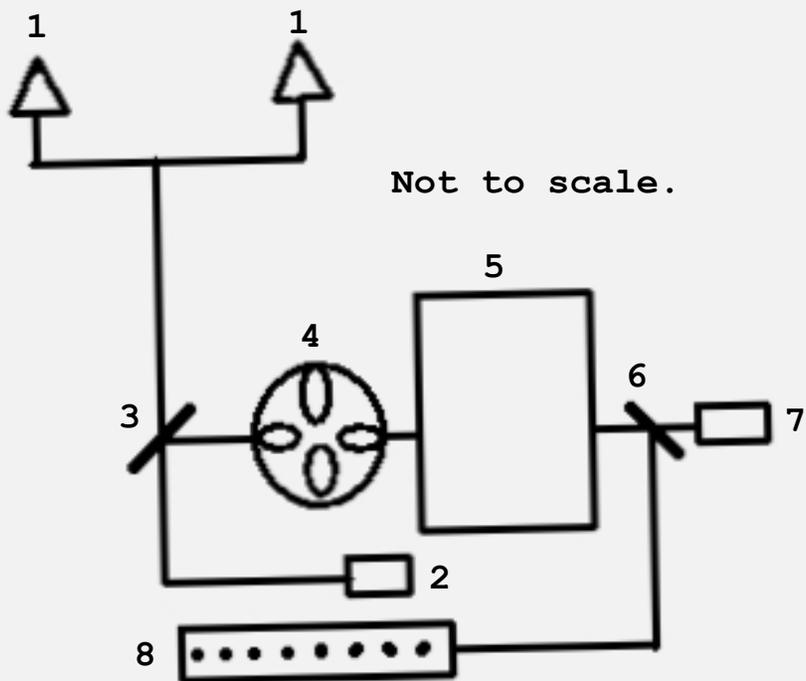


Diagram of Collector/Filter system designed to remove poison gas from air to be used inside critical facilities in WWII. It turned out to also be effective for radioactive fallout.



1: Air Intakes, normally 2 of them raised above ground level to be in clean air.

2: Alternate air intake inside the air lock/Decontamination room. This returned contaminated air to the filter to be scrubbed.

3: Diverter valve to determine whether air comes from 1 or 2.

4: Fan which would pull air from the intakes and push it through the filter(s). Location varied.

5: Filter cannister(s), also referred to as a "Collector". Numbers varied from 1 to 3.

6: Diverter valve to determine whether filtered air goes into the facility or the air lock.

7: Exhaust vent to put filtered air into the facility. In larger rooms there would be more than one to disperse the air more evenly.

8: Exhaust vent in the air lock/decontamination room to blow air across incoming personnel to remove contaminants.

Notes: Valves 3 and 6 were synchronized to work together. If air was sent to the air lock for decontamination, the potentially contaminated air was sucked from there back into the filter rather than being drawn in from the outside.

The intakes were raised above ground level, apparently about 20 feet. This was because poison gas (and later, radioactive fallout) is heavier than air and settles out. This meant that the incoming air was relatively clean compared to air at ground level.

Two of the four facilities had heat exchangers between valve 6 and exhaust vent 7 to warm the incoming air. One had steam radiators and one had fireplaces which would have had to be shut down in case of a gas attack.

If the blower had to run all the time to provide fresh air in a sealed facility, or to circulate heated air, then valves were placed before and after the filter that sent air through a bypass line around the filter to avoid using it when not necessary.