provides the quickest and easiest means of connecting charging lines to process tubes for evacuating and recharging a system.
- Assures an absolute seal between tubing and the charging hose.
- Eliminates the need for flaring and the possibility of metal chips getting into the system.
- Includes Carrying Case with individual compartments.
- Adapts 3/16", 1/4" 5/16" and 3/8" copper tubing to charging hose.


10696
11012

A/C Ratchet Wrenches

11008
Reversible, 1/2" and 9/16" HEX openings on one end, 3/16" and 1/4" SQUARE on the-other.

10696
Reversible, four SQUARE openings, 1/4" and 3/16" on one end, 3/8" and 5/16" on the-other.

11012
Reversible, with 25° OFFSET, four SQUARE openings, 1/4" and 3/16" on one end, 3/8" and 5/16" on the-other.

6515

Three-in-One 180º Tubing Bender

6515
- Capable of making 180º bends in copper, brass, aluminum and steel tubing.
- Just one tool works on three sizes of tubing 1/4", 5/16", 3/8".

Heavy Duty Pipe Wrenches

- High-tensile iron handles.
- Hardened steel parts to withstand the toughest demands.
- Offset style wrenches provide longer swing in hard-to-reach places.

	Model No.	L"	Pipe Size
Offset Style	42044	10"	1/8" to 1-1/2"
Straight Style	42050	12"	1/8" to 2"

18548

4-In-1 Tube Bender

18548
- Bends four sizes of soft or annealed tubing.
- Prevents crimping, flattening or scratching.
- Calibration allows duplication of any angle.
- Long handles (8-1/2") no extensions required.
- "Glass/plastic" construction combines strength with lightweight durability.
- For use on 3/16", 1/4", 5/16" and 3/8" tubing.

18403

Fin Straightener

18403
- Six-in-one.
- Cleans & straightens condenser and evaporator coil fins.
- Each section marked w/ fin size.
- Compact size, head 3-1/8" in diameter/handle 3 1/2" long.

18403
8, 9, 10, 12, 14, & 15 fins per inch.

45355 Fiber Optics Inspection Light

The applications for this handy tool are practically endless... check burners on heat exchangers for cracks, check coils for dirt and damage, look at serial numbers, fan motor tags, etc., on furnaces and condensing units. Fiber optics provide a bright light, but the shaft is just 7.6 mm in diameter. A durable cover fits over the 15" flexible shaft for protection. Powered by three AA batteries.

13182

Inspection Light

13182
- 15" flexible shaft.
- Includes a durable protective cover.
- Powered by three AA batteries.
- Replacement Bulb – P/N 45331.
- "Must have" tool for a variety of applications: checking for cracks on heat exchangers, inspecting coils and contacts for dirt & damage, reading serial numbers,-etc.
- Fiber optics provide a bright light, while the shaft is only 7.6 mm in diameter.

2002

Folding Floor Crane

2002
- Folds up for compact storage, out of your way.
- Front wheels are 3-1/2" with 5-7/8" rear casters.
- This 2000 lb. capacity crane has a reach of 24" to 36".

1023

Mechanical Grip-O-Matic Puller

1023
- 2-ton, 2/3-jaw, 1 Lb. ; 5 Oz (Reversible Jaws).
- Forged from quality steel, heat treated, and subjected to rigorous tests which exceed its rated capacity.

1025
- 2-ton, Long 2-Jaw; 21 lbs. (Reversible Jaws).

Ratcheting Terminal Crimper

4497
- Heavy-gauge steel crimping tool designed for insulated wire terminals.
- Ratcheting action crimps terminal to correct tightness on the wire, making crimping fast and easy.
- Insulated handles with compound mechanical leverage for power.
- For wire sizes: AWG 22-18 (0.6mm—1.0mm) red terminal; AWG 16-14 (1.3mm –1.6mm) blue terminal; AWG 12-10 (2.0mm—2.6mm) yellow terminal.

