Pneumatic Oil Extractor

Operation Manual
Model No. : HC-2097

To prevent serious injury, Read and understand all Warnings and instructions before use. Operators must obey all safety procedures & instructions

INDEX

Specifications

Function	collect waste oil from vehicle gear box or engine
Power	Compressed air
Air Consumption	About 200L/min.
Air Inlet Pressure	87~116PSI/6~8Bar
Oil ejection pressure	10~14PSI/0.7~1Bar
Vacuum Degree	0 ~ -14PSI/0~-1Bar
Tank Capacity	65L
Perspex cylinder Capacity(Practicable/total)	9/10L
Collect tray capacity	16L
Height	About 1355mm~1635mm
Working Temperature	40~60℃(for engine oil)

Save this manual

- You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram.
- Keep your invoice with this manual.
- Write the invoice number on the inside of the front cover.
- Keep the manual and invoice in a safe and dry place for future reference.

General safety rules

WARNING!

READ AND UNDERSTAND ALL INSTRUCTIONS. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

SAVE THESE INSTRUCTION

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

1. **Keep work area clean. Cluttered areas invite injuries.**

2. **Observe work area conditions. Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.**
3. **Keep children away. Children must never be allowed in the work area. Do not let them handle machines, tools or extension cords.**
4. **Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.**
5. **Avoid Unintentional Starting. Be sure the air pressure is in the off position when not in use and before making hose connection.**
6. **Stay alert. Watch what you are doing, use common sense. Do not operate any tool when you are tired.**
7. **Check for damaged parts. Before using any tool, any part that appears damaged should be carefully checked to determine that it would operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any control or switch does not operate properly.**
8. **Replacement parts and accessories. When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool.**
9. **Do not operate tool if under the influence of alcohol or drugs. Read warning labels if taking prescription medicine to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.**
10. **Maintenance. For your safety, service and maintenance should be performed regularly by a qualified technician.**

Note: Performance of this tool may vary depending on variations in air pressure and compressor capacity.

Specific safety rules for this product

This equipment is designed be operated by qualified personnel. It should only be operated after reading and understanding the safety warnings and operating procedures in this instruction manual.

1. Do not smoke near this equipment.
2. Use in a well ventilated area.
3. When leaks are found in the equipment or hoses, immediately turn the air pressure off and repair the leaks.
4. Do not exceed the recommended operating air pressure. This could damage equipment.
5. Keep a type ABC fire extinguisher nearby in case of fires.

6. Always protect your skin and eyes from contact with oil and solvents.

7. Do not start engine during the time of oil extraction. Otherwise it will cause the damage of extraction probes and injuries of people.
8. Be careful for the oil extracted out from the vehicle, as temperature of oil is high, always between 40~60℃.
9. Used oil should be properly disposed or recycled. Please contact with your local waste liquid/solid authority for information on recycling.
10. Can be used with other mechanical engine oil, lubricants as well as temporary storage. Brake fluid, gasoline, diesel and other liquid contains methanol and ketones or flammable is strictly prohibited.

Warning

1. Please read this Manual Book carefully and fully understand it before operation.
2. In order to avoid the aging of the rubber parts, do not expose the machine in the sunshine; do not deposit the machine in a moist place, it must be stored in a dry place with good ventilation. Because of the multi functions, the machine is equipped with many accessories, it must be cared by a special technician.
3. This machine has been tested strictly before leaving our factory, but the operator must obey our operation regulations. Please do not try to take apart and repair it by yourself, if you meet with any faults, please contact our local distributors or our company.
4. After using, always cut off connection with air compressor and recover all the pipe to its original place.
5. Do not lower than the min. air inlet required pressure. Do not exceed the max. air inlet required pressure.
6. Do not dismantle this machine by unqualified or unauthorized personnel. Otherwise will avoid warranty.
7. If you have any inquiries, please contact our local distributors or service offices.
8. Air inlet & Oil drain: Ball valve must be closed operation confirmation.

Transport and unpacking

When unpacking, check to make sure that all the parts are included. Refer to the Assembly section, and the Assembly Drawing and Parts List at the end of this manual.
For transport of the packaged product, refer to Fig.0 below

Once the product has been unpacked, check that the instructions manual is there, that the material is complete and there are no parts which have been visibly damaged. **If any parts are missing or broken, please contact with**

local distributor as soon as possible. Remove the contents of the packages and place them in a storage area inaccessible to children or animals.

