

# **Pro-Set**<sup>®</sup> cps<sup>®</sup>

## **TR600 Series Refrigerant Recovery Machines**



### **OWNER'S MANUAL (English)**

**Series: TR600, TR610, TR600C, TR610C, TR600S, TR600K, TR600E**  
TO BE OPERATED BY QUALIFIED PERSONNEL ONLY



Evaluated for performance in accordance with Sec. 608 of the Clean Air Act (Feb. 29, 1996) using AHRI-740-38 test methods.



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.

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## KEY FEATURES

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- Powerful 2/3 HP oilless 2 cylinder reciprocating recovery compressor
- Exceptional compressor, condensing & cooling systems allow fast recovery in high temperature environments
- R-410a ready with 550 psi high pressure shut-off switch
- Durable inlet and outlet ball valve construction with 1/4 shut-off valves
- Integrated component moorings for quiet operation
- High impact injection molded housing
- Ergonomic well balanced design for easy transport
- No tool access suction housing for easy filter clean/change
- Designed and manufactured in U.S.A. with U.S. and globally sourced components
- Worldwide patents pending
- Less parts mean greater reliability

## 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 THE USER TO BE LICENSED. PLEASE CHECK WITH YOUR LOCAL GOVERNMENT AGENCY.**

**DANGER- EXPLOSION RISK!!! DO NOT RECOVER FLAMMABLE REFRIGERANTS!!**

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

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

**WARNING:** Do not use this 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 THE RISK OF FIRE:** Avoid the use of an extension cord because the extension cord may overheat. However, if you must use an extension cord, the cord shall be 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 the manufacturer's Material Safety Data Sheet for further safety information on refrigerants and lubricants.

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

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

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

**CAUTION:** This equipment is intended for use of one refrigerant at a time until the Self-Clearing feature is used. 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.



## SPECIFICATIONS

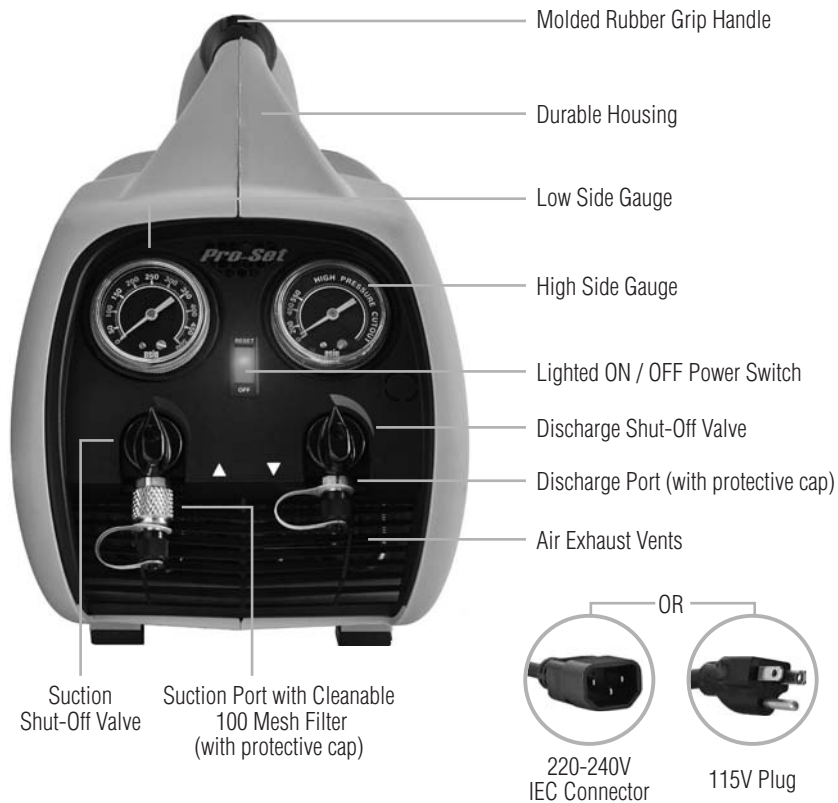
Model #	TR600	TR610	TR600C	TR610C	TR600S	TR600K	TR600E	
Voltage (Hz)	115V (60 Hz)				220-240V (50 Hz)	220V (50 Hz) 230V (60 Hz)	220-240V (50 Hz)	
Motor Size	2/3 HP							
Motor Thermally Protected	✓							
Compressor Type	Two cylinder, oilless							
Overload Protection	15 Amp	13 Amp			10 Amp			
Power Consumption	1000 W							
Tank Overfill Switch	✗	✓	✗	✓	✗	✗	✗	
Suction Pressure Gauge	Outer Scale	-30" hg to 500 psig					-100 kPa to 3500 kPa -1 bar to 35 bar	
	Inner Scale							
Discharge Pressure Gauge	Outer Scale	0-550 psig					0-3800 kPa 0-38 bar	
	Inner Scale							
High Pressure Shut-Off	550 psig (38 bar)	450 psig (31 bar)		550 psig (38 bar)		3800 kPa (38 bar)		
AHRI 740 Class Refrigerants <i>(See CPS website for complete list of refrigerants)</i>	Class III	R-12, R-134A, R-401C, R-406A, R-500, R-22, R-401A/B, R-402B, R-407/C/D/E/F, R-408A, R-409A, R-411A/B, R-412A, R-502, R-509A, R-402A, R-404A, R-407A/B, R-410A/B, R-507A					R-12, R-134A, R-22, R-401A/B/C, R-402A/B, R-404A, R-407C/D/E/F, R-408A, R-410A/B, R-500, R-502, R-507A, R-509A	
	Class IV							
	Class V							
Operating Temperature Range	32°F to 120°F (0°C to 49°C)							
Power Cord Length	3.5 Ft. (1.06 m)					1.5 Ft. (0.46 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, CE	*UL,CE	*UL,CE, CSA	*UL,CE, CSA	*UL,CE	*UL,CE	*UL,CE, TUV	
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

