



TECHNICAL BULLETIN: GENERAL INFORMATION

Incubator N2 Consumption (NU-5841U)

Experimental process used for developmental uncertainties:

The setpoints of Co₂ and RH influence the usage of N₂ consumed, also the number of door openings per day. The customer should be aware that changes to the RH and Co₂ can influence N₂ consumption.

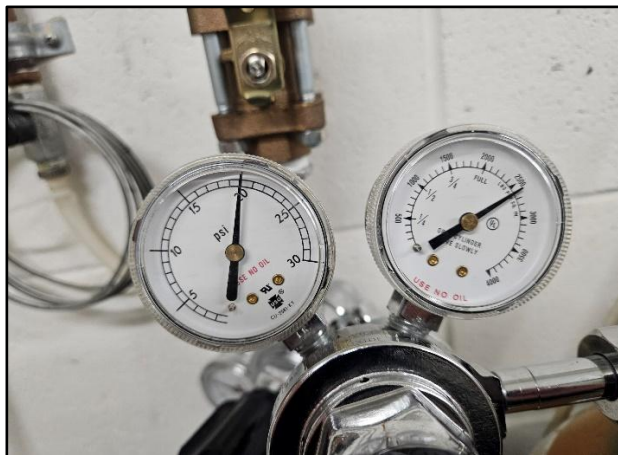
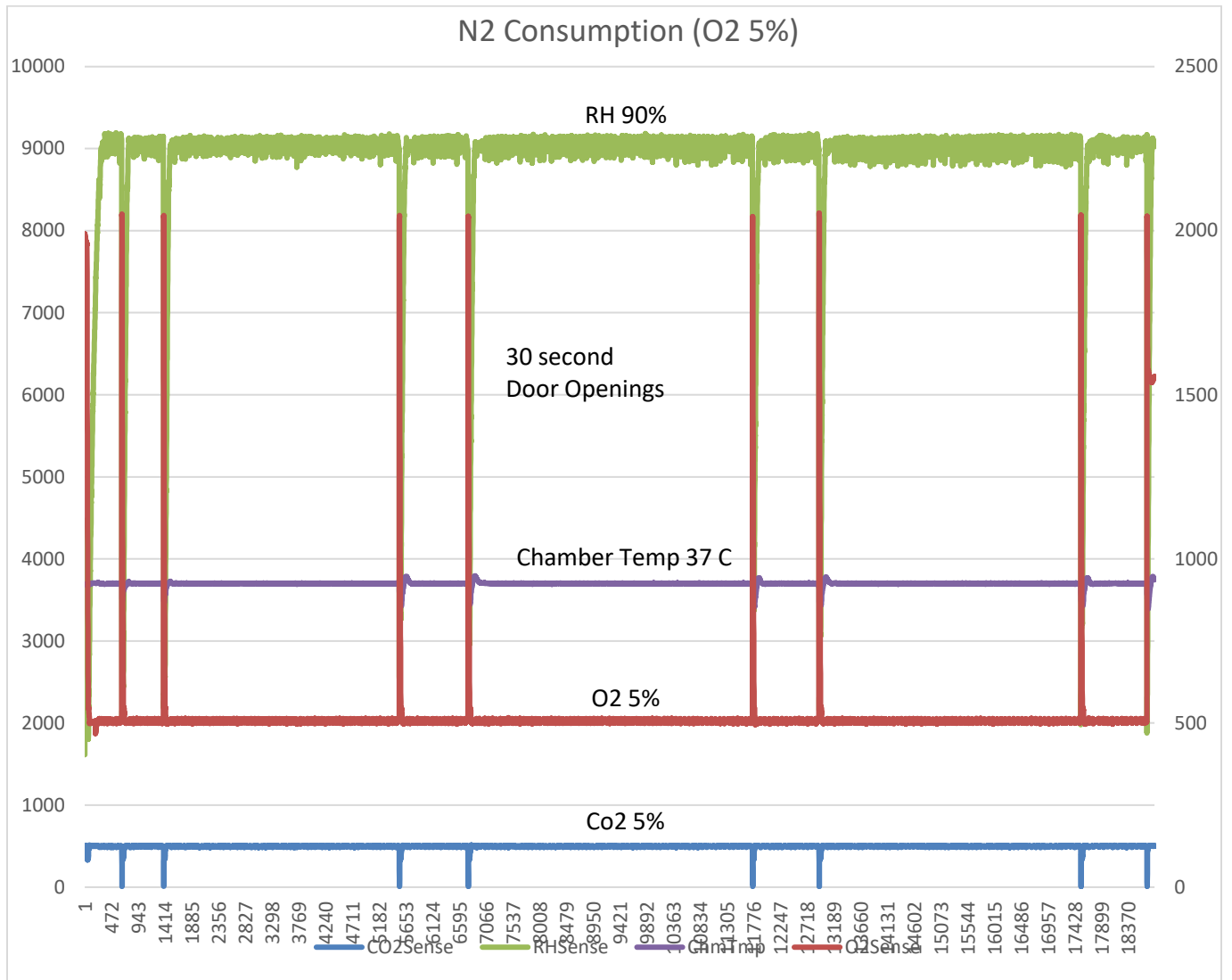
We will run a new study on our latest incubator, 5800 series, which will be worst case scenario because of the larger volume size chamber.