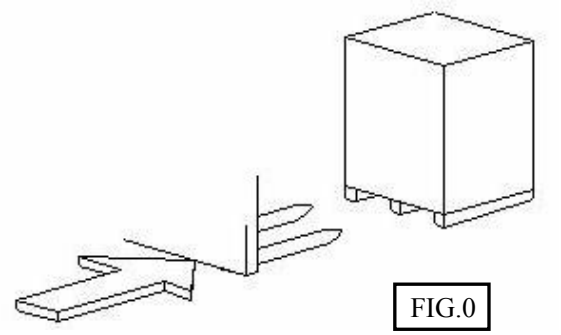


FIG.0

In the package, you will find:

a) One Complete Oil Tank/Reservoir

b) One Complete Measuring Glass/Cylinder

c) One Oil Collecting Bowl/tray

d) One Strainer

e) Probes 5 pcs with sleeve

f) User's Manual

Features

This type measuring glass uses the explosion-proof equipment, can effectively protect the machine and operator's security, with Exclusive patent. holds the exclusive patent. Imitation is not permitted.

Assembly instructions

Setup Cylinder(FIG.1)

1. Refer to above FIG.1 install the cylinder to the oil tank base with ejection ball valve handle is perpendicular with the machine.
2. Tighten with inside hexagonal screw.

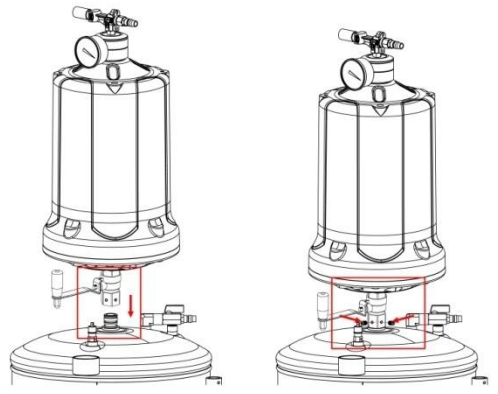


FIG.1

Oil Tray(FIG.2)

1. Open the carton to take out the oil tray, check to see if there is any damage. If so, please contact with your distributor immediately.
2. Pull out the lift pole and install the oil tray on the lift pole.
3. Take out the cylinder, connect it to the oil tank with ball valve handle in vertical seating.
4. Fix the cylinder in the correct direction with the inside hexagonal screw.

5. Ensure the lift pole is perpendicular to the equipment.

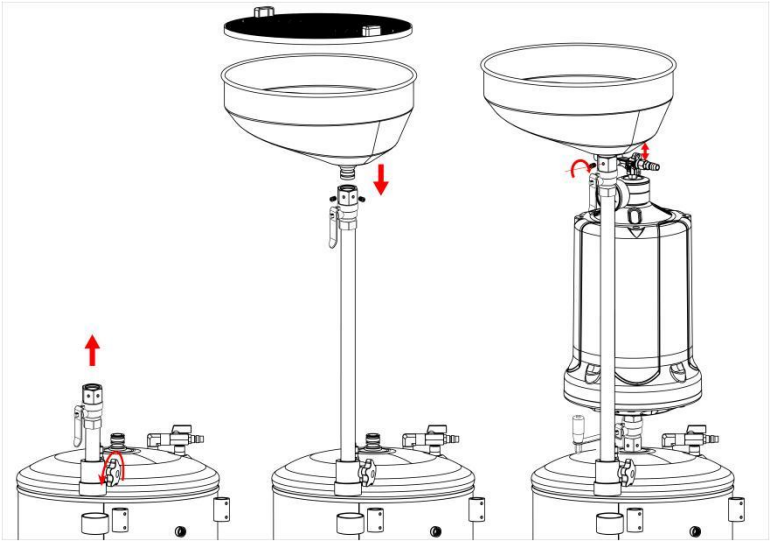


FIG.2

Operation instructions

Oil Collections(FIG.3)

1. Lift the vehicle up, then Push the machine to the place right under the engine oil outlet.
2. Open the wing valve under the oil tray and unscrew the oil drain plug of engine.
3. Then oil transferring from oil tray to oil tank.
4. Screw on the drain plug of vehicle.

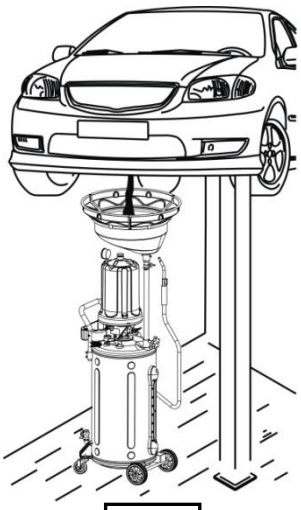


FIG.3

Vacuum Generation

Operating air pressure: 87~116PSI /6~8 bar

Consumption of air: about 200L/min.

