Bucket Elevator Design Guide

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ELEVATOR CAPACITY SELECTION

CAPACITY BPH (*MTPH*)	PULLEY DIAMETER INCHES (*mm*)	BELT SPEED		BUCKET & SPACING INCHES (*mm*)
		FPM (*M/S*)	RPM	
500 (13)	10 *(254.0)*	314 *(1.59)*	109	6x4 *(152.4x101.6)* @ 12" *(304.8)*
750 (20)	10 *(254.0)*	314 *(1.59)*	109	6x4 *(152.4x101.6)* @ 6" *(152.4)*
1,000 *(27)*	16 *(406.4)*	414 *(2.10)*	93	9x6 *(228.6x152.4)* @ 20" *(508.0)*
2,000 *(54)*	16 *(406.4)*	414 *(2.10)*	93	9x6 *(228.6x152.4)* @ 10" *(254.0)*
3,000 *(81)*	16 *(406.4)*	414 *(2.10)*	93	9x6 *(228.6x152.4)* @ 7" *(177.8)*
	24 *(609.6)*	478 *(2.43)*	73	12x6 *(304.8x152.4)* @ 10" *(254.0)*
4,000 *(108)*	24 *(609.6)*	478 *(2.43)*	73	12x6 *(304.8x152.4)* @ 8" *(203.2)*
	30 *(762.0)*	544 *(2.76)*	67	12x6 *(304.8x152.4)* @ 9" *(228.6)*
5,000 *(136)*	30 *(762.0)*	544 *(2.76)*	67	12x6 *(304.8x152.4)* @ 7" *(177.8)*
	36 *(914.4)*	630 *(3.20)*	65	12x7 *(304.8x177.8)* @ 12" *(304.8)*
6,000 *(163)*	36 *(914.4)*	630 *(3.20)*	65	12x7 *(304.8x177.8)* @ 10" *(254.0)*
7,500 *(204)*	36 *(914.4)*	630 *(3.20)*	65	12x7 *(304.8x177.8)* @ 8" *(203.2)*
	36 *(914.4)*	630 *(3.20)*	65	16x7 *(406.4x177.8)* @ 11" *(266.7)*
10,000 (272)	36 *(914.4)*	630 *(3.20)*	65	16x7 *(406.4x177.8)* @ 8.5" *(215.9)*
	42 (*1066.8)*	642 *(3.26)*	57	16x8 *(406.4x203.2)* @ 11.5" *(292.1)*
12,000 *(326)*	42 *(1066.8)*	642 *(3.26)*	57	16x8 *(406.4x203.2)* @ 10" *(254.0)*
15,000 *(408)*	48 *(1219.2)*	718 *(3.65)*	56	20x8 *(508.0x203.2)* @ 10.5" *(266.7)*
20,000 *(544)*	48 *(1219.2)*	718 *(3.65)*	56	(2) 16x8 *(406.4x203.2)* @ 13" *(330.2)*
22,500 *(612)*	48 *(1219.2)*	718 *(3.65)*	56	(2) 16x8 *(406.4x203.2)* @ 12" *(304.8)*
25,000 *(680)*	48 *(1219.2)*	718 *(3.65)*	56	(2) 16x8 *(406.4x203.2)* @ 10.5" *(266.7)*
28,000 *(762)*	48 *(1219.2)*	718 *(3.65)*	56	(2) 16x8 *(406.4x203.2)* @ 9.5" *(241.3)*
30,000 *(816)*	48 *(1219.2)*	718 *(3.65)*	56	(2) 16x8 *(406.4x203.2)* @ 8.5" *(215.9)*

Bucket Elevator Design Specification Table

Pulley Diameter Inches *(mm)*	Bucket Size Inches *(mm)*	Trunking Size Inches *(mm)*	Standard Gauging					Urethane Lined Head Section and Discharge Hopper	Belting	
			Head		Trunking		Boot		PVC (Standard)	SOR (Optional)
			Housing	Hoods	Through 150'	Over 150'				
10 *(254.0)*	6x4 *(152.4x101.6)*	8.5x10 *(215.9x254.0)*	11	14	16	-	11	Optional	250 lb	330 lb
16 *(406.4)*	9x6 *(228.6x152.4)*	13x10 *(330.2x254.0)*	11	14	14	-	8	Optional	250 lb	330 lb
24 *(609.6)*	12x6 *(304.8x152.4)*	16x10 *(406.4x254.0)*	11	14	14	-	8	Optional	350 lb	440 lb
30 *(762.0)*	12x6 *(304.8x152.4)*	16x10 *(406.4x254.0)*	11	12	14	12	8	Optional	350 lb	440 lb
36 *(914.4)*	12x7 *(304.8x177.8)*	16x14 *(406.4x355.6)*	8	11	12	10	8	Standard	350 lb	440 lb
36 *(914.4)*	16x7 *(406.4x177.8)*	20x14 *(508.0x355.6)*	8	11	12	10	8	Standard	350 lb	440 lb
42 *(1066.8)*	16x8 *(406.4x203.2)*	20x14 (508.0x355.6)	8	11	12	10	8	Standard	450 lb	600 lb
42 *(1066.8)*	(2) 14x8 *(355.6x203.2)*	38x14 *(965.2x355.6)*	8	11	10	10	8	Standard	450 lb	600 lb
48 *(1219.2)*	20x8 *(508.0x203.2)*	28x14 *(711.2x355.6)*	8	8	10	10	8	Standard	450 lb	600 lb
48 *(1219.2)*	(2) 16x8 *(406.4x203.2)*	41x14 *(1041.4x355.6)*	8	8	10	10	8	Standard	450 lb	600 lb

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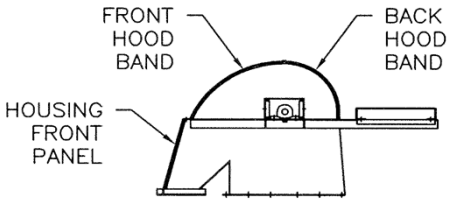
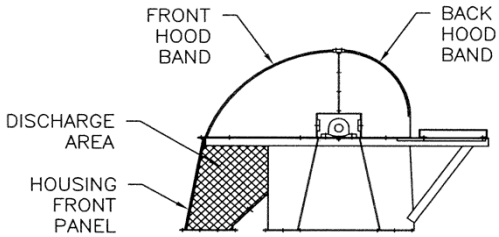
Bucket Elevator Platform Assembly Options

