

POWERSTAR Sewage Tank Kit

User's Manual



POWERSTAR TRUCKS INDUSTRY CO., LIMITED

<http://www.isuzutruckscn.com/>



Sewage Tank Kit

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OWNER'S MANUAL

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Preface

Thank you for purchasing POWERSTAR TRUCKS products. For better using your ISUZU Sewage Tanker Truck, get the best operating performance, we strongly suggest that before the operation process you should read this manual instructions carefully, and to manipulate the program handily.

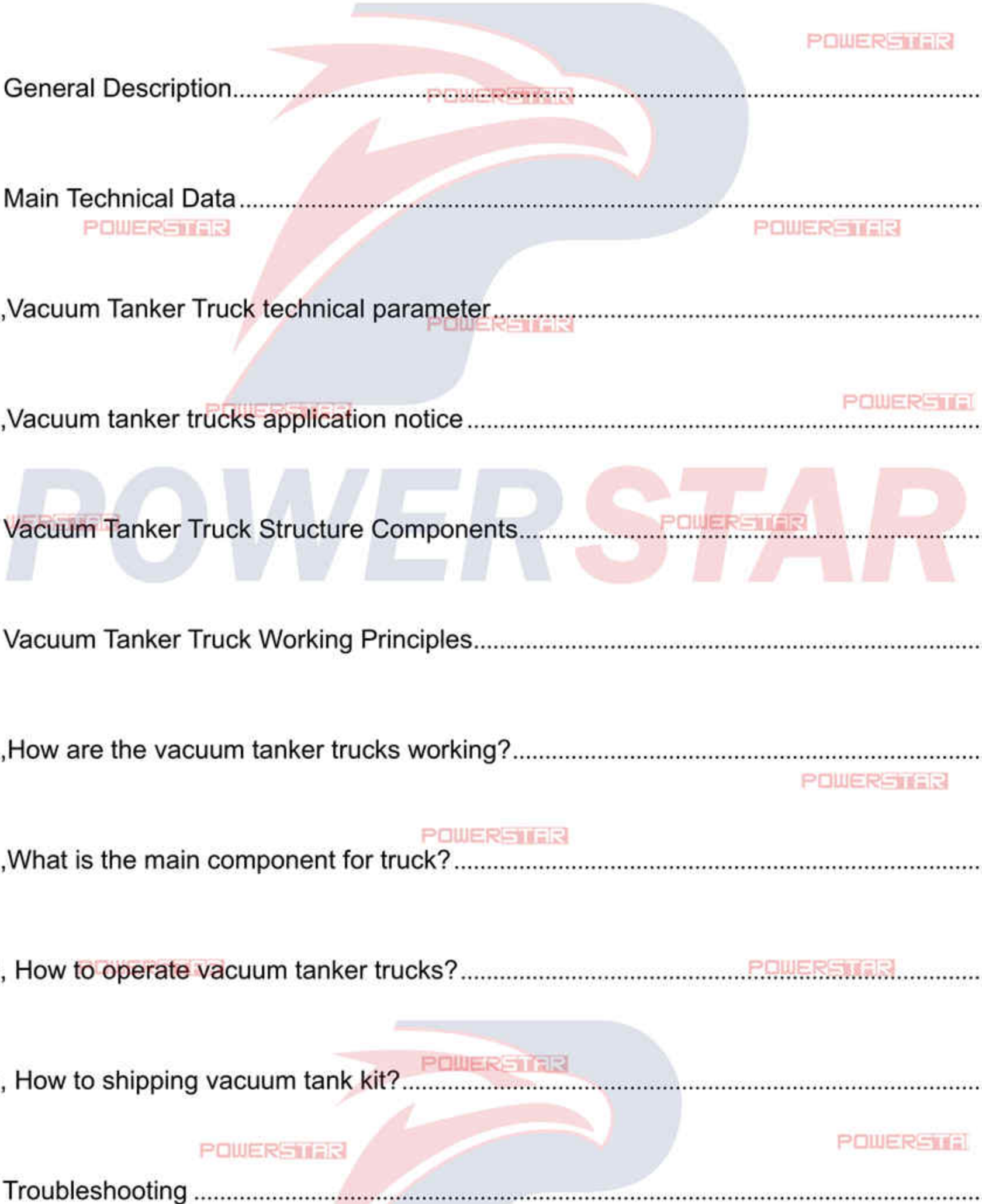
The manual detailed describes the performance of vacuum sewage truck, structure, usage, precautions and maintenance of such knowledge. While showing details of the truck, both pictures and description will together help you get better understanding of how to use truck. Before the operation, the skilled operator should carefully read the contents of the manual.

After master the truck performance characteristics, methods of operation and precautions, then could start to operate this sewage suction truck. In order to ensure the staff turnover after the operation, and properly use of the truck. This manual book must be properly kept, shall not be lost and damage.

----POWERSTAR TRUCKS

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Chapter 1. General Description

POWERSTAR TRUCKS Sewage Tank Kit based on customer provide ISUZU hook loader truck, capacity for vacuum tank can be up to 5,000Liters, which also installed with best performed Chinese Top brand WEILONG 68/7000 model vacuum pump. The sewage tank kit main consist of below system: Auxiliary diesel engine, Combined Vacuum pump system, Durable vacuum tank system, Pipeline system, Vacuum gauge, View window, etc.

The truck kit designed to fully rely on the advantages of the original customer hook loader truck, fully consider the truck convenience and reliability. The sewage tank kit has advantage of working independently based on independently diesel engine and vacuum pump system, which has big capacity and suction efficiently, and maintenance for whole kit can be easily. The tank material is international standard strength carbon steel, which treated with antirust painting both inside and outside.

The Sewage Tank Kit is ideal and special-purpose machinery used for dredging city sewer, specially applied to pumping, cleaning and transporting the sewage sludge, also can be used for suction droppings and some other works. Therefore, the vehicle is an ideal Vacuum Truck Kit mainly for liquid sewage suction.



