

# Support for Asset Management and Commissioning

Projects > Project Details

## Project Details

### Progress AIRCONCEPTS

Last updated on 5/14/24, 12:05 PM

 Project Settings ▾

 Create Report

#### Calibration

97%

28 devices out of 29 done

1 problems

Show

#### Download

97%

28 devices out of 29 done

1 problems

Show

#### Commissioning

100%

29 devices out of 29 done

1 out of sync

Show






























### Site Structure and Devices

 Edit Site Structure

+ Expand All - Collapse All

Filter...

✕ Reset Filter

Structure	Calibration	Download	Commissioning	Last Contact	Last Contact By	Serial Number
 AIR CONCEPTS						
  AHU-1-VAV-1						
  AHU-1-VAV-2						
  AHU-1-VAV-3						
  AHU-1-VAV-4						
  AHU-1-VAV-5						

$$Q_{\text{Positive}} = \text{Volume flow rate with positive error} = 7.85398 \times 10^{-3} \times 0.04024 \text{ m}^3/\text{s} = 85.2637 \text{ CFM}$$

$$Q_{\text{Negative}} = \text{Volume flow rate with negative error} = 7.85398 \times 10^{-3} \times 0.03827 \text{ m}^3/\text{s} = 81.089 \text{ CFM}$$

Impact on Energy Efficiency:

Considering we assumed 2% and 5% accurate sensors in the above elaboration, the CFM variation per VAV unit will be as follows:

$$Q_{5\% \text{ error}} - Q_{2\% \text{ error}} = 85.2637 - 84.03 = 1.2337 \text{ CFM}$$

Let's take a project where there are 500 Pressure independent VAVs of the similar size that are operating simultaneously. The total CFM variation will be as follows:

$$\text{Volume flow rate} = Q_{\text{total difference}} = 1.2337 \times 500 = 616.85 \text{ CFM}$$

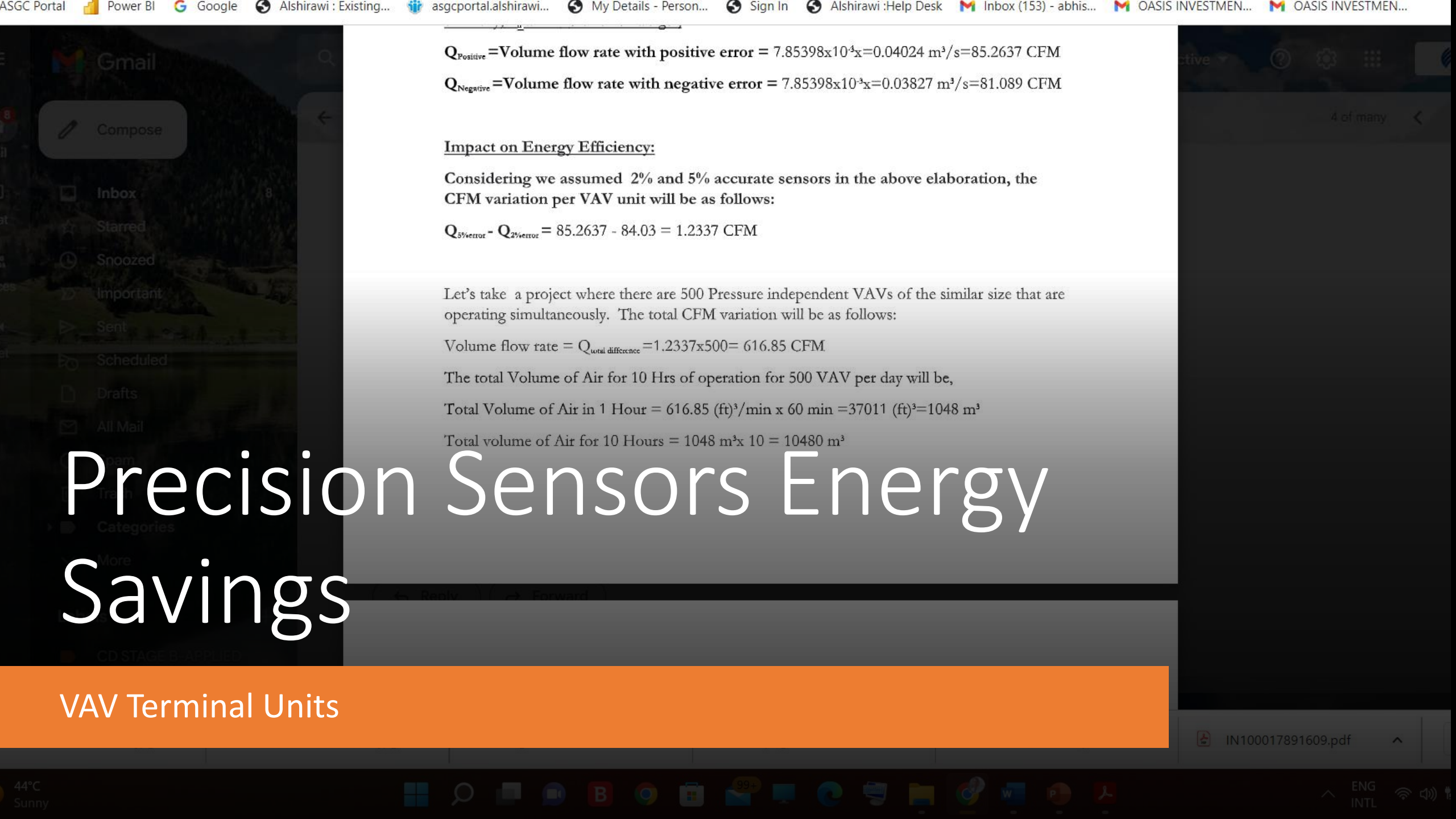
The total Volume of Air for 10 Hrs of operation for 500 VAV per day will be,