Elevator Head Liner Packages

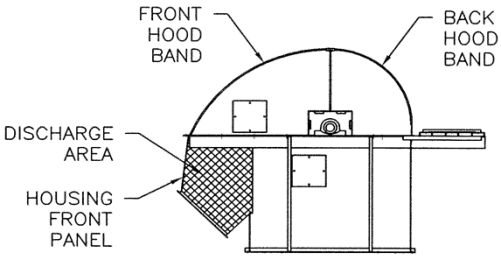


Optional Liner Package Available for Models: 10, 16, 24

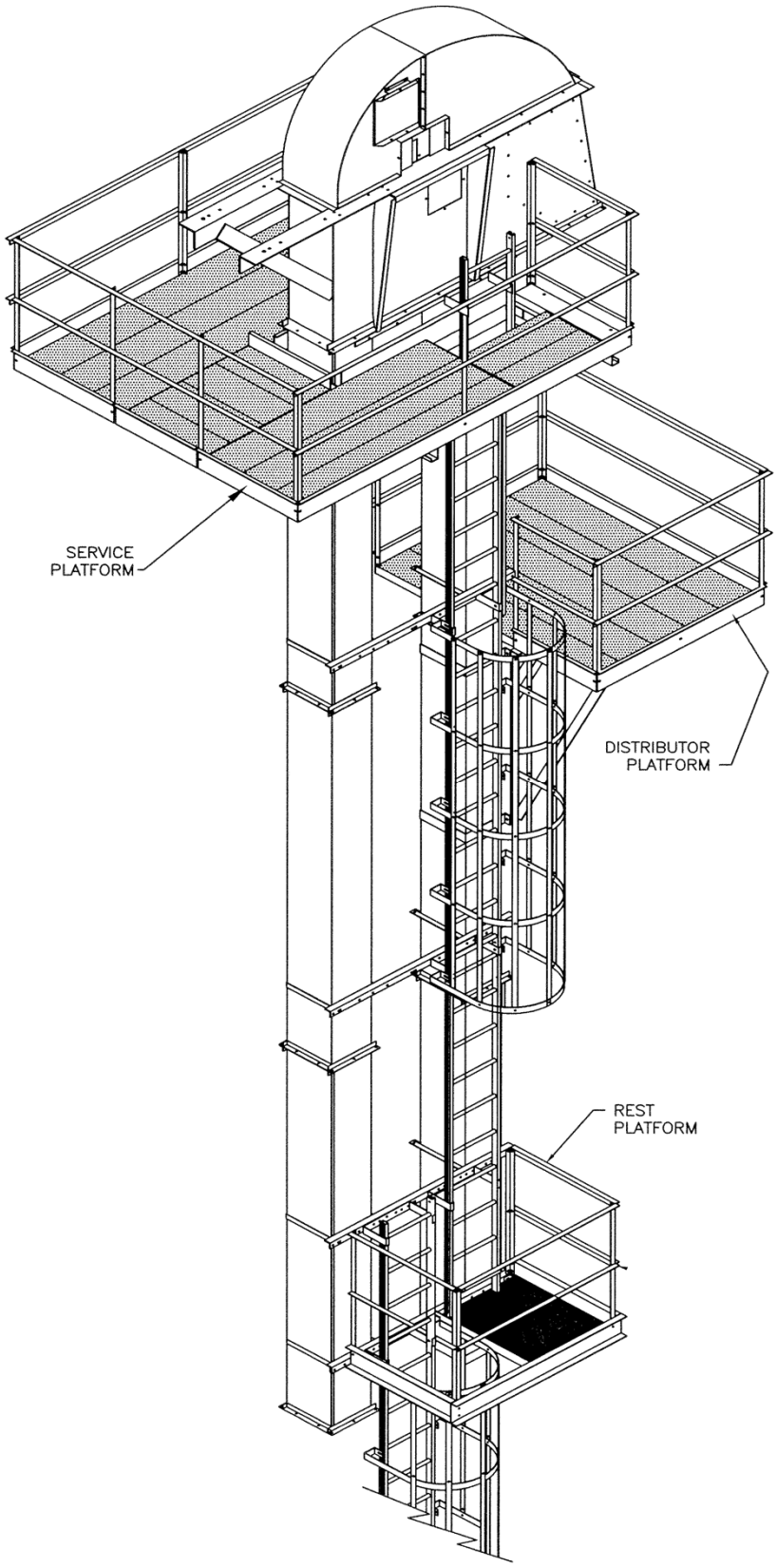


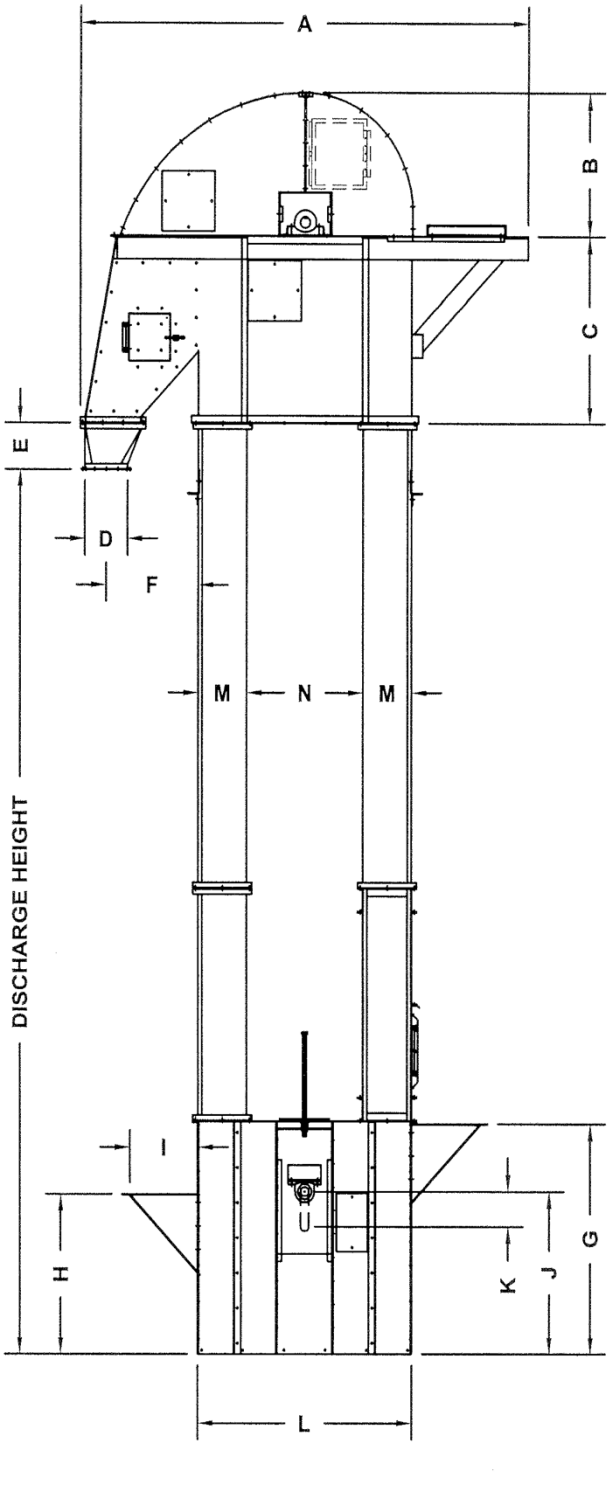
Optional Liner Package Available for Model: 30

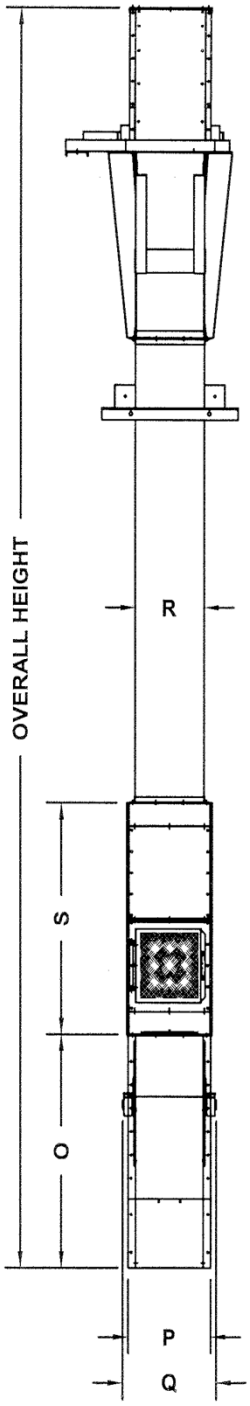
Standard Liner Package Supplied for Models: 36, 42



Standard Liner Package Supplied for Models: 48,54





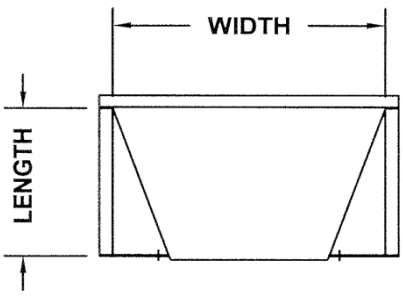


Standard Dimensions for Model CBE10

Pulley Diameter Inches *(mm)*	**10"** *(254.0)*	**10"** *(254.0)*
Capacity BPH *(MTPH)*	**500** *(12.7)*	**750** *(19.0)*
A	64 *(1625.6)*	64 *(1625.6)*
B	15 *(381.0)*	15 *(381.0)*
C	19 *(482.6)*	19 *(482.6)*
D	6" RD *(152.4)*	6" RD *(152.4)*
E	12 *(304.8)*	12 *(304.8)*
F	13 *(330.2)*	13 *(330.2)*
G	32 *(812.8)*	32 *(812.8)*
H	26 *(660.4)*	26 *(660.4)*
I	10 *(254.0)*	10 *(254.0)*
J	22 *(558.8)*	22 *(558.8)*
K	6 *(152.4)*	6 *(152.4)*
L	25 *(635.0)*	25 *(635.0)*
M	8.5 *(215.9)*	8.5 *(215.9)*
N	8 *(203.2)*	8 *(203.2)*
O	36 *(914.4)*	36 *(914.4)*
P	13 *(330.2)*	13 *(330.2)*
Q	17 *(431.8)*	17 *(431.8)*
R	10 *(254.0)*	10 *(254.0)*
S	60 *(1524.0)*	60 *(1524.0)*

Inlet Hopper Dimensions

Model	Trunking	Standard Inlet Width Inches	Standard Inlet Width *(mm)*	Standard Inlet Length Inches	Standard Inlet Length *(mm)*	Optional Flared Inlet Width Inches	Optional Flared Inlet Width *(mm)*	Optional Flared Inlet Length Inches	Optional Flared Inlet Length *(mm)*
10	8.5x10	10.00	*(254.0)*	10.00	*(254.0)*	16.00	*(406.4)*	12.00	*(304.8)*
16	13x10	13.00	*(330.2)*	13.00	*(330.2)*	25.00	*(635.0)*	16.00	*(406.4)*
24	16x10	16.00	*(406.4)*	18.00	*(457.2)*	30.00	*(762.0)*	18.00	*(457.2)*
30	16x10	16.00	*(406.4)*	18.00	*(457.2)*	30.00	*(762.0)*	18.00	*(457.2)*
36	16x14	16.00	*(406.4)*	18.00	*(457.2)*	30.00	*(762.0)*	18.00	*(457.2)*
36W	20x14	20.00	*(508.0)*	18.00	*(457.2)*	34.00	*(863.6)*	20.00	*(508.0)*
42	20x14	20.00	*(508.0)*	18.00	*(457.2)*	34.00	*(863.6)*	20.00	*(508.0)*



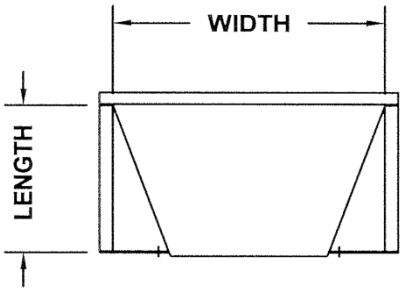
Standard Dimensions for Models CBE16-CBE42

