

Sensible Heat Factor

$\Delta h/\Delta x$  in kJ/kg →

$p_d$  in kPa →

$x$  in g/kg →

$\rho$  in kg/m<sup>3</sup> ↑

$\theta$  in °C ↑

40  
35  
30  
25  
24  
20  
17  
15  
13  
10  
5  
0  
-5  
-10  
-15

1.14

1.16

1.18

1.20

1.22

1.24

1.26

1.28

1.30

1.32

1.34

1.36

1.38

1.40

1.42

1.44

1.46

1.48

1.50

1.52

1.54

1.56

1.58

1.60

1.62

1.64

1.66

1.68

1.70

1.72

1.74

1.76

1.78

1.80

1.82

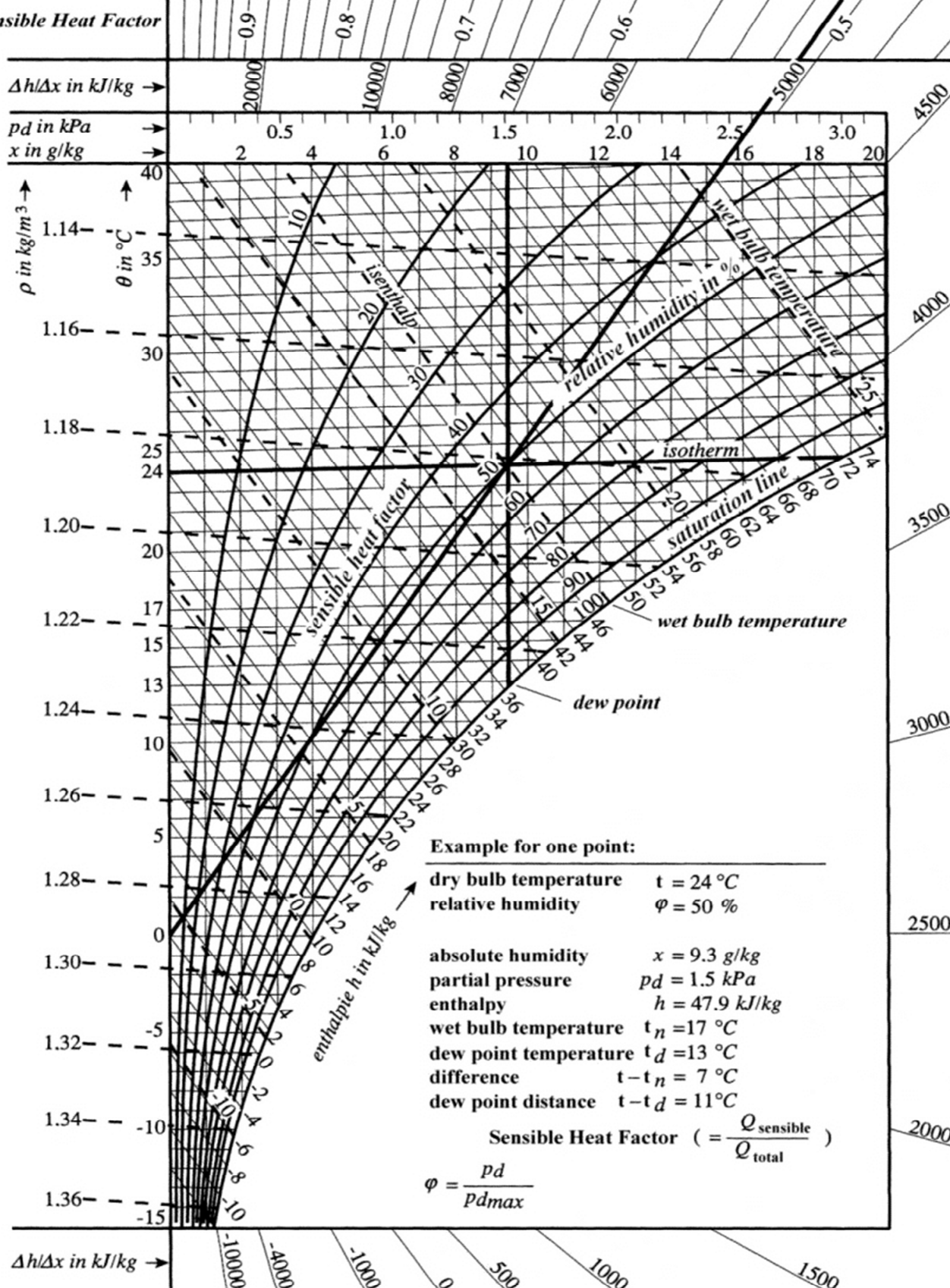
1.84

1.86

1.88

1.90

1.92



Example for one point:

- dry bulb temperature  $t = 24\text{ }^\circ\text{C}$
- relative humidity  $\phi = 50\%$
- absolute humidity  $x = 9.3\text{ g/kg}$
- partial pressure  $p_d = 1.5\text{ kPa}$
- enthalpy  $h = 47.9\text{ kJ/kg}$
- wet bulb temperature  $t_n = 17\text{ }^\circ\text{C}$
- dew point temperature  $t_d = 13\text{ }^\circ\text{C}$
- difference  $t - t_n = 7\text{ }^\circ\text{C}$
- dew point distance  $t - t_d = 11\text{ }^\circ\text{C}$

Sensible Heat Factor  $( = \frac{Q_{\text{sensible}}}{Q_{\text{total}}} )$

$$\phi = \frac{p_d}{p_{d\text{max}}}$$

$\Delta h/\Delta x$  in kJ/kg →

-10000 -4000 -1000 0 500 1000 1500

20000 10000 8000 7000 6000 5000 4500

0.5 1.0 1.5 2.0 2.5 3.0

2 4 6 8 10 12 14 16 18 20

40 35 30 25 24 20 17 15 13 10 5 0 -5 -10 -15

1.14 1.16 1.18 1.20 1.22 1.24 1.26 1.28 1.30 1.32 1.34 1.36 1.38 1.40 1.42 1.44 1.46 1.48 1.50 1.52 1.54 1.56 1.58 1.60 1.62 1.64 1.66 1.68 1.70 1.72 1.74 1.76 1.78 1.80 1.82 1.84 1.86 1.88 1.90 1.92

10 20 30 40 50 60 70 80 90 100

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