

# VK300T

INDUSTRIAL TRASH PUMP



# VOLT<sup>TM</sup>

PRO POWER SERIES

## OPERATOR'S MANUAL



**WARNING**

It is extremely important to read and understand the entire contents of this operator's manual before attempting to operate the product. This equipment is potentially hazardous and could cause physical injury or even death if improperly used.

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## Important Safety Warning Signals

Do not operate equipment until reading and understanding operator’s manual.



Read Operator’s Manual



Electric Shock



Fill the Pump



Fire



Flush with Hose



Ground Generator



Hot Surfaces



Keep Dry



Level



No Smoking



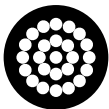
Proper Clearance



Proper Lifting



Store in Dry Place



Strainer Usage



Toxic Fumes



Wear Eye Protection

### REVIEW THIS MANUAL THOROUGHLY

Follow all instructions provided within this manual. This equipment can cause serious injury to people and animals and severe damage to property if operated negligently or incorrectly. Pay particular attention to all safety instructions, warnings and notices.



The signal words and meanings are intended to explain the level of risk associated with this product.



Indicates a hazard which, if not avoided WILL result in death or serious injury.



Indicates a hazard which, if not avoided, could result in death or serious injury.



Indicates a hazard which, if not avoided, could result in minor or moderate injury.

# Important Safety Operation Information



Manufacturer shall not be responsible for any consequences resulting from improper use of this equipment. ***Read and completely understand entire contents of this operator's manual and become familiar with the unit before attempting to start using this equipment! It is your responsibility to know its applications, limitations, and hazards!*** If the operator does not completely understand the instructions and all of the hazards of operating this unit after reading this manual, operator must call the factory to answer these questions to operator's complete satisfaction before proceeding 1-888-207-8658.



A minimum of three (3) feet of clearance on all sides is required.

- This unit is only to be used for its intended purpose; any other applications could void warranty;
- User, accepts responsibility for injuries and/or damage resulting from other applications.

## FOR OUTDOOR USE ONLY



Never use this unit inside of any building, enclosure or a recreation vehicle (RV).

No modifications will eliminate the danger of possible carbon monoxide poisoning, fire or explosion.

## WARNINGS AND CAUTIONS

**In this manual and/or decals and tags on the unit are not all inclusive. It would be impossible to anticipate every circumstance that might involve a hazard handling.**

- Inspect the entire system for leakage, weaknesses, damage or deterioration before each use.
- Follow ALL codes for the safe operation of this equipment, both local and federal (United States occupational safety and health - OSHA).



Only people that are well acquainted with the rules of safe operation should use this equipment.

- KEEP children away from the unit.



Wear safety glasses and hearing protection.

- Do not stand on the unit or attempt to use it as a hand hold.



Replace or repair any defective parts before using.

- Do not fill gas tank if engine is hot. Do NOT fill the gas tank indoors.
- The engine governor is preset. Do not tamper with the setting. Excessively fast speeds will severely shorten the life of the engine and may be hazardous.

### **! WARNING**

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual before set up or use of this product.

### **! WARNING**

#### **CALIFORNIA PROPOSITION**

**65 WARNING:** Engine exhaust from this product contains chemicals and battery posts, terminals and related accessories are known to the state of California to cause cancer, birth defects and other reproductive harm.

# Important Safety

## Equipment Specific Warnings



**Your Model TP 300 extended run semi-trash water pump that provides more than 4 hours of continuous pumping without refueling. It features a powerful,**

### **! WARNING**

**dependable engine with low oil shut down that provides extra power, quieter performance and greater engine life. This pump uses long-lasting, high-end ceramic seals that are especially suited for heavy-duty applications such as pumping contaminated and abrasive fluids.**



Only operate this unit outside with adequate ventilation. This pump's gas engine exhaust produces carbon monoxide gas that can cause unconsciousness and death.



Operate this equipment in a horizontal position.

