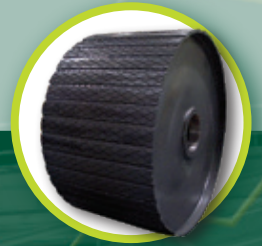
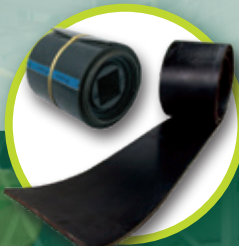




4B
Components
Limited

Bucket Elevator Components

Engineered for Agricultural and Industrial Applications



Plastic & Steel Elevator Buckets
Elevator Bolts, Nuts & Washers
Elevator & Conveyor Belting
Belt Splices & Fasteners
Pulleys & Lagging

BETTER BY DESIGN



4B MATERIAL HANDLING CATALOG -
Technical Data & Engineering Reference

1888

Braime Pressings founded in the U.K. by T.F. Braime



T.F. & J.H. BRAIME LTD

1909

Braime introduces the first pressed seamless steel elevator bucket



1971

Foundation of 4B Braime Elevator Components



1983

Launch of 4B's electronic components division



1984

First international office opens in the USA - 4B Components Ltd.



1991

4B acquires French elevator bucket manufacturer - 4B SETEM



2003

Asian regional office is established in Thailand - 4B Asia Pacific



2005

German office opens - 4B Deutschland



2008

African office is created - 4B Africa Elevator Components Ltd.



2010

4B Australia Pty. Ltd. office opens in Brisbane



2013

Corporation celebrates 125 years in business!



2014

New 4B USA Division - Midwest Plastic Moldings Ltd.



4B
Components
Limited

Since 1984, 4B Components Ltd. has been serving the material handling and electronic component needs of the elevator and conveyor markets in the United States. However, our roots started over 130 years ago in the United Kingdom when our parent company, Braime Holdings P.L.C., began producing small pressings with a fly press in 1888.

In 1909, Braime introduced the first seamless steel elevator bucket, which expanded their product line and their expertise in metal pressings. By 1911, the business had grown to such an extent that a new factory was opened in Leeds, UK. This facility is still in existence today and continues to produce metal pressings, including our current line of pressed steel elevator buckets, and bucket bolts.



Top - Early 1900's
Elevator Bucket Testing



Right - Modern Testing



CC-S®
Injection Molded
Elevator Bucket

In 1971, Braime formed a new subsidiary, 4B Elevator Components Limited. 4B, an acronym for Better Buckets, Belts and Bolts, was founded to specifically serve the material handling needs of the elevator and conveyor markets.

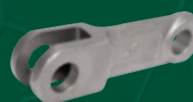
With growing safety concerns and a need to monitor the performance of bucket elevators and conveyors, 4B saw an opportunity to expand into electronic sensors and controls. By 1984, 4B had developed a complete line of electronics products for monitoring bucket elevators and conveyors.



Watchdog Hazard Monitor



Top - 4B Braime Factory in Leeds, UK
Right - 4B USA in Morton, IL



Conveyor Chain
Sprockets & Trailers



Today, 4B is a worldwide manufacturer of high quality, technologically advanced material handling and electronic components.

With subsidiaries in North America, Europe, Asia, Africa and Australia along with a worldwide network of distributors, 4B can provide practical solutions for any application no matter the location.

BETTER BY DESIGN



GEAPS



Elevator Buckets

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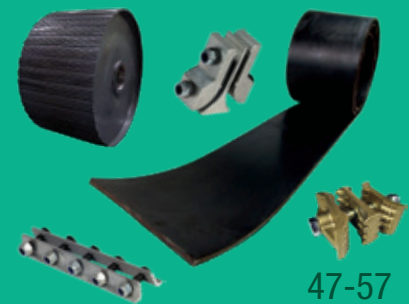
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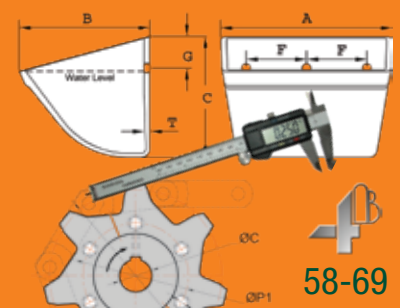
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UPGRADE YOUR BUCKET ELEVATOR!

CC-S & JUMBO CC-S *High Efficiency™ Buckets*



- Greater Capacity Per Bucket
For More Bushels Per Hour
- Thicker Walls And Corners
For Longer Service Life



BETTER BY DESIGN

4B Components Ltd. • Morton, IL USA • 309-698-5611 • www.go4b.com/usa



At 4B, our basis has always been engineering and our expertise in providing comprehensive solutions. In keeping with these core values, we designed our family of High Efficiency elevator buckets to deliver the maximum possible elevator leg throughput for the lowest cost per ton or bushel. Every bucket in every line of the High Efficiency family has five distinct features, each of which conveys efficiency. Only 4B High Efficiency elevator buckets have all five features.

HIGH EFFICIENCY DESIGN ✓

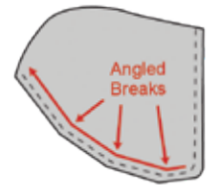
TRADITIONAL DESIGN

1. SMOOTH FRONT FACE ✓

A smooth interior face and side walls, with no “breaks”, deliver an efficient and unencumbered discharge over higher speeds.



Other designs have angled “breaks” which provide no benefit to discharge efficiency. These “breaks” merely copy a feature from the first sheet metal buckets introduced in the 1920’s.

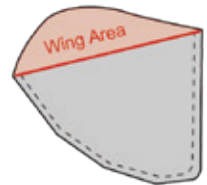


2. WING-LESS SIDE WALLS ✓

Wing-less side walls maximize the most efficient use and cost of materials.



Other buckets have a wing or “ear” on both sides which adds cost and weight, while offering no functional benefit.

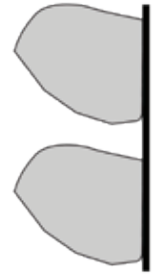


3. CLOSER SPACING ✓

The ability to be mounted extremely close together provides the most efficient use of vertical space on the belt.



Other buckets are too deep to be mounted closely together or must be modified from their standard design, adding to the cost.



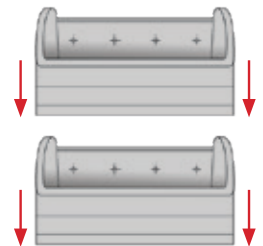
4. TAPERED BOTTOMS ✓

Tapered bottoms allow the buckets to fill and discharge with maximum efficiency over higher speeds.

They also create a low digging factor which means less material resistance & degradation and fewer forces on the bucket system.



The vertical sides, wings and perpendicular bottoms of other buckets impede the flow of materials into and out of the bucket.



5. NESTING / STACKING ✓

Nesting inside one another efficiently reduces the amount of space and costs associated with shipping and storage.



Nesting is not possible with other bucket designs. More packing materials and space are required for these buckets.



Keep it Moving

RAY-CARROLL ELEVATOR ADDS 75% RECEIVING CAPACITY WITHOUT PAUSING OPERATIONS

Ray-Carroll County Grain Growers, Inc.'s 2.8-million-bushel country elevator in Carrollton, MO needed increased receiving capacity in order to better accommodate its growing customer base.

According to Location Manager **David Heddings** (800-722-4482), the elevator received grain through two InterSystems 8,500-bph receiving legs, which were installed when the elevator was built in 1995. However, the challenge, was to upgrade the receiving system without shutting down operations, he explains.

"Twenty million bushels of corn come through our elevator every year, says Heddings, "so we definitely could not afford to stop receiving grain."

To resolve the issue, Heddings in February 2014 began working with Carl Swisher, material handling manager, **4B Components, Ltd.**, Morton, IL (309-698-5611).

4B's engineering staff proposed upgrading the facility's two receiving legs instead of replacing them, which would have halted operations for weeks.

So in the spring of 2015, the Carroll-

4B BC1 belt splice clamps and JUMBO™ CC-S® 16x8 low-profile buckets spaced 7.75 inches apart on 1,000-piw rubber belting. Photo courtesy of 4B Components.



ton elevator's in-house millwright crew, managed by Barry Lewis, began installing new bucket elevator components.

4B JUMBO™ CC-S® 16x8 low-profile buckets were installed and spaced 7.75 inches apart. "We're really pleased with the new buckets," says Heddings. "The low-profile design allowed us to install the buckets closer together, so we were able to fit 624 buckets on each leg." Before, each leg held 400 buckets spaced 12 inches apart.

Eighteen-inch 1,000-piw (pounds per inch of belt width) rubber belting was supplied by IBT to handle the increased bucket load. According to Swisher, "not many people opt for 1,000-piw belting, because it's more expensive, but it's a great option. It's very durable and will last for years, which will save you the time and money spent maintaining or replacing standard belting."

Grain Superintendent Troy Tague explains that new **Marathon Electric 150-hp VFD (variable frequency drive) inverter motors** makes it very easy to routinely check the condition of the buckets: "With the VFD, you just turn down the motor to about 2 hz. and check the buckets as they creep by."

4B BC1 belt splice clamps, designed for belts up to 1,000 piw, were installed.

Two Days, 6,500 bph Later

It took two days for Lewis and his millwright team to install all of the new components on the two legs. By working on one leg at a time, the other remained operational, and the elevator was able to receive grain throughout the process.

Before the upgrades, Heddings says the two legs each ran at 8,500 bph. Now, each leg can handle 15,000 bph, an increase of approximately 75%.

In order to accommodate an increased receiving capacity, the elevator implemented several other upgrades.

"We replaced our two small



Modified Rapat distributor with enlarged spouting (middle platform) below a second, new Rapat distributor (top platform). Photo by Tucker Scharfenberg.

500-bushel dump pits with two 1,100-bushel mechanical pits that now feed two new Tramco 20,000-bph drag conveyors," he says, "and on top of the bins, we replaced two 20,000-bph drag conveyors with two new Tramco 40,000-bph drags.

"We also rebuilt our distributor with custom-designed spouting by Rapat, added a new electronic controller, and converted it from dual-flow output to a single, large swing-flow spout to distribute grain to one receiving leg. We then added a second Rapat distributor to accommodate the other receiving leg.

"All in all, we're very pleased with our upgrades and the way we chose to implement them," says Heddings. "Our goal was to make it easier and quicker for our customers to deliver their grain – trucks now go scale-to-scale in under four minutes, and that's a big improvement," he adds.

Tucker Scharfenberg, associate editor

Reprinted from the July/August 2015 GRAIN JOURNAL



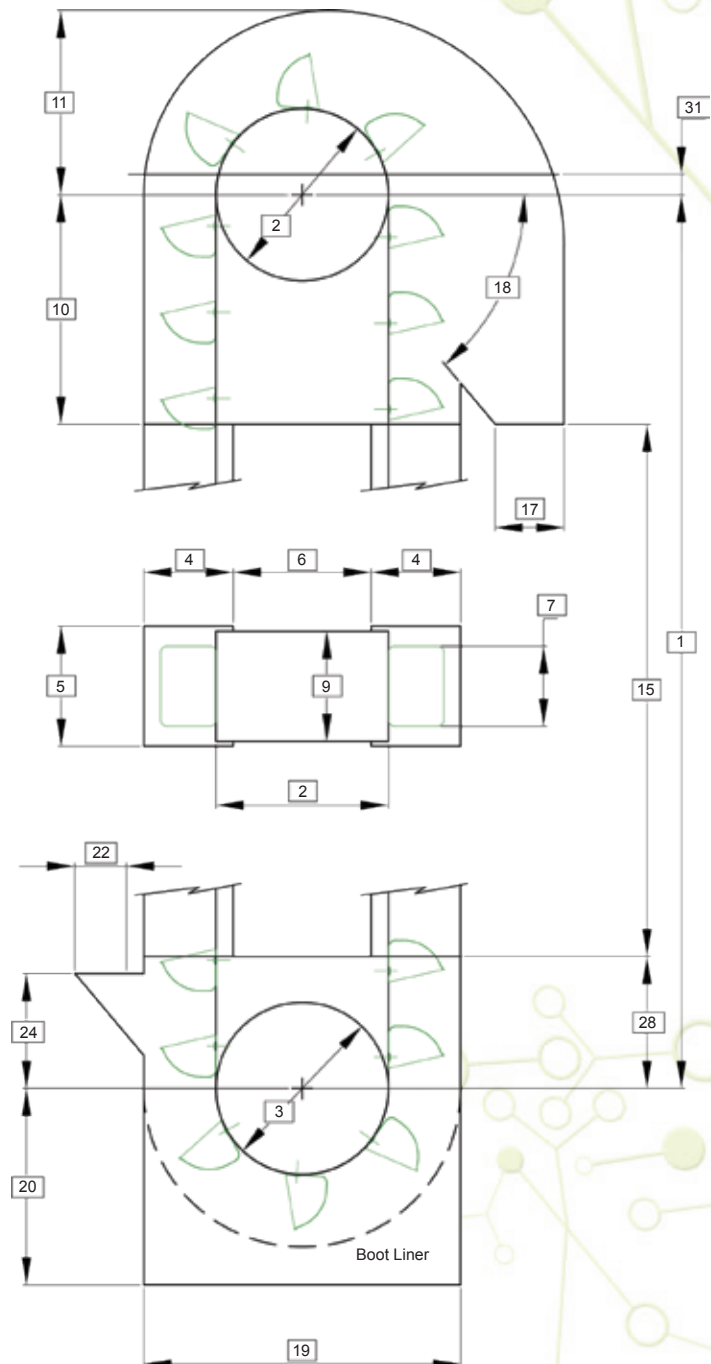
At 4B we have helped to upgrade hundreds of bucket elevators over the years for many different industries. Our application engineering expertise includes: grain storage, animal feed, flour milling, brewing, biomass, cement, coal, frac sand, as well as other processing industries.

Using your key technical data, 4B engineers will provide preliminary design and component details to enable your bucket elevator to operate at its optimum capacity and discharge potential. If your existing elevator cannot be upgraded to meet your current needs, 4B engineers can provide a basic design for a new one.

Take advantage of 4B's *FREE* worldwide technical support from a team of engineers specializing in upgrading and optimizing bucket elevators. For more information, see page 58.

With 4B's engineering expertise, Ray-Carroll County Grain Growers were able to upgrade their receiving legs from 8,500 BPH to 15,000 BPH

MATERIAL - Wet Corn @ 48 Pounds per Cubic Foot
DESIGN CAPACITY - 15,000 Bushels per Hour
DISCHARGE HEIGHT - 196.5'
HEAD PULLEY - 42" Dia. x 20" Wide CF Drum Style
BOOT PULLEY - 42" Dia. x 20" Wide CF Wing Style
BELT SPEED - 653 Feet per Minute
BELTING - 18" x 414' x 5/1000 PIW SOR-SC-FR
BUCKETS - Jumbo CC-S 16x8 Low Profile Vent #3
BUCKET SPACING - 7.75"
BUCKET CAPACITY (Water Level) - 522 Cubic Inches
HARDWARE - Fang Bolts 5/16" x 1-3/4"
SPLICE - 4B Segmented BC1 Clamp
MOTOR - 150 Horse Power
HEAD SHAFT - 4-15/16" Diameter
BOOT SHAFT - 2-15/16" Diameter



- 4B does not manufacture bucket elevators. As such, final consultation on the design must be with the leg manufacturer.



Agricultural and Industrial Elevator Buckets

HDPE • Nylon • Urethane • Steel • Stainless Steel • Iron





Bucket Material Selection

Property	HDPE	Nylon	Urethane	Nyrim®	Nylatron®	Ductile Iron	Mild Steel	304 Stainless	316 Stainless
Cost	1	3	4	5	5	3	2	4	4
Abrasion Resistance	1	3	3	5	4	4	3	4	4
Impact Resistance	3	5	4	5	4	3	2	2	2
Moisture Resistance	5	2	1	3	3	2	4	5*	5*
Non-Stick	2	2	5	4	5	1	1	3*	3*
FDA Food Approved	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Anti-Static	On Request	No	No	Yes	No	No	No	No	No
Temperature Range (°F)	-120 to 180 (210 Inter)	-60 to 300 (350 Inter)	-60 to 180 (210 Inter)	-40 to 284	-40 to 284	-60 to 800	Contact 4B	Contact 4B	Contact 4B

Standard Colors** White Cream, Black, Dark Green Natural Black Black NA NA NA NA

Code: 1 = Low / 5 = High NA = Not Applicable * When Polished ** Special Order Colors Available

Material / Applications

HDPE -	General use with grains, feed, food products, fertilizer and moist materials	Mild Steel -	General use with grains, feeds, food products and light to medium industrial products
Nylon -	Hot, granular abrasives, high impact products including powders	Ductile Iron -	Medium to heavy duty industrial, abrasive products
Urethane -	Sharp abrasives, pelletized feeds and sticky products with little or no water content	304 Stainless -	Food, high temperature and corrosive products
Nyrim® -	Extremely abrasive, high impact industrial products and sticky products	316 Stainless -	Food, high temperature and highly corrosive products
Nylatron® -	Extremely abrasive, high impact industrial products and very sticky products		

Get 4 Before - Sample Bucket Program

**Get
4
Before**

Get 4 Free
Buckets
To Try
Before
You Buy!

4B knows that buying elevator buckets can be a large investment and an important part of your business. Some bucket manufacturers make all sorts of claims about their products. That is why 4B offers customers the opportunity to try our buckets for free. We know that once you see the results for yourself, you will be extremely satisfied.

**To Get Your 4 Free Buckets, Call 309-698-5611
and Speak to a 4B Sales Engineer Today!**

(Certain Bucket Styles Only, Other Restrictions May Apply)

JUMBO™ CC-S® Ultra Heavy Duty Agricultural & Industrial Buckets



**MADE IN THE
USA**

HDPE
Shown

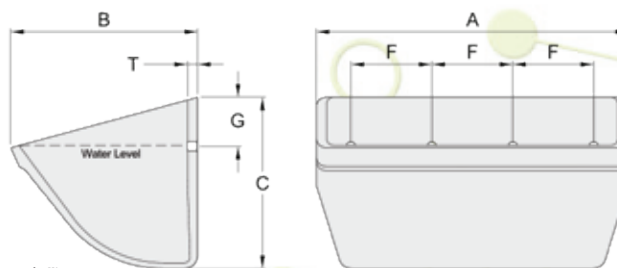
The JUMBO™ CC-S® is an ultra heavy duty version of the CC-S heavy duty elevator bucket. It is intended for the most severe applications, including port terminals, ethanol plants and highly abrasive materials. It offers the greatest capacity and thickest front lip, corners and walls available. The unique Iceberg® Edge front face delivers impact resistance and long life. It shares the proven geometry and design features of the CC-S, including the benefit of stackability, which saves on freight costs and storage space. The JUMBO™ CC-S® is molded from virgin HDPE (nylon and urethane also available) for ultra heavy duty strength and durability.

Material Virgin HDPE, nylon or urethane

Temp. Range HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

- Features**
- Maximum capacity
 - Ultra tough and flexible
 - Thickest front lip, walls and corners for long life
 - Stackable design for efficient shipping and storage
 - Tapered bottom for closer vertical spacing (projection +1/2")

Applications Free flowing agro-industrial materials such as grains, feeds, fertilizer and pellets. Also suited for rough and abrasive materials including frac sand, cement and aggregates.



U.S. Patent D496-052

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	HDPE Weight (lbs.)	Nylon Weight (lbs.)	Urethane Weight (lbs.)	Package Quantity
		Length A	Projection B	Back Depth C	Back Wall Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Water Level +10%					
14 x 8	JCC-S148/*	14-7/8	9-1/4	8-5/16	0.51	5	5/16	3	2-3/8	451	496	8-1/2	4.80	5.52	6.48	9
16 x 8	JCC-S168/*	17	9-1/4	8-5/16	0.51	6	5/16	2-7/8	2-3/8	522	574	8-1/2	5.40	6.21	7.29	9
18 x 8	JCC-S188/*	19	9-1/4	8-5/16	0.51	6	5/16	3-1/8	2-3/8	594	653	8-1/2	6.00	6.90	8.10	9
20 x 8	JCC-S208/*	21	9-1/4	8-5/16	0.51	6	5/16	3-1/2	2-3/8	662	728	8-1/2	6.40	7.36	8.64	9
22 x 8	JCC-S228/*	23	9-1/4	8-5/16	0.53	6	5/16	4	2-3/8	726	799	8-1/2	7.20	8.28	9.72	9
24 x 8	JCC-S248/*	25	9-1/4	8-5/16	0.53	7	5/16	3-1/2	2-3/8	791	870	8-1/2	7.75	8.91	10.46	9

- Actual dimensions may vary slightly depending on specified raw material
- For nylon and urethane industrial buckets, see page 24
- Additional sizes pending



Unique Iceberg® Edge front lip offers superior material thickness for the ultimate in wear resistance and long life. The triangular base creates a stiffening ridge across the front face of the bucket, preventing bowing and ensuring a consistent discharge over the life of the bucket.



- Details Page 5

JUMBO™ CC-S® Ultra Heavy Duty Low Profile Agricultural & Industrial Buckets



**MADE IN THE
USA**

Material

Virgin HDPE, nylon or urethane

Temp. Range

HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

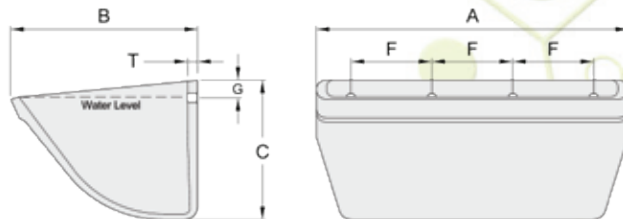
- Maximum capacity
- Ultra tough and flexible
- Thickest front lip, walls and corners for long life
- Stackable design for efficient shipping and storage
- Lower back height for closer vertical spacing

Applications

Free flowing agro-industrial materials such as grains, feeds, fertilizer and pellets. Also suited for rough and abrasive materials including frac sand, cement and aggregates.

Like the standard JUMBO™ CC-S®, the low profile version has the greatest capacity and thickest front lip, corners and walls available. These buckets are manufactured to mount on nominal projection less “one inch” for increased capacity. 4B conservatively uses water level to calculate usable capacity on our low profile buckets.

Unique to the industry, 4B manufactures the JUMBO™ CC-S® low profile style as a one piece molded unit, not a cut-down version of the standard elevator bucket. The molded design ensures consistent and accurate bucket dimensions.



U.S. Patent D496-052

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Water Level (cu. in.)	Minimum Spacing (in.)	HDPE Weight (lbs.)	Package Quantity
		Length A	Projection B	Back Depth C	Back Wall Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G				
14 x 8	JCC-S148/LP	14-7/8	9-1/4	6-3/4	0.51	5	5/16	3	1-1/2	451	7	4.32	12
16 x 8	JCC-S168/LP	17	9-1/4	6-3/4	0.51	6	5/16	2-7/8	1-1/2	522	7	4.96	12
18 x 8	JCC-S188/LP	19	9-1/4	6-3/4	0.51	6	5/16	3-1/8	1-1/2	594	7	5.58	12
20 x 8	JCC-S208/LP	21	9-1/4	6-3/4	0.51	6	5/16	3-1/2	1-1/2	662	7	5.95	12
22 x 8	JCC-S228/LP	23	9-1/4	6-3/4	0.53	6	5/16	4	1-1/2	726	7	6.70	12
24 x 8	JCC-S248/LP	25	9-1/4	6-3/4	0.53	7	5/16	3-1/2	1-1/2	791	7	7.20	12

- Actual dimensions may vary slightly depending on specified raw material
- For nylon and urethane industrial buckets, see page 24
- Additional sizes pending



CC-S® Heavy Duty Agricultural Buckets



**MADE IN THE
USA**



A range of heavy-duty CC style elevator buckets designed to outperform other agricultural buckets by offering greater capacities, longer life, and cleaner discharges. Unique Iceberg® Edge design with stronger front lip and maximum material thickness. With the CC-S® series stackable design, there is the added benefit of substantial freight and storage space savings. The complete CC-S® range of 35 different sizes are molded from premium virgin white HDPE (nylon and urethane available) for ultimate strength and durability.

Material

Virgin HDPE, nylon or urethane

Temp. Range

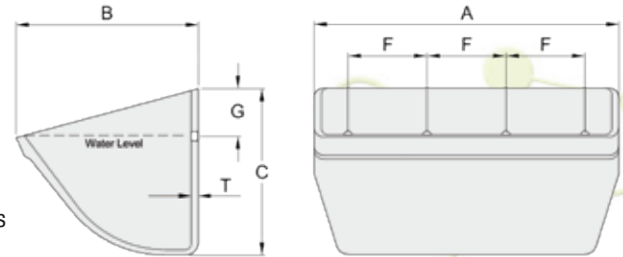
HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

- Light weight, tough and flexible
- Reinforced front lip, walls and corners
- Stackable design for shipping and storage
- Wingless profile for closer spacing & greater capacities

Applications

Non-abrasive free-flowing granular materials such as grain, feed, seed, food products and fertilizer.

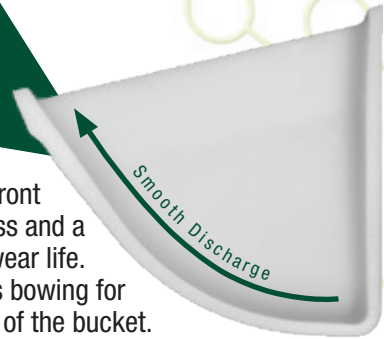
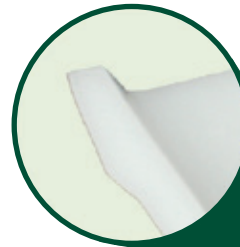


U.S. Patent D496-052

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	HDPE Weight (lbs.)	Package Quantity
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Water Level +10%			
3 x 2	CC-S032	3-5/16	2-1/2	2-1/16	3/16	2	1/4	1-3/4	7/8	6	7	2-1/2	0.20	48
4 x 3	CC-S043	4-5/16	3-1/2	3-1/16	3/16	2	1/4	2-1/2	7/8	17	19	3-1/2	0.25	24
5 x 4	CC-S054	5-1/4	4-1/2	4-1/16	1/4	2	1/4	3-3/16	1-1/4	37	41	4-1/2	0.45	18
6 x 4	CC-S064	6-1/4	4-1/2	4-1/16	1/4	2	1/4	4-3/8	1-1/4	45	50	4-1/2	0.52	18
7 x 4	CC-S074	7-1/4	4-1/2	4-1/16	1/4	3	1/4	2-11/16	1-1/4	53	58	4-1/2	0.58	18
6 x 5	CC-S065	6-3/8	5-1/2	5-5/32	1/4	2	1/4	4-3/8	1-7/8	70	77	5-1/2	0.82	15
7 x 5	CC-S075	7-3/8	5-1/2	5-5/32	1/4	3	1/4	2-11/16	1-7/8	83	91	5-1/2	0.91	15
8 x 5	CC-S085	8-3/8	5-1/2	5-5/32	1/4	3	1/4	3-1/16	1-7/8	95	105	5-1/2	0.99	15
9 x 5	CC-S095	9-3/8	5-1/2	5-5/32	1/4	3	1/4	3-5/8	1-7/8	107	118	5-1/2	1.10	15
10 x 5	CC-S105	10-3/8	5-1/2	5-5/32	1/4	3	1/4	4-1/8	1-7/8	120	132	5-1/2	1.20	15
11 x 5	CC-S115	11-3/8	5-1/2	5-5/32	1/4	4	1/4	3	1-7/8	132	145	5-1/2	1.30	15
12 x 5	CC-S125	12-3/8	5-1/2	5-5/32	1/4	4	1/4	3-3/8	1-7/8	145	160	5-1/2	1.37	15
8 x 6	CC-S086	8-3/8	6-5/8	6-1/16	9/32	3	1/4	3-1/16	2	136	150	6-1/2	1.24	15
9 x 6	CC-S096	9-3/8	6-5/8	6-1/16	9/32	3	1/4	3-5/8	2	154	169	6-1/2	1.37	15
10 x 6	CC-S106	10-3/8	6-5/8	6-1/16	9/32	3	1/4	4-1/8	2	172	190	6-1/2	1.50	15
11 x 6	CC-S116	11-3/8	6-5/8	6-1/16	9/32	4	1/4	3	2	190	209	6-1/2	1.58	15
12 x 6	CC-S126	12-3/8	6-5/8	6-1/16	9/32	4	1/4	3-3/8	2	209	230	6-1/2	1.72	15
13 x 6	CC-S136	13-3/8	6-5/8	6-1/16	9/32	4	1/4	3-5/8	2	227	250	6-1/2	1.85	15
14 x 6	CC-S146	14-3/8	6-5/8	6-1/16	9/32	5	1/4	3	2	240	264	6-1/2	1.96	15
10 x 7	CC-S107	10-3/4	7-7/8	7-1/16	5/16	3	5/16	4-1/8	2	241	266	7-1/2	2.30	12
11 x 7	CC-S117	11-3/4	7-7/8	7-1/16	5/16	4	5/16	3	2	267	293	7-1/2	2.43	12
12 x 7	CC-S127	12-3/4	7-7/8	7-1/16	5/16	4	5/16	3-3/8	2	292	321	7-1/2	2.65	12
13 x 7	CC-S137	13-3/4	7-7/8	7-1/16	5/16	4	5/16	3-5/8	2	317	349	7-1/2	2.82	12
14 x 7	CC-S147	14-3/4	7-7/8	7-1/16	5/16	5	5/16	3	2	343	377	7-1/2	3.02	12
15 x 7	CC-S157	15-3/4	7-7/8	7-1/16	5/16	5	5/16	3-1/4	2	368	405	7-1/2	3.20	12
16 x 7	CC-S167	16-3/4	7-7/8	7-1/16	5/16	6	5/16	2-7/8	2	393	432	7-1/2	3.37	12
10 x 8	CC-S108	10-13/16	8-15/16	8-1/4	13/32	3	5/16	4-1/8	2-3/8	316	348	8-1/2	3.17	9
11 x 8	CC-S118	11-13/16	8-15/16	8-1/4	13/32	4	5/16	3	2-3/8	349	384	8-1/2	3.42	9
12 x 8	CC-S128	12-13/16	8-15/16	8-1/4	13/32	4	5/16	3-3/8	2-3/8	384	422	8-1/2	3.65	9
13 x 8	CC-S138	13-13/16	8-15/16	8-1/4	13/32	4	5/16	3-5/8	2-3/8	417	459	8-1/2	3.88	9
14 x 8	CC-S148	14-13/16	8-15/16	8-1/4	13/32	5	5/16	3	2-3/8	451	496	8-1/2	4.15	9
15 x 8	CC-S158	15-13/16	8-15/16	8-1/4	13/32	5	5/16	3-1/4	2-3/8	484	533	8-1/2	4.35	9
16 x 8	CC-S168	16-13/16	8-15/16	8-1/4	13/32	6	5/16	2-7/8	2-3/8	517	569	8-1/2	4.52	9
18 x 8	CC-S188	18-13/16	8-15/16	8-1/4	13/32	6	5/16	3-1/8	2-3/8	586	645	8-1/2	5.07	9
20 x 8	CC-S208	20-13/16	8-15/16	8-1/4	13/32	6	5/16	3-1/2	2-3/8	652	718	8-1/2	5.51	9

- HDPE information listed in chart above, actual dimensions may vary slightly depending on specified raw material

CC-S Unique Design Features



Unique *Iceberg® Edge* heavy duty front lip with maximum material thickness and a tapered leading edge for a longer wear life. The triangular rigid design prevents bowing for a consistent discharge over the life of the bucket.

