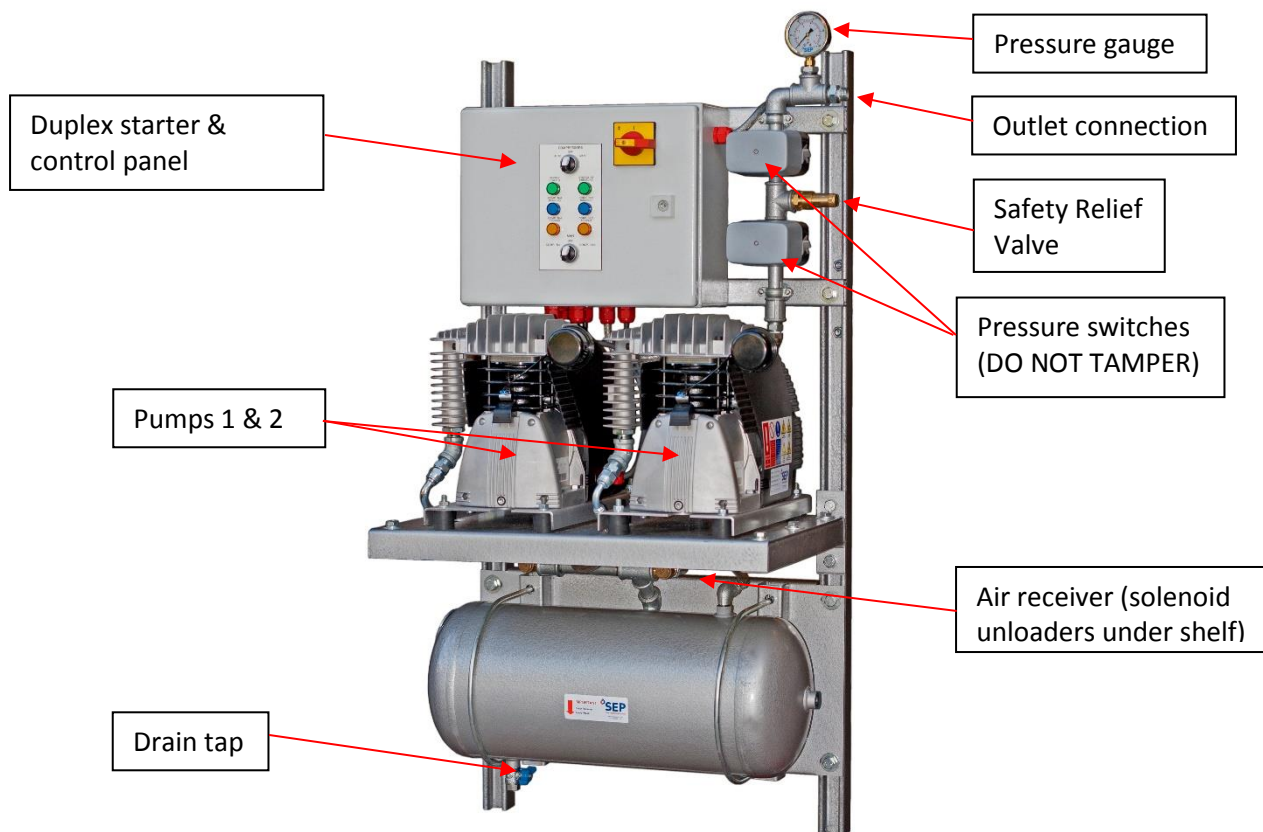


## LPC Air Compressors

### Duplex Compressor (SEPxxx/DC/LPC)

### Operation & Maintenance

QAP02/2B(d) updated: Jan 2021



### Description

This station comprises a pair of air cooled reciprocating air compressor pumps which are driven directly by standard electric motors. The station is controlled by a specially designed duplex control unit – under normal operating conditions, when top-ups are required, each pump works alternately. When pressure is very low (e.g. first top-up, following a maintenance drain or power cut) then both pumps work together for a faster fill, unless this function has been disabled (only by request prior to building).

***Due to the specialised nature of this unit, the pressure switch settings must not be tampered with – if fine pressure control is required then a filter/regulator or air maintenance device can be supplied.***

The compressor is fitted with:

- a pair of pressure switches to enable normal and low pressure conditions to be monitored, and one or both pumps to be started automatically;
- a pair of solenoid unloading valves and non-return valves to release pressure once the compressor stops;
- a safety relief valve and thermal overload for pressure and electrical protection;
- All models are fitted with an air receiver.

#### **\* SAFETY \***

It is required that users employ safe working practices when using this equipment and your attention is drawn to the Health and Safety at Work Act 1974, the electrical engineers regulation and any other current, pending or future safety requirements.

DO NOT operate this compressor until you have read and fully understand the contents of these operation & maintenance instructions, particularly with regard to stopping, starting, maintenance and safety.