- Never store equipment with fuel in the tank.
- Never tamper with the governor to gain more power. The maximum continuous pump speed of 3500 RPM is set at the factory and cannot be exceeded or altered.
- Do not insert any object through the cooling slots of the engine. You will damage the unit or cause injury.
- This pump was designed for specific applications. Do not attempt to modify the unit in any way or use it for any application that it was not designed to do. Ask the dealer or contact customer service (1-888-207-VOLT) if you have any questions regarding the pumps application.

### **! WARNING**

### **! CAUTION**

Warnings and cautions in this manual, on decals and tags on the unit are not all inclusive. It would

be impossible to anticipate every circumstance that might involve a hazard. Handling, operating, or servicing this unit by any other procedure not mentioned will void the warranty.

- Do not operate the pump without water. Permanent damage will incur to the ceramic seals and the impeller.
- This pump is designed to handle only nonflammable liquids containing entrained solids and noncorrosive liquids.
- Never attempt to pump volatile, flammable or corrosive liquids. This will damage the pump and may cause permanent injury or death.
- Assure that all hose connections are secure and properly supported prior to operation.
- Do not operate the pump with the discharge valve closed. It will damage the pump and may cause an explosion due to high internal pressure and heat.
- Do not remove covers, plates, gauges, pipe plugs or fittings from an overheated pump. Internal pressure could cause the parts to be ejected at high velocities. Allow the pump to completely cool before servicing.

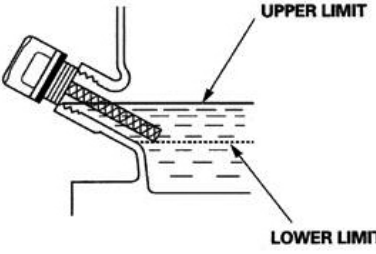


**Always wear eye protection with side shields marked to comply with ANSI Z87.1.** Following this rule will reduce the risk of serious personal injury.

### **If overheating occurs:**

- STOP pump immediately.
- Ventilate the area.
- Allow the pump to cool completely.
- Check the temperature before opening any covers, plates or plugs.
- Vent pump slowly and cautiously.
- Refer to manual before restarting pump.
- Do not operate internal combustion engine in an explosive atmosphere.

# Operation

CHECK AND FILL OIL	CHECK AND FILL FUEL	CHECK/REPLACE FILTER
<p><b>⚠ CAUTION</b></p> <p><b>Do not attempt to start the engine before checking oil.</b></p> <ol style="list-style-type: none"> <li>1. Place pump on a level surface.</li> <li>2. Clean area around oil fill opening.</li> <li>3. Remove the dipstick.</li> <li>4. Wipe the dipstick clean.</li> <li>5. Reinsert dipstick and check oil level.</li> <li>6. DO NOT OVERFILL.</li> <li>7. CLOSE OIL CAP.</li> <li>8. Change oil as published.*</li> </ol> 	<p><b>⚠ WARNING</b></p> <p><b>Do not overfill! Leave room for fuel expansion. Never fill fuel indoors. Never fill fuel when engine is hot or running. Do not smoke or fill.</b></p> <ol style="list-style-type: none"> <li>1. Fill with gasoline fuel only.</li> <li>2. Clean area around fuel cap.</li> <li>3. Remove fuel cap.</li> <li>4. Add fuel to fuel tank.</li> <li>5. DO NOT overfill. Do not fill above the red plug inside the fuel tank filter (this allows for fuel expansion).</li> <li>6. Replace fuel cap.</li> <li>7. Wipe up any spilled fuel.</li> </ol> <p><b>⚠ DANGER</b> <b>Fuel tank should never be filled indoors.</b> Avoid spilling fuel on hot engine and allow engine to cool completely before fueling. Never fill fuel tank when engine is running or when hot. Do not light a cigarette or smoke when filling the fuel tank. Gasoline vapors are highly explosive.</p>	<p><b>⚠ CAUTION</b></p> <p><b>Do not clean air filter with any type of detergent.</b></p> <ol style="list-style-type: none"> <li>1. Remove cover panel.</li> <li>2. Loosen wing nut and remove air filter cover.</li> <li>3. Never wash air cleaner with any kind of detergent or cleaning solvent.</li> <li>4. Air filter should be changed if engine performance decreases or color of exhaust changes.</li> <li>5. Never run engine without air filter. This will cause rapid engine wear.</li> </ol>