7-in-1 Wire Stripper & Crimper

4498
- Strips insulation off electrical wires ranging from 10 AWG—22 AWG (0.6mm—2.6mm) in diameter. Pliers on tip of jaw for looping or grabbing wire in tight places.
- Heat-treated steel jaws cut solid or multi-strand wire.
- Screw cutter shears screws clean, with no thread clean-up required. Works on machine screw sizes 4-40, 5-40, 6-32, 8-32, 10-24, and 10-32.
- Crimps insulated and non-insulated wire terminals, 7mm—8mm spark plug wire connectors.

Wire Stripper & Cutter

4499
- Only 6" in length. Clean size separations and markings allow ease of use in tight areas.
- Strips insulation off of electrical wires ranging from 10 AWG—22 AWG (0.6mm—2.6mm) in diameter. Heat-treated steel construction with durable grips.
- Spring-loaded jaws stay open for ease of use, and lock for storage; gripping area at tip of jaws for working in tight areas, wire cutter at base of jaws.

Hose Clamp Plier Set

4502
- Includes a cross-slotted jaw pliers and a wide, flat-band hose clamp pliers.
- Services most ring-type or flat-band hose clamps.
- The clamps are held open with a ratchet locking mechanism. Jaws swivel to access hose clamps in any position.

Bushing Driver Set

4505
- Enables you to remove and install bushings ranging from 3/8" to 1-3/8" in diameter, # Includes: Large, medium, and small driver handles with nuts; sixteen bushing adapters ranging from 3/8" to 1-3/8".
- Housed in a blow-molded storage case.

Hydraulic Bottle Jacks

- Jacks can be used in vertical or horizontal positions.
- Fewer working parts, extremely smooth bearing surfaces and close tolerances ensure long life.
- Oil bypass system prevents the lifting ram from being over-extended.

Cap. (tons)	Stroke	OTC No.	Retracted Height Min.	Length of Screw Extension	Height with Screw Extended	Pump Strokes to Extend Piston One Inch	Saddle Dia.	Base Size	Carry Handle	Weight
4	6-3/4"	4304A	7-5/8"	2-3/8"	14-5/8"	9	1-1/8"	3-5/8" x 3-7/8"	No	7 lbs.
8	6-3/4"	4308A	9"	3-1/4"	18-1/2"	13	1-3/8"	4-1/8" x 4-3/4"	Yes	13 lbs.
12	6-3/4"	4314A*	6-1/16"	1-5/8"	11-1/8"	16	1-1/2"	5-1/4" x 5-3/8"	Yes	13 lbs.
20	6-3/4"	4322A*	6-3/8"	1-3/8"	11-1/4"	26	1-3/4"	6" x 63/8"	Yes	19 lbs.

*Low profile models

T.O.C.

Bearing Race & Seal Driver Set

4507
- Permits installation of tapered bearing races & seals w/o damage to the component or housing. Includes a driver handle plus popular bearing and seal drivers, ranging from 1.565" to 3.180".
- Tapered side of driver is used to install races. Invert the driver to the flat side to install seals. Set is housed in a blow-molded plastic storage case.
- Includes driver handle and tool sizes: 1.565", 1.750", 1.965", 2.325", 2.470", 2.555", 2.830", 2.995", and 3.180".

Hose Pinch-off Pliers Set

4510
- Shuts off flow through vacuum lines, fuel lines, coolant lines, etc.
- Cocking ratchet mechanism holds pivoting jaws tightly in place. Heavy-duty swivel jaws pivot to assure parallel pinching.
- Contents of set:
  8" for small hoses and tight areas
  10" for radiator and vacuum lines
  12" for radiator and vacuum lines

Straight-Blade Hose Cutter

4509
- Cuts rubber hoses ranging from 1/4" to 1-1/2".
- Simply place hose in tool and squeeze handle to cut.

