



Installation, Operation, and Maintenance

Trane Rental Services

Fuel Tanks



SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury. All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in **NEC** and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/ GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

Copyright

This document and the information in it are the property of Trane, and may not be used or reproduced in whole or in part without written permission. Trane reserves the right to revise this publication at any time, and to make changes to its content without obligation to notify any person of such revision or change.

Trademarks

All trademarks referenced in this document are the trademarks of their respective owners.

Revision History

Updated Model Number Description, General Information, Day Tank Operation chapters.



Table of Contents

Model Number Descriptions	5
General Information	6
Overview	6
Unit Dimensions	8
Day Tank - General Arrangement	8
DEF Tank - General Arrangement	8
Installation and Decommission	9
Transportation	9
Day Tank Operation	10
Day Tank To Generator Hose Connections	11
DEF Tank Operation	12
DEF Tank Electrical Connections	12



Model Number Descriptions

Digit 1, 2 – Unit Function

RS = Rental Services prefix

Digit 3, 4 – Tank Type

DT = Day Tank

DD = DEF Tank

Digit 5, 6, 7, 8 – Tank Volume

0100

1000

Digit 9, 10 – Design sequence

FO

Digit 11, 12 – Incremental designator

AA



General Information

The purpose of this IOM is to detail the proper handling, installation, and maintenance recommendations for Trane Rental Services Fuel Tanks. This equipment is designed and manufactured for efficient refueling of equipment and/or transportation of fuel. Full load lifting eyes, forklift pockets, and internal baffles allow handling of the tank. The double-walled design eliminates the need for spill pans.

Overview

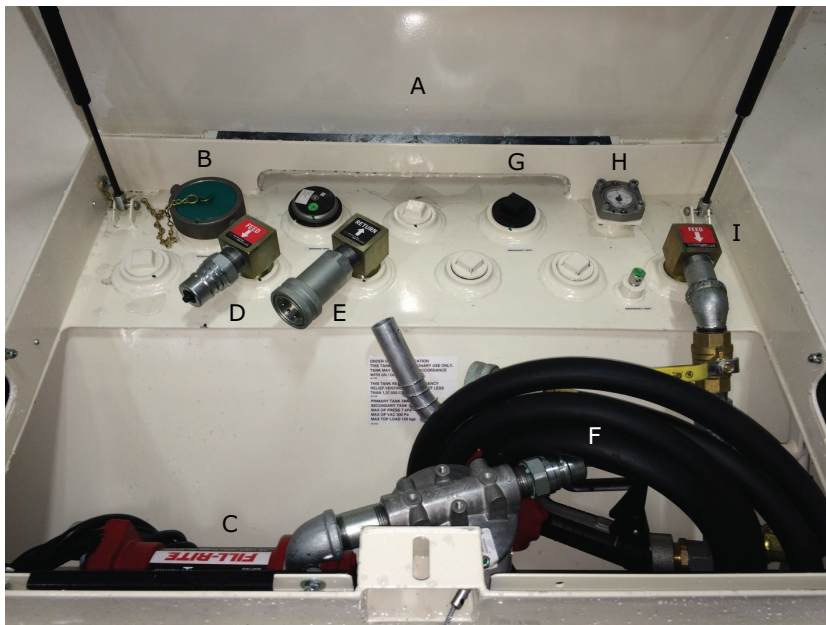
Each fuel tank is provided with a nameplate and labels with the following information:

- Serial number
- Model number
- Permissible pressures
- Permissible temperatures
- Weights

Table 1. Specifications

Specification	RSDT1000FO	RSDD0100FO
Capacity (gal)	950	100
Double Wall	Yes	Yes
Day Tank Weight w/ out Fuel (lbs)	2800	772
Day Tank weight w/ Fuel (lbs)	9400	1742
Height (in)	48	33.6
Length (in)	91	45.5
Width (in)	87	45.5
Provided Hose Qty and Length (ft)	(6) - 25	(1) - 25
Fuel Hose Connection Type	Quick Couple	Flare Fitting
Day Tank Supply and Return Qty and Size	(1) 1-in Supply	(1) 2-in Supply
	(1) 1-in Return	N/A
Lifting	Fork or Crane	Fork or Crane
Transfer Pump Hose Length (ft)	25	25
Transfer Pump Power	12 Vdc	24 Vdc
UL Certification	UL142	N/A
Canadian UL Certification	S601	N/A

