Pro-Set® cps®

TRS600 IGNITION PROOF SERIES
Refrigerant Recovery Machines

OWNER'S MANUAL (English)

Français, Español, Deutsch and latest updates: www.cpsproducts.com

Series: TRS600, TRS600K, TRS600S

UL VERIFIED

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

TO BE OPERATED BY QUALIFIED PERSONNEL ONLY

WARNING: THIS UNIT IS NOT RATED FOR USE IN EXPLOSIVE ENVIROMENTS. IT IS DESIGN TO RECOVER CLASS A1, A2 AND A3 REFRIGERANTS IN NORMAL OR STANDARD ENVIROMENTS.

THIS EQUIPMENT HAS BEEN VERIFIED BY UNDERWRITERS LABORATORIES INC. TO MEET EPA'S MINIMUM REQUIREMENTS FOR RECOVERY EQUIPMENT INTENDED FOR USE WITH ALL SYSTEMS CONTAINING REFRIGERANTS FROM ARI740-98 CATEGORIES III, IV, AND V. UL CONTROL NUMBER 2HA5.

CONTENTS

KEY FEATURES

- Designed and tested to meet ANSI 12:12.01 Ignition Proof standards
- For use on refrigeration systems utilizing Class A1 (non-toxic, nonflammable), Class A2L (non-toxic, low flammability), Class A2 (non-toxic, flammable), and Class A3 (nontoxic, flammable)
- Maintenance free oil-less compressor
- Permanently lubricated and sealed main bearings
- Improved piston seal design for less leakage and deeper vacuums
- 550 Psig high pressure cutoff switch with LED indicator
- Cleanable 100 mesh inlet filter
- Fastest recovery rates in its class
- Ignition proof ON-OFF switch
- Sealed start relay
- Hard wired 9.8 ft. (3 m) power cord
- Other patents pending

GENERAL SAFETY INSTRUCTIONS

Please read, follow and understand the contents of this entire manual, with special attention given to Danger, Warning and Caution statements.

FOR USE BY PROFESSIONALLY TRAINED AND CERTIFIED OPERATORS ONLY. MOST STATES, COUNTRIES, ETC., MAY REQUIRE USER TO BE LICENSED. PLEASE CHECK WITH YOUR LOCAL GOVERNMENT AGENCY.

DANGER: The recovery tank used with this contains liquid refrigerant. Overfilling recovery tank may cause a violent rupture resulting in severe injury or even death. **As a minimum, please use a scale to continuously monitor recovery tank weight.**

DANGER: **EXPLOSION RISK!** This unit is not certified as 'explosion proof' for explosive rated environments. It is only to be used in normal environments.

DANGER: **ELECTRICAL SHOCK HAZARD:** Always disconnect power source when servicing this equipment.

WARNING: Do not use equipment in the vicinity of spilled or open containers of gasoline or other flammable substances.

WARNING: All hoses may contain liquid refrigerant under pressure. Contact with refrigerant may cause frostbite or other related injuries. Wear proper personal protective equipment such as safety goggles and gloves. When disconnecting any hose, please use extreme caution.

WARNING: TO REDUCE RISK OF FIRE: Avoid use of an extension cord because extension cord may overheat. If you must use an extension cord, use 10 awg minimum.

WARNING: Avoid breathing refrigerant vapors and lubricant vapor or mist. Breathing high concentration levels may cause heart arrhythmia, loss of consciousness, or even cause suffocation. Exposure may irritate eyes, nose, throat and skin. Please read manufacturer's Material Safety Data Sheet for further safety information on refrigerants and lubricants.

WARNING: Make certain all safety devices are functioning properly before operating equipment.

CAUTION: To avoid cross contamination of refrigerant and potential leakage to the atmosphere, proper hoses and fittings should be used and checked for damage.

GENERAL SAFETY INSTRUCTIONS

CAUTION: To avoid overfilling refrigerant tank, read and follow manufacturer's recommended filling instructions for refrigerant being recovered.

CAUTION: This equipment is intended for use of one refrigerant at a time. Mixing of different refrigerants will cause your recovered supply of refrigerant to become contaminated.
Note: It is very expensive to destroy mixed or damaged refrigerants.

ADDITIONAL SAFETY INSTRUCTIONS FOR REFRIGERATION SYSTEMS CONTAINING CLASS A2, A2L & A3 REFRIGERANTS

The following are additional safety recommendations when servicing refrigeration equipment that contain Class A2L, A2 or A3 refrigerants. These instructions do not replace existing occupational hazard procedures or other regulations that may be required by local,state or federal agencies.