#### **Installation**

Remove all packing materials from the compressor. Take care to install or operate the compressor in a cool, clean and dry location. This will provide enhanced performance, reliability and better quality compressed air.

The compressor should be wall mounted (4 x M10 mounting holes) by securely bolting the brackets to the wall; take care because this unit is especially heavy – ~80kg depending on model. The unit can be made floor-standing, but should also be bolted to the wall if possible.

The delivery line should be linked with the system pipework using the flexible hose provided.

#### **Electrical Connections**

Locate electrical supply compatible to the compressor motor and connect to the supply in accordance with the enclosed instructions and wiring diagram.

Dangerous, potentially lethal voltages are present within this equipment, therefore care should be taken to ensure that all electrical connections remain firm and that cables do not wear, nor allowed to be in contact with excessive heat.

#### **Before you start the compressor**

Check oil levels with the dipstick. If required, fill or top up with the correct grade oil (some of which is supplied) to the oil level mark on the dipstick then replace filler plug/dipstick.

#### **To start the compressor**

1. Check and ensure that all valves and open ends on the pipework system are closed.
2. Ensure both thumb-turn switches are set to 'Off' and then turn on the main isolator.
3. Turn the top switch to 'Manual' then turn the bottom switch to 'Comp 1' in order to check the running of the first pump (if 3-phase then ensure air is being sucked into the BACK of the

pump unit towards the front); turn the bottom switch to 'Comp 2' in order to check the running of the second pump (if 3-phase then ensure air is being sucked into the BACK of the pump unit towards the front); return this switch to 'Off'. Please note that the bottom switch is only activated when the top switch is set to 'Manual'.

4. Now turn the top switch to 'Auto'; when the system is empty or very low one pump will start, quickly followed by the second; both will run until minimum system pressure is reached, and then one pump will continue to run until full system pressure is reached. Please note that on some models the simultaneous function is disabled by customer request.

5. Once running, the pumps will alternate each time there is a start.

### **Pressure Safety (Relief) Valve**

A pre-set safety valve is fitted to the pipework. The safety valve will release air should the pre-set air pressure (as marked on the product label) be reached.

### **Pressure Switch Adjustment**

*The pressure switches should NEVER be adjusted from factory settings unless written authority and instruction has been received from Sale Engineering Products Ltd. The switches carefully control the duplex operation and incorrect settings will cause the unit to work incorrectly and invalidate your warranty.*

### **To stop the compressor**

1. Turn the top thumb-switch to 'Off' then turn the isolator to 'Off'.

DO NOT switch machine ON or OFF using the mains switch.

### **Maintenance**

**WARNING:** Before carrying out any maintenance, the following points MUST be observed:

1. Isolate the compressor from the mains supply.
2. Some components of the compressor may be hot and therefore could cause harm, so please ensure that the compressor is fully cooled before handling or attempting any maintenance.
3. Check that all air pressure has been released from the compressor and delivery line.
4. Isolate from pipework system, flexible hoses etc.
5. Attach "DO NOT OPERATE" signs to the compressor and power supply.

### **Regular Maintenance**

To ensure continued reliability and efficiency, it is important that regular maintenance is carried out. The condition of lubricants, the general cleanliness of the machine and the prevention of the ingress of dirt into the working components of the compressor are important factors.

**EVERY WEEK:** Drain receiver condensate using the tap underneath the vessel.

**EVERY 2 WEEKS:** Check compressor oil levels and top up if required.

**EVERY MONTH:** Check, and clean if necessary, the air intake filter.

### **EVERY 6 MONTHS:**

1. Drain old oil into a suitable container and dispose of according to local requirements environmental restrictions. Replace drain plug and refill the compressor with fresh oil. Replace filler plug/ dip stick once the level has been checked.
2. Clean external surfaces of the compressor removing any dirt from the compressor cylinder, cylinder head, motor fins and motor cowl: this will maintain efficient cooling.
3. Check the operation of the duplex control by reducing system pressure (or isolating the system from the compressor and opening slightly the receiver tap) and allowing the controller to start each pump in turn over several starts.

### **EVERY YEAR:**

1. Check safety and non-return valves; replace if worn or damaged.
2. Check cylinder head joints; replace if leaking or damaged.
3. Replace air intake filter.

### **Lubrication**

Lubrication for the compressor is achieved by a simple splash system, periodic checking of the dipstick level is required as per the maintenance schedule.

Recommended lubricants for the above compressors in temperate climatic conditions: ISO 100 dedicated compressor oil or alternatively SAE 30 mineral or synthetic oil. The capacity of oil in the crankcase is ~0.2 litres.

### **Spare Parts**

Only use genuine spare parts purchased from Sale Engineering Products or your compressor maintainer, since the use of non-genuine spare parts will invalidate the warranty and may affect the reliability and service life of the compressor. Genuine spare parts, service kits, oils and accessories are readily available.

N.B. In the event of any difficulty understanding these instructions, or operating the compressor, contact your installer or maintainer immediately.

Alternatively please call Sale Engineering Products as below

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