Figure 1. Day tank components



A	Hatch lid
B	Filler cap (3-inch)
C	Electric pump
D	Fuel feed line/valve
E	Fuel return line/valve
F	Refueling hose
G	Relief vent
H	Fuel gauge
I	Fuel feed line/with ball valve to fuel pump

Figure 2. DEF tank components

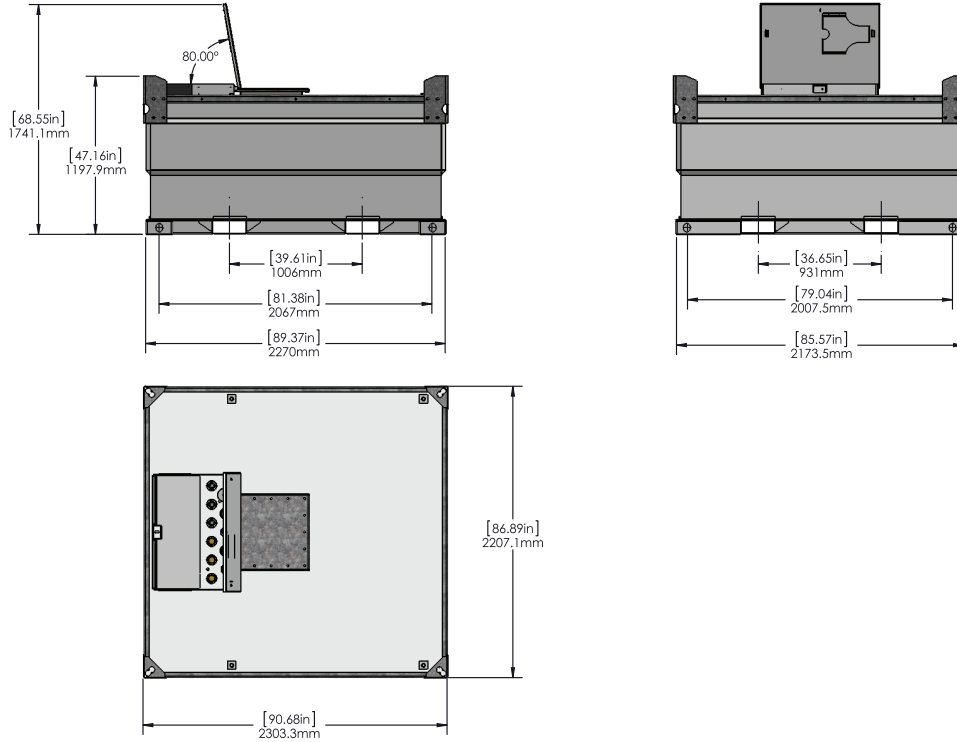


A	2-inch RSV Container valve
B	2-inch SS Vent
C	2-inch Pump port
D	2-inch Pump port
E	Level gauge