If only measuring glass to be vacuum(FIG.8)

1. Turn off the machine ball valve ③ and the extraction valve ⑥ (fix on the extraction hose).
2. Connect the compressed air to the machine air inlet ①.
3. Gradually turn on the air inlet valve(which equipped by customer himself) for vacuum generation.
4. When finger reaching to the MAX area on the vacuum gauge ②, turn off the air inlet valve (Estimated time for vacuum generation within 20~30seconds, If continuously extraction required, please let it open).
5. Now it is ready for extraction.

Vacuuming both measuring glass and tank(FIG.8)

1. Turn off all valves before vacuuming.
2. Connect the compressed air to the machine air inlet ①.
3. Open the ball valve ③.
4. Gradually turn on the air inlet valve(which equipped by customer himself) for vacuum generation.
5. When finger reaching to the MAX. area on the vacuum gauge ②, turn off the air inlet valve (estimated time for vacuum generation within 4~5 minutes) (If continuously extraction required, please let it open).
6. Now it is ready for extraction.

Tips

1. **Benefits for gradually and slowly turn on air inlet valve for reducing of air-consumption and a quicker speed for vacuum-generation.**
2. **Benefits for vacuum generation of both cylinder and oil tank is fasting the speed of oil transferring.**
3. **We suggest extract both to be vacuum when the machine need to be used to the place without air compressor. Which will benefit long time continuously working.**

Oil Extraction(FIG.8)

1. After vacuum, choose suitable probe (which is the largest diameter one can be inserted into the engine) and tightly connect it to the extraction pipe connector.
2. Insert the end of the probe into the engine oil inlet hole of the engine.
3. Turn on the ball valve ⑥.

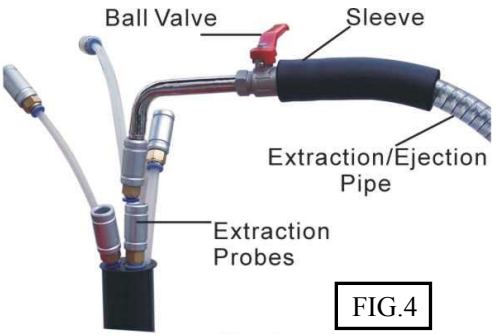


FIG.4

4. If waste oil only extracted into the cylinder. Please make sure the ball valve ③ is closed.
5. If waste oil extracted to the oil tank through the cylinder. Please open the ball valve ③ accordingly. Warning: Also the oil tank need to be vacuum before extraction operation.
6. After finish extraction, turn off the ball valve ⑥ on the extraction pipe.

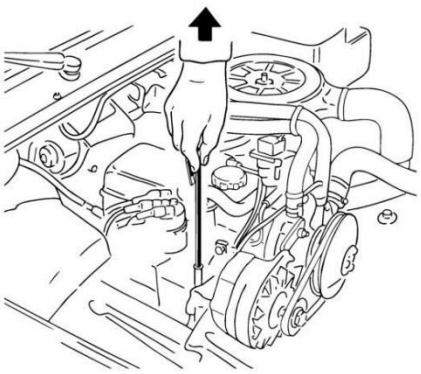


FIG.5

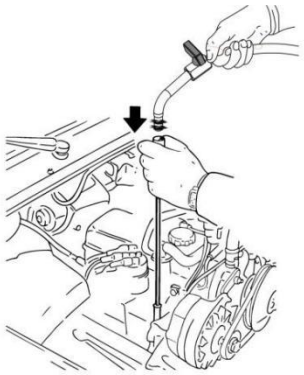


FIG.6

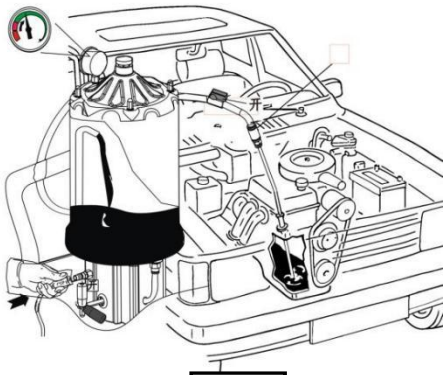


FIG.7

Note: Extraction of hot-oil, max. temperature for oil 60℃. Please do not exceed 60℃. Please hold the black sleeve to avoid scald.