Pulley Diameter Inches *(mm)*	**16"** *(406.4)*	**16"** *(406.4)*	**16"** *(406.4)*	**24"** *(609.6)*	**24"** *(609.6)*	**30"** *(762.0)*	**30"** *(762.0)*	**36"** *(914.4)*	**36"** *(914.4)*	**36"** *(914.4)*	**36W"** *(914.4)*	**36W"** *(914.4)*	**42"** *(1066.8)*	**42"** *(1066.8)*
Capacity BPH *(MTPH)*	**1,000** *(25.4)*	**2,000** *50.8*	**3,000** *76.2*	**3,000** *76.2*	**4,000** *101.6*	**4,000** *101.6*	**5,000** *127.0*	**5,000** *127.0*	**6,000** *152.4*	**7,500** *190.5*	**7,500** *190.5*	**10,000** *254.0*	**10,000** *254.0*	**12,000** *305.0*
A	76 *(1930.4)*	76 *(1930.4)*	76 *(1930.4)*	84 *(2133.6)*	84 *(2133.6)*	103 *(2616.2)*	103 *(2616.2)*	130 *(3302.0)*	130 *(3302.0)*	130 *(3302.0)*	130 *(3302.0)*	130 *(3302.0)*	142 *(3606.8)*	142 *(3606.8)*
B	22 *(558.8)*	22 *(558.8)*	22 *(558.8)*	26 *(660.4)*	26 *(660.4)*	32 *(812.8)*	32 *(812.8)*	37 *(939.8)*	37 *(939.8)*	37 *(939.8)*	37 *(939.8)*	37 *(939.8)*	42 *(1066.8)*	42 *(1066.8)*
C	22 *(558.8)*	22 *(558.8)*	22 *(558.8)*	22 *(558.8)*	22 *(558.8)*	34 *(863.6)*	34 *(863.6)*	48 *(1219.2)*	48 *(1219.2)*	48 *(1219.2)*	48 *(1219.2)*	48 *(1219.2)*	58 *(1473.2)*	58 *(1473.2)*
D	6"RD *(152.4)*	8"RD *(203.2)*	8"RD *(203.2)*	8"RD *(203.2)*	10"RD *(254.0)*	10"RD *(254.0)*	10"RD *(254.0)*	12"RD *(304.8)*	12"RD *(304.8)*	14"RD *(203.2)*	14"RD *(203.2)*	16"RD *(406.4)*	16"RD *(406.4)*	18"RD *(406.4)*
E	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*
F	17 *(431.8)*	16 *(406.4)*	16 *(406.4)*	16 *(406.4)*	15 *(381.0)*	23 *(584.2)*	23 *(584.2)*	27 *(685.8)*	27 *(685.8)*	29 *(736.6)*	29 *(736.6)*	25 *(635.0)*	31 *(787.4)*	31 *(787.4)*
G	39 *(990.6)*	39 *(990.6)*	39 *(990.6)*	44 *(1117.6)*	44 *(1117.6)*	55 *(1397.0)*	55 *(1397.0)*	59 *(1498.6)*	59 *(1498.6)*	59 *(1498.6)*	59 *(1498.6)*	59 *(1498.6)*	62 *(1574.8)*	62 *(1574.8)*
H	29 *(736.6)*	29 *(736.6)*	29 *(736.6)*	35 *(889.0)*	35 *(889.0)*	37 *(939.8)*	37 *(939.8)*	41 *(1041.4)*	41 *(1041.4)*	41 *(1041.4)*	41 *(1041.4)*	41 *(1041.4)*	44 *(1117.6)*	44 *(1117.6)*
I	13 *(330.2)*	13 *(330.2)*	13 *(330.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*
J	25 *(635.0)*	25 *(635.0)*	25 *(635.0)*	31 *(787.4)*	31 *(787.4)*	37 *(939.8)*	37 *(939.8)*	39 *(990.6)*	39 *(990.6)*	39 *(990.6)*	39 *(990.6)*	39 *(990.6)*	47 *(1193.8)*	47 *(1193.8)*
K	9 *(228.6)*	9 *(228.6)*	9 *(228.6)*	9 *(228.6)*	9 *(228.6)*	12 *(304.8)*	12 *(304.8)*	9 *(228.6)*	9 *(228.6)*	9 *(228.6)*	9 *(228.6)*	9 *(228.6)*	12 *(304.8)*	12 *(304.8)*
L	34 *(863.6)*	34 *(863.6)*	34 *(863.6)*	42 *(1066.8)*	42 *(1066.8)*	48 *(1219.2)*	48 *(1219.2)*	62 *(1574.8)*	62 *(1574.8)*	62 *(1574.8)*	62 *(1574.8)*	62 *(1574.8)*	68 *(1727.2)*	68 *(1727.2)*
M	10 *(254.0)*	10 *(254.0)*	10 *(254.0)*	10 *(254.0)*	10 *(254.0)*	10 *(254.0)*	10 *(254.0)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*
N	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	22 *(558.8)*	22 *(558.8)*	28 *(711.2)*	28 *(711.2)*	34 *(863.6)*	34 *(863.6)*	34 *(406.4)*	34 *(406.4)*	34 *(863.6)*	40 *(1016.0)*	40 *(1016.0)*
O	48 *(1219.2)*	48 *(1219.2)*	48 *(1219.2)*	48 *(1219.2)*	48 *(1219.2)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *10/14/2010*	60 *(1524.0)*	72 *(1828.8)*	72 *(1828.8)*
P	16 *(406.4)*	16 *(406.4)*	16 *(406.4)*	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	24 *(609.6)*	24 *(609.6)*	24 *(609.6)*	24 *(609.6)*
Q	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	23 *(584.2)*	23 *(584.2)*	23 *(584.2)*	23 *(584.2)*	23 *(584.2)*	23 *(584.2)*	23 *(584.2)*	28 *(711.2)*	28 *(711.2)*	28 *(711.2)*	28 *(711.2)*
R	13 *(330.2)*	13 *(330.2)*	13 *(330.2)*	16 *(406.4)*	16 *(406.4)*	16 *(406.4)*	16 *(406.4)*	16 *(406.4)*	16	16	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*	20 *(508.0)*
S	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*

Standard Dimensions for Models CBE48

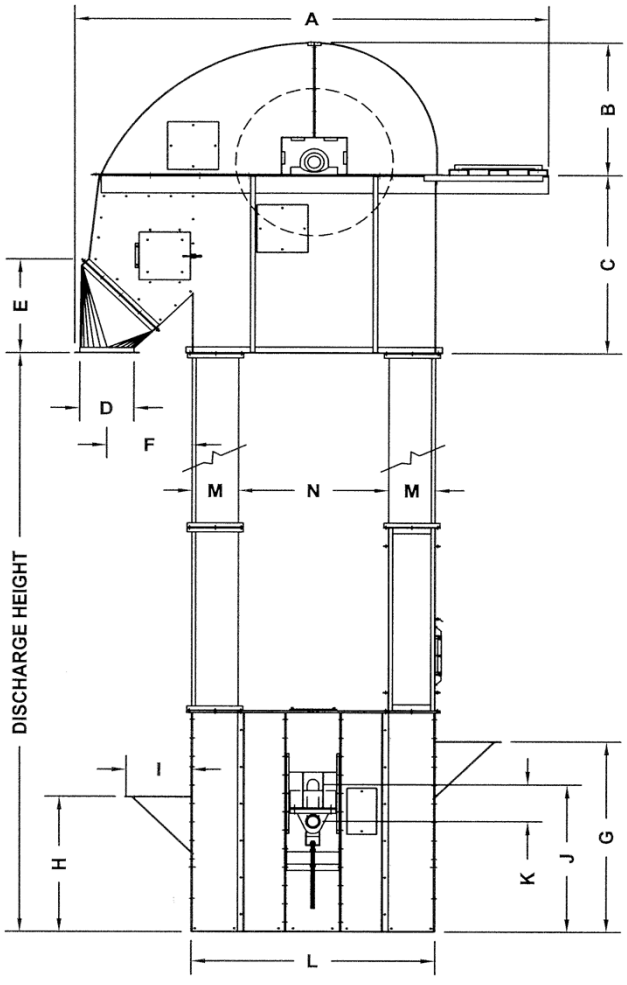
Pulley Diameter Inches *(mm)*	48" *(1219.2)*	48" *(1219.2)*	48" *(1219.2)*	48" *(1219.2)*	48" *(1219.2)*
Capacity BPH *(MTPH)*	**15,000** *380*	**20,000** *508*	**22,500** *571*	**25,000** *635*	**30,000** *816*
A	141 *(3581.4)*	141 *(3581.4)*	141 *(3581.4)*	141 *(3581.4)*	141 *(3581.4)*
B	44 *(1117.6)*	44 *(1117.6)*	44 *(1117.6)*	44 *(1117.6)*	44 *(1117.6)*
C	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*	60 *(1524.0)*
D	20"RD *(508.0)*	22"RD *(558.8)*	24"SQ *(609.6)*	24"SQ *(609.6)*	24"SQ *(609.6)*
E	30.5 *(774.7)*	30.5 *(774.7)*	30.5 *(774.7)*	30.5 *(774.7)*	30.5 *(774.7)*
F	27 *(685.8)*	25 *(635.0)*	24 *(609.6)*	24 *(609.6)*	24 *(609.6)*
G	62 *(1574.8)*	62 *(1574.8)*	62 *(1574.8)*	62 *(1574.8)*	62 *(1574.8)*
H	44 *(1117.6)*	44 *(1117.6)*	44 *(1117.6)*	44 *(1117.6)*	44 *(1117.6)*
I	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*	18 *(457.2)*
J	47 *(1193.8)*	47 *(1193.8)*	47 *(1193.8)*	47 *(1193.8)*	47 *(1193.8)*
K	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*	12 *(304.8)*
L	74 *(1879.6)*	74 *(1879.6)*	74 *(1879.6)*	74 *(1879.6)*	74 *(1879.6)*
M	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*	14 *(355.6)*
N	46 *(1168.4)*	46 *(1168.4)*	46 *(1168.4)*	46 *(1168.4)*	46 *(1168.4)*
O	72 *(1828.8)*	72 *(1828.8)*	72 *(1828.8)*	72 *(1828.8)*	72 *(1828.8)*
P	32 *(812.8)*	42 *(1066.8)*	42 *(1066.8)*	42 *(1066.8)*	42 *(1066.8)*
Q	41 *(1041.4)*	52 *(1320.8)*	52 *(1320.8)*	52 *(1320.8)*	52 *(1320.8)*
R	28 *(711.2)*	41 *(1041.4)*	41 *(1041.4)*	41 *(1041.4)*	41 *(1041.4)*
S	60 *(1524.0)*	120 *(3048.0)*	120 *(3048.0)*	120 *(3048.0)*	120 *(3048.0)*

