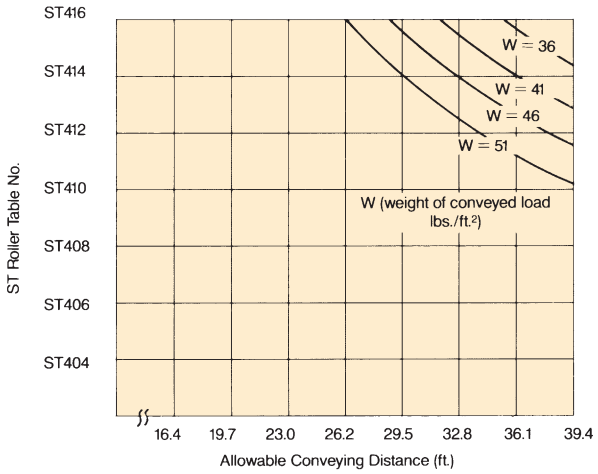
III. Selection Procedure for Roller Table

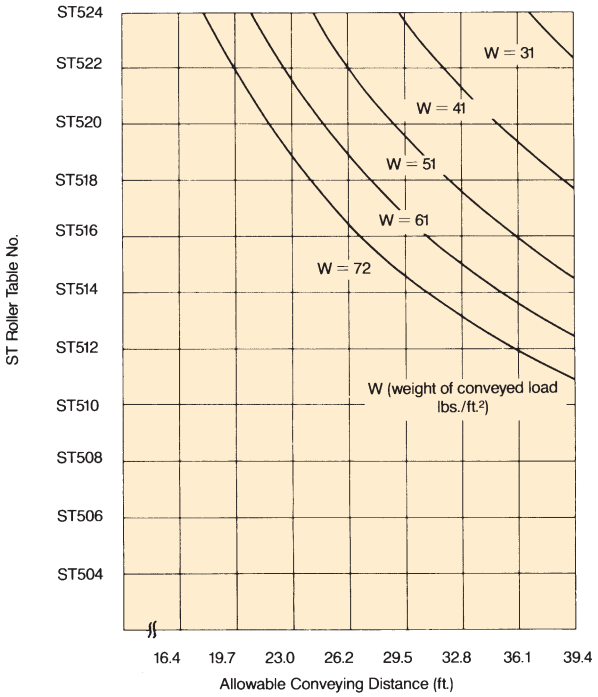
Determine the Roller Table size with the following capability graphs:

ST Roller Table Conveyor Capability Graph

ST400



ST500

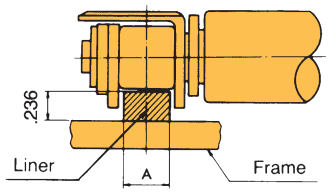


How to use the graph:
If W equals 61 lbs./ft.² and the conveyor length equals 32.8 ft., Roller Table numbers ST514 to ST504 can be used.
W [Weight of conveyed load (lbs./ft.²)]

$$= \frac{\text{Weight of conveyed object (lbs.)}}{\text{Base area of conveyed object (ft.²)}}$$

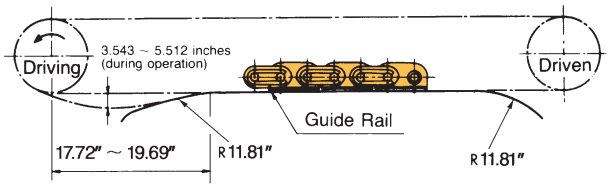
Guide for ST Roller Table

Conveying Side (reference only)

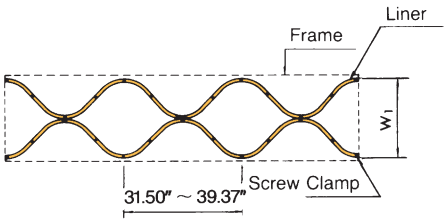


Dimension "A": ST400 - .236 inches
ST500 - .315 inches

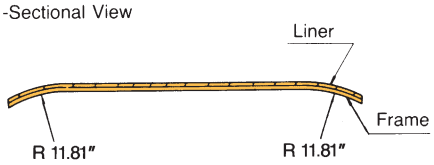
Return Side



1) Top View of Return Side



2) Cross -Sectional View

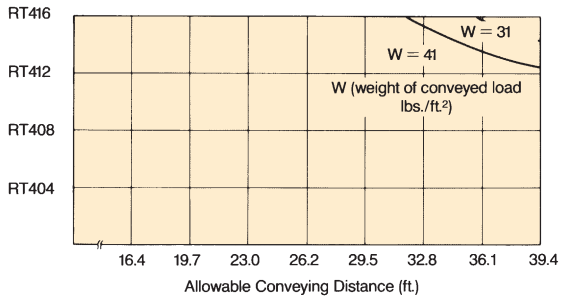


- Liner should be shaped to avoid plastic roller wear.
- Liner width (W_1) should be C_1 (effective width) minus (0.394 inches).
- Material of liner should be high polymer polyethylene.