"Guillotine" Hose Cutter Tool

4511
- Hooks and cuts plastic lines and rubber hoses from 1/8" to 1" diameter. Simply hook hose in V-shaped end, and squeeze handle to cut. Compound mechanical leverage provides power. Spring-loaded blade returns to open position after use, so blade is not exposed.
- Linear design with hook feature reaches, grabs, and cuts hoses in tight areas.

Mini Snap Ring Plier Set

4514
- Small-size pliers for work in tight areas.
- Service S-ring and R-ring clips, internal or external, straight or angled. Ruggedly built of heat-treated chrome molybdenum steel.
- Set includes two internal snap ring pliers (one straight, one 45°) and two external snap right pliers (one straight, one 45°).
- All pliers have .038" (1.0mm) diameter tips.

Brass Punch Set

4602
- Two large, brass non-sparking punches. Ideal for use near precision parts or in locations where sparks from ferrous metal could be hazardous.
- Includes an 8" punch (5/8" hex, tapered to 3/8") and 10" straight punch (3/4" dia., chamfered at both ends).

Mini Pick & Hook Set

4515
- Sturdy stainless steel points and shafts designed for marking, removing o-rings, accessing snap rings, and performing other tasks. Assorted angle tips allow you to reach awkward locations.
- Knurled shaft design enhances finger control for delicate jobs.

Snap Ring Pliers Set

4512
- For internal or external snap rings; thumbscrew permits quick conversion.
  Made of heavy-gauge tempered steel. Also includes two stainless steel handled picks.
- Contained in a blow-molded plastic storage case.
- Contents of Set:

.090" tip - straight pliers	.047" tip - straight pliers
.090" tip - 90° pliers	.047" tip - 90° pliers
.070" tip - straight pliers	.038" tip - straight pliers
.070" tip - 90° pliers	.038" tip - 90° pliers
.047" tip - straight pliers	Straight tip pick 90° tip pick

Index

Scraper Set

4550

- Scrapers feature polished, heat-treated, stiff, stainless steel blades. Handles are ergonomic two-component plastic and feature a non-slip grip and steel bolstered end. Packaged in a storage tray. Includes: 1-1/4" straight blade, 1-1/4" bent blade, and 2" straight blade.

Punch & Chisel Set

4600

- Durable set of heat-treated chrome vanadium steel punches and chisels. Storage tray included.
- Set Includes, (also available separately):
  3 – Cold chisels (with gauge): 3/8" x 5-1/2"; 1/2" x 6"; 5/8" x 6-1/2"; 2 – Center punches: 1/8" x 5"; 3/16" x 6"; 5 – Pin punches: 3/32" x 4-1/4"; 1/8" x 4-3/4"; 5/32" x 5"; 3/16" x 5-1/4"; 1/4" x 5-3/4"; 5 – Taper punches: 3/32" x 5-1/4"; 1/8" x 5-3/4"; 5/32" x 6"; 3/16" x 6-1/4"; 1/4" x 6-3/4".

Punch & Chisel Set

4605

- Safety protective handle allows easy grip and protects hand from being hit by hammer.
- 12 punches and chisels included:
  5 flat chisels: 1/2", 5/8", 3/4", 7/8", and 1" wide blades.
  1 cape chisel: 1/4" wide blade
  2 taper punches: 1/8" and 1/4" diameter.
  2 pin punches: 3/16" and 1/4" diameter.
  2 center punches: 1/8" and 3/16" diameter.
- Double locking ball detent holds punch or chisel securely in the driver handle.

1/2" Impact Driver

4607

- Loosens hard-to-turn screws, bolts or nuts.
- Handle design prevents possibility of hitting hand with hammer when striking impact driver.
- Bit holder 1/2" drive and 5/16" hex for Phillips and flat screwdriver bits.
- Includes eight screwdriver bits:
  No. 2 Phillips bit, 1-3/8" long with 5/16" hex.
  No. 2 Phillips bit, 3-1/8" long with 5/16" hex.
  No. 3 Phillips bit, 1-3/8" long with 5/16" hex.
  No. 3 Phillips bit, 3-1/8" long with 5/16" hex.
  5/16" wide x 1-3/8" long with 5/16" hex slotted bit.
  5/16" wide x 3-1/8" long with 5/16" hex slotted bit.
  3/8" wide x 1-3/8" long with 5/16" hex slotted bit.
  3/8" wide x 3-1/8" long with 5/16" hex slotted bit.