Developed as “the world’s first stackable CC-style elevator bucket.” CC-S® buckets nest inside one another for reduced storage and shipping space. Freight cost savings are realized as the increased shipping density offers a lower freight classification.



*Shrink Wrapped
Bucket Sleeves*

CC-S® buckets are group bundled in individual plastic sleeves for easy transportation and storage. Plastic sleeves are weather resistant, lightweight and recyclable.

Product Testing

Rigorous product testing on all of our material handling components is conducted at 4B’s own in-house testing facilities. This ensures that we provide our customers with the best products in quality, durability and performance.



CC-S Discharge Video:

Scan the QR code or visit
www.go4b.com/cc-s



Pictured on Right -
4B’s Testing Elevator #2



CC-S® Heavy Duty Low Profile Agricultural Buckets



**MADE IN THE
USA**

Material

Virgin HDPE, nylon or urethane

Temp. Range

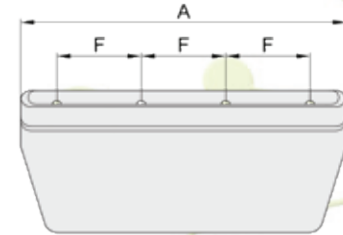
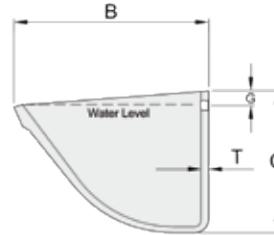
HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

- Lower back height for closer vertical spacing
- Light weight, tough and flexible
- Reinforced front lip, walls and corners
- Stackable design for shipping and storage

Applications

Non-abrasive free-flowing granular materials such as grain, feed, seed, food products and fertilizer.



U.S. Patent D496-052

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Water Level (cu. in.)	Minimum Spacing (in.)	HDPE Weight (lbs.)	Package Quantity
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G				
3 x 2	CC-S032/LP	3-5/16	2-1/2	3/4	3/16	2	1/4	1-3/4	1/4	6	1	0.18	48
4 x 3	CC-S043/LP	4-5/16	3-1/2	1-3/4	3/16	2	1/4	2-1/2	1/2	17	2	0.22	24
5 x 4	CC-S054/LP	5-1/4	4-1/2	2-3/4	1/4	2	1/4	3-3/16	3/4	37	3	0.41	18
6 x 4	CC-S064/LP	6-1/4	4-1/2	2-3/4	1/4	2	1/4	4-3/8	3/4	45	3	0.48	18
7 x 4	CC-S074/LP	7-1/4	4-1/2	2-3/4	1/4	3	1/4	2-11/16	3/4	53	3	0.54	18
6 x 5	CC-S065/LP	6-3/8	5-1/2	3-3/4	1/4	2	1/4	4-3/8	1	70	4	0.78	16
7 x 5	CC-S075/LP	7-3/8	5-1/2	3-3/4	1/4	3	1/4	2-11/16	1	83	4	0.86	16
8 x 5	CC-S085/LP	8-3/8	5-1/2	3-3/4	1/4	3	1/4	3-1/16	1	95	4	0.93	16
9 x 5	CC-S095/LP	9-3/8	5-1/2	3-3/4	1/4	3	1/4	3-5/8	1	107	4	1.04	16
10 x 5	CC-S105/LP	10-3/8	5-1/2	3-3/4	1/4	3	1/4	4-1/8	1	120	4	1.12	16
11 x 5	CC-S115/LP	11-3/8	5-1/2	3-3/4	1/4	4	1/4	3	1	132	4	1.22	16
12 x 5	CC-S125/LP	12-3/8	5-1/2	3-3/4	1/4	4	1/4	3-3/8	1	145	4	1.28	16
8 x 6	CC-S086/LP	8-3/8	6-5/8	4-3/4	9/32	3	1/4	3-1/16	1	136	5	1.14	16
9 x 6	CC-S096/LP	9-3/8	6-5/8	4-3/4	9/32	3	1/4	3-5/8	1	154	5	1.28	16
10 x 6	CC-S106/LP	10-3/8	6-5/8	4-3/4	9/32	3	1/4	4-1/8	1	172	5	1.40	16
11 x 6	CC-S116/LP	11-3/8	6-5/8	4-3/4	9/32	4	1/4	3	1	190	5	1.48	16
12 x 6	CC-S126/LP	12-3/8	6-5/8	4-3/4	9/32	4	1/4	3-3/8	1	209	5	1.62	16
13 x 6	CC-S136/LP	13-3/8	6-5/8	4-3/4	9/32	4	1/4	3-5/8	1	227	5	1.70	16
14 x 6	CC-S146/LP	14-3/8	6-5/8	4-3/4	9/32	5	1/4	3	1	240	5	1.80	16
10 x 7	CC-S107/LP	10-3/4	7-7/8	5-3/4	5/16	3	5/16	4-1/8	1-1/4	241	6	2.05	15
11 x 7	CC-S117/LP	11-3/4	7-7/8	5-3/4	5/16	4	5/16	3	1-1/4	267	6	2.16	15
12 x 7	CC-S127/LP	12-3/4	7-7/8	5-3/4	5/16	4	5/16	3-3/8	1-1/4	292	6	2.40	15
13 x 7	CC-S137/LP	13-3/4	7-7/8	5-3/4	5/16	4	5/16	3-5/8	1-1/4	317	6	2.57	15
14 x 7	CC-S147/LP	14-3/4	7-7/8	5-3/4	5/16	5	5/16	3	1-1/4	343	6	2.75	15
15 x 7	CC-S157/LP	15-3/4	7-7/8	5-3/4	5/16	5	5/16	3-1/4	1-1/4	368	6	2.92	15
16 x 7	CC-S167/LP	16-3/4	7-7/8	5-3/4	5/16	6	5/16	2-7/8	1-1/4	393	6	3.08	15
10 x 8	CC-S108/LP	10-13/16	8-15/16	6-3/4	13/32	3	5/16	4-1/8	1-1/2	316	7	2.88	12
11 x 8	CC-S118/LP	11-13/16	8-15/16	6-3/4	13/32	4	5/16	3	1-1/2	349	7	3.12	12
12 x 8	CC-S128/LP	12-13/16	8-15/16	6-3/4	13/32	4	5/16	3-3/8	1-1/2	384	7	3.35	12
13 x 8	CC-S138/LP	13-13/16	8-15/16	6-3/4	13/32	4	5/16	3-5/8	1-1/2	417	7	3.56	12
14 x 8	CC-S148/LP	14-13/16	8-15/16	6-3/4	13/32	5	5/16	3	1-1/2	451	7	3.80	12
15 x 8	CC-S158/LP	15-13/16	8-15/16	6-3/4	13/32	5	5/16	3-1/4	1-1/2	484	7	4.05	12
16 x 8	CC-S168/LP	16-13/16	8-15/16	6-3/4	13/32	6	5/16	2-7/8	1-1/2	517	7	4.17	12
18 x 8	CC-S188/LP	18-13/16	8-15/16	6-3/4	13/32	6	5/16	3-1/8	1-1/2	586	7	4.70	12
20 x 8	CC-S208/LP	20-13/16	8-15/16	6-3/4	13/32	6	5/16	3-1/2	1-1/2	652	7	5.10	12

- HDPE information listed in chart above, actual dimensions may vary slightly depending on specified raw material

Big J Steel - CC Style Agricultural Buckets



A North American grain CC style bucket made from deep drawn solid steel without any welds. The wingless design delivers lighter weight than fabricated equivalents with closer vertical spacing possible.

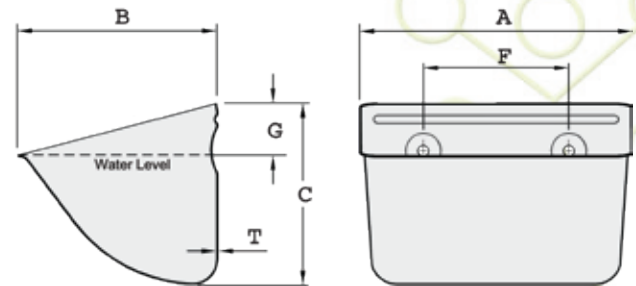
Material Seamless steel or stainless steel

Temp. Range Contact 4B

Features

- Pressed steel - no seams to hold residue
- Interchangeable with CC style buckets
- Compound curve delivers smooth discharge
- Wingless design allows for closer spacing

Applications Grain, feed, seeds, pellets, powders, chemicals and other granular products.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	Weight (lbs.)
		Length A	Projection B	Back Depth C	Thickness (Gauge) T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Water Level +10%		
6 x 4	J64/1.2/P+R	6-1/4	4-1/4	3-7/8	18	2	1/4	4-3/8 - 4-1/2*	1-1/4	47	52	4-1/2	1.00
7 x 5	J75/1.5/P+R	7-1/4	5-3/8	4-3/4	16	3	1/4	2-11/16	1-1/2	76	83	5-1/2	1.50
8 x 5	J85/1.5/P+R	8-1/4	5-3/8	4-3/4	16	3	1/4	3-1/16	1-1/2	97	107	5-1/2	1.80
9 x 5	J95/1.5/P+R	9-1/4	5-3/8	4-3/4	16	3	1/4	3-1/2 - 3-5/8*	1-1/2	99	109	5-1/2	2.25
9 x 6	J96/2.0/P+R	9-1/4	6-3/8	6-1/16	14	3	5/16	3-1/2 - 3-5/8*	1-7/8	137	151	6-1/2	3.25
10 x 6	J106/2.0/P+R	10-5/16	6-3/8	6-1/16	14	3	5/16	4 - 4-1/8*	1-7/8	159	173	6-1/2	3.65
11 x 6	J116/2.0/P+R	11-5/16	6-3/8	6-1/16	14	4	5/16	3 - 3-1/8*	1-7/8	180	198	6-1/2	4.00
12 x 6	J126/2.0/P+R	12-5/16	6-3/8	6-1/16	14	4	5/16	3-3/8	1-7/8	191	210	6-1/2	4.50
11 x 7	J117/2.0/P+R	11-7/16	7-1/2	6-3/4	14	4	5/16	3 - 3-1/8*	2	244	268	7-1/2	4.65
12 x 7	J127/2.0/P+R	12-7/16	7-1/2	6-3/4	14	4	5/16	3-3/8	2	265	292	7-1/2	5.00
14 x 7	J147/2.0/P+R	14-7/16	7-1/2	6-3/4	14	4 or 5	3/8	4@4 - 5@3**	2	303	333	7-1/2	5.50
16 x 7	J167/2.0/P+R	16-7/16	7-1/2	6-3/4	14	6	5/16	2-7/8	2	346	381	7-1/2	6.25
14 x 8	J148/2.0/P+R	14-1/4	8-1/4	8	14	4 or 5	5/16	4@4 - 5@3**	2-1/4	388	427	8-1/2	6.40
16 x 8	J168/2.0/P+R	16-1/4	8-1/4	8	14	6	5/16	2-7/8	2-1/4	443	487	8-1/2	7.50

- All sizes have recessed bolt holes

* Slotted holes

** Punched bolt patterns





Starco™ elevator buckets are engineered for higher throughput elevator legs. Their shallow design, tapered sides and low back height ensure maximum bucket fill at high speeds on smaller pulley diameters. The unique front profile guarantees clean discharge over a wider range of operating speeds than conventional or other low profile buckets.

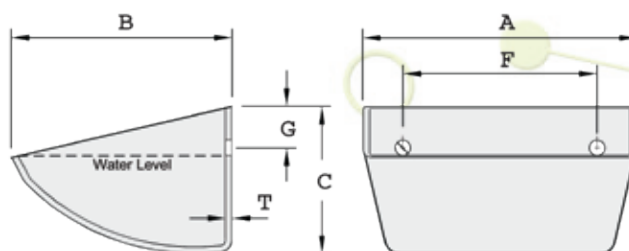
Material Virgin HDPE, nylon or urethane

Temp. Range HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

- Super low profile
- Belt Speeds up to 895 ft./min.
- Compound curve delivers smooth discharge
- Wingless design allows for closer spacing

Applications Non-abrasive free-flowing granular materials such as grain, feed, seed, food products and fertilizer.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	HDPE Weight (lbs.)
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross		
4 x 3-1/2*	S100-090/HDP	4-5/16	3-5/8	2-7/16	5/32	2	5/16	2	11/16	13	17	2-3/4	0.13
5 x 4-1/2*	S130-120/HDP	5-1/2	4-3/4	3-3/16	3/16	2	5/16	2-3/4	7/8	28	38	3-9/16	0.28
6 x 4	S150-110/HDP	6-1/4	4-7/16	3-1/16	13/64	2	5/16	3-1/2	15/16	30	44	3-5/16	0.38
7 x 5-1/2	S180-140/HDP	7-1/2	5-3/4	3-11/16	1/4	2	5/16	3-15/16	1-3/16	51	74	3-3/4	0.63
9 x 5	S225-140/HDP	9-1/4	5-1/2	3-11/16	5/16	2	5/16	4-3/4	1-3/16	76	100	3-3/4	0.75
9 x 6-1/2	S230-170/HDP/11/32	9-7/16	6-13/16	4-7/16	9/32	2	5/16	4-3/4	1-1/2	109	145	4-3/8	0.95
9 x 6-1/2	S230-170/HDP/13/32	9-7/16	6-13/16	4-7/16	9/32	2	3/8	4-3/4	1-1/2	109	145	4-3/8	0.95
11 x 6-1/2	S280-170/HDP/11/32	11-7/16	6-13/16	4-7/16	1/4	3	5/16	3-3/16	1-1/2	123	176	4-3/8	1.10
11 x 6-1/2	S280-170/HDP/13/32	11-7/16	6-13/16	4-7/16	1/4	3	3/8	3-3/16	1-1/2	123	176	4-3/8	1.10
12 x 7	S300-180/HDP	12-3/8	7-1/8	4-7/8	1/4	3	5/16	4	1-3/8	165	235	4-13/16	1.28
13 x 8-1/2	S330-215/HDP	13-3/8	8-3/4	4-7/8	9/32	3	3/8	4-3/4	1-1/2	239	336	5-1/2	1.68
14 x 7	S350-180/HDP	14-7/16	7-1/8	4-7/8	9/32	4	5/16	3-9/16	1-3/8	201	275	4-13/16	1.75
15 x 8-1/2	S370-215/HDP	15	8-9/16	5-9/16	9/32	4	3/8	3-9/16	1-1/2	269	380	5-1/2	2.45

* Recessed bolt holes

- HDPE information listed in chart above, actual dimensions may vary slightly depending on specified raw material





Starco™ elevator buckets are engineered for higher throughput elevator legs. Their shallow design, tapered sides and low back height ensure maximum bucket fill at high speeds on smaller pulley diameters. The unique front profile guarantees clean discharge over a wider range of operating speeds than conventional or other low profile buckets.

Material

Seamless steel or stainless steel

Temp. Range

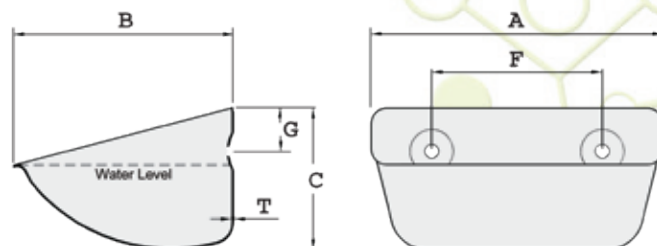
Contact 4B

Features

- Super low profile
- Belt speeds up to 895 ft./min.
- Pressed seamless steel
- Front lip wear bands available

Applications

Grain, grain by products, feed, seed, pellets, powders, chemicals and other industrial granular products.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	Weight (lbs.)
		Length A	Projection B	Back Depth C	Thickness (Gauge) T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross		
5 x 4-1/2	S130-120/1.5	5-1/2	4-1/2	3-1/16	16	2	5/16	2-3/4	7/8	31	42	3-7/16	0.78
7 x 5-1/2	S180-140/1.5	7-1/4	5-1/2	3-5/8	16	2	5/16	3-15/16	1	55	79	3-3/4	1.16
9 x 6-1/2	S230-165/2.0	9-3/8	6-1/2	4-1/4	14	2	3/8	4-3/4	1-5/16	112	151	4-3/8	2.66
11 x 6-1/2	S280-165/2.0	11-3/8	6-1/2	4-1/4	14	3	3/8	3-3/16	1-5/16	140	186	4-3/8	2.90
12 x 7	S300-180/2.0	12-1/8	7-3/16	4-5/8	14	3	5/16	4	1-5/16	150	223	4-13/16	3.15
12 x 8	S300-215/2.0	12-1/4	8-1/2	5-1/2	14	3	3/8	4	1-1/2	250	342	5-1/4	4.52
13 x 8-1/2	S330-215/2.0	13-3/8	8-7/16	5-1/8	14 or 12	3	3/8	4-3/4	1-1/2	239	336	5-1/2	4.60 - 5.91
15 x 8-1/2	S370-215/2.0	15	8-7/16	5-1/8	14 or 12	4	3/8	3-9/16	1-1/2	255	377	5-1/2	5.25 - 6.57
18 x 8-1/2	S450-215/2.5	18-1/4	8-7/16	5-1/8	12	5	3/8	3-1/2	1-1/2	341	488	5-1/2	7.50

- All sizes have recessed bolt holes
- Custom drilled holes / thicknesses / wear bands available



Super Starco™ Low Profile Agricultural Buckets



The deep low profile design of the Super Starco™ is the result of intensive research to achieve the maximum individual bucket capacity. Additional capacity has been engineered into the bucket while still maintaining the perfect fill and discharge characteristics of the original Starco™ bucket.

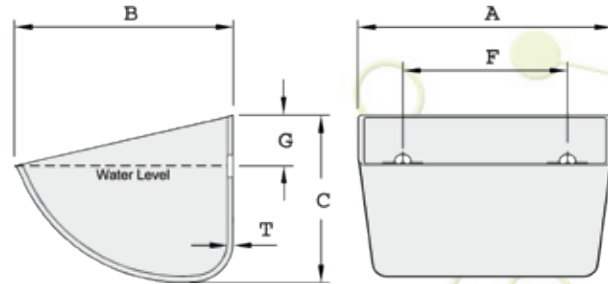
Material Virgin HDPE, nylon or urethane

Temp. Range
HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

- Engineered for ultra capacity
- Improved Starco™ design
- Perfect fill and discharge
- Prime virgin materials

Applications Non-abrasive free-flowing granular materials: grain, feed, seed, fertilizers or wood fiber by-products.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)			
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross	Minimum Spacing (in.)	HDPE Weight (lbs.)
3 x 3*	SPS80-080/HDP	3-9/16	3-3/8	2-1/2	5/32	2	5/16	1-11/16	3/4	11	15	2-1/2	0.13
4 x 3-1/2*	SPS100-090/HDP	4-5/16	3-1/2	2-5/8	7/32	2	5/16	2	3/4	18	23	2-3/4	0.20
5 x 4*	SPS120-100/HDP	5-1/16	4-5/16	3-3/16	7/32	2	5/16	2-5/8	1	28	36	3-1/4	0.29
5 x 4-1/2*	SPS130-120/HDP	5-5/16	4-3/4	3-3/8	7/32	2	5/16	2-3/4	1	32	43	3-3/4	0.40
6 x 5*	SPS140-120/HDP	5-3/4	4-3/4	3-9/16	7/32	2	5/16	2-3/4	1	37	49	3-3/4	0.37
6 x 5	SPS130-130/HDP	5-3/4	5-1/8	3-9/16	7/32	2	5/16	2-3/4	1	40	53	3-3/4	0.46
6 x 5-1/2*	SPS160-140/HDP	6-3/4	5-1/2	4-7/16	1/4	2	5/16	3-15/16	1-3/16	74	96	4-1/2	0.66
7 x 5-1/2*	SPS180-140/HDP	7-3/8	5-7/8	4-7/16	1/4	2	5/16	3-15/16	1-3/16	82	108	4-1/2	0.70
8 x 5-1/2*	SPS200-150/HDP	8-1/16	5-7/8	4-7/16	1/4	2	5/16	3-15/16	1-1/4	85	111	4-1/2	0.77
8 x 6*	SPS200-160/HDP	8-1/4	6-1/4	4-1/2	9/32	2	5/16	3-15/16	1-1/4	98	128	4-1/2	0.86
9 x 6-1/2	SPS230-170/HDP	9-7/16	6-7/8	5-7/16	1/4	2	3/8	4-3/4	1-3/8	146	187	5-3/4	1.35
9 x 6-1/2*	SPS240-165/HDP	9-7/8	6-11/16	5-3/16	9/32	2	3/8	4-3/4	1-3/8	143	189	5-1/2	1.32
11 x 6-1/2	SPS280-165/HDP	11-7/16	6-11/16	5-3/16	9/32	3	3/8	3-1/8	1-3/8	171	220	5-1/2	1.52
11 x 6-1/2*	SPS280-170/HDP	11-1/8	6-7/8	5-7/16	1/4	3	3/8	3-1/8	1-3/8	181	229	5-3/4	1.48
11 x 7	SPS280-180/HDP	11-7/16	7-1/4	5-1/2	9/32	3	3/8	3-1/8	1-3/8	201	256	5-3/4	1.87
12 x 7	SPS300-180/HDP	12-7/16	7-1/4	5-1/2	5/16	3	3/8	3-15/16	1-3/8	220	281	5-3/4	2.03
13 x 7	SPS330-180/HDP	13-11/16	7-1/4	5-1/2	5/16	3	3/8	4-5/16 - 4-3/4	1-1/2	244	305	5-3/4	2.20
14 x 7	SPS350-180/HDP	14-7/16	7-1/4	5-1/2	11/32	3	3/8	4-3/4	1-1/2	250	320	5-3/4	2.47
12 x 8	SPS300-215/HDP	12-1/2	8-11/16	6-5/8	11/32	3	3/8	3-15/16	2	317	403	6-3/4	2.82
13 x 8	SPS330-215/HDP	13-1/2	8-11/16	6-5/8	11/32	3	3/8	4-3/4	2	345	438	6-3/4	3.02
14 x 8	SPS350-215/HDP	14-1/2	8-11/16	6-5/8	11/32	3 or 4	3/8	4-3/4 - 3-9/16	2	373	473	6-3/4	3.20
15 x 8	SPS370-215/HDP	15-3/8	8-11/16	6-5/8	11/32	4	3/8	3-9/16	2	398	503	6-3/4	3.35
16 x 8	SPS400-215/HDP	16-1/2	8-11/16	6-5/8	11/32	4	3/8	3-15/16	2	427	537	6-3/4	3.40
18 x 8	SPS450-215/HDP	18-1/2	8-11/16	6-1/2	11/32	5	3/8	3-9/16	2	470	580	6-3/4	3.53
20 x 8	SPS500-215/HDP	20-11/16	8-11/16	6-5/8	11/32	5	3/8	3-15/16	2	549	680	6-3/4	4.32

* Recessed bolt holes

- HDPE information listed in chart above, actual dimensions may vary slightly depending on specified raw material

Type G - Columbus DIN 15232 Euro Style Agricultural Buckets



A European grain style bucket made from deep drawn pressed steel (no welds). Type G dimensions measured internally in accordance with DIN 15232. Ideal for free flowing materials on centrifugal discharge type bucket elevators.

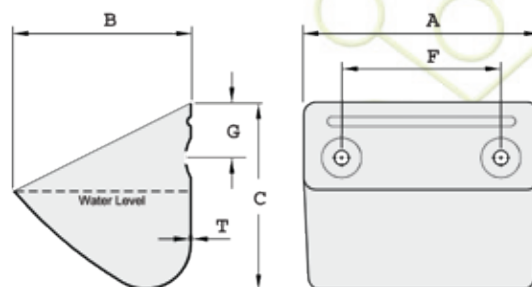
Material Seamless steel or stainless steel

Temp. Range Contact 4B

Features

- Great strength and long life
- Conforms to European DIN 15232 specifications
- Compound curve delivers smooth discharge
- Seamless construction eliminates corners and seams that can hold residue

Applications Grain, feed, seed, pellets, powders, chemicals and other industrial granular products.



Part #	Dimensions (mm)				Standard Punching (mm)				Capacity (L)		
	Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Hole Ø	Hole Center F	Dist. Down G	Gross	Water Level	Weight (kg)
G080-075/1.0	80	75	80	1.0	2	8.0	43	19	0.25	0.16	0.13
G090-080/1.0	90	80	85	1.0	2	8.0	46	19	0.33	0.22	0.16
G100-090/1.0	100	90	91	1.0	2	8.0	58	23	0.42	0.27	0.18
G110-095/1.0	110	95	95	1.0	2	8.0	64	26	0.51	0.33	0.21
G120-100/1.0	120	100	105	1.0	2	8.0	67	29	0.70	0.41	0.25
G130-105/1.0	130	105	110	1.0	2	8.0	78	32	0.81	0.49	0.30
G140-115/1.0	140	115	117	1.0	2	8.0	86	35	1.05	0.62	0.33
G150-125/1.0	150	125	123	1.0	2	8.0	87	33	1.21	0.75	0.36
G160-125/1.5	160	125	126	1.5	2	9.5	101	36	1.31	0.89	0.57
G160-125/2.0	160	125	126	2.0	2	9.5	101	35	1.31	0.89	0.76
G180-130/1.5	180	130	130	1.5	2	9.5	110	39	1.62	1.04	0.67
G180-130/2.0	180	130	130	2.0	2	9.5	110	39	1.62	1.04	0.89
G200-140/1.5	200	140	145	1.5	2	9.5	131	45	2.25	1.50	0.84
G200-140/2.0	200	140	145	2.0	2	9.5	131	45	2.25	1.50	1.12
G225-145/1.5	225	145	153	1.5	3	9.5	70	40	2.81	1.80	1.01
G225-145/2.0	225	145	153	2.0	3	9.5	70	40	2.81	1.80	1.30
G250-150/1.5	250	150	158	1.5	3	9.5	77	45	3.15	2.07	1.13
G250-150/2.0	250	150	158	2.0	3	9.5	77	45	3.15	2.07	1.46
G300-155/1.5	300	155	160	1.5	3	9.5	104	48	4.20	2.75	1.35
G300-155/2.0	300	155	160	2.0	3	9.5	104	48	4.20	2.75	1.74
G350-180/1.5	350	180	190	1.5	4	11.0	90	54	6.37	4.03	1.86
G350-180/2.0	350	180	190	2.0	4	11.0	90	54	6.37	4.03	2.35
G400-200/2.0	400	200	212	2.0	4	11.0	100	80	8.17	5.32	3.00
G400-200/2.5	400	200	212	2.5	4	11.0	100	80	8.17	5.32	3.75
G500-224/3.0	500	224	236	3.0	5	14.0	100	90	14.50	9.50	6.00
Special Range											
GS350-230	359	232	236	2.5	4	12.0	80	90	9.97	5.22	3.85
GS350-240	359	244	236	2.5	4	12.0	80	90	10.25	6.80	3.91
GS500/1HDPE	500	226	247	9.0	---	---	---	---	13.35	6.90	2.35
GS500HDPE	500	240	253	8.5	---	---	---	---	14.58	7.98	2.44

- All sizes have recessed bolt holes





GB Spidex™ is a pressed steel bottomless bucket system that can double your existing elevator capacity and handle your troublesome materials. This unique bucket system lifts material in a continuous column, so the carrying space between conventional buckets is fully utilized by material to achieve much greater capacity.

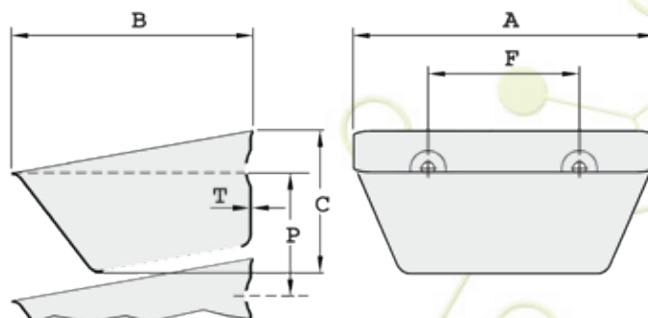
Material Seamless steel or stainless steel

Temp. Range Contact 4B

Features

- Double existing capacity
- Self cleaning, vented system
- Handles sticky, dense or extremely light materials
- Free design service

Applications Increase elevator capacity or handle difficult materials: flour, pellets, prills, sugar, sawdust or molasses based feeds.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)			Weight (lbs.)			
		Length A	Projection B	Back Depth C	Thickness (Gauge) T	# Holes	Bolt Size	Hole Center F	Actual Capacity (cu. in.)	Bucket Spacing P (in.)	Open Cup	Closed Cup
4 x 3-1/2*	GB100-90	4-3/16	3-1/2	1-3/4	18	2	5/16	1-15/16	14	1-15/16	0.22	0.26
5 x 4	GB130-110	5-3/8	4-1/2	2	16	2	5/16	2-3/4	30	2-1/4	0.70	0.80
7 x 5	GB180-140	7-1/4	5-1/2	2-1/2	16	2	5/16	3-15/16	72	2-13/16	1.00	1.20
8-1/2 x 3-5/8*	GB215-95	8-21/32	3-21/32	2-1/2	16	2	5/16	5	58	2-11/16	0.90	1.10
9 x 6	GB230-165	9-3/8	6-1/2	2-7/8	14	2	5/16	4-3/4	128	3-3/16	1.90	2.50
11 x 6-1/2*	GB280-165	11-7/16	6-1/2	3-5/32	14	3	3/8	3-9/16	163	3-7/16	2.20	2.90
12 x 6	GB300-165	12	6-1/2	3-1/8	14	3	3/8	3-9/16	168	3-7/16	2.40	3.00
13 x 7-1/2*	GB325-190	13-3/16	7-1/2	3-15/32	14	3	3/8	3-15/16	220	3-15/16	2.90	3.75
13-1/2 x 7-1/2*	GB330-190	13-3/8	7-1/2	3-29/32	11	3	3/8	3-15/16	275	4-5/32	4.50	6.25
14 x 8	GB350-200	14	7-7/8	4	12	4	3/8	3-9/16	290	4-3/8	4.30	5.50
15 x 6*	GB380-165	14-7/8	6-1/2	4-3/16	12	4	5/16	3 x 5 x 3	214	3-7/16	3.75	4.75
16 x 8*	GB430-200	16-15/16	8-5/8	3-3/4	11	4	3/8	3-11/16	339	4-5/32	3.90	5.07
16 x 8	GB400-220	16-1/8	8-5/8	4-1/2	11	4	3/8	3-15/16	422	4-15/16	5.00	6.50

* Non-stocking size - special order

- All sizes have recessed bolt holes

- NOTE: Part numbers for open cups will end with -B, closed cups will end with +B



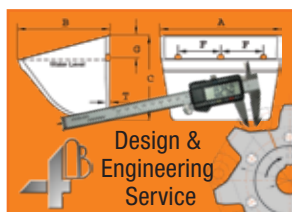
GB Spidex™ Unique Design Features

With the GB system, buckets are centered at very close spacing with a series of buckets without bottoms followed by a closed bottom bucket. The material is lifted in a continuous column, so the carrying space between conventional buckets is fully utilized by material to achieve much greater capacity. The buckets “fan out” as they pass over the head and tail pulleys to facilitate pick up or discharge.

The system increases capacity of an existing elevator leg at a much lower cost than the purchase of a new bucket elevator. The GB system can also be used in new elevators to give the same capacity as larger elevators using traditional buckets, saving manufacturing costs and plant space.

