

11.

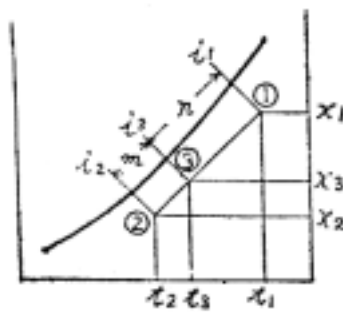
11.5

(1) (t_1, x_1) m (t_2, x_2) n
 $n : m$

$$t_3 = (mt_1 + nt_2) / (m + n)$$

$$i_3 = (mi_1 + ni_2) / (m + n)$$

$$x_3 = (mx_1 + nx_2) / (m + n)$$



11-8

(2) 가

가

가

11-9

가

1

2

가

q(kcal/h)

$$q = \frac{V}{v}(i_2 - i_1) \dots\dots\dots$$

, i_1, i_2 : 1, 2

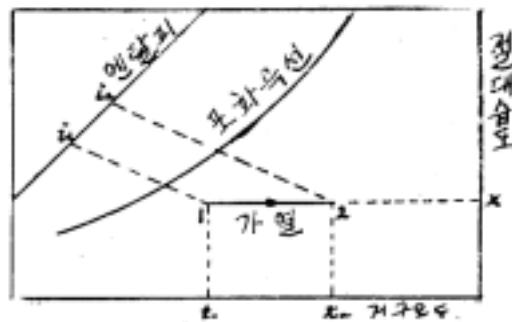
v : (m^3/kg')

V : (m^3/h)

1 2 가

가

.()



11-9

가 C_p .

$$q = \frac{V}{v}C_p(t_2 - t_1) \dots\dots\dots$$

, t_1, t_2 : 1, 2 () C_p : ($kcal/kg' \text{ deg}$)

(3)

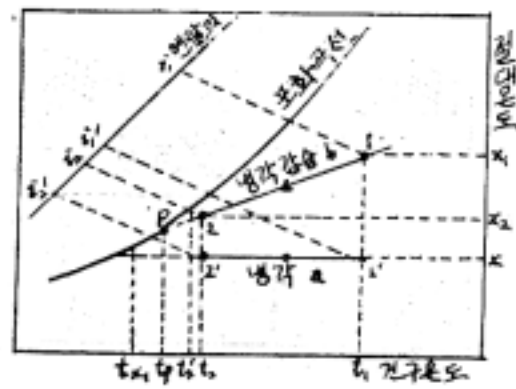
가

가

가

11-10 a 가 .

(2) .



11-10

가

가

b

가

2

1

 t_p

P

(列數)가

가

P

b

(灣曲)

1

2

 t_{w1} t_2'

q

$$(2\bar{P})/(1\bar{P})$$

“ ”

가

, 가

•

11-11 a

2

1

t_{w2}

3

$q(\text{kcal/h})$

$$q = \frac{V}{v}(i_1 - i_2) = LC_w(t_{w2} - t_{w1}) \dots\dots$$

, $L :$ (kg/h)

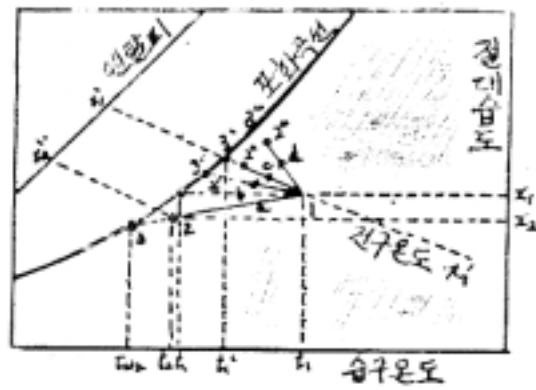
$C_w :$ (1 kcal/kg · deg)

$t_{w1}, t_{w2} :$ ()

, 2

3

a



11-11

가

가

가

b

(4) 가

가 , 가 가 .