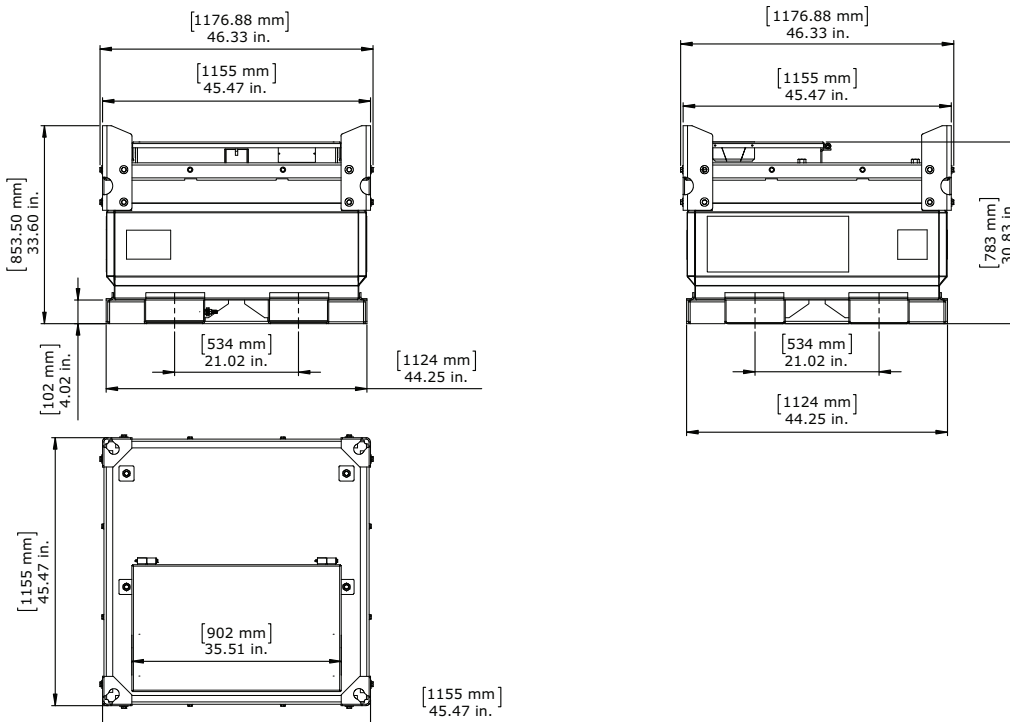


Unit Dimensions

Day Tank - General Arrangement



DEF Tank - General Arrangement





Installation and Decommission

Please read this document in its entirety before attempting to off-load, install, or operate this tank.

Transportation

⚠ WARNING

Heavy Objects!

Failure to follow instructions below could result in unit dropping which could result in death or serious injury, and equipment or property-only damage.

Ensure that all the lifting equipment used is properly rated for the weight of the unit being lifted. Each of the cables (chains or slings), hooks, and shackles used to lift the unit must be capable of supporting the entire weight of the unit. Lifting cables (chains or slings) may not be of the same length. Adjust as necessary for even unit lift.

1. Turn off pump (move lever down) and close generator port valves.
2. Check filler cap is on and closed securely.
3. Verify all outlets are securely closed/plugged with plugs provided by the manufacturer.
4. Outer tank should be empty of spillage.
5. Close and padlock hatch to prevent vibration releasing the catch.
6. Return all tank hoses and cable.
7. Secure for transportation.



Day Tank Operation

⚠ WARNING

Flammable Fluids!

Failure to follow the safety requirements in this section could result in death or serious personal injury, as well as property damage due to fire or explosion. Diesel fuel is flammable and poses a fire hazard. Do not expose the fuel to excessive heat, pressure, or open flames or sparks.

⚠ WARNING

Safety Requirements!

Failure to follow the safety guidelines in this section could result in death or serious personal injury.

- Use only for the transport of diesel fuel for refueling equipment or standby generators.
- Keep the tank level when filling.
- Fill only with a hand-held trigger nozzle. Take special care not to spill any fuel on the ground or in the interstice.
- Do not smoke when refueling. Keep sparks flames and hot material away from fuel and tank.
- Do not overfill; 95 percent is the maximum legal limit.
- Always replace filler cap and turn pump off (lever down) when refueling finished.
- Close all valve outlets and lock lid when transporting on a public highway.
- Check for fluid in outer tank and empty regularly. Refer to maintenance manual for detailed procedure.
- Day tank can only be utilized as a “stand-alone” fuel supply without using the generator's on-board fuel tank or can be used to “manually refuel” the generator fuel tank.

If Day Tank is used for manual refueling:

1. The day tank hand pump will have to be utilized for refueling the generator's on-board fuel tank.
2. Place fuel tank in a place where it can be leveled as much as possible.
3. Unlock and open hatch lid.
4. Pull out refueling hose and nozzle, see [Figure 3](#) below.
5. Extend it to the tank to be refueled.

6. Connect the quick coupler on the pump discharge.
7. Open fuel feed line/valve on fuel tank.
8. Connect a power supply to the pump (minimum 20 amp rating).
9. Turn the pump on by lifting lever located on the side of the pump.
10. Use the hand-held nozzle to transfer the fuel.
11. Fill to no more than 95 percent of capacity. This is the maximum allowed in order to account for fuel expansion. Do not overfill.
12. Turn the pump off when the refueling is completed.

If Day Tank is used as stand-alone constant fuel supply:

The day tank will require a 12 Vdc generator battery power supply for tank's on-board pump if being utilized for “stand-alone” operation. Do not generator on-board tank if day tank is utilized for stand-alone operation.