GB Spidex™ buckets are particularly useful with sticky products which can clog up the bottoms of conventional buckets reducing capacity and increasing maintenance. With GB buckets, only the bucket with the bottom can become clogged, and capacity can be rated to allow for this. The remaining buckets, being bottomless, are self cleaning. Dense or extremely light materials are also handled easily as GB buckets have the ultimate vented design.

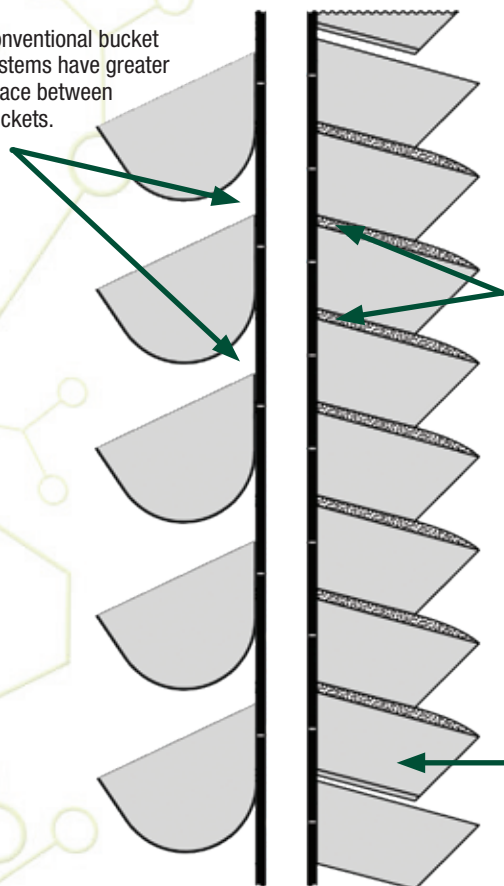
Whether your leg is handling grain, feed, meals, fertilizer, or industrial materials such as free flowing cement, 4B can design a GB Spidex™ bucket system to deliver the capacity you require.



4B offers a FREE bucket elevator design service, and all you have to do is complete one of our elevator leg questionnaires, then fax or email it back to 4B. Our engineering staff will provide you with a comprehensive review and quote for what your elevator leg can achieve in capacity.

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Conventional bucket systems have greater space between buckets.



Typical Spacing For
Standard Buckets

Spacing For
GB Spidex™ Buckets

GB Spidex™ bottomless buckets move a continuous column of material, eliminating lost space between buckets.

Sample Capacity Between GB Spidex™ and CC Style Buckets:

- GB 12 x 6: 3-7/16" Spacing, 630 ft/min Belt at Actual Working Capacity = 12,600 CFH
- CC-HD 12 x 6: 8" Spacing, 630 ft/min Belt at Water Level +10% = 6,694 CFH

Closed Bottom Bucket





The deep low profile design of the Super Starco™ is the result of intensive research to achieve the maximum individual bucket capacity. Additional capacity has been engineered into the bucket while still maintaining the perfect fill and discharge characteristics of the original Starco™ bucket.

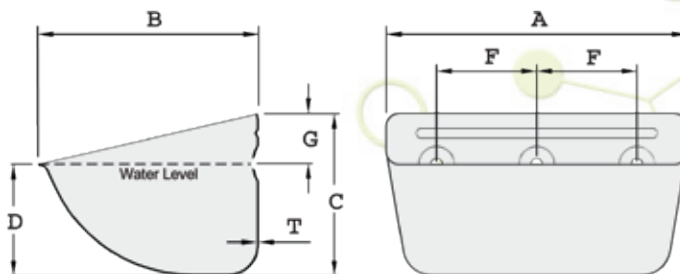
Material Seamless steel or stainless steel

Temp. Range Contact 4B

Features

- Engineered for ultra capacity and long life
- Perfect fill and discharge
- Pressed seamless steel, no welds or joints that can hold residue

Applications Grain, feed, pellets, sticky materials, chemicals and light to medium industrial granular or powdered products.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)			
		Length A	Projection B	Back Depth C	Thickness (Gauge) T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross	Minimum Spacing (in.)	Weight (lbs.)
3 x 3	SPS80-080	3-5/16	3-1/8	2-5/16	20	2	5/16	1-11/16	3/4	11	13	2-3/4	0.24
4 x 3-1/2	SPS100-090	4-3/16	3-1/2	2-5/8	20 or 16	2	5/16	2	3/4	15	20	3	0.26 - 0.40
4 x 4	SPS100-100	4-3/16	3-13/16	3-1/16	20	2	5/16	2	1	18	26	3-1/4	0.40
5 x 4	SPS120-100	4-15/16	4-1/8	3-1/16	20 or 16	2	5/16	2-5/8	1	27	35	3-1/4	0.49 - 0.73
5 x 4-1/2	SPS130-120	5-7/16	4-3/4	3-9/16	18 or 16	2	5/16	2-3/4	1	39	50	3-3/4	0.66 - 0.84
6 x 4-1/2	SPS140-110	5-3/4	4-7/16	3-9/16	16	2	5/16	2-3/4	1	25	46	3-3/4	0.95
6 x 5	SPS140-120	5-3/4	4-3/4	3-9/16	16 or 11	2	5/16	2-3/4 - 3-3/8*	1	40	53	3-3/4	0.88 - 1.76
7 x 5-1/2	SPS180-140	7-3/8	5-3/4	4-3/8	16 or 11	2	5/16	3-15/16	1-1/4	84	108	4-1/2	1.34 - 2.69
6 x 6	SPS160-140	6-1/2	5-3/4	4-3/8	16 or 11	2	5/16	3-15/16	1-1/4	73	96	4-1/2	1.21 - 2.43
8 x 6	SPS200-150	8-1/16	5-7/8	4-3/8	16 or 11	2	5/16	3-15/16 - 4*	1-1/4	93	122	4-1/2	1.70 - 3.4
9 x 6	SPS230-160/A	9-3/16	6-5/16	4-13/16	16, 14 or 11	3	5/16	2-3/4	1-1/4	131	165	5	1.90 - 2.54 - 3.79
9 x 6	SPS230-160/B	9-3/16	6-5/16	4-13/16	16, 14 or 11	2	3/8	4-3/4	1-1/4	131	165	5	1.90 - 2.54 - 3.79
9 x 6	SPS230-170	9-1/4	6-11/16	5-3/16	11	2	3/8	4-3/4	1-3/8	146	189	5-3/4	3.09
10 x 6	SPS260-165	10-1/4	6-1/2	5-3/16	14 or 11	3	3/8	3 - 3-1/8*	1-3/8	156	200	5-1/2	3.04 - 4.63
12 x 6	SPS300-165/A	12-1/8	6-1/2	5-5/16	14 or 11	3	5/16	3-15/16 - 4-1/16*	1-3/8	177	237	5-1/2	3.64 - 5.51
12 x 6	SPS300-165/B	12-1/8	6-1/2	5-5/16	14 or 11	3	3/8	3-15/16	1-3/8	177	237	5-1/2	3.64 - 5.51
13 x 6	SPS330-165	13-3/8	6-1/2	5-5/16	14 or 11	3	3/8	4-5/16 - 4-3/4*	1-1/2	214	269	5-1/2	4.19 - 6.28
14 x 6	SPS350-165/A	14-3/16	6-1/2	5-5/16	14 or 11	4	5/16	3-1/2	1-1/2	223	275	5-1/2	4.67 - 7.05
14 x 6	SPS350-165/B	14-3/16	6-1/2	5-5/16	14 or 11	3	3/8	4-3/4	1-1/2	223	275	5-1/2	4.67 - 7.05
9 x 6-1/2	SPS240-160/A	9-3/4	6-1/2	5-3/16	14 or 11	3	3/8	2-3/4 - 3*	1-3/8	146	188	5-1/2	2.98 - 4.40
9 x 6-1/2	SPS240-160/B	9-3/4	6-1/2	5-3/16	14 or 11	2	3/8	5-1/2	1-3/8	146	188	5-1/2	2.98 - 4.40
9 x 6-1/2	SPS240-160/C	9-3/4	6-1/2	5-3/16	14 or 11	2	3/8	4-3/4	1-3/8	146	188	5-1/2	2.98 - 4.40
11 x 6-1/2	SPS280-165	11-5/16	6-1/2	5-3/16	14 or 11	3	3/8	3-1/8	1-1/2	172	220	5-1/2	3.42 - 5.11
8 x 7	SPS200-180	8	7-3/16	5-1/2	14	2	3/8	4-5/16	1-3/4	132	173	5-3/4	2.82
10 x 7	SPS260-180	10-5/8	7-7/16	5-1/2	14	3	3/8	3-1/8	1-3/4	195	250	5-3/4	4.40
11 x 7	SPS280-180	11-7/16	7-5/16	5-1/2	14 or 11	3	3/8	3-1/8	1-1/2	201	267	5-3/4	3.75 - 5.62
12 x 7	SPS300-180/A	12-1/8	7-3/16	5-1/2	14 or 11	3	5/16	3-15/16 - 4-1/16*	1-3/8	214	275	5-3/4	3.97 - 5.95
12 x 7	SPS300-180/B	12-1/8	7-3/16	5-1/2	14 or 11	3	3/8	3-15/16	1-3/8	214	275	5-3/4	3.97 - 5.95
13 x 7	SPS330-180	13-3/8	7-3/16	5-1/2	14	3	3/8	4-5/16 - 4-3/4*	1-1/2	244	317	5-3/4	4.40
14 x 7	SPS350-180	14-1/4	7-3/16	5-1/2	14 or 11	3	3/8	4-3/4	1-1/2	256	330	5-3/4	4.63 - 6.94
15 x 7-1/2	SPS370-180	15-3/16	7-11/16	5-1/2	12	4	3/8	3-1/2	1-1/2	299	391	5-3/4	6.17
10 x 8	SPS250-215	10-1/8	8-7/16	6-3/8	14	3	3/8	3-5/16	2	250	323	6-3/4	4.10
11 x 8	SPS280-215	11-1/2	8-7/16	6-3/8	14, 13 or 12	3	3/8	3-1/8	2	287	367	6-3/4	4.81 - 5.11 - 6.30
12 x 8	SPS300-215	12-3/16	8-11/16	6-3/8	14 or 12	3	3/8	3-15/16	2	317	409	6-3/4	5.11 - 7.67
13 x 8	SPS330-215	13-3/8	8-7/16	6-3/8	12	3	3/8	4-3/4	2	345	439	6-3/4	6.55
14 x 8	SPS350-215	14-1/4	8-7/16	6-3/8	12	3	3/8	4-3/4	2	358	464	6-3/4	7.12
15 x 8	SPS370-215	15	8-7/16	6-3/8	12 or 11	4	3/8	3-1/2	2	384	494	6-3/4	7.31 - 8.82
16 x 8	SPS440-215	17-3/4	8-7/8	6-1/2	12 or 11	4	3/8	4-5/16	2	454	600	6-3/4	8.64 - 10.32
18 x 8	SPS450-215	18-1/4	8-7/16	6-3/8	12 or 11	5	3/8	3-7/16 - 3-1/2*	2	470	616	6-3/4	8.82 - 10.58
19 x 8	SPS470-215	18-15/16	8-7/8	6-3/8	12 or 11	4	3/8	4-3/4	2	492	644	6-3/4	9.13 - 10.91
20 x 8	SPS500-215	20-1/4	8-7/16	6-3/8	12 or 11	5	3/8	3-15/16	2	537	687	6-3/4	9.42 - 11.31
24 x 8	SPS630-215	24-13/16	8-11/16	6-7/16	11	7	3/8	3-1/2	2	666	872	6-3/4	16.31

- A, B & C part #'s designate different hole patterns

* Slotted bolt holes for alternate hole centers

4B Components Ltd. • 625 Erie Avenue • Morton, IL USA



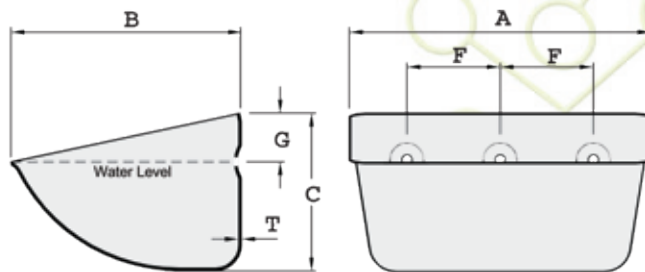
Material Seamless steel

Temp. Range Contact 4B

- Features**
- Pressed seamless steel, no welds or joints
 - Increased capacity
 - High temperature applications
 - Clean discharge

Applications Agricultural and food products, light to heavy industrial granules and powders, especially cement.

Deep drawn, high capacity pressed steel elevator bucket. For use with both standard rubber and steel core web belting. Designed to replace large fabricated buckets on industrial elevators, particularly cement and sand.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)			
		Length A	Projection B	Back Depth C	Thickness (Gauge) T	# Holes	Hole Size	Hole Center F	Dist. Down G	Water Level	Gross	Minimum Spacing (in.)	Weight (lbs.)
13 x 10	SJ330-250/3.0	13-3/8	10-1/4	7-1/2	11	3	9/16	3-1/8	2-1/8	439	586	7-7/8	9.92
13 x 10	SJ330-250/4.0	13-3/8	10-1/4	7-1/2	8	3	9/16	3-1/8	2-1/8	439	586	7-7/8	13.23
15 x 10	SJ370-250/3.0	15	10-1/4	7-1/2	11	4	9/16	3-1/8	2-1/8	507	659	7-7/8	11.24
15 x 10	SJ370-250/4.0	15	10-1/4	7-1/2	8	4	9/16	3-1/8	2-1/8	507	659	7-7/8	13.45
18 x 10	SJ470-250/3.0	18-7/8	10-1/4	7-1/2	11	5	9/16	3-1/8	2-1/8	641	854	7-7/8	14.38
18 x 10	SJ470-250/4.0	18-7/8	10-1/4	7-1/2	8	5	9/16	3-1/8	2-1/8	641	854	7-7/8	18.96

Starco™ Jumbo & 4B Polysur® Steel Core Web Belting High Capacity System

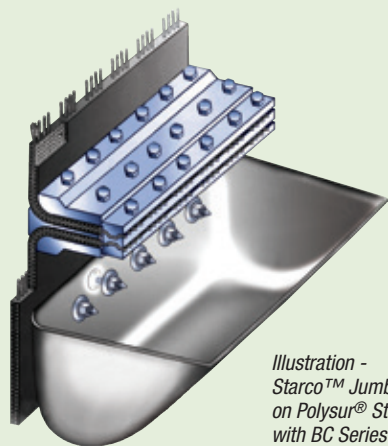


Illustration -
Starco™ Jumbo Buckets
on Polysur® Steel Web Belt
with BC Series Fastener

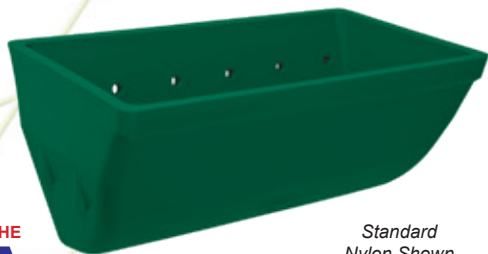
Compared to traditional chain, belt and bucket elevators, Polysur® Steel Web Core Belting fitted with Starco™ Jumbo buckets offer you:

- Lower capital investment
- Save up to 33% on component costs
- Increase capacity and efficiency
- Throughputs up to 1,000 TPH plus
- Belt strength up to 2,280 PIW
- Virtually no belt stretching
- No belt misalignment
- Lower maintenance costs
- Longer trouble-free life
- High temperature applications

- Details Pages 54 & 55



JUMBO™ CC-S® Ultra Heavy Duty Industrial & Agricultural Buckets



**MADE IN THE
USA**

Standard
Nylon Shown

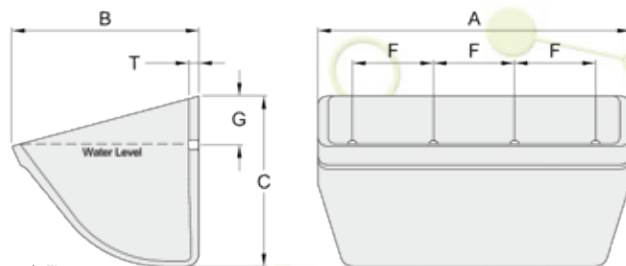
The JUMBO™ CC-S® is an ultra heavy duty version of the CC-S heavy duty elevator bucket. It is intended for the most severe environments such as frac sand, cement, fertilizer and applications with high temperature materials. It offers the greatest capacity and thickest front lip, corners and walls available. The unique Iceberg® Edge front face delivers impact resistance and long life. It shares the proven geometry and design features of the CC-S, including the benefit of stackability, which saves on freight costs and storage space. The JUMBO™ CC-S is molded from virgin nylon and urethane (HDPE also available) for ultra heavy duty strength and durability.

Material Virgin nylon, urethane or HDPE

Temp. Range Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F
HDPE: -120 °F to 180 °F

- Features**
- Maximum capacity
 - Ultra tough and flexible
 - Thickest front lip, walls and corners for long life
 - Stackable design for efficient shipping and storage
 - Tapered bottom for closer vertical spacing (projection +1/2")

Applications Severe environments handling rough and abrasive materials such as frac sand, cement and fertilizer.



U.S. Patent D496-052
Other Patents Pending

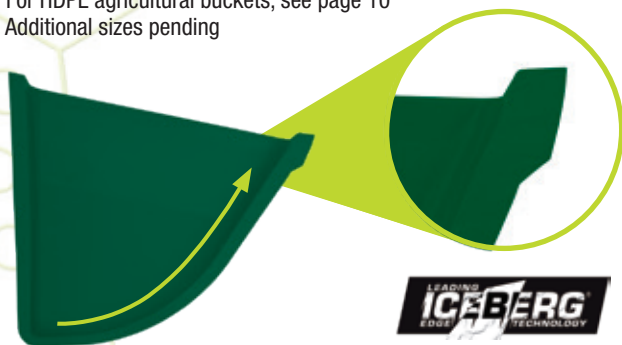
Standard Sizes

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	Nylon Weight (lbs.)	Urethane Weight (lbs.)	HDPE Weight (lbs.)	Package Quantity
		Length A	Projection B	Back Depth C	Back Wall Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Water Level +10%					
14 x 8	JCC-S148/*	14-7/8	9-1/4	8-5/16	0.51	5	5/16	3	2-3/8	451	496	8-1/2	5.52	6.48	4.80	9
16 x 8	JCC-S168/*	17	9-1/4	8-5/16	0.51	6	5/16	2-7/8	2-3/8	522	574	8-1/2	6.21	7.29	5.40	9
18 x 8	JCC-S188/*	19	9-1/4	8-5/16	0.51	6	5/16	3-1/8	2-3/8	594	653	8-1/2	6.90	8.10	6.00	9
20 x 8	JCC-S208/*	21	9-1/4	8-5/16	0.51	6	5/16	3-1/2	2-3/8	662	728	8-1/2	7.36	8.64	6.40	9
22 x 8	JCC-S228/*	23	9-1/4	8-5/16	0.53	6	5/16	4	2-3/8	726	799	8-1/2	8.28	9.72	7.20	9
24 x 8	JCC-S248/*	25	9-1/4	8-5/16	0.53	7	5/16	3-1/2	2-3/8	791	870	8-1/2	8.91	10.46	7.75	9

Low Profile Sizes

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	Nylon Weight (lbs.)	Urethane Weight (lbs.)	HDPE Weight (lbs.)	Package Quantity
		Length A	Projection B	Back Depth C	Back Wall Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Water Level +10%					
14 x 8	JCC-S148/LP/*	14-7/8	9-1/4	6-3/4	0.51	5	5/16	3	1-1/2	451	7	8-1/2	4.97	5.83	4.32	12
16 x 8	JCC-S168/LP/*	17	9-1/4	6-3/4	0.51	6	5/16	2-7/8	1-1/2	522	7	8-1/2	5.70	6.70	4.96	12
18 x 8	JCC-S188/LP/*	19	9-1/4	6-3/4	0.51	6	5/16	3-1/8	1-1/2	594	7	8-1/2	6.42	7.53	5.58	12
20 x 8	JCC-S208/LP/*	21	9-1/4	6-3/4	0.51	6	5/16	3-1/2	1-1/2	662	7	8-1/2	6.84	8.03	5.95	12
22 x 8	JCC-S228/LP/*	23	9-1/4	6-3/4	0.53	6	5/16	4	1-1/2	726	7	8-1/2	7.71	9.05	6.70	12
24 x 8	JCC-S248/LP/*	25	9-1/4	6-3/4	0.53	7	5/16	3-1/2	1-1/2	791	7	8-1/2	8.28	9.72	7.20	12

- * To specify material type, use 'N' for nylon or 'PU' for urethane at the end of the part number (example: 14 x 8 nylon = JCC-S148/N)
 - Actual dimensions may vary slightly depending on specified raw material
 - For HDPE agricultural buckets, see page 10
 - Additional sizes pending



Unique Iceberg® Edge front lip offers superior material thickness for the ultimate in wear resistance and long life. The triangular base creates a stiffening ridge across the front face of the bucket, preventing bowing and ensuring a consistent discharge over the life of the bucket.



AA Injection Molded Polymer Industrial Buckets



**MADE IN THE
USA**

Heavy duty HDPE, toughened nylon or urethane injection molded buckets. Designed as an alternative to cast iron buckets handling light to medium industrial granules and powders.

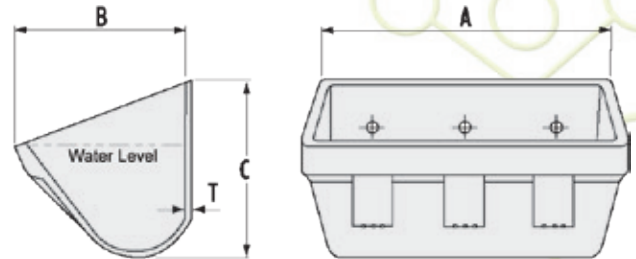
Material HDPE, toughened nylon or urethane

Temp. Range HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

- Injection molded for uniformity and smooth surfaces
- Light weight and durable
- Non-sparking & non-corrosive
- All polymers available in food grade

Applications Light to medium abrasive industrial products, such as sand, aggregate, cement, coal, glass, wood chips and fertilizer.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)					Capacity (cu. in.)		Bucket Spacing (in.)	Weight (lbs.)		
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Between Rows	Water Level	Gross		HDPE	Nylon	Urethane
4 x 3	AA43/*	4-1/4	3-1/8	3-1/8	0.205						13.4	15.9		0.18	0.20	0.24
5 x 4	AA54/*	5-1/4	4-1/8	4-1/8	0.205						34.8	45.2		0.44	0.51	0.60
6 x 4	AA64/*	6-1/4	4-1/8	4-1/8	0.205						41.5	54.3		0.49	0.56	0.69
7 x 4	AA74/*	7-1/4	4-1/8	4-1/8	0.225						51.3	65.3		0.56	0.65	0.78
7 x 5	AA75/*	7-1/8	5-1/8	5-1/4	0.325						76.6	94.6		0.82	0.93	1.14
8 x 5	AA85/*	8-1/8	5-1/8	5-1/4	0.325						89.7	111.7		1.02	1.17	1.40
9 x 5	AA95/*	9-1/8	5-1/8	5-1/4	0.320						101.3	122.0		1.02	1.17	1.41
9 x 6	AA96/*	9-3/8	6-1/8	6-1/8	0.290						132.4	170.9		1.23	1.45	1.72
10 x 6	AA106/*	10-3/8	6-1/8	6-1/8	0.322						148.3	191.6		1.39	1.54	1.88
11 x 6	AA116/*	11-3/8	6-1/8	6-1/8	0.285						163.5	209.3		1.43	1.63	1.99
12 x 6	AA126/*	12-3/8	6-1/8	6-1/8	0.345						186.1	248.1		1.95	2.21	2.62
12 x 7	AA127/*	12-3/8	7-1/8	7-1/8	0.284						244.1	320.4		2.21	2.47	3.00
14 x 7	AA147/*	14-3/8	7-1/8	7-1/8	0.300						298.4	384.4		2.57	2.91	3.50
14 x 8	AA148/*	14-3/8	8-1/8	8-1/8	0.455						351.5	463.8		3.64	4.12	4.93
16 x 8	AA168/*	16-3/8	8-1/8	8-1/8	0.455						406.4	540.1		4.12	4.62	5.58
18 x 8	AA188/*	18-1/8	8-1/8	8-1/8	0.455						467.4	619.4		4.52	5.24	6.09
18 x 10	AA1810/*	18-1/2	10-1/8	10-1/8	0.463						692.6	915.3		6.83	7.80	9.40

*Refer To
Pages 64-65*

Varies Per Application

* To specify material type, use 'TN' for nylon, 'HDP' for HDPE or 'PU' for urethane at the end of the part number (example: 4 x 3 nylon = AA43/TN)

- Standard bucket drilling for belt and chain patterns included in price, buckets also available without pre-drilled holes
- Digger buckets recommended for applications where material hardens within the boot section of the elevator leg
- Adapter plates recommended for chain attachment mounting
- Actual dimensions may vary slightly depending on specified raw material





BUDD AA Cast Nylon Industrial Buckets



MADE IN THE
USA

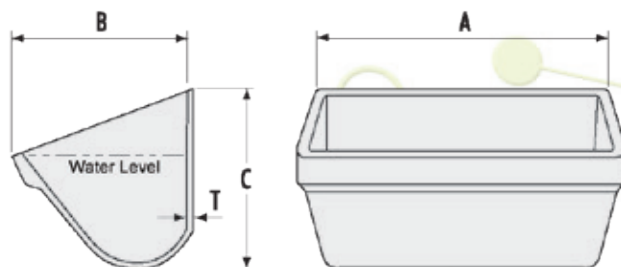
Material Cast nylon

Temp. Range -60 °F to 300 °F

Features

- Reinforced front lip
- Natural, built-in lubricant for clean discharge
- Non-sparking & non-corrosive
- Extra thick walls

Applications Light to medium abrasive industrial products, such as sand, aggregate, cement, coal, wood chips and fertilizer.



Nominal Size (in.)	Part #	Dimensions (in.)			Standard Punching (in.)				Capacity (cu. in.)		Bucket Spacing (in.)	Weight (lbs.)
		Length A	Projection B	Back Depth C	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross		
6 x 4	BUDDAA64CN	6-1/2	4	4-5/16					31.1	48.4		0.47
8 x 5	BUDDAA85CN	8-7/16	5	5-1/2					63.9	98.5		1.03
15 x 5	BUDDAA155CN	15-3/4	5-7/16	5-11/16					140.0	209.1		2.78
19 x 5	BUDDAA195CN	19-7/8	5-1/4	5-1/8					146.9	228.1		3.20
10 x 6	BUDDAA106CN	10-5/8	6	6-1/4					114.1	176.3		1.54
12 x 7	BUDDAA127CN	12-7/16	7-1/2	7-5/16					195.3	300.7		2.78
14 x 7	BUDDAA147CN	14-3/4	7-9/16	7-7/16					241.9	373.3		3.13
14 x 8	BUDDAA148CN	14-1/2	8	8-1/2					279.9	442.4		3.68
16 x 8	BUDDAA168CN	16-5/8	8	8-9/16					328.3	501.1		4.78
18 x 8	BUDDAA188CN	17-3/4	8	8-1/2					362.9	534.0		4.52
24 x 8	BUDDAA248CN	24	8	8-11/16					445.8	623.8		9.06
18 x 10	BUDDAA1810CN	18-7/8	10-3/16	10-9/16					539.1	839.8		8.92
24 x 13	BUDDAA2413CN	24	12-1/4	12-3/4					946.9	1,728.0		18.58

Refer To
Pages 64-65

Varies Per Application

- Standard bucket drilling for belt and chain patterns included in price, buckets also available without pre-drilled holes
- Digger buckets recommended for applications where material hardens within the boot section of the elevator leg
- Adapter plates recommended for chain attachment mounting



AD DIN 15234 Nyrim® Industrial Buckets



Heavy-duty DIN 15234 Nyrim® high capacity industrial bucket made from the toughest polymer available, and designed to handle light to heavy abrasive granules or powders. Ideal for solid and dense materials where superior impact resistance, or anti-static properties are required. Suitable for use with either elevator belting or chain.

Material

Nyrim® - toughened rubber, elastomer-modified AP-Nylon

Temp. Range

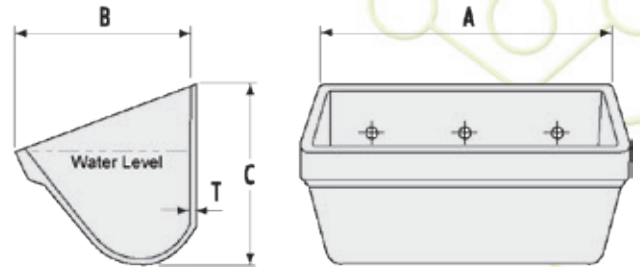
-40 °F to 284 °F

Features

- Made from Nyrim®, high grade nylon/rubber
- Designed for superior impact resistance
- Anti-Static (10⁸ Ohms)
- High wearing bucket for long life

Applications

Light and dusty to heavy abrasive industrial products, such as sand, aggregate, cement, coal, wood chips and gypsum.



		Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)			
Nominal Size (in.)	Part #	Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross	Bucket Spacing (in.)	Weight (lbs.)
14 x 8	AD300NY	14-1/4	8	8-1/2	1/2	<i>To Customer Specifications</i>				252	412	<i>To Customer Specifications</i>	3.75
16 x 9	AD400NY	16-5/8	9-3/4	11-1/4	3/8					549	874		6.06
20 x 10	AD500NY	20-5/8	10-3/4	12-5/8	1/2					915	1,415		8.38
25 x 12	AD630NY	25-3/4	12	14-1/4	1/2					1,427	2,196		15.00

- Standard bucket drilling for belt and chain patterns included in price, buckets also available without pre-drilled holes
- Digger buckets recommended for applications where material hardens within the boot section of the elevator leg





Polypenco DIN 15234 Nylatron® Industrial Buckets



Polypenco Nylatron® cast nylon buckets are designed for tough long life solutions in industrial applications. Available in two styles: NBA - for use in relatively narrow width elevator legs, and DIN - for elevators designed around DIN 15234. Ideal for difficult to handle sticky products, and suitable for use with either elevator belting or chain.

Material

Nylatron® - Nylon filled with molybdenum disulfide (MoS2) lubricant powder

Temp. Range

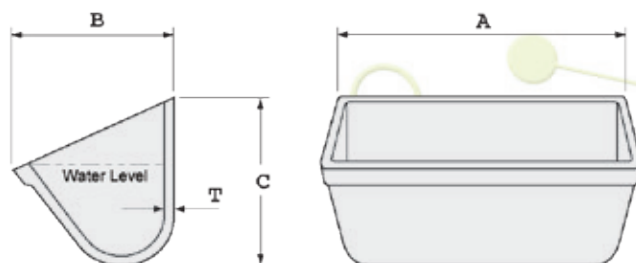
-40 °F to 284 °F

Features

- Reinforced front lip
- Built-in lubricant for clean discharge
- Ideal for sticky products
- Great abrasion resistance

Applications

Light to heavy abrasive industrial products, such as sand, aggregate, cement, coal, wood chips & gypsum.



