#DTP20C

INDUSTRIAL FUEL CLEANER AND TRANSFER SYSTEM

OPERATOR'S MANUAL

A Battery-Powered, Mobile Platform with Built-In Meters and Filtration for General Fuel Transfer and Filteration Needs.

Innovative Products of America® Incorporated
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LETTER FROM THE PRESIDENT OF IPA®

My name is Peter Vinci and I am the president of IPA®. I would like to thank you for your interest in IPA's product line and share my commitment to you, our products and our policies. In today's world, we have all experienced the lack of service and consideration demonstrated by many companies after you buy their products. They say whatever they can to make the sale, and then it's like pulling teeth to get any service response out of them. I know this myself firsthand and because of this, I want to be sure that your experience with IPA meets your expectations and that IPA never disappoints you with our service or customer response.

To prove my commitment to you, if for any reason, you are not happy with one of our products or more importantly, with the response from our customer service or any member of the IPA team, I invite you to contact me directly via my email, peter@ipatools.com or call me at 888-786-7899. Your satisfaction is more important to me than the sale itself. We will not be in business for long if we don't make you completely happy with our products and service. I want IPA to be different and be known for its quality and service.

With that said, please take a look at our product line. You will see innovative first time products that were created to help you do your job faster and better than before. I would also like to invite you to critique our products. If you can think of a better way to make them or changes that will make them work better, please contact me directly and I will be sure to look into it. If you have an innovation and would like some feedback, give me a call.

From all of us at IPA, we thank you for taking the time to review our product line and wish you and your family the very best of everything.

Peter Vinci
President
IPA®

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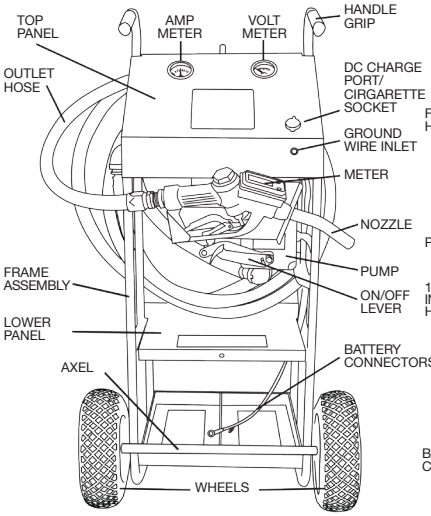
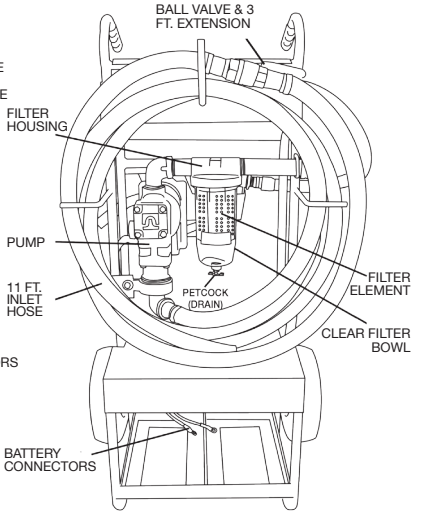
#DTP20C INDUSTRIAL FUEL CLEANER AND TRANSFER SYSTEM PARTS

Parts Diagram

FRONT
Fig. 1

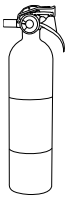


BACK
Fig. 2



10 MICRON FILTER

CHASSIS GROUND CABLE



FIRE EXTINGUISHER

PART NUMBER	PRODUCT DESCRIPTION
7900K-17A	AMP METER
MET00002	VOLT METER
VHG00001	HANDLE GRIP
007900K-33	DC CHARGE PORT
DTP20B-3AS	PUMP
CRT1-AXLEA	AXEL
CRT1-PANEL2YLW	LOWER PANEL
CRT1-AS	FRAME ASSEMBLY
HS-CLR8	OUTLET HOSE
CRT1-PANEL1YLW	TOP PANEL
TMN00001	METER NOZZLE
DTP20B-3AS	BALL VALVE & 3FT. EXTENSION
FIL00001	FILTER HOUSING ASSEMBLY (W/FILTER)
PMP00001	PUMP
DTP-INHOSE-AS	INLET HOSE
7900K-2BCHAS	CHASSIS GROUND CABLE
FIL005	FILTER WRENCH
FX-0001	FIRE EXTINGUISHER

IMPORTANT SAFETY INSTRUCTIONS

IT IS IMPORTANT TO READ, UNDERSTAND AND FOLLOW ALL SAFETY MESSAGES AND INSTRUCTIONS PRINTED IN THIS MANUAL AND ON THE EQUIPMENT BEFORE OPERATING. IF SAFETY INFORMATION IS NOT HEEDED, SERIOUS INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS MAY OCCUR.

