

## Bucket Elevators

### ONE-TOUCH INSPECTION DOOR®

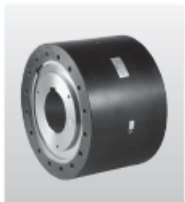


ONE-TOUCH INSPECTION DOOR® is a dust and rain tight inspection and service door for conveyors, as well as processing and handling equipment. These pre-fabricated units are ready-to-go for ease of use on the jobsite. Once in place, ONE-TOUCH INSPECTION DOOR® allows for quick and simple inspection without the need for special tools; just lift the lever! No bolts to loosen and no covers to misplace. One touch is all it takes. It's that simple.

#### Main Features

1. Durable and trouble-free
2. Dust and rain tight
3. Easy to open Easy to install
4. Patented Design

### Cam Clutch BS Series

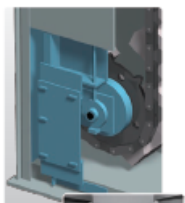


TSUBAKI BS-F and BS-HS Series Exclusively used in backstop applications for conveyors. They offer significantly increased maximum overrunning speed (low speed) and allowable torque. The BS-F series could also be interchanged with your current Cam Clutch because it's dimensions are compatible.



Scan to see more about Cam Clutch BS Series

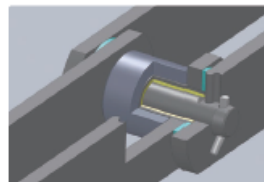
### Internal Take-up



TSUBAKI Internal Take-up keeps the factory environment clean by preventing powdery materials from spilling from the casings. This take-up utilizes the weight of the tail mechanism to provide automatic tensioning. The take-up components are housed in the tail casing and are completely enclosed, however they are easily accessible for inspection and maintenance.

Note: TSUBAKI Internal Take-up can be replaced for TSUBAKI Bucket Elevator only.

### FB Series Conveyor Chain

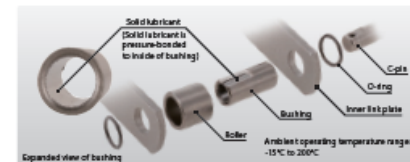


A solid lubricant is bonded between pin and bush, and an O ring is attached between the links to prevent the conveyed material from entering the link mechanism. At the same time, it retains the solid lubricant in place. This design suppresses wear between the pin and bushing (which contributes to pitch elongation), thus doubling the service life.

Thanks to the solid lubricant, bucket elevators can now feature low-noise operation with an average noise reduction of about 2dB.

#### Main Features

1. Superior service life compared to conventional components
2. Low-noise operation (average 2dB reduction)



### workhorse® Series Conveyor Chain

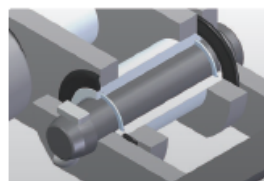


TSUBAKI workhorse® elevator chains are specifically designed for use within aggressive bulk material handling environments with harsh fine particulates such as cement or lime.

#### Main Features

1. Ultimate Strength
2. Unparalleled Toughness & Wear resistance

### sj3® Series Sealed Joint Conveyor Chain



Utilizes a unique combination of three distinct seals to create an innovative labyrinth structure that effectively hinders the infiltration of foreign matter, without compromising any strength or dynamic performance.

#### TSUBAKI's patented 3 seal structure

1. Extended Bushing Barrier Seal
2. Polymer Wide Face Seal
3. Stainless Steel Internal Ring Seal

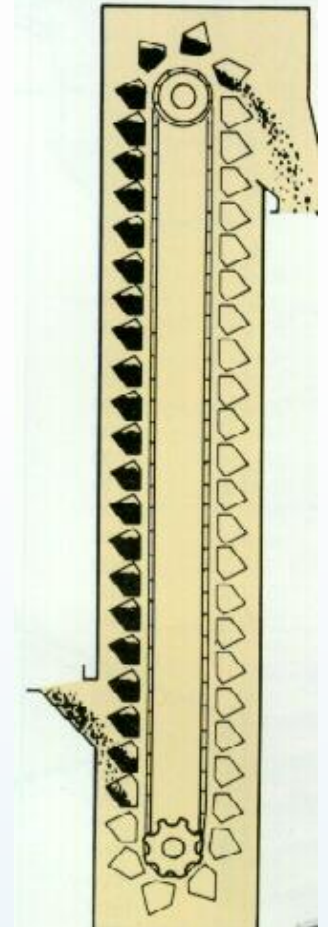
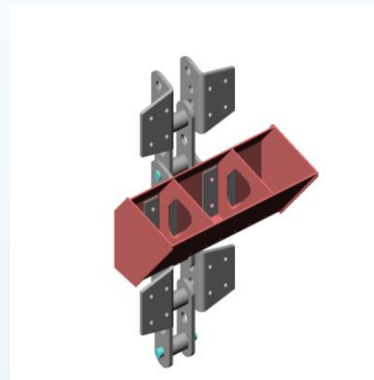




# BUCKET ELEVATORS- PURPOSE

Bucket elevators are used for vertical conveying of various bulk materials.