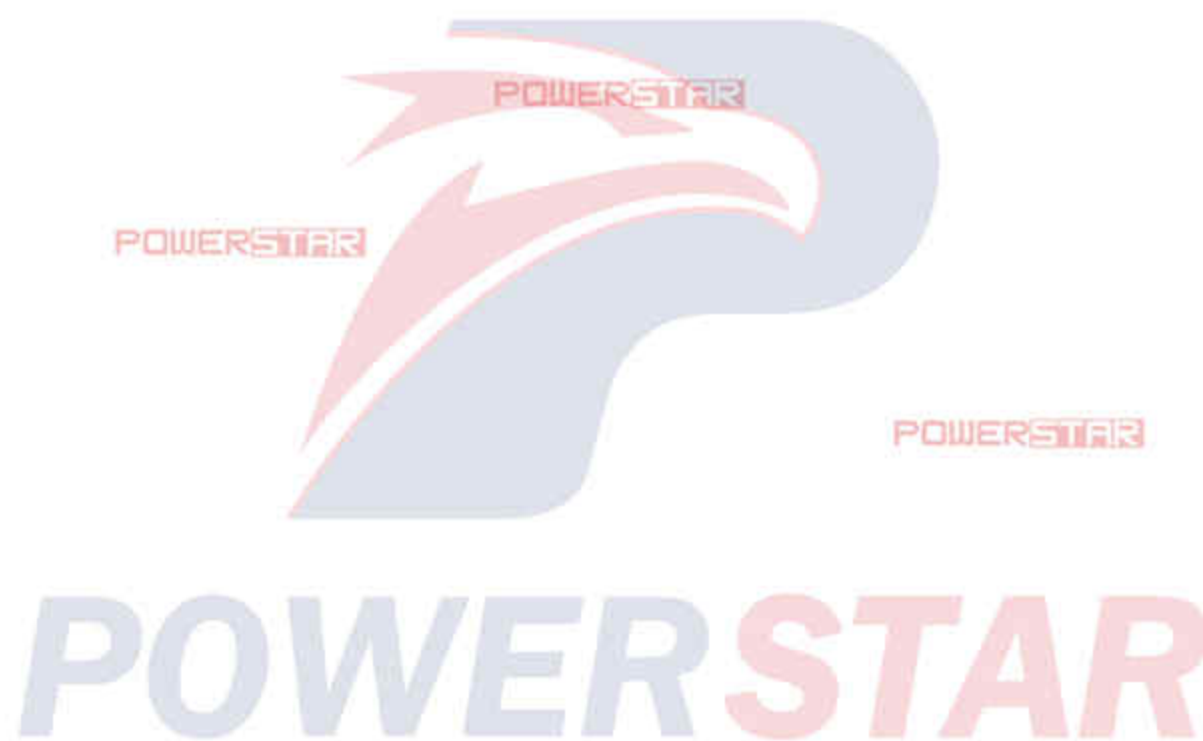
(Preview for your Sewage Tank Kit)

Chapter 2, Main Technical Data

i ,Vacuum Tanker Truck technical parameter

	Items	Parameter	
Kit Specificati on	Dirty water tank	5000 Liters	
	Material	Carbon steel, 6mm thick	
	Design pressure	Full Vacuum – 0.9bar	
	Vacuum pump	China famous WEILONG 68/7000	
	Suction Pipeline	PVC hose with 4" diameter, 7m	
	Full-suction time	≤8min	
	Discharge valve	6" discharge valves	
	Rear cover	Hydraulic open and Manual locking	
	Auxiliary diesel engine	Famous China brand	
	Battery	Equipped on box	
	Vacuum system		First level Oil-Gas Separator
			Second level Oil-Gas Separator
			Water-Gas Separator
Painting	Blue as required		

- Note: 1. The vehicle height includes top filter and overflow alarm.
2. We keep the right to revise the parameters on the list above.



ii ,Vacuum tanker trucks application notice

(1) Keep the vacuum pump at suitable revolution speed:

If the pump too speedy, the rotor's temperature will be very high; on the contrary, the pump too slowly, engine knock will happen, which will impact the parts and affect the service life. In one word, the proper revolution speed is necessary, and should have the HAND THROTTLE to the largest adjustment position in advance.

(2) Rollover the tanker on flat road (Use the hook loader truck)

When Sewage tank kit on the hook loader truck, please Rollover the tanker on the tilt road will not only make parts distortion and lead to malfunction, but also an accident.

(3) Open rear door before rollover the tanker

Open rear door before rollover the tanker is very important, or there may be an accident.

(4) NOTES: As for the Four-way valve, which suggest to keep in stop position when driving the truck