The study will consist of Co₂ at 5%, O₂ at 5% and RH at 90%. A full industry standard N₂ tank will be used. There will be 2 thirty-second door openings per day with time between door openings for full recovery of all setpoints until the N₂ tank is empty.

This test will be repeated with the same Co₂ and RH setpoints but the O₂ will be set to .5%. The door openings will be the same using a full N₂ tank.

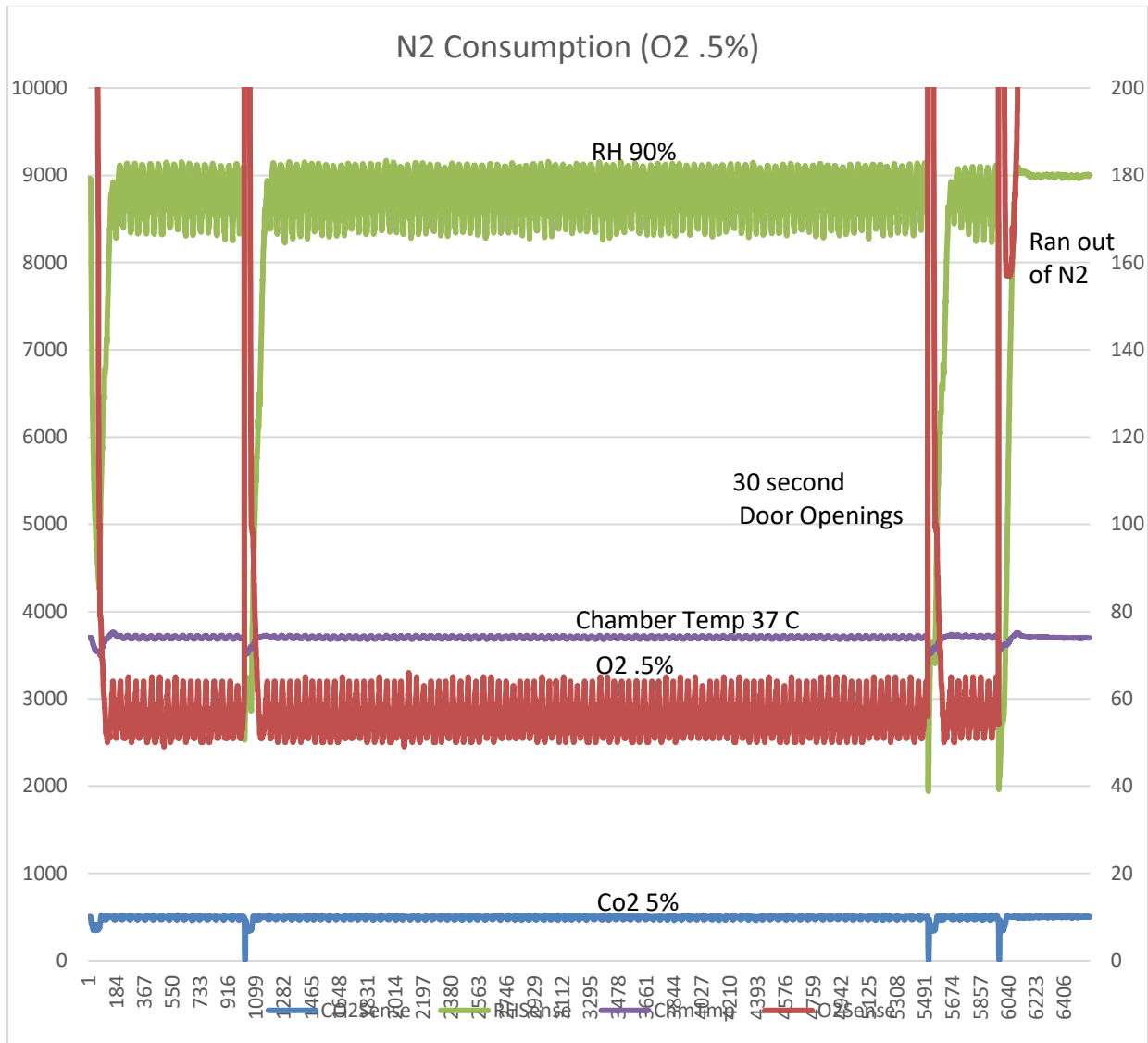
These tests will represent the average – worst case scenarios.

The test below is the Co2 at 5%, O2 at 5% and RH at 90%. With these setpoints and 2 thirty-second door openings per day.



Full vs empty N2 tanks.

The test below is the Co2 at 5%, O2 at .5% and RH at 90%. With these setpoints and 2 thirty-second door openings per day.



Conclusion:

On the completion of both studies, it is shown how much N2 was consumed – number of days.

The study of Co2 at 5%, **O2 at 5%** and RH at 90% lasted **3 days and 6 hours**.

The study of Co2 at 5%, **O2 at .5%** and RH at 90% lasted **23 hours**.