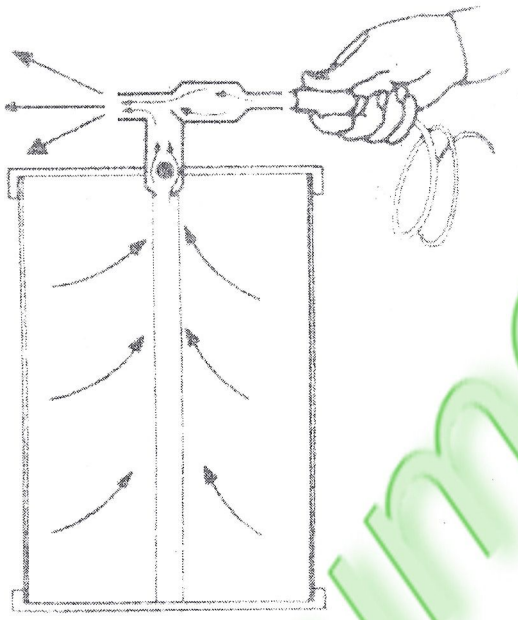
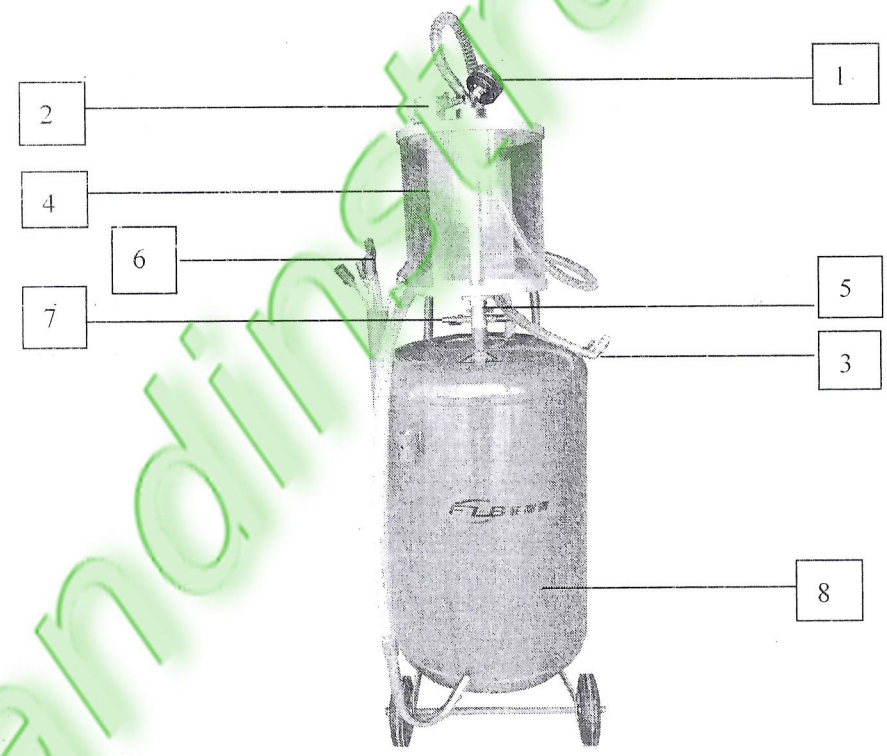
3090environment protecting type (pneumatic)vacuum pumping unit

Structure diagram of 3090

Operating principal diagram



Part names



1. vacuum gauge
2. vacuum generator
3. 1/4"ball valve
4. measuring glass
5. 3/4"ball valve
6. pumping pipe
7. air inlet pipe
8. oil tank

Technical data

Degree of vacuum: negative 0~0.8bar
Operating air pressure:8~10bar
Volume of pumping oil drum:70L
Medium: engine oil and gear oil
Net weight:22Kg
Diameter of dipstick probe: Φ 6x4.5mm (flow rate of oil suction is 0.4~0.8L/min)
Diameter of dipstick probe: Φ 8x6.5mm (flow rate of oil suction is 1~1.6L/min)

Operating instruction

Pumping waste oil into oil tank

1. Connect the properly selected suction pipe with the pumping pipe, then insert the suction pipe into the sight hole for lubrication oil of engine, and shut off the switch on pumping pipe.
2. Screw downward to open the switch connecting measuring glass to oil tank, and shut off the oil drain switch to elbow and quick coupler switch on the top of oil tank.
3. Connect vacuum generator with the compressed air flexible pipe, and open the compressed air switch, then pressure dropping will be indicated on vacuum gauge.
4. Open the switch on pumping pipe when vacuum pressure dropping down to negative 0.5bar,waste oil will be draw out from engine and flow into pumping unit quickly via pumping pipe.

Pumping waste oil into the transparent measuring glass

1. Connect the properly selected suction pipe with the pumping pipe, then inset the suction pipe into the sight hole for lubrication oil of engine, and shut off the switch on pumping pipe.
2. Screw upward to open the switch connecting measuring glass to oil tank.
3. Connect quick coupler on the top of measuring glass to compressed air flexible pipe, and open the compressed air switch, then pressure dropping will be indicated on vacuum gauge.
4. Open the switch on pumping pipe when vacuum pressure dropping down tonegative 0.5bar, waste oil will be drawn out from engine and flowed into pumping unit quickly via pumping pipe.