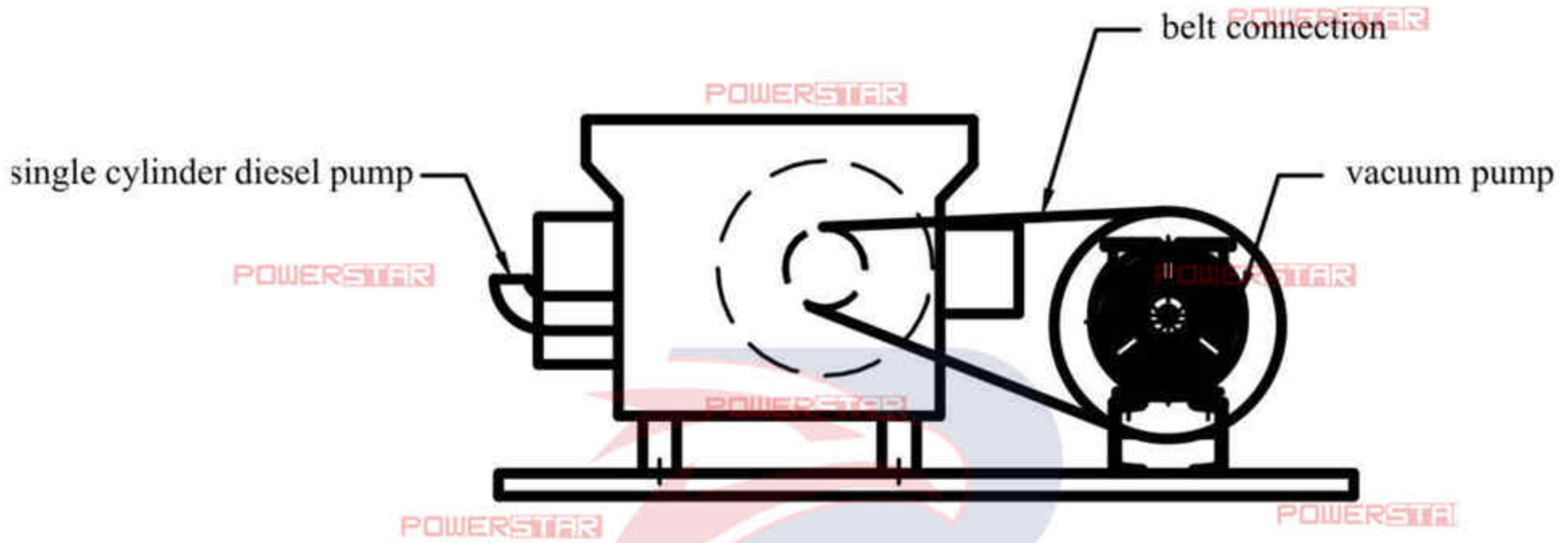
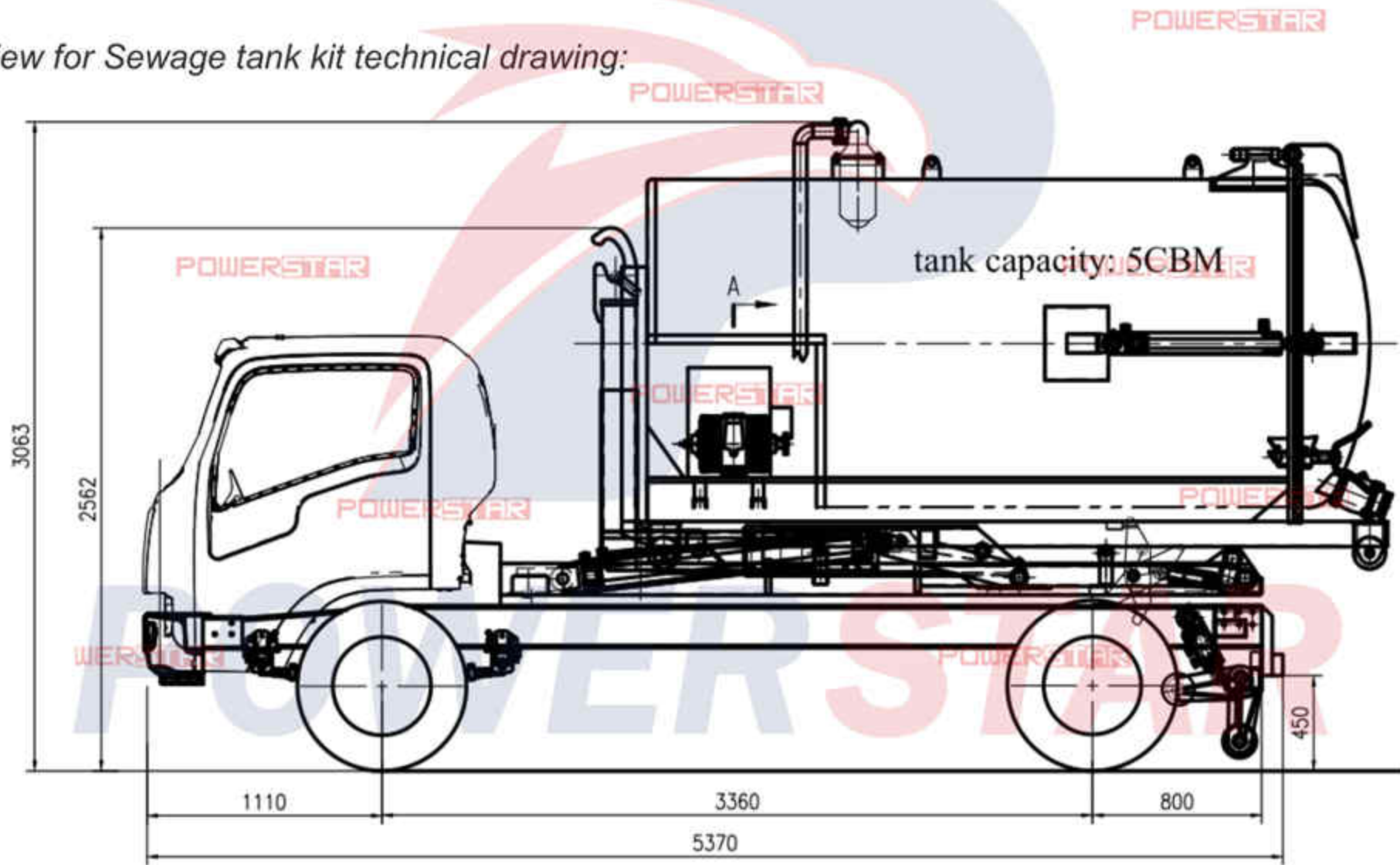
(6) Waste oil and other danger things are not allowed to be carried by this vehicle.

(7) The supporting rods and safety stop must be used while tanker is raising position before entering the base or repairing the tanker.

(8) When transporting sewage, the manual rear door clamping device must be used to keep safety. For there are no water cutter and the high barycenter, the hook loader truck also must drive at middle or low speed, and must not turning and braking suddenly.

Chapter 3, Vacuum Tanker Truck Structure Components

Overview for Sewage tank kit technical drawing:



Above drawing show our designed 5CBM sewage vacuum kit based on customer supplied ISUZU Hook Loader Truck, also the vacuum pump working principle, detailed of the kit showing as below:

