

自控四甲

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5.6-2

$$R_A = \frac{qL}{4} + \frac{P}{2} \quad M_{max} = R_A \frac{L}{2} - q \frac{L}{4} \left(\frac{L}{4} + \frac{L}{8} \right)$$
$$= \frac{L \left(\frac{P}{2} + \frac{qL}{4} \right)}{2} - \frac{3qL^2}{32}$$
$$= \frac{9.25 \left(\frac{13}{2} + \frac{9.25 \times 6.6}{4} \right)}{2} - \frac{3 \times (9.25)^2 \times 6.6}{32}$$

$$= 413.662 \text{ cm}^3$$

< 式 IPN260 ($S_{act} = 442 \text{ cm}^3$)

$$R_A = \frac{qL}{4} + \frac{P}{2} + \frac{WL}{2} \quad M_{max} = R_A \frac{L}{2} - q \frac{L}{4} \left(\frac{L}{4} + \frac{L}{8} \right)$$
$$= W \cdot \frac{L}{2} \cdot \frac{L}{4} = 56.177 \text{ KN-m}$$

$$S_{reqd2} = \frac{M_{max}}{\sigma_a} = 453.038$$

> IPN260 的 S_{act} , 故不適用

$$R_A = \frac{qL}{4} + \frac{P}{2} + \frac{WL}{2} \quad \text{故 } M_{max} = R_A \frac{L}{2} - q \frac{L}{4} \left(\frac{L}{4} + \frac{L}{8} \right)$$
$$= W \cdot \frac{L}{2} \cdot \frac{L}{4} = 56.876$$

$$S_{reqd2} = \frac{M_{max}}{\sigma_a} = 458.677 \text{ cm}^3 \quad *$$

< IPN280 的 S_{act} , 故選用 IPN280