Technicians working on Class **A2L**, **A2** and **A3** systems should have detailed knowledge of and skills in handling flammable refrigerants, personal protective equipment, refrigerant leakage prevention,handling of cylinders, charging, leak detection and proper disposal. Additional knowledge of legislation, regulations and standards relating to flammable refrigerants may also be required. Special Certification or licensing may be required on Class **A2L**, **A2**, and **A3** and refrigerant handling. Check your local occupational safety codes.

The area of service should be marked as Temporary Flammable Zone. This will be 3 meter perimeter around the refrigeration equipment being serviced and should have **NO SMOKING** and other hazardous signs posted. Local supervisor should be notified of the zone's existence.

- A flammable gas detector should be used to monitor air in the Temporary Flammable Zone.
- A dry powder or C02 fire extinguisher must be available at service location.
- A suitable ventilation fan should be used to maintain in the work space at a minimum of 5 air changeovers per hour.
- Ensure the refrigeration equipment's power has been discontinued.
- All potential ignition sources within Temporary Flammable Zone must be disabled.
- When connecting service equipment (such as vacuum pumps, scales, recovery units) to a power source, the connection must be made outside the Temporary Hazardous Zone.
- A ground strap must be used between the unit's brass outlet fitting on motor frame and the recovery tank inlet brass fitting. The ground strap must go on bare metal surface to ensure continuity and discharge of static electrical charges.
- Do not pull system into a vacuum. Stop recovery process at 0 PSIG. This is to prevent accidental ingestion of air into the recovery tank.
- Once recovery process of a Class A2L, A2 or A3 system is complete, system should be purged with 100% Nitrogen. **DO NOT USE AIR.**

DANGER-EXPLOSION RISK: Do not mix Class **A2L**, **A2** or **A3** refrigerants with air. All precautions must be taken to eliminate mixing of air with flammable refrigerants,including monitoring Recovery Cylinder for air content.

SPECIFICATIONS

Model #		TRS600	TRS600K	TRS600S
Voltage (Hz)		115V (60 Hz)	220V (50 Hz) 230V (60 Hz)	220-240V (50 Hz)
Motor Size		2/3 HP		
Motor Thermally Protected		✓		
Compressor Type		Two cylinder, oilless		
Overload Protection		Thermally Protected		
Power Consumption		1000 W		
Suction Pressure Gauge	Outer Scale	-30" hg to 500 psig		
	Inner Scale			
Discharge Pressure Gauge	Outer Scale	0-550 psig		
	Inner Scale			
High Pressure Shut-Off		550 psig (38 bar)		
AHRI 740 Class Refrigerants *(See CPS website for complete list of refrigerants)*	Class III	R-12, R-1234yf, R-1234ze, R-134A, R-401C, R-406A, R-500		
	Class IV	R-22, R-401A/B, R-402B, R-407C/D/E/F, R-408A, R-409A, R-411A/B, R-412A, R-502, R-509A		
	Class V	R-32A, R-402A, R-404A, R-407A/B, R-410A/B, R-507A		
	ASHRAE/ISO Class A2, A2L and A3	R-1234yf, R-1234ze R-32, R-290, R-600, R-601, R-1276		
Operating Temperature Range		32°F to 120°F (0°C to 49°C)		
Power Cord Length		9.8 ft. (3.0 m)		
Dimensions		Inch: 8.5" x 16.7" x 12.3" (cm: 21.6 x 42.4 x 31.2)		
Weight		28 Lbs (12.7 Kg)		
Approvals		*UL		
Warranty (Years)		1		

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

Refrigerant	Direct Vapor	Direct Liquid	Push - Pull Liquid	High Temp Vapor Rate
R410a	.70 lb/min (0.32 kg/min)	11.94 lb/min (5.41 kg/min)	31.7 lb/min (14.3 kg/min)	0.81 lb/min (37 kg/min)
R22	.59 lb/min (0.27 kg/min)	8.86 lb/min (4.02 kg/min)	31.52 lb/min (14.3 kg/min)	0.86 lb/min (39 kg/min)
R134a	.49 lb/min (0.22 kg/min)	7.8 lb/min (3.54 kg/min)	25.66 lb/min (11.64 kg/min)	N/A
R407c	.53 lb/min (0.24 kg/min)	9.50 lb/min (4.31 kg/min)	29.14 lb/min (13.22 kg/min)	N/A

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

CONTROLS AND FEATURES

Molded Rubber Grip Handle

Durable Housing

Low Side Gauge

High Side Gauge

Ignition Proof ON / OFF Power Switch

Discharge Shut-Off Valve

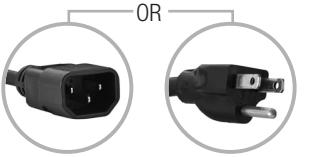
Discharge Port (with protective cap)

Air Exhaust Vents

Suction Shut-Off Valve

Suction Port with Cleanable 100 Mesh Filter (with protective cap)

OR



220-240V IEC Connector

115V Plug

Air Exhaust

Air Intake

Rubber Feet

DIRECT VAPOR OR LIQUID RECOVERY

IMPORTANT! If recovering Class A2, A2L, or A3 refrigerants, read ADDITIONAL SAFETY INSTRUCTIONS ON PAGE # OF THIS MANUAL.