Tanker Body: Special designed to be suitable for customer hook loader truck,

Hydraulic rear door
with manual lock



Two discharging valve at
rear of the door

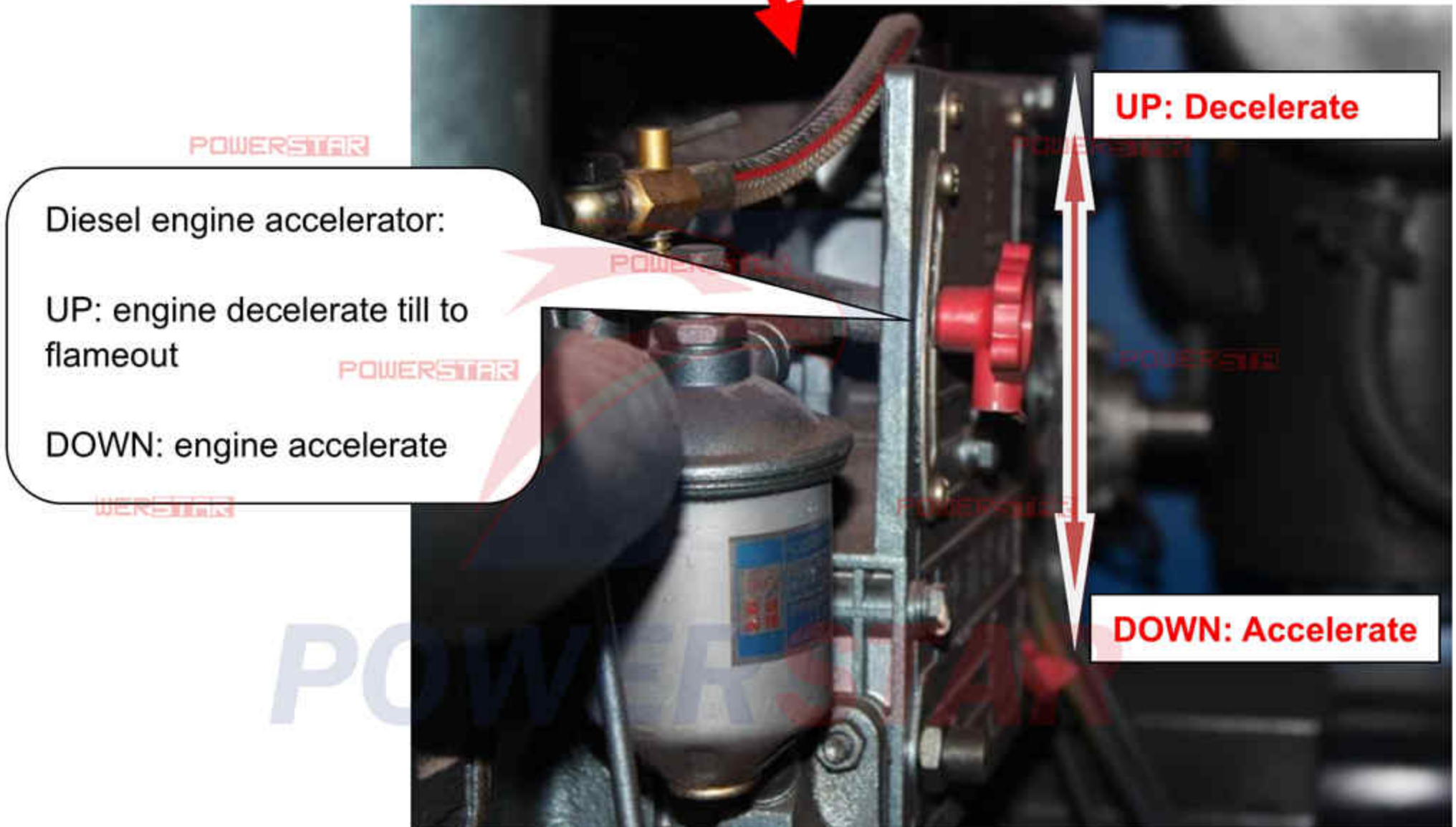
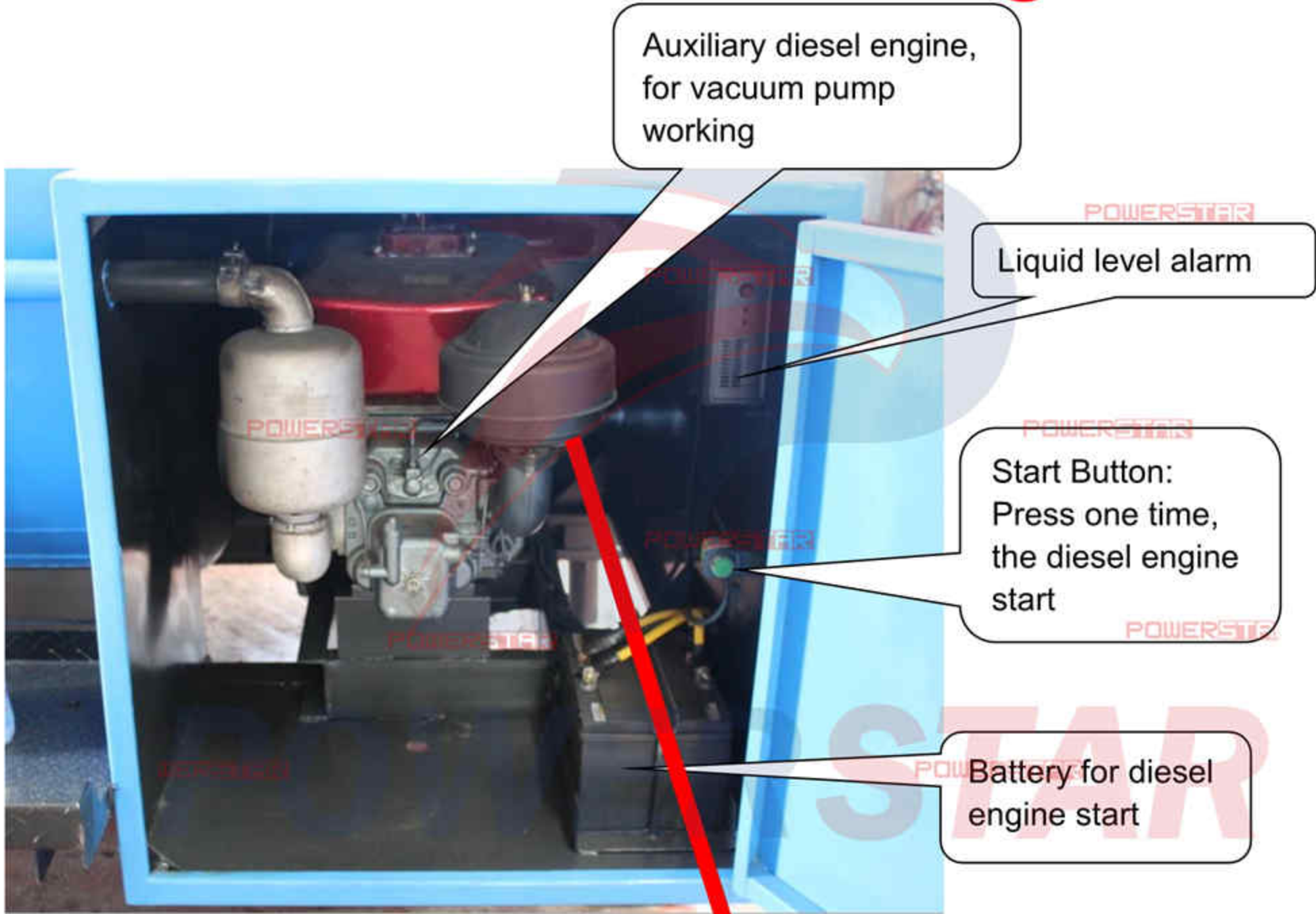
Pump in/out valve to
connect with pipeline

