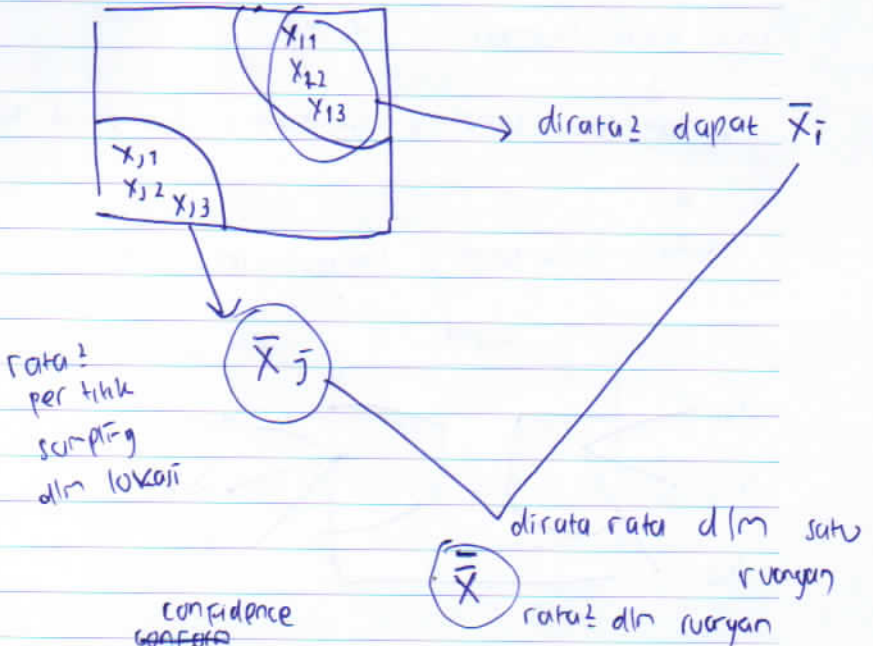


# Pengukuran Partikel

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Rata2 per titik sampling dlm lokasi

dirata rata dlm satu ruangan  
 rata2 dlm ruangan

confidence interval

$$95\% \text{ UCL} = \bar{x} + t_{0,95} \left( \frac{s}{\sqrt{n}} \right)$$

lihat WO 14644 hal 19



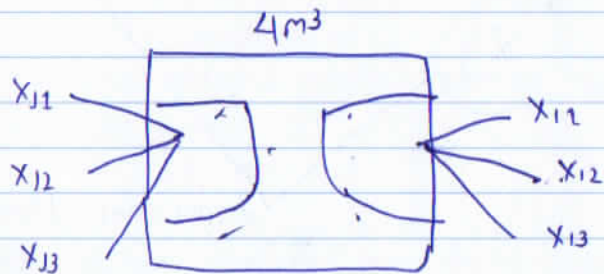


### Kalor Pengukuran Partikel

Luas area ruangan = 4 m<sup>3</sup>

↓  
Jumlah titik sampling adalah:  $\sqrt{4} = 2$  titik

↓  
masing-masing titik sampling pengukuran 3 kali



### Perhitungan

	0,5 μm	5 μm	
X <sub>11</sub>	14.000	1000	} $\bar{X}_i$ 5, μm
X <sub>12</sub>	13.000	1500	
X <sub>13</sub>	12.000	2000	
	} $\bar{X}_j$ 0,5 μm		
X <sub>21</sub>	16.000	2500	} $\bar{X}_j$ 5, μm
X <sub>22</sub>	15.000	2000	
X <sub>23</sub>	14.000	1500	
	} $\bar{X}_j$ 0,5 μm		
rata-rata	14.000	1750	
	⌋ $\bar{X}$ 0,5 μm	⌋ $\bar{X}$ 5 μm	
SD	1419,21	529,4	



### Perhitungan 95% UCL

$$95\% \text{ UCL} = \bar{X} + t_{0,95} \left( \frac{S}{\sqrt{n}} \right)$$

SD : standar deviasi semua (overall) data  
 ↓  
 nilai ada di tabel dlm ISO 4699  
 → jml sem. titik sampling

▲ 0,5 μm

$$95\% \text{ UCL} = \bar{X} + t_{0,95} \left( \frac{S}{\sqrt{n}} \right)$$

$$= 14.000 + 6,3 \left( \frac{1419,21}{\sqrt{2}} \right)$$

$$= 14.000 + 6,3 \left( \frac{1000}{1,41421} \right)$$

$$= 14.000 + 6,3 \times 1000$$

$$= 14.000 + 6300$$

$$= 20300$$

▲ 5 μm

$$95\% \text{ UCL} = \bar{X} + t_{0,95} \left( \frac{S}{\sqrt{n}} \right)$$

$$= 1750 + 6,3 \left( \frac{529,4}{1,41421} \right)$$

$$= 4.086,08$$

Jumlah penyemburan volume of particle counter =

$$V_s = \frac{20}{C_n.m} \times 1000$$

↗ partikel
↘ jml minimal yg dihitung alat

↓ volume minimal
↘ jml partikel per kubik

minimal jml penyemburan sampel 2 liter  
 minimum sampling time adl 1 menit

lihat di ISO 14644 hal 30-32 utk lebih jelu

