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(u_Z) (u_X)

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(P.E)

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(θ_i)

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(u_z)

(u_x)

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.(θ_2)

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$$q_e = \frac{V}{T}$$

$$u_x = d T^e$$

$$u_z = f T^g$$

$$b u_x + b_1 T^2 + b_2 T + b_3 = 0$$

$$u_z = b T^{b1}$$

$$.()$$

$$= (u_x)$$

$$.()$$

$$= (u_z)$$

$$.()$$

$$= T$$

$$()$$

$$(T)$$

$$(I)$$

$$q_e = \pi R^2 \cdot I$$

$$(u_x)$$

$$R :$$

$$(R)$$

$$(I)$$

$$.(T)$$

$$(I)$$

$$R = 0.5 \left[(a + b q_e) \sqrt{V} + C \right]$$

$$V = \frac{\pi}{2} \cdot u_x \cdot u_z \cdot \Delta\theta$$

$$= \Delta\theta$$

$$q_e = \frac{2 \pi R^2 u_z \Delta\theta}{3T}$$

$$R = \left(\frac{3 \times 10^3 \times q_e \times T}{2 \pi \Delta\theta} \right)^{1/3}$$

$$u_z = a T^{0.5} + b T$$

$$(\theta_f)$$

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u_z u_x ()

Curve No.	T (min)	u_x (cm)	u_z (cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

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θ_v	θ_m					

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u_z u_x ()

Curve No.	T (min)	u_x (cm)	u_z (cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

()

θ_v	θ_m					

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$u_z \quad u_x \quad ()$

Curve No.	$q_e = 2 \text{ Lit/hr}$			$q_e = 4 \text{ Lit/hr}$			$q_e = 8 \text{ Lit/hr}$		
	T (min)	u_x (cm)	u_z (cm)	T (min)	u_x (cm)	u_z (cm)	T (min)	u_x (cm)	U_z (cm)
1	3	5.5	6.9	3	10.7	9.2	3	10.9	9.9
2	6	7.1	8.6	6	13.3	12.5	6	13.8	13.1
3	9	8.1	10.6	9	13.4	14.0	9	14.8	14.7
4	12	8.5	11.8	12	15.0	15.4	12	16.2	15.9
5	15	9.3	13.7	15	15.6	17.0	15	17.5	17.8
6	20	9.9	15.1	20	16.7	19.4	25	19.6	21.4
7	30	11.3	20.2	25	17.3	20.9	35	22.6	26.4
8	40	12.3	21.5	35	18.9	24.0	65	38.7	38.7
9	45	13.1	24.1	45	20.0	26.9			
10	85	14	28.6	75	21.7	35.9			
11	115	15	31.1	105	22.0	42.3			

$u_z \quad u_x \quad ()$

Curve No.	$q_e = 2 \text{ Lit/hr}$			$q_e = 4 \text{ Lit/hr}$			$q_e = 8 \text{ Lit/hr}$		
	T (min)	u_x (cm)	u_z (cm)	T (min)	u_x (cm)	u_z (cm)	T (min)	u_x (cm)	u_z (cm)
1	3	8.1	4.6	3	11.4	5.2	3	26.3	5.7
2	6	10.2	6.7	6	14.9	7.0	6	30.3	7.4
3	9	11.5	7.7	9	17.1	7.9	9	33.3	8.3
4	12	12.7	9.4	12	19.1	10.0	12	35.1	10.4
5	15	13.5	10.4	15	20.4	10.9	15	36.6	11.7
6	20	14.7	11.8	20	22.3	12.4	25	38.6	15.3
7	30	16.6	14.2	25	23.2	14.7	35	40.7	17.9
8	40	17.8	16.3	35	25.3	17.0	65	44.7	22.3
9	50	18.7	17.9	45	27.1	19.7			
10	60	19.7	19.1	75	30.4	22.5			
11	75	21.0	21.5	105	32.9	26.4			
12	105	23.1	24.6						
13	135	24.4	27.2						

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θ_v %	θ_m %	gm	gm	gm	cm	
			79.6	85.9	5	1
			77.8	83.1	10	2
			78.9	83.7	15	3
			83.4	87.7	20	4
			82.1	85.8	25	5
			80.9	83.7	30	6
			85.3	90.3	5	7
			78.2	82.4	10	8
			76.9	80.7	15	9
			81.0	84.5	20	10
			82.8	85.8	25	11
			83.4	85.9	30	12
			74.7	77.3	5	13
			78.8	81.5	10	14
			79.9	82.6	15	15
			80.8	83.3	20	16
			82.1	84.4	25	17
			83.7	85.6	30	18

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θ_v %	θ_m %	gm	gm	gm	cm	
			82.4	87.4	5	1
			80.5	85.1	10	2
			93.6	98.8	15	3
			84.2	85.3	20	4
			85.6	89.2	25	5
					30	6
			90.2	94.4	5	7
			88.7	92.6	10	8
			93.1	96.8	15	9
			82.5	85.4	20	10
			83.9	86.6	25	11
					30	12
			80.9	83.8	5	13
			87.7	90.6	10	14
			85.6	88.1	15	15
			84.2	86.2	20	16
			81.1	82.9	25	17
					30	18

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