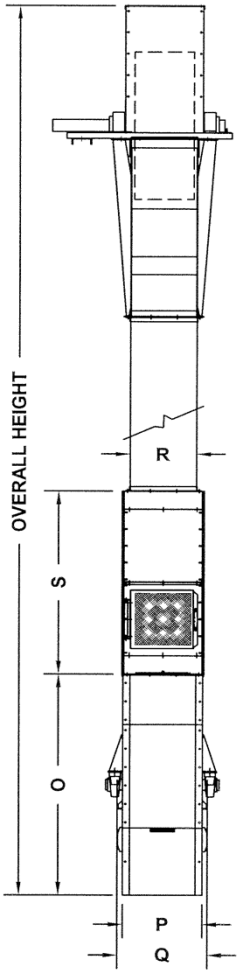
Inlet Hopper Dimensions



Standard Inlet				
Model and Trunking	Width		Length	
	Inches	*(mm)*	Inches	*(mm)*
48 28x14	27	*(685.8)*	18	*(457.2)*
48 41x14	38	*(965.2)*	18	*(457.2)*

Optional Flared Inlet				
Model and Trunking	Width		Length	
	Inches	*(mm)*	Inches	*(mm)*
48 28x14	Consult Factory			
48 41x14				





Bucket Elevator Design Specifications

Head Section

See Specification Table (page 2) for standard gauging. Urethane lined head sections are optional in models up through CBE30. Liners are standard for models CBE36 and larger. Head pulleys are crowned with vulcanized rubber lagging in all models except CBE48 and larger, which standardly have slide lagging. Slide lagging is an available option in all models. Ball bearing pillow blocks are standard on bearing sizes through 2.938. Roller bearings are supplied on bucket elevators that require 3.438 diameter and larger bearings. A hinged inspection door is provided in the discharge area. Inspection openings are also located on each side of the head housing in the pulley area to provide access to the lagging. An Explosion Relief Vent is located in the side of the back hood opposite the projection of the head shaft.

Boot Section

See Specification Table (page 2) for standard gauging. Standard boot pulleys are heavy duty drum style with split taper hubs and crown faced. Self-cleaning wing pulleys are optional. Pillow block bearings are standard with threaded rod take-up screws to adjust belt tension. Boot shafts for CBE30 and larger models are drilled and tapped for a speed monitor. There is an inspection opening located on top of the boot between the leg sections. There is also an inspection opening located on each side of the boot which provides access to the pulley bushings. Clean-out sections are standard on each end of the boot. Curved bottom boots and Gravity take-up boots are available (consult factory for pricing).

Leg Trunking Sections

See Specification Table (page 2) for standard gauging. Bolt-together construction is standard. See Specification Table for applications requiring heavier gauge leg sections. Spacer angles are provided at each leg flange connection to assure the trunking remains straight and square. Leg flanges are continuously welded to the trunking providing a dust tight and water tight seal. Flanges are welded to the trunking in a fixture that insures that the flanges are square to each other, exact and consistent length dimensions are maintained and that after welding, leg trunking is true within minutes of 1 degree.

Explosion Venting in Leg trunking

Explosion venting in the leg trunking is required in many applications. Explosion venting should not be located in boot pits or enclosed areas. If required, explosion vents are supplied on 20' centers in both the up leg and down leg trunking, with an opening area that complies with NFPA guidelines. The local fire marshall should be consulted to verify whether or not explosion vented trunking is required for the application.

Inspection Section

Inspection sections are heavy duty welded frame construction with removable front and back panels for belt and bucket maintenance. A hinged inspection door is also provided for viewing the fill of the buckets. For elevators with 28x14 leg trunking and smaller, inspection sections are 5'. Elevators with 38x14 trunking and larger are provided with a 10' inspection section.

Bucket Elevator Design Specifications (continued)

Discharge and Inlet Hoppers

Urethane lined discharge hoppers are optional in models up through CBE30. Liners are standard for models CBE36 and larger. One standard boot inlet is included, however additional inlets may be used. Flared boot inlets are optional. Lined inlets are available also.

Buckets and Belting

Polyethylene buckets are non-vented unless specified. Optional #3 vented buckets are available. Steel, stainless steel, urethane, nylon, or digger buckets are also available. PVC belting is standard with SOR (Superior Oil Resistance) rubber coated belting optional. Specialty belts can be provided. See Specification Table for PIW requirements.

Safety Devices

In addition to explosion vented trunking, boot shaft speed monitors and belt alignment detection devices are often required. These can be supplied with the Chief bucket elevator. The speed monitor is attached using the pre-drilled and tapped hole in the end of the boot shaft. Belt alignment detectors are the rub bar type. Four are mounted in the head and boot, two on each side to monitor the up leg and down leg side of the belt. Readouts and alarms are typically supplied by others.

Ladder, Safety Cage and Platforms

Ladder, safety cage and reststop platform packages are available for all models and discharge heights of bucket elevators. Ladder packages are shipped with enough ladder to reach from the head service platform to grade, with a ladder access door that can be padlocked to prevent access. Head service platforms and distributor platforms are available to assist in serving the equipment. Ladder packages and platforms are designed to comply with OSHA safety standards.

Distributor and Distributor Controls

A wide variety of distributors can be supplied with the bucket elevator. The many options are, painted or galvanized, flatback or full round, 45 degree or 60 degree. In addition there are several spout diameters and and outlet quantities available. Distributor controls can be supplied as wire rope or pipe. If electric controls are desired, please consult the factory.

Guy Cable Packages

Guy cable packages are available to support bucket elevators not supported in a tower. Guy cable packages are specific to the elevator size and discharge height. Guy cables are attached to the elevator at the four outside corners of the bucket elevator and run at a 45 degree angle to deadman anchors at ground level. Deadman design and construction is the responsibility of the contractor or owner.

Technical Information

D.H. (Discharge Height)

D.H. is an abbreviation for Discharge Height. D.H. is used in horsepower calculations and for pricing. Elevators are priced in 5 ft. increments but can be purchased in 1 ft. increments. When pricing heights between the ones shown, always price the next tallest 5 ft. increment.

Capacity

Capacities in this design guide are based on #2 or better, clean, whole grains.

Buckets and Belting

For CC style buckets the minimum bucket spacing is bucket projection + 2". Low profile buckets are provided when the required bucket spacing is less than bucket projection + 2". Low profile buckets can be spaced as tightly as bucket projection - 1". Belt speeds are based on the bucket manufacturers optimum recommendation. For delicate or light products belt speeds and/or bucket venting will be modified for optimum performance.

Drives

The standard drive shipped with a Chief elevator is a Dodge shaft mount reducer with a final V-belt drive. Drives are available as Class I, II or III. The hours of service determines which class of drives is required. Class I is for seasonal use up to 10 hours per day. Class II is over 10 hours of daily use and Class III is for continuous running and extreme environments. Class I drives have a V-belt safety factor of 1.3, Class II and III drives have a V-belt safety factor of 2.0. Elevator heads can be assembled to accommodate either a left-hand or right-hand drive arrangement. The standard on Chief equipment is left-hand. If right-hand is required, it needs to be specified when the order is placed. The drive orientation is determined by standing behind the head and looking in the direction of grain discharge. A right-angle or parallel enclosed drive is available. Please consult factory for applications.

Motors

TEFC motors are standardly supplied. Explosion proof motors are available for enclosed areas or hazardous locations.

Horsepower

Discharge height, product density, and how the elevator is being fed can affect horsepower. The horsepowers calculated in this Pricing Guide are based on bulk density of 48 lb./ft.^{3} (768.96 kg./m^3).

$$\textbf{HP} = \frac{\textbf{Capacity (BPH) X (Discharge Height + 10')}}{\textbf{30,938}} \quad \textbf{X 1.15 (Drive Safety Factor)}$$

Example: Capacity = 10,000 BPH

Elevator Discharge Height = 110 ft.

$$\text{HP} = \frac{10{,}000 \text{ X } (110 + 10)}{30{,}938} \text{ X } 1.15 = 44.61$$