Supply

1. Place fuel tank in a place where it is level.
2. Connect the quick-coupler (see [Figure 4](#)) into feed line on fuel tank.
3. Extend as much hose as required.
4. Connect swivel-type coupling (see [Figure 7](#) below) into generator supply connection.
5. Screw the quick-coupler with threaded end hose (see [Figure 5](#)) into swivel coupler.
6. Bleed air from system.

Return

1. Connect the quick-coupler into the return line on the fuel tank.
2. Extend as much hose as required.
3. Connect swivel-type coupling into generator return connection.
4. Screw in the quick-coupler with threaded end hose (see [Figure 6](#)) into swivel coupler.

Note: Valves on generator fuel tank should be placed to draw fuel out of reservoir.

Note: Recommendations are for a 1 inch NPT thread. Alternate connections require adapters supplied by the customer.

Day Tank To Generator Hose Connections

Figure 3. Hand nozzle



Figure 4. Quick coupler



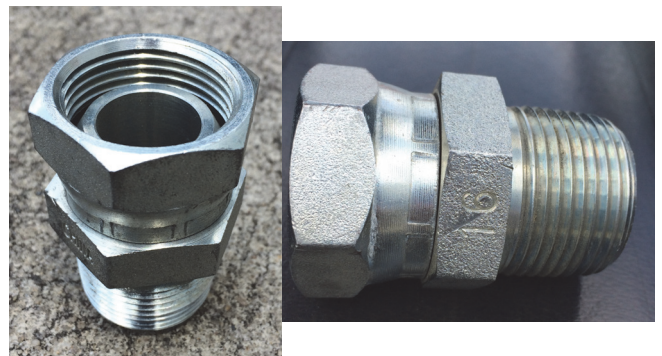
Figure 5. Quick coupler to threaded end



Figure 6. Quick coupler to threaded end



Figure 7. Swivel-type coupling





Day Tank Operation

DEF Tank Operation

The auxiliary Diesel Exhaust Fluid (DEF) Tank in figure below can only be utilized in stand-alone mode with automated pump control for refueling.



The auxiliary Diesel Exhaust Fluid (DEF) Tank heater blanket utilizes a 120 Vac, 50 amp, 3-pin power cable (figure below) for connection to generators. This cable provide power for the tank heater blankets, which can be used with TRS Cummins Tier-4 towable generator models (140, 180, and 250 kW).



These DEF Tanks utilize a 24 Vdc remote fill system has a 14-pin plug connection (figure below). This 14-pin Deutsch plug connector is utilized for activating the DEF Tank pump when the generator DEF falls below 30% capacity, as well as powers the heated DEF supply hose.

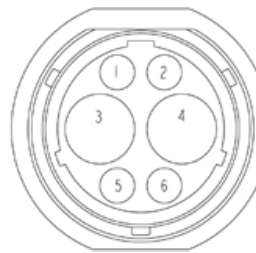


DEF Tank Electrical Connections

The 24 Vac, 14-pin Deutsch connector (P/N: HD36-18-14SN) shall be used for power source connections typically from 2nd generation Cummins model generators (not 1st generation). An adapter harness is required when TRS DEF Tanks are paired with 1st generation Cummins model generators.

1st Generation Cummins generators (100-275 kW Towable) that have external DEF Connections utilize the 6-Pin Deutsch connector (P/N: HD34-18-6PN) with pins as shown in the figure below.

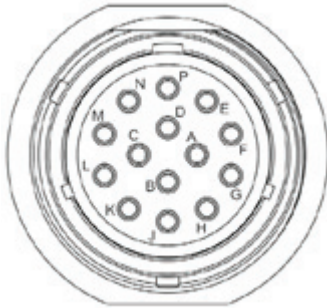
Figure 8. Pin identification for auxiliary DEF electrical connector



1	DEF Pump Power Supply, 24 Vdc
2	DEF Pump Ground
3	Not Used
4	Not Used
5	DEF Line Heater Power Supply, 24 Vdc
6	DEF Line Heater Ground

2nd Generation Cummins generators (100-275kW towable) that have external DEF connections utilize the 14-Pin Deutsch connector (P/N: HD34-18-14PN) w/ receptacles as shown below.