Ejection(FIG.8)

Oil ejection from cylinder to underside oil tank

1. When the oil level reached cylinder 'STOP' warning line, please empty the cylinder with oil ejection.
2. Turn on wing valve ⑦ at first.
3. Turn on ball valve③，at the same time turn on mini ball valve ⑥ from the hose to release cylinder pressure

and oil drain into the oil tank.

4. Turn off valves ③ and ⑥ after ejection.

More about oil ejection from cylinder

1. Turn on valve ③, if vacuum existed in the tank, and then oil from cylinder will be fast transferred into the tank.
2. If no vacuum existed in the tank, turn on the ball valve ⑦ and ⑥ for helping making a quicker transferring of waste oil into the tank.
3. Turn off valve ③ and ball valve ⑥ after ejection finished.
4. Continuously repeating above operation steps for oil ejection before oil contained in the cylinder reaching "STOP" level on the sticker of cylinder.(Which is eject oil before cylinder reaching full) .

Tips

It will be faster for transferring of waste oil from transparent measuring glass into oil tank, if vacuum generated in both transparent measuring glass and oil tank.

Tank Emptying

When the oil retained in tank near full(see oil window), You need to eject oil out into a disposal tank and resolve the waste oil accordingly to the instruction of local government.

1. Turn off all the valves.
2. Hold the ejection hook and insert it into the external disposal tank.
3. Connect the air compressor with the air inlet ④.
4. Turn on wing valve ⑤ for oil ejection.
5. Turn on the mini ball valve ④ gradually, adding tank pressure, turn off air compressor when pressure reach to desired pressure. (The safety valve will automatically release pressure when the tank pressure reach 1.0 bar/14PSI, turn off the mini ball valve ④ immediately and quickly drop the tank pressure below 1.0bar/14PSI, otherwise it could lead to serious incident).
6. Cut off air source after ejection, empty tank pressure and turn off all valves.

WARNING!!!

1. The ball valve ③ (FIG.8) must be closed in order to prevent air enter causing transparent measuring

glass damaged.

2. **Please hold the end of Ejection Hook to avoid waste oil spattering out, cause an injury of eye, dirty of clothes.**
3. **Before disconnect extraction/ejection tube with fast couple (male), making sure no any pressure existed in the tank. Otherwise, oil will spray out.**

Safety Device

1. A safety valve will release pressure when pressure is over 14PSI/1bar during ejection.
2. A safety device was fixed on the top of the cylinder which could avoid the cylinder exploding while the compressed air enter the cylinder.

Trouble shooting

1. Vacuum gauge don't work
   - Check the air pressure: standard air pressure through "air inlet valve "should between **87~116PSI /6~8bar**; Air consumption is about 200L/Min.
   - Make sure all the valves are on the correct place.
   - Check vacuum operator-to-tank seal.
2. There is a figure showed on the vacuum gauge but the machine don't working and extracting
   - Check extraction hose-to-probe seal.
   - Temperature of waste oil is too low or not.(ordinary temperature of oil should between 40~60℃.)
   - Extract grease oil or other oil with high density, which is, avoided.
   - Make sure that extraction pipe open.
   - Make sure that extraction pipe do not block off and probe don't touch the bottom of tank.
   - Make sure that the silencer haven't been blocked.

Inspection, Maintenance, and Cleaning

1. Before each use, inspect the general condition of the machine Check for loose screws, air and oil leakage, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use. Do not use damaged equipment.
2. Periodically recheck all hoses, valves, nuts, bolts, and screws for tightness.
3. For a long time to use, please check the adapter/O seals of the adaptors for leakage.

4. It’s necessary to drain the waste oil as soon as possible in case of the corroding of tank.
5. Store in a clean and dry location.
6. All maintenance and repairs must be completed by a qualified technician.

