







Safety and Quality Requirements

Our handling equipment meets all safety and quality requirements:

- It is made of S350GD galvanized steel with a Z-600 coating providing unbeatable weather protection.
- It is modular and bolted construction. .
- Its performance is guaranteed.
- Components from leading brands.
- Its reliability is assured by its mechanical simplicity and the quality of the components.
- It is silent and safe.
- We will meet any required safety regulations: European Directive machinery. Rules for the selling&trade, commissioning of machines. European Directive - protective systems - potentially explosive atmospheres. Machine safety standard, general principles for the design and assessment of risk and for risk reduction. Equipment and systems for continuous maintenance, safety requirements and electromagnetic compatibility. Machine safety. Permanent means of access to machines and industrial facilities. Low voltage directive.

Product range

- Harvest season range: Designed for medium use during one harvest a year. Suitable for small agricultu-. ral installations where handling equipment will work during the harvest period.
- Industrial range Designed for continuous processes or intensive use. For small and large facilities operating continuously up to 12 hours a day and up to 300 days a year.
- Heavy duty range: Designed for large facilities working up to 24 hours a day and more than 300 days a year.

	40 T/h	50 T/h	60 T/h	75 T/h	100 T/h	120 T/h	150 T/h	175 T/h	200 T/h	250 T/h	300 T/h	350 T/h	400 T/h	500 T/h	600 T/h	700 T/h	800 T/h
HEAVY-DUTY LINE											•	•	•	•	•	•	
INDUSTