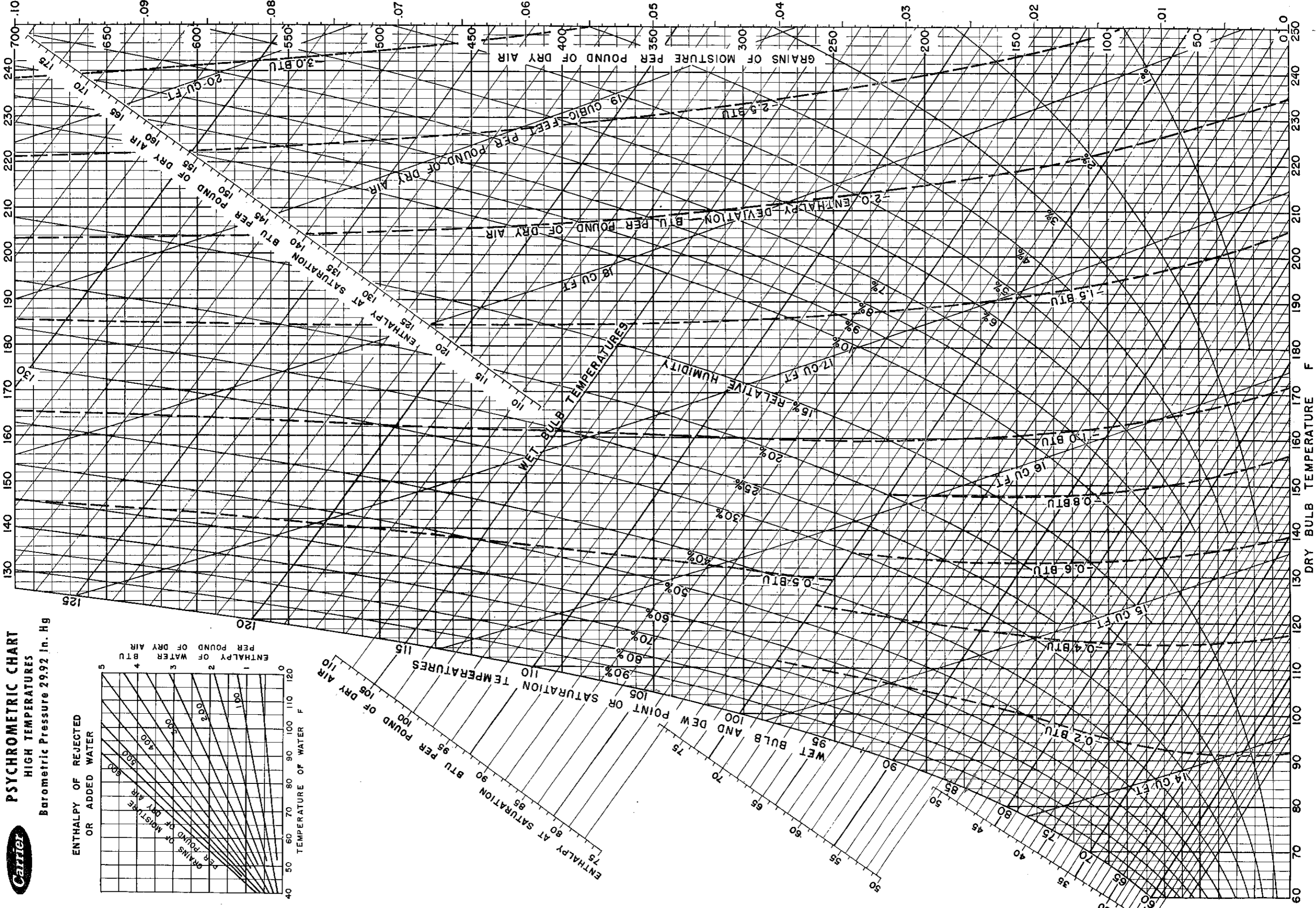


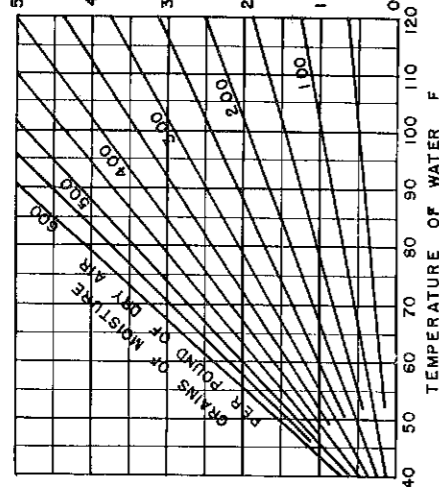
PSYCHROMETRIC CHART

HIGH TEMPERATURES

Barometric Pressure 29.92 In. Hg



ENTHALPY OF REJECTED OR ADDED WATER



ENTHALPY OF WATER BTU PER POUND OF DRY AIR



PSYCHROMETRIC CHART — High Temperatures

Barometric Pressure 29.92 In. Hg

ADDITIVE CORRECTIONS FOR W, h, AND v WHEN BAROMETRIC PRESSURE DIFFERS FROM STANDARD BAROMETER

Wet Bulb Temp. t'	Sat. Vapor Press. in. Hg	-900		900		1800		2700		3700		4800		5900	
		$\Delta p = +1$		$\Delta p = -1$		$\Delta p = -2$		$\Delta p = -3$		$\Delta p = -4$		$\Delta p = -5$		$\Delta p = -6$	
		ΔW_s^1	Δh	ΔW_s^1	Δh	ΔW_s^1	Δh	ΔW_s^1	Δh	ΔW_s^1	Δh	ΔW_s^1	Δh	ΔW_s^1	Δh
60	0.522	-2.5	-0.40	2.7	0.42	5.7	0.88	8.8	1.37	12.2	1.90	15.9	2.47	19.9	3.09

- t = Dry bulb temperature (F).
- t' = Wet bulb temperature (F).
- p = Barometric pressure (in. of Hg).
- Δp = Pressure difference from standard barometer (in. of Hg).
- W = Moisture content of air (gr per lb of dry air).
- W_s^1 = Moisture content of air saturated at wet bulb temperature t' (gr per lb of dry air).
- ΔW = Moisture content correction of air when barometric pressure differs from standard barometer (gr per lb of dry air).