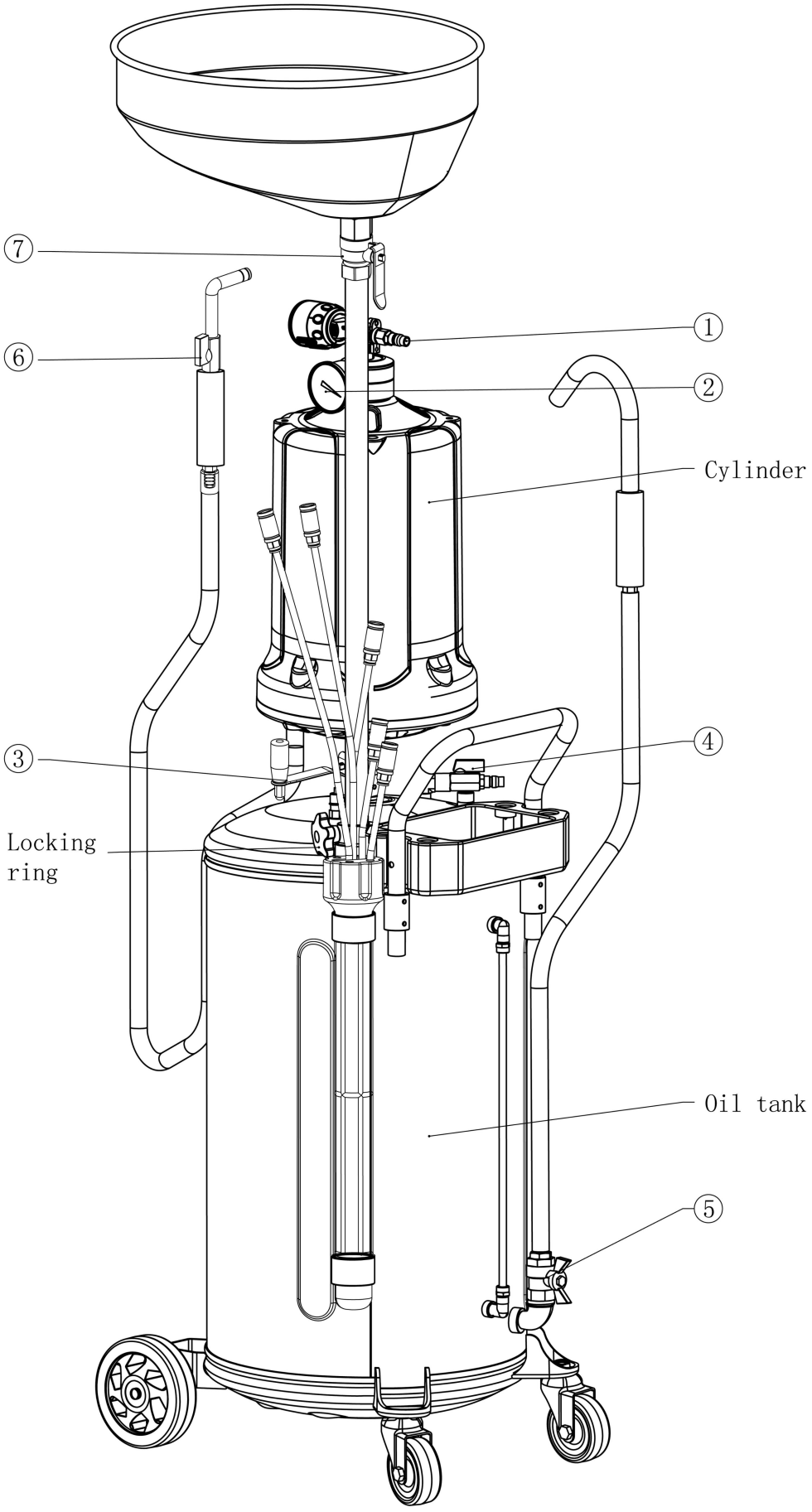
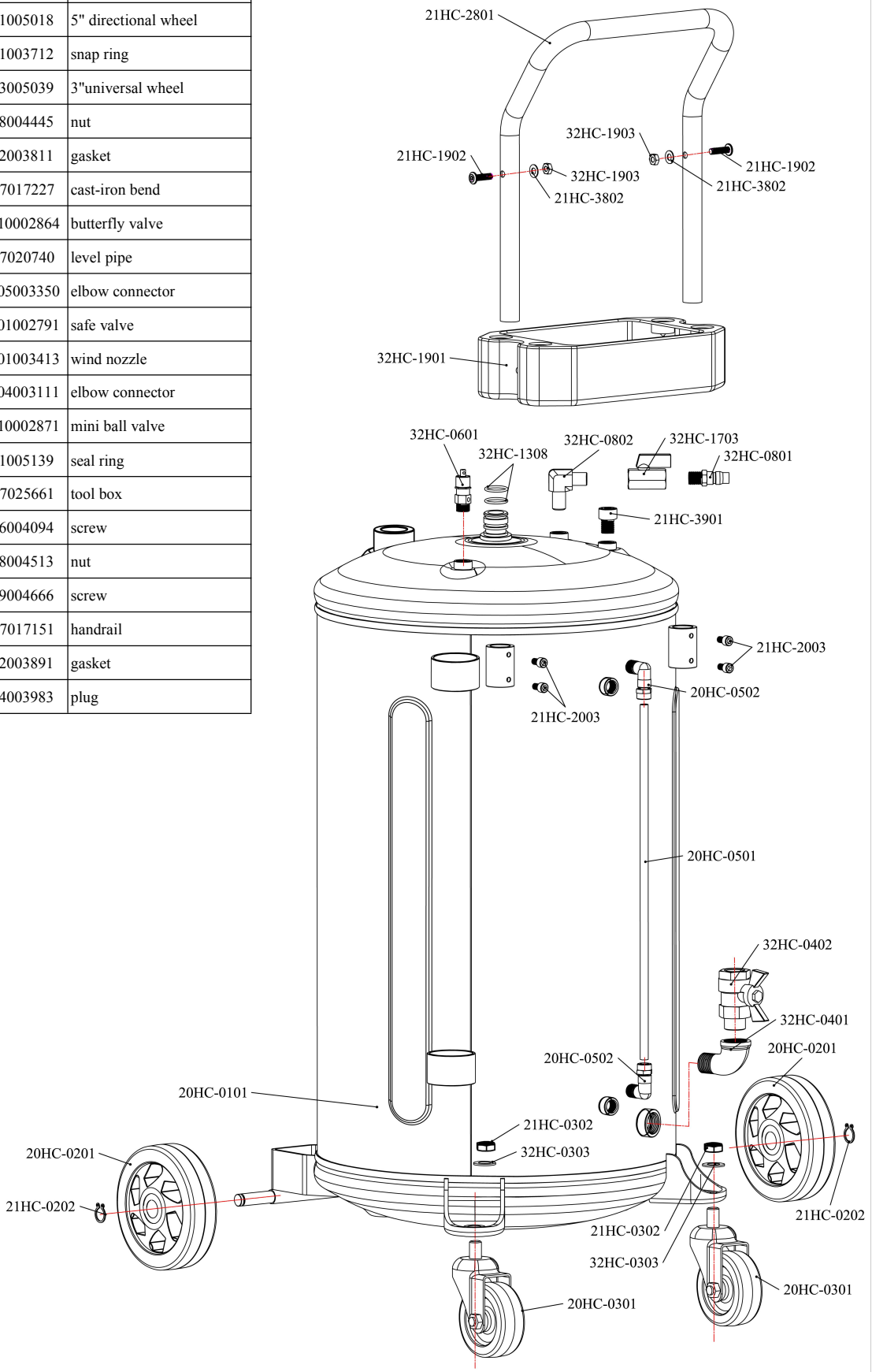