- Buckets are mounted on the chain.
- Buckets travel between foot and head shafts.
- Material is discharged at head shaft.







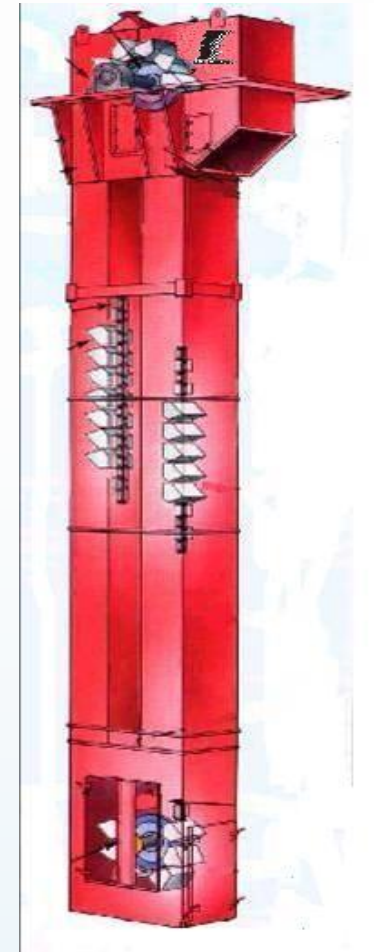
# Bucket Elevator Chains





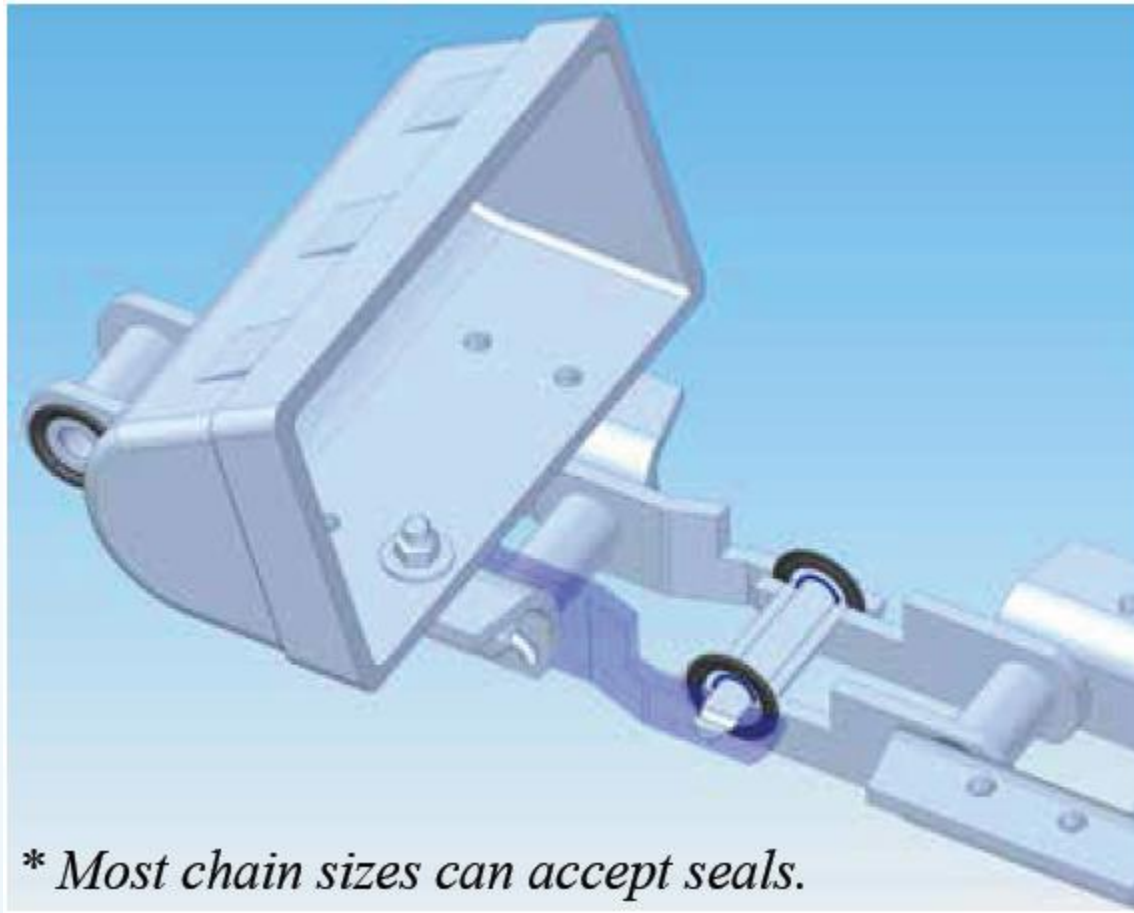
# BUCKET ELEVATORS- TYPES

- Centrifugal Discharge Bucket Elevators
  - Chain Bucket Elevators
  - Belt Bucket Elevators
- Gravity Discharge Bucket Elevators
  - Continuous Style Bucket Elevators
  - Hi-Load Design Bucket Elevators
- Medium Speed Bucket Elevators
  - RP (Roller Press) Style Bucket Elevators





## Sealed Joint Chain (SJ3)



*\* Most chain sizes can accept seals.*





# BUCKET ELEVATORS-TYPES

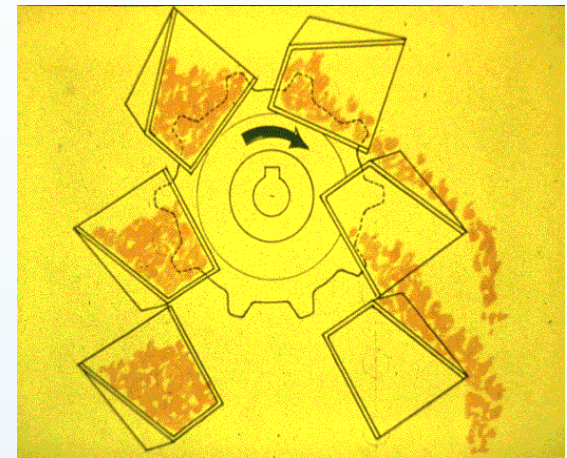
## Gravity Discharge Style

Gravity Discharge Style Bucket Elevators are used where material is;