3/8" Impact Driver

4608

- Loosens hard-to-turn screws, bolts or nuts.
- Handle design prevents possibility of hitting hand with hammer when striking impact driver.
- Bit holder has 3/8" drive and 5/16" hex for Phillips and flat screwdriver bits.
- Includes eight screwdriver bits:
  No. 2 Phillips bit, 1-3/8" long with 5/16" hex.
  No. 2 Phillips bit, 3-1/8" long with 5/16" hex.
  No. 3 Phillips bit, 1-3/8" long with 5/16" hex.
  No. 3 Phillips bit, 3-1/8" long with 5/16" hex.
  5/16" wide x 1-3/8" long with 5/16" hex slotted bit.
  5/16" wide x 3-1/8" long with 5/16" hex slotted bit.
  3/8" wide x 1-3/8" long with 5/16" hex slotted bit.
  3/8" wide x 3-1/8" long with 5/16" hex slotted bit.

Brass Hammer and Punch Set

4606

- Brass-head hammer and punches are ideal to use where sparks from ferrous metals would be hazardous, or where precision metal parts could be damaged by steel tools.
- Hammer head weighs 24 oz.; brass drift punch is 10" x 3/4" diameter; brass tapered punch is 8" x 5/8" hex tapered to 3/8" diameter point.

Screw Extractor Set

4651

- Removes broken studs and bolts.
- Includes ten guide bushings, five drill bits and five screw extractors with extractor nuts.
- Drill bits are left handed to help removal.

Blue Force — Handled Pry Bar Set

- Finally, a heavy-duty pry bar made of tempered.
- square steel that you can hit without damaging the handle.
- Black chrome striking cap allows hitting the bar without damage to the handle.
- Ergonomic handle – dual durometer composite handle for user comfort; reduces hand fatique.
- Polished tip with black oxide finish.
- Long-life finish resists rust and wear during use.

8203

- Set includes 12", 18", and 24" bar shank lengths packaged in a gray molded tray.

8206

- Set includes 8", 12", 18", 24", 32" and 36" bar shank lengths packaged in a gray molded tray.

Heat Gun

14450

- Direct heat source with three settings – 500º F/750º F/Air-only.
- Lightweight, shock-proof & cool running with tough Lexan® housing.
- Fast heating/drying of materials.
- Quick curing/drying of epoxies.
- Applying shrink tubing.
- Softening tubing for bending.
- Speed-drying of touch-up paint to eliminate "haze".
- Drying out condensation in motors, clutches, controls, etc.
- 115V 50/60 Hz.
- Made in USA.

Mirror and Magnet Set

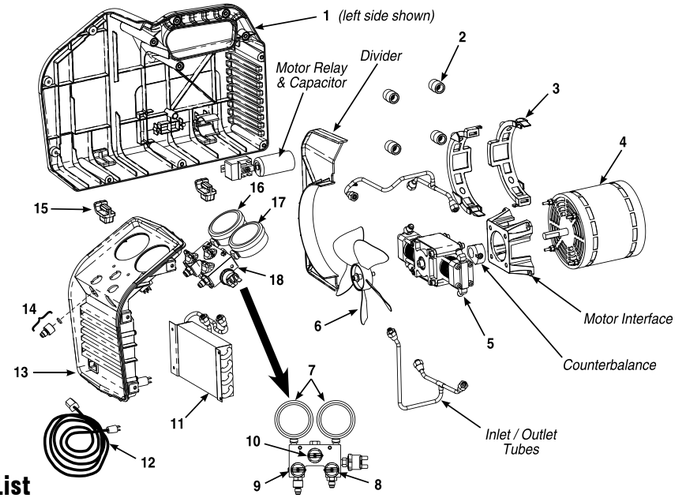
4650

- Handles telescope from 6-1/2" to 25". Swivel heads allow access to tight areas.
- Large, rectangular swivel mirror is 2" x 3-1/2", and is attached to one telescoping handle; small mirror is 1-1/4" in diameter, and is interchangeable with magnets on the other handle.
- Magnets can lift up to 8 lbs.