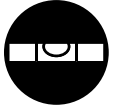


\*The first oil change should take place after the initial run time of five hours. After the initial five-hour runtime, the oil is to be changed every 30 hours.

# Pump Set Up

## Positioning Pump

- Before transportation, remove all hoses.
- Place pump as close as possible to the liquid being pumped.

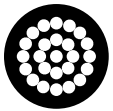


The pump must be on a level, solid surface for proper operation.

- To ensure sufficient lubrication, do NOT operate the pump at or more than 15° angle.

## Suction and Discharge Piping

- Pump performance is adversely affected by increased suction lift, discharge elevation, and friction losses.
- Keep discharge line as straight as possible to minimize friction loss.
- Minimize the use of fittings to reduce friction loss.
- Do NOT reduce the discharge hose to increase the water pressure. All hoses must be maintained at 3 inches.
- Before tightening a flange connection, align it properly with the pump port. Never align the hose by tightening the flange bolts.
- Lines connecting to the pump must be independently supported to minimize stress on the pump housing.
- To avoid air pockets when priming, the suction line must be between 8 and 15 feet.
- Suction and discharge lines must be 3 inches in diameter.



A strainer must be used at all times with no larger than 3/4" openings.

- Slight leaks on the suction hose will prevent proper priming especially at high suction lift applications.
- All suction connections must be sealed with pipe dope that is compatible with the fluid being pumped.

## Priming

- Never operate the pump without water in the pump housing! Check the liquid in the pump daily.



To fill the pump, remove the pump fill plug at the top of the pump casing. Add clean liquid until the casing is filled past the flapper on the suction valve of the pump housing. Replace cover plug. Assure that the flapper seals and water remain inside the pump.



Start the pump per the starting instructions. Run the engine at maximum governed speed (3500 RPM) during the priming cycle.

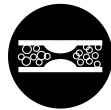
- Priming is indicated by quieter operation. If the suction is 8 feet, the pump should prime in one minute. At 15 feet the pump should prime within 2 minutes. The suction hose must be full to prime the pump.
- If the pump fails to prime within 5 minutes, check the suction hose and flapper valve for leaks.

## Leaks

- No leakage should be visible at the pump mating surfaces or the hose fittings.
- Keep all connections and fittings tight to ensure maximum efficiency.

## Liquid Temperature

- The maximum liquid temperature of the pump is 110° F (43.3°C).

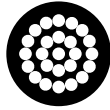


Overheating will occur if the pump is operated with a suction or discharge valve closed or if the strainer is clogged.



If overheating occurs, stop pump immediately. Let pump cool to ambient temperature prior to servicing. Remove the obstruction (clog, shut valve, etc.) and fill pump case with clean liquid.

## Strainer



Do NOT operate the pump without a strainer!

- Check strainer regularly and clean when necessary.

## Cold Weather Service

- Remove the drain plug from the bottom of the pump housing.



Using a garden hose, flush all solids out of pump housing. All solids are to be disposed of per local codes.

- After pump has drained completely, replace plugs in the casing. Remove all fuel per the engine manufacturer's recommendation as supplied with the pump.



Pumps and related equipment must be used and operated according to national, local and industry standards.



Operating this product indoors or in an enclosed area CAN



KILL YOU IN MINUTES. Operate in a well-ventilated outdoor area away from doors and windows!



# Starting the Engine

## Manual Start



Be sure unit is on level ground, and in a well ventilated area.