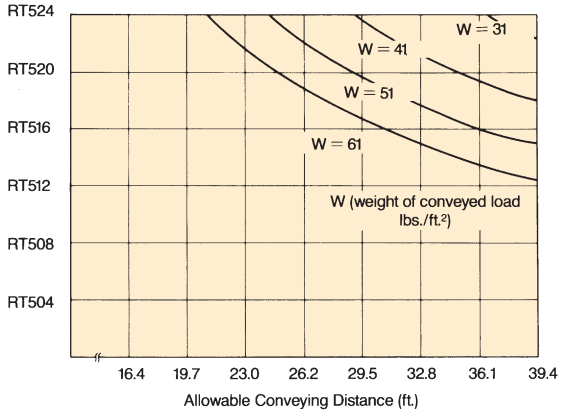
■ **Roller Table speed should not exceed 160 ft./min.**

RT Roller Table Conveyor Capability Graph

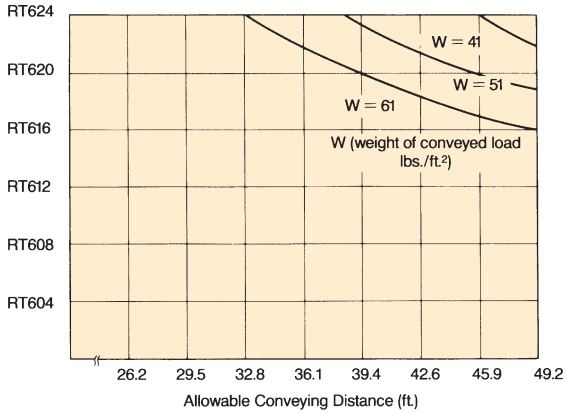
RT400



RT500



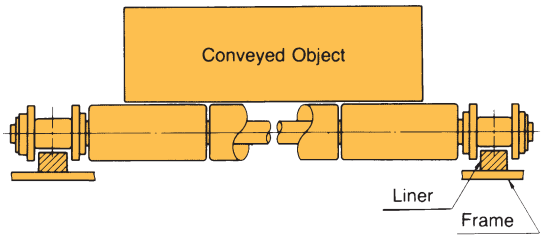
RT600



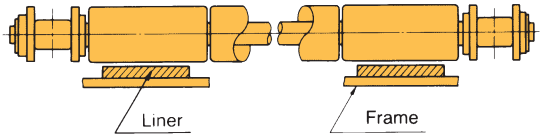
Use these graphs in the same way as for ST Roller Table.

Guide for RT Roller Table

■ Conveying Side



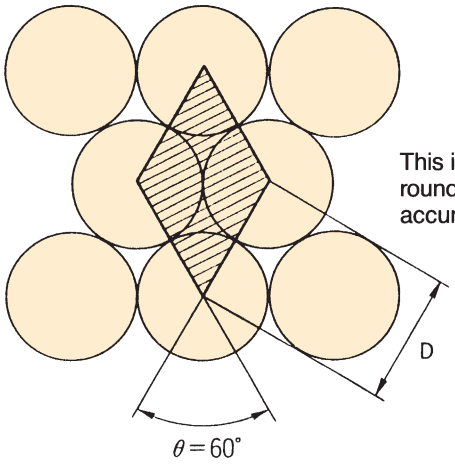
■ Return Side



Note: Material of liner should be high polymer polyethylene.

■ **RT Roller Table speed should not exceed 160 ft./min.**

How to calculate the carrying capacity (for round containers)



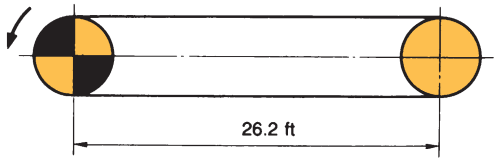
This is a sketch of the round containers accumulating

$$W = \frac{\omega \cdot 144 \cdot 10^2}{D^2 \sin 60^\circ} \text{ (lbs./ft.}^2\text{)}$$

W: Carrying capacity (lbs./ft.²)
ω : Weight of material (lbs./p)
D : Diameter of conveyed material (inch)

Selection Procedure Example

Specifications



Conveyor length: 26.2 ft.
Weight of conveyed object: 44 lbs.
Dimensions of conveyed object: 0.98 ft. • 0.66 ft. • 0.33 ft.

Selection

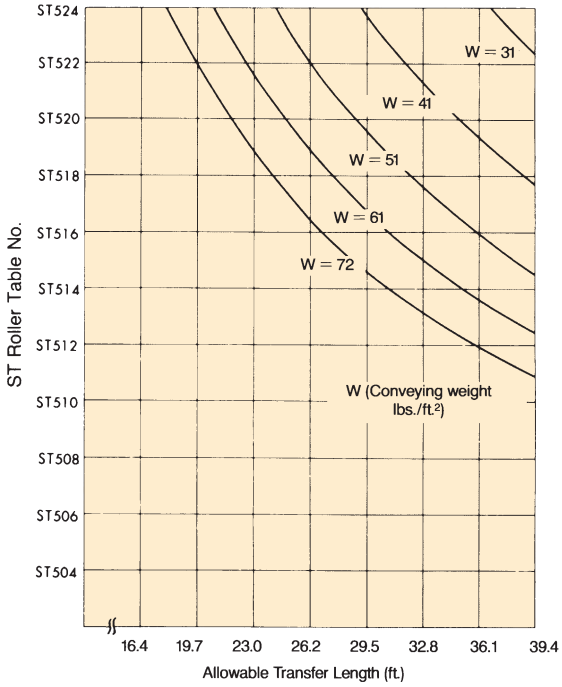
For smooth conveying and to provide “side-through” transfer lines select ST type.

From the ST Roller Table conveyor capability graph on page B-62:

$$W = \frac{44}{.98 \bullet .66} = 68 \text{ lbs./ft.}^2$$

If W = 68 lbs./ft.^{2} and the conveyor length is 26.2 ft., ST504 ~ ST516 Roller Table is the appropriate choice according to the following table.

ST500



Determine the chain-width (C_1) using the dimension diagram on pages B-54 and B-55.

In this example, ST510SS (NP) Roller Table chain with chain-width (C_1) (9.890″) was deemed appropriate for conveyed objects with the above dimensions.