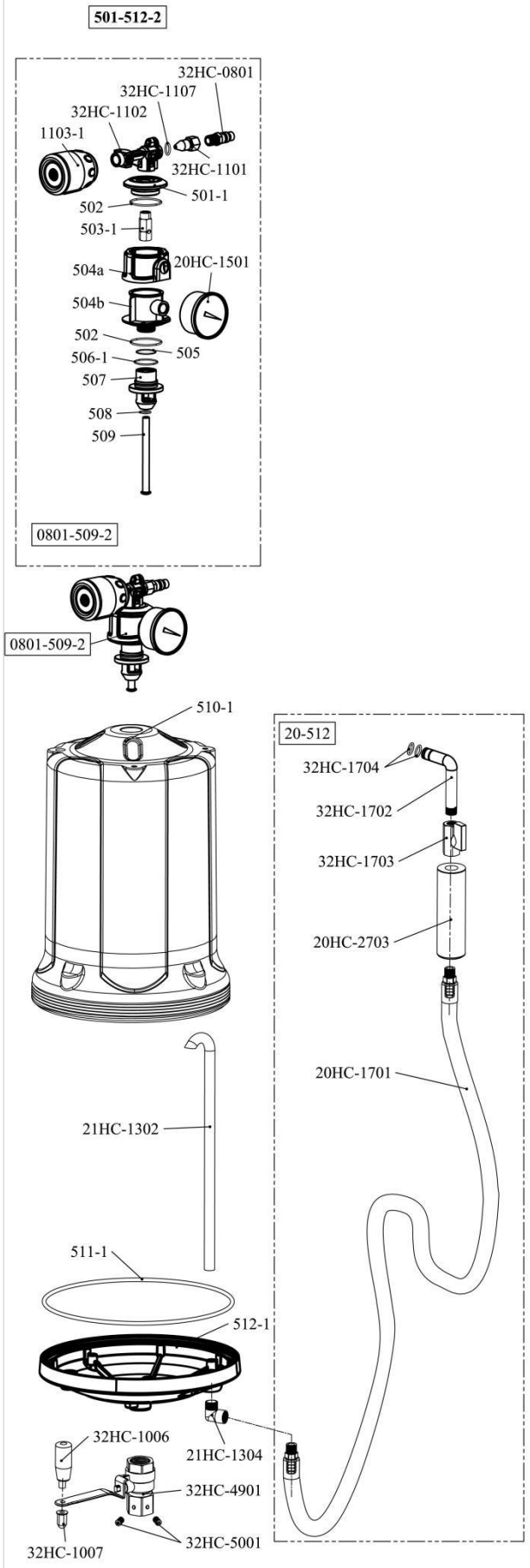