Check oil and gas for proper levels.

- Slide fuel valve to the “on” position. See figure 1.
- Slide the on/off switch to the “on” position. See figure 4.
- Adjust lever to the left to increase RPM. **During trash pump use the engine should be ran at maximum RPM.** See figure 3.
- Slide choke to on position. See figure 2.
- Grip recoil starter, pull slowly until resistance is felt then pull briskly.
- Once started return choke lever to the “run” position.
- Let engine stabilize.

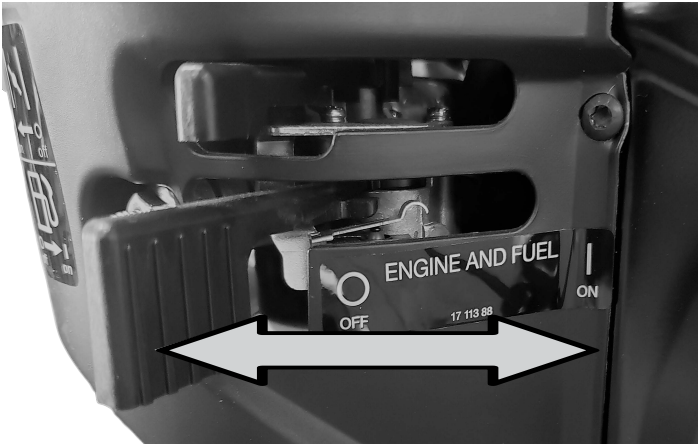


FIGURE 1

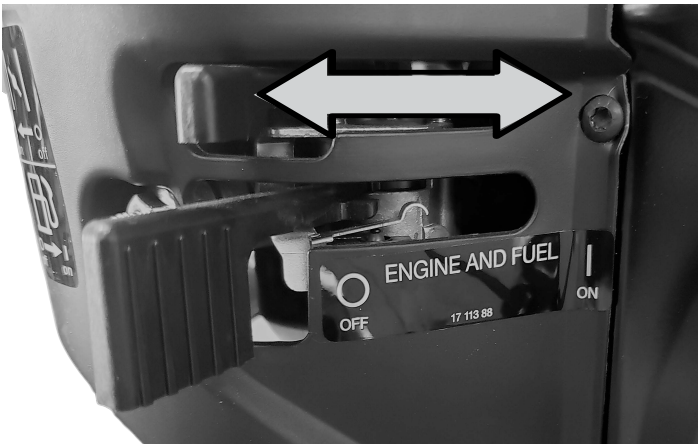


FIGURE 2

# Stopping the Engine

- Never stop the flow of liquid suddenly.
- Slowly decrease the throttle speed and allow the engine to idle briefly (30 seconds) prior to stopping the engine. See figure 3.
- Slide the on/off switch to the “off” position. See figure 4.

