



Technical

LINE SHAFT HORSEPOWER DATA

GENERAL

Since many sections and accessories may be coupled to one drive, it is important that the motor be properly sized for each application.

Table I (at right) may be used as a general guide to selection of drive motor sizes for typical installations.

When powered accessories are added to straight sections, the maximum allowable length must be adjusted. Table II (below) lists the horsepower required for various accessories.

Factors that are important to power requirements include the number of rollers per foot, the total length of straight sections, the number and type of powered accessories and the desired speed of the conveyor.

TABLE I

SPEED		30 FPM	45 FPM	60 FPM	75 FPM	90 FPM	120 FPM
HP	RC	MAXIMUM ALLOWABLE STRAIGHT LENGTHS					
1/3	3"	57	37	28	22	19	14
	4"	75	50	37	30	25	19
	6"	112	75	56	45	37	28
1/2	3"	84	56	42	34	28	20
	4"	112	75	56	45	38	28
	6"	168	112	84	67	56	42
3/4	3"	126	84	63	50	42	32
	4"	168	112	84	67	56	42
	6"	200	168	126	100	84	63
1	3"	---	112	84	67	56	42
	4"	---	150	112	90	75	56
	6"	---	200	168	135	112	84
1- 1/2	3"	---	---	126	100	84	63
	4"	---	---	168	135	112	84
	6"	---	---	200	200	168	126
2	3"	---	---	---	135	112	84
	4"	---	---	---	180	150	112
	6"	---	---	---	200	200	168

NOTE: Drive cannot be located more than 75' from either end on 3" RC; 90' from either end on 4" RC; or 100' from either end on 6" RC.

**196LS
CAPACITY**

The drive capacity accepted is 15 lbs. per roller. The type of package and/or material being conveyed may increase or decrease this capacity. Very hard, rigid, flat bottom containers increase roller capacity while soft, uneven surfaces will decrease it.

NOTE: Drive capacity for model 138LS is 10 lbs. per roller; 7.5 lbs. roller capacity for model 138LSC.

**ROLLER
CENTERS**

The number of rollers required per package is dependent upon package weight, package length, drive capacity per roller, and type of surface. The package formulas (at right) should be used to determine the maximum allowable roller centers. Use the lesser of the two values rounded to the nearest standard roller centers. Finally, only use model 138LS for light duty applications where close roller centers are required.

PACKAGING WEIGHT
FORMULA

+ Length of package (in inches)
÷ Weight of package
= Subtotal
× 15 # (Drive capacity of rollers; use 10 # for 138LS)
= Maximum Roller Centers

PACKAGING LENGTH
FORMULA

+ Length of package (in inches)
÷ 3
= Maximum Roller Centers

TABLE II

SPEED	30 FPM	45 FPM	60 FPM	75 FPM	90 FPM	120 FPM
POWERED ACCESSORIES	HORSEPOWER REQUIREMENTS FOR ACCESSORIES					
30° CURVE	.03	.05	.06	.07	.09	.12
45° CURVE	.04	.07	.09	.11	.13	.17
60° CURVE	.06	.09	.12	.15	.18	.24
90° CURVE	.08	.12	.15	.19	.23	.30
CONVERGING SPUR	.13	.18	.26	.34	.40	.52
DIVERGING SPUR	.16	.23	.32	.39	.46	.63
POWERED GATE	.04	.05	.07	.09	.11	.15

LINE SHAFT ADJUSTMENT
FORMULA

Maximum HP (Table I)
- Total HP of accessories (Table II)
= Subtotal
÷ Maximum HP (Table I)
× Max. allowable straight length (Table I)
= Adjusted straight Length

CHAIN CROSSOVER	.02	.02	.02	.03	.04	.05
NOTE: When accessories are added to straight line shaft conveyor sections, the maximum allowable lengths shown in Table I must be adjusted. Use the adjustment formula at right to determine the adjusted maximum length.						

ROLLER WEIGHTS									
BF	7"	11"	13"	15"	17"	19"	21"	23"	25"
MODEL	ROLLER WEIGHTS (lbs.)								
196S	1.6	2.2	2.5	2.7	2.9	3.3	3.6	3.8	4.1
196G	1.6	2.3	2.6	2.8	3.0	3.4	3.7	3.9	4.3
192S	2.3	3.4	3.8	4.5	5.2	5.6	6.0	6.6	7.2
199S	2.6	4.0	4.5	5.3	6.1	6.6	7.1	7.8	8.5
254S	2.1	3.0	3.4	3.9	4.4	4.8	5.2	5.7	6.2
251S	4.2	5.6	6.4	7.1	7.8	8.5	9.2	9.9	10.7
297S	4.6	6.7	7.6	8.7	9.8	10.8	11.8	12.3	13.8
3509S	6.5	8.8	9.9	11.0	12.1	13.3	14.4	15.6	16.7
3530S	11.2	15.9	18.3	20.6	23.0	25.3	27.6	30.0	32.3

ROLLER WEIGHTS									
BF	27"	31"	33"	35"	37"	39"	43"	47"	51"
MODEL	ROLLER WEIGHTS (lbs.)								
196S	4.4	4.9	5.2	5.5	5.8	6.1	6.7	7.3	7.8
196G	4.6	5.1	5.4	5.7	6.0	6.3	7.0	7.6	8.1
192S	7.7	8.8	9.4	9.9	10.6	11.0	12.1	13.2	14.3
199S	9.2	10.5	11.2	11.8	12.6	13.1	14.5	15.8	17.1
254S	6.6	7.5	8.4	9.3	9.8	10.2	11.3	12.3	13.3
251S	11.4	12.8	13.5	14.3	15.0	15.7	17.1	18.6	20.0
297S	13.8	16.9	17.9	19.0	20.0	21.0	23.0	25.1	27.2
3509S	17.8	20.1	21.2	22.3	23.5	24.6	26.9	29.1	31.4
3530S	34.7	39.4	41.8	44.1	46.4	48.8	53.5	58.2	62.8