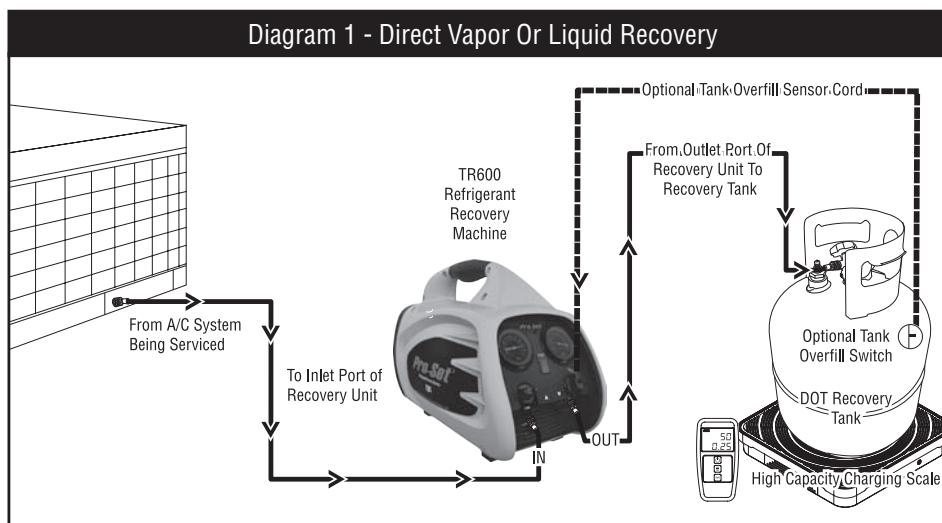


## DIRECT VAPOR OR LIQUID RECOVERY

### TO MINIMIZE RECOVERY TIME:

- 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.
1. Connect unit as shown in **Diagram 1. EU Note:** *The recovery tank must be rated for 38 bar.*
  2. Open **Vapor Valve** on **Recovery Tank**.
  3. Open **OUT Valve** on unit (Do **NOT** Open **IN Valve** at this time).
  4. Push **Main Power Switch "ON"**.
  5. When unit starts, open **IN Valve** on unit to start refrigerant flow.
  6. Monitor amount of refrigerant in **Recovery Tank**. **WARNING: Do not over fill Recovery Tank**.  
**Note:** *The unit is designed to handle large amounts of liquid refrigerant. If during direct liquid recovery the compressor begins to make a slugging or hammering noise, meter in the incoming liquid by closing the IN valve until the noise subsides.*
  7. Unit will run continuously.
    - Monitor **IN Gauge**
    - Set **Main Switch** to **OFF** once required vacuum level is reached.
  8. The following instructions are to reduce the amount of residual refrigerants:
    - Disconnect the service hose from the TR600 IN port.
    - Connect a service hose from the TR600 IN port to the Recover Tank Vapor Port.
    - Set **Main Switch** to **ON**.
    - Slowly open **Recovery Tank Vapor Port Valve** so **IN Gauge** reads 60-70 PSIG. Run for 30 seconds.
    - Close **Recovery Tank Vapor Port Valve**. Turn the Power switch to OFF when a vacuum is reached on the LOW side gauge.