A. Use shortest length 1/4" (Inside Diameter) Refrigeration Hose on Suction Side of Recovery Unit.
B. Use an evacuated DOT Tank (90lb or larger, and rated for 550 PSI/38 Bar).
C. If refrigerant is clean, remove all suction side filters, screens, etc.
D. Remove all Schrader type valve cores and any valve depressors from hoses and service valves.
E. If Recovery Unit trips OFF on HIGH Pressure, change recovery cylinder.
F. When recovering large amounts of R410A, or if Recovering under very high ambient temperatures, we suggest using the CPS MT69 (Molecular Transformator) which will increase the recovery speed.

CONNECT RECOVERY UNIT (See Diagram 1)

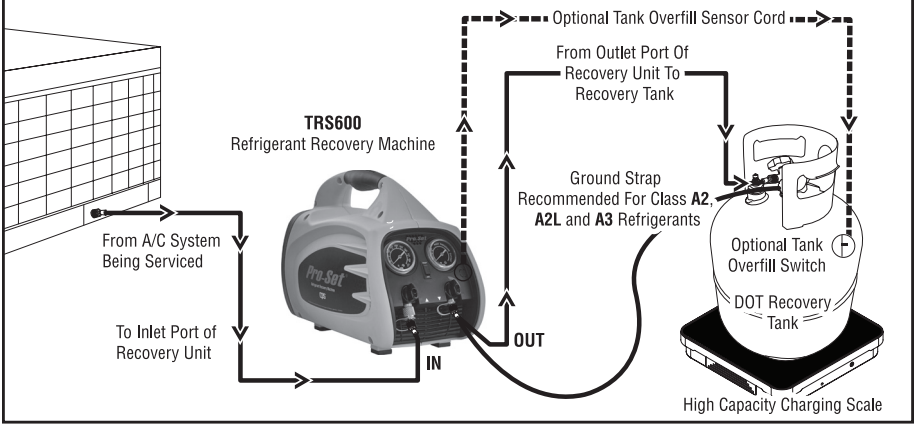
- Use a Refrigerant Manifold (with sight glass) and two spare hoses.
- Connect Ground Strap between Recovery Unit and Recovery Tank (to prevent static electricity build up).

1. Use a refrigerant manifold (with sight glass) and one spare hose.
2. Connect Manifold between A/C or Refrigeration Unit being serviced and Recovery Unit IN port.
3. Connect Refrigerant Hose from Recovery unit OUT port to evacuated DOT Recovery Tank VAPOR Valve.
4. OPEN VAPOR Valve on DOT Recovery Tank.
5. Keep Manifold Valves CLOSED at this time.
6. On Recovery Unit, set Main Power Switch to ON.
7. When Recovery Unit starts, OPEN both HIGH & LOW Manifold Valves to start refrigerant recovery flow.

Note: Recovery Unit is designed to directly recover large amounts of liquid refrigerant. During Vapor Recovery, if compressor makes slugging or hammering noise, meter incoming liquid refrigerant by closing LOW Side Manifold Valve until noise subsides.

8. Recovery Unit will run continuously. When 0 PSIG level is observed on LOW Side Manifold Gauge, close both LOW & HIGH Side Manifold Valves.
   CAUTION: For Class A2, A2L and A3 recovery, Recovery Unit must be turned off when 0 Psig to prevent possible ingestion of air during recovery process.
9. If Pressure on HIGH Side Manifold Gauge starts to rise, repeat steps 6-8.
10. If HIGH Side Manifold Gauge remains in a vacuum, close all tank, manifold and hose valves.
11. Remove discharge hose from Recovery Unit OUT Port. Recovery and Self-Clearing are now complete.

Diagram 1 - Direct Vapor Or Liquid Recovery



PUSH-PULL LIQUID RECOVERY

IMPORTANT! If recovering Class A2, A2L, or A3 refrigerants, read ADDITIONAL SAFETY INSTRUCTIONS ON PAGE # OF THIS MANUAL.

