



ROBINAIR TECH TOOLS



Robinair's Ultimate HVAC Tools Sweepstakes

ROBINAIR

See back page for details

Choosing your next recovery machine - what to look for when upgrading your equipment

RECOVERY MACHINES

- › A large condenser will help to keep the temperature low to speed up recovery
- › Liquid vs. vapor recovery: Vapor is approximately 75 - 80% of the recovery process. Find a machine that recovers both liquid and vapor with a high vapor recovery rate
- › If you'll be working with multiple refrigerants, the machine must have a purge feature
- › The machine should be field-serviceable. An easy to repair machine can help reduce downtime.

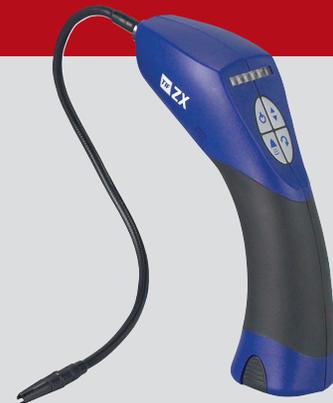


SEE PAGE 2

Find small leaks in new AC systems

LEAK DETECTION

- › New AC systems are tighter and less prone to leaks than systems of the past. A small leak may take months or years to impact a system. If you suspect a leak:
- › Set up a vacuum gauge in line with the system. Let it run for a few minutes and compare vacuum reading with system specs
- › If there is a large pressure difference, you can inject UV dye into the system and let it circulate. This may take up to a week though can be effective in finding leaks.
- › Use an electronic leak detector with high sensitivity such as the TIFZX, checking all lines and joints where you think there may be a leak. Be patient and test multiple areas.



SEE PAGE 5

Engineered specifically for air conditioning & refrigeration service

HIGH PERFORMANCE VACUUM PUMPS

- › **Iso-Valve™** Allows the pump to be shut off while still connected to the A/C-R system, which is handy for checking for vacuum decay. With the valve handle in the OPEN position, the pump is open to the system being evacuated. In the CLOSED position, the pump is isolated from the system.
- › **High Vacuum Rating** The two-stage, offset, rotary vane design provides powerful, quiet, high vacuum capability and ensures moisture removal, while the high pumping capacity reduces evacuation time.
- › **Lifetime Filtration** The intake filter prevents foreign matter from entering the pumping chamber, and an internal exhaust filter separates oil vapor from the exhaust flow.
- › **Directed Exhaust** Is expelled through the handle to direct it away from the service technician.
- › **Gas Ballast** A precise amount of atmospheric air is introduced into the pump, preventing condensation of moisture vapor and helping maintain the purity of the pump oil. By using the gas ballast, the pump operates more efficiently and pump life is extended.



SEE PAGE 3

PORTABLE RECOVERY MACHINES



RG6 Heavy Duty Twin Cylinder Recovery Machine

- › Twin-Cylinder Design – Provides best-in-class recovery performance.
- › Oil-less Compressor – Capable of handling both liquid and vapor recovery.
- › Oversized Condensers and Fan – Larger condenser area and larger fan allow for maximum cooling and shorter cycle times.



RG3 Ultra Lightweight Recovery Machine

- › Compact and Lightweight – 40% smaller footprint, easy to carry, weighing in at 18 lbs!
- › Oil-less Compressor – Capable of recovering both liquid and vapor.
- › High Efficiency Cross Flow Design – Layout of fan and condenser is maximized for shorter cycle times.



FLCK-1

100343

FLCK-1 – Filter Conversion kit

100343 – Male/Male Filter Dryer

VACUUM PUMPS AND OIL

15500
VacuMaster®
2-Stage
Vacuum Pump
▶ 5 CFM



15600
CoolTech®
2-Stage
Vacuum Pump
▶ 6 CFM
▶ Made in U.S.A.



15800
VacuMaster®
2-Stage
Vacuum Pump
▶ 8 CFM



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.

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.

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.

13203 – Quart bottle, 12 per case.

13204 – Gallon bottle, 4 per case.



DIGITAL VACUUM GAUGE



RAVG-1

Extreme Accuracy Digital Vacuum Gauge

- ▶ High Resolution and unique backlight indicator make precision readings easy.
- ▶ Range from Atmosphere down to 10 microns.
- ▶ Impact and water resistant case with protective rubber boot.
- ▶ Large easy to read 5 digit display.
- ▶ Includes carrying case and tee adapters or in-line connections (1/4" MFL x 1/4" MFL and 1/4" FFL x 1/4" MFL versions)



SCALES



TIF9010A Electronic Charging Scale

- › 110 pound/50kg capacity.
- › Touch key controls.
- › High resolution 0.1 oz./0.005 lbs. / 2 grams
- › Compact design and carrying case.
- › Auto zero.