NBA Sizes

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Bucket Spacing (in.)	Weight (lbs.)
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross		
8 x 4	NBA-8	8-1/8	4-3/8	5	5/16					60	73		1.30
10 x 5	NBA-10	10	4-7/8	5-9/16	5/16					88	113		1.70
12 x 6	NBA-12	12-1/2	6-9/16	6-7/16	5/16					165	275		2.49
14 x 7	NBA-14	14-1/4	7	7-1/2	5/16	To Customer Specifications				244	372	To Customer Specifications	3.37
14 x 8	NBA-15	14-9/16	8-1/8	8-3/4	5/16					351	523		3.97
16 x 8	NBA-16	16-1/4	8-1/4	8	5/16					342	568		3.99
18 x 8	NBA-18	18	7-13/16	9	5/16					458	677		5.51

DIN Sizes

Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Bucket Spacing (in.)	Weight (lbs.)
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross		
8 x 7	DIN200/160	8-3/16	7	8-1/4	5/16					136	223		2.76
10 x 7	DIN250/180	10-13/16	7-13/16	9-3/16	5/16					216	342		3.51
13 x 8	DIN315/200	13-3/8	8-5/8	10-1/4	5/16					329	604		5.25
16 x 9	DIN400/225	16-13/16	9-5/8	11-7/16	5/16	To Customer Specifications				552	928	To Customer Specifications	7.01
20 x 10	DIN500/250	20-3/4	10-5/8	12-15/16	5/16					878	1,460		9.26
25 x 12	DIN630/280	25-13/16	11-7/8	14-3/8	5/16					1,385	2,270		11.99



AA Ductile Iron Industrial Buckets



Industrial strength long wearing ductile iron buckets with reinforced front lip. Designed to handle medium to heavy abrasive granules and powders.

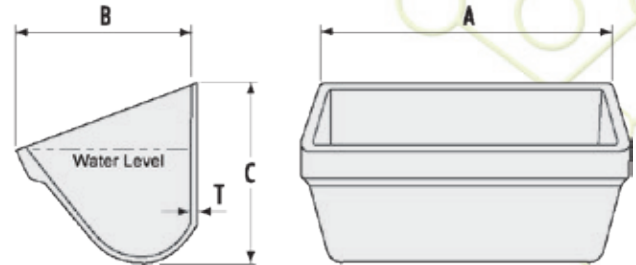
Material Ductile iron

Temp. Range -60 °F to 800 °F

Features

- Reinforced front lip
- Super abrasive resistant hardened versions available
- Designed for extremely abrasive materials

Applications Medium to heavy abrasive industrial products, such as sand, aggregate, cement, coal, asphalt and glass.



Nominal Size (in.)	Part #	Dimensions (in.)				Standard Punching (in.)					Capacity (cu. in.)		Bucket Spacing (in.)	Weight (lbs.)
		Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Size	Hole Center F	Dist. Down G	Between Rows	Water Level	Gross		
4 x 3	AM043	4-1/2	3-3/8	3-1/2	.185						17.1	24.2		1.70
5 x 3-1/2	AM053	5	3-11/16	3-3/4	.185						24.0	32.0		2.50
6 x 4	AM064	6-1/2	4-3/8	4-1/2	.250						42.3	63.5		3.80
7 x 4-1/2	AM074	7-1/2	4-3/8	4-1/2	.250						49.5	76.2		4.00
7 x 5	AM075	7-7/8	5-1/8	5-1/2	.250						68.6	102.9		6.10
8 x 5	AM085	8-1/2	5-3/8	5-1/2	.250						83.1	126.3		6.50
9 x 5	AM095	9-1/2	5-3/8	5-1/2	.250						90.7	138.8		7.50
11 x 5	AM115	11-7/8	5-1/4	5-1/2	.210						102.6	153.9		7.00
15 x 5	AM155	15-7/8	5	5-1/2	.210						154.2	235.9		10.70
19 x 5	AM195	19-7/8	5-1/4	5-1/2	.250						198.2	303.2		14.10
9 x 6	AM096	9-5/8	6-3/8	6-1/2	.300						124.7	190.8		10.20
10 x 6	AM106	10-5/8	6-3/8	6-1/2	.300						143.4	219.7		11.20
11 x 6	AM116	11-5/8	6-3/8	6-1/2	.300						159.8	244.5		12.20
12 x 6	AM126	12-5/8	6-3/8	6-1/2	.300						175.4	268.3		13.10
12 x 7	AM127	12-5/8	7-3/8	7-1/2	.330						219.7	350.9		18.50
14 x 7	AM147	14-5/8	7-3/8	7-1/2	.330						265.2	407.0		20.40
16 x 7	AM167	16-5/8	7-3/8	7-1/2	.330						301.2	460.9		22.90
14 x 8	AM148	14-5/8	8-3/8	8-1/2	.375						366.0	526.0		24.60
16 x 8	AM168	16-5/8	8-3/8	8-1/2	.375						381.4	599.2		26.80
18 x 8	AM188	18-5/8	8-3/8	8-1/2	.375						450.3	695.0		30.00
20 x 8	AM208	20-5/8	8-3/8	8-1/2	.375						499.3	763.9		34.30
24 x 8	AM248	24-5/8	8-3/8	8-1/2	.375						597.4	914.0		42.90
18 x 10	AM1810	18-3/4	10-3/8	10-1/2	.440						661.5	1,012.9		44.60

Refer To
Pages 64-65

Varies Per Application





AC Cast Nylon & Ductile Iron Industrial Buckets



MADE IN THE
USA

Material

Cast nylon
Ductile iron

Temp. Range

-60 °F to 300 °F (Nylon)
-60 °F to 800 °F (Iron)

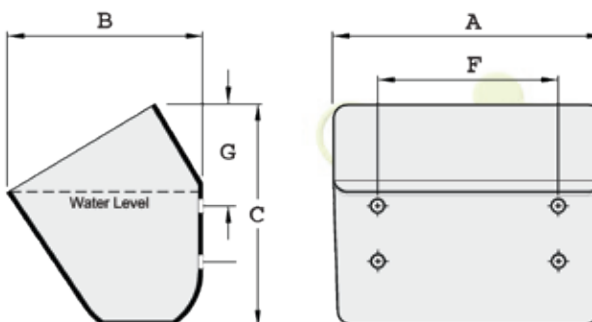
Features

- Hooded back for closer spacing
- High front for greater capacity
- Reinforced front lip
- Natural, built-in lubricant for clean discharge

Applications

Light to heavy abrasive industrial products, such as sand, aggregate, cement, wood chips and fertilizer.

Industrial strength long wearing cast nylon buckets with reinforced front lip and built-in lubricant. Deep, angle back style bucket designed to handle light to heavy abrasive granules and powders in large capacity applications.



Cast Nylon Sizes

Nominal Size (in.)	Part #	Dimensions (in.)			Standard Punching (in.)				Capacity (cu. in.)		
		Length A	Projection B	Back Depth C	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross	Weight (lbs.)
18 x 10	BUDDAC1810CN	19	11-1/16	11-3/8	To Customer Specifications				793.2	1,130.1	10.45
24 x 10	BUDDAC2410CN	25	10-3/4	11-1/16					988.4	1,349.6	15.46

Ductile Iron Sizes

Nominal Size (in.)	Part #	Dimensions (in.)			Standard Punching (in.)				Capacity (cu. in.)		
		Length A	Projection B	Back Depth C	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross	Weight (lbs.)
12 x 8	AC128	12	8	8-1/2	To Customer Specifications				337.0	449.3	25
16 x 8	AC168	16	8	8-1/2					479.6	639.4	35
18 x 10	AC1810	18	10	10-1/2	To Customer Specifications				816.5	1,088.6	52
24 x 10	AC2410	24	10	10-1/2					1,140.5	1,520.6	72

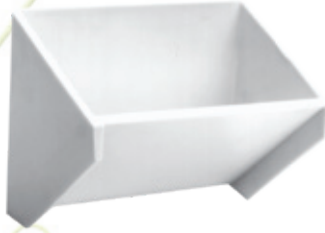
- Bucket spacing varies by application
- Standard bucket drilling for belt and chain patterns included in price, buckets also available without pre-drilled holes
- Digger buckets recommended for applications where material hardens within the boot section of the elevator leg
- Adapter plates recommended for chain attachment mounting



MF Continuous Molded Industrial Buckets



**MADE IN THE
USA**



Continuous style industrial heavy-duty injection molded polymer buckets with a medium front design for slow gravity discharge elevator systems.

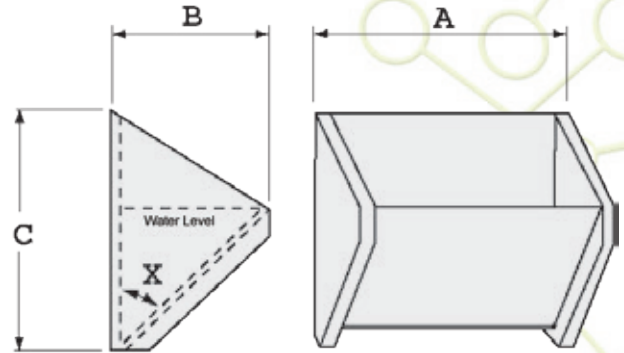
Material HDPE, toughened nylon, or urethane

Temp. Range HDPE: -120 °F to 180 °F
Nylon: -60 °F to 300 °F
Urethane: -60 °F to 180 °F

Features

- Injection molded for uniformity
- Non-sparking & non-corrosive
- All polymers available in food grade

Applications Light to medium industrial products which require slow operating speeds to reduce abrasion such as aggregates. Slow speed gentle handling of pellets or seeds, and light fluffy materials such as saw dust and powders.



Nominal Size (in.)	Part #	Dimensions (in.)					Standard Punching (in.)				Capacity (cu. in.)		Standard Spacing (in.)	Weight (lbs.)		
		Length A	Projection B	Back Depth C	Thickness	Angle X°	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Gross		Nylon	HDPE	Urethane
8 x 5	MF85/*	8-1/4	5-1/2	7-1/2	0.380	50					80.6	122.1	8	1.97	1.70	2.37
10 x 5	MF105/*	10-1/4	5-1/2	7-1/2	0.395	50					94.9	144.6	8	2.32	2.04	2.86
12 x 7	MF127/*	12-1/4	7-1/2	11-1/2	0.350	50					172.6	371.0	12	4.00	3.62	4.80
14 x 7	MF147/*	14-1/4	7-1/2	11-1/2	0.325	50					201.3	436.2	12	4.53	3.88	5.33
16 x 7	MF167/*	16-1/4	7-1/2	11-1/2	0.325	50	Refer To Pages 64-65				238.8	503.6	12	4.97	4.39	5.97
18 x 7	MF187/*	18-1/4	7-1/2	11-1/2	0.325	50					244.3	530.4	12	5.83	4.95	6.74
12 x 8	MF128/*	12-1/4	8-1/2	11-3/4	0.325	50					274.6	462.5	12	4.81	4.32	5.65
14 x 8	MF148/*	14-1/4	8-1/2	11-3/4	0.325	50					335.6	554.7	12	5.26	4.57	6.28
16 x 8	MF168/*	16-1/4	8-1/2	11-3/4	0.325	50					396.6	646.8	12	5.81	5.17	7.03
18 x 8	MF188/*	18-1/4	8-1/2	11-3/4	0.325	50					467.7	739.0	12	6.77	5.83	7.94

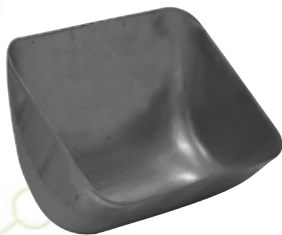
* To specify bucket material type, use 'TN' for nylon, 'HDP' for HDPE or 'PU' for urethane at the end of the part number (example: 8 x 5 nylon = MF85/TN)

- Standard bucket drilling for belt and chain patterns included in price, buckets also available without pre-drilled holes
- Digger buckets recommended for applications where material hardens within the boot section of the elevator leg
- Adapter plates recommended for chain attachment mounting
- Actual dimensions may vary slightly depending on specified raw material





A Type - Shallow Pattern Euro Style Industrial Bucket



A type pressed steel shallow pattern buckets are generally used for sticky materials at slow speed and for free-flowing materials at higher speeds and closer spacing.

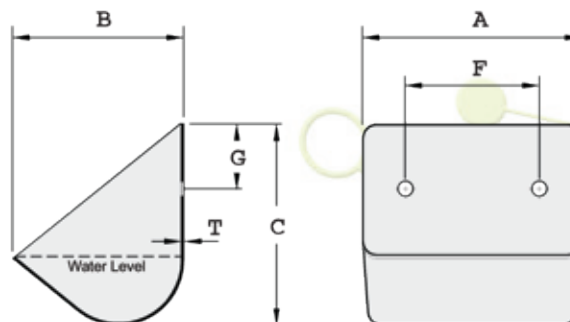
Material Seamless steel

Temp. Range Contact 4B

Features

- Pressed seamless steel, no welds or joints
- Great strength and long life
- Designed for sticky materials at slow speeds or free-flowing materials at higher speeds

Applications Cereals, pellets, light agricultural applications.



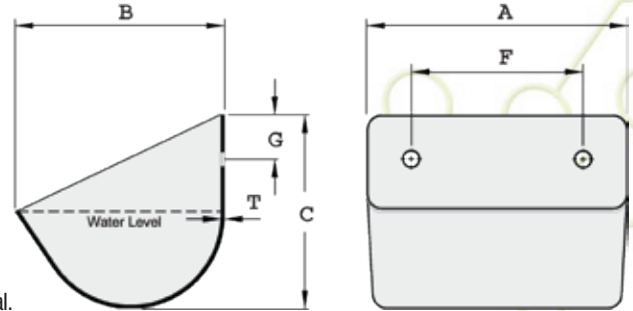
Part #	Dimensions (mm)				Standard Punching (mm)				Capacity (L)		
	Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Hole Ø	Hole Center F	Dist. Down G	Water Level	Gross	Weight (kg)
A1P/0.9	92	57	64	0.9					0.05	0.15	0.09
A12/1.5	127	83	95	1.5					0.20	0.49	0.31
A26/1.2	127	108	124	1.2					0.29	0.84	0.32
A29/1.2	152	108	124	1.2					0.34	0.96	0.39
A32/1.5	178	108	124	1.5					0.44	1.20	0.57
A59/3.0	229	121	143	3.0					0.75	1.88	1.70
A69/3.0	254	149	187	3.0					1.47	3.65	2.31
A72/3.0	305	168	229	3.0					2.50	3.24	3.27



B Type - Medium Pattern Euro Style Industrial Buckets



B type medium capacity buckets are generally used for sticky material at slow speeds and for free-flowing materials at higher speed and closer spacing.



Material

Seamless steel, seamless stainless steel or HDPE (limited sizes)

Temp. Range

Steel: Contact 4B
HDPE: -120 °F to 180 °F

Features

- Pressed steel or molded polymer, no welds or joints
- Designed for sticky materials at slow speeds or free-flowing materials at higher speeds

Applications

Cereals, sticky materials, pellets, light industrial or agricultural.

Part # / #'s	Dimensions (mm)				Standard Punching (mm)				Capacity (L)		
	Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Hole Ø	Hole Center F	Dist. Down G	Water Level	Gross	Weight (kg)
B10/1.2	64	51	57	1.2					0.06	0.10	0.80
B17/0.9	76	70	67	0.9					0.10	0.18	0.10
B21/1.2	95	70	67	1.2					0.13	0.22	0.14
B345/1.2	76	83	76	1.2					0.13	0.24	0.14
B38/1.2	102	86	83	1.2					0.20	0.38	0.18
B44/1.2	127	86	83	1.2					0.23	0.46	0.23
B59/1.2	114	89	89	1.2					0.23	0.46	0.23
B63/1.2	127	89	89	1.2					0.30	0.55	0.27
B66/1.2	140	89	89	1.2					0.32	0.62	0.29
B70/1.2	152	89	89	1.2					0.34	0.64	0.32
B114/1.5	152	95	98	1.5					0.42	0.75	0.41
B117/3.0	152	95	98	3.0					0.42	0.75	0.79
B134/HDP	220	106	104	4.0					0.62	1.15	0.18
B134/1.5/P+R	216	95	98	1.5					0.57	1.15	0.57
B135/1.5	229	95	98	1.5					0.60	1.25	0.59
B147/1.5 ~ B149/3.0	152	117	108	1.5 ~ 3.0					0.59	1.10	0.52 ~ 0.98
B151/1.5 ~ B153/3.0	178	117	108	1.5 ~ 3.0					0.65	1.15	0.54 ~ 1.02
B155/1.5 ~ B157/3.0	203	117	108	1.5 ~ 3.0					0.83	1.40	0.64 ~ 1.20
B166/1.2 ~ B167/1.5	127	121	114	1.2 ~ 1.5					0.50	0.95	0.36 ~ 0.43
B175/1.5	152	121	114	1.5					0.64	1.10	0.54
B188/2.0	191	121	114	2.0					0.83	1.40	0.77
B198/1.2	229	121	114	1.2					1.00	1.75	0.57
B200/2.0 ~ B201/3.0	229	121	114	2.0 ~ 3.0					1.00	1.75	0.88 ~ 1.29
B205/1.5	254	120	114	1.5					1.10	1.90	0.82
B211/1.5	178	130	114	1.5					0.80	1.45	0.59
B219/1.5 ~ B221/3.0	203	130	114	1.5 ~ 3.0					0.92	1.65	0.64 ~ 1.29
B234/3.0	241	130	114	3.0					1.15	2.00	1.56
B237/2.0 ~ B238/3.0	254	130	114	2.0 ~ 3.0					1.25	2.10	1.09 ~ 1.54
B242/3.0	279	130	114	3.0					1.35	2.35	1.72
B258/1.5	203	133	127	1.5					0.90	1.85	0.79
B263/1.5 ~ B266/3.0	229	133	127	1.5 ~ 3.0					1.00	2.00	0.86 ~ 1.56
B269/2.0	254	133	127	2.0					1.15	2.25	1.13
B278/1.5 ~ B281/3.0	305	133	127	1.5 ~ 3.0					1.35	2.80	1.00 ~ 2.00
B283/1.5	333	140	140	1.5					2.00	3.75	1.18
B297/3.0	203	152	149	3.0					1.00	2.25	1.63
B301/3.0	254	152	149	3.0					1.40	2.75	2.00
B303/1.5	305	152	149	1.5					1.75	3.50	1.18
B304/HDP	298	145	149	6.5					1.18	3.00	0.47
B304/2.0/P+R ~ B305/3.0	305	152	149	2.0 ~ 3.0					1.75	3.50	1.56 ~ 2.31
B307/2.0	381	152	152	2.0					2.50	4.85	1.93
B364/2.0 ~ B365/3.0	254	152	178	2.0 ~ 3.0					2.00	3.60	1.54 ~ 2.27
B323/3.0	305	178	181	3.0					2.75	5.50	2.83
B328/3.0	356	178	181	3.0					3.25	6.52	3.52
B335/3.0	305	178	206	3.0					2.50	5.75	3.02
B339/3.0	381	210	184	3.0					4.25	8.00	4.08
B340/3.0	457	235	210	3.0					7.00	13.00	5.08
B341/4.7	457	235	210	4.7					7.00	13.00	6.26

To Customer Specifications



C Type - Medium Deep Pattern Euro Style Industrial Buckets



C type pressed steel buckets are suitable for free-flowing materials, or for materials elevated at slower speeds.

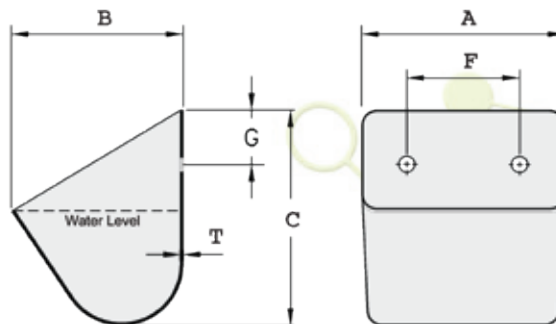
Material Seamless steel or stainless steel

Temp. Range Contact 4B

Features

- Pressed seamless steel, no welds or joints
- Great strength and long life
- Designed for free-flowing materials or other materials at slower speeds

Applications Cereals, sticky materials, pellets, light agricultural, or heavy industrial applications.



Part # / #'s	Dimensions (mm)				Standard Punching (mm)				Capacity (L)		
	Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Hole Ø	Hole Center F	Dist. Down G	Water Level	Gross	Weight (kg)
C240/1.2	89	79	92	1.2					0.21	0.35	0.18
C14/2.0	102	79	92	2.0					0.24	0.40	0.36
C16/1.2 ~ C19/3.0	127	79	92	1.2 ~ 3.0					0.30	0.49	0.25 ~ 0.50
C22/1.5	152	79	92	1.5					0.36	0.59	0.36
C27/2.0	102	89	108	2.0					0.32	0.52	0.39
C30/1.2 ~ C33/3.0	127	89	108	1.2 ~ 3.0					0.40	0.66	0.29 ~ 0.68
C37/2.0 ~ C38/3.0	152	89	108	2.0 ~ 3.0					0.50	0.78	0.53 ~ 0.79
C42/2.0	178	89	108	2.0					0.60	0.96	0.68
C193/1.2	140	95	111	1.2					0.46	0.79	0.32
C98/1.2	127	102	127	1.2					0.55	0.89	0.34
C104/1.5	152	102	127	1.5					0.66	1.10	1.02
C116/3.0	203	102	127	3.0					0.92	1.50	1.25
C119/1.5	229	102	127	1.5					1.10	1.80	0.79
C123/1.2	127	114	143	1.2					0.70	1.15	0.43
C129/1.5 ~ C131/3.0	152	114	143	1.5 ~ 3.0					0.85	1.35	0.61 ~ 1.16
C135/1.5 ~ C138/3.0	178	114	143	1.5 ~ 3.0					1.00	1.60	0.68 ~ 1.34
C141/1.5 ~ C144/3.0	203	114	143	1.5 ~ 3.0					1.06	1.81	0.73 ~ 1.45
C147/1.5	229	114	143	1.5					1.30	2.10	0.84
C154/1.5 ~ C156/3.0	254	114	143	1.5 ~ 3.0					1.40	2.30	0.93 ~ 1.81
C159/2.0	152	140	159	2.0					1.20	1.80	1.07
C162/1.5	178	140	159	1.5					1.40	2.15	0.84
C166/1.5 ~ C168/3.0	203	140	159	1.5 ~ 3.0					1.65	2.45	0.95 ~ 1.72
C170/1.5	229	140	159	1.5					1.85	2.85	1.07
C171/2.0	229	140	159	2.0					1.85	2.85	1.36
C172/3.0	229	140	159	3.0					1.85	2.85	1.97
C175/2.0 ~ C176/3.0	254	140	159	2.0 ~ 3.0					2.00	3.10	1.43 ~ 2.04
C179/1.5 ~ C181/3.0	279	140	159	1.5 ~ 3.0					2.35	3.55	1.20 ~ 1.86
C184/2.0	305	140	159	2.0					2.70	4.05	1.77
C185/3.0	305	140	159	3.0					2.70	4.05	2.54
C231/3.0	356	181	181	3.0					4.70	6.55	3.61

To Customer Specifications



D Type - Deep Pattern Euro Style Industrial Buckets



D type pressed steel buckets are suitable for free-flowing materials, or for materials elevated at slower speeds.

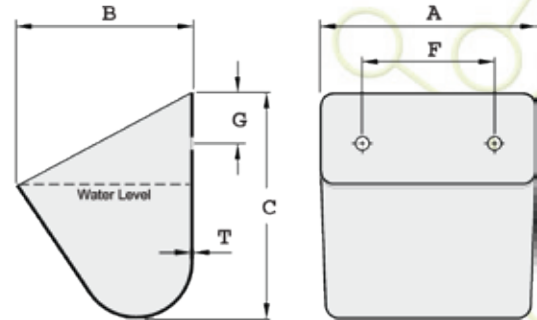
Material Seamless steel

Temp. Range Contact 4B

Features

- Pressed seamless steel, no welds or joints
- Heavy-duty applications
- Designed for free-flowing materials or other materials at slower speeds

Applications Light industrial, cement, heavy industrial applications.



Part #	Dimensions (mm)				Standard Punching (mm)				Capacity (L)		
	Length A	Projection B	Back Depth C	Thickness T	# Holes	Bolt Hole Ø	Hole Center F	Dist. Down G	Water Level	Gross	Weight (kg)
D21/3.0	203	127	146	3.0					1.35	2.10	1.50
D55/3.0	229	152	200	3.0					2.59	3.95	2.40
D58/2.0	254	152	200	2.0					2.65	4.40	1.84
D61/3.0	254	152	200	3.0					2.65	4.40	2.59
D64/3.0	279	152	200	3.0					3.00	4.85	2.77
D66/1.5	305	152	200	1.5					3.20	5.20	1.54
D69/3.0	305	152	200	3.0					3.20	5.20	3.02
D96/3.0	356	184	229	3.0					4.35	7.80	3.99
D106/3.0	381	184	229	3.0					4.60	8.50	4.26
D108/4.7	381	184	229	4.7					4.60	8.50	6.71
D120/4.7	457	191	254	4.7					7.65	12.20	9.00
D160/3.0	406	197	244	3.0					7.20	10.75	5.17
D180/4.7	406	197	244	4.7					7.20	10.75	7.89
D123/4.7	508	203	273	4.7					9.25	15.25	10.54
D131/3.0	619	210	298	3.0					9.50	20.00	7.80
D132/4.7	619	210	298	4.7					9.50	20.00	12.61
D181/4.7	381	222	254	4.7					7.35	12.15	7.94

To Customer Specifications





Fabricated Steel Digger Buckets



- Available in wingless or traditional CC styles



Digger elevator buckets are used in conjunction with plastic buckets to help break up material that can harden in the boot section of a bucket elevator.

Made from extra heavy duty steel with a reinforced front lip, digger buckets extend 1/4" further than plastic buckets to provide the proper digging action to loosen hardened material.

MADE IN THE
USA

Features

- Thick reinforced lip for superior abrasion resistance and strength
- Resistant to distortion from scooping heavy or packed materials (sand, glass, gravel, etc.)
- Mounted on chain or belt
- Options: carbon steel, stainless steel, AR plate, wear lips and hard weld



Consult 4B to ensure no clearance issues occur when using digger buckets in your elevator

Nominal Size (in.)	Dimensions (in.)				Standard Punching (in.)				Capacity (cu. in.)		Minimum Spacing (in.)	Approximate Weight (lbs.)
	Length A	Projection B	Back Depth C	Standard Gauge	# Holes	Bolt Size	Hole Center F	Dist. Down G	Water Level	Water Level +10%		
4 x 3	4-1/2	3-3/4	3-1/16	12	2	1/4	2-1/2	7/8	17	19	3-1/2	2.25
5 x 4	5-1/2	4-3/4	4-1/16	12	2	1/4	3-3/16	7/8	37	41	4-1/2	2.50
6 x 4	6-1/2	4-3/4	4-1/16	12	2	1/4	4-3/8	1-1/4	45	50	4-1/2	3.40
7 x 4	7-1/2	4-3/4	4-1/16	12	3	1/4	2-11/16	1-1/4	53	58	4-1/2	3.25
6 x 5	6-5/8	5-3/4	5-3/16	10	2	1/4	4-3/8	1-1/4	70	77	5-1/2	4.75
7 x 5	7-5/8	5-3/4	5-3/16	10	3	1/4	2-11/16	1-1/4	83	91	5-1/2	5.20
8 x 5	8-5/8	5-3/4	5-3/16	10	3	1/4	3-1/16	1-1/4	95	105	5-1/2	5.60
9 x 5	9-5/8	5-3/4	5-3/16	10	3	1/4	3-5/8	1-1/4	107	118	5-1/2	6.25
10 x 5	10-5/8	5-3/4	5-3/16	10	3	1/4	4-1/8	1-1/4	120	132	5-1/2	6.75
11 x 5	11-5/8	5-3/4	5-3/16	10	4	1/4	3	1-1/4	132	145	5-1/2	7.30
12 x 5	12-5/8	5-3/4	5-3/16	10	4	1/4	3-3/8	1-1/4	145	160	5-1/2	8.40
8 x 6	8-5/8	6-7/8	6-1/16	10	3	1/4	3-1/16	1-7/8	136	150	6-1/2	7.75
9 x 6	9-5/8	6-7/8	6-1/16	10	3	1/4	3-5/8	1-7/8	154	169	6-1/2	8.25
10 x 6	10-5/8	6-7/8	6-1/16	10	3	1/4	4-1/8	1-7/8	172	190	6-1/2	8.90
11 x 6	11-5/8	6-7/8	6-1/16	10	4	1/4	3	1-7/8	190	209	6-1/2	9.35
12 x 6	12-5/8	6-7/8	6-1/16	10	4	1/4	3-3/8	1-7/8	209	230	6-1/2	9.75
13 x 6	13-5/8	6-7/8	6-1/16	10	4	1/4	3-5/8	1-7/8	227	250	6-1/2	10.25
14 x 6	14-5/8	6-7/8	6-1/16	10	4	1/4	3	1-7/8	240	264	6-1/2	10.60
10 x 7	11	8-1/16	7-1/16	10	3	5/16	4-1/8	2	241	266	7-1/2	10.45
11 x 7	12	8-1/16	7-1/16	10	4	5/16	3	2	267	293	7-1/2	11.30
12 x 7	13	8-1/16	7-1/16	10	4	5/16	3-3/8	2	292	321	7-1/2	11.90
13 x 7	14	8-1/16	7-1/16	10	4	5/16	3-5/8	2	317	349	7-1/2	12.25
14 x 7	15	8-1/16	7-1/16	10	5	5/16	3	2	343	377	7-1/2	12.90
15 x 7	16	8-1/16	7-1/16	10	5	5/16	3-1/4	2	368	405	7-1/2	15.45
16 x 7	17	8-1/16	7-1/16	10	6	5/16	2-7/8	2	393	432	7-1/2	16.25
10 x 8	11	9-1/16	8-1/4	10	3	5/16	4-1/8	2-3/8	316	348	8-1/2	12.50
11 x 8	12	9-1/16	8-1/4	10	4	5/16	3	2-3/8	349	384	8-1/2	13.75
12 x 8	13	9-1/16	8-1/4	10	4	5/16	3-3/8	2-3/8	384	422	8-1/2	14.60
13 x 8	14	9-1/16	8-1/4	10	4	5/16	3-5/8	2-3/8	417	459	8-1/2	15.25
14 x 8	15	9-1/16	8-1/4	10	5	5/16	3	2-3/8	451	496	8-1/2	15.80
15 x 8	16	9-1/16	8-1/4	10	5	5/16	3-1/4	2-3/8	484	533	8-1/2	16.30
16 x 8	17	9-1/16	8-1/4	10	6	5/16	2-7/8	2-3/8	517	569	8-1/2	17.10
18 x 8	19	9-1/16	8-1/4	10	6	5/16	3-1/8	2-3/8	586	645	8-1/2	19.80
20 x 8	21	9-1/16	8-1/4	10	6	5/16	3-1/2	2-3/8	652	718	8-1/2	23.45

- Digger buckets typically installed using 1 to 10 ratio, contact 4B for more information

Fabricated Steel Industrial Buckets



Fabricated for light to super heavy duty industrial applications from mild steel, stainless steel or hot dipped galvanized steel.

Common styles and sizes are noted below and on the following pages.

Custom designs and special sizes are also available per customer specifications.



