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BULK MATERIAL HANDLING

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TYPE 150 BUCKET ELEVATOR DATA SHEET

CENTRIFUGAL DISCHARGE WITH BELT

Bulletin 300.003

Standard Type 150 elevators include head shaft machinery, pillow block roller bearings, discharge spout, casing, belting, "AA" style buckets, boot terminal and screw take-ups with ball bearings. Capacities are based on buckets filled to 75% of theoretical capacity and are proportional to the weight and volume of the material carried and the belt speed. Horsepower information is based on buckets filled to 100% theoretical capacity. Fluffy or lightweight materials may require slower belt speeds, and wet or sticky materials may need different buckets.

CAPACITY DATA

Model	Max. Lump Size		Buckets		Belt	Cu. Ft. Hr.	CAPACITY* TPH			
	% of Lumps		Size	Ctrs.	Speed FPM		Material Weight, Lbs. / Cu. Ft.			
	10%	100%					35	50	75	100
151	2-1/2	1/2	6 x 4	13	225	280	4.9	7.0	10.5	14.0
152	3	3/4	8 x 5	16	225	530	9.3	13.2	19.9	26.5
153	3	3/4	8 x 5	16	258	610	10.7	15.2	22.9	30.5
154	3-1/2	1	10 x 6	16	225	910	15.9	22.8	34.2	45.5
155	3-1/2	1	10 x 6	16	258	1050	18.4	26.2	39.4	52.5
156	4	1-1/4	12 x 7	18	258	1460	25.5	36.5	54.7	73.0
157	4	1-1/4	12 x 7	18	298	1700	29.7	42.5	63.7	85.0
158	4	1-1/4	14 x 7	18	258	1780	31.1	44.5	66.7	89.0
159	4	1-1/4	14 x 7	18	298	2060	36.1	51.5	77.2	103.0
160	4-1/2	1-1/2	16 x 8	18	298	3040	53.1	76.0	114.0	152.0

* Based on buckets filled to 75% theoretical capacity

HORSEPOWER CALCULATION

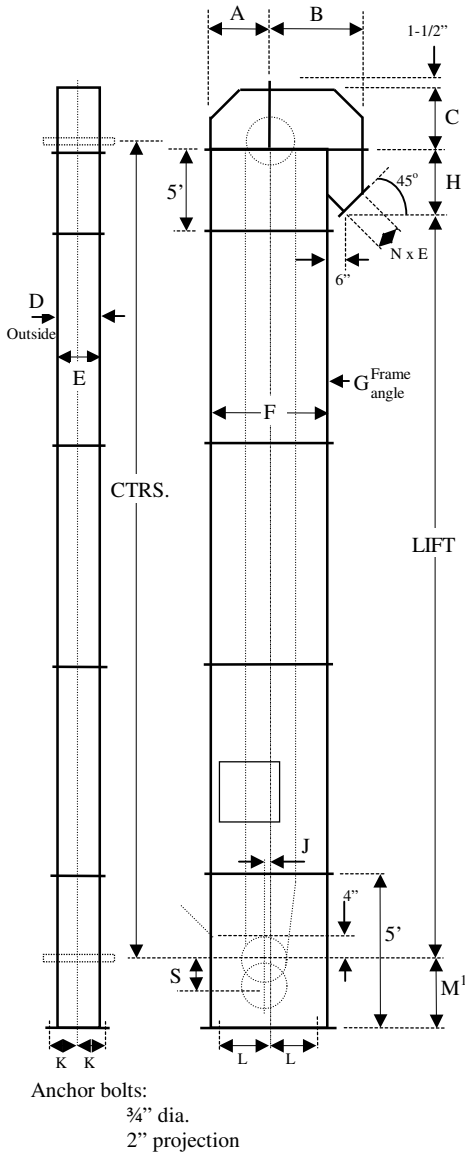
The horsepower required at the head shaft can be calculated with the following equation. The values required in the formula are listed in the following tables:

$$SHP = \frac{THP + (CHP \times C)}{0.85}$$

Legend: SHP = Horsepower at the head shaft CHP = Horsepower per foot of centers
 THP = Terminal horsepower C = Center distance in feet
 0.85 = Drive efficiency factor, to compensate for power loss in drive train

Model	Material Weight per Cubic Foot								Head Shaft		Boot Shaft	
	35 PCF		50 PCF		75 PCF		100 PCF		Pulley		Pulley	Shaft
	Terminal	Per Ft. Centers	Terminal	Per Ft. Centers	Terminal	Per Ft. Centers	Terminal	Per Ft. Centers	Dia.	RPM	Dia.	Dia.
151	.12	.007	.18	.010	.27	.014	.36	.019	20	43	16	1-15/16
152	.19	.013	.29	.018	.44	.027	.59	.036	20	43	14	1-15/16
153	.32	.015	.45	.021	.68	.031	.91	.041	24	41	18	1-15/16
154	.42	.022	.60	.031	.90	.046	1.20	.062	20	43	16	1-15/16
155	.60	.025	.85	.035	1.27	.053	1.69	.071	24	41	20	1-15/16
156	.66	.035	1.10	.050	1.63	.075	2.18	.099	24	41	20	1-15/16
157	1.11	.040	1.58	.058	2.37	.086	3.16	.115	30	38	24	2-3/16
158	.93	.042	1.31	.060	1.96	.090	2.61	.120	24	41	20	2-3/16
159	1.34	.049	1.92	.065	2.88	.109	3.84	.139	30	38	24	2-3/16
160	1.73	.072	2.48	.103	3.72	.154	4.98	.206	30	38	22	2-3/16

