

PART II - PRIMARY SYSTEMS INFORMATION

4. Medical Gas System

1. Operation

c. Normal Operating Instructions:

(1) Dental Low Vacuum System: For normal operation, the water valve to the separator tank should be open and the isolation valves to the blowers should be opened. The system is provided with a Automatic Alternator Switch, located on the unit control panel, to provide a lead/lag capability. Place the "On-Off" switch located in the corridor to the "On" position and the "hand-off-auto" switch located on the unit control panel to the "auto" position. The lead vacuum pump shall start and operate continuously. A pressure switch shall start the lag vacuum pump when the lead pump cannot handle the vacuum demand. When the pressure increases to a point where the lead pump can handle the vacuum demand the lag pump shall stop. The lead pump remains on-line until the "On-Off" switch located in the corridor is placed in the "Off" position.

The vacuum switch has overlapping ranges and the lag vacuum pump is brought on-line until the system demand is met. As the system demand decreases, the lag vacuum pump is taken off-line. After each complete cycle, the lead pump status is rotated so that all vacuum pumps will have approximately the same amount of run time.

An automatic wash down cycle is provided on the separator tank. Water will spray into the tank each hour for sixty seconds. At the end of the spraying period, the drainage pump will pump the liquid level down until the lower level switch closes. If the liquid level in the separator tank rises to high level set point, the float switch shall close and energize a pump to drain the separator for a three minute time period.

(2) Dental Compressed Air: During normal operation, the air compressors shall cycle to maintain between 760 kPa (110 psi) and 690 kPa (100 psi) in the receiver tank. The compressor will cycle on at a low pressure of 690 kPa (100 psig) and off at a high pressure of 760 kPa (110 psig). Both values are adjustable and should be verified. The air pressure is regulated to 620 kPa (90 psig) constant from the pressure regulator downstream of the compressor. Condensate will be automatically removed by the automatic blow down fitting on the receiver tank. The "hand-off-auto" switch will remain in the "auto" position to provide completely automatic operation.

The refrigerated air dryers will work automatically to reduce the moisture in the dental compressed air system. The dryers have automatic blow down cycles to remove the moisture from the drain bowl.