

## GAPPER D SGR FIXED RATIO

CHAIN SLAVE CONNECTION

1.05 1.10 1.25 1.30 1.35  
1.40 1.50 1.60 1.75 1.80  
2.00 2.25 2.40

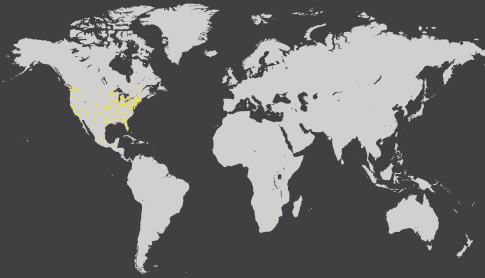
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## GAPPER D SGR FIXED RATIO

TIMING BELT SLAVE CONNECTION

1.09 1.20 1.27 1.40 1.50  
1.60 1.64 1.75 1.78 1.80  
1.89 2.00 2.05 2.12 2.22  
2.35 2.50 2.57

MORE THAN  
**100 INTEGRATION PARTNERS**  
AROUND THE WORLD

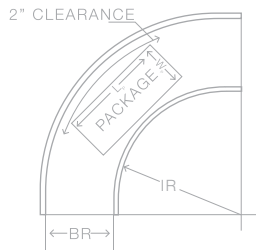


FORMULAS FOR  
**DESIGNING**  
SYSTEM APPLICATIONS



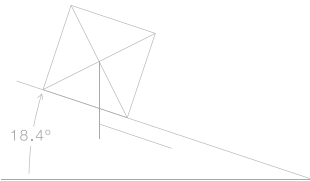
## MINIMUM CURVE "BR"

$$BR = \sqrt{(IR + W_p)^2 + \left(\frac{L_p}{2}\right)^2} - (IR - 2)$$



## BOX TUMBLING

$$\frac{\text{BOX LENGTH (IN.)}}{3 \bullet \text{HEIGHT OF BOX (IN.)}} = \text{TANGENT OF ANGLE}$$



**\*Note:** To ensure product safety, you should always round the maximum angle down to the nearest whole number. For example, if you find that 18.4° is the maximum angle, then the maximum incline/decline you should order is 18°.

## CASE FEET PER MINUTE

$$\frac{\text{AVG. BOX LENGTH (IN.)} \bullet \text{RATE (CPM)}}{12 \text{ IN/FT}} \bullet 1.15 = \text{CFPM}$$

A Safety Factor of 1.15 for slippage and start-up is normally used, but can be less at higher speeds.

## SPEED GAP RATIO

$$\frac{\text{LENGTH OF MINIMUM BOX} + \text{GAP}}{\text{LENGTH OF MINIMUM BOX}} = \text{SPEED GAP RATIO (SGR)}$$

If you know the SGR, then you can figure your gap for any box length:

$$(\text{BOX LENGTH} \bullet \text{SGR}) - \text{BOXLENGTH} = \text{GAP}$$

## SGR FORMULA FOR PITCH

$$\frac{\text{PITCH REQUIRED}}{\text{MINIMUM BOX LENGTH}} = \text{SGR FOR PITCH}$$

## SORTER SPEED

$$\text{SGR} \bullet \text{CFPM} = \text{SORTER SPEED}$$

## PROSORT SC

Gap required when controlled properly: 12"

### PROSORT 121 (22° DIVERTS)\*

- 0" < W ≤ 8" MINIMUM GAP = 6"
- 8" < W ≤ 16" MINIMUM GAP = 9"
- 16" < W ≤ 24" MINIMUM GAP = 12"
- 24" < W ≤ 29" MINIMUM GAP = 15"

### PROSORT 131 (30° DIVERTS)\*

- 0" < W < 6" MINIMUM GAP = 6"
- 6" < W < 12" MINIMUM GAP = 9"
- 12" < W < 18" MINIMUM GAP = 12"
- 18" < W < 24" MINIMUM GAP = 15"

W=PACKAGE WIDTH

### PROSORT 431 (30° DIVERTS)\*

- 0" < W < 10" MINIMUM GAP = 10"
- 10" < W < 20" MINIMUM GAP = 16"
- 20" < W < 30" MINIMUM GAP = 20"
- 30" < W < 40" MINIMUM GAP = 26"

W=PACKAGE WIDTH

### PROSORT 421 (22° DIVERTS)\*

- 0" < W < 13" MINIMUM GAP = 10"
- 13" < W < 26" MINIMUM GAP = 16"
- 26" < W < 40" MINIMUM GAP = 20"

W=PACKAGE WIDTH

**\*Note:** When sorting to both sides, the minimum gap from above must be increased by 3" on the ProSort Elite, and 6" on the ProSort 400 Elite.