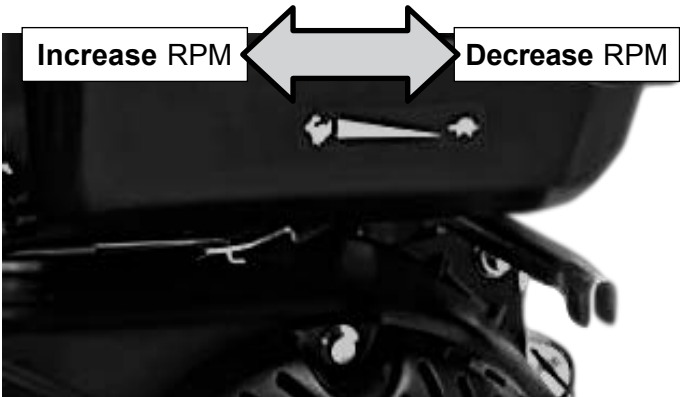


FIGURE 3

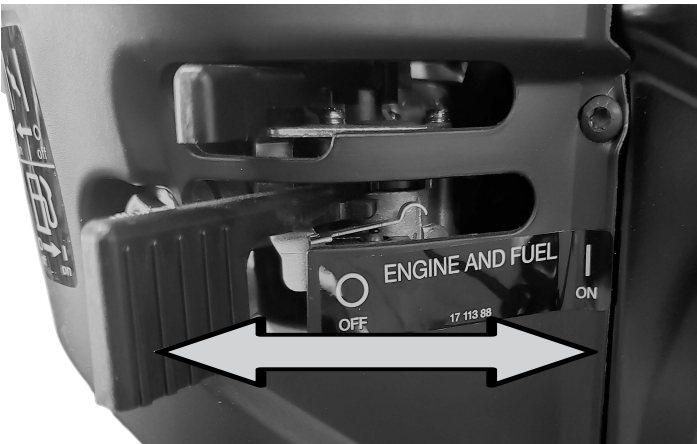
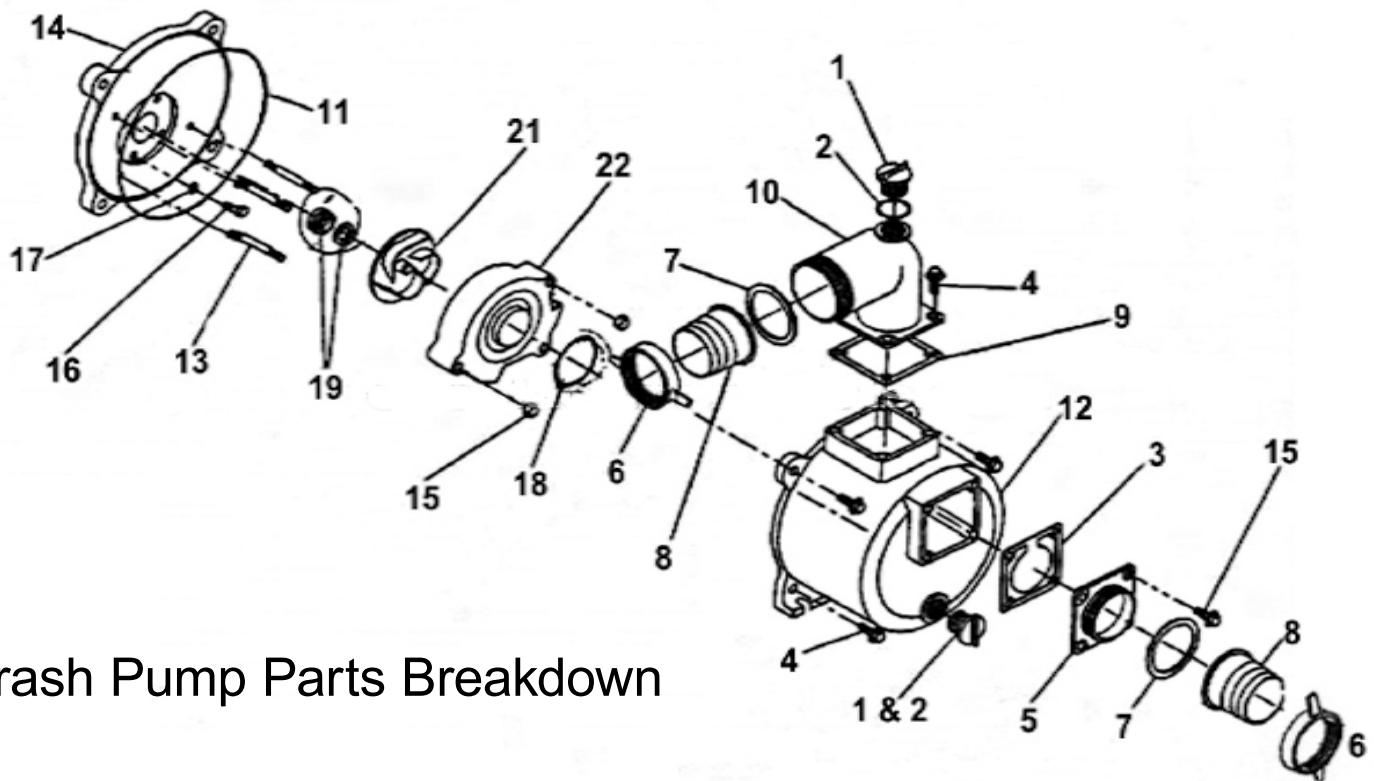