DANGER:

Indicates a hazardous situation, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

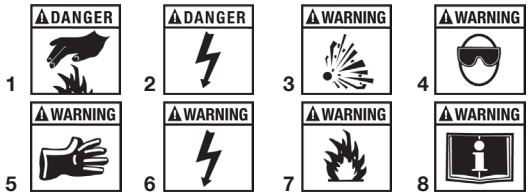
WARNING:

Indicates a hazardous situation, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

CAUTION:

Indicates a hazardous situation, if not avoided, may result in minor or major injury. The possible hazards are shown in the adjoining symbols or explained in the text.

THE FOLLOWING SAFETY ALERT SYMBOLS ARE USED IN THIS MANUAL.



SYMBOL 1: Potential burn hazard. Sparks from electrical shorts can ignite flammable liquids such as fuel or oil. Heat from electrical overloads can cause a fire hazard.

SYMBOL 2: Potential electrical hazard. Batteries have enough electrical energy potential to ignite flammable liquids such as fuel or oil. Wire overloads can cause electrical failures. Shock hazard exists.

SYMBOL 3: Potential explosive air hazard. Pneumatic pressure used with this equipment can cause explosive failure on damaged equipment.

SYMBOL 4: Potential eye hazard. Wear OSHA approved safety glasses. Battery acid and high air pressure creates hazardous situations for eyes.

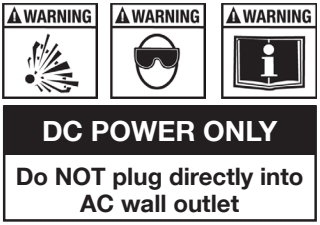
SYMBOL 5: Potential chemical burn hazard. Wear protective gloves. Battery acid is corrosive and can cause skin damage.

SYMBOL 6: Potential electrical hazard. Electrical energy can cause heat and burn hazards.

SYMBOL 7: Potential fire hazard. Use caution with flammable liquids such as fuel and oil. Electrical shorts can ignite flammable liquids and wiring.

SYMBOL 8: Important information is stated.

RISK OF EXPLOSION



- Gases produced by a battery are highly explosive.
- Wear safety goggles and protective clothing for both users and bystanders.
- Use in an area having at least four air changes per hour.
- Read, understand and follow all instructions for the charger, battery, vehicle and any equipment used near the battery and charger.
- Do not smoke, strike a match, place metal tools on battery or cause a spark in the vicinity of the battery. When removing battery cables, remove the ground cable first.
- Clean terminals before charging battery. During cleaning, keep corrosive particles from eyes, nose and mouth. Use baking soda and water to neutralize acid and help eliminate airborne corrosion.
- Never allow clamps on charger cables to touch each other.
- Do not expose tester or charger to rain, snow or wet conditions.
- Do not allow battery gases or acid to contact DTP20C cabinet. Do not place charger directly above or below battery.
- Fill battery to level specified by battery manufacturer using distilled water.
- Do not remove cell caps while charging per manufacturer's instructions.
- Make sure tester cable clamps make tight connections.
- Battery explosion can cause injury.

ACID BURNS

- Battery acid is highly corrosive sulfuric acid.
- Wear safety goggles for both users and bystanders.
- Wear safety gloves.
- Make sure someone can hear you or is close enough to provide aid when working near battery.
- Have plenty of fresh water and soap nearby. If battery acid contacts skin, clothing or eyes, flush the exposed area with soap and water for 10 minutes. Seek medical help.
- Do not touch eyes while working near battery.
- Battery acid can burn eyes and skin.

GENERAL FUEL TRANSFER WARNINGS

- Always keep a fire extinguisher rated for fuel close by in case of a fire.
- Always ground cart before use.
- The vapors created from gasoline transfer are highly flammable and can be very dangerous. For this reason, we do not recommend this unit for gasoline.
- DO NOT TRANSFER GASOLINE: Because of the DC application of the fuel transfer cart, there is a potential danger of battery sparks igniting gasoline that may have spilled or collected on the cart from prior use. One gallon of gasoline is equivalent to three sticks of dynamite and the possibility of great harm or bodily injury exists if ignited.
- The Industrial Fuel Cleaner and Transfer System (DTP20C) is also not recommended for the following fluids: acetone, ammonia, benzene, bleach, hydrochloric acid, ink, toluene.
- The DTP20C is recommended for transferring the following fluids: diesel, kerosene, heptanes, mineral spirits and hexane.
- Be careful in calm or dry climate as these increase the risk of static. ALWAYS USE THE PROVIDED GROUND WIRE.
- NO SMOKING or any type of ignition. No exceptions.