Motor HP 50.00

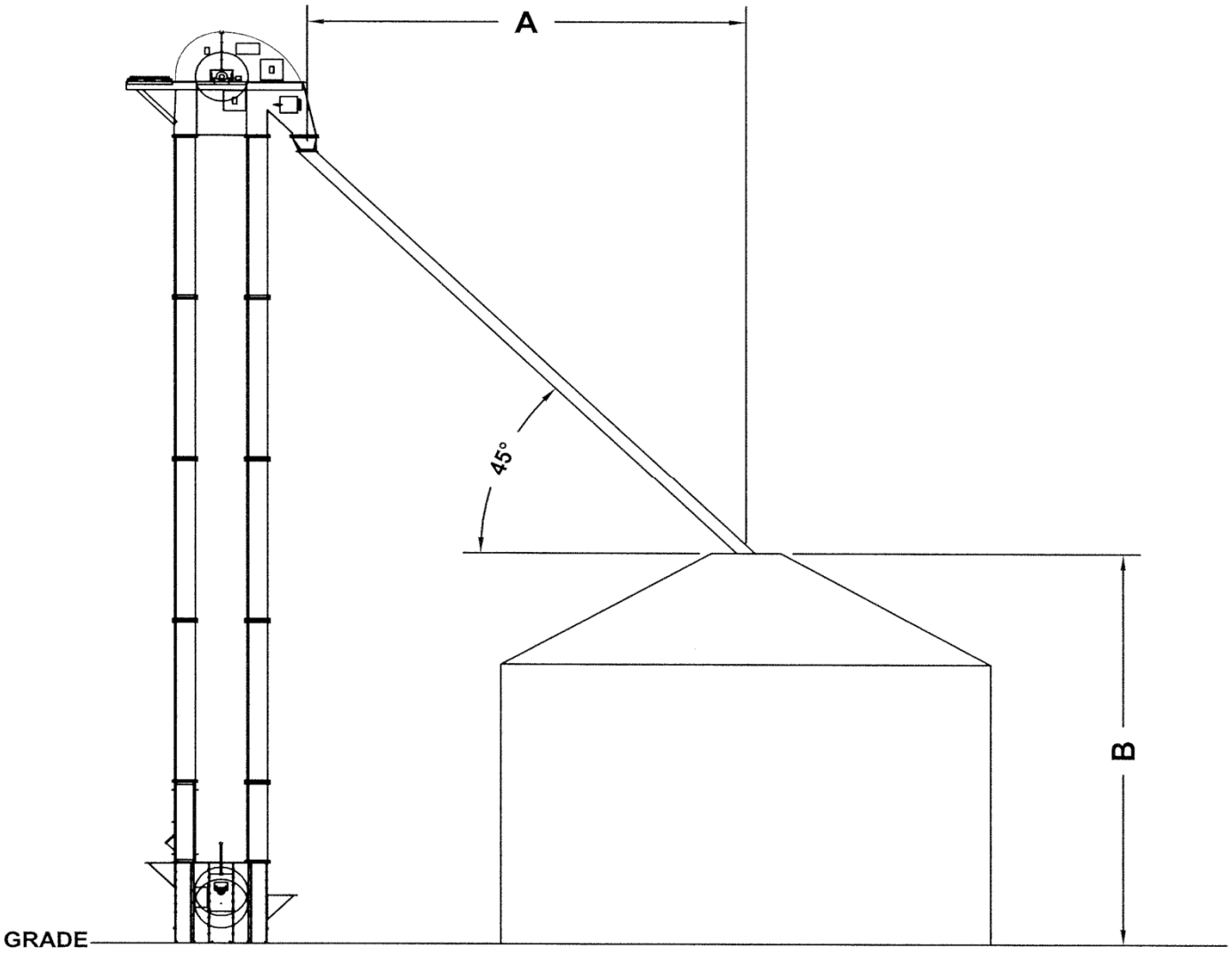
Note: 30,938 would have a value of 33,000 for 45 lb./ft.^{3} (56 lb./bu.) grain.

To adjust horsepower for material other than 48 lb./ft.^{3} multiply the 44.61 HP obtained above by a ratio of the actual material weight in lb./ft.^{3} / 48 lb./ft.^{3}

If the material were rice at 35 lb./ft.^{3} the HP could be adjusted as follows. 44.61 X (35 / 48) = 32.52

Motor HP 40.00

Estimating Discharge Height



"A" + **"B"** is the discharge height (DH) required for spouting at **45** degrees.

The boot pit depth will need to be added if the boot is below grade.

Add additional height for valves, distributors and other spouting accessories as required.

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ROUND SPOUTING CAPACITY

Diameter		Area of Opening		BPH	*MTPH*	Cubic Feet per Hour (CFH)
Inches	*mm*	Inch^2	*cm^2*			
6	*152.4*	28.3	*182.6*	1,500	*41*	1,875
8	*203.2*	50.3	*324.5*	3,500	*95*	4,375
10	*254.0*	78.5	*506.5*	5,500	*149*	6,875
12	*304.8*	113.1	*729.8*	8,000	*217*	10,000
14	*355.6*	154.0	*993.5*	10,500	*284*	13,125
16	*406.4*	201.1	*1,297.4*	14,000	*379*	17,500
18	*457.2*	254.5	*1,641.9*	18,000	*488*	22,500
20	*508.0*	314.2	*2,027.1*	22,000	*596*	27,500
22	*558.8*	380.1	*2,452.3*	27,000	*731*	33,750
24	*609.6*	452.3	*2,918.1*	32,000	*867*	40,000
26	*660.4*	530.9	*3,425.2*	37,000	*1,002*	46,250
28	*711.2*	615.7	*3,972.3*	43,000	*1,165*	53,750
30	*762.0*	706.8	*4,560.0*	49,000	*1,327*	61,250

Round spouting theoretical capacity based on spout volume in square inches.

SQUARE SPOUTING CAPACITY

Size (Square)		Area of Opening		BPH	*MTPH*	Cubic Feet per Hour (CFH)
Inches	*mm*	Inch^2	*cm^2*			
6	*152.4*	36.0	*232.3*	2,200	*60*	2,750
8	*203.2*	64.0	*412.9*	4,400	*119*	5,500
10	*254.0*	100.0	*645.2*	7,000	*190*	8,750
12	*304.8*	144.0	*929.0*	10,000	*271*	12,500
14	*355.6*	196.0	*1,264.5*	13,500	*366*	16,875
16	*406.4*	256.0	*1,651.6*	17,500	*474*	21,875
18	*457.2*	324.0	*2,090.3*	22,500	*610*	28,125
20	*508.0*	400.0	*2,580.6*	28,000	*759*	35,000
22	*558.8*	484.0	*3,122.6*	33,500	*908*	41,875
24	*609.6*	576.0	*3,716.1*	40,000	*1,084*	50,000
30	*762.0*	900.0	*5,806.4*	63,000	*1,707*	78,750
36	*914.4*	1296.0	*8,361.3*	90,000	*2,438*	112,500

Square spouting theoretical capacity based on spout volume in square inches.

DOWN SPOUT INFORMATION

Material	Spout Angle	Slope Equivalent
DDGS	60	1.75 : 1
FEED (OILY)	60	1.75 : 1
FERTILIZERS (DRY)	45	1 : 1
GRAIN WHOLE (DRY)	35	7 : 10
GRAIN WHOLE (WET)	45	1 : 1
GRAIN ROLLED	45	1 : 1
GRAIN CRACKED	45	1 : 1
MEALS	60	1.75 : 1
MEAT SCRAPS	60	1.75 : 1
PELLETS	45	1 : 1

Feed (Oily) refers to feed which contains other ingredients such as: molasses, oils, meat scraps, etc.

GRAIN VELOCITIES IN SPOUTS

Spout Length Feet *(M)*	**Spout Angle (Degrees)**									
	35 FPM *(M/S)*	**40** FPM *(M/S)*	**45** FPM *(M/S)*	**50** FPM *(M/S)*	**55** FPM *(M/S)*	**60** FPM *(M/S)*	**65** FPM *(M/S)*	**70** FPM *(M/S)*	**80** FPM *(M/S)*	**90** FPM *(M/S)*
5 *(1.5)*	400 *(2)*	524 *(2.7)*	618 *(3.1)*	700 *(3.6)*	770 *(3.9)*	830 *(4.2)*	885 *(4.5)*	935 *(4.7)*	1010 *(5.1)*	1075 *(5.5)*
10 *(3.0)*	570 *(2.9)*	742 *(3.8)*	875 *(4.4)*	990 *(5)*	1090 *(5.5)*	1180 *(6)*	1255 *(6.4)*	1320 *(6.7)*	1435 *(7.3)*	1520 *(7.7)*
15 *(4.6)*	696 *(3.5)*	908 *(4.6)*	1070 *(5.4)*	1210 *(6.1)*	1335 *(6.8)*	1440 *(7.3)*	1530 *(7.8)*	1615 *(8.2)*	1755 *(8.9)*	1860 *(9.4)*
20 *(6.1)*	805 *(4.1)*	1047 *(5.3)*	1235 *(6.3)*	1400 *(7.1)*	1540 *(7.8)*	1665 *(8.5)*	1770 *(9)*	1870 *(9.5)*	2025 *(10.3)*	2150 *(10.9)*
25 *(7.6)*	899 *(4.6)*	1170 *(5.9)*	1380 *(7)*	1560 *(7.9)*	1725 *(8.8)*	1860 *(9.4)*	1975 *(10)*	2085 *(10.6)*	2265 *(11.5)*	2400 *(12.2)*
30 *(9.1)*	985 *(5)*	1280 *(6.5)*	1510 *(7.7)*	1710 *(8.7)*	1890 *(9.6)*	2040 *(10.4)*	2165 *(11)*	2285 *(11.6)*	2480 *(12.6)*	2635 *(13.4)*
40 *(12.2)*	1135 *(5.8)*	1480 *(7.5)*	1750 *(8.9)*	1975 *(10)*	2180 *(11.1)*	2355 *(12)*	2500 *(12.7)*	2640 *(13.4)*	2865 *(14.6)*	3040 *(15.4)*
50 *(15.2)*	1270 *(6.5)*	1655 *(8.4)*	1950 *(9.9)*	2210 *(11.2)*	2440 *(12.4)*	2635 *(13.4)*	2800 *(14.2)*	2955 *(15)*	3210 *(16.3)*	3400 *(17.3)*
60 *(18.3)*	1390 *(7.1)*	1810 *(9.2)*	2140 *(10.9)*	2420 *(12.3)*	2670 *(13.6)*	2880 *(14.6)*	3065 *(15.6)*	3240 *(16.5)*	3520 *(17.9)*	3720 *(18.9)*
70 *(21.3)*	1500 *(7.6)*	1960 *(10)*	2310 *(11.7)*	2615 *(13.3)*	2880 *(14.6)*	3110 *(15.8)*	3315 *(16.8)*	3500 *(17.8)*	3800 *(19.3)*	4025 *(20.4)*
80 *(24.4)*	1605 *(8.2)*	2090 *(10.6)*	2470 *(12.5)*	2795 *(14.2)*	3080 *(15.6)*	3330 *(16.9)*	3540 *(18)*	3740 *(19)*	4055 *(20.6)*	4295 *(21.8)*
90 *(27.4)*	1705 *(8.7)*	2220 *(11.3)*	2620 *(13.3)*	2960 *(15)*	3275 *(16.6)*	3535 *(18)*	3760 *(19.1)*	3965 *(20.1)*	4310 *(21.9)*	4555 *(23.1)*
100 *(30.5)*	1795 *(9.1)*	2340 *(11.9)*	2765 *(14)*	3120 *(15.8)*	3450 *(17.5)*	3720 *(18.9)*	3960 *(20.1)*	4180 *(21.2)*	4540 *(23.1)*	4800 *(24.4)*
125 *(38.1)*	2005 *(10.2)*	2620 *(13.3)*	3090 *(15.7)*	3500 *(17.8)*	3860 *(19.6)*	4165 *(21.2)*	4440 *(22.6)*	4680 *(23.8)*	5080 *(25.8)*	5370 *(27.3)*
150 *(45.7)*	2200 *(11.2)*	2865 *(14.6)*	3390 *(17.2)*	3835 *(19.5)*	4225 *(21.5)*	4560 *(23.2)*	4850 *(24.6)*	5120 *(26)*	5560 *(28.2)*	5880 *(29.9)*

Approximate velocities based on whole grain with 28 degree angle of repose flowing freely in metal spout.