- is not free flowing, somewhat sticky
- relatively abrasive
- size is non-uniform and max lump size may be over 50 mm (2").

Applications:

- Cement; where there are large lumps (after crushers), slag, fly ash, and abrasive materials.
- Fertilizer; almost all applications.
- Other; slag, fly ash handling, ore handling after or before crushers, abrasive materials.



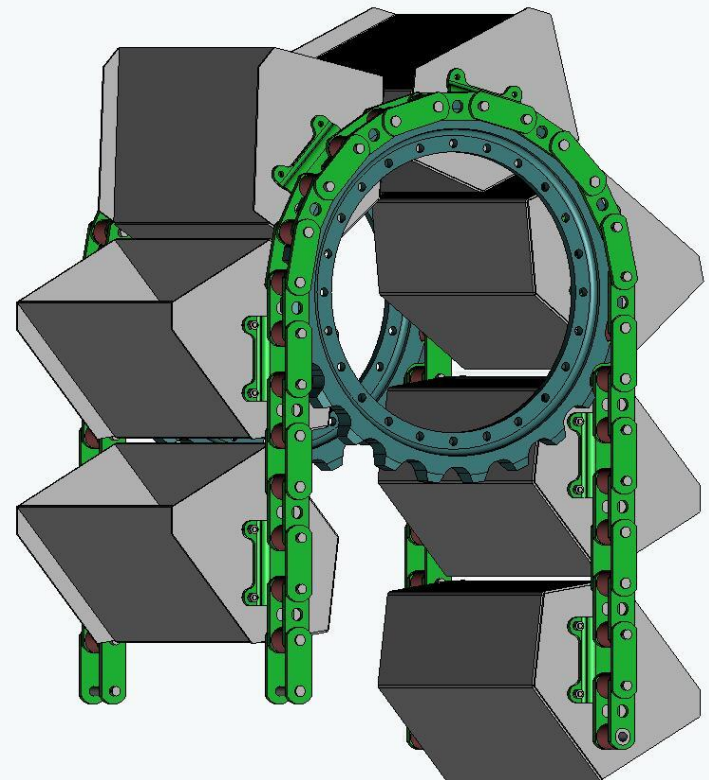


# BUCKET ELEVATORS-TYPES

## Gravity/ Continuous Discharge Style

### Features:

- Material is discharged with gravitational forces into the discharge chute.
- The chain speed is between 0.5 to 1.0 m/s (98 FPM to 196 FPM)
- Material size can be somewhat large (up to 200 mm, or 7 - 7/8")
- Performs relatively well with difficult to handle and abrasive materials.