Note: Values based on buckets filled to 100% theoretical capacity

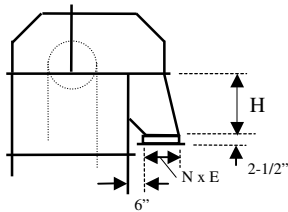


Model	A	B	C	D	E	F	G	H
151	17-1/2	30-1/2	19-1/2	15-1/8	11-3/4	35	1-1/2	27-1/4
152	19-1/2	32-1/2	21-1/2	17-1/8	13-3/4	39	1-1/2	29
153	21	36-1/4	24	18-1/8	13-3/4	42	2	30-1/4
154	21	36-1/4	24	20-1/8	15-3/4	42	2	30-1/4
155	24	40-5/8	27-1/2	20-1/8	15-3/4	48	2	33-1/4
156	24	40-5/8	27-1/2	22-1/8	17-3/4	48	2	33-1/4
157	27	45	31	22-1/8	17-3/4	54	2	35-3/4
158	24	40-5/8	27-1/2	24-1/8	19-3/4	48	2	33-1/4
159	27	45	31	24-1/8	19-3/4	54	2	35-3/4
160	27	45	31	27-1/8	22-3/4	54	2	35-3/4

Model	J	K	L	M ¹	N	S	Belt	Ply
151	2	7-3/4	14-1/2	24-1/2	10	6	7"	C
152	3	8-3/4	16-1/2	24-1/2	10	6	9"	O S
153	3	8-3/4	18	29-1/2	13	9	9"	N I
154	2	9-3/4	18	29-1/2	13	9	11"	S N
155	2	9-3/4	21	32	15	9	11"	U C
156	2	10-3/4	21	32	15	9	13"	L L
157	3	10-3/4	24	34-1/2	17	9	13"	T A
158	2	11-3/4	21	32	15	9	15"	I
159	3	11-3/4	24	34-1/2	17	9	15"	R
160	4	13-1/4	24	34-1/2	15	9	18"	

Model	Casing Size ²	Casing Thickness (Ga.)				Weight (-)	
		Hood	Head	Case	Boot	Term ³	Ctrs ⁴
151	11-3/4 x 35	14	12	12	10	868	52
152	13-3/4 x 39	14	12	12	10	855	65
153	13-3/4 x 42	14	12	12	10	1077	70
154	15-3/4 x 42	14	12	12	10	1090	75
155	15-3/4 x 48	14	12	12	10	1264	80
156	17-3/4 x 48	14	12	12	10	1390	86
157	17-3/4 x 54	14	12	12	10	1659	91
158	19-3/4 x 48	14	12	12	10	1503	90
159	19-3/4 x 54	14	12	12	10	1778	95
160	22-3/4 x 54	14	12	12	10	1991	106

- Notes:
1. "M" + 4" is the minimum height from material inlet point to bottom
 2. Dimensions are inside the casing enclosure
 3. Term = Weight of each terminal
 4. Ctrs. = Weight of casings, belt, and buckets, per foot of centers



Optional Style 2 Discharge

Other BWSI Products:

- Screw conveyors
- Screw feeders
- Belt conveyors
- Flex-wall conveyors
- Diverter valves
- Roller gate valves
- Hoppers & bins
- Engineered systems

Type 150 Elevators are recommended for the following products ...				Wt.
Material	Abrasion	Corrosion	Flowability	PCF
Coke	High	Low	Sluggish	35-45
Cottonseed	Low	Low	Sluggish	18-25
Flour	Low	Low	Sluggish	35-45
Fuller's earth	High	Low	Moderate	35-40
Glass batch	High	Low	Moderate	80-95
Gypsum	Moderate	Low	Sluggish	75-95
Phosphate	High	Low	Moderate	90-95
Sand, damp	High	Low	Sluggish	115
Sand, dry	High	Low	Moderate	100
Sand, foundry	High	Low	Sluggish	90
Slate	Moderate	Low	Moderate	80-85
Soybean flour	Low	Low	Moderate	25-30
Limestone	High	Low	Moderate	85-90
Soda ash	Moderate	Low	Moderate	55-65
Sugar	Low	Low	Moderate	50-55
Wood chips	Low	Low	Sluggish	10-30