가

가

가 가

() . 11-11 c 가

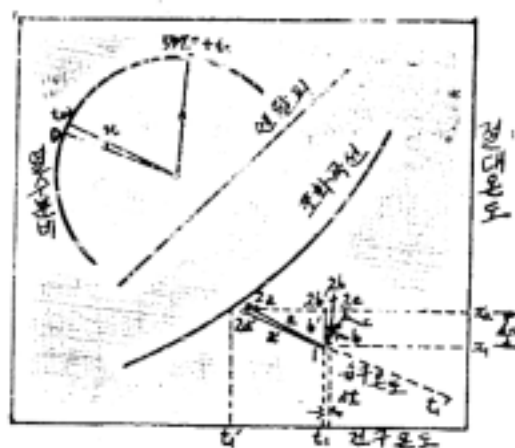
가 0 .

2 "

3 " . $(\overline{12})/(\overline{13})$

가 ,

d 가 C .



11-12 a $u=t_w$. t_w

(顯熱 : sensible heat) (潛熱 : latent heat)

a 가 a ' () 가

가 .

$(x_2-x_1)(\text{kg/kg '})$.

$$x_2 - x_1 = \frac{v}{V} \cdot L \cdots \cdots$$

, L : 가 (kg/h)

v : (m³/kg ')

V : (m³/h)

가 (細孔) 가

$t_s()$ 11-12 b

$$u=597.3+0.441t_s \cdots \cdots$$

. $\Delta t(\text{deg})$

$$\Delta t = 1.8(t_s-t_1) \Delta x \cdots \cdots$$

, $t_1 : ()$

$t_s : ()$

$\Delta x :$ 가 가 (kg/kg ')

1 가 가

b ' 가

가 .

b () 1 → 2b
() 2b → 3b

(6)

30% 70% ,

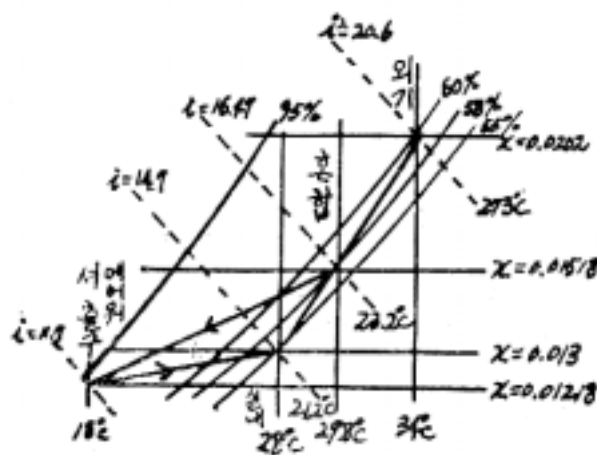
720,000kcal/h (送氣) .

DB=34 , RH=60%, DB=28 , RH=60%, DB=18 ,

RH=95% , , , ,

1)

$$G = \frac{q_t}{i_2 - i_1} = \frac{720,000}{14.7 - 11.7} = 240,000 \text{ kg/h}$$



2)

$$t_3 = (0.3 \times 34) + (0.7 \times 28) = 29.8$$

$$i_3 = (0.3 \times 20.6) + (0.7 \times 14.7) = 16.47 \text{ kcal/kg}$$

$$x_3 = (0.3 \times 0.0202) + (0.7 \times 0.013) = 0.01516 \text{ kcal/kg}$$

3)

$$q = G(i_2 - i_1) = 240,000 \times (16.47 - 11.7) = 1,144,800 \text{ kcal/h}$$

$$q = Gc(t_2 - t_1) + Gr(x_2 - x_1)$$

$$= 240,000 \times 0.24 \times (29.8 - 18) + 240,000 \times 597 \times (0.0518 - 0.01218) = 1,110,000 \text{ kcal/h}$$

$$, c : = 0.24 \text{ kcal/kg} \cdot$$

$$r : 597 \text{ kcal/kg} (0 \quad)$$

$$, \quad 3\%$$

.

4) (Q₁)

$$240,000 \times 0.3 = 72,000 \text{ kg/h}, Q_1 = 1,000 \text{ m}^3/\text{min}$$

5) (Q₂)

$$240,000 \times 0.7 = 168,000 \text{ kg/h}, Q_2 = 2,340 \text{ m}^3/\text{min}$$