Cordless Rechargeable 30-LED Light

16440

- Cordless: freedom to move and work anywhere anytime without worrying about tangled cords.
- Rechargeable: One-hour recharge time provides up to 8 hours of continuous operation.
- 30 LED: 30 Super-bright, long-life LEDs provide forward directed pure white light. LEDs produce very little heat, therefore eliminating the possibility of burns to the Technician or components.
  during continuous use.
- Ergonomic: Slim design (1-7/8") diameter allows access into tight areas.
- International versions: 220V, 50/60Hz - European, Australian and UK version.
- Made in USA.



RG6000 Parts List

Item No.	Part No.	Description
1	550495	Case Half (left)
	550496	Case Half (right)
2	550503	Grommet (1 ea.)
3	SK-6013	Motor Clamp Kit (4 pieces)
4	SK-6005	Motor Kit (includes motor, relay,
5	SK-6017	Compressor Kit (includes compressor, cover, hardware)
6	SK-6008	Fan Kit (includes fan, spacer mounting hardware)
7	GA1000	Gauge Lens (1 ea.)
8	100124	Manifold Knob (red)
9	100123	Manifold Knob (blue)
10	100122	Manifold Knob (black)

Item No.	Part No.	Description
11	SK-6014	Condenser Kit (includes condenser assembly, hardware)
12	551628	Power Cord
13	SK-6012	Bezel Kit (includes bezel, power switch, circuit breaker, power entry module, hardware)
14	SK-6001	Inlet Fitting / Filter Screen Kit (includes inlet fitting, filter screen, o-ring)
15	550502	Foot (1 ea.)
16	SK-6003	Low-side Gauge Kit (includes low-side gauge, lens)
17	SK-6022	High-side Gauge Kit (includes high-side gauge, lens)
18	SK-6016	Manifold Kit (includes manifold assembly, hardware)

RG5410EX Parts List

Part No.	Description
536752 (L&R)	Plastic Case
100505	Fan Grill
EL1817	Axial Fan
CD1201	Condenser
536756	Motor Modified
534483	Coupler
CP1001	Bell Housing
535398ASM	Compressor
EL2800	Pressure SW
534487	Input Gauge
534488	Output Gauge

Part No.	Description
GA1000	Gauge Lens
E11310	On/Off Switch
EL1309	Start Switch
100123	Blue Knob
100124	Reo Knob
100122	Black Knob
535388	Front Panel
100343	Filter
NB6501	Flare Cap
111443	Power Cord
EL2802	High Pressure SW

Part No.	Description
100318	Back Plate
536754	Start Capacitor
100351	Compressor Bracket
535396ASM	Manifold
100345	Hose 4"
536755	Run Capacitor
113726	Low Pressure SW
116418	Check Valve (NS)
536768	On/Off/On Switch
536769	Handle Grip