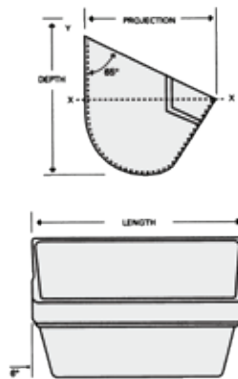
MADE IN THE
USA

- Other styles / sizes available

AA Style Steel

Features

- Thick reinforced lip for superior abrasion resistance and strength
- Resistant to distortion from scooping heavy or packed materials (sand, glass, gravel, etc.)
- Mounted on chain or belt
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



- A style also available (no front wear band)

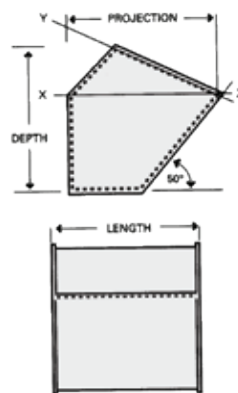
Dimensions (in.)			Weight (lbs.)				Capacity (cu. ft.)	
Length	Projection	Depth	12 Gauge Steel	10 Gauge Steel	3/16" Steel	1/4" Steel	Water Level X-X	Gross X-Y
4	2-3/4	3	1.2	1.5	2.0	---	0.01	0.01
5	3-1/2	3-3/4	1.8	2.3	3.2	---	0.01	0.02
6	4	4-1/4	2.4	3.0	4.0	5.3	0.02	0.03
7	4-1/2	5	3.2	4.1	5.4	7.1	0.03	0.05
8	5	5-1/2	4.2	5.3	7.1	9.4	0.05	0.07
10	6	6-1/4	5.7	7.4	9.8	13.0	0.08	0.12
11	6	6-1/4	6.2	7.9	10.5	13.9	0.08	0.13
12	6	6-1/4	6.6	8.5	11.3	15.0	0.09	0.15
12	7	7-1/4	8.1	10.4	13.9	18.5	0.12	0.20
14	7	7-1/4	---	11.7	15.7	20.9	0.15	0.23
14	8	8-1/2	---	13.9	18.6	24.8	0.20	0.32
15	7	7-1/4	---	12.4	16.6	22.1	0.16	0.25
16	7	7-1/4	---	13.0	17.5	23.2	0.17	0.27
16	8	8-1/2	---	15.4	20.7	27.5	0.23	0.36
18	8	8-1/2	---	16.9	22.7	30.2	0.26	0.41
18	10	10-1/2	---	21.5	28.9	38.4	0.34	0.63
20	8	8-1/2	---	18.4	27.7	32.9	0.29	0.45
24	8	8-1/2	---	21.4	28.8	38.3	0.35	0.54

- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64

AC Style Steel

Features

- High front for greater capacity
- Hooded back for closer spacing
- Typical in cement, gypsum powder or other powdery materials
- Venting and drain holes available
- Mounted on chain or belt
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



- Bottom vent holes optional

Dimensions (in.)			Weight (lbs.)*		Capacity (cu. ft.)	
Length	Projection	Depth	3/16" Steel	1/4" Steel	Water Level X-X	Gross X-Y
12	8	8-1/2	18.3	24.3	0.23	0.30
14	8	8-1/2	20.3	27.0	0.27	0.36
16	8	8-1/2	22.5	29.0	0.31	0.41
18	10	10-1/2	31.2	39.0	0.49	0.69
20	10	10-1/2	33.7	42.1	0.54	0.77
24	10	10-1/2	39.7	52.7	0.65	0.92
27	12	12-1/2	53.8	71.5	1.07	1.47

- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64
* Weights do not include back plates

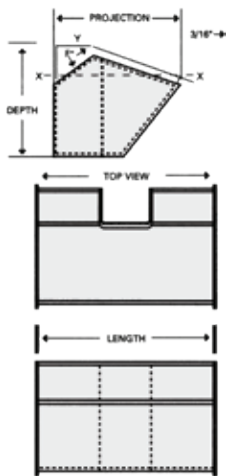


Fabricated Steel Industrial Buckets

ACS Style Steel

Features

- High front, saddlebag or wrap around feature increases capacity
- Hooded back permits close bucket spacing
- Suitable for handling abrasive materials
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



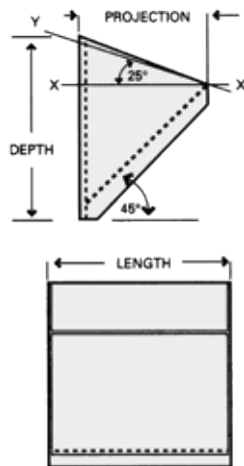
Dimensions (in.)			Angle	Weight (lbs.)		Capacity (cu. ft.)	
Length	Projection	Depth	F°	3/16" Steel With Lip	3/16" Steel No Lip	Water Level X-X	Gross X-Y
14	12	11-3/8	26	36	32	0.37	0.53
16	12	11-3/8	26	39	35	0.44	0.62
18	12	11-3/8	26	42	37	0.51	0.70
21	14	13-3/8	28	56	51	0.78	1.08
24	14	13-3/8	28	62	56	0.93	1.28
27	15	13-3/8	21	72	---	1.29	1.62
30	15	13-3/8	21	84	---	1.47	1.84

- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64
- 3/16" metal standard, other thicknesses available

HF Style Steel

Features

- Continuous discharge for gentler handling
- High front for increased capacity
- Mounted on chain or belting
- Reduces damage to materials
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



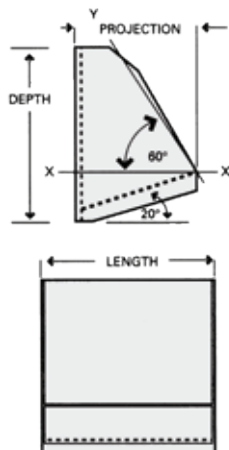
Dimensions (in.)			Weight (lbs.)				Capacity (cu. ft.)	
Length	Projection	Depth	12 Gauge Steel	10 Gauge Steel	3/16" Steel	1/4" Steel	Water Level X-X	Gross X-Y
8	5	7-3/4	4.9	6.2	8.5	---	0.05	0.08
10	5	7-3/4	5.7	7.3	10.0	---	0.07	0.10
10	6	9-1/4	7.2	9.1	12.6	---	0.10	0.15
10	7	11-5/8	9.1	11.6	16.0	20.9	0.13	0.19
12	6	9-1/4	8.3	10.4	14.4	19.2	0.12	0.18
12	7	11-5/8	10.3	13.2	18.2	23.9	0.16	0.24
12	8	11-5/8	11.3	14.3	20.0	26.0	0.21	0.30
14	7	11-5/8	11.5	14.8	20.4	26.7	0.18	0.28
14	8	11-5/8	12.6	16.0	22.4	28.1	0.24	0.35
16	8	11-5/8	13.9	17.7	24.7	32.2	0.28	0.40
16	12	17-5/8	---	30.3	41.9	55.0	0.64	0.90
18	10	15	---	26.2	36.1	47.7	0.49	0.72
20	12	17-5/8	---	35.1	49.1	64.6	0.80	1.15
24	12	17-5/8	---	40.5	56.3	74.3	0.96	1.31

- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64

LF Style Steel

Features

- Continuous discharge for gentler handling
- Designed for inclining elevators
- Suitable for finely pulverized or wet materials
- Mounted on chain or belt
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



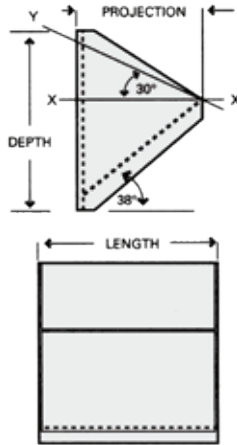
Dimensions (in.)			Weight (lbs.)				Capacity (cu. ft.)	
Length	Projection	Depth	12 Gauge Steel	10 Gauge Steel	3/16" Steel	1/4" Steel	Water Level X-X	Gross X-Y
10	6	9-1/4	6.8	8.8	12.1	---	0.04	0.17
10	7	11-5/8	8.5	10.8	15.1	---	0.05	0.24
12	6	9-1/4	7.8	10.0	13.8	---	0.04	0.20
12	7	11-5/8	9.6	12.3	17.1	22.8	0.06	0.30
12	8	11-5/8	11.2	14.4	20.1	26.8	0.08	0.35
14	7	11-5/8	10.7	13.7	19.1	25.5	0.07	0.35
16	8	11-5/8	13.6	17.4	24.3	32.4	0.10	0.46
16	12	17-5/8	---	29.3	40.7	53.6	0.23	1.09
18	10	15	---	25.4	35.0	46.5	0.18	0.49
20	8	11-5/8	---	20.5	28.5	38.0	0.13	0.57
20	12	17-5/8	---	33.9	47.1	62.0	0.29	1.35
24	12	17-5/8	---	38.5	53.5	70.5	0.35	1.64

- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64

MF Style Steel

Features

- Continuous discharge for gentler handling
- Suitable for fluffy and free-flowing materials or materials requiring careful handling
- Mounted on chain or belt
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



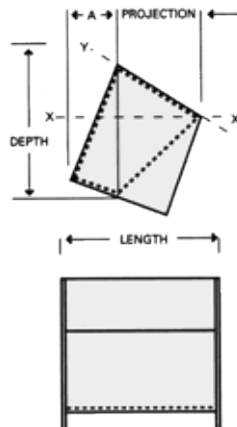
Dimensions (in.)			Weight (lbs.)				Capacity (cu. ft.)	
Length	Projection	Depth	12 Gauge Steel	10 Gauge Steel	3/16" Steel	1/4" Steel	Water Level X-X	Gross X-Y
8	5	7-3/4	5.1	6.3	8.7	---	0.04	0.07
9	6	9-1/4	6.7	8.6	11.9	---	0.07	0.12
10	5	7-3/4	5.9	7.4	10.2	---	0.05	0.09
10	6	9-1/4	7.2	9.2	12.7	---	0.08	0.13
10	7	11-5/8	9.3	11.9	16.5	---	0.10	0.18
10	8	11-5/8	9.9	12.8	17.8	23.2	0.14	0.24
11	6	9-1/4	7.7	9.9	13.6	18.1	0.08	0.15
12	6	9-1/4	8.1	10.5	14.5	19.3	0.09	0.17
12	7	11-5/8	10.4	13.4	18.6	24.8	0.13	0.22
12	8	11-5/8	11.2	14.4	20.0	26.1	0.16	0.28
14	7	11-5/8	11.6	14.9	20.7	27.6	0.15	0.25
14	8	11-5/8	12.4	16.0	22.2	29.1	0.19	0.33
16	8	11-5/8	13.7	17.6	24.5	32.0	0.22	0.38
16	12	11-5/8	---	29.9	40.6	54.8	0.49	0.85
18	8	11-5/8	---	19.2	26.7	35.0	0.25	0.42
18	10	15	---	25.9	36.1	47.3	0.38	0.66
20	8	11-5/8	---	20.8	29.0	38.0	0.27	0.47
20	12	17-5/8	---	34.8	48.5	63.9	0.62	1.08
24	10	11-5/8	---	27.4	38.2	50.0	0.51	0.85
24	12	17-5/8	---	39.8	55.4	73.1	0.75	1.30

- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64

SC Style Steel

Features

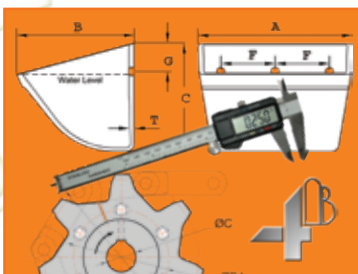
- Suitable for the heaviest materials
- Designed for super capacity elevators
- Typical in asphalt and concrete applications
- Mounted between two strands of chain
- Design offers increased capacity
- Options: carbon, stainless steel, AR plate, wear lips and hard weld



Dimensions (in.)				Weight (lbs.)			Capacity (cu. ft.)	
Length	Projection	Depth	A°	10 Gauge Steel	3/16" Steel	1/4" Steel	Water Level X-X	Gross X-Y
12	8-3/4	11-5/8	4-9/16	22	29	39	0.35	0.54
14	8-3/4	11-5/8	4-9/16	23	31	41	0.41	0.63
16	8-3/4	11-5/8	4-9/16	25	34	45	0.46	0.72
16	12	17-5/8	6-1/2	43	58	76	1.11	1.55
18	8-3/4	11-5/8	4-9/16	27	36	48	0.52	0.81
20	8-3/4	11-5/8	4-9/16	29	39	52	0.58	0.90
20	12	17-5/8	6-1/2	49	67	88	1.40	1.94
24	12	17-5/8	6-1/2	55	75	104	1.68	2.33
30	12	17-5/8	6-1/2	65	88	117	2.11	2.91
36	12	17-5/8	6-1/2	73	99	132	2.53	3.49

- Actual capacity depends on many additional parameters, call 4B for design assistance
- Mounting, drain/vent holes drilled to customer specifications
- Bolt hole punching, see pages 63-64

Sheet Metal Gauge Thickness

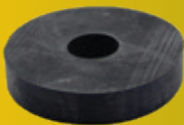
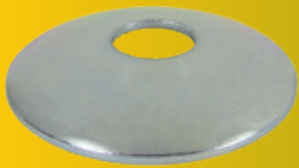


Standard Gauge	Ferrous Thickness (Steel)		Non-Ferrous Thickness (Aluminum)	
	(in.)	(mm)	(in.)	(mm)
7	0.1793	4.5542	0.1443	3.6652
8	0.1644	4.1758	0.1285	3.2639
9	0.1495	3.7973	0.1144	2.9058
10	0.1345	3.4163	0.1019	2.5883
11	0.1196	3.0378	0.0907	2.3038
12	0.1046	2.6568	0.0808	2.0523
13	0.0897	2.2784	0.0720	1.8288
14	0.0747	1.8974	0.0641	1.6281

Standard Gauge	Ferrous Thickness (Steel)		Non-Ferrous Thickness (Aluminum)	
	(in.)	(mm)	(in.)	(mm)
15	0.0673	1.7094	0.0571	1.4503
16	0.0598	1.5189	0.0508	1.2903
17	0.0538	1.3665	0.0453	1.1506
18	0.0478	1.2141	0.0403	1.0236
19	0.0418	1.0617	0.0359	0.9119
20	0.0359	0.9119	0.0320	0.8128
21	0.0329	0.8357	0.0285	0.7239
22	0.0299	0.7595	0.0253	0.6426



Elevator Bucket Bolts, Nuts, Washers & Spacers



4B #1 Norway Elevator Bolts



#1 Norway elevator bolts are the most common style used in the U.S. grain industry. The square shoulder under the flat head of the Norway bolt helps prevent spinning during installation (square peg in a round hole principle). 4B #1 Norway bolts meet or exceed Grade 2 standards for load, yield and tensile strength.

Material

Zinc plated steel or
Stainless steel (302)

Features

- Most common style in the U.S. grain industry
- Square shoulder design resists spinning
- Large bolt head diameter resists belt pull through
- Suitable for recessed and flat back elevator bucket holes
- Meets or exceeds industry standards for Grade 2 bolts



Size (in.)	Part Number		Head Diameter Ø (in.)	Squared Shoulder Height (in.)	Max. Torque (ft. lbs.)	Package Quantity	Package Weight (lbs.) - Zinc
	Zinc Plated Steel	Stainless Steel					
1/4 x 1	NWY-1/4X1	NWY-1/4X1-302S	1	7/32	6	100	2.40
1/4 x 1-1/4	NWY-1/4X1.1/4	NWY-1/4X1.1/4-302S	1	7/32	6	100	2.55
1/4 x 1-1/2	NWY-1/4X1.1/2	NWY-1/4X1.1/2-302S	1	7/32	6	100	2.85
1/4 x 2	NWY-1/4X2	NWY-1/4X2-302S*	1	7/32	6	100	3.80
5/16 x 1	NWY-5/16X1	NWY-5/16X1-302S	1-3/16	1/4	13	100	4.10
5/16 x 1-1/4	NWY-5/16X1.1/4	NWY-5/16X1.1/4-302S	1-3/16	1/4	13	100	4.45
5/16 x 1-1/2	NWY-5/16X1.1/2	NWY-5/16X1.1/2-302S	1-3/16	1/4	13	100	4.80
5/16 x 1-3/4	NWY-5/16X1.3/4	NWY-5/16X1.3/4-302S	1-3/16	1/4	13	100	5.20
5/16 x 2	NWY-5/16X2	NWY-5/16X2-302S	1-3/16	1/4	13	100	5.55
5/16 x 2-1/4	NWY-5/16X2.1/4	NWY-5/16X2.1/4-302S	1-3/16	1/4	13	100	6.05
5/16 x 2-1/2	NWY-5/16X2.1/2	NWY-5/16X2.1/2-302S	1-3/16	1/4	13	100	6.50
3/8 x 1	NWY-3/8X1*	NWY-3/8X1-302S*	1-1/4	1/4	23	100	6.25
3/8 x 1-1/4	NWY-3/8X1.1/4	NWY-3/8X1.1/4-302S	1-1/4	1/4	23	100	6.55
3/8 x 1-1/2	NWY-3/8X1.1/2	NWY-3/8X1.1/2-302S	1-1/4	1/4	23	100	7.10
3/8 x 1-3/4	NWY-3/8X1.3/4	NWY-3/8X1.3/4-302S*	1-1/4	1/4	23	100	7.60
3/8 x 2	NWY-3/8X2	NWY-3/8X2-302S	1-1/4	1/4	23	100	8.10

* Non-stocking size - special order

- Nylon insert lock nuts not recommended for #1 Norway bolts
- Installed bolt torque rating dependent on bucket & belt size



Plastic Buckets:

- Hex Nut
- Split Ring Lock Washer
- Fender Washer
- Bucket
- Belt
- Bolt



Metal Buckets:

- Hex Nut
- Split Ring Lock Washer
- Flat Washer
- Bucket
- Belt
- Bolt





4B Fanged Elevator Bolts

The fanged elevator bolt is characterized by two sharp teeth that are intended to penetrate the carcass of the elevator belt. Once the teeth penetrate the belt, they help keep the bolt from spinning which easily allows the lock nut to be tightened.

Material

Zinc plated steel or
Stainless steel (302)

Features

- Unique design - fangs lock bolt in place as nut is tightened
- Large bolt head diameter resists belt pull though
- Extensively tested and used in U.S. grain industry
- For recessed and flat back elevator bucket holes
- Meets or exceeds industry standards for Grade 2 bolts



Size (in.)	Part Number		Head Diameter Ø (in.)	Fang Height (in.)	Squared Shoulder Height (in.)	Max. Torque (ft. lbs.)	Package Quantity	Package Weight (lbs.) - Zinc
	Zinc Plated Steel	Stainless Steel						
1/4 x 3/4	FANG-1/4X3/4	FANG-1/4X3/4-302S*	1	3/16	7/32	6	100	2.10
1/4 x 1	FANG-1/4X1	FANG-1/4X1-302S*	1	3/16	7/32	6	100	2.40
1/4 x 1-1/4	FANG-1/4X1.1/4	FANG-1/4X1.1/4-302S	1	3/16	7/32	6	100	2.55
1/4 x 1-1/2	FANG-1/4X1.1/2	FANG-1/4X1.1/2-302S	1	3/16	7/32	6	100	2.85
1/4 x 2	FANG-1/4X2	FANG-1/4X2-302S	1	3/16	7/32	6	100	3.80
5/16 x 1	FANG-5/16X1	FANG-5/16X1-302S*	1-3/16	1/4	1/4	13	100	4.10
5/16 x 1-1/4	FANG-5/16X1.1/4	FANG-5/16X1.1/4-302S	1-3/16	1/4	1/4	13	100	4.45
5/16 x 1-1/2	FANG-5/16X1.1/2	FANG-5/16X1.1/2-302S	1-3/16	1/4	1/4	13	100	4.80
5/16 x 1-3/4	FANG-5/16X1.3/4	FANG-5/16X1.3/4-302S	1-3/16	1/4	1/4	13	100	5.20
5/16 x 2	FANG-5/16X2	FANG-5/16X2-302S	1-3/16	1/4	1/4	13	100	5.55
5/16 x 2-1/4	FANG-5/16X2.1/4	FANG-5/16X2.1/4-302S	1-3/16	1/4	1/4	13	100	6.05
5/16 x 2-1/2	FANG-5/16X2.1/2	FANG-5/16X2.1/2-302S	1-3/16	1/4	1/4	13	100	6.50
3/8 x 1-1/4	FANG-3/8X1.1/4	FANG-3/8X1.1/4-302S*	1-1/4	9/32	1/4	23	100	6.55
3/8 x 1-1/2	FANG-3/8X1.1/2	FANG-3/8X1.1/2-302S	1-1/4	9/32	1/4	23	100	7.10
3/8 x 1-3/4	FANG-3/8X1.3/4	FANG-3/8X1.3/4-302S*	1-1/4	9/32	1/4	23	100	7.60
3/8 x 2	FANG-3/8X2	FANG-3/8X2-302S	1-1/4	9/32	1/4	23	100	8.10

* Non-stocking size - special order

- Installed bolt torque rating dependent on bucket & belt size



Do not use fanged bolts on PVC 250 or lighter belting

Metal Buckets:

- Nylon Insert Lock Nut
- Flat Washer
- Bucket
- Belt
- Bolt



Metal Buckets:

- Hex Nut
- Split Ring Lock Washer
- Flat Washer
- Bucket
- Belt
- Bolt



Plastic Buckets:

- Nylon Insert Lock Nut
- Fender Washer
- Bucket
- Belt
- Bolt



Plastic Buckets:

- Hex Nut
- Split Ring Lock Washer
- Fender Washer
- Bucket
- Belt
- Bolt



4B Easifit Elevator Bolts



The Easifit bolt is unique in that it employs a hexagon tip. Special installation tools lock onto the hexagon tip to keep the bolt from spinning as the lock nut is being tightened. This varies from fanged or square shoulder designs that have to “bite” into the belt to keep from rotating during nut installation.

Easifit bolts are especially useful for repair jobs where only the elevator buckets and not the belt are being replaced. In this case, reaching around to the back of the belt and inserting replacement bolts can be cumbersome. Easifit bolts eliminate the problem of elongated bolt holes that can no longer accept the square shoulders of other bolt styles, and there are no fangs to set.

Material

Zinc plated steel or
Stainless steel (316)

Features

- Unique hexagon tip design
- Reduces belt damage - no square shoulder or fangs
- Ideal for new bucket replacement on existing belt



Size (in.)	Part Number		Head Diameter Ø (in.)	Max. Torque (ft. lbs.)	Package Quantity	Package Weight (lbs.) - Zinc
	Zinc Plated Steel	Stainless Steel				
1/4 x 3/4	EF-1/4X3/4	Not Available	1	6	100	3.00
1/4 x 1	EF-1/4X1	EF-1/4X1-304S*	1	6	100	3.20
1/4 x 1-1/4	EF-1/4X1.1/4	Not Available	1	6	100	3.95
1/4 x 1-1/2	EF-1/4X1.1/2	Not Available	1	6	100	4.70
5/16 x 3/4	EF-5/16X3/4	EF-5/16X3/4-316S*	1-3/16	13	100	5.00
5/16 x 1	EF-5/16X1	EF-5/16X1-316S*	1-3/16	13	100	5.25
5/16 x 1-1/4	EF-5/16X1.1/4	EF-5/16X1.1/4-316S*	1-3/16	13	100	5.75
5/16 x 1-1/2	EF-5/16X1.1/2	EF-5/16X1.1/2-316S*	1-3/16	13	100	6.20
5/16 x 1-3/4	EF-5/16X1.3/4*	EF-5/16X1.3/4-316S*	1-3/16	13	100	6.65
3/8 x 1	EF-3/8X1	EF-3/8X1-316S*	1-1/4	23	100	8.00
3/8 x 1-1/4	EF-3/8X1.1/4	EF-3/8X1.1/4-316S*	1-1/4	23	100	8.30
3/8 x 1-1/2	EF-3/8X1.1/2	EF-3/8X1.1/2-316S*	1-1/4	23	100	9.10
3/8 x 1-3/4	EF-3/8X1.3/4	EF-3/8X1.3/4-316S*	1-1/4	23	100	9.65
3/8 x 2	EF-3/8X2	Not Available	1-1/4	23	100	10.00

* Non-stocking size - special order

- Installed bolt torque rating dependent on bucket & belt size

Metal Buckets:

- Nylon Insert Lock Nut
- Flat Washer
- Bucket
- Belt
- Bolt



Metal Buckets:

- Hex Nut
- Split Ring Lock Washer
- Flat Washer
- Bucket
- Belt
- Bolt



Plastic Buckets:

- Nylon Insert Lock Nut
- Fender Washer
- Bucket
- Belt
- Bolt



Plastic Buckets:

- Hex Nut
- Split Ring Lock Washer
- Fender Washer
- Bucket
- Belt
- Bolt



**Easifit Installation Video
& Pneumatic Ratchet Demo:**

Scan the QR code or visit
www.go4b.com/easifit



- 1/4", 5/16" and 3/8" tool adapters
available, specify when ordering



4B Euro DIN 15237 Elevator Bolts

Euro DIN 15237 elevator bolts have a concave head and two lugs on the underside to help prevent rotation when tightening. Popular throughout Europe for the last 30 years, this fastening system is intended for the attachment of pressed steel elevator buckets incorporating recessed bolt holes. The recessed area surrounding the bolt hole is intended to accommodate the similarly domed surface under the bolt head. Because of this domed area under the bolt head, these bolts are not recommended for flat back plastic buckets, especially on thinner belts.

Material

Zinc plated steel or
Stainless steel (304)

Features

- Steel - ISO grade 5.8 (exceeds DIN 15237)
- Concave head with 2 lugs prevent rotation during tightening
- Hex key and POZIDRIV® bolt heads available for steel web/core belts



Size (mm)	Part Number		Head Diameter Ø (mm)	Max. Torque (ft. lbs.) / (Nm)	Package Quantity	Package Weight (kg) - Zinc
	Zinc Plated Steel	Stainless Steel				
M6 x 20	EUM0620B	Not Available	21	6 / 8	100	0.97
M6 x 25	EUM0625B*	Not Available	21	6 / 8	100	1.04
M6 x 30	EUM0630B	Not Available	21	6 / 8	100	1.07
M7 x 20	EUM0720B	Not Available	23	10 / 13	100	1.34
M7 x 25	EUM0725B	EUM0725B/304S	23	10 / 13	100	1.47
M7 x 30	EUM0730B*	EUM0730B/304S	23	10 / 13	100	1.61
M7 x 35	EUM0735B	Not Available	23	10 / 13	100	1.75
M8 x 20	EUM0820B	Not Available	30	14 / 19	100	2.17
M8 x 25	EUM0825B	EUM0825B/304S	30	14 / 19	100	2.26
M8 x 30	EUM0830B	EUM0830B/304S	30	14 / 19	100	2.46
M8 x 35	EUM0835B	EUM0835B/304S	30	14 / 19	100	2.59
M8 x 40	EUM0840B	EUM0840B/304S*	30	14 / 19	100	2.73
M8 x 45	EUM0845B*	Not Available	30	14 / 19	100	2.86
M8 x 50	EUM0850B	EUM0850B/304S	30	14 / 19	100	2.98
M10 x 25	EUM1025B	Not Available	35	28 / 38	100	3.76
M10 x 30	EUM1030B	EUM1030B/304S	35	28 / 38	100	3.99
M10 x 35	EUM1035B	EUM1035B/304S	35	28 / 38	100	4.20
M10 x 40	EUM1040B	EUM1040B/304S	35	28 / 38	100	4.45
M10 x 45	EUM1045B	EUM1045B/304S	35	28 / 38	100	4.74
M10 x 50	EUM1050B	EUM1050B/304S	35	28 / 38	100	5.03
M12 x 40	EUM1240B	Not Available	42	49 / 66	100	6.68
M12 x 50	EUM1250B	Not Available	42	49 / 66	100	7.47
M12 x 60	EUM1260B	Not Available	42	49 / 66	100	8.30
M12 x 70	EUM1270B	Not Available	42	49 / 66	100	9.26

* Non-stocking size - special order

- Not recommended for flat back plastic elevator buckets
- Installed bolt torque rating dependent on bucket & belt size

Metal Buckets With Recessed Bolt Holes:

- All Metal Lock Nut
- Dome Washer
- Bucket
- Belt
- Bolt



Metal Buckets With Non-Recessed Bolt Holes:

- All Metal Lock Nut
- Flat Washer
- Bucket
- Belt
- Bolt



POZIDRIV® End Bolts Available -
Recommended for Installation on
4B Polysur Steel Web Core Belting

4B Reference 70™ (REF 70™) Elevator Bolts



Reference 70™ (REF 70™) are ISO grade 5.8 elevator bolts with a concave head and four lugs on the underside to help prevent rotation when tightening. The REF 70™ bolt, when coupled with the special oval washer, offers the largest surface area available to resist belt pull through. They are ideal for steel elevator buckets in heavy-duty industrial applications on pulley diameters over 20 inches. Because of this domed area under the bolt head, these bolts are not recommended for flat back plastic buckets, especially on thinner belts.