FIG.8

Exploded drawing

20HC-0101	JZ03067017152	2097 tank
20HC-0201	FJ07001005018	5" directional wheel
21HC-0202	FJ04001003712	snap ring
20HC-0301	FJ07003005039	3"universal wheel
21HC-0302	FJ04008004445	nut
32HC-0303	FJ04002003811	gasket
32HC-0401	JZ03067017227	cast-iron bend
32HC-0402	EQ02010002864	butterfly valve
20HC-0501	JZ06067020740	level pipe
20HC-0502	EQ11005003350	elbow connector
32HC-0601	EQ02001002791	safe valve
32HC-0801	EQ12001003413	wind nozzle
32HC-0802	EQ08004003111	elbow connector
32HC-1703	EQ02010002871	mini ball valve
32HC-1308	FJ08001005139	seal ring
32HC-1901	JZ09067025661	tool box
21HC-1902	FJ04006004094	screw
32HC-1903	FJ04008004513	nut
21HC-2003	FJ04009004666	screw
21HC-2801	JZ03067017151	handrail
21HC-3802	FJ04002003891	gasket
21HC-3901	FJ04004003983	plug

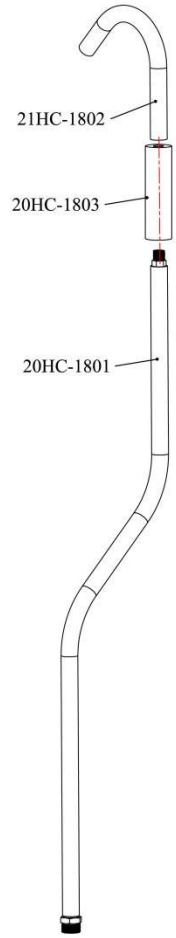


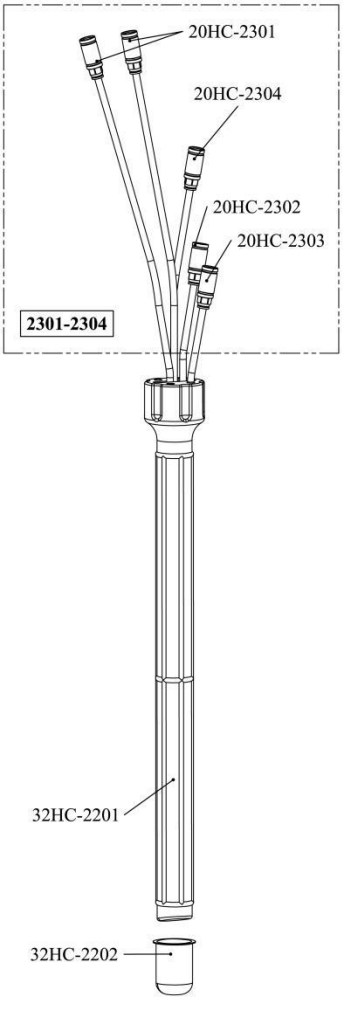


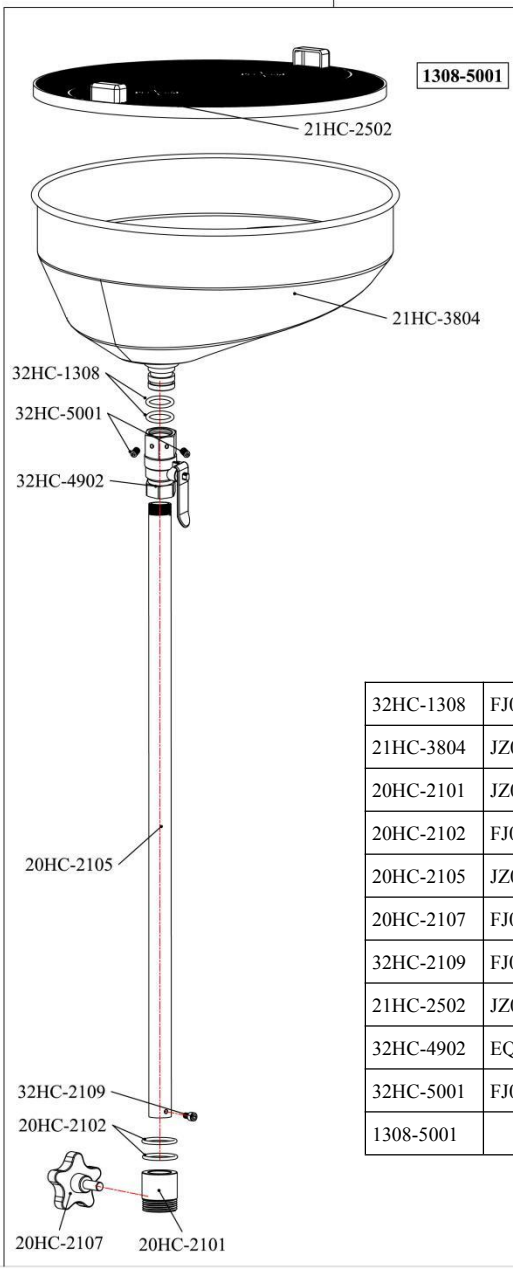
501-512-2	JZ06067046511	cylinder assy
32HC-0801	EQ12001003413	wind nozzle
32HC-1101	JZ09067025699	Bolt
32HC-1107	FJ08001005080	seal ring
32HC-1102	JZ09067025714	vacuum generator
1103-1	JZ06067046510	silencer
501-1	JZ09067046173	anti explosion cap
502	FJ08001005220	seal ring
503-1	JZ02073048258	check valve
504a	JZ09067046174	anti explosion cover
504b	JZ09067046172	anti explosion seat
20HC-1501	EQ05003002995	vacuum gauge
505	FJ08001005122	seal ring
506-1	FJ08001005175	seal ring
507	JZ09067025670	anti explosion location base
508	FJ08001005326	seal ring
509	JZ09067025683	connecting rod