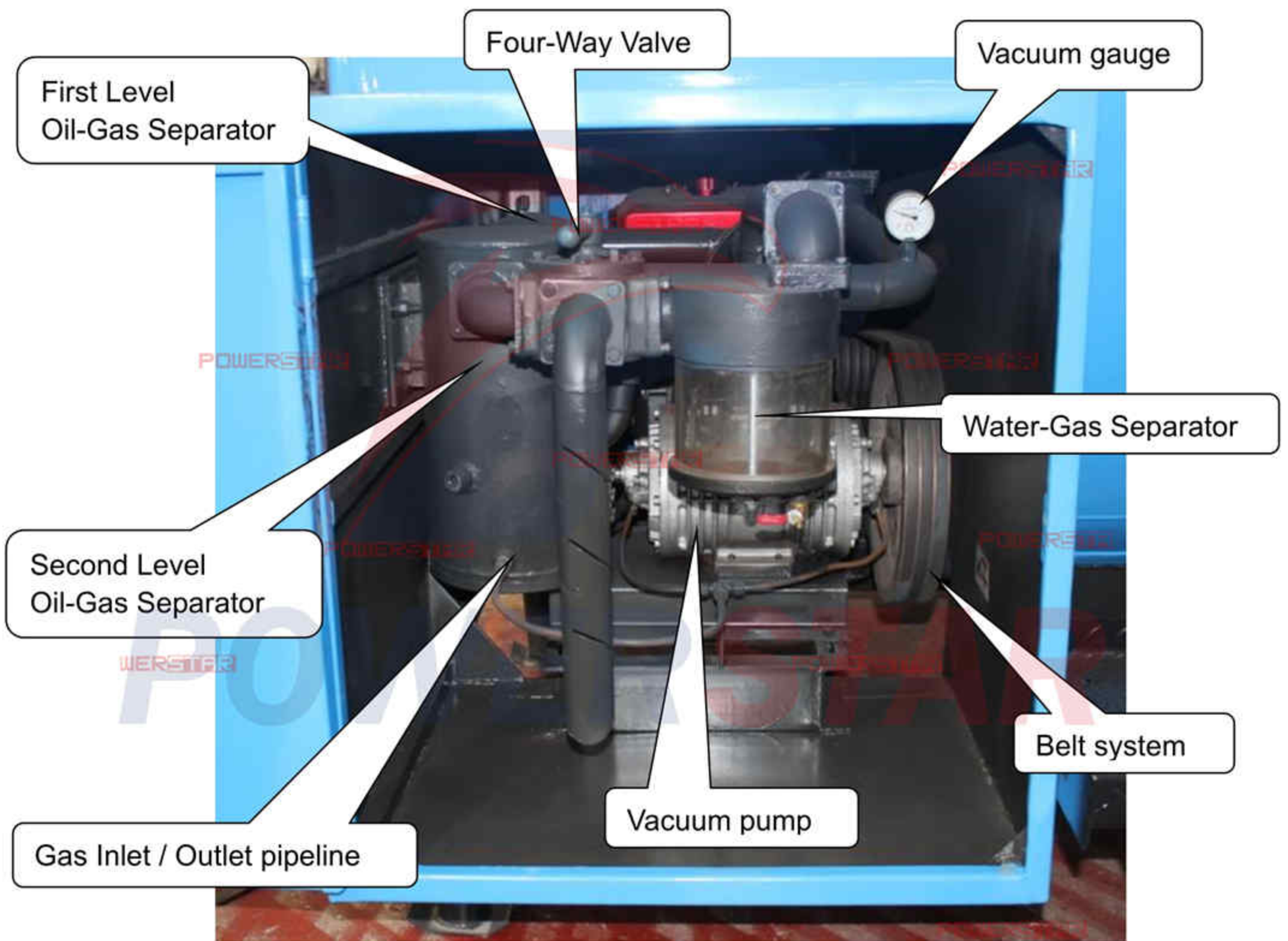
Vacuum Pump System
in the box

Pump in/out valve to
connect with pipeline



Two discharging valve at
rear of the door





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Pump-In Working

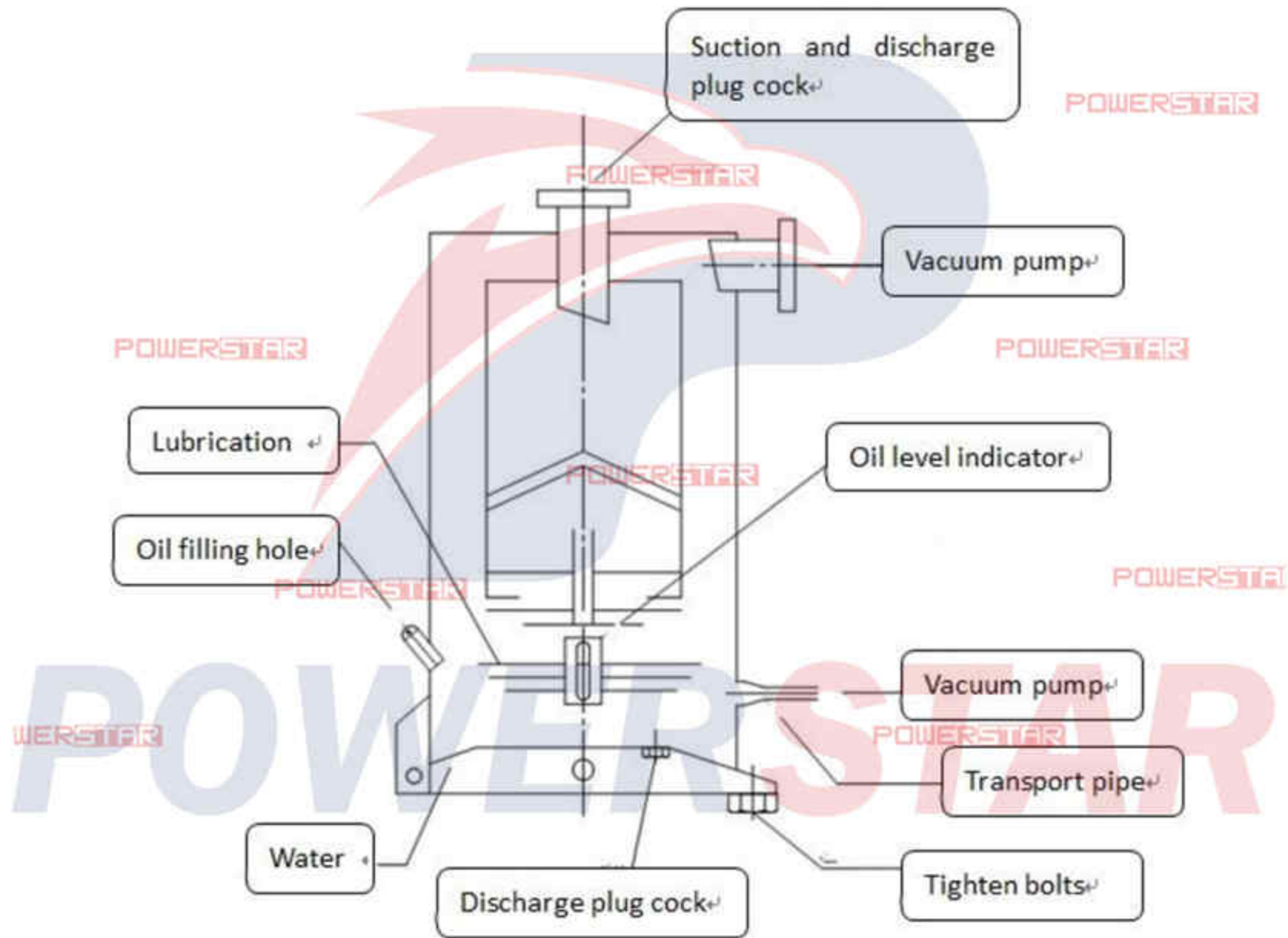


Nonworking

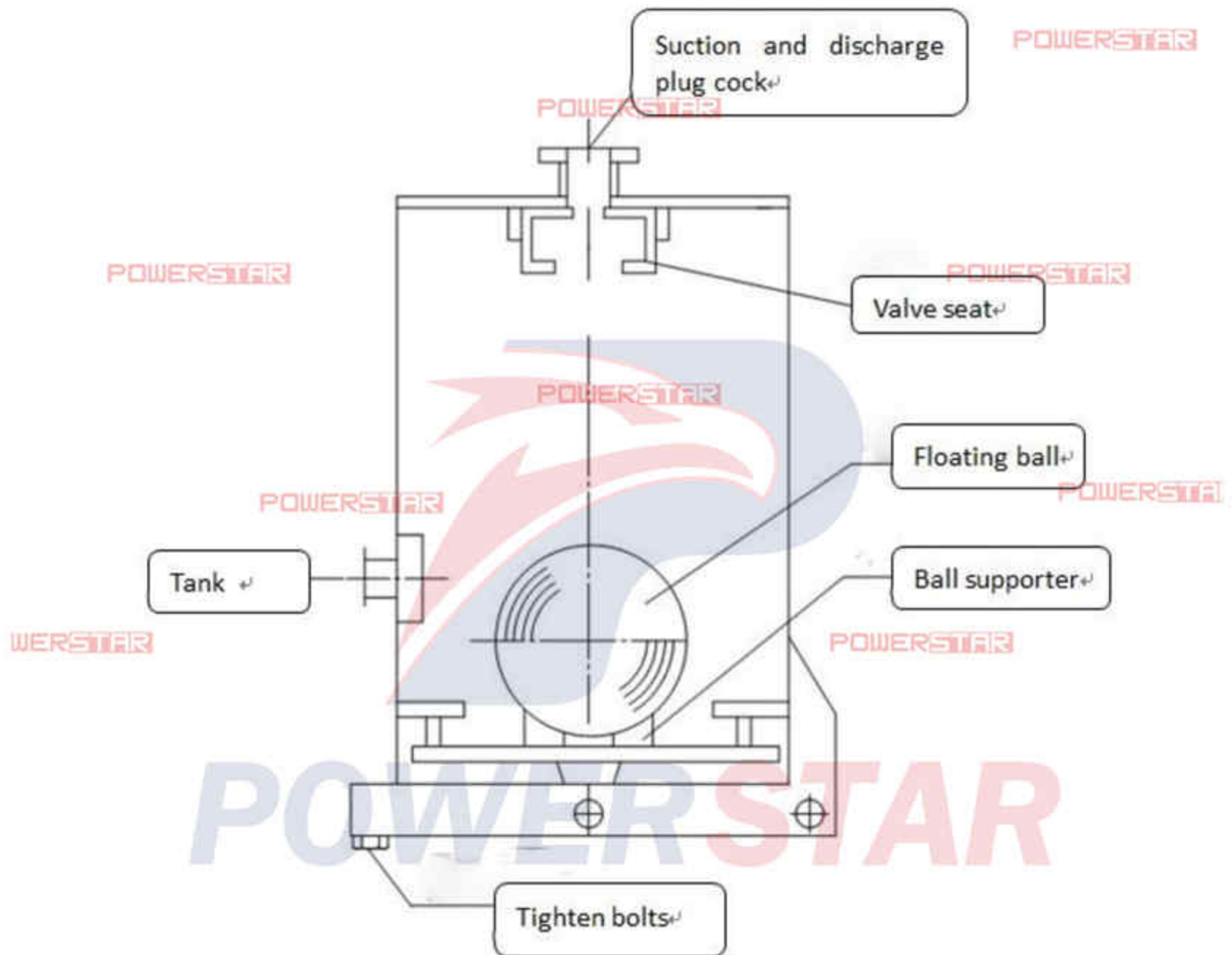


Pump-Out Working

Please Note: Only suggest use vacuum pump for Pump-In working, strictly forbidden for Pump-Out working



(Second Level Oil-Gas Separator)



(Water-Gas Separator)

Chapter 4, Vacuum Tanker Truck Working Principles

The operator should fully understand Whole Structure and Working Principle for Sewage Tank Kit before any operation. Only trained person can operate this vehicle properly and to prevent unnecessary accidents and equipment damage.

i ,How are the vacuum tanker trucks working?

The Sewage Tank Kit makes use of the auxiliary diesel engine, and transfers the power to vacuum pump and makes the whole vacuum system working. Operation the valves to control the kit suction liquid sewage, adjust the accelerator to make suction speed faster and slowly. After suction working, using Manual Operated Valves to control rear door Open/Close. Also the sewage tank kit can be worked together with the hook loader truck. After working, cleaning the sewage tank, and ready for next time operation.

ii ,What is the main component for truck?

The sewage tank kit separated designed, but also can be used together with customer 4x2 hook loader truck. The kit includes Vacuum suction assembly, actuator device, operation system, hook loading system.

- Vacuum suction assembly: One vacuum sewage tank. 1 unit 7m suction pipeline, vacuum suction system.
- Actuator device: includes auxiliary diesel engine, drive belt, etc., which can transfer the power to the pump.
- Operation system: helps come to all special functions' convert.
- Hook loading system: special designed to make kit suitable for hook loader truck working

iii, How to operate vacuum tanker trucks?