Figure 9. Pin identification for auxiliary DEF electrical connector

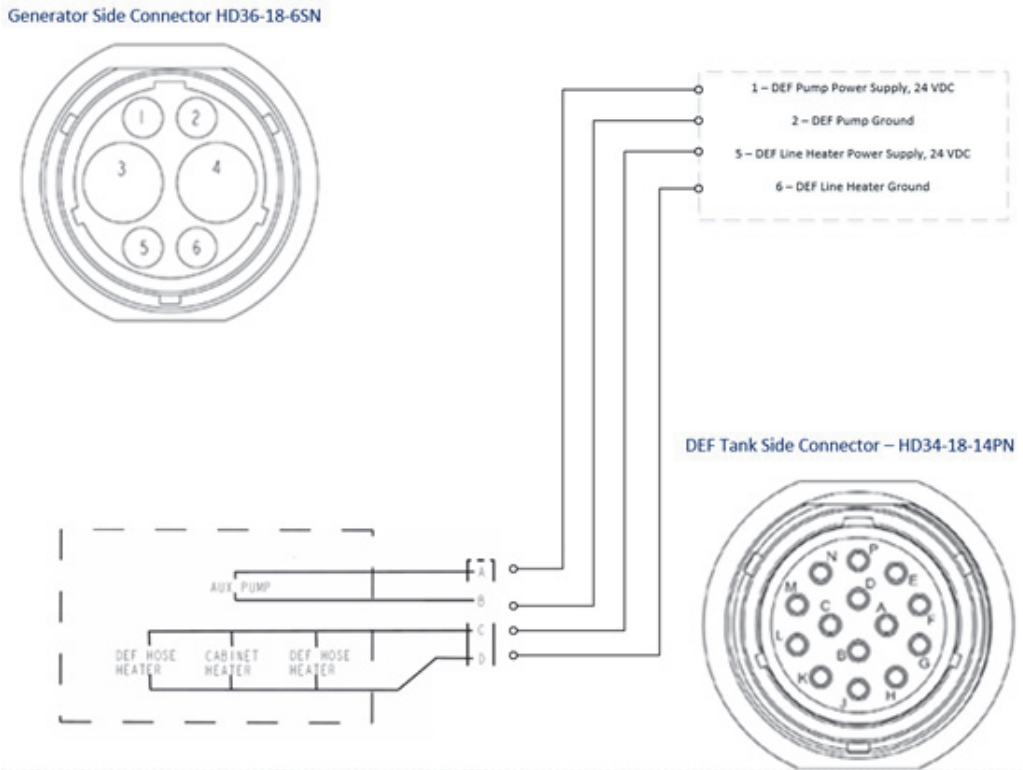


A	DEF Pump Power Supply, 24 Vdc
B	DEF Pump Ground
C	DEF Line Heater Ground
D	DEF Line Heater Power Supply, 24 Vdc
E	Cable Detection, Jumper Required in Customer Supplied Harness
F	Cable Detection, Jumper Required in Customer Supplied Harness
G-P	Not Used

Certain applications may require an adapter wiring harness assemble to be created in the field if missing from shipment inventory. This section provides detailed instructions for the required parts to create the wiring harness to interface with the generator. All required assembly materials are listed in the DEF Tank Harness BOM at the end of this section.

Assembly:

1. Crimp Socket Terminals (P/N: 0462-201-16141) to four, 16 AWG Wires on one end of the 2-foot length of wire.
2. Insert terminals into generator Connector (P/N: HD36-18-6SN) terminals 1, 2, 5 and 6. Note which wires are used in which terminals on the connected.
3. Crimp pin terminals (P/N: 0460-202-16141) to four, 16 AWG on the opposite end of the 2-foot length of wire.
4. Insert pins into DEF Tank connector (P/N: HD34-18-14PN) following the designations listed below.



5. Insert plugs into all open terminal locations on connectors as shown in picture below.

6. Harness is now ready to use.



DEF Tank Harness BOM			
Part #	Description	Qty	Vendor
HD36-18-6SN	Generator Side Connector	1	Mouser
0462-201-16141	#16 Socket Terminal	4	Mouser
114019-ZZ	Large Seal Plug	2	Mouser
A114017-SR	Small Seal Plug	12	Mouser
HD34-18-14PN	DEF Tank Side Connector	1	Mouser
0460-202-16141	#16 Pin Terminal	4	Mouser
HDT-48-00	Crimpers / Crimping Tools TOOL HAND CRIMP SZ 20, 16	1	Mouser
0411-204-1605	PROBE TOOL EXTR SZ16	2	Mouser
N/A	16-4 SOOW Wire	2 Feet	Local

Trane - by Trane Technologies (NYSE: TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.