0801-509-2		anti explosion valve assy
510-1	JZ02073014861	modular cylinder
21HC-1302	JZ02073014736	absorbing oil pipe
511-1	FJ08008005415	seal ring
512-1	JZ09067025728	cylinder base
32HC-1006	JZ09067025746	hand lever
32HC-1007	FJ04008004484	nut
21HC-1304	EQ08004003109	elbow connector
32HC-4901	EQ02010002859	ball valve
32HC-5001	FJ04006004160	screw
20HC-1701	JZ02073014859	extraction oil hose
32HC-1702	JZ09067025663	oil extraction hook
32HC-1703	EQ02010002871	G1/4 mini ball valve
32HC-1704	FJ08001005338	seal ring
20HC-2703	JZ09067025676	handle sleeve
20-512	JZ06067020742	oil suction hose with hook

32HC-2201	JZ09067025666	probe sleeve
32HC-2202	JZ09067025659	oil cup
20HC-2301	JZ06067020690	oil extraction probe(φ7×1000 PA)
20HC-2302	JZ06067020688	oil extraction probe(φ5×700 PA)
20HC-2303	JZ06067020689	oil extraction probe(φ6×700 PA)
20HC-2304	JZ06067020691	oil extraction probe(φ8×700 PA)
2301-2304	JZ06067048708	oil extraction probe

20HC-1801	JZ02073014829	oil drain hose
21HC-1802	JZ03067017154	oil drain hook
20HC-1803	JZ09067025676	handle sleeve
1801-1803	JZ06067020744	Oil drain hose with hook







32HC-1308	FJ08001005139	seal ring
21HC-3804	JZ06067020684	oil tray
20HC-2101	JZ09067025577	fixing seat
20HC-2102	FJ08001005191	seal ring
20HC-2105	JZ03067017155	lift pole
20HC-2107	FJ01003003507	knob
32HC-2109	FJ04006004085	screw
21HC-2502	JZ09067025662	strainer(plastic)
32HC-4902	EQ02010002882	ball valve
32HC-5001	FJ04006004160	screw
1308-5001		lift pole assy