

Analytical methods
 ACHA4000 / ACMA 4006
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 exam
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D) a) $V_{min} = \sqrt{\frac{W}{S} \times \frac{2}{P} \times \frac{1}{C_L}}$

~~$200 = \frac{490332}{S} \times \frac{2}{0.41} \times \frac{1}{0.52}$~~

$$V_{min}^2 = \frac{W}{S} \times \frac{2}{P} \times \frac{1}{C_L}$$

$$V_{min}^2 S = W \times \frac{2}{P} \times \frac{1}{C_L}$$

$$S = \left(W \times \frac{2}{P} \times \frac{1}{C_L} \right) / V_{min}^2$$

$$\left(490332 \times \frac{2}{0.41} \times \frac{1}{0.52} \right) / 200^2 = S$$