FIGURE 4

MAINTENANCE SCHEDULE				
D=DAILY; M=MONTHLY	D	M	3 M	6 M
Check Air Filter	x			
Check For Oil Leaks	x	x		
Replace Air Filter				x
Change Oil			x	

## Trash Pump Parts List

#	Quantity	Part Description	Part Number
1	2	Prime/drain plug	Contact for #
2	2	O-ring seal	Contact for #
3	1	Anti-siphon Valve/ gasket	Contact for #
4	12	M10 x 28 hex cap screw	Contact for #
5	1	Keeper bracket	Contact for #
6	1	Nurl	Contact for #
7	2	Rubber seal gasket	Contact for #
8	2	Hose barb connector	Contact for #
9	1	Flat rubber gasket	Contact for #
10	1	Discharge elbow	Contact for #
11	1	Pump case o-ring	Contact for #
12	1	Pump case	Contact for #
13	3	Stud	Contact for #
14	1	Pump case cover	Contact for #
15	1	Acorn nut	Contact for #
16	1	5/16-24 x 1 5/8 hex bolt	Contact for #
17	1	5/16 x .083 Washer	Contact for #
18	1	Rubber o-ring	Contact for #
19	1	Carbon seal assembly	Contact for #
20	1	Suction strainer	Contact for #
21	1	Impeller	Contact for #
22	1	Diffuser	Contact for #



Trash Pump Parts Breakdown

## Troubleshooting

PROBLEM	CAUSE	SOLUTION
Pump falls to prime.	<ol style="list-style-type: none"> <li>1. Not enough liquid in casing.</li> <li>2. Suction valve contaminated or damaged.</li> <li>3. Air leak in suction line.</li> <li>4. Lining of suction hose collapsed.</li> <li>5. Leaking or worn seal or pump gasket.</li> <li>6. Pump speed too slow.</li> <li>7. Strainer clogged.</li> <li>8. Suction lift too high.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add liquid to casing.</li> <li>2. Clean or replace.</li> <li>3. Correct leak.</li> <li>4. Replace suction hose.</li> <li>5. Check pump vacuum, replace seal or gasket.</li> <li>6. Check engine.</li> <li>7. Clean strainer.</li> <li>8. Measure lift with vacuum gauge. Reduce lift or friction losses in suction line.</li> </ol>
Engine will not start or engine starts but runs rough and lacks power.	<ol style="list-style-type: none"> <li>1. On/off switch is turned 'off'.</li> <li>2. Dirty air cleaner.</li> <li>3. Out of fuel.</li> <li>4. Stale fuel.</li> <li>5. Not enough speed or force is used for recoil start.</li> <li>6. Water in fuel.</li> <li>7. Low oil level.</li> <li>8. Engine has lost compression.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on/off switch to 'on'.</li> <li>2. Clean air filter.</li> <li>3. Fill fuel tank.</li> <li>4. Drain fuel tank and refill.</li> <li>5. Read and follow directions.</li> <li>6. Drain and refill tank.</li> <li>7. Add oil to proper level.</li> <li>8. Contact service center.</li> </ol>
Engine shuts down during operation.	<ol style="list-style-type: none"> <li>1. Dirty air filter.</li> <li>2. Low oil shut off. (on applicable models)</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the air filter.</li> <li>2. Check oil level.</li> </ol>

**⚠ DANGER** Disconnect spark plug wire from spark plug. Keep the wire away from the spark plug prior to doing in troubleshooting or maintenance on the unit.

