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Accelerator Division
 Technical Note

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REMOTE CONTROL OF ALL VACUUM SECTOR VALVES

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The ring and HEBT vacuum sector valves can be operated manually from the AGS Main Control Room and the Siemens Control Room. Figure 1 shows the panel which is located on the control consoles in both locations.

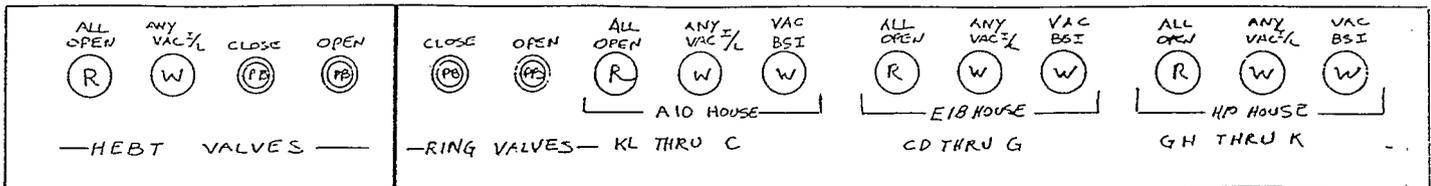


Figure 1.

Overall interlock and status conditions of the vacuum sectors and valves are indicated by lights on the panel. The vacuum controls equipment is located in three areas consisting of the A10, E18, and H10 Houses. The lights are divided into three groups for the ring, and one group for HEBT valves. In the event of a vacuum interlock problem, this will enable the technician to quickly determine which house the valve control section showing the interlock is located.

Lights

ALL VALVES OPEN. This light indicates that all valves within this control area are open.

VAC-BSI. This light comes on if any valve within this control area is closed, and thereby generating a "beam stop interlock".

ANY VAC INTLK. This light comes on to indicate that one or more valves within this control are has closed due to a vacuum interlock.

Vacuum Interlocks and Indicators

Within the valve controls, a vacuum interlock which closes a valve has its indicator "latched". If the fault causing the interlock is cleared, the "latched" indicator will not clear until one of the following is done:

1. The valve is opened by depressing the "open" pushbutton.
2. A computer reset to the valve control card is generated.
3. At the local system display, located in the houses, the "close" pushbutton is depressed.

If the vacuum fault causing the valve interlock has not been cleared, the valve will NOT open and the "latched" indicator will not clear.

To Close All Valves

To close all valves in either HEBT or ring areas, depress the "CLOSE" pushbutton. The all valves open light will go out, and the "VAC-BSI" lights will come on in either HEBT or the three ring vacuum control areas.

NOTE: If all HEBT valves are closed, the A10 House will also indicate valves closed, with the A10 House "VAC-BSI" light lit. This is due to the last two HEBT valves (HEBT 3 to 4 and HEBT 4 to AB) requiring beam stop interlocking, along with ring valves.

Any HEBT valve closing will cause the Linac "FBI to be triggered.

To Open All Valves

To open all valves for either HEBT or ring, depress and hold the "OPEN" pushbutton until the "ALL VALVES OPEN" lights come on, within the control area.

NOTE: The last two HEBT valves must be opened before the "ALL VALVES OPEN" indication to the A10 area will respond.