Material Zinc plated steel

- Features**
- ISO grade 5.8 steel (exceeds DIN 15237)
 - Concave head with 4 lugs prevent rotation during tightening
 - Special oval washer available for pulley diameters over 20 inches



Size (in.)	Part Number		Max. Torque (ft. lbs.)	Package Quantity	Package Weight (lbs.) - Zinc
	Zinc Plated Steel	Head Diameter Ø (in.)			
1/4 x 1/2	REF70-1/4X1/2	5/8	6	100	2.29
1/4 x 3/4*	REF70-1/4X3/4	5/8	6	100	2.60
1/4 x 1	REF70-1/4X1	5/8	6	100	2.73
1/4 x 1-1/4	REF70-1/4X1.1/4	5/8	6	100	2.98
1/4 x 1-1/2	REF70-1/4X1.1/2	5/8	6	100	3.44
5/16 x 3/4*	REF70-5/16X3/4	7/8	13	100	4.94
5/16 x 1*	REF70-5/16X1	7/8	13	100	5.51
5/16 x 1-1/4	REF70-5/16X1.1/4	7/8	13	100	5.86
5/16 x 1-1/2	REF70-5/16X1.1/2	7/8	13	100	6.23
5/16 x 2	REF70-5/16X2	7/8	13	100	7.28
3/8 x 1*	REF70-3/8X1	1	23	100	8.69
3/8 x 1-1/4	REF70-3/8X1.1/4	1	23	100	8.95
3/8 x 1-1/2	REF70-3/8X1.1/2	1	23	100	9.48
3/8 x 1-3/4*	REF70-3/8X1.3/4	1	23	100	10.23
3/8 x 2	REF70-3/8X2	1	23	100	10.76
3/8 x 2-1/4*	REF70-3/8X2.1/4	1	23	100	11.35
3/8 x 2-1/2	REF70-3/8X2.1/2	1	23	100	12.21
1/2 x 1-1/4*	REF70-1/2X1.1/4	1-3/8	57	100	18.87
1/2 x 1-1/2	REF70-1/2X1.1/2	1-3/8	57	100	19.53
1/2 x 1-3/4*	REF70-1/2X1.3/4	1-3/8	57	100	20.06
1/2 x 2	REF70-1/2X2	1-3/8	57	100	21.96
1/2 x 2-1/4	REF70-1/2X2.1/4	1-3/8	57	100	22.36

* Non-stocking size - special order

- Not recommended on pulley diameters less than 20" (500 mm) or for flat back plastic elevator buckets
- Stainless Steel 304 & 316 available in metric sizes only - special order
- Installed bolt torque rating dependent on bucket & belt size

Metal Buckets:

- Hex Nut
- Split Ring Lock Washer
- Flat Washer
- Bucket
- Belt
- Bolt



Metal Buckets:

- Hex Nut
- Split Ring Lock Washer
- Flat Washer
- Bucket
- Belt
- Oval Washer
- Bolt



NOTE: Bolt Head and Oval Washer Installed Behind Belt as Shown



Nuts, Washers & Spacers



Hex Nut

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
NC01	1/4 - 20	100	0.8
NC02	5/16 - 18	100	1.1
NC03	3/8 - 16	100	1.5
NC04	1/2 - 13	100	3.8

- Available in stainless steel



Nylon Insert Lock Nut (Nylock)

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
NYC01	1/4 - 20	100	0.8
NYC02	5/16 - 18	100	1.2
NYC03	3/8 - 16	100	1.8
NYC04	1/2 - 13	100	4.4

- Available in stainless steel



All Metal Lock Nut

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
NYCML01	1/4 - 20	100	0.7
NYCML02	5/16 - 18	100	1.1
NYCML03	3/8 - 16	100	1.5
NYCML04	1/2 - 13	100	3.5

- Available in stainless steel



Serrated Hex Flange Nut (Whiz Nut)

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
WN01	1/4 - 20	100	1.4
WN02	5/16 - 18	100	2.3
WN03	3/8 - 16	100	2.7

- Available in stainless steel



Fender Washer

Part #	Size - ID (in.)	Diameter OD (in.)	Package Quantity	Package Weight (lbs.)
FW01	1/4	1	100	1.3
FW02	5/16	1-1/4	100	1.9
FW03	3/8	1-1/2	100	2.3

- Available in stainless steel



Dome Washer

Part #	Size - ID (in.)	Diameter OD (in.)	Package Quantity	Package Weight (lbs.)
DW06	1/4	1	100	2.4
DW08	5/16	1-1/4	100	3.7
DW10	3/8	1-1/2	100	4.5
DW12	1/2	2	100	6.8

- Available in stainless steel



REF 70™ Oval Washer

Part #	Size - ID (in.)	Length (in.)	Width (in.)	Package Quantity	Package Weight (lbs.)
REF70-1/4/OW	1/4	1-3/4	1-1/4	100	3.2
REF70-5/16/OW	5/16	2	1-1/2	100	4.5
REF70-3/8/OW	3/8	2-1/4	1-3/4	100	6.3
REF70-1/2/OW	1/2	2-1/2	2	100	8.6

- Available in stainless steel



Flat Washer

Part #	Size - ID (in.)	Diameter OD (in.)	Package Quantity	Package Weight (lbs.)
W01	1/4	5/8	100	1.3
W02	5/16	7/8	100	2.0
W03	3/8	1	100	3.0
W04	1/2	1-3/8	100	3.8

- Available in stainless steel



Split Ring Lock Washer

Part #	Size - ID (in.)	Diameter OD (in.)	Package Quantity	Package Weight (lbs.)
LW01	1/4	0.489	100	0.2
LW02	5/16	0.586	100	0.4
LW03	3/8	0.683	100	0.6
LW04	1/2	0.737	100	1.2

- Available in stainless steel



Neoprene Washer

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
NW01	1/4	100	0.8 / 1.1
NW02	5/16	100	0.8 / 1.1
NW03	3/8	100	0.8 / 1.1

- Available thickness - 1/8" & 1/4"



Leather Washer

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
LEW01	1/4	100	0.3
LEW02	5/16	100	0.3
LEW03	3/8	100	0.4

- Available thickness - 1/8"



HDPE Spacers

Part #	Size - ID (in.)	Package Quantity	Package Weight (lbs.)
PS01	1/4	100	0.7 / 1.3
PS02	5/16	100	0.7 / 1.3

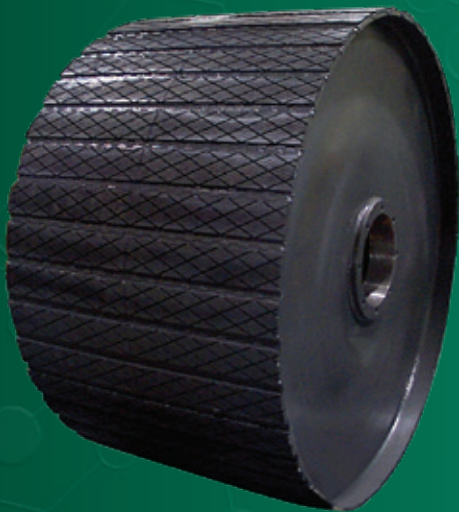
- Available thickness - 1/4" & 1/2"



Bolts, Nuts, Washers & Spacers
Packaged in Quantities of 100



Belting, Belt Splices, Pulleys & Lagging





Elevator & Conveyor Belting

Grain Belting

PVC 200 BLACK CBS



Used for elevator belting in the feed and grain industry.

Strength: 200 PIW
Thickness: 0.230 in.
Weight: 0.140 lbs. PIW
Minimum Pulley Diameter: 4 in.
Temperature Range: 10 °F to 180 °F
Maximum Elevator Bucket Projection: 6 in.

PVC 250 BLACK COS



Used in heavy duty feed, grain and bulk product applications.

Strength: 250 PIW
Thickness: 0.230 in.
Weight: 0.140 lbs. PIW
Minimum Pulley Diameter: 6 in.
Temperature Range: 10 °F to 180 °F
Maximum Elevator Bucket Projection: 6 in.

PVC 250 BLACK CBS



Used for elevator belting in the feed and grain industry.

Strength: 250 PIW
Thickness: 0.250 in.
Weight: 0.150 lbs. PIW
Minimum Pulley Diameter: 6 in.
Temperature Range: 10 °F to 180 °F
Maximum Elevator Bucket Projection: 6 in.

PVC 350 BLACK CBS



Used for elevator belting in the feed and grain industry.

Strength: 350 PIW
Thickness: 0.320 in.
Weight: 0.170 lbs. PIW
Minimum Pulley Diameter: 8 in.
Temperature Range: 10 °F to 180 °F
Maximum Elevator Bucket Projection: 8 in.

PVC 450 BLACK CBS



Used for elevator belting in the feed and grain industry.

Strength: 450 PIW
Thickness: 0.350 in.
Weight: 0.180 lbs. PIW
Minimum Pulley Diameter: 10 in.
Temperature Range: 10 °F to 180 °F
Maximum Elevator Bucket Projection: 9 in.

PVC 600 BLACK CBS



Used for elevator belting in the feed and grain industry.

Strength: 600 PIW
Thickness: 0.375 in.
Weight: 0.191 lbs. PIW
Minimum Pulley Diameter: 16 in.
Temperature Range: 20 °F to 180 °F
Maximum Elevator Bucket Projection: 10 in.

PVC 750 BLACK CBS



Used for elevator belting in the feed and grain industry.

Strength: 750 PIW
Thickness: 0.400 in.
Weight: 0.208 lbs. PIW
Minimum Pulley Diameter: 18 in.
Temperature Range: 10 °F to 180 °F
Maximum Elevator Bucket Projection: 10 in.

2 PLY 220 RUBBER 1/16 x 1/16 SOR-SC-FR



Used for conveyor and elevator belting in the grain and agricultural industry.

Strength: 220 PIW
Thickness: 0.270 in.
Weight: 0.132 lbs. PIW
Minimum Pulley Diameter: 12 in.
Temperature Range: -30 °F to 200 °F
Maximum Elevator Bucket Projection: 6 in.

3 PLY 330 RUBBER 1/16 x 1/16 SOR-SC-FR



Used for conveyor and elevator belting in the grain and agricultural industry.

Strength: 330 PIW
Thickness: 0.312 in.
Weight: 0.157 lbs. PIW
Minimum Pulley Diameter: 14 in.
Temperature Range: -30 °F to 200 °F
Maximum Elevator Bucket Projection: 8 in.

2 PLY 400 RUBBER 1/16 x 1/16 SOR-SC-FR



Used for conveyor and elevator belting in the grain and agricultural industry.

Strength: 400 PIW
Thickness: 0.297 in.
Weight: 0.162 lbs. PIW
Minimum Pulley Diameter: 14 in.
Temperature Range: -30 °F to 200 °F
Maximum Elevator Bucket Projection: 9 in.

4 PLY 440 RUBBER 1/16 x 1/16 SOR-SC-FR



Used for conveyor and elevator belting in the grain and agricultural industry.

Strength: 440 PIW
Thickness: 0.344 in.
Weight: 0.182 lbs. PIW
Minimum Pulley Diameter: 18 in.
Temperature Range: -30 °F to 200 °F
Maximum Elevator Bucket Projection: 10 in.

Abbreviation Key -

CBS = Cover Both Sides

COS = Cover One Side

EPDM = Ethylene Propylene Diene Terpolymer

SOR-SC-FR = Super Oil Resistant, Static Conductive & Fire Retardant

Grain Belting - Continued

3 PLY 600 RUBBER 1/16 x 1/16 SOR-SC-FR

Used for conveyor and elevator belting in the grain and agricultural industry.

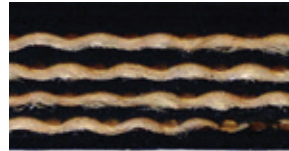
Strength: 600 PIW
Thickness: 0.344 in.
Weight: 0.172 lbs. PIW
Minimum Pulley Diameter: 18 in.
Temperature Range: -30°F to 200°F
Maximum Elevator Bucket Projection: 10 in.



4 PLY 800 RUBBER 1/16 x 1/16 SOR-SC-FR

Used for conveyor and elevator belting in the grain and agricultural industry.

Strength: 800 PIW
Thickness: 0.406 in.
Weight: 0.207 lbs. PIW
Minimum Pulley Diameter: 24 in.
Temperature Range: -30°F to 200°F
Maximum Elevator Bucket Projection: 11 in.



Grade 2 Abrasion Resistant SBR Rubber Belting

2 PLY 220 RUBBER 1/8 x 1/16

Used in small to medium rock and general bulk material applications.

Strength: 220 PIW
Thickness: 0.308 in.
Weight: 0.151 lbs. PIW
Minimum Pulley Diameter: 10 in.
Temperature Range: -20°F to 212°F
Maximum Elevator Bucket Projection: 6 in.



3 PLY 330 RUBBER 1/4 x 1/16

Excellent abrasion resistance in heavy duty aggregate applications.

Strength: 330 PIW
Thickness: 0.460 in.
Weight: 0.255 lbs. PIW
Minimum Pulley Diameter: 12 in.
Temperature Range: -20°F to 212°F
Maximum Elevator Bucket Projection: 8 in.



2 PLY 220 RUBBER 3/16 x 1/16

Used in small to medium rock and general bulk material applications.

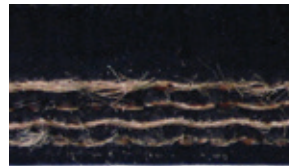
Strength: 220 PIW
Thickness: 0.370 in.
Weight: 0.183 lbs. PIW
Minimum Pulley Diameter: 10 in.
Temperature Range: -20°F to 212°F
Maximum Elevator Bucket Projection: 6 in.



4 PLY 440 RUBBER 1/4 x 1/16

Excellent abrasion resistance in heavy duty aggregate applications.

Strength: 440 PIW
Thickness: 0.530 in.
Weight: 0.271 lbs. PIW
Minimum Pulley Diameter: 16 in.
Temperature Range: -20°F to 212°F
Maximum Elevator Bucket Projection: 10 in.



3 PLY 330 RUBBER 3/16 x 1/16

Excellent abrasion resistance in heavy duty aggregate applications.

Strength: 330 PIW
Thickness: 0.425 in.
Weight: 0.206 lbs. PIW
Minimum Pulley Diameter: 12 in.
Temperature Range: -20°F to 212°F
Maximum Elevator Bucket Projection: 8 in.



3 PLY 600 RUBBER 3/8 x 3/32

Excellent abrasion resistance in heavy duty aggregate applications.

Strength: 600 PIW
Thickness: 0.713 in.
Weight: 0.363 lbs. PIW
Minimum Pulley Diameter: 18 in.
Temperature Range: -20°F to 212°F
Maximum Elevator Bucket Projection: 10 in.



Oil & Heat Resistant Belting

2 PLY 220 HOT ASPHALT 3/16 x 1/16

For hot asphalt, oil coated roofing granules and hot petroleum coke.

Strength: 220 PIW
Thickness: 0.370 in.
Weight: 0.183 lbs. PIW
Minimum Pulley Diameter: 10 in.
Temperature Range: -20°F to 350°F
Maximum Elevator Bucket Projection: 6 in.



2 PLY 220 EPDM 3/16 x 1/16

Used for conveying materials up to 400 degrees Fahrenheit.

Strength: 220 PIW
Thickness: 0.370 in.
Weight: 0.175 lbs. PIW
Minimum Pulley Diameter: 10 in.
Temperature Range: -25°F to 400°F
Maximum Elevator Bucket Projection: 6 in.



3 PLY 330 EPDM 1/4 x 1/16

Used for conveying materials up to 400 degrees Fahrenheit.

Strength: 330 PIW
Thickness: 0.460 in.
Weight: 0.248 lbs. PIW
Minimum Pulley Diameter: 12 in.
Temperature Range: -25°F to 400°F
Maximum Elevator Bucket Projection: 8 in.

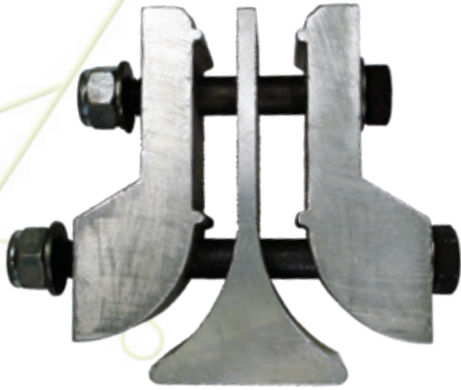


- FDA food quality grade belts also available





4B Braime Clamp Elevator Belt Splices & Fasteners



Braime Clamp - BC1
(4BBC1)

Features - BC1

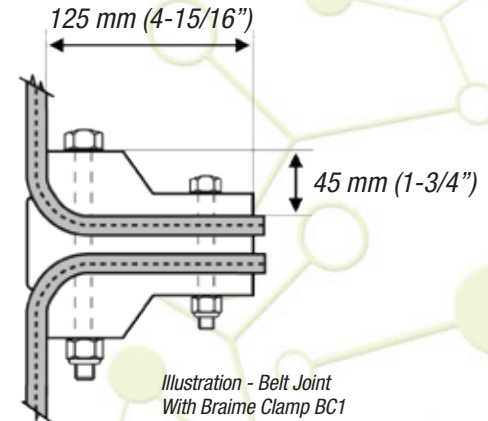
- Extruded aluminum construction
- High strength M16 (standard) or 5/8" bolts and lock nuts*
- Designed in 3" segments
- For rubber / PVC belting up to 1,000 PIW**



- Do not use on manlifts
- Never re-use hardware: always use new bolts and nuts
- Do not use on standard wing pulleys, can be used on spiral wing pulleys

The Braime Clamp (BC) series of heavy-duty belt splices securely fastens belting on larger bucket elevators. As the originator of this proven style of belt clamp, 4B designed it from three pieces of extruded aluminum including a center wedge section to minimize belt wear.

The BC1 has been designed in 3 inch wide segments for fastening rubber and PVC belting.

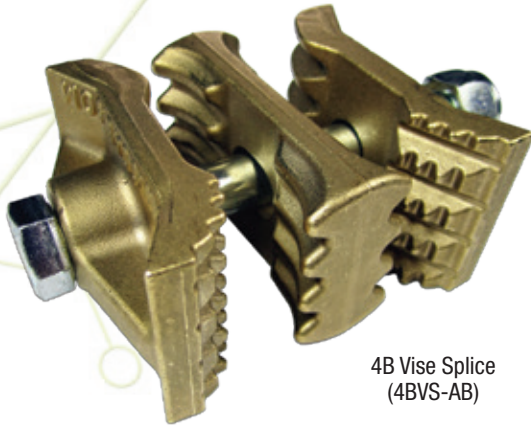


* Belt thickness required to ensure proper bolt length

** Special order BC1 available for higher PIW ratings



4B Vise Splice Elevator Belt Splices & Fasteners



4B Vise Splice
(4BVS-AB)

4B Vise Splices are mechanical splices for use on most PVC and rubber elevator belts. Each splice unit is made of three pieces. The outside plates have two different gripping areas. The ribbed gripping area is mounted towards the face of the belt. The opposite end has a series of both longitudinal and axial teeth. The center plate is symmetrical and cannot be improperly installed around its elongated center hole.

The splice functions by using the tension supplied by the belting. This tension on the belt ends pulls the outer plates apart, and forces gripping pressure towards the teeth on the splice unit. The greater the belt tension, the more pressure is exerted on the gripping teeth at the forward end of the splice.

Non-Ferrous

- Non-ferrous metal (bronze color)
- For belts of up to 800 PIW tensile strength
- Non-sparking, non-corroding and non-rusting
- 9/16" grade 5 bolts
- 2.9 lbs each

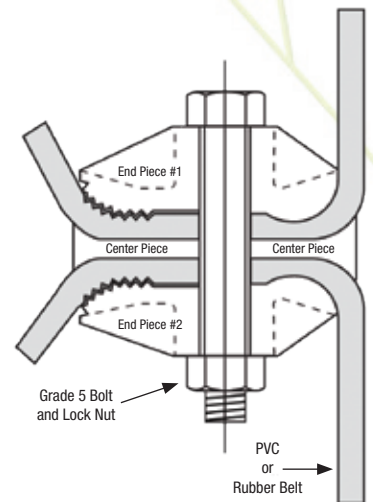
Ferrous

- Ferrous metal (silver color)
- For belts of up to 600 PIW tensile strength
- 1/2" grade 5 bolts
- 2.6 lbs each

Features

- Mechanical clamping device with a simple three piece construction
- Used on PVC and rubber belting
- Designed in 2" segments
- 4-1/2" long bolts for belts between 1/4" and 1/2" thick
- 5" long bolts for belts between 1/2" and 3/4" thick
- Maximum operating temperatures*: Non-Ferrous 500°F, Ferrous 600°F
- Supplied with belt template tape for easy placement and hole punching

* All metal lock nuts required

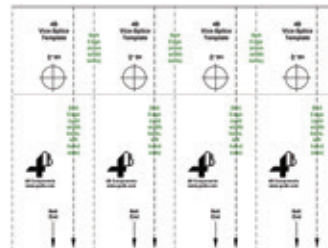


- Do not use on manlifts
- Never re-use hardware: always use new bolts and nuts
- Do not use on standard wing pulleys, can be used on spiral wing pulleys



MBGT-9
Belt Punch Tool
(Sold Separately)

- Made from heat treated carbon steel
- Easily cuts 9/16" diameter holes
- Can be used with a drill, impact wrench or mallet



4BVS-TT
Punch Template Tape

- Tape sticks directly onto the belt
- Clearly marks hole locations
- Included with Vise Splice





4B Gripwell Elevator Belt Splices & Fasteners



The Gripwell light duty aluminum fastener secures belting on bucket elevators. The two ends of the belt are gripped between extruded serrated plates, clamped together by zinc plated high tensile bolts, safely secured by plated self locking nuts to give a strong reliable and rustproof fastener.

The Gripwell forms a butt joint, the belt runs smoothly over the pulley with minimum stress to the joint and no relative movement can take place between the two belt ends, as is the case when an overlapping joint passes over the pulleys.

Features

- For belts up to 250 PIW and up to 3/8" (10 mm) thick
- Vise grip between serrated jaws
- Secured by high tensile bolts & self locking nuts
- Radius rounded edges to reduce joint wear
- Available in a range of standard lengths from 4 to 12 inches
- Multiple fasteners of equal length can be used for longer joints



- Do *not* use on manlifts
- Never re-use hardware: always use new bolts and nuts

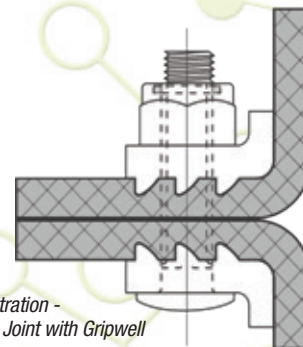


Illustration -
Belt Joint with Gripwell

Part #	Belt Width		Gripwell Length		Bolt Holes	Bolt Diameter Ø		Bolt Centers	
	in	mm	in	mm		in	mm	in	mm
GRIP04	4	100	3-3/4	96	3	5/16	8	1-5/16	33
GRIP05	5	125	4-13/16	122	4	5/16	8	1-1/4	32
GRIP06	6	150	5-13/16	147	4	5/16	8	1-9/16	40
GRIP07	7	175	6-3/4	172	5	5/16	8	1-7/16	36
GRIP08	8	200	7-13/16	198	6	5/16	8	1-5/16	34
GRIP09	9	225	8-3/4	223	6	5/16	8	1-9/16	40
GRIP10	10	250	9-3/4	248	7	5/16	8	1-7/16	37
GRIP11	11	275	10-3/4	273	7	5/16	8	1-5/8	41
GRIP12	12	300	7-13/16	299	8	5/16	8	1-9/16	39



4B Supergrip Elevator Belt Splices & Fasteners



Supergrip 3

The Supergrip is a carbon steel European style belt fastener that secures belting on bucket elevators. The two ends of the belt are gripped between extruded steel plates, clamped together by zinc plated high tensile bolts and self-locking nuts.

Features

- Easy fit modular system in 2" segments (50 mm)
 - Three versions for belts up to 600 PIW
 - Assembly comprises of 2 half joints, a high tensile bolt & self-locking nut
 - Maximum temperature of 176°F (80°C) for nylon insert lock nuts
 - Available in 304 or 316 stainless steel and non-sparking brass*
- * Special order for stainless and brass

Note: Supergrip 4 can be used with spiral wing pulleys, but not standard wing pulleys



- Do *not* use on manlifts
- Never re-use hardware: always use new bolts and nuts

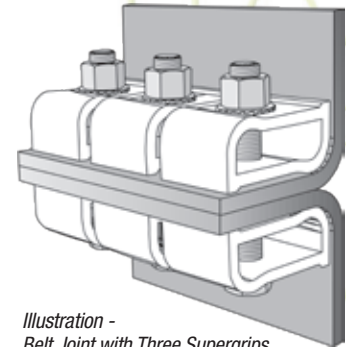
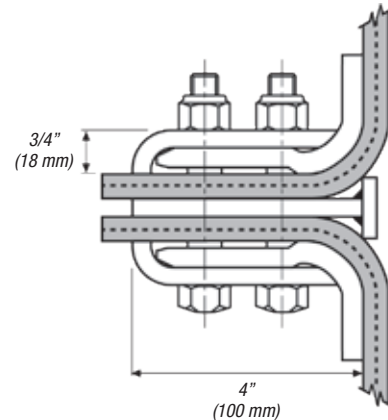
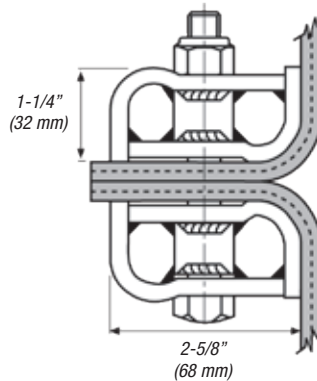
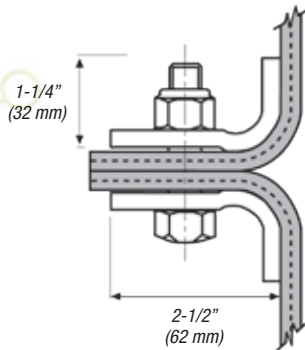


Illustration -
Belt Joint with Three Supergrips



Supergrip 1	Supergrip 3	Supergrip 4
Belt Strength - 250 PIW Maximum	Belt Strength - 450 PIW Maximum	Belt Strength - 600 PIW Maximum
Weight - 1.1 lbs. (.50 kg)	Weight - 2 lbs. (.90 kg)	Weight - 1.9 lbs. (.85 kg)
Bolts - M14 (2.0 x 60 mm)	Bolts - M14 (2.0 x 110 mm)	Bolts - M16 (2.0 x 100 mm)





4B Polysur® Steel Web Core Belting

The 4B Polysur® steel web core belt is a rubber elevator belt with a special steel cord core. The cords provide low elongation with high elasticity in the length, and cross rigidity in the width. The built-in elasticity allows running over slightly crowned pulleys which greatly improves belt tracking, and helps to avoid belt wandering which is often the reason for elevators shutting down. The rigid weft cords act as a barrier to ripping and tearing which increases the holding ability for the bucket bolts. This produces a good cross rigid belt resulting in excellent straight tracking characteristics.

In contrast, most conventional steel cable belts lack elasticity and consequently have to run over truly flat, cylindrical pulleys which increases the risk of belts off-tracking.

The 4B Polysur® steel web core belt is designed for heavy duty/industrial bucket elevator applications with long centre distances that require stable running and reliable belts with high safety factors. All 4B Polysur® steel web core belts are manufactured in accordance with DIN 22102 and ISO norms.



Detailed View of Steel Web Core

Features

- Anti-static
- Strength - up to 2,280 PIW (4,000 N/mm)
- SBR, EPDM and EPM: 1/8 x 1/8, 5/32 x 5/32 or 3/16 x 3/16 (3+3, 4+4, or 5+5 mm) rubber covers
- 0.35% maximum elongation at 10 SF
- Bolt holes drilled to customer specifications
- Temperature resistant up to 302 °F (150 °C) continuous, short peaks 356 °F (180 °C)

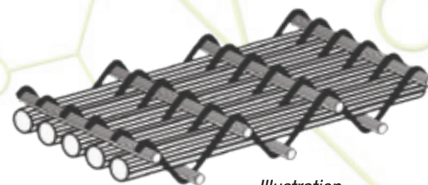


Illustration - Steel Web Core Carcass

4B Polysur® Steel Web Core Belt Technical Specifications -

Part Number	Strength		Covers		Belt Thickness		Minimum Pulley Ø		Approximate Weight	
	PIW	N/mm	in	mm	in	mm	in	mm	lbs. PIW	kg/m ²
SWB630	360	630	1/8 x 1/8	3+3	0.433	11	16	400	0.260	15,21
SWB800	460	800	1/8 x 1/8	3+3	0.472	12	20	500	0.294	17,20
SWB1000	570	1,000	1/8 x 1/8	3+3	0.512	13	20	500	0.306	17,93
SWB1250	700	1,250	5/32 x 5/32	4+4	0.551	14	24	630	0.382	22,37
SWB1400	800	1,400	5/32 x 5/32	4+4	0.551	14	24	630	0.395	23,12
SWB1600	900	1,600	5/32 x 5/32	4+4	0.551	14	24	630	0.409	23,97
SWB1800	1,000	1,800	5/32 x 5/32	4+4	0.551	14	24	630	0.421	24,67
SWB2000	1,140	2,000	5/32 x 5/32	4+4	0.551	14	30	800	0.430	25,17
SWB2500	1,430	2,500	3/16 x 3/16	5+5	0.669	17	42	1,000	0.473	27,71
SWB2750	1,570	2,750	3/16 x 3/16	5+5	0.669	17	42	1,000	0.490	28,67
SWB3000	1,710	3,000	3/16 x 3/16	5+5	0.669	17	42	1,000	0.509	29,83
SWB3200	1,830	3,200	3/16 x 3/16	5+5	0.669	17	42	1,000	0.525	30,77
SWB3500	2,000	3,500	3/16 x 3/16	5+5	0.669	17	42	1,000	0.554	32,45
SWB4000	2,280	4,000	3/16 x 3/16	5+5	0.669	17	42	1,000	0.586	34,32

4B Polysur® Steel Web Core Belts
Are Available In Six Different Types -

T60	Very good abrasion resistant quality, based on SBR rubber for use with ambient temperatures of 140 °F (60 °C)
T100	Improved version of the T60 for product temperatures of 194 - 212 °F (90 - 100 °C) and short peaks up to 248 °F (120 °C)
T130	Based on EPDM rubber, suitable for product temperatures up to 266 °F (130 °C) and short peaks up to 302 °F (150 °C)
T150	Based on EPM rubber, suitable for product temperatures up to 302 °F (150 °C) and short peaks up to 356 °F (180 °C)
G	Suitable for handling oily and fatty product at temperatures up to 176 °F (80 °C)
ALE	White rubber food quality suitable for non-fat food products at ambient temperatures



Belt Installation Video:

Scan the QR code or visit
www.go4b.com/steelweb



Top -
Tall Elevator in Cement Plant



Left -
Braime Clamp Belt Splice on 4B Polysur® Steel Web Core Belt with Starco Jumbo Buckets

4B Braime Clamp Elevator Belt Splices & Fasteners



Braime Clamp - BC3
Shown With Steel Web Core Belt

The Braime Clamp (BC) series of heavy-duty belt splices securely fastens belting on larger bucket elevators. As the originator of this style of belt clamp, 4B designed it from three pieces of extruded aluminum including a center wedge section to minimize belt wear.

The BC2, BC3 and BC4 versions fasten steel web core belting. They incorporate an additional three piece machined steel vise grip section designed to ride above the aluminum base clamp and secure the steel cords within a steel web core belt.

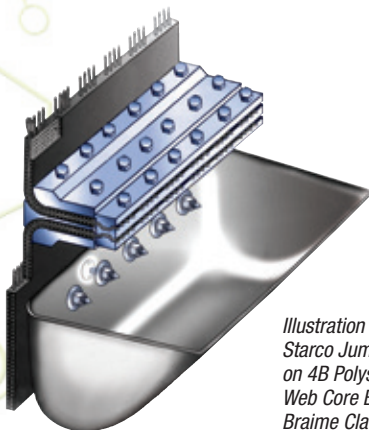
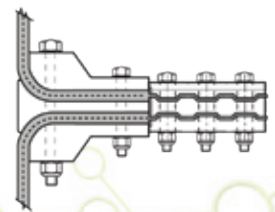
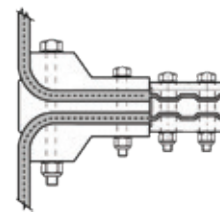
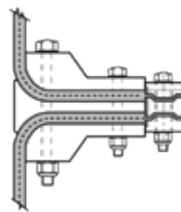


Illustration -
Starco Jumbo Bucket
on 4B Polysur® Steel
Web Core Belt with
Braime Clamp Splice

Braime Clamp - BC2

Belts up to 800 PIW or
1,400 N/mm
Weight - 3.17 lbs./in.
Part # SWBFBC2

Braime Clamp - BC3

Belts up to 1,140 PIW or
2,000 N/mm
Weight - 3.98 lbs./in.
Part # SWBFBC3

Braime Clamp - BC4

Belts up to 1,430 PIW or
2,500 N/mm*
Weight - 5.38 lbs./in.
Part # SWBFBC4

* Special order Braime Clamps available for belting over 2,500 N/mm



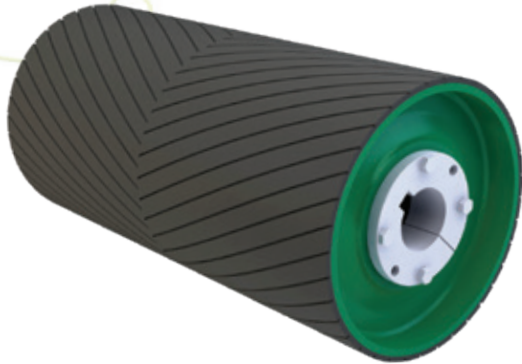
- Do not use on manlifts
- Never re-use hardware: always use new bolts and nuts



Pulleys

4B supplies pulleys for all types of applications and industries. Our pulley product line meets the demanding requirements of industries such as: agriculture, food processing, cement, sand, gravel and coal mining.

Pulleys are available in many common sizes, or custom made based on your specifications. Pictured below are just a few of the pulleys available, contact a 4B sales engineer for more information.