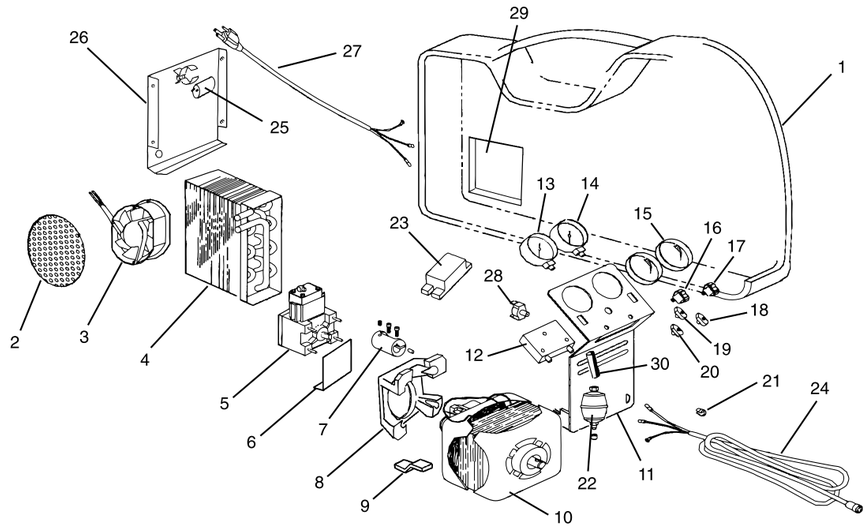
RG5410A Parts List

Part No.	Description
100134 (L&R)	Plastic Case
100505	Fan Grill
EL1817	Axial Fan
CD1201	Condenser
EL1821	Motor Modified
CP1315	Coupler
CP1001	Bell Housing
CP1320	Compressor
EL2800	Pressure SW

Part No.	Description
GA1500	Input Gauge
GA0800	Output Gauge
GA1000	Gauge Lens
EL1310	On/Off Switch
EL1309	Start Switch
100123	Blue Knob
100124	Reo Knob
100122	Black Knob
100137	Front Panel

Part No.	Description
100343	Filter
NB6501	Flare Cap
100162	Cord Set
EL2802	High Pressure SW
100318	Back Plate
EL1412	Capacitor
100351	Compressor Bracket
700133	Manifold
100345	Hose 4"

T.O.C.



Minimax Parts List

Part No.	Description
100118	Plastic Case
100179	Fan Grill, Outlet
100119	Axial Fan
100139	Condenser
CP1320	Compressor
100207	Compressor Bracket
CP1315	Coupler
CP1001	Bell Housing
100209	Motor Bracket
EL1821	Motor

Part No.	Description
100121	Front Panel
700009	Manifold
GA1500	Input Gauge
GA0800	Output Gauge
GA1000	Gauge Lens
EL1310	On/Off Switch
EL1309	Start Switch
100124	Red Knob
100122	Black Knob
100123	Blue Knob

Part No.	Description
NB6501	Flare Cap
100343	Filter
EL1500	*Relay
EL1420	*Sensor Cord
EL1412	Capacitor
100538	Rear Panel
100162	Cord Set
EL2802	Pressure Switch
100180	Fan Grill, Inlet
100345	Hose Assembly

*Optional components for 80% Capacity Tank Sensing Kit.

Leak Detector Replacement Tip Table

Replacement Tip Item Number	Used On
TIF444 (discontinued)	TIF5000A, TIF5000, HLD-440
TIF544 (discontinued)	TIF5500, TIF5600, TIF6000, H10K
TIF554 (discontinued)	TIF5050, TIF5050A
TIF555	TIF5550, TIF5550A, TIF5650, TIF5650A, TIF5750, TIF5750A, H10A
TIFXP-2	TIFXL-1, TIFXL-1A, TIFRX-1, TIFRX-1A, TIFXP-1, TIFXP-1A
TIFZX-2	TIFZX-1