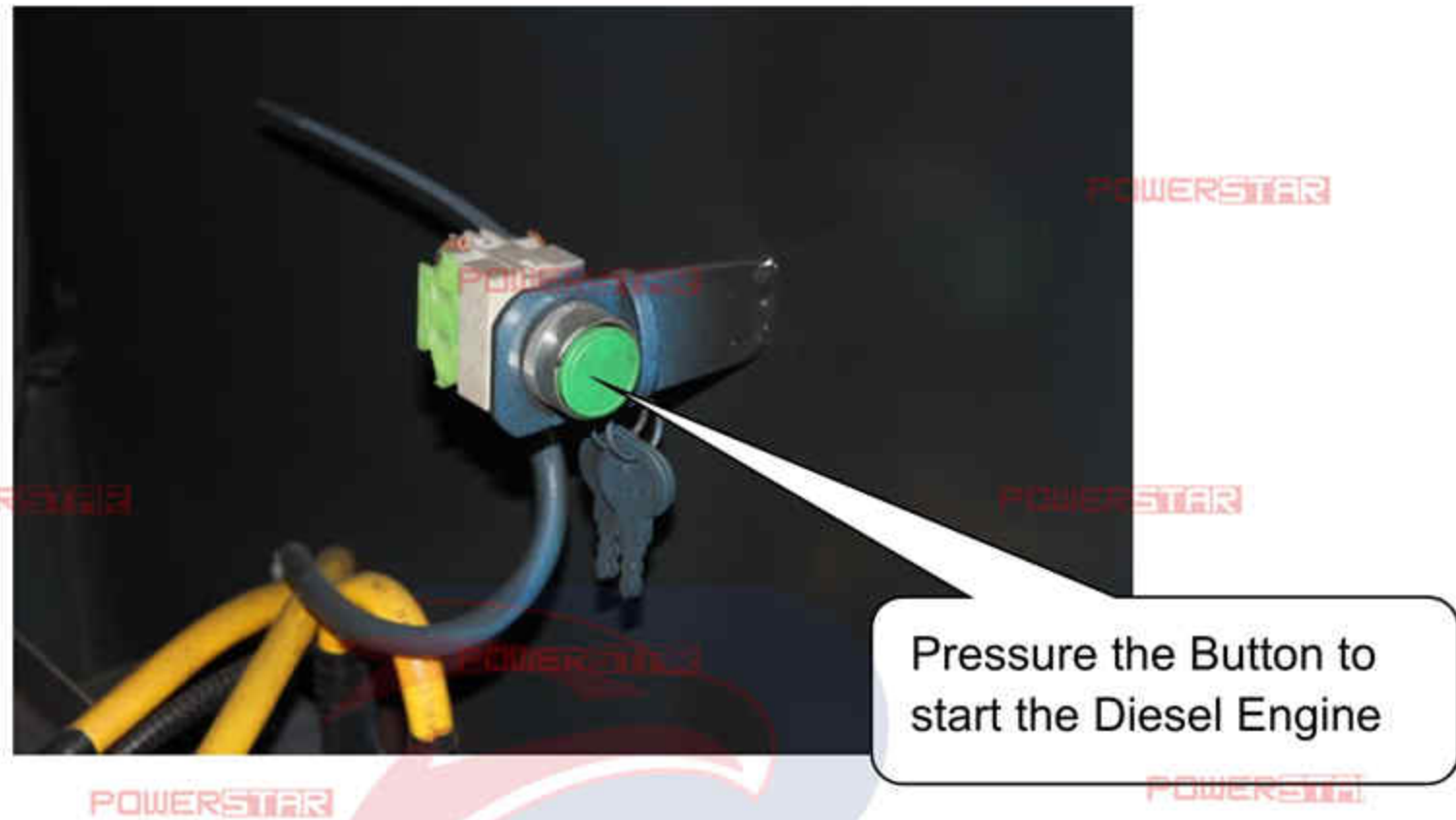
(1) Suction operation preparation

- A, Keep the sewage tank rear door closed
- B, Carefully check whether the lubrication of vacuum pump gas-oil separator working normally.

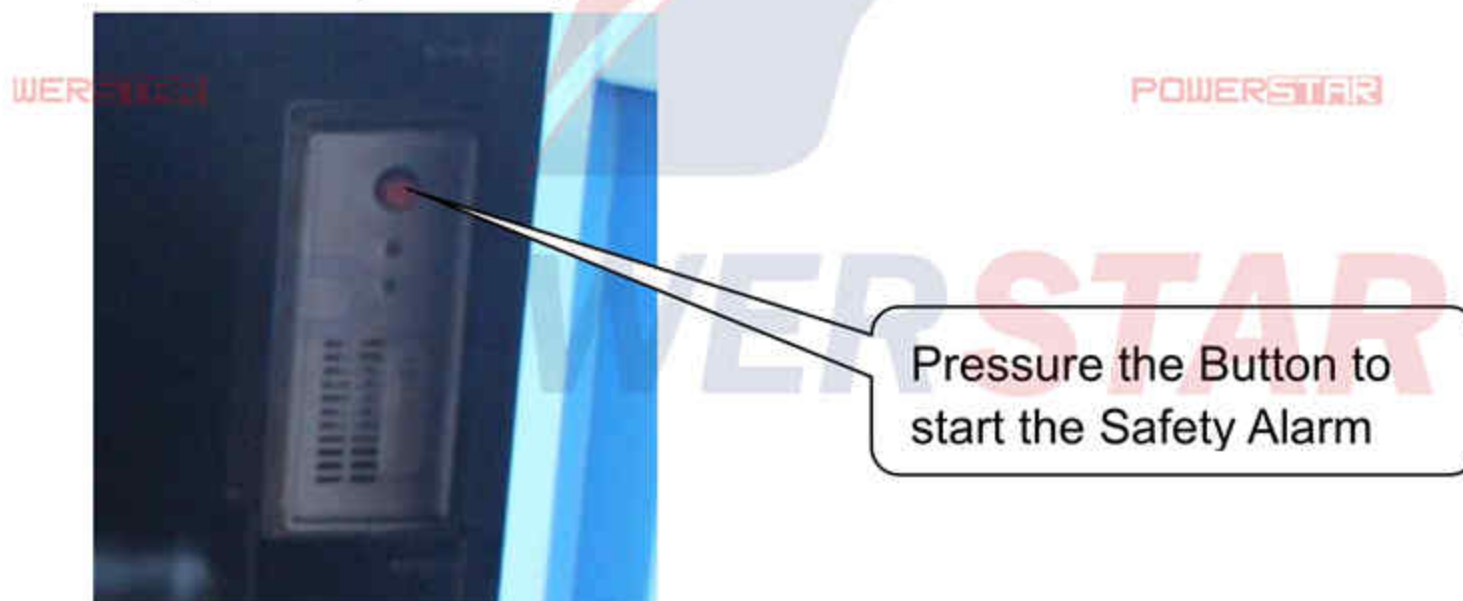


(2) Operations sequence (Detail figure)

A, Press the **Green Button** to start the diesel engine, then engine drive the vacuum pump working through belt.



B, Start the safety alarm (in the box)



C, Adjust the Four-Way Valve to Pump-In working position (LEFT POSITION), carefully check the released air, the vacuum pump sound, the vacuum meter.