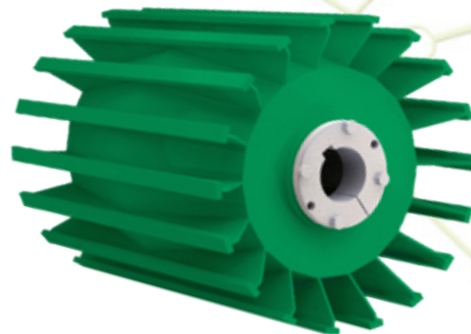
Drum Pulley with Lagging
(Various Lagging Options Available, Including Slide)



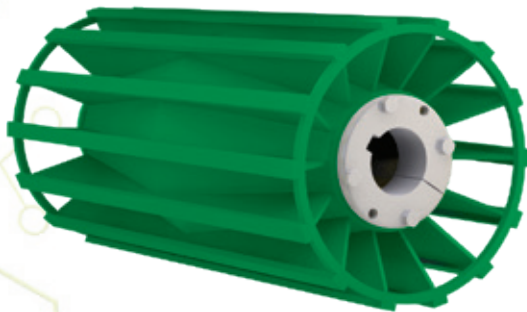
Drum Pulley without Lagging



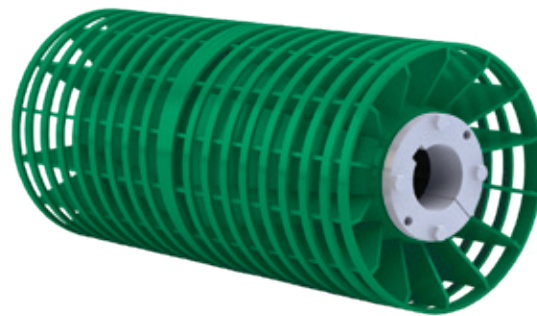
Herringbone Wing Pulley



Heavy Duty Wing Pulley

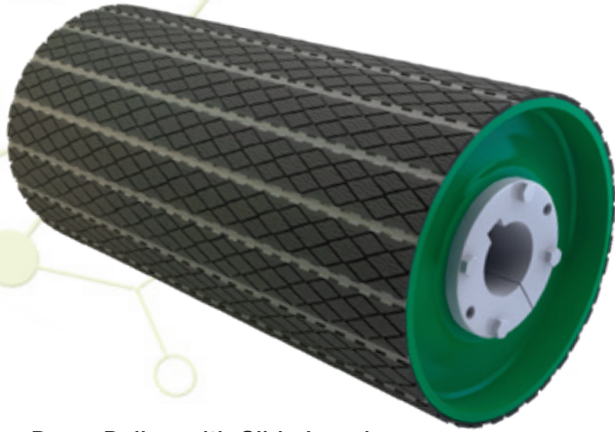


Mine Duty Wing Pulley



Spiral Wing Pulley





Drum Pulley with Slide Lagging

Illustration -
Lagging Pad
Installation on
Drum Pulley



Craft-Lag® is designed to be a field replaceable lagging. It is bonded to a 5" wide rigid steel backing, which is then factory formed to a specific pulley diameter.

Craft-Lag can be installed using retainers that are welded or bolted to the pulley rim, or it can be welded directly to the pulley rim without retainers.

It is ideal for pulleys in locations where removal and replacement is difficult.

Craft-Lag® (72 in. Long , 14 lbs. Each)

Part #	Material Composition	Duro-Meter
SLDLG-CL 500	SBR	60
SLDLG-CL 500/9	SBR (SS Back)	60
SLDLG-CL 501	Neoprene	60
SLDLG-CL 501/9	Neoprene (SS Back)	60
SLDLG-CL 502	Nitrile	60
SLDLG-CL 503	EPDM	60
SLDLG-CL 504	Neoprene (White)	60
SLDLG-CL 505	Nitrile (Smooth)	60
SLDLG-CL 505/9	Chlorobutyl (SS Back)	60
SLDLG-CL 506	SBR	40
SLDLG-CL 507	Slip Resistant	60
SLDLG-CL 512	Hypalon	60
SLDLG-CL 960	SBR (Smooth)	40
SLDLG-CL 961	Neoprene (Smooth)	40
SLDLG-CL 965	SBR (Smooth)	60

Retainers (72 in. Long)

Part #	Description	Weight (lbs.)
SLDLGRT2	Standard Double Retainer	1.9
SLDLGRT1	Standard Single Retainer	1.4
SLDLGRT2/304S	Stainless Double Retainer	1.9
SLDLGRT1/304S	Stainless Single Retainer	1.4

HOW TO ORDER:

- Determine the number of pads needed by using the chart at the bottom of the page, or use the following formulas:
 - Number of Pad Rows = Outside Diameter / 2
 - Number of Pads* = Number of Rows x Face Width / 72

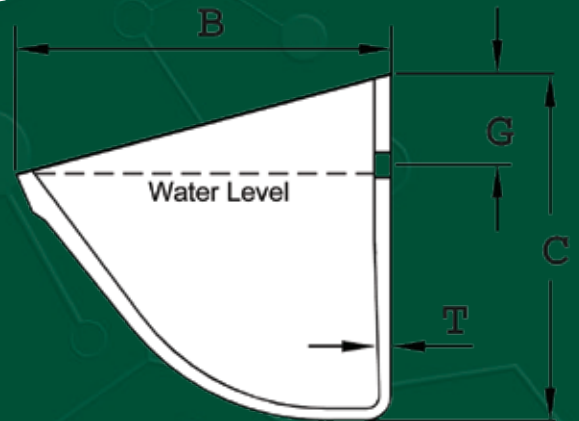
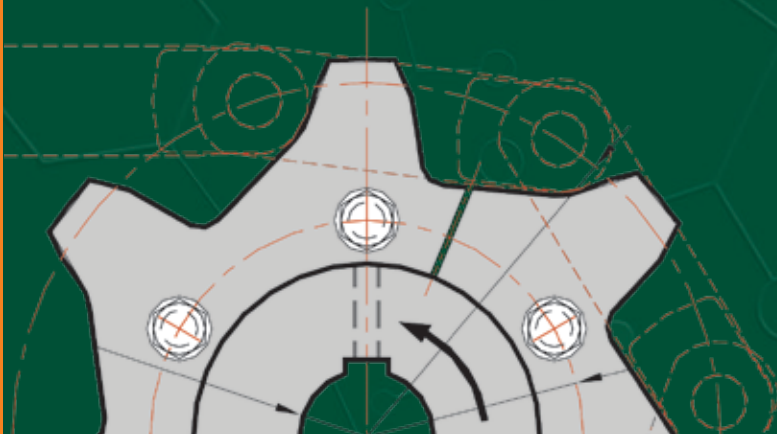
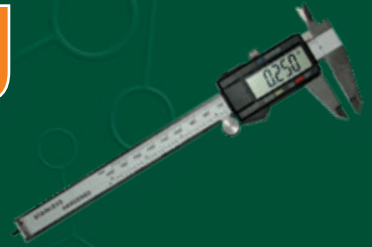
* Round up to the nearest whole number
- The number of double retainers required will be the same as the number of pads
- The number of single retainers required will be 1/4 the number of pads (round up to the nearest whole number)

Craft-Lag® Pad Quantities Required For Specific Pulley Sizes

		Face Width (in.)														
Outside Diameter (in.)	# of Rows	12	14	16	18	20	26	32	38	44	51	54	60	66	72	78
6	3	1	1	1	1	1	2	2	2	2	3	3	3	3	3	4
8	4	1	1	1	1	2	2	2	3	3	3	3	4	4	4	5
10	5	1	1	2	2	2	2	3	3	4	4	4	5	5	5	6
12	6	1	2	2	2	2	3	3	4	4	5	5	5	6	6	7
14	7	2	2	2	2	2	3	4	4	5	5	6	6	7	7	8
16	8	2	2	2	2	3	3	4	5	5	6	6	7	8	8	9
18	9	2	2	2	3	3	4	4	5	6	7	7	8	9	9	10
20	10	2	2	3	3	3	4	5	6	7	8	8	9	10	10	11
24	12	2	3	3	3	4	5	6	7	8	9	9	10	11	12	14
30	15	3	3	4	4	5	6	7	8	10	11	12	13	14	15	17
36	18	3	4	4	5	5	7	8	10	11	13	14	15	17	18	20
42	21	4	5	5	6	6	8	10	12	13	15	16	18	20	21	23
48	24	4	5	6	6	7	9	11	13	15	17	18	20	22	24	27
54	27	5	6	6	7	8	10	12	15	17	20	21	23	25	27	30
60	30	5	6	7	8	9	11	14	16	19	22	23	25	28	30	33
72	36	6	7	8	9	10	13	16	19	22	26	27	30	33	36	40



Engineering & Design



R & S Grain Systems, Inc.
Dexter, MN

Ray Dietrich
Owner & President

Wayne Dietrich
Vice President

“If the product can be scooped in a bucket, moved on a belt and discharged, 4B can figure out the best components for the project. All legs we’ve designed using 4B products continue to run at capacity and beyond.”

- Wayne Dietrich

R & S Grain Systems, Inc.
4B Customer for 25+ Years

Do You Have Engineering & Design Questions, or Need Help On-Site? Call 309-698-5611

Bucket Elevator Design Service Questionnaire

Client Information:

Company:	
Contact:	
Address:	
Phone:	
Fax:	
Email:	

At 4B we have helped to upgrade hundreds of bucket elevators over the years for many different industries. Our application engineering expertise includes: grain storage, animal feed, flour milling, brewing, biomass, cement, coal, frac sand, as well as other processing industries.

Using your key technical data, 4B engineers will provide preliminary design and component details to enable your bucket elevator to operate at its optimum capacity and discharge potential. If your existing elevator cannot be upgraded to meet your current needs, 4B engineers can provide a basic design for a new one.

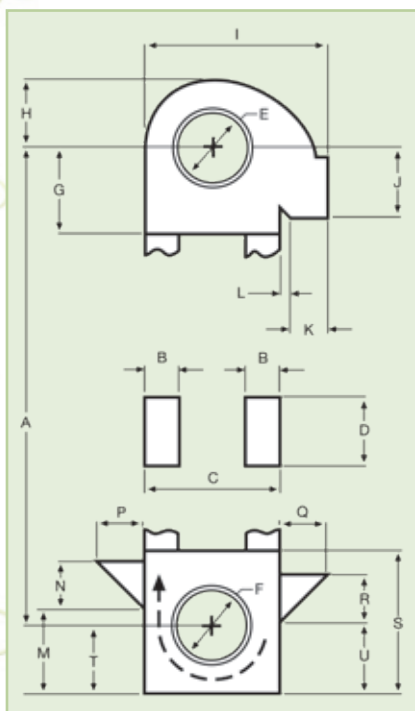
Product Information:

Product:		Density:	
Moisture:		Oil / Fat:	
Particle Size:		Temperature:	

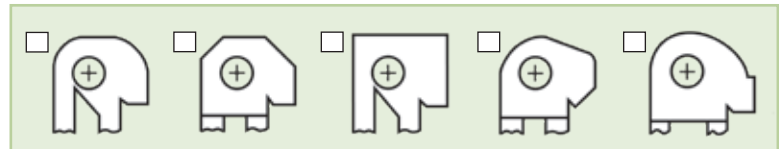
To get your free recommendation, please fill out this questionnaire and fax it to 309-698-5615, or visit www.go4b.com/engineering to fill out the form online.

Elevator Specifications:

Required Capacity:		Current Capacity:	
Head Pulley Diameter:		Head Pulley Width:	
Head Pulley Shaft Size:		Pulley Lagging (Y/N)	
Boot Pulley Diameter:		Boot Pulley Width:	
Boot Pulley Shaft Size:		Wing or Solid Pulley:	
Take Up Style:		Feed Direction:	
Head Shaft RPM:		Belt FPM:	
Distance Head to Boot Shaft:		Leg Casing Dimensions:	
Leg Manufacturer:		Motor HP:	



Check Head Profile Style:



Dimensions:

A		K	
B		L	
C		M	
D		N	
E		P	
F		Q	
G		R	
H		S	
I		T	
J		U	



- 4B does not manufacture bucket elevators. As such, final consultation on the design must be with the leg manufacturer.



4B HIGH EFFICIENCY™ Elevator Buckets



At 4B, our basis has always been engineering and our expertise in providing comprehensive solutions. In keeping with these core values, we designed our family of High Efficiency elevator buckets to deliver the maximum possible elevator leg throughput for the lowest cost per ton or bushel. Every bucket in every line of the High Efficiency family has five distinct features, each of which conveys efficiency. Only 4B High Efficiency elevator buckets have all five features.

HIGH EFFICIENCY DESIGN ✓

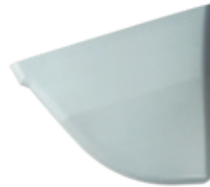
1. SMOOTH FRONT FACE ✓

A smooth interior face and side walls, with no “breaks”, deliver an efficient and unencumbered discharge over higher speeds.



2. WING-LESS SIDE WALLS ✓

Wing-less side walls maximize the most efficient use and cost of materials.



3. CLOSER SPACING ✓

The ability to be mounted extremely close together provides the most efficient use of vertical space on the belt.



4. TAPERED BOTTOMS ✓

Tapered bottoms allow the buckets to fill and discharge with maximum efficiency over higher speeds.

They also create a low digging factor which means less material resistance & degradation and fewer forces on the bucket system.



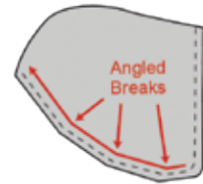
5. NESTING / STACKING ✓

Nesting inside one another efficiently reduces the amount of space and costs associated with shipping and storage.

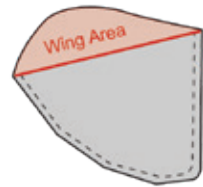


TRADITIONAL DESIGN

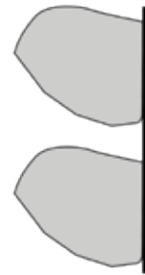
Other designs have angled “breaks” which provide no benefit to discharge efficiency. These “breaks” merely copy a feature from the first sheet metal buckets introduced in the 1920's.



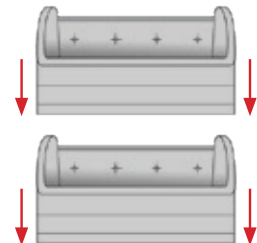
Other buckets have a wing or “ear” on both sides which adds cost and weight, while offering no functional benefit.



Other buckets are too deep to be mounted closely together or must be modified from their standard design, adding to the cost.



The vertical sides, wings and perpendicular bottoms of other buckets impede the flow of materials into and out of the bucket.

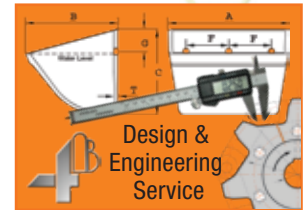


Nesting is not possible with other bucket designs. More packing materials and space are required for these buckets.

Bucket Elevator Performance Analysis

4B Engineers Can:

- Maximize Bucket Elevator Capacity (BPH)
- Calculate Horsepower and Shaft Diameter Requirements
- Recommend Shaft / Belt Speeds
- Troubleshoot Elevator Issues
- Provide Solutions for OSHA Hazard Monitoring Compliance (Class II Div. 1 Groups E, F & G)



Bucket Material Selection

Property	HDPE	Nylon	Urethane	Nyrim®	Nylatron®	Ductile Iron	Mild Steel	304 Stainless	316 Stainless
Cost	1	3	4	5	5	3	2	4	4
Abrasion Resistance	1	3	3	5	4	4	3	4	4
Impact Resistance	3	5	4	5	4	3	2	2	2
Moisture Resistance	5	2	1	3	3	2	4	5*	5*
Non-Stick	2	2	5	4	5	1	1	3*	3*
FDA Food Approved	Yes	Yes	Yes	No	No	No	No	Yes	Yes
Anti-Static	On Request	No	No	Yes	No	No	No	No	No
Temperature Range (°F)	-120 to 180 (210 Inter)	-60 to 300 (350 Inter)	-60 to 180 (210 Inter)	-40 to 284	-40 to 284	-60 to 800	Contact 4B	Contact 4B	Contact 4B
Standard Colors**	White	Cream, Black, Dark Green	Natural	Black	Black	NA	NA	NA	NA

Code: 1 = Low / 5 = High

NA = Not Applicable

* When Polished

**Special Order Colors Available

Material / Applications

HDPE -	General use with grains, feed, food products, fertilizer and moist materials	Mild Steel -	General use with grains, feeds, food products and light to medium industrial products
Nylon -	Hot, granular abrasives, high impact products including powders	Ductile Iron -	Medium to heavy duty industrial, abrasive products
Urethane -	Sharp abrasives, pelletized feeds and sticky products with little or no water content	304 Stainless -	Food, high temperature and corrosive products
Nyrim® -	Extremely abrasive, high impact industrial products and sticky products	316 Stainless -	Food, high temperature and highly corrosive products
Nylatron® -	Extremely abrasive, high impact industrial products and very sticky products		

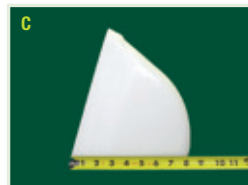
How To Measure A Bucket



With elevator bucket back laid flat, measure overall length (A)



With elevator bucket back laid flat, measure the horizontal projection (B)



With elevator bucket back laid flat, measure the back depth (C)



With elevator bucket back held vertical, measure front depth to front lip (D)



Using a caliper, measure the thickness of the bucket (T)



Bucket Venting, Wear & Reinforcing Bands

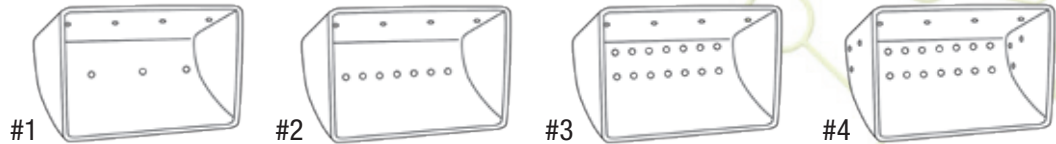
BUCKET VENTING -

When elevating fluffy or powdery materials, vent holes in the bottom of the elevator bucket allow material to fill and discharge more efficiently. As material enters the bucket, it encounters a pillow of air resting in the bottom. Vent holes provide an escape path for this pillow of air, so that the entering material does not bounce out of the bucket and back down the elevator leg casing. Upon discharge, the vent holes allow air to re-enter the bucket as the material exits, releasing any vacuum that might be trapped inside the bucket, creating down legging.

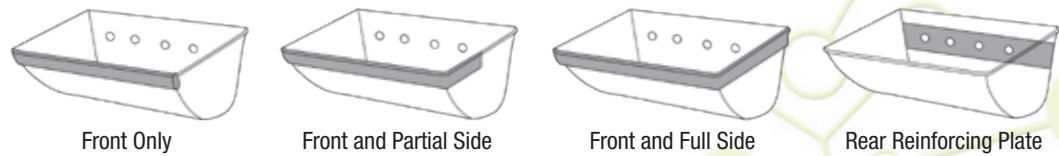
WEAR BANDS -

Wear bands, either from mild steel or AR (abrasion resistant) steel extend the life of the bucket by adding additional thickness to the wear surface. This is especially helpful when elevating abrasive materials.

Typical Bucket Vent Patterns (Custom Venting Available)



Steel Bucket Wear & Reinforcing Bands (Optional)



Bucket Elevator Capacity Calculations

$$\text{Bushels Per Hour} = \frac{\text{Bucket Capacity (in}^3\text{)}}{2,150 \text{ (in}^3 \text{ per bushel)}} \times \frac{12 \text{ (in/ft)}}{\text{Bucket Spacing on Belt (in)}} \times \text{Belt Speed (ft/min)} \times 60 \text{ (min/hr)}$$

$$\text{Cubic Feet Per Hour} = \frac{\text{Bucket Capacity (in}^3\text{)}}{1,728 \text{ (in}^3 \text{ per ft}^3\text{)}} \times \frac{12 \text{ (in/ft)}}{\text{Bucket Spacing on Belt (in)}} \times \text{Belt Speed (ft/min)} \times 60 \text{ (min/hr)}$$

$$\text{Belt Speed (ft/min)} = 3.1416 (\pi) \times \text{Head Pulley Diameter (in)} \times \text{RPM} \div 12 \text{ (in/ft)}$$

$$\text{Short Tons Per Hour} = \text{Cubic Feet Per Hour} \times \text{Material Density (lbs/ft}^3\text{)} \div 2,000 \text{ (lbs/ton)}$$

Maximum BPH Capacity by Trunking Size

Trunking Size (W x D)	Pulley Diameter (in.)	Belt Width (in.)	Bucket Size (Nominal)	Optimum Belt Speed (FPM)	Maximum BPH (Nominal)
12 x 9	24	9	8 x 5	500	4,000
13 x 10	24	10	9 x 5	500	4,500
13 x 10	24	10	9 x 6	500	6,000
14 x 10	24	11	10 x 6	500	5,800
16 x 10	24	13	12 x 6	500	8,000
17 x 11	36	14	13 x 7	620	11,000
18 x 12	36	15	14 x 7	620	11,800
20 x 12	36	17	16 x 7	620	13,500
18 x 14	48	15	14 x 8	720	15,500
20 x 14	48	17	16 x 8	720	17,800
22 x 14	48	19	18 x 8	720	20,000
24 x 14	48	21	20 x 8	720	22,500
28 x 14	48	24	22 x 8	720	27,000
30 x 14	48	26	24 x 8	720	30,000

Table based on: discharge height <= 120 feet - dry grain material @ 45 PCF - bucket fill 100% @ water level

Bucket / Pulley Relative Speeds



This chart is designed for use as a guide to handling free flowing granular materials. For other types of material, please contact 4B.

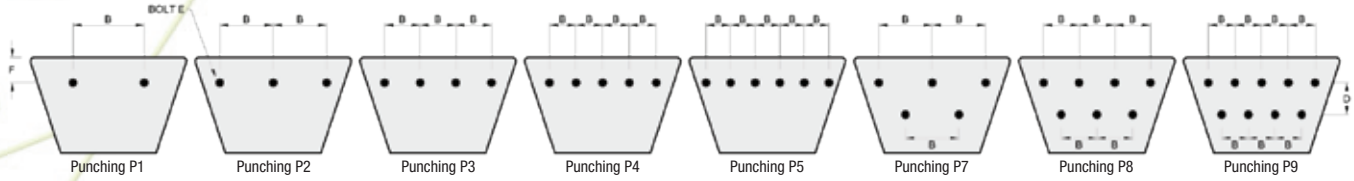
Please note that centrifugal discharge can be at minimum bucket spacing. However, gravity discharge often requires an increase in bucket space to suit the discharge angle. For questions regarding this, please contact 4B.

Bucket Projection (in.)	Pulley Diameter (in.)	High Speed Centrifugal Discharge						Slow Centrifugal Discharge	
		Minimum Speed		Optimum Speed		Maximum Speed		Optimum Speed	
		ft/min	RPM	ft/min	RPM	ft/min	RPM	ft/min	RPM
4	12	257.0	82	338.0	108	618.0	197	200.0	64
4	14	287.0	78	371.0	101	600.0	164	220.0	60
4	16	315.0	75	403.0	96	600.0	143	238.0	57
4	18	340.0	72	432.0	92	600.0	127	255.0	54
4	20	365.0	70	460.0	88	600.0	115	272.0	52
4	24	410.0	65	511.0	81	606.0	96	302.0	48
5	14	275.0	75	362.0	99	606.0	165	214.0	58
5	16	302.0	72	394.0	94	641.0	153	232.0	55
5	18	328.0	70	423.0	90	671.0	142	250.0	53
5	20	353.0	67	451.0	86	698.0	133	266.0	51
5	24	398.0	63	503.0	80	742.0	118	297.0	47
5	30	460.0	59	572.0	73	792.0	101	338.0	43
5	36	516.0	55	634.0	67	829.0	88	374.0	40
6	16	292.0	70	385.0	92	597.0	143	227.0	54
6	18	318.0	67	414.0	88	628.0	133	245.0	52
6	20	342.0	65	442.0	84	656.0	125	261.0	50
6	24	388.0	62	494.0	79	702.0	112	292.0	46
6	30	449.0	57	564.0	72	755.0	96	333.0	42
6	36	505.0	54	627.0	67	795.0	84	370.0	39
6	42	556.0	51	684.0	62	826.0	75	404.0	37
6	48	603.0	48	736.0	59	851.0	68	435.0	35
6	60	690.0	44	833.0	53	889.0	57	492.0	31
6	72	767.0	41	919.0	49	916.0	49	542.0	29
7	18	308.0	65	406.0	86	590.0	125	240.0	51
7	20	332.0	63	432.0	83	619.0	118	256.0	49
7	24	378.0	60	486.0	77	666.0	106	287.0	46
7	30	439.0	56	556.0	71	722.0	92	328.0	42
7	36	495.0	53	619.0	66	764.0	81	365.0	39
7	42	546.0	50	677.0	62	798.0	73	399.0	36
7	48	594.0	47	730.0	58	824.0	66	431.0	34
7	60	680.0	43	827.0	53	865.0	55	488.0	31
8	20	323.0	62	426.0	81	585.0	112	252.0	48
8	24	368.0	59	478.0	76	633.0	101	282.0	45
8	30	430.0	55	549.0	70	690.0	88	324.0	41
8	36	485.0	51	612.0	65	735.0	78	361.0	38
8	42	538.0	49	670.0	61	770.0	70	395.0	36
8	48	584.0	46	723.0	58	799.0	64	427.0	34
8	60	672.0	43	820.0	52	843.0	54	484.0	31
8	72	750.0	40	876.0	46	907.0	48	534.0	28
8	84	820.0	37	900.0	41	987.0	45	583.0	27
9	24	359.0	57	471.0	75	604.0	96	278.0	44
9	30	421.0	54	542.0	69	663.0	84	320.0	41
9	36	477.0	51	605.0	64	708.0	75	357.0	38
9	42	528.0	48	663.0	60	745.0	68	391.0	36
9	48	576.0	46	717.0	57	775.0	62	423.0	34
9	72	741.0	39	856.0	45	902.0	48	533.0	28
9	84	814.0	37	883.0	40	982.0	45	580.0	26
9	96	880.0	35	904.0	36	1,056.0	42	624.0	25
10	24	351.0	56	464.0	74	577.0	92	274.0	44
10	30	412.0	52	534.0	68	637.0	81	316.0	40
10	36	468.0	50	599.0	64	683.0	72	353.0	37
10	42	520.0	47	657.0	60	752.0	68	420.0	38
10	48	567.0	45	710.0	57	752.0	60	420.0	33
10	60	655.0	42	801.0	51	808.0	51	477.0	30

- Chart for reference only, always discuss your particular application with 4B Engineering



Bucket Punching Chart For Belts



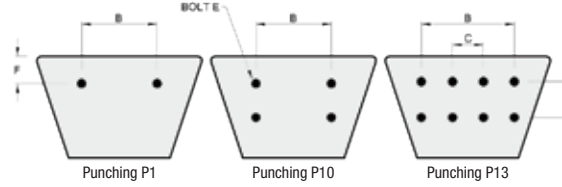
TYPE AA CENTRIFUGAL DISCHARGE ELEVATOR BUCKETS ON BELTS

		Nominal Bucket Size (in.)	Dimensions (in.)			
Belt Width (in.)	Punching	Length	B	D	E	F
4	P1	3	1-3/8	---	1/4	1
5	P1	4	2-5/16	---	1/4	1
6	P1	5	3-3/16	---	1/4	1
7 - 8	P1	6	4-3/8	---	1/4	1
8	P2	7	2-1/2	---	1/4	1
9 - 10	P7	8	3	1	1/4	1
10	P7	9	3	1	1/4	1
11 - 12	P7	10	3-1/2	1	5/16	1
12	P7	11	4	1	5/16	1
13 - 14	P7	12	4-1/2	1	5/16	1
14	P8	13	3-1/2	1	5/16	1
15 - 16	P8	14	4	1	5/16	1
16	P8	15	4	1	5/16	1
18	P8	16	4-1/2	1	5/16	1
18	P8	17	4-1/2	1	5/16	1
20	P8	18	5	1	5/16	1
20	P9	19	4	1	5/16	1
22	P9	20	4	1	5/16	1
22	P9	21	4-1/2	1	5/16	1
24	P9	22	4-1/2	1	5/16	1
24	P9	23	5	1	5/16	1
26	P9	24	5	1	5/16	1

TYPES HF, HFO, MF AND LF CONTINUOUS ELEVATOR BUCKETS ON BELTS

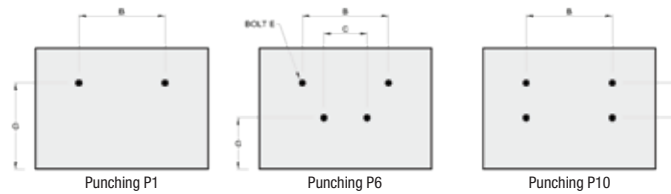
Belt Width (in.)	Punching	Nominal Bucket Size (in.)			Dimensions (in.)			
		Length	Projection	Depth	B	D	E	F
9 - 10	P7	8	5	7-3/4	3	1	1/4	3-3/8
9 - 10	P7	8	5	8-1/2	3	1	1/4	3-3/4
10	P7	9	6	9-1/4	3	1	1/4	4-1/8
11 - 12	P7	10	5	7-3/4	3-1/2	1	5/16	3-3/8
11 - 12	P7	10	5	8-1/2	3-1/2	1	5/16	3-3/4
11 - 12	P7	10	6	9-1/4	3-1/2	1	5/16	4-1/8
11 - 12	P7	10	6	10	3-1/2	1	5/16	4-1/2
11 - 12	P7	10	7	11-5/8	3-1/2	1	5/16	5-5/16
11 - 12	P7	10	7	12-1/2	3-1/2	1	5/16	5-3/4
11 - 12	P7	10	8	11-5/8	3-1/2	1	5/16	5-5/16
12	P7	11	6	9-1/4	4	1	5/16	4-1/8
13 - 14	P7	12	5	7-3/4	4-1/2	1	5/16	3-3/8
13 - 14	P7	12	6	9-1/4	4-1/2	1	5/16	4-1/8
13 - 14	P7	12	6	10	4-1/2	1	5/16	4-1/2
13 - 14	P7	12	7	11-5/8	4-1/2	1	5/16	5-5/16
13 - 14	P7	12	7	11-3/4	4-1/2	1	5/16	5-3/8
13 - 14	P7	12	7	12-1/2	4-1/2	1	5/16	5-3/4
13 - 14	P7	12	8	11-5/8	4-1/2	1	5/16	5-5/16
13 - 14	P7	12	8	12-1/2	4-1/2	1	5/16	5-3/4
15 - 16	P8	14	7	11-5/8	4	1	5/16	5-5/16
15 - 16	P8	14	7	12-1/2	4	1	5/16	5-3/4
15 - 16	P8	14	8	11-5/8	4	1	5/16	5-5/16
15 - 16	P8	14	8	11-3/4	4	1	5/16	5-3/8
15 - 16	P8	14	8	12-1/2	4	1	5/16	5-3/4
18	P8	16	7	11-3/4	4-1/2	1	5/16	5-3/8
18	P8	16	8	11-5/8	4-1/2	1	5/16	5-5/16
18	P8	16	8	12-1/2	4-1/2	1	5/16	5-3/4
18	P8	16	12	17-5/8	4-1/2	1	5/16	8-5/16
18	P8	16	12	18-5/8	4-1/2	1	5/16	8-13/16
20	P8	18	8	11-5/8	5	1	5/16	5-5/16
20	P8	18	10	15	5	1	5/16	7
22	P9	20	8	11-5/8	4	1	5/16	5-5/16
22	P9	20	12	17-5/8	4	1	5/16	8-5/16
22	P9	20	12	18-5/8	4	1	5/16	8-13/16
26	P9	24	10	11-5/8	5	1	5/16	5-5/16
26	P9	24	12	17-5/8	5	1	5/16	8-5/16
26	P9	24	12	18-5/8	5	1	5/16	8-13/16