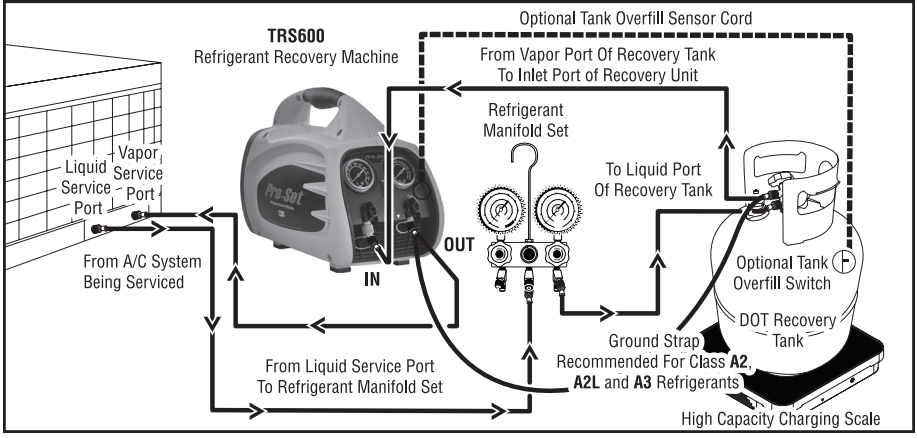
A. Use shortest length 3/8" (Inside Diameter) Refrigeration Hose on Suction Side of Recovery Unit to Vapor Port on Tank.
B. Use 3/8" (Inside Diameter) Refrigerant Hoses from system Liquid Service Valve to LIQUID Port on Recovery Tank.
C. Use an evacuated DOT Tank (90lb or larger, and rated for 550 PSI/38 Bar).
D. If refrigerant is clean, remove all suction side filters, screens, etc.
E. Remove all Schrader type valve cores and any valve depressors from hoses and service valves.

CONNECT RECOVERY UNIT (See Diagram 3)

- Use a Refrigerant Manifold (with sight glass) and two spare hoses.
- Connect Ground Strap between Recovery Unit and Recovery Tank (to prevent static electricity build up)

1. Connect Manifold between Liquid Port on A/C or Refrigeration Unit being serviced and DOT Recovery Tank LIQUID Valve.
2. Connect Refrigerant Hose from Recovery Unit IN port to evacuated DOT Recovery Tank VAPOR Valve.
3. Connect another Refrigerant Hose from Recovery Unit OUT Port to VAPOR Port of unit being serviced.
4. CLOSE Manifold LOW Side Valve.
5. OPEN Manifold HIGH Side Valve.
6. OPEN LIQUID Valve on DOT Recovery Tank.
7. On Recovery Unit, set Main Power Switch to ON.
8. OPEN VAPOR Valve on DOT Recovery Tank. A Push-Pull Flow is now enabled.
9. MONITOR Charging Scale for DOT Recovery Tank Capacity.
10. MONITOR Sight Glass in manifold for presence of liquid refrigerant.
11. When liquid refrigerant no longer being pushed out of Refrigeration System being recovered, CLOSE Vapor Valve on DOT Recovery Tank.
12. Let Recovery Unit run for 30 seconds, then turn Recovery unit OFF.
13. Note: Push-Pull recovery does completely recover all refrigerant. Proceed to Direct Vapor Recovery (Page 5) to complete the recovery process.

Diagram 2 - Push-Pull Liquid Recovery



ROUTINE MAINTENANCE

Filter Maintenance: The TRS600 is equipped with a 100-mesh screen filter. Check periodically. A partially clogged filter will slow the recovery rate. Check as follows:

- Use a 5/8" socket or wrench to loosen suction port (Figure 1).
- Remove suction port filter (Figure 2).
- Clean filter or replace with new filter.
- Inspect O-ring. Re-lubricate with compressor oil or equivalent.
- Place filter assembly back into suction port fitting.
- Hand tighten (1/8 turn) assembly back into TRS600 (do not overtighten). Damage to O-ring may result.

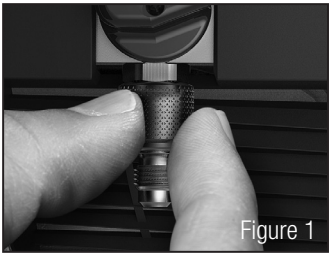


Figure 1


Figure 2

WARRANTY

CPS Products, Inc. guarantees that all products are free of manufacturing and material defects to the original owner for one year from the date of purchase. If the equipment should fail during the guarantee period it will be repaired or replaced (at our option) at no charge. This guarantee does not apply to equipment that has been altered, misused or solely in need of field service maintenance. All repaired equipment will carry an independent 90 day warranty. This repair policy does not include equipment that is determined to be beyond economical repair. **WARRANTY DISCLAIMER: Use this device to recover only HVAC/R refrigerants from sealed HVAC/R systems. WARRANTY VOIDED IF USED FOR ANY OTHER PURPOSE.**

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