SPECIFICATIONS

The DTP20C (12V DC powered) Industrial Fuel Cleaner and Transfer System is capable of a flow rate up to 20 GPM. To avoid the risk of a fire, this system is to be used only to transfer and filter diesel, kerosene, home heating oil and the recommeneded fluids stated above. The in-line filtration system features a 10 micron water-blocking filter. The cart is designed to hold up to two group 31, 12 volt batteries.

TRANSFER RATE:	20 GPM at Level Ambient Load
VOLTAGE:	12 volt DC
AMPERAGE:	25 amp Average Draw Ambient
BATTERY TYPE:	Two, Group 31, ⅜ in. Threaded Post, DC
PNEUMATIC TIRES:	10 in.
OUTLET HOSE:	12 ft. Long, ¾ in. Diameter Hard Wall Ground Wire Hose
INLET HOSE:	11 ft. Long, 1 in. Diameter Hose
FUEL FLOW METER:	Digital Flow Meter (1 in. Inlet)
BALL VALVE:	1 in. Ball Valve NPT
AXLE SIZE:	½ x 16 in.
VOLT METER:	12 volt Range
AMP GAUGE:	Pos. or Neg. 30 amp Deflection
CART:	Steel Welded Construction
GROUNDING:	10 ft. Chassis Ground Wire
COUNTRY OF ORIGIN:	Made and Assembled in USA

BATTERY INSTALLATION

PRIOR TO REMOVING THE BATTERY, BE CERTAIN TO COMPLETELY CLEAN ANY FUEL OIL IN THE BATTERY AREA TO AVOID ARCING!

To remove the battery protection cover, remove the screws and slide the plate out towards the back. Then install two well charged Group 31, 12 volt batteries. One well charged Group 31 battery can last up to four hours. Two batteries will last up to eight hours. When installing batteries, keep in mind that only proper parallel wiring produces 12 volts (see fig. 3). **DO NOT WIRE BATTERIES IN SERIES AS THIS BRINGS THE POWER UP TO 24 VOLTS. THIS WILL DAMAGE THE UNIT AND POSSIBLY CAUSE A FIRE. THIS VOIDS THE WARRANTY.**

After proper installation of batteries, check the volt meter for correct 12 volt indication. Slide the battery protection cover back over the batteries and reinsert the screws. Be careful not to touch the battery terminals with the metal cover; you could create a spark and ignite any nearby fuel or oil.

CORRECT BATTERY INSTALLATION:

WARNING: FOR SAFE INSTALLATION, CONNECT 12 VOLT BATTERIES IN PARALLEL WITH POSITIVE TO POSITIVE AND NEGATIVE TO NEGATIVE. ANY OTHER CONFIGURATION IS INCORRECT AND WILL DAMAGE THE PUMP AND VOID THE WARRANTY.

PARALLEL WIRING:
POSITIVE TO POSITIVE
NEGATIVE TO NEGATIVE

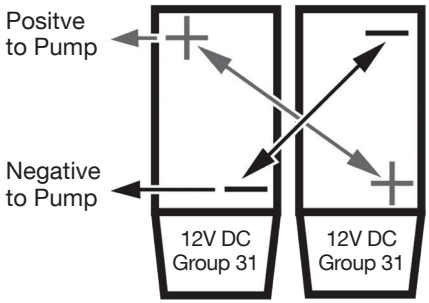


Fig. 3 Batteries Not Included

OPERATIONAL TESTING PRIOR TO USE

DO NOT TURN THE UNIT ON UNLESS PROPER WIRING IS VERIFIED. Only short durations of dry-running the pump should be used for operational verification. Continuous dry-running of the pump will damage the pump unit and void warranty. To operate the pump assembly, move the On/Off lever up to the On position. The lever is located on the right side of the pump assembly. Once the pump unit is turned on, you should hear the pump running. Then verify proper 12 volt connection.

