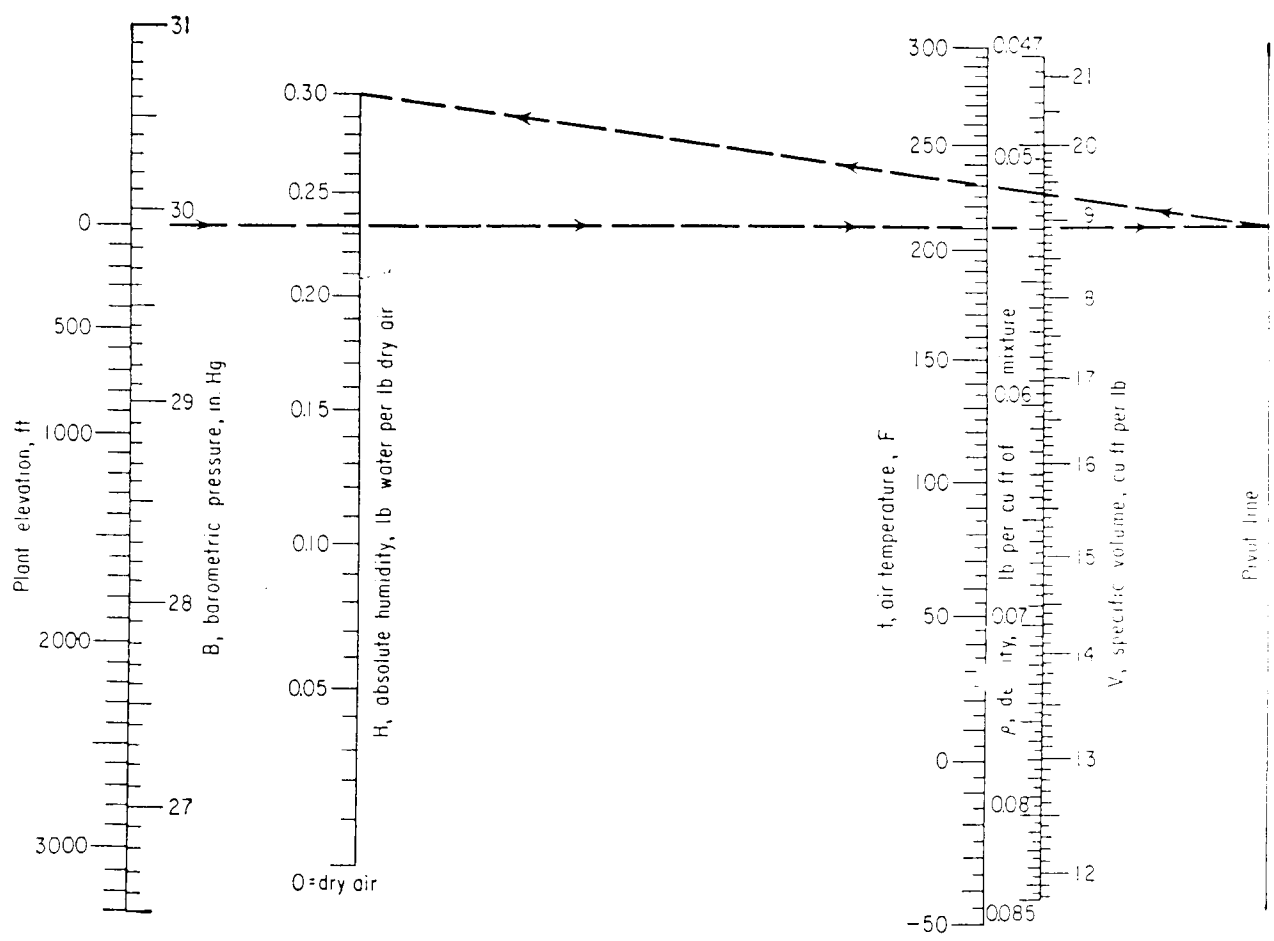


# Power's data sheet



## Calculate density of moist or dry air

Data sheet No. 335 supplied graphical means for finding the dew point and water content of compressed air. As an added part of most air-system calculations you must figure actual air density—for sizing fans, etc.

**Air density** is obtained by solving the equation:

$$\rho = \frac{0.825 B (1 + H)}{(t + 460) (0.622 + H)}$$

Where *B* is barometric pressure, in. Hg, *H* is absolute humidity, lb of water per lb dry air, *t* is air temperature

and  $\rho$  is density of the air-water mixture, lb per cu ft.

**Example:** What is density of air containing 0.30 lb water per lb dry air, at 29.92 in. Hg and 210 F?

**Solution:** Align *B* = 29.92 with *t* = 210 and mark the intersection with pivot line. Align pivot intersection and *H* = 0.30 and read  $\rho$  = 0.0517 lb per cu ft. If necessary for other calculations answer may be read as specific volume *V* (19.31 cu ft per lb in example).

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