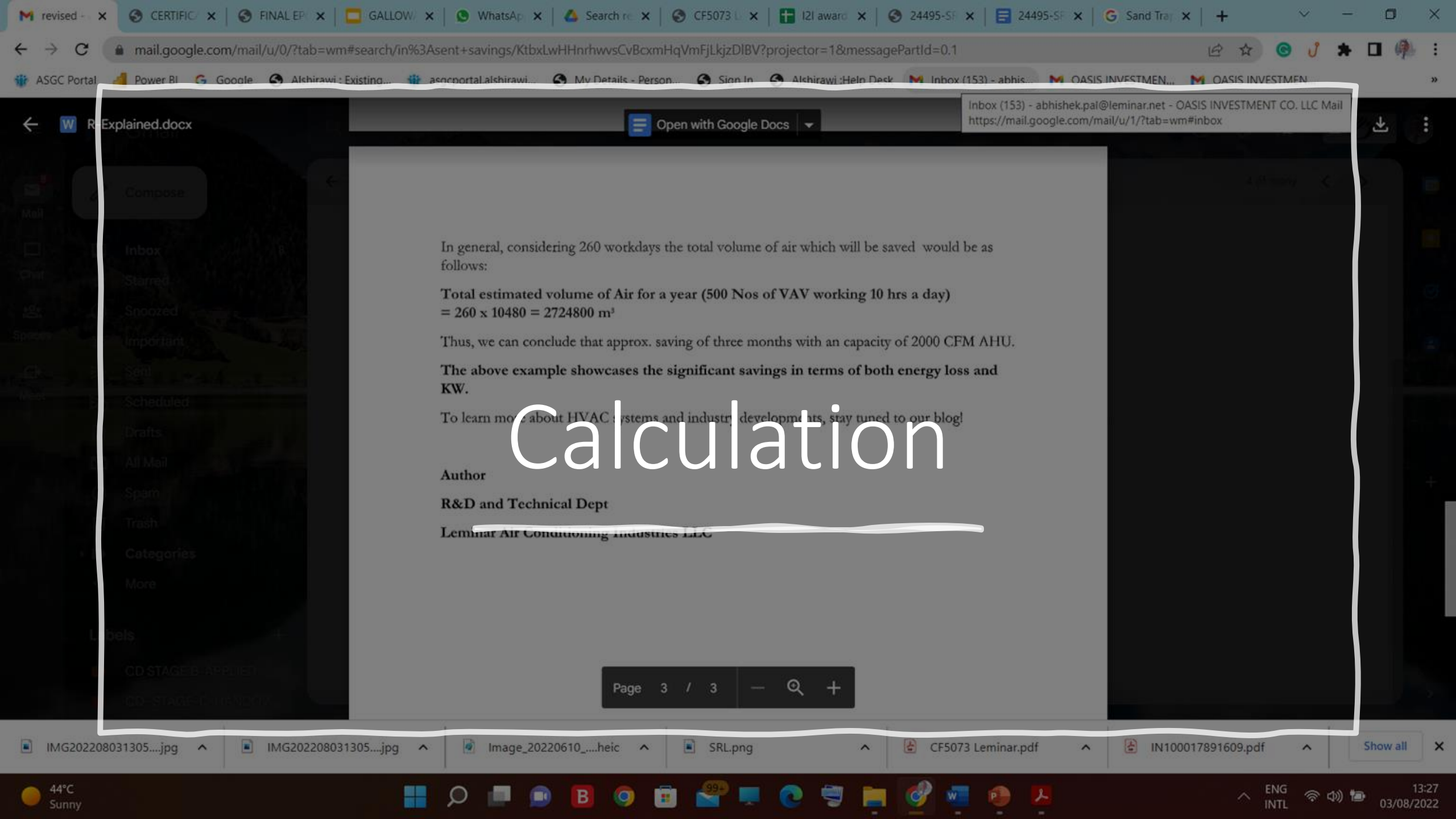
$$\text{Total Volume of Air in 1 Hour} = 616.85 \text{ (ft}^3/\text{min)} \times 60 \text{ min} = 37011 \text{ (ft}^3) = 1048 \text{ m}^3$$

$$\text{Total volume of Air for 10 Hours} = 1048 \text{ m}^3 \times 10 = 10480 \text{ m}^3$$

# Precision Sensors Energy Savings

VAV Terminal Units





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In general, considering 260 workdays the total volume of air which will be saved would be as follows:

**Total estimated volume of Air for a year (500 Nos of VAV working 10 hrs a day)**  
 $= 260 \times 10480 = 2724800 \text{ m}^3$

Thus, we can conclude that approx. saving of three months with an capacity of 2000 CFM AHU.

**The above example showcases the significant savings in terms of both energy loss and KW.**

To learn more about HVAC systems and industry developments, stay tuned to our blog!

# Calculation

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