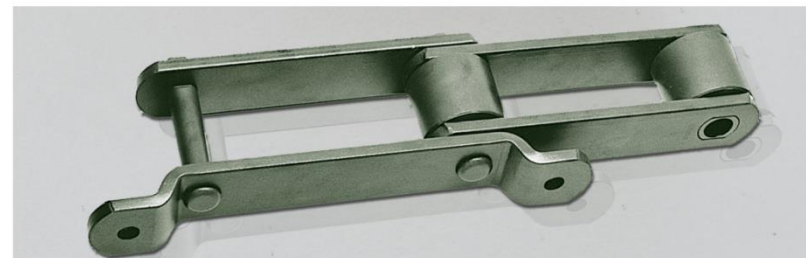
# Dual Strand High Load Bucket Elevator Chain

## Generally only used on Gravity Discharge Elevators

### DUAL STRAND ELEVATOR CHAINS

Tsubaki: The choice for chain™

Engineering Chain Division

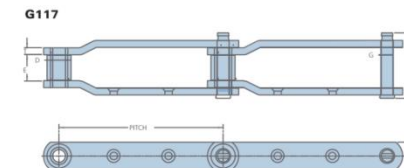
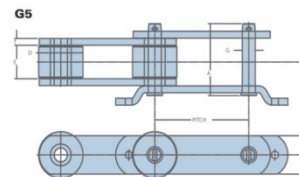


Dual Strand Elevator Chains

More selection  
More solutions

Tsubaki: The choice for chain™

Power and Performance. The dual strand elevator chains from U.S. Tsubaki have what it takes to move heavy industry. Our chains are designed with alloy induction hardened pins, alloy heat treated rollers and carbon heat treated sidebars to handle your toughest applications. With exacting tolerances and press fit construction, we keep your lines running longer, reducing your downtime and increasing your bottom line.



All dimensions in inches unless otherwise noted.

CHAIN NO.	ATTACHMENTS	PITCH	OVERALL WIDTH OF CHAIN		PIN		ROLLERS		SIDEBAR		RATED WORKING LOAD LBS.	
			A	E	G	HEAT TREAT	D	HEAT TREAT	W	T		HEAT TREAT
4004	G5	9.00	5.63	2.63	1.00	AHTIH	3.00	AHT	2.50	0.50	CHT	12,700
4035	G5	9.00	6.13	3.19	1.12	AHTIH	3.50	AHT	3.00	0.50	CHT	16,400
4065	G5	9.00	6.56	3.06	1.25	AHTIH	4.25	AHT	3.50	0.63	CHT	18,900
1251	G117	12.00	4.88	1.94	0.88	AHTIH	1.75	AHT	2.00	0.50	CHT	9,000

Dimensions subject to change. Contact U.S. Tsubaki to obtain certified prints for design and construction.