**⚠ CAUTION** Hot oil may cause burns. Allow engine to cool before draining oil. Avoid prolonged or repeated skin exposure with used oil. Thoroughly wash exposed areas with soap.

# FAQ

## **How do I figure out the feet of head for a pump?**

The feet of head is determined by the distance above the water level of the discharge side of the pump, to the highest pumping level. Any elbows also add pressure. Lastly long runs of pipe will have friction loss that needs to be added to the pressure. If you cannot calculate the total feet of head, you can put a pressure gauge right off of the discharge side of the pump. Take the pressure reading x 2.31 for the total feet of discharge head. (1 PSI = 2.31')

## **What is the difference between a trash pump and a centrifugal pump?**

Both of these pumps are technically centrifugal pumps. The difference between the two is that a trash pump is designed with an impeller and volute that will pass certain size solids. Trash pumps are great for dewatering main break sites, pumping muddy or sludge-filled water, etc.

## **What length suction hose do I need?**

A 15 feet suction hose is recommended. The longer the hose the harder it is to prime because of the amount of air in the hose. Keep in mind this unit has a 12 feet lift only.

## **Can solids pass through this trash pump?**

Solids up to a quarter inch will pass through the trash pump. A strainer is provided with the unit. Always install the strainer on the end of the suction hose before pumping. The strainer will exclude debris that can cause clogging or impeller damage.

## **How do I prime my pump?**

Priming means filling the pump and suction pipe with water. You must evacuate the air from all the suction lines and the pump. It may take several minutes to prime depending on depth of water, pipe size and length. Note: it is easier to prime a pump if you allow all the air to escape from the pump and pipes. The water cannot go in unless the air can escape.

## **What is the recommended size of piping on the discharge of a pump?**

Discharge piping should be at least as large as the discharge opening of the pump. Never use a smaller diameter pipe than the size of the pump's discharge. Doing so will back pressure the pump causing pressure to build to a point where the engine can no longer turn Impeller. This will cause engine to lock down.

## **How high can I lift water with a pump?**

This is the single most asked question in the pump business. Even though we refer to it as suction lift, pumps do not actually lift liquid. They create a void by evacuating the air in the line, and atmospheric pressure on the liquid pushes it up the hose and into the pump. The maximum lift on our TP 300 model is 12 feet. That said, it is always best to locate your pump as close to the liquid being pumped as possible. TP 300 Pumps have the ability to push water from the discharge side of the pump 96 feet flat head.

## Limited Warranty

Volt equipment is warranted to be free from defects in material and workmanship for a period of ONE year after date of purchase.

The engine is warranted for a period of two years.

See engine manual for details.



**MODEL:VK2TA**  
**Twin Tank Air Compressor**

**FEATURES**

- Kohler CH270
- Gasoline Engine
- Rugged Construction
  - Cast Iron Impeller
- Aluminum Pump Housing
  - Fast Priming
  - Low Oil Shutdown

**SPECIFICATIONS**

- Impeller – Keyed/Cast Iron
- Gallons Per Minute – 264 Gpm
  - Engine HP – 7.0Hp
  - CC's – 208cc
  - RPM – 3850 +/- 150
- Oil Capacity – 20oz ( 0.6 US qt )
  - Oil Weight – 10w-30
- Start Type – Manual Start
  - Fuel Capacity – 1 Gallon
- Fuel Type – 86+ Octane Gasoline
- Shutdown – Toggle Switch/ Low Oil Shutdown
  - Size – L-36", W-21.5", H-25"
  - Net Weight – 84 Lbs.

**FOR ENGINE SERVICE MANUAL VISIT**  
**[WWW.KOHLERPOWER.COM](http://WWW.KOHLERPOWER.COM)**

**VOLT EQUIPMENT**

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