

GAS INSTRUCTION FOR THE H6 ATLAS HEC MULTIWIRED PROPORTIONAL CHAMBERS (MWPC'S).

- 1. The general description of gas system.**
- 2. Purge of gas system.**
- 3. Start up of gas mixture.**
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1. The general description of gas system.

The general scheme of gas system for HEC MWPC's is shown in the fig. 1. MWPC's use the gas mixture:

ARGON +37%ISOBUTANE+0.3% FREON(type R13B1).

We use gas ARGON from the common line and other gas components from the bottles.

We have the following consumption of gas components: ISOBUTANE – 87.8 NI/day, ARGON – 85.2 NI/day, ARGON/FREON – 62.6 NI/day. For 3 weeks run it is applied about 1.8 cubic meters of gas ISOBUTANE (or ~20kg liquid ISOBUTANE).

The gas mixing rack is located in the H6 gas zone just outside of the counting room (cage number: 887 1-R75).

2. Purge of gas system.

- 2.1 Open the output flowmeters (at the rack number 97; location: building 887, 1-R75). The output flowmeters are marked labels under them. Labels are written corresponding number of chambers (2, 3, 4, 5).**
- 2.2 Open the input ARGON line at the left gas rack and put the pressures 0.6 atm. for ARGON.**
- 2.3 Open the input valve, marking 'ARGON', above the flowmeters (at the rack number 97), put the ARGON flow 140-160 counts and purge chambers 24 hours at least. Make sure that all chambers are bubbling.**

3. Start up of gas mixture.

3.1 Purge the gas system. See topic 2.

**3.2 Check bottle of ARGON/FREON (location: building 887, 1-R75).
Open valve on bottle and look to input manometer (maximum value
150 atm, pressure step ~10-15 atm/run).**

**3.3 Check bottle of ISOBUTANE (location: building 907, R-402) and
content of him by measuring weight or shaking up.**

**3.4 If everything is OK, open the valve and switch on handles
'SET' and 'EVENT' at the rack.**

**3.5 Open the input gas lines at the left gas rack (location: building 887,
1-R75) and put the pressures 0.6 atm. for ARGON /FREON and
ISOBUTANE.**

**3.6 Open the input valves under the flowmeters, marking
'ISOBUTANE' and 'ARGON/FREON' (at the rack number 97).**

**3.7 Adjust the gas flows with flowmeter thumb weels:
ARGON - 72.2 , ARGON/FREON – 53.1 , ISOBUTANE – 25.6
(counts).**

4. Shut down of gas mixture.

- 4.1 Close the input valves under the flowmeters at the rack number 97 (location: building 887, 1-R75).**
- 4.2 Close the output flowmeters (at the rack number 97).**
- 4.3 Switch off handles and valves of ARGON and ISOBUTANE lines (at the left rack).**
- 4.4 Close the valve at the ARGON/FREON bottle.**
- 4.5 Switch off handles 'SET' and 'EVENT' at the rack and close bottle of ISOBUTANE (location: building 887, 1-R75).**