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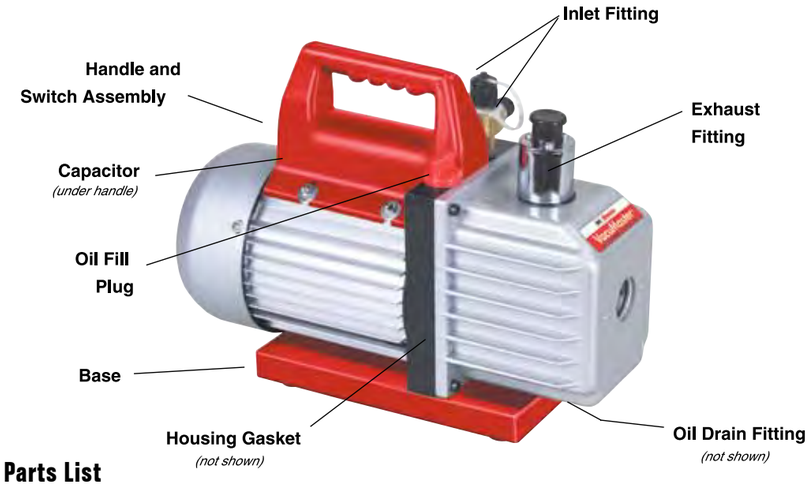
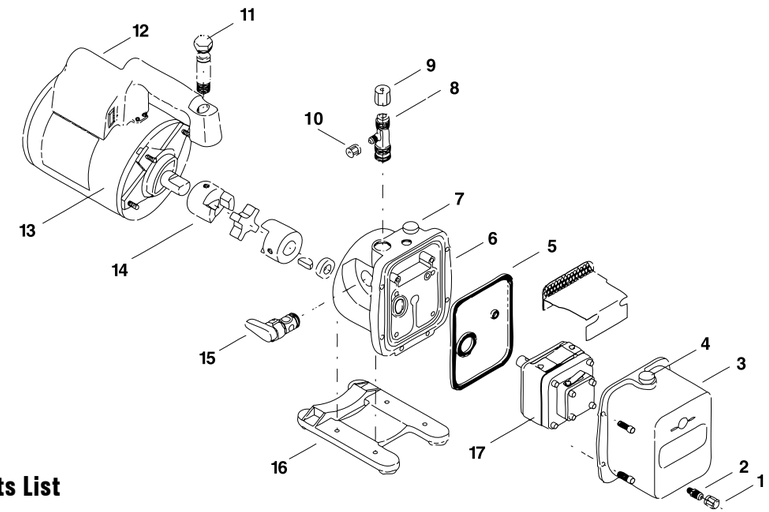
HVAC



15500 Parts List

Part No.	Description
523192	Handle and Switch Assembly (all models except 15800)
535491	Handle and Switch Assembly (Model 15800)
523193	Oil Drain Fitting
523194	Capacitor (all models except 15800)
535492	Capacitor (Model 15800)
523195	Oil Fill Plug
523197	Base (all models except 15800)
535493	Base (Model 15800)
523199	Housing Gasket (Models 15150, 15151, and 15155)

Part No.	Description
523199	Housing Gasket (Models 15150, 15151, and 15155)
523201	Housing Gasket (Models 15300, 15301, 15355, 15500, 15501, 15505, 15203)
535494	Housing Gasket (Model 15800)
523203	Exhaust Fitting (all models except 15800)
535495	Exhaust Fitting (Model 15800)
523208	Inlet Fitting Adapter, 3/8" Male Flare x 1/2" Female ACME
525402	Inlet Fitting, 1/4" and 3/8" Male Flare
525488	Inlet Fitting Adapter, 3/8" Female Flare x 1/2" Male ACME



15600 Parts List

Item No.	Part No.	Description
1	40572	Oil Drain Cap (6)
2	48116	Oil Drain Kit (includes #1)
3	15337	Module Cover Kit (includes #2, #4 and #5)
4	15371	Oil Fill Cap (includes #7)
8	15364	Intake Fitting (includes #9 and #10)
9	41135	Intake Cap (2), 1/2" flare
10	41139	Intake Cap (6), 1/4" flare
11	15338	Vent Bolt (includes O-rings)

Item No.	Part No.	Description
12	15366	Handle, Power Cord and Switch Assembly
13	15370	Motor
14	48103	Coupling
15	15368	Iso-Valve™ Assembly
16	15369	Base and Foot Assembly
17	15548	Replacement Module (includes #1 through #7)
--	15367	Seal Replacement Kit (not shown)

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