



Technical

CALCULATING HORSEPOWER - BELT DRIVEN LIVE ROLLERS

BELT DRIVEN LIVE ROLLERS

- + Product (Total Live Load)
- + Belt Weight (see below)
- + Roller Weight (see below)
- + Drive Weight (250#)
- = Subtotal
- x .10
- x 1.25 (25% Contingency Factor)
- = Effective Belt Pull
- x Speed of Conveyor
- ÷ 33,000 Horsepower Factor
- ÷ .95 Chain Reductions
- ÷ .85 GRE/ Reducer Losses
- = Horsepower

BELT WEIGHTS								
BELT WIDTH	6"	12"	18"	24"	30"	36"	42"	48"
BELT	BELT WEIGHTS (lbs.) PER FOOT OF BELTING (Not Conveyor)							
PVC-120 (CxFS)	.51	1.02	1.53	2.04	2.55	3.06	3.57	4.08
PVC-120 (FSxFS)	.24	.48	.72	.96	1.20	1.44	1.68	1.92
PVC RUFF TOP	.45	.90	1.35	1.80	2.25	2.70	3.15	3.60
NOTE: PVC-150 (CxFS) is .241 #/ft. with 2-1/4" belt width.								

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