Chief 500 BPH (13 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**10" *(254.0)* Pulley Diameter** **314 FPM *(1.59 M/S)* 109 RPM** **6x4 *(152.4x101.6)* @ 9" *(228.6)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
20 *(6.1)*	1	1.438	250
25 *(7.6)*	1	1.438	250
30 *(9.1)*	1	1.438	250
35 *(10.7)*	1	1.438	250
40 *(12.2)*	1	1.438	250
45 *(13.7)*	1.5	1.438	250
50 *(15.2)*	1.5	1.438	250
55 *(16.8)*	1.5	1.438	250
60 *(18.3)*	1.5	1.438	250
65 *(19.8)*	1.5	1.438	250
70 *(21.3)*	1.5	1.438	250
75 *(22.9)*	2	1.438	250
80 *(24.4)*	2	1.438	250

Chief 750 BPH (20 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**10" *(254.0)* Pulley Diameter** **314 FPM *(1.59 M/S)* 109 RPM** **6x4 *(152.4x101.6)* @ 6" *(152.4)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
20 *(6.1)*	1	1.438	250
25 *(7.6)*	1	1.438	250
30 *(9.1)*	1.5	1.438	250
35 *(10.7)*	1.5	1.438	250
40 *(12.2)*	1.5	1.438	250
45 *(13.7)*	2	1.438	250
50 *(15.2)*	2	1.438	250
55 *(16.8)*	2	1.438	250
60 *(18.3)*	2	1.438	250
65 *(19.8)*	3	1.438	250
70 *(21.3)*	3	1.438	250
75 *(22.9)*	3	1.438	250
80 *(24.4)*	3	1.438	250

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

Chief 1,000 BPH (27 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**16" *(406.4)* Pulley Diameter** **414 FPM *(2.10 M/S)* 93 RPM** **9x6 *(228.6x152.4)* @ 20" *(508.0)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
20 (6.1)	3	2.188	250
25 (7.6)	3	2.188	250
30 (9.1)	3	2.188	250
35 (10.7)	3	2.188	250
40 *(12.2)*	3	2.188	250
45 *(13.7)*	3	2.188	250
50 *(15.2)*	3	2.188	250
55 *(16.8)*	3	2.188	250
60 *(18.3)*	3	2.188	250
65 *(19.8)*	3	2.188	250
70 *(21.3)*	3	2.188	250
75 *(22.9)*	5	2.188	250
80 *(24.4)*	5	2.188	250
85 *(25.9)*	5	2.188	250
90 *(27.4)*	5	2.188	250
95 *(29.0)*	5	2.188	250
100 *(30.5)*	5	2.188	250
105 *(32.0)*	5	2.188	250
110 *(33.5)*	5	2.188	250
115 *(35.1)*	5	2.188	250
120 *(36.6)*	5	2.188	250

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 2,000 BPH (54 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**16" *(406.4)* Pulley Diameter** **414 FPM *(2.10 M/S)* 93 RPM** **9x6 *(228.6x152.4)* @ 10" *(254.0)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
20 *(6.1)*	3	2.188	250
25 *(7.6)*	3	2.188	250
30 *(9.1)*	3	2.188	250
35 *(10.7)*	5	2.188	250
40 *(12.2)*	5	2.188	250
45 *(13.7)*	5	2.188	250
50 *(15.2)*	5	2.188	250
55 *(16.8)*	5	2.188	250
60 *(18.3)*	7.5	2.188	250
65 *(19.8)*	7.5	2.188	250
70 *(21.3)*	7.5	2.188	250
75 *(22.9)*	7.5	2.188	250
80 *(24.4)*	7.5	2.188	250
85 *(25.9)*	7.5	2.188	250
90 *(27.4)*	7.5	2.188	250
95 *(29.0)*	10	2.188	250
100 *(30.5)*	10	2.188	250
105 *(32.0)*	10	2.188	250
110 *(33.5)*	10	2.188	250
115 *(35.1)*	10	2.188	250
120 *(36.6)*	10	2.188	250

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 3,000 BPH (81 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**16" *(406.4)* Pulley Diameter** **414 FPM *(2.10 M/S)* 93 RPM** **9x6 *(228.6x152.4)* @ 7" *(177.8)***			**24" *(609.6)* Pulley Diameter** **478 FPM *(2.43 M/S)* 73 RPM** **12x6 *(304.8x152.4)* @ 10" *(254.0)***		
	Corn, Wheat and Soybeans			*Corn, Wheat and Soybeans*		
	HP	Bearing	Belt PIW	HP	Bearing	Belt PIW
20 (6.1)	5	2.188	250	5	2.438	350
25 (7.6)	5	2.188	250	5	2.438	350
30 (9.1)	5	2.188	250	5	2.438	350
35 (10.7)	7.5	2.188	250	7.5	2.438	350
40 *(12.2)*	7.5	2.188	250	7.5	2.438	350
45 *(13.7)*	7.5	2.188	250	7.5	2.438	350
50 *(15.2)*	7.5	2.188	250	7.5	2.438	350
55 *(16.8)*	7.5	2.188	250	7.5	2.438	350
60 *(18.3)*	10	2.188	250	10	2.438	350
65 *(19.8)*	10	2.188	250	10	2.438	350
70 *(21.3)*	10	2.188	250	10	2.438	350
75 *(22.9)*	10	2.188	250	10	2.438	350
80 *(24.4)*	15	2.438	250	15	2.438	350
85 *(25.9)*	15	2.438	250	15	2.438	350
90 *(27.4)*	15	2.438	250	15	2.438	350
95 *(29.0)*	15	2.438	250	15	2.438	350
100 *(30.5)*	15	2.438	250	15	2.438	350
105 *(32.0)*	15	2.438	250	15	2.438	350
110 *(33.5)*	15	2.438	250	15	2.438	350
115 *(35.1)*	15	2.438	250	15	2.438	350
120 *(36.6)*	15	2.438	250	15	2.438	350
125 *(38.1)*				20	2.938	350
130 *(39.6)*				20	2.938	350
135 *(41.1)*				20	2.938	350
140 *(42.7)*				20	2.938	350
145 *(44.2)*				20	2.938	350
150 *(45.7)*				20	2.938	350

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 4,000 BPH (108 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**24" *(609.6)* Pulley Diameter** **478 FPM *(2.43 M/S)* 73 RPM** **12x6 *(304.8x152.4)* @ 10" *(203.2)***			**30" *(762.0)* Pulley Diameter** **544 FPM *(2.76 M/S)* 67 RPM** **12x6 *(304.8x152.4)* @ 9" *(228.6)***		
	Corn, Wheat and Soybeans			*Corn, Wheat and Soybeans*		
	HP	Bearing	Belt PIW	HP	Bearing	Belt PIW
40 *(12.2)*	10	2.438	350	10	2.438	350
45 *(13.7)*	10	2.438	350	10	2.438	350
50 *(15.2)*	10	2.438	350	10	2.438	350
55 *(16.8)*	10	2.438	350	10	2.438	350
60 *(18.3)*	15	2.438	350	15	2.438	350
65 *(19.8)*	15	2.438	350	15	2.438	350
70 *(21.3)*	15	2.438	350	15	2.938	350
75 *(22.9)*	15	2.438	350	15	2.938	350
80 *(24.4)*	15	2.438	350	15	2.938	350
85 *(25.9)*	15	2.438	350	15	2.938	350
90 *(27.4)*	15	2.438	350	15	2.938	350
95 *(29.0)*	20	2.938	350	20	2.938	350
100 *(30.5)*	20	2.938	350	20	2.938	350
105 *(32.0)*	20	2.938	350	20	2.938	350
110 *(33.5)*	20	2.938	350	20	2.938	350
115 *(35.1)*	20	2.938	350	20	2.938	350
120 *(36.6)*	20	2.938	350	20	2.938	350
125 *(38.1)*	25	2.938	350	25	2.938	350
130 *(39.6)*	25	2.938	350	25	2.938	350
135 *(41.1)*	25	2.938	350	25	2.938	350
140 *(42.7)*	25	2.938	350	25	2.938	350
145 *(44.2)*	25	2.938	350	25	2.938	350
150 *(45.7)*	25	2.938	350	25	2.938	350
155 *(47.2)*				25	2.938	350
160 *(48.8)*				30	3.438	350
165 *(50.3)*				30	3.438	350
170 *(51.8)*				30	3.438	350
175 *(53.3)*				30	3.438	350
180 *(54.9)*				30	3.438	350