**RECOVERY PROCEDURE IS NOW COMPLETE. CLOSE ALL VALVES AND DISCONNECT HOSES**



## PUSH-PULL LIQUID RECOVERY

### TO MINIMIZE RECOVERY TIME:

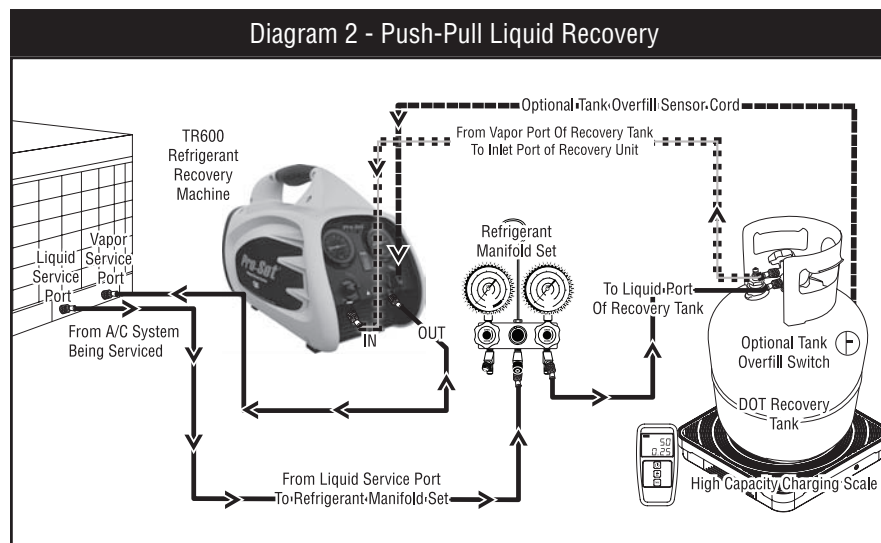
- Use shortest length 3/8" (Inside Diameter) Refrigeration Hose on Suction Side of Recovery Unit to Vapor Port on Tank.
- Use 3/8" (Inside Diameter) Refrigerant Hoses from system Liquid Service Valve to LIQUID Port on Recovery Tank.
- Use an evacuated DOT Tank (90lb or larger, and rated for 550 PSI/38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

- Connect unit as shown in **Diagram 2**

**EU Note:** The recovery tank must be rated for 38 bar

- Open **Liquid and Vapor Valve** on **Recovery Tank**
- Open **OUT Valve** on unit.
- Set **Main Power Switch** to **ON**.
- When unit starts, open **IN Valve** on unit to start refrigerant flow.
- Monitor weigh scale for increase of weight in the Recovery Tank, or view sight glass for liquid refrigerant flow. **WARNING: Do not over fill Recovery Tank**.
- Once the weight gain subsides or liquid refrigerant is no longer present in sight glass, close **Recovery Tank Vapor Valve**. Set **Main Power Switch** to OFF once **IN Gauge** pulls in to a vacuum.

**LIQUID PUSH-PULL PROCEDURE IS NOW COMPLETE. PROCEED TO DIRECT LIQUID OR VAPOR OPERATION.**



## ROUTINE MAINTENANCE

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**Filter Maintenance:** The TR600 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 TR600 (do not overtighten. Damage to O-ring may result).



Figure 1

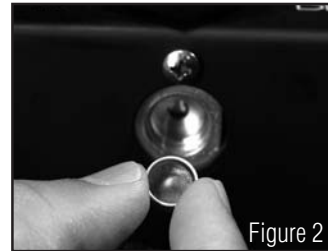


Figure 2

## WARRANTY

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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.**

## LOCATIONS

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