



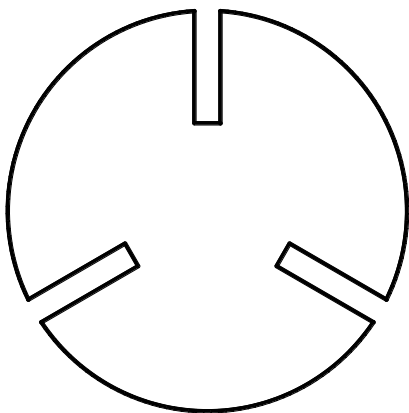
**VACUUM
TECHNOLOGY**



**OPERATING AND MAINTENANCE
INSTRUCTIONS**

(Translation of the original instructions)

**VACUUM PUMPS WITH RECIRCULATING
LUBRICATION SYSTEM**



**LC 25
LC 40
LC 60
LC 106
LC 151
LC 106 Kzero
LC 151 Kzero
LC 205
LC 305
LC 205 Kzero
LC 305 Kzero
LC 205HV
LC 305HV
RC 50M**

5.1.4 PUMPING WATER VAPOUR

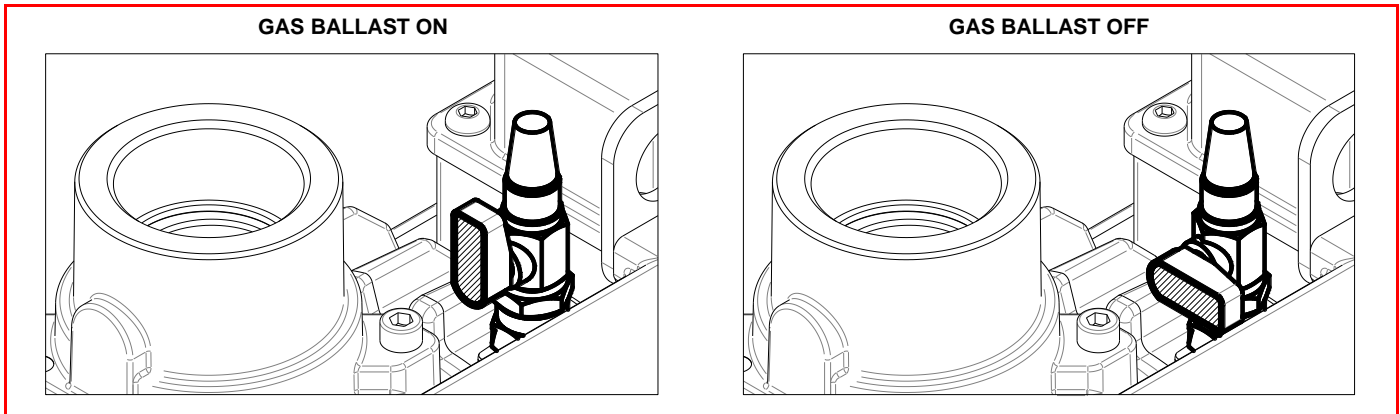
While operating in the presence of water vapour, the pump takes in a mixture of air and water which enters the pump and therefore also the oil tank.

The aspirated water vapour is expelled by the heat generated by the pump during operation together with the presence of the gas ballast device.

This latter lets air enter the chamber, facilitating the elimination of the aspirated water vapour and thus avoiding condensation in the oil.

The gas ballast device is equipped with a cut-off valve (“open”), this latter is not present in models LC 25, LC 106 Kzero, LC 151 Kzero, LC 205 Kzero and LC 305 Kzero where the gas ballast is always active.

Therefore, if water vapour is present, it is essential that before the work cycle is started the pump must reach its operating temperature – this is achieved by running it for about 30 minutes with the suction inlet closed, isolating it from the user system and setting the cut-off valve open.



6 MAINTENANCE

6.1 GENERAL WARNINGS

For good maintenance:

- Immediately verify the causes of any malfunctions (excessive noise, overheating, etc.);
- Pay particular attention to safety devices;
- Make use of all documentation provided by the manufacturer (instruction manuals, wiring diagrams, etc.);
- Use only appropriate tools and original spare parts.

In the event of a failure to understand the information or procedures contained in this chapter, contact D.V.P. Vacuum Technology s.p.a. for clarification before proceeding.

HAZARD



Do not perform any type of operation, modification and/or repair of any kind, except for those listed in this manual.



Only trained or authorised personnel have the necessary expertise to perform tasks with the technique appropriate for intervention.

HAZARD



All maintenance operations must be carried out with the pump disconnected from any power sources. Do not operate the pump until it has reached a temperature that is not dangerous for the operator.

HAZARD



If pump maintenance has been performed in a manner inconsistent with instructions, with non-original spare parts or otherwise so as to impair its integrity or modify its characteristics, D.V.P. Vacuum Technology s.p.a. will be released from any liability relating to the safety of persons and malfunction of the pump.

6.2 MAINTENANCE TABLE

The following table shows all required periodic operations to maintain pump efficiency.

OPERATION TYPE	FREQUENCY	OPERATOR QUALIFICATION
Check the oil level	24 h	
Change oil	500 h	
Clean radiator, motor fan guard and clean pump	1000 h	
Change the oil filter (only where present)	1000 h	
Change the air exhaust filter	2000 h	
Change vanes	10000 h	

Shorter maintenance intervals may be required according to operating conditions (high temperature of intake gases, intake gases containing condensable vapours, etc.).

6.2.1 CHECK OIL LEVEL

Check that oil level is at mid-range of the oil sight glass. If not, see instructions in the following paragraph. Check oil conditions. When dark or cloudy, oil has been contaminated by intake substances and must be changed.

6.2.2 CHANGE OIL

- Change oil as follows:
- Let the pump run with closed suction intake for about 10 minutes first so oil will become thinner;
- Stop the pump and disconnect it from the mains;
- Undo the oil filler plug;
- Get a container large enough to hold all oil and open the oil drain plug;
- Drain out all oil;
- Close drain plug and fill in fresh oil through the filler plug up to mid-range on the oil sight glass;
- Close the oil filler plug;
- Remove all oil spills from the pump and/or floor.
- Connect to mains again and verify correct rotation direction of the pump (see chapt. 3.3.);
- Let the pump run with closed intake for a few minutes and then, if necessary, top up oil if necessary.



HAZARD

Wear appropriate personal protection equipment to perform said operations.



HAZARD

Comply with local regulations regarding the collection and disposal of used or polluted oil.

6.2.3 CLEAN RADIATOR, MOTOR FAN GUARD AND CLEAN THE PUMP

Radiator, motor fan guard and the pump should be cleaned to remove any dust deposits.

This can be done using compressed air and a dry cloth.

Be careful not to damage the components of the oil cooling radiator (where present) by approaching the jet of compressed air or by exerting excessive pressure with the cloth.

Do not use fluids or substances other than those indicated.



HAZARD

Wear appropriate personal protection equipment to perform said operations.

6.2.4 CHANGE THE AIR EXHAUST FILTER

The air exhaust filter must be changed when it is damaged or clogged or when it has reached its authorised life as per Chap 6.2.

Only use original DVP filters from the Filters Spare Parts (see Chap.6.3). Use of parts other than those approved by DVP can cause deterioration of the pump.

The signs showing a filter is clogged or damaged are increased exhaust fumes, increased noise-level and consumption of electricity (see Chap.9 points C and E).