Pump-In Working



Nonworking



Pump-Out Working

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1. Four-Way Valve turn to Suction Position

2. The pipeline is exhausting air



D, Put the suction pipe into the sewage. Park the sewage tank kit in right place before suction working, which can keep the pipe straight or free bending state, and guarantee kit work normally.



Suction Pipeline:
One head connect with this valve
One head into the sewage pool

E, Then the sewage tank kit can start the suction working

(3) Attention while working

A, Things like over 50mm stone, cotton yarn, leaves etc. will block the suction pipe, and should not be suction, also should keep the pipe clean and unblocked.

B, Keep the suction valve full open, because half-open may damage the valve.

C, The suction pipe should be moved frequently while suction. Because suction some air and water will increase efficiency when the sewage is too viscosity.

(4) Waste water discharge operating instruction.

After sludge and waste water separate, open scupper valve to discharge all the waste water and be ready for next suction. Pressure can bigger while discharging water. Operation approach as follows:

A, Adjust four-way valve joystick to nonworking position, then open the scupper valve to open position, and discharge all the waste water by gravity. (**Recommend**)

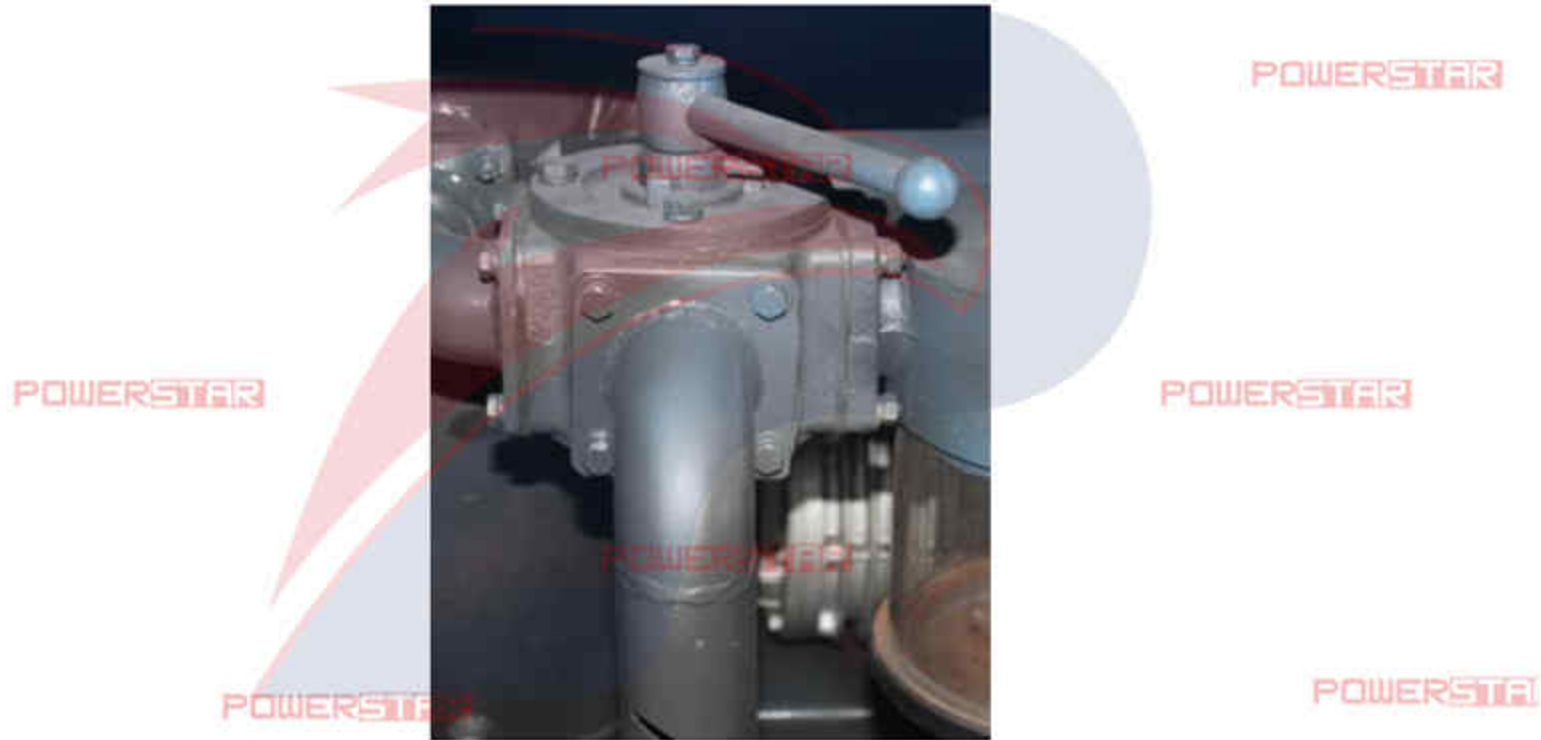


Nonworking Position



Open Two Rear Discharging Valve

B, Adjust four-way valve joystick to Pump-Out position, then the vacuum pump keep working, and the pressed air goes into tanker to put waste water quickly out of the tanker. **(Not Recommend)**



Pump-Out Working

C, When discharge by pressure, firstly, open the discharge valve, then adjust discharge valve joystick to discharge position, in case of tanker pressure become too high, some accident and bad influence on rear door sealing.

(5) Muddy discharge operating instruction

(1) Use hydraulic pipeline to connect the Sewage Tank Kit with the Hook Loader Truck.



Fast Connector should be installed on Hook Loader Truck

Use the two hydraulic pipelines to connect the kit and truck

(2) Rear door clamping device valve to discharge some waste water, and adjust the inside tank pressure to be equal to the outside pressure.



Release the rear door clamping device

(3) Open the rear door clamping device, loosen the handgrip and completely take off screw.

(4) Adjust the Hook Loader Truck to open rear door, please be sure the inside and outside air pressure is equal before open the door. If the pressure is not equal, the door seal and oil cylinder may be damaged.

(5) Recovery operation after discharge the sludge, carefully exam the follow things after the tanker reposition.

A, Carefully check the tank door flange and seal ring, and clean it if dirty.

B, Adjust manual operated valve joystick to CLOSE position, closes the rear door.

C, Operating the rear door clamping device until the rear door closed completely.

Please Note:

When Sewage Tank Kit it full of liquid waste, strictly forbidden use Hook Loader Truck loading and unloading the Sewage Tank Kit!

iv, How to shipping vacuum tank kit?

Our Engineers can design the vacuum truck dimension, so can make sure it can loading into 20GP, 40GP, 40HQ shipping container, which can save much shipping cost:



Chapter 5, Troubleshooting

After carefully reading the above information, you must be well known how to use the Vacuum Tanker kit; below show some important parts to help solve problems.