Bucket Punching Chart For Chains



CENTRIFUGAL DISCHARGE ELEVATOR BUCKETS ON “K” ATTACHMENTS

Chain Attachment Number	Punching	Nominal Bucket Size (in.)						Dimensions (in.)					
		Types AA - RB		Type AC		Type SC		A	B	C	D	E	F
		Min.	Max.	Min.	Max.	Min.	Max.						
77-K1	P1	6 x 4	10 x 6	---	---	8 x 6	10 x 8	---	3	---	---	1/4	1
77-K2	P10	6 x 4	10 x 6	---	---	8 x 6	10 x 8	---	3	---	13/16	1/4	1
C 77-K1	P1	6 x 4	10 x 6	---	---	8 x 6	10 x 8	---	3	---	---	3/8	1
78-K1	P1	6 x 4	10 x 6	---	---	8 x 6	10 x 8	---	3-3/8	---	---	1/4	1
H 78-K1	P1	6 x 4	12 x 6	---	---	8 x 6	12 x 8	---	4	---	---	3/8	1
H 78-K2	P10	6 x 4	12 x 6	---	---	8 x 6	12 x 8	---	4	---	1-1/8	3/8	1
C 102B-K2	P10	8 x 5	16 x 7	---	---	8 x 6	16 x 8	---	5-5/16	---	1-3/4	3/8	1
SS 102B-K2	P10	7 x 4-1/2	16 x 7	---	---	8 x 6	16 x 8	---	5-5/16	---	1-3/4	3/8	1
C 102-1/2-K2	P10	8 x 5	16 x 7	---	---	8 x 6	16 x 8	---	5-5/16	---	1-3/4	1/2	1
SS 102-1/2-K2	P10	8 x 5	16 x 7	---	---	8 x 6	16 x 8	---	5-5/16	---	1-3/4	1/2	1
C 110-K2	P10	8 x 5	16 x 7	---	---	8 x 6	16 x 8	---	5-5/16	---	1-3/4	3/8	1
SS 110-K2	P10	8 x 5	16 x 7	---	---	8 x 6	16 x 8	---	5-5/16	---	1-3/4	3/8	1
C111-K2	P10	9 x 6	18 x 8	---	---	10 x 8	16 x 8	---	6-1/4	---	2-5/16	1/2	1
SS 111-K2	P10	10 x 6	18 x 8	---	---	10 x 8	16 x 8	---	6-1/4	---	2-5/16	1/2	1
C 132-K2	P10	12 x 6	20 x 8	---	---	12 x 8	16 x 8	---	7-1/2	---	2-3/4	1/2	1
188-K1	P1	6 x 4	12 x 6	---	---	8 x 6	12 x 8	---	3-3/4	---	---	3/8	1
C 188-K2	P10	6 x 4	14 x 7	---	---	8 x 6	14 x 8	---	4-3/16	---	1-1/4	5/16	1
SS 188-K1	P1	6 x 4	12 x 6	---	---	8 x 6	12 x 8	---	3-3/4	---	---	3/8	1
SS 188-K2	P10	8 x 5	14 x 7	---	---	8 x 6	14 x 8	---	4-3/16	---	1-1/4	5/16	1
SS 856-K2	P10	10 x 6	18 x 10	---	---	10 x 8	16 x 8	---	6-5/16	---	2-1/4	1/2	1
SS 856-K24	P10	---	---	18 x 10	24 x 10	---	---	---	7-1/4	---	2-1/2	5/8	1
SS 2857-K44	P13	---	---	18 x 10	24 x 10	---	---	---	12	---	3-1/2	1/2	1



CONTINUOUS ELEVATOR BUCKETS ON “K” ATTACHMENTS

Chain Attachment Number	Punching	Nominal Bucket Size (in.)								Dimensions (in.)				
		Types HF		Type HF0		Type MF		Type LF		B	C	D	E	G
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.					
C 102B-K2	P10	8 x 5	10 x 5	8 x 5	10 x 5	8 x 5	10 x 5	---	---	5-5/16	---	1-3/4	3/8	1-7/8
SS 102B-K2	P10	8 x 5	10 x 5	8 x 5	10 x 5	8 x 5	10 x 5	---	---	5-5/16	---	1-3/4	3/8	1-7/8
C 102B-1/2-K	P10	8 x 5	10 x 5	8 x 5	10 x 5	8 x 5	10 x 5	---	---	5-5/16	---	1-3/4	1/2	1-7/8
SS 102B-1/2-K2	P10	8 x 5	10 x 5	8 x 5	10 x 5	8 x 5	10 x 5	---	---	5-5/16	---	1-3/4	1/2	1-7/8
C 110-K2	P10	10 x 7	16 x 8	10 x 7	16 x 8	10 x 7	18 x 8	10 x 7	16 x 8	5-5/16	---	1-3/4	3/8	3-3/8
SS 110-K2	P10	10 x 7	16 x 8	10 x 7	16 x 8	10 x 7	18 x 8	10 x 7	16 x 8	5-5/16	---	1-3/4	3/8	3-3/8
C 111-K2	P10	10 x 6	12 x 6	10 x 6	12 x 6	10 x 6	12 x 6	10 x 6	12 x 6	6-1/4	---	2-5/16	1/2	2-3/32
SS 111-K2	P10	10 x 6	12 x 6	10 x 6	12 x 6	10 x 6	12 x 6	10 x 6	12 x 6	6-1/4	---	2-5/16	1/2	2-3/32
C 132-K2	P10	10 x 7	16 x 8	10 x 7	16 x 8	12 x 7	20 x 8	12 x 7	20 x 8	7-1/2	---	2-3/4	1/2	2-7/8
SS 150PLUS-K2	P10	10 x 7	16 x 8	10 x 7	16 x 8	12 x 7	20 x 8	12 x 7	20 x 8	7-1/2	---	2-3/4	1/2	2-7/8
SS 856-K2	P10	10 x 7	16 x 8	10 x 7	16 x 8	12 x 7	20 x 8	12 x 7	20 x 8	6-5/16	---	2-1/4	3/8	3-1/8

- Other punching available, contact 4B for more information



Material Bulk Density Tables

(Approximate Values - Can Vary Depending On Moisture Content)

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Alfalfa Meal	14	22
Alfalfa Pellets	41	43
Alfalfa Seed	10	15
Almonds, Broken	28	30
Almonds, Whole Shelled	28	30
Alum, Fine	45	50
Alum, Lumpy	50	60
Alumina Fines	---	35
Alumina	50	65
Alumina, Sized or Briquette	65	65
Aluminum Chips, Oily	7	15
Aluminum Chips, Dry	7	15
Aluminum Hydrate	13	20
Aluminum Ore (See Bauxite)	---	---
Aluminum Oxide	60	120
Aluminum Silicate (Andalusite)	---	49
Aluminum Chloride, Crystalline	45	52
Aluminum Nitrate	45	62
Aluminum Sulfate	45	58
Ammonium Chloride	45	52
Ammonium Nitrate	---	45
Ammonium Sulfate, Granular	45	58
Arsenate of Lead	---	72
Arsenic, Pulverized	30	30
Arsenic Oxide (Arsenolite)	100	120
Asbestos, Rock (Ore)	---	81
Asbestos, Shred	20	40
Ash, Black Ground	---	105
Ashes, Coal, Dry 1/2"	35	45
Ashes, Coal, Dry 3" & Under	35	40
Ashes, Coal, Wet 1/2"	45	50
Ashes, Coal, Wet 3" & Under	45	50
Ashes, Fly	30	45
Ashes, Gas Produced	---	78
Asphalt Binder	80	85
Asphalt, Crushed 1/2"	---	45
Bakelite, Fine	30	45
Baking Powder	40	55
Baking Soda (Sodium Bicarbonate)	40	55
Barite (Barium Sulfate) 1/2" to 3"	120	180
Barite, Powder	120	180
Barium Carbonate	---	72
Bark, Wood, Refuse	10	20
Barley, Fine, Ground	24	38
Barley, Malted	---	31
Barley, Meal	---	28
Barley, Scoured	---	41
Barley, Whole	36	48
Basalt	80	105

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Bauxite, Dry, Ground	---	68
Bauxite, Crushed 3" & Under	75	85
Bauxite, Mine Run	66	90
Beans, Castor, Whole Shelled	---	36
Beans, Castor, Meal	35	40
Beans, Navy, Dry	---	48
Beans, Navy, Steeped	---	60
Beets, Whole	---	48
Bentonite, Crude	35	40
Benzene Hexachloride	---	56
Bicarbonate of Soda	40	55
Bonemeal	50	60
Bone Ash (Tricalcium Phosphate)	40	50
Borate of Lime	---	60
Borax 2" to 3" Lump	60	70
Borax 1-1/2" to 2" Lump	55	60
Borax Screening 1/2"	55	60
Borax, Fine	45	55
Boric Acid, Fine	---	55
Boron	---	75
Bran (Rice, Rye, Wheat)	16	20
Bread Crumbs	20	25
Brewer's Grain, Spent, Dry	14	30
Brewer's Grain, Spent, Wet	55	60
Brick, Hard Burned	---	125
Brick, Soft Burned	---	100
Brick, Ground 1/8"	100	120
Bronze Chips	30	50
Buckwheat	37	42
Calcine, Flour	75	85
Calcium Acetate	---	125
Calcium Carbide (Crushed)	70	80
Calcium Carbonate (See Limestone)	---	---
Calcium Fluoride (See Fluorspar)	---	---
Ca Hydrate (See Lime, Hydrated)	---	---
Ca Hydroxide (See Lime, Hydrated)	---	---
Calcium Lactate	26	29
Calcium Carbonate	90	100
Calcium Oxide (See Lime, Unslaked)	40	50
Calcium Phosphate	40	50
Calcium Sulfate (See Gypsum)	---	---
Carbon, Activated, Dry, Fine	8	20
Carbon Black, Pelleted	20	25
Carbon Black, Powder	4	7
Carborundum	---	100
Cashew Nuts	32	37
Cast Iron, Chips	130	200
Caustic Soda	---	88
Caustic Soda, Flakes	---	47

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Celite	11	14
Cement, Clinker	75	95
Cement, Rock (See Limestone)	---	---
Cement, Portland	---	94
Cement, Aerated (Portland)	60	75
Cement, Mortar	---	133
Chalk, Crushed	75	95
Chalk, Pulverized	67	75
Charcoal, Lumps	18	28
Charcoal, Ground	18	28
Chips, Hogged Fuel	15	25
Chrome Ore	125	140
Cinders, Blast Furnace	---	57
Cinders, Coal	---	40
Clay (See Diatomaceous, Kaolin)	---	---
Clay, Calcined	80	100
Clay, Brick, Dry, Fines	100	120
Clay, Ceramic, Dry, Fines	60	80
Clay, Dry, Lumpy	60	75
Clinker, Cement	75	95
Coal, Anthracite (River & Culm)	---	60
Coal, Anthracite, Sized (1/2")	55	60
Coal, Bituminous, (50M & Under)	50	54
Coal, Bituminous, Mined	40	60
Coal, Bituminous, Mined, Sized	45	55
Coal, Bituminous, Mined, Slack	43	50
Coal, Lignite	40	45
Coal, Char	---	24
Cocoa, Beans	30	40
Cocoa, Nibs	---	35
Cocoa, Powdered	30	35
Coconut, Shredded	20	22
Coffee, Green Bean	25	35
Coffee, Ground, Dry	---	25
Coffee, Ground, Wet	35	45
Coffee, Roasted, Bean	22	26
Coffee, Soluble	---	19
Coke, Loose	25	35
Coke, Petroleum, Calcined	3	45
Coke, Breeze	25	35
Compost	30	50
Concrete, Cinder	90	100
Concrete, 2" Slump	100	150
Concrete, 4" Slump	110	150
Concrete, 6" Slump	110	150
Concrete, In Place, Stone	130	150
Concrete, Pre-Mix, Dry	85	120
Copper Ore	120	150
Copper Ore, Crushed	100	150

Material Bulk Density Tables

(Approximate Values - Can Vary Depending On Moisture Content)



Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Copper Ore, Pulverized	100	150
Copper Sulfate (Bluestone)	75	85
Copperas	60	70
Copra Cake, Ground	40	45
Copra Cake, Lumpy	25	30
Copra, Lumpy	---	22
Copra, Meal	40	45
Cork, Fine Ground	12	15
Cork, Granulated	12	15
Corn, Cracked	45	50
Corn Cobs, Ground	---	17
Corn Cobs, Whole	12	15
Corn, Ear	---	56
Corn, Germs	---	21
Corn, Grits	40	45
Corn Oil Cake	---	25
Corn, Seed	---	45
Corn, Shelled	---	45
Corn, Sugar	30	35
Cornmeal	38	40
Cottonseed Cake, Crushed	40	45
Cottonseed Cake, Lumpy	40	45
Cottonseed, Dry, Delinted	---	35
Cottonseed, Dry, Not Delinted	18	25
Cottonseed Flakes	20	25
Cottonseed Hulls	---	12
Cottonseed Meal, Extracted	35	40
Cottonseed Meal, Expeller	25	30
Cottonseed Meats, Dry	---	40
Cottonseed Meats, Rolled	35	40
Cracklings, Crushed	40	50
Cryolite, Dust	75	90
Cryolite, Lumpy	90	100
Cullet, Fine	80	120
Cullet, Lump	80	120
Culm (See Coal, Anthracite)	---	---
Cupric Sulfate (See Copper Sulfate)	75	85
Detergent	15	50
Diatomaceous Earth	11	14
Dicalcium Phosphate	40	50
Disodium Phosphate	25	31
Distiller's Grain, Spent, Dry	---	30
Distiller's Grain, Spent, Wet	40	60
Dolomite, Crushed	80	100
Dolomite, Lumpy	90	100
Earth, As Excavated, Dry	70	80
Earth, Loam, Dry, Loose	---	76
Ebonite, Crushed	65	70
Epsom Salts	40	50

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Emery	---	230
Feldspar, Ground	65	80
Feldspar, Lumps	90	100
Ferrous Sulfate	60	70
Ferrous Sulfide, Powder (100M)	105	120
Flaxseed	---	45
Flaxseed Cake (Linseed Cake)	48	50
Flaxseed Meal (Linseed Meal)	---	25
Flour, Wheat	35	40
Flue Dust, Blast Furnace	110	125
Flue Dust, Basic Oxygen Furnace	45	60
Flue Dust, Boiler House, Dry	35	40
Fly Ash	30	45
Gelatin, Granulated	---	32
Glass, Batch	80	100
Glass, Broken (See Cullet)	---	---
Gluten Meal	---	40
Grain, Brewers (See Brewer's Grain)	---	---
Grain, Dist, Dry (See Brewer's Grain)	---	---
Grain, Dist, Wet (See Brewer's Grain)	---	---
Grains, (See Specific Grain)	---	---
Granite, Broken	95	100
Granite, Fine	80	90
Graphite, Flake	---	40
Graphite, Flour	---	28
Foundry Refuse, Old Sand Cores	70	100
Graphite, Ore	65	75
Grass Seed	10	12
Gravel, Bank Run	90	100
Gravel, Dry, Sharp	90	100
Gravel, Pebbles	90	100
Gypsum, Calcined	55	60
Gypsum, Calcined, Powdered	60	80
Gypsum Dust, Aerated	60	70
Gypsum Dust, Non-Aerated	---	93
Gypsum, Lumps, 1-1/2" to 3"	70	80
Gypsum, Raw, 1" & Under	70	80
Gypsum, Screenings, 1/2"	70	80
Hominy, Dry	---	37
Hops, Spent, Dry	---	35
Hops, Spent, Wet	50	55
Iron Borings, Machine Shop	---	125
Iron Ore	100	200
Iron Ore, Concentrates	120	180
Iron Ore, Crushed	135	150
Iron Oxide, Pigment	---	25
Iron Oxide, Mill Scale	---	75
Iron Pyrites	60	70
Iron Sulfate	60	70

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Kaffir Corn	40	45
Kaolin Clay, 3" & Under	---	63
Kaolin Clay, Talc, 100 Mesh	42	56
Lactose	---	32
Lead Arsenate	---	72
Lead Arsenite	---	72
Lead Carbonate	240	260
Lead Ore, 1/8"	200	270
Lead Ore, 1/2"	180	230
Lead Oxide (Red Lead) 100 Mesh	30	150
Lead Oxide (Red Lead) 200 Mesh	30	180
Lead Sulfide, 100 Mesh	240	260
Lime, Ground, 1/8" and Under	60	65
Lime, Hydrated, 1/8" and Under	---	40
Lime, Hydrated, Pulverized	32	40
Lime, Pebble	53	56
Limestone, 1/8" & Under	---	68
Limestone, Crushed	85	90
Limestone, Dust	55	95
Linseed (See Flaxseed)	---	---
Magnesium Chloride	---	33
Magnesium Sulphate	40	50
Malt, Dry, Ground	---	20
Malt, Dry, Whole	20	30
Malt, Meal	36	40
Malt, Sprouts	13	15
Malt, Wet or Green	60	65
Manganese Dioxide	70	85
Manganese Ore	125	140
Manganese Oxide	---	120
Manganese Sulphate	---	70
Marble, Crushed	80	95
Marl (Clay)	---	80
Meat, Ground	50	55
Meat, Scrap With Bone	---	40
Mica, Flakes	17	22
Mica, Ground	13	15
Mica, Pulverized	13	15
Milk, Dried, Flake	5	6
Milk, Malted	30	35
Milk, Powdered	20	45
Milk, Whole, Powdered, Dry	20	36
Mortar, Wet	---	150
Muriate (See Potash Muriate)	---	---
Mustard Seed	---	45
Niacin (Nicotinic Acid)	---	35
Nickel (Cobalt Sulphate Ore)	80	150
Oats	---	26
Oats, Crimped	19	26



Material Bulk Density Tables

(Approximate Values - Can Vary Depending On Moisture Content)

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Oats, Crushed	---	22
Oats, Rolled	---	35
Oat Flour	19	24
Oat Hulls	8	12
Paper Pulp (4% or Less)	---	62
Paper Pulp (6% to 15%)	60	62
Peanuts, Raw, Unshelled	15	20
Peanuts, Clean, In Shell	15	20
Peanuts, Shelled	35	45
Peanut Meal	---	30
Peas, Dried	45	50
Petroleum Coke (See Coke)	---	---
Phosphate Acid Fertilizer	---	60
Phosphate Rock, Broken	75	85
Phosphate Rock, Pulverized	---	60
Phosphate Sand	90	100
Phosphate Ground	50	55
Phosphate Disodium	50	60
Plaster of Paris (See Gypsum)	---	---
Polyethylene Resin, Pellets	30	35
Polystyrene, Beads	---	40
Polyvinyl Chloride, Pellets	20	30
Polyvinyl Chloride, Powder	20	30
Potash (Muriate) Dry	---	70
Potash (Muriate) Mine Run	---	75
Potash Salt (Sylvite)	---	80
Potassium Carbonate	---	51
Potassium Chloride, Pellets	120	130
Potassium Nitrate	76	80
Potassium Sulfate	42	48
Pyrites, Iron	135	145
Pyrites, Iron, Pellets	120	130
Quartz Dust	70	80
Quartz	80	95
Rice, Hulled	45	49
Rice, Polished	---	30
Rice, Rough	32	36
Rice, Bran	---	20
Rice, Grits	42	45
Rice, Hulls	20	21
Rubber, Reclaimed, Ground	23	50
Rubber, Reclaimed	25	30
Rubber, Pellets	50	55
Rye	42	48
Rye, Feed	---	33
Rye, Meal	35	40
Rye, Middlings	---	42
Rye, Bran	15	20
Rye, Shorts	32	33

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Safflower, Seed	---	45
Safflower, Cake & Meal	---	50
Sal Ammoniac	45	52
Salicylic Acid	---	29
Salt, Dry, Coarse	45	60
Salt, Dry, Fine	70	80
Salt Cake, Dry, Coarse	---	85
Salt Cake, Dry, Pulverized	65	85
Sand, Dry, Bank (Damp)	110	130
Sand, Dry, Bank (Dry)	90	110
Sand, Foundry, Prepared	65	75
Sand, Foundry (Shake Out)	90	100
Sand, Dry, Silica	90	100
Sand, (Resin Coated) Silica	---	104
Sand, (Resin Coated) zircon	---	115
Sandstone, Broken	85	90
Sawdust, Dry	10	13
Sesame Seed	27	41
Shale, Broken	90	100
Shale, Crushed	85	90
Silica Gel Plus 1/2"	---	45
Silicon Dioxide (See Quartz)	---	---
Silica, Flour	---	80
Slag, Blast Furnace, Crushed	130	180
Slag, Furnace, Granular, Dry	60	65
Slag, Furnace, Granular, Wet	90	100
Slate, Crushed, 1/2"	80	90
Slate, Dust	70	80
Slate, Ground, 1/8"	82	85
Slate, Lump	85	95
Sludge, Sewage, Dried	40	50
Sludge, Sewage, Dry, Ground	45	55
Soap, Flakes	5	15
Soap, Powder	20	25
Soapstone, Talc Fine	40	50
Soda Ash, Heavy	55	65
Soda Ash, Light	20	35
Sodium Aluminate, Ground	---	72
Sodium Al Fluoride (See Kryolite)	---	---
Sodium Aluminum Sulphate	---	75
Sodium Bentonite	35	40
Sodium Bicarbonate	40	55
Sodium Chloride (See Salt)	---	---
Sodium Carbonate (See Soda Ash)	---	---
Sodium Hydrate (See Caustic Soda)	---	---
Sodium Hydroxide (See Caustic Soda)	---	---
Sodium Borate (See Borax)	---	---
Sodium Nitrate	70	80
Sodium Phosphate	50	60

Material	Bulk Density (lb/cu ft)	
	Loose	Packed
Sodium Sulfate (See Salt Cake)	---	---
Sodium Sulfite	---	96
Sorghum Seed	40	45
Soy Bean, Cake	40	43
Soy Bean, Cracked	30	40
Soy Bean, Flake, Raw	18	25
Soy Bean, Flour	27	30
Soy Bean Meal	---	40
Soy Beans, Whole	45	50
Starch	25	50
Steel, Turnings, Crushed	100	150
Steel, Trimmings	75	150
Sugar Beet Pulp, Dry	12	15
Sugar Beet Pulp, Wet	25	45
Sugar, Refined, Granulated, Dry	50	55
Sugar, Refined, Granulated, Wet	55	65
Sugar, Raw	55	65
Sugar Cane, Knifed	15	18
Sulphur, Crushed 1/2" & Under	50	60
Sulphur, Lumpy, 3"	80	85
Sulphur, Powdered	50	60
Sunflower, Seed	19	38
Talcum Powder	50	60
Talc, Solid	---	165
Timothy Seed	---	36
Titanium Dioxide	140	160
Trap Rock, Screenings	90	100
Trap Rock, Lumps	100	110
Tricalcium Phosphate	40	50
Trisodium Phosphate	---	60
Trisodium Phosphate, Granular	---	60
Trisodium Phosphate, Pulverized	---	50
Urea Prills, Coated	43	46
Vermiculite, Ore	---	80
Vermiculite, Expanded	---	16
Walnut Shells, Crushed	35	45
Wheat	45	48
Wheat Bran	16	20
Wheat, Cracked	40	45
Wheat, Flour	33	40
Wheat, Germ	18	28
Wheat, Middlings	20	24
Wood Chips, Screened	10	30
Wood Chips, Hogged Fuel	15	25
Wood, Shavings	8	16
Zinc Ore, Crushed	---	160
Zinc Ore, Roasted	---	110
Zinc Oxide, Heavy	30	35
Zinc Oxide, Light	10	15



LENGTH CONVERSION

Feet x .0003048 = Kilometers
 Feet x .30490 = Meters
 Inches x .0254 = Meters
 Inches x 25.4001 = Millimeters
 Kilometers x .62137 = Miles
 Kilometers x 3.280.8 = Feet

Meters x 1.09361 = Yards
 Meters x 3.2808399 = Feet
 Meters x 39.370 = Inches
 Miles x 1.60935 = Kilometers
 Millimeters x .039370 = Inches
 Yards x .91440 x Meters

WEIGHT CONVERSION

Fluid Ounces x 29.57 = Grams
 Grains x .0648 = Grams
 Grams x .033819 = Fluid Ounces
 Grams x .03527 = Ounces
 Grams x 15.432 = Grains
 Kilograms x 2.20462 = Pounds
 Kilograms x 35.27 = Ounces

Metric Ton x .9842 = Long Ton
 Long Ton x 1.01605 = Metric Ton
 Metric Ton x 1.1023 = Short Ton
 Short Ton x .9072 = Metric Ton
 Ounces x .02935 = Kilograms
 Ounces x 28.35 = Grams
 Pounds x .45359 = Kilograms

AREA CONVERSION

Acres x .0040469 = Square Kilometers
 Acres x .40469 = Hectares
 Hectares x 2.47104 = Acres
 Square Centimeters x .155 = Square Inches
 Square Feet x .0929 = Square Meters
 Square Inches x 6.45163 = Square Centimeters
 Square Inches x 645.163 = Square Millimeters

Square Kilometers x .3861 = Square Miles
 Square Kilometers x 247.104 = Acres
 Square Meters x 1.19599 = Square Yards
 Square Meters x 10.76387 = Square Feet
 Square Miles x 2.5899 = Square Kilometers
 Square Millimeters x .00155 = Square Inches
 Square Yards x .83613 = Square Meters

VOLUME CONVERSION

Bushels (2,150.42 cu in) x .352379 = Hectoliters
 Cubic Centimeters x .033919 = Fluid Ounces
 Cubic Centimeters x .061023 = Cubic Inches
 Cubic Centimeters x .271 = Fluid Drams
 Cubic Feet x .028316 = Cubic Meters
 Cubic Feet x .28316 = Hectoliters
 Cubic Feet x 29.316 = Liters
 Cubic Inches x .016397 = Liters
 Cubic Inches x 16.397 = Cubic Centimeters
 Cubic Meters x 1.308 = Cubic Yards
 Cubic Meters x 264.17 = Gallons
 Cubic Meters x 35.317 = Cubic Feet
 Cubic Yards x .7645 = Cubic Meters
 Cubic Yards x 7.645 = Hectoliters

Fluid Drams x 3.69 = Cubic Centimeters
 Fluid Ounces x 29.57 = Cubic Centimeters
 Gallons x .00378543 = Cubic Meters
 Gallons x .0379543 = Hectoliters
 Gallons x 3.79543 = Liters
 Hectoliters x .1308 = Cubic Yards
 Hectoliters x 2.83794 = Bushel (2,150.42 cu in)
 Hectoliters x 26.417 = Gallons
 Hectoliters x 3.5317 = Cubic Feet
 Liters x .035317 = Cubic Feet
 Liters x .26417 = Gallons
 Liters x 1.05668 = Quarts
 Liters x 61.023 = Cubic Inches
 Quarts x .94636 = Liters

TEMPERATURE CONVERSION

(Degrees Centigrade x 1.8) + 32 = Degrees Fahrenheit

(Degrees Fahrenheit - 32) x .555 = Degrees Centigrade

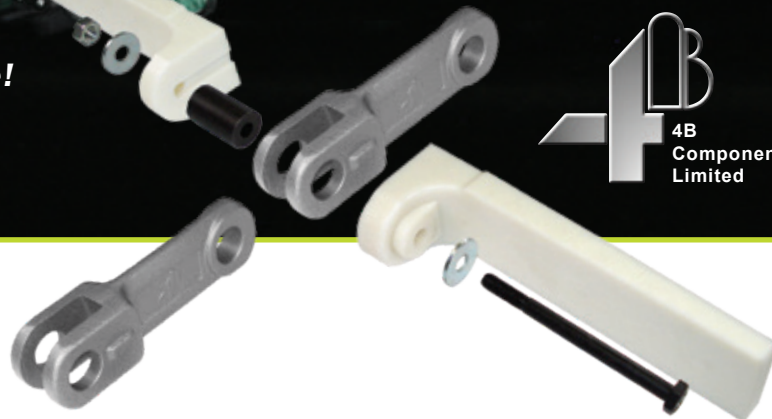
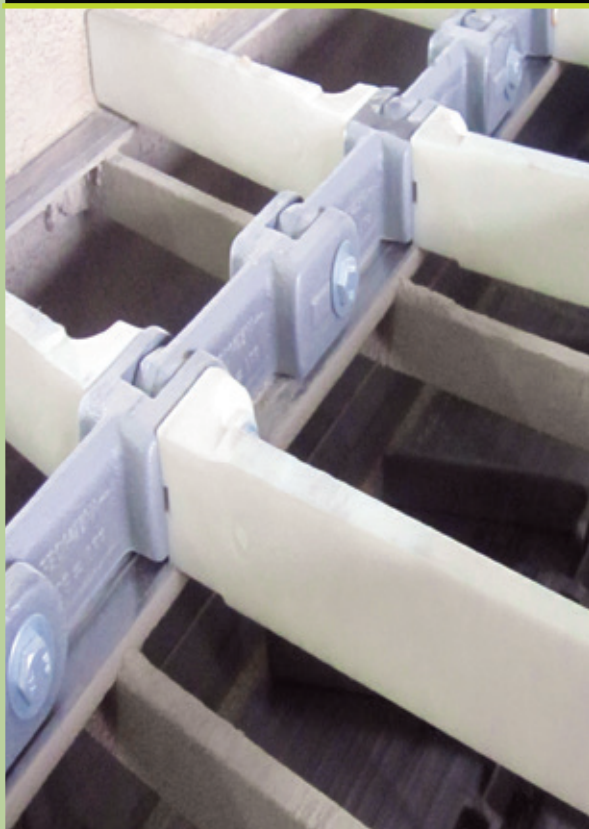


Get Your Conveyor on Victory Lane!

- Reduce Downtime & Maintenance Costs
- Quick and Easy Chain Assembly
- Bolt on Flight Replacement (No Welding)
- Forged and Hardened Chain Links

**DOWNTIME IS A RACE...
TIME IS MONEY**

**Bolt 'N' Go™
Drag Conveyor Chain**

FEATURES	BENEFITS
Drop Forged Chain Links (RC57-62)	Stronger, lighter and more durable; requires less frequent re-tightening than traditional welded steel chain.
Lighter Chain Weight	Lowens operational costs as it requires less energy to operate. Reduces wear and tear on the conveyor's drive components. Safer for workers to lift during assembly and maintenance (less back stress).
Bolt Together Construction	Flights and links can be replaced with common hand tools, there is no cutting, grinding or welding required (eliminates hot work permits).
Nylon Flights	More wear resistant than UHMW, and more resilient than steel as nylon flights better retain their shape when bent.
Reversible Sprocket Teeth	Bolt on segmented teeth can be flipped over to give twice the wear life of conventional sprockets.
Split Sprocket Design	Split hub for easy installation and removal. The two halves of the hub are bolted onto the shaft without the need to remove the shaft or bearings from the conveyor.

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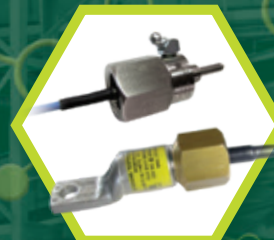
Belting
& Splices



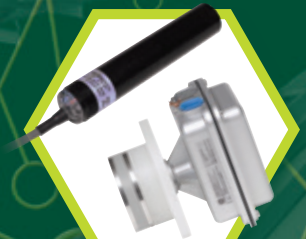
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