Draining waste oil into oil tank from measuring glass

1. Screw downward to open the switch connecting measuring glass to oil tank, and waste oil will be drained into oil tank from measuring glass.

Draining waste oil from oil tank

1. Shut off the switch between measuring glass and oil tank (note: it is important to shut off the switch, or the overpressure maybe damage measuring glass).
2. Unscrew to open the switch connecting to elbow, elbow hangs waste oil drum.
3. Connect the quick coupler on the top of oil tank with compressed air flexible pipe and open the switch for compressed air(note: the switch for compressed air switch can be shut off once safety valve exhausting),waste oil will be drain via elbow.

Note : **for following reasons air pressure should be increased step by step.**

1. **Reducing air loss**
2. **Accelerating pressure dropping**
3. **Accelerating oil pumping**

Troubleshooting for common problems

Resolution for failure pressure dropping of vacuum gauge:

1. Check if the input air pressure is 8~10bar, and air capacity is 200L/min(for pipe diameter 6mm).
2. Check if any valve should be closed had been shut off properly.
3. Check if the seal between measuring glass and oil tank is in good condition.

Resolution for failure oil pumping/suction though proper pressure dropping indicated on vacuum gauge:

1. Check if the seal between pumping and suction pipe is perfect.
2. Check if the temperature of waste oil is too low.
3. Check if the switch on pumping pipe is not open.
4. Check if pumping pipe is blocked or touches with the bottom of oil tank.

Notice for maintenance

Design of the cleaning device is capable of ensuring many years' operation free of trouble.

1. Periodic inspection is available to check if there is leakage, and corresponding maintenance should be performed immediately in case of any leakage.
2. It is available to inspect if the connection of flexible pipe is tightness regularly.
3. Waste engine oil in pumping drum should not be stored for a long term to prevent drum from corrosion.
4. Surface of device should be wiped regularly with towel or wiping cloth to keep the cleanness. The device should be stored in cool and dark place free of direct sun shining.

Important notice

1. The device can be operated only by trained qualified personnel.
2. Never to smoking nearby the device.
3. 60~100℃ is suitable for the temperature of waste engine oil pumped by the device. Density of engine oil under the above temperature is about 1.3 times more than water's, therefore the flow velocity of oil is slower than water's. Case such as failure pumping or slow flow are possible in case of the temperature lower than specified value mentioned above.
4. The output air pressure should be positive 10bar for the air compressor equipped by pumping unit, and positive 8bar should be ensured at the nozzle of pumping unit after the conveying via channel. In case of lower than positive 8bar, case such as failure pumping or slow flow are possible due to the insufficient vacuum.
5. Besides the two factors above should be considered firstly, pumping pipe should be used in corresponding proper application. With feature of straight flow channel, large steel pipe has capacity of 1.8 liter/min, and 1.4 liter/min is available for small steel pipe. For plastic pipe the flow channel may be bended, large pipe has capacity of 1.8liter/min, 0.8liter/min for medium pipe and 0.4 liter/min for small pipe. Oil can be sucked out as long as the pumping pipe is 2~3cm longer than the height from dip stick of vehicle to oil level. However, the pipe should not touch the bottom end, or the pipe may be bended upwards, no oil can be sucked if the pipe port is above oil level.
6. Inspection is available to check if the quick coupler is loosen after pumping pipe had been used for a long term (procedure: air leakage can be detected by means of blocking one end of pipe

and blowing in air from the other end; oil will not be pumped in case of air of air leakage, and foreign material should be removed or pipe should be replaced.).

7. Findings: for Toyota camry car, the dip stick is placed above the machine member and pumping pipe can not be inserted in; and the pipe can not be drawn out even though it had been inserted in, or pipe may be damaged. To avoid the loss for user due to reason above, drain oil plug is your optimal selection.
8. A mesh type muffle is mounted on the cup of pumping unit, water or oil will be splashed out if there is water in air compressor or misoperation. The problem must be solved, or unexpected loss may be possible if user is affected by splashing water,

Warning: oil temperature should be observed during pumping: in case of higher than 70℃,we recommended the device should be operated according to operating instruction; a pair of separate protective glove and overhall are also recommended.

Accessories

1.	Operating	1copy
2.	Warranty card	1PC
3.	Certificate of conformity	1COPY
4.	Metal pipe(ϕ 8x7mm)	1PC
5.	Metal pipe(ϕ 6x5mm)	1PC
6.	Nylon pipe(ϕ 8x7mm)	2PC
7.	Nylon pipe(ϕ 6x5mm)	2PC
8.	Measuring glass	1PC

Eligible indentification

Description: vacuum pumping unit

Model no.:3090

Producing date: ____YY____MM____DD

Produced by: producer A A teem, producer B C teem, producer C F teem

QC in producer A:___A___

QC in producer B, C:___B___

QC passed, measure up to GB16917-1999, released,