TIF9020A Electronic Charging Scale

- › 200 pound/100 kg. capacity.
- › The TIF Slimline scale has offered industry leading accuracy, and performance.
- › Durable blow molded case that includes an integrated handle, and a two year warranty.

TIF9030 Economy Digital Refrigerant Scale

- › Easy to carry and store.
- › Capacity up to 220 lbs. (100 kg). Display shows lbs./oz. and kg.
- › High accuracy (± 0.5 oz.) and resolution (0.1oz).
- › 9-volt battery power.
- › Platform to adapt to most existing tanks (9" x 9").
- › Three control keys: On/Off, automatic zeroing, and measurement units.
- › Charging and recovery capabilities
- › CE approved and a one-year warranty.



REFRIGERANT LEAK DETECTOR



TIFZX Patented Heated Pentode® Professional Refrigerant Leak Detector

- › The tool professionals use to find refrigerant leaks
- › Detects all refrigerants.
- › As low as 0,05 sensitivity.
- › Heated Pentode sensor technology.
- › Visual Tri color Leak size indicator with adjustable sensitivity.
- › True mechanical pump design provides instant response and clearing.
- › Rechargeable battery pack and AC adapter.
- › 3 year warranty.
- › Made in USA.



TIFZX-2



TIFZX-3



TIFZX-7

TIFZX Replacement Parts & Accessories

- TIFZX-2** – Replacement Heated Pentode® Sensor
- TIFZX-3** – 110V-60 Hz Battery charger
- TIFZX-7** – Nickel-Metal hydride (NiMH) battery pack
- TIFZX-10** – Flexible probe (includes probe tip)
- TIFZX-14** – Filter and O-ring
- TIFZX-15** – Filter elements (5 pack)



TIFZX-10



TIFZX-14



TIFZX-15

COMBUSTIBLE GAS



TIF8800X Combustible Gas Detector

- › Redesign of the industry standard TIF8800.
- › Detects all combustible gases.
- › Protective rubber boot and coated 14" flexible wand for hard to reach places.
- › Sensitivity as low as 1ppm (Gasoline).
- › LED leak level indicators & battery status indicators.
- › Padded carrying case.
- › Made in USA.

Replacement Parts

- TIF8801** – Sensor
- TIF8802** – A/C adapter
- TIF8809** – Ni Mh battery pack
- TIF8818** – Rubber boot

LEAK DETECTOR



TIFXP-1A Refrigerant Leak Detector

- › Tri-color, six-segment visual leak size indicator displays 18 alarm levels.
- › Seven levels of sensitivity adjustment provide an increase of up to 64x.
- › Battery test function with true voltage indication.
- › Mute feature silences audible alarm.
- › True mechanical pump provides positive airflow through sensing tip.
- › One touch reset.
- › Tactile keypad controls.
- › Three-year warranty.

Replacement Parts

- TIFXP-2** – Maintenance kit (3 tips, 3 protectors).

MANIFOLD



42160 Manifold Pressure Test Kit

- › Pressure measurements from 0–35" of water col.
- › 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.

MANIFOLD & HOSES



40174

Brass Charging Manifold and Hoses R22/404a/410a

- › Solid brass manifold for long life with color coded Lexan hand wheels.
- › Universal gauges are easy to read with Lexan Lenses.
- › Enviroguard® Hoses are 60" and include standard 1/4" Robinair Quickseal™ fittings.
- › Made in USA.



40153

Brass Charging Manifold and Hoses R22/134a

- › Solid brass manifold for long life with color coded Lexan hand wheels.
- › Universal gauges are easy to read with Lexan Lenses.
- › 36" Standard hoses with standard fittings.
- › Made in USA.



69060A

1/4" Enviro-Guard™ Hoses with Quick Seal™ Fittings

- › Premium High Pressure hose with 45° QuickSeal fittings.
- › Extremely flexible.
- › Special barrier internal to the hose, prevents any permeation of refrigerant.
- › 740 PSI working pressure, 3700 PSI burst pressure.
- › Set contains three 60" hoses.
- › Made in USA.



65060

Enviro-Guard™ Hoses with Ball Valves

- › In-line ball valves control refrigerant flow, open and close in a quarter turn.
- › Set of three 60" hoses with ball valves.
- › Made in U.S.A.