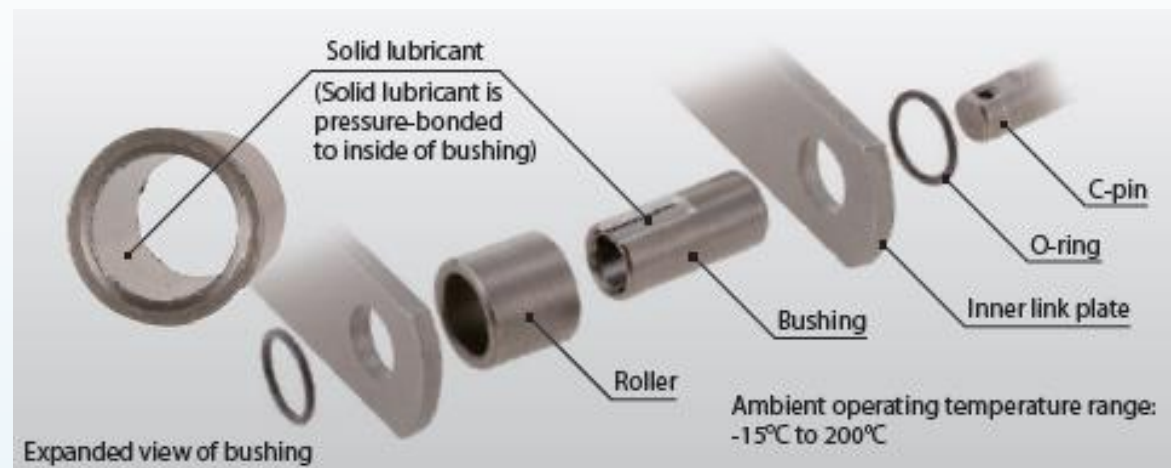
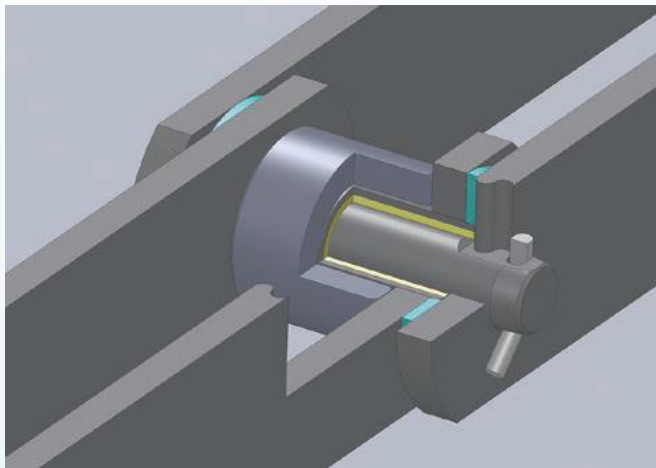




## FB Series Conveyor Chain

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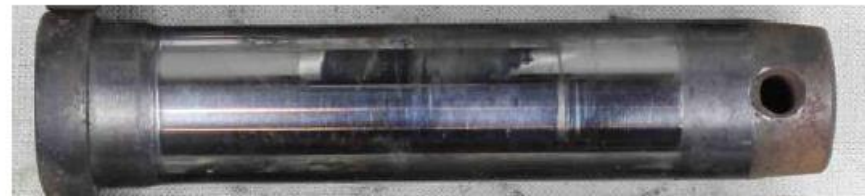




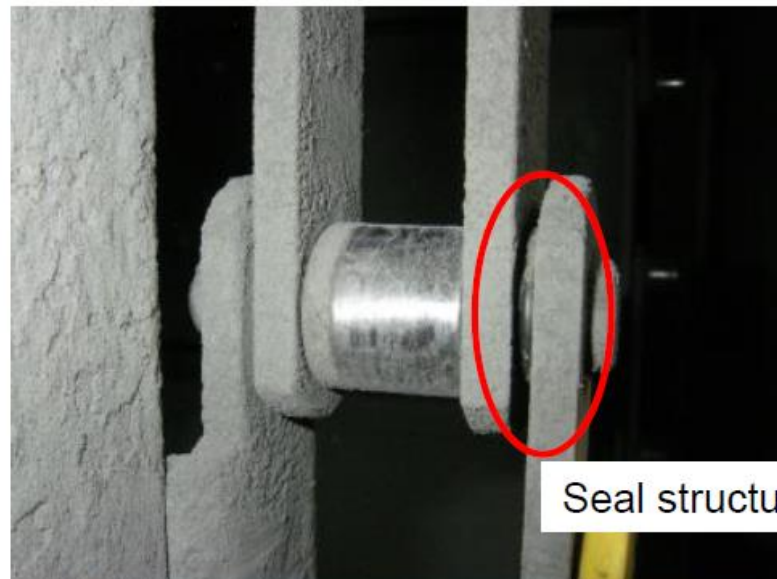
# FB Series Conveyor Chain

Bucket elevator on a fly ash conveyor

Experienced wear elongation after 1 year



Pin after one year use. Exhibits a polished wear surface (wear condition indicating good lubrication)



Seal structure





## The 3 Seals of the Tsubaki SJ3 Design

### 1.) Extended Bush Barrier Seal

- Bushings are extended to limit the clearance between the ends of the bushings and the mating sidebars. A traditional, yet effective first layer of protection.

### 2.) Polymer Ring Seal

- Elastic, corrosion/abrasion resistant polymer seal that is strategically positioned on the outer diameter of the extended bushing and nests in compression between the side plates.
- Several proprietary polymer options - Effective in environments up to 400 degrees Fahrenheit.

### 3.) Internal Stainless Steel Ring Seal

- Unique internal ring seal held in place by compressive force to the pin, yet able to articulate within a machined groove inside of the bushing.
- This combination creates an obstructive labyrinth that effectively impedes access to the critical pin bush bearing area.

