

6/28/50

Cooled Air Supply to Stenographer's Office
From Machine in office E.R. Price

$$\begin{aligned} \text{Office E.R.P. } & 13'-10" \times 19'-0" \times 11'-10\frac{1}{2}" = 3130 \text{ cu ft} \\ \text{" - Stenographer's } & 14'-3" \times 14'-6" \times 11'-9\frac{1}{2}" = 2335 \text{ ft}^3 \\ \text{Less } & 8'-2" \times 3'-6" \times 11'-9\frac{1}{2}" = 335 \\ \text{Net off-vol} & = 2000 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{I } \frac{1}{2} \text{ Machine opening } & 4" \times 14" = .384 \text{ sq. ft.} \\ \text{4" dia. duct} & = .086 \text{ ft}^2 \end{aligned}$$

$$\begin{aligned} \text{For } \frac{1}{2} \text{ opening} - \frac{1}{2} \text{ opening discharging to Office} \\ \text{Vel Thru 4" duct} & = 500 \text{ ft} \text{ per 1 min 46 sec} \\ & = 395 \text{ ft per min} \end{aligned}$$

$$\begin{aligned} \text{II } \frac{1}{2} \text{ opening Blocked} - \text{total diverted thru 4" duct} \\ \text{Vel. Thru 4" duct} & = 1000 \text{ ft in 1 min 46 sec} \\ & = 565 \text{ ft per min} \end{aligned}$$

$$\text{I} - .086 \times 395 = 34 \text{ cu. ft per min} -$$

$$\text{II } .086 \times 565 = 49 \text{ " " " "}$$

With $\frac{1}{2}$ opening to ERP office

$$\text{Stenographer's office} - \frac{2000 \text{ cu ft}}{34.0} \text{ requires } 59 \text{ min } \frac{40}{1000} \text{ to cool.}$$