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 5,000 BPH (136 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**30" *(762.0)* Pulley Diameter** **544 FPM *(2.76 M/S)* 67 RPM** **12x6 *(304.8x152.4)* @ 7" *(177.8)***			**36" *(914.4)* Pulley Diameter** **630 FPM *(3.20 M/S)* 65 RPM** **12x7 *(304.8x177.8)* @ 12" *(304.8)***		
	Corn, Wheat and Soybeans			*Corn, Wheat and Soybeans*		
	HP	Bearing	Belt PIW	HP	Bearing	Belt PIW
40 *(12.2)*	15	2.438	350	15	2.938	350
45 *(13.7)*	15	2.438	350	15	2.938	350
50 *(15.2)*	15	2.438	350	15	2.938	350
55 *(16.8)*	15	2.938	350	15	2.938	350
60 *(18.3)*	15	2.938	350	15	2.938	350
65 *(19.8)*	15	2.938	350	15	2.938	350
70 *(21.3)*	15	2.938	350	15	2.938	350
75 *(22.9)*	20	2.938	350	20	2.938	350
80 *(24.4)*	20	2.938	350	20	2.938	350
85 *(25.9)*	20	2.938	350	20	2.938	350
90 *(27.4)*	20	2.938	350	20	2.938	350
95 *(29.0)*	20	2.938	350	20	2.938	350
100 *(30.5)*	25	2.938	350	25	2.938	350
105 *(32.0)*	25	2.938	350	25	2.938	350
110 *(33.5)*	25	2.938	350	25	3.438	350
115 *(35.1)*	25	2.938	350	25	3.438	350
120 *(36.6)*	25	2.938	350	25	3.438	350
125 *(38.1)*	30	3.438	350	30	3.438	350
130 *(39.6)*	30	3.438	350	30	3.438	350
135 *(41.1)*	30	3.438	350	30	3.438	350
140 *(42.7)*	30	3.438	350	30	3.438	350
145 *(44.2)*	30	3.438	350	30	3.438	350
150 *(45.7)*	30	3.438	350	30	3.438	350
155 *(47.2)*	40	3.438	350	40	3.438	350
160 *(48.8)*	40	3.438	350	40	3.438	350
165 *(50.3)*	40	3.438	350	40	3.438	350
170 *(51.8)*	40	3.438	350	40	3.438	350
175 *(53.3)*	40	3.438	350	40	3.438	350
180 *(54.9)*	40	3.438	350	40	3.438	350

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

Chief 6,000 BPH (163 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**36" *(914.4)* Pulley Diameter** **630 FPM *(3.20 M/S)* 65 RPM** **12x7 *(304.8x177.8)* @ 10" *(254.0)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	15	2.938	350
45 *(13.7)*	15	2.938	350
50 *(15.2)*	15	2.938	350
55 *(16.8)*	15	2.938	350
60 *(18.3)*	20	2.938	350
65 *(19.8)*	20	2.938	350
70 *(21.3)*	20	2.938	350
75 *(22.9)*	20	2.938	350
80 *(24.4)*	25	2.938	350
85 *(25.9)*	25	2.938	350
90 *(27.4)*	25	2.938	350
95 *(29.0)*	25	3.438	350
100 *(30.5)*	25	3.438	350
105 *(32.0)*	30	3.438	350
110 *(33.5)*	30	3.438	350
115 *(35.1)*	30	3.438	350
120 *(36.6)*	30	3.438	350
125 *(38.1)*	40	3.438	350
130 *(39.6)*	40	3.438	350
135 *(41.1)*	40	3.438	350
140 *(42.7)*	40	3.438	350
145 *(44.2)*	40	3.438	350
150 *(45.7)*	40	3.438	350
155 *(47.2)*	40	3.438	350
160 *(48.8)*	40	3.438	350
165 *(50.3)*	40	3.438	350
170 *(51.8)*	50	3.938	350
175 *(53.3)*	50	3.938	350
180 *(54.9)*	50	3.938	350

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 7,500 BPH (204 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**36" *(914.4)* Pulley Diameter 630 FPM *(3.20 M/S)* 65 RPM 12x7 *(304.8x177.8)* @ 8" *(203.2)***			**36" *(914.4)* Pulley Diameter 630 FPM *(3.20 M/S)* 65 RPM 16x7 *(406.4x177.8)* @ 11" *(279.4)***		
	Corn, Wheat and Soybeans			*Corn, Wheat and Soybeans*		
	HP	Bearing	Belt PIW	HP	Bearing	Belt PIW
40 *(12.2)*	15	2.938	350	15	2.938	350
45 *(13.7)*	20	2.938	350	20	2.938	350
50 *(15.2)*	20	2.938	350	20	2.938	350
55 *(16.8)*	20	2.938	350	20	2.938	350
60 *(18.3)*	20	2.938	350	20	2.938	350
65 *(19.8)*	25	2.938	350	25	3.438	350
70 *(21.3)*	25	2.938	350	25	3.438	350
75 *(22.9)*	25	3.438	350	25	3.438	350
80 *(24.4)*	30	3.438	350	30	3.438	350
85 *(25.9)*	30	3.438	350	30	3.438	350
90 *(27.4)*	30	3.438	350	30	3.438	350
95 *(29.0)*	30	3.438	350	30	3.438	350
100 *(30.5)*	40	3.438	350	40	3.438	350
105 *(32.0)*	40	3.438	350	40	3.438	350
110 *(33.5)*	40	3.438	350	40	3.438	350
115 *(35.1)*	40	3.438	350	40	3.438	350
120 *(36.6)*	40	3.438	350	40	3.938	350
125 *(38.1)*	40	3.438	350	40	3.938	350
130 *(39.6)*	40	3.438	350	40	3.938	350
135 *(41.1)*	50	3.938	350	50	3.938	350
140 *(42.7)*	50	3.938	350	50	3.938	350
145 *(44.2)*	50	3.938	350	50	3.938	350
150 *(45.7)*	50	3.938	350	50	3.938	350
155 *(47.2)*	50	3.938	350	50	3.938	350
160 *(48.8)*	50	3.938	350	50	3.938	350
165 *(50.3)*	50	3.938	350	50	3.938	350
170 *(51.8)*	60	3.938	350	60	3.938	350
175 *(53.3)*	60	3.938	350	60	3.938	350
180 *(54.9)*	60	3.938	350	60	3.938	350

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 10,000 BPH (272 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**36" *(914.4)* Pulley Diameter** **630 FPM *(3.20 M/S)* 65 RPM** **16x7 *(406.4x177.8)* @ 8.5" *(215.9)***			**42" *(1066.8)* Pulley Diameter** **642 FPM *(3.26 M/S)* 57 RPM** **16x8 *(406.4x203.2)* @ 11.5" *(292.1)***		
	Corn, Wheat and Soybeans			*Corn, Wheat and Soybeans*		
	HP	Bearing	Belt PIW	HP	Bearing	Belt PIW
40 *(12.2)*	25	3.438	350	25	3.438	450
45 *(13.7)*	25	3.438	350	25	3.438	450
50 *(15.2)*	25	3.438	350	25	3.438	450
55 *(16.8)*	25	3.438	350	25	3.438	450
60 *(18.3)*	30	3.438	350	30	3.438	450
65 *(19.8)*	30	3.438	350	30	3.438	450
70 *(21.3)*	30	3.438	350	30	3.438	450
75 *(22.9)*	40	3.438	350	40	3.938	450
80 *(24.4)*	40	3.438	350	40	3.938	450
85 *(25.9)*	40	3.438	350	40	3.938	450
90 *(27.4)*	40	3.438	350	40	3.938	450
95 *(29.0)*	40	3.938	350	40	3.938	450
100 *(30.5)*	50	3.938	350	50	3.938	450
105 *(32.0)*	50	3.938	350	50	3.938	450
110 *(33.5)*	50	3.938	350	50	3.938	450
115 *(35.1)*	50	3.938	350	50	3.938	450
120 *(36.6)*	50	3.938	350	50	3.938	450
125 *(38.1)*	60	3.938	350	60	4.438	450
130 *(39.6)*	60	3.938	350	60	4.438	450
135 *(41.1)*	60	3.938	350	60	4.438	450
140 *(42.7)*	60	3.938	350	60	4.438	450
145 *(44.2)*	60	3.938	350	60	4.438	450
150 *(45.7)*	60	3.938	350	60	4.438	450
155 *(47.2)*	75	4.438	350	75	4.438	450
160 *(48.8)*	75	4.438	350	75	4.438	450
165 *(50.3)*	75	4.438	350	75	4.438	450
170 *(51.8)*	75	4.438	350	75	4.438	450
175 *(53.3)*	75	4.438	350	75	4.438	450
180 *(54.9)*	75	4.438	350	75	4.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

Chief 12,000 BPH (326 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**42" *(1066.8)* Pulley Diameter** **642 FPM *(3.26 M/S)* 57 RPM** **16x8 *(406.4x203.2)* @ 10" *(254.0)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	25	3.438	450
45 *(13.7)*	25	3.438	450
50 *(15.2)*	30	3.438	450
55 *(16.8)*	30	3.438	450
60 *(18.3)*	40	3.938	450
65 *(19.8)*	40	3.938	450
70 *(21.3)*	40	3.938	450
75 *(22.9)*	40	3.938	450
80 *(24.4)*	50	3.938	450
85 *(25.9)*	50	3.938	450
90 *(27.4)*	50	3.938	450
95 *(29.0)*	50	3.938	450
100 *(30.5)*	50	3.938	450
105 *(32.0)*	60	4.438	450
110 *(33.5)*	60	4.438	450
115 *(35.1)*	60	4.438	450
120 *(36.6)*	60	4.438	450
125 *(38.1)*	75	4.438	450
130 *(39.6)*	75	4.438	450
135 *(41.1)*	75	4.438	450
140 *(42.7)*	75	4.438	450
145 *(44.2)*	75	4.438	450
150 *(45.7)*	75	4.438	450
155 (47.2)	75	4.438	450
160 (48.8)	100	4.938	450
165 (50.3)	100	4.938	450
170 (51.8)	100	4.938	450
175 (53.3)	100	4.938	450
180 (54.9)	100	4.938	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