- ΔW_s^1 = Moisture content correction of air saturated at wet bulb temperature when barometric pressure differs from standard barometer (gr per lb of dry air).

NOTE: To obtain ΔW reduce value of ΔW_s^1 by 1% where $t - t' = 24$ F and correct proportionally when $t - t'$ is not 24 F.

- h = Enthalpy of moist air (Btu per lb of dry air).
- Δh = Enthalpy correction when barometer pressure differs from standard barometer, for saturated or unsaturated air. (Btu per lb of dry air).
- v = Volume of moist air (cu ft per lb of dry air).

$$v = \frac{754(t + 459.7)}{p} \left[1 + \frac{W}{14.7} \right]$$

Example: At a barometric pressure of 25.92 with 220 F DB and 100 F WB, determine W , h , and v . $\Delta p = -4$ and from table

$\Delta W_s^1 = 50.4$. From note above,
 $\Delta W = \Delta W_s^1 - \left(\frac{120}{24} \times .01 \times 50.4 \right) = 50.4 - 2.5 = 47.9$
 Therefore $W = 102$ (from chart) + 47.9 = 149.9 gr per lb of dry air. From table $\Delta h = 7.95$. Therefore $h =$ saturation enthalpy from chart + deviation + 7.95 = 71.7 - 2.0 + 7.95 = 77.65 Btu per lb of dry air. From equation above
 $v = \frac{754(220 + 459.7)}{25.92} \left[1 + \frac{149.9}{4360} \right] = 20.43$ cu ft per lb of dry air