FUEL TRANSFER AND OPERATIONAL USE

After setting up the DTP20C according to the directions and safety instructions, you are now ready to transfer fuel oil. The DTP20C is fully mobile and capable of traversing most terrains. Roll the DTP20C out to a tank that has fuel in it. Attach the ground wire to the tank to create a ground. Afterward, insert the suction side

of the intake hose assembly into the tank you are transferring the fuel from. BE SURE THE BALL VALVE IS LEFT OPEN WHEN TRANSFERRING FUEL. Once the suction side is correctly installed in the tank, zero the fuel flow meter prior to fuel transfer (refer to pg. 9, “TO VIEW FLOW VOLUME”). Before turning on the fuel pump, insert the pump nozzle into the tank where the fuel oil is being transferred. Pull the trigger on the handle and begin transferring fuel. While fuel is being transferred, be diligent in looking for any leaks or spills. For the best transfer rate, keep the suction side as close to level as possible and keep your batteries fully charged. DO NOT WEDGE any object in the trigger to keep the pump handle on. Running the pump dry will cause permanent damage and void the warranty. Listen for the fuel or observe the flow from the nozzle to determine when to shut off the pump. Always have an emergency spill kit ready in case of a spill.

FUEL TRANSFER WITH REDUCED ADAPTER

If you are not just transferring fuel but would like to sweep the debris off the bottom of a fuel tank, the use of the smaller ¾" adapter is recommended. To use the ¾" adapter, remove the 8' X 1" hose assembly from the lower intake pump port. Install the ¾" hose assembly. At this point you can also install the ½" adapter on the end of the ¾" hose and use it for sweeping or accessing small tank openings.

METERS

The Amp Meter displays the amount of current the pump is drawing from the batteries. Several factors affect the amount of current drawn from the batteries, such as length of hose, temperature, fluid viscosity and the condition of terminal connections. The pump typically draws between 20-30 amps under normal operating conditions. Look for a positive indication on Amp and Volt meter to confirm proper battery connections.

The Voltage Meter indicates proper battery connections and current condition of the batteries at standstill and under load. This pump should not be run when the battery’s voltage reads less than 11.0 volts. A fully charged battery should read approximately 12.4 volts DC before the load is applied.

The Digital Flow Meter/Nozzle is a mechanical fuel nozzle with built-in digital

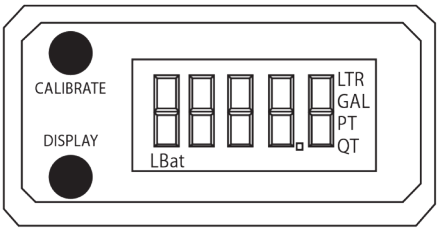


Fig. 4 Digital Flow Meter on Nozzle

flow meter and fuel filter. The user can select gallons, liters, quarts or pints as the desired unit of measure while transferring fuel. The meter comes with internal batteries (2 AA) that last approximately 9000 hours before needing to be replaced. The digital meter features a resettable flow meter with a lifetime tally. The nozzle has a removable wire mesh screen to prevent dirt and debris from passing through that should be cleaned regularly. The nozzle is designed to be hand operated only and DOES NOT feature an automatic shutoff, so the user must NEVER LEAVE THE NOZZLE UNATTENDED while transferring fuel and NEVER WEDGE AN OBJECT, such as a gas cap, into the lever.

The following are instructions for viewing, resetting and changing various functions of the fuel meter.

TO SELECT UNIT OF MEASUREMENT:

- Hold down the Calibrate button until screen changes (approx. 5 second).
- Press Display button repeatedly until a unit of measurement is highlighted. (Gallons, Liters, Quarts or Pints)
- Press the Calibrate button repeatedly to choose the desired unit of measurement.
- Once the desired unit of measurement is selected, allow the screen to sit untouched for 10 seconds to confirm selection.

TO VIEW FLOW VOLUME:

- Current flow volume is displayed on the screen at all times by default.
- Total volume (lifetime tally) is viewed by pressing the Calibrate button. After 10 seconds, the screen will default back to current flow volume.

RESETTING FLOW METER:

- Press and hold the display button for one second, then release. This will reset the meter to zero.

MAINTENANCE AND BATTERY INSTALLATION:

- Periodically remove nozzle screen and clean any dirt and debris from the wire mesh.
- To change batteries, remove the outer four screws holding the digital screen. Remove digital screen housing to reveal batteries. Reverse the process for reassembly.