31060

1/4" Standard Hoses with Standard Fittings

- › Neoprene-coated for flexibility and wear resistance, with a valve core depressor and a 45° bend on one end for convenient access to the system.
- › One 60" hose.
- › 500 PSI working pressure, 2500 PSI burst pressure.

VALVE CORE TOOLS



18560



18561

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. Stainless steel ball and brazed side fitting for durability and long life.

18561

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

ADAPTERS & FITTINGS

13145

1/4" Valve Core Remover/Installer

- › Valve core remover/installer with 6 valve cores.



40330

Piercing Valves with Valve Cores

- › Fits 3/16, 1/4, 5/6, 3/8 OD.



40288

Tube Piercing Valves

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

- › Fits 3/16, 1/4, 5/16, 3/8 OD.



40352

Valve Cores

- › Replacement valve cores, pkg/6.



40572

Brass Caps

- › 1/4" solid brass Quick Seal™ caps have knurled ridges for easy gripping. pkg/6.



40570

Cap

- › 1/4" cap with chain.



40401

MFL x MPT Coupler

- › 1/4" m. flare access x 1/4" MPT body, Includes brass cap and valve core. Qty. 6 per package.



13142

Fitting Solder Union Type

- › 1/4" m. flare access fitting with 1/4" copper tube extension, Includes brass cap and valve core. Qty 6 per package.



40386

Tee Fitting

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





11012 Offset Wrench

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



10696 Ratchet Wrench

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



10994 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



43240 Digital Thermometer

- › Sampling time is just one second; HOLD button freezes display for accuracy.
- › Range: -40° to 390° F (-40° to 200° C)
- › Easy-to-read display can be read even in direct sunlight.
- › Durable case includes a cover to protect the probe.
- › Min/Max display for reading temperature ranges.



12458 Process Tube Adapter Kit

- › 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.



18403 Fin Straightener

- › Clean, straighten condenser and evaporator coils.
 - › Compact design for confined spaces: the straightener head is 3-1/8" in diameter; the handle is 3-1/2" long.
 - › Includes 12 clearly marked combs
- Wheel 1: 8, 9, 10, 12, 14, & 15 fins per inch
Wheel 2: 10.5, 11, 13, 18, 20, & 22 fins per inch



TIF7610 IR Thermometer PRO

- › Complete IR design is incorporated inside of a single chip, reducing space and creating a compact and light weight product.
- › Innovative optical lens – accurate measurements; wide temperature range: -76 to +932°F (-60 to +500°C).
- › Laser pointer – Easy to define the target area to be measured.
- › Simple and easy to operate: Simply point at desired target and press the trigger button for a temperature reading.
- › The TIF IR thermometers incorporate visual low battery indication and simple operation of two "AAA" batteries.



42170 Mini-Split Installation/Service Kit

- › Single valve manifold gauge, dedicated specifically for Mini-Split installation and service applications.
- › Custom length high pressure hoses, eliminates up to 20% of unnecessary charge volume compared to longer length hoses.
- › Protective blow molded case, gives a visual inventory of each tool – no more leaving tools behind at the job site.
- › Eccentric cone flaring tool produces a rolling action for uniform flare walls, which are ideal for mini-split R410A flares.



ROBINAIR'S ULTIMATE HVAC TOOLS SWEEPSTAKES

Win an essential set of tools any HVAC contractor needs to get the job done during Robinair's Ultimate HVAC Tools Sweepstakes.

Visit [Robinair.com/sweepstakes](https://www.robinair.com/sweepstakes) to enter for your chance to win a set of tools valued at over \$2,500, including recovery machines, vacuum pumps, a leak detector and more. One winner will be selected every two weeks and a total of 5 prize packages will be given away throughout the sweepstakes period.

HVAC Prize Package Includes:

- › RG3 - Ultra Lightweight Recovery Unit
- › RG6 - Heavy Duty Twin Cyl. Recovery
- › 15500 - 5 CFM Vacuum Pump
- › 13203 - Case of Vacuum Pump Oil
- › TIF9020A - 220 lb. Refrigerant Scale
- › TIFZX - Refrigerant Leak Detector
- › RAVG-1 - Digital Vacuum Gauge
- › 40174 - 2-way Brass Manifold R22/R404/R410A with RYB 60" Enviroguard High Pressure Hose Set
- › 18561 - Valve Core Remover/Installer



Enter at [Robinair.com/sweepstakes](https://www.robinair.com/sweepstakes)
Sweepstakes Period: April 10 - June 19

See your Robinair Dealer now
for special Tech Tool pricing