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Chief 15,000 BPH (408 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**48" *(1219.2)* Pulley Diameter** **718 FPM *(3.65 M/S)* 56 RPM** **20x8 *(508.0x203.2)* @ 10.5" *(266.7)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	40	3.938	450
45 *(13.7)*	40	3.938	450
50 *(15.2)*	40	3.938	450
55 *(16.8)*	40	3.938	450
60 *(18.3)*	40	3.938	450
65 *(19.8)*	50	3.938	450
70 *(21.3)*	50	3.938	450
75 *(22.9)*	50	3.938	450
80 *(24.4)*	60	4.438	450
85 *(25.9)*	60	4.438	450
90 *(27.4)*	60	4.438	450
95 *(29.0)*	60	4.438	450
100 *(30.5)*	75	4.438	450
105 *(32.0)*	75	4.438	450
110 *(33.5)*	75	4.438	450
115 *(35.1)*	75	4.438	450
120 *(36.6)*	75	4.438	450
125 (38.1)	100	4.938	450
130 (39.6)	100	4.938	450
135 (41.1)	100	4.938	450
140 (42.7)	100	4.938	450
145 (44.2)	100	4.938	450
150 (45.7)	100	4.938	450
155 (47.2)	100	4.938	450
160 (48.8)	100	4.938	450
165 (50.3)	100	4.938	450
170 (51.8)	125	5.438	450
175 (53.3)	125	5.438	450
180 (54.9)	125	5.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

Chief 20,000 BPH (544 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet (Meters)	**48" *(1219.2)* Pulley Diameter** **718 FPM *(3.65 M/S)* 56 RPM** **(2)16x8 *(406.4x203.2)* @ 13" *(330.2)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	50	3.938	450
45 *(13.7)*	50	3.938	450
50 *(15.2)*	50	3.938	450
55 *(16.8)*	50	3.938	450
60 *(18.3)*	60	4.438	450
65 *(19.8)*	60	4.438	450
70 *(21.3)*	60	4.438	450
75 *(22.9)*	75	4.438	450
80 *(24.4)*	75	4.438	450
85 *(25.9)*	75	4.438	450
90 *(27.4)*	75	4.438	450
95 *(29.0)*	100	4.938	450
100 *(30.5)*	100	4.938	450
105 *(32.0)*	100	4.938	450
110 *(33.5)*	100	4.938	450
115 *(35.1)*	100	4.938	450
120 *(36.6)*	100	4.938	450
125 *(38.1)*	125	5.438	450
130 *(39.6)*	125	5.438	450
135 *(41.1)*	125	5.438	450
140 *(42.7)*	125	5.438	450
145 *(44.2)*	125	5.438	450
150 *(45.7)*	125	5.438	450
155 *(47.2)*	125	5.438	450
160 *(48.8)*	150	5.438	450
165 *(50.3)*	150	5.438	450
170 *(51.8)*	150	5.438	450
175 *(53.3)*	150	5.438	450
180 *(54.9)*	150	5.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

10/14/2010

Chief 22,500 BPH (612 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**48" *(1219.2)* Pulley Diameter** **718 FPM *(3.65 M/S)* 56 RPM** **(2) 16x8 *(406.4x203.2)* @ 12" *(304.8)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	50	3.938	450
45 *(13.7)*	50	3.938	450
50 *(15.2)*	60	4.438	450
55 *(16.8)*	60	4.438	450
60 *(18.3)*	60	4.438	450
65 *(19.8)*	75	4.438	450
70 *(21.3)*	75	4.438	450
75 *(22.9)*	75	4.438	450
80 *(24.4)*	100	4.938	450
85 *(25.9)*	100	4.938	450
90 *(27.4)*	100	4.938	450
95 *(29.0)*	100	4.938	450
100 *(30.5)*	100	4.938	450
105 *(32.0)*	100	4.938	450
110 *(33.5)*	125	5.438	450
115 *(35.1)*	125	5.438	450
120 *(36.6)*	125	5.438	450
125 *(38.1)*	125	5.438	450
130 *(39.6)*	125	5.438	450
135 *(41.1)*	125	5.438	450
140 *(42.7)*	150	5.438	450
145 *(44.2)*	150	5.438	450
150 *(45.7)*	150	5.438	450
155 *(47.2)*	150	5.438	450
160 *(48.8)*	150	5.438	450
165 *(50.3)*	150	5.438	450
170 *(51.8)*	150	5.438	450
175 *(53.3)*	150	5.438	450
180 *(54.9)*	150	5.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

10/14/2010

Chief 25,000 BPH (680 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**48" *(1219.2)* Pulley Diameter** **718 FPM *(3.65 M/S)* 56 RPM** **(2) 16x8 *(406.4x203.2)* @ 10.5" *(266.7)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	60	4.438	450
45 *(13.7)*	60	4.438	450
50 *(15.2)*	60	4.438	450
55 *(16.8)*	75	4.438	450
60 *(18.3)*	75	4.438	450
65 *(19.8)*	75	4.438	450
70 *(21.3)*	75	4.438	450
75 *(22.9)*	100	4.938	450
80 *(24.4)*	100	4.938	450
85 *(25.9)*	100	4.938	450
90 *(27.4)*	100	4.938	450
95 *(29.0)*	100	4.938	450
100 *(30.5)*	125	5.438	450
105 *(32.0)*	125	5.438	450
110 *(33.5)*	125	5.438	450
115 *(35.1)*	125	5.438	450
120 *(36.6)*	125	5.438	450
125 *(38.1)*	150	5.438	450
130 *(39.6)*	150	5.438	450
135 *(41.1)*	150	5.438	450
140 *(42.7)*	150	5.438	450
145 *(44.2)*	150	5.438	450
150 *(45.7)*	150	5.438	450
155 *(47.2)*	150	5.438	450
160 *(48.8)*	150	5.438	450
165 *(50.3)*	150	5.438	450
170 *(51.8)*	150	5.438	450
175 *(53.3)*	150	5.438	450
180 *(54.9)*	150	5.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

10/14/2010

Chief 28,000 BPH (762 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet *(Meters)*	**48" *(1219.2)* Pulley Diameter** **718 FPM *(3.65 M/S)* 56 RPM** **(2) 16x8 *(406.4x203.2)* @ 9.5" *(241.3)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	60	4.438	450
45 *(13.7)*	60	4.438	450
50 *(15.2)*	75	4.438	450
55 *(16.8)*	75	4.438	450
60 *(18.3)*	75	4.438	450
65 *(19.8)*	100	4.938	450
70 *(21.3)*	100	4.938	450
75 *(22.9)*	100	4.938	450
80 *(24.4)*	100	4.938	450
85 *(25.9)*	100	4.938	450
90 *(27.4)*	125	5.438	450
95 *(29.0)*	125	5.438	450
100 *(30.5)*	125	5.438	450
105 *(32.0)*	125	5.438	450
110 *(33.5)*	125	5.438	450
115 *(35.1)*	150	5.438	450
120 *(36.6)*	150	5.438	450
125 *(38.1)*	150	5.438	450
130 *(39.6)*	150	5.438	450
135 *(41.1)*	150	5.438	450
140 *(42.7)*	150	5.438	450
145 *(44.2)*	150	5.438	450
150 *(45.7)*	150	5.438	450
155 *(47.2)*	150	5.438	450
160 *(48.8)*	150	5.438	450
165 *(50.3)*	150	5.438	450
170 *(51.8)*	150	5.438	450
175 *(53.3)*	150	5.438	450
180 *(54.9)*	150	5.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .

10/14/2010

Chief 30,000 BPH (816 MTPH) Galvanized Bucket Elevators
- Horsepower and Bearing Diameters -

Discharge Height Feet (Meters)	**48" *(1219.2)* Pulley Diameter** **718 FPM *(3.65 M/S)* 56 RPM** **(2)16x8 *(406.4x203.2)* @ 8.5" *(215.9)***		
	Corn, Wheat and Soybeans		
	HP	Bearing	Belt PIW
40 *(12.2)*	75	4.438	450
45 *(13.7)*	75	4.438	450
50 *(15.2)*	75	4.438	450
55 *(16.8)*	75	4.438	450
60 *(18.3)*	100	4.938	450
65 *(19.8)*	100	4.938	450
70 *(21.3)*	100	4.938	450
75 *(22.9)*	100	4.938	450
80 *(24.4)*	125	5.438	450
85 *(25.9)*	125	5.438	450
90 *(27.4)*	125	5.438	450
95 *(29.0)*	125	5.438	450
100 *(30.5)*	125	5.438	450
105 *(32.0)*	150	5.438	450
110 *(33.5)*	150	5.438	450
115 *(35.1)*	150	5.438	450
120 *(36.6)*	150	5.438	450
125 *(38.1)*	150	5.438	450
130 *(39.6)*	150	5.438	450
135 *(41.1)*	150	5.438	450
140 *(42.7)*	150	5.438	450
145 *(44.2)*	150	5.438	450
150 *(45.7)*	150	5.438	450
155 *(47.2)*	150	5.438	450
160 *(48.8)*	150	5.438	450
165 *(50.3)*	150	5.438	450
170 *(51.8)*	150	5.438	450
175 *(53.3)*	150	5.438	450
180 *(54.9)*	150	5.438	450

Horsepower and Capacity based on 48 lbs. Per cubic foot *(768.96 kg. Per cubic meter)* .