Current Flow Range:	0.00-9999.9
Total Flow Range:	0-99999
Accuracy:	+/- 4%
Battery Type:	AA x 2
Battery Life:	9000 Hrs
Stand-by Time:	2 Years (approx.)
Operating Temp:	14 F - 140 F

FILTERS and SCREENS

The DTP20C comes standard with a water blocking 10 micron filter. The filter element will permanently swell when water is present. Once in contact with water, the filter will prevent any fluid from transferring through the DTP20C and will need to be changed. This swelling is not visible to the naked eye, but a noticeable decrease in the flow rate as displayed by the meter, and water visible in the clear bowl are indicators that your fuel is contaminated. If this occurs, immediately turn off the pump and check the fuel source. Water and fuel can be drained from the petcock before changing the filter. The flow rate may also be affected by the addition of devices that add resistance (e.g. flow lines, hoses, flow meters, screens, etc.). Other factors such as the temperature of the oil being transferred can also affect the flow rate. The colder the fluid being transferred, the slower the flow rate and the greater the current draw.

MAINTAINING BATTERIES

Battery connections should always be kept clean and free of corrosion. Corrosion on the battery terminals causes resistance and leads to premature battery failure. While two Group 31 batteries provide enough power to transfer thousands of gallons of fuel, it is important that these batteries be fully recharged after each usage. To charge your batteries when still connected to the pump, connect your battery charger's positive lead to the positive lead of the first battery and the negative lead to the negative lead of the other battery. Follow standard battery charging procedures. If using a trickle charger to charge the battery, only plug into AC wall outlet. The DTP20C does not come with a battery charger.

NOTE: *When batteries are connected in parallel, they take approximately twice as long to fully charge. Do not use a trickle charger that exceeds 10 amp DC output.*

TIRE MAINTENANCE

Your pump has been fitted with heavy duty pneumatic tires. These tires increase the life of your pump by reducing vibration and jarring to the frame and components. They also allow for easy movement over rough terrain. The pneumatic tires have many advantages, but it is important to maintain them properly. The tires require 8 PSI of air pressure for proper inflation. Always check your air pressure to achieve optimum performance over rough terrain. Avoid sharp objects and sidewall punctures.

EXTENSION HOSE (OPTIONAL)

An additional 12 ft. extension hose (#HS-RB12) is available to be connected to the output side of the transfer pump. The extension hose comes with a "quick disconnect" hardware and can be connected to extend the overall reach of the DTP20C. Extension hoses should never be added to the intake side. Doing so will render the pump ineffective and void the warranty. Be sure to pin adapters shut to prevent spillage. Thoroughly drain hose before removing extension.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	Soluation
Pump not turning on.	Low charge or dead battery, bad battery connections, broken wire or wires.	Repair broken or poor connections as required. Check wiring behind face plate and connections to the amp meter and volt meter.
Pump turns on and runs but no pressure.	Sear chip broken.	The sear chip is located under the 4-bolt end plate on end of pump. The sear chip connects the motor to the rotor and is made of a plastic material. If the pump assembly jams, the sear chip will break before damaging the pump. Replace sear chip as necessary.
	Inlet suction hose is not in transfer fluid.	Check fluid level.
	Backwards battery wiring.	Check for correct wiring.
	Filter swelling because of water in fuel.	Replace filter.
Pump shuts down after extended use.	After extended use, the pump incorpates a thermal shutdown to protect the motor.	Allow pump to cool and restart the pump. (This is normal safety device)
Volt meter pegged + or -.	Improper battery wiring.	Check and be sure batteries are connected in parrallel.
Slow output.	Clogged filter.	Change the filter.
	Hoses clogged.	Check hoses for blockages.
	Battery voltage low.	Check battery voltage or recharge battery.

LIMITED ONE YEAR WARRANTY

#DTP20C INDUSTRIAL FUEL CLEANER AND TRANSFER SYSTEM

Innovative Products of America® Incorporated has established a Limited One Year Warranty Policy for the #DTP20C Industrial Fuel Cleaner & Transfer System, not including any wearable parts, e.g., clips, etc.

One Year Limited Warranty/Return or Replace Policy: The product is covered for one year from the date of original user purchase under the stipulations of the Standard Warranty.

The product is warranted to be free from defects in workmanship or material. If there is a problem due to workmanship or material defect, Innovative Products of America Incorporated will repair or replace the product within 24 working hours after it is received by the IPA® Repair Service Center. In the event it is determined that the product has been tampered with, or altered in any way, the warranty is void and all claims against the product will not be honored. The Warranty Repair/Return procedures require that the proof of purchase must be established (either by warranty card from the seller or by point of purchase receipt/invoice) and the manufacturer makes every attempt to return ship the product within three business days from the receipt of the returned product, freight prepaid.

If it has been determined that the tool has been damaged due to misuse, Innovative Products of America Incorporated will repair the tool at a cost we deem reasonable and these charges will be the responsibility of the user. We truly want you to be happy with our products, so if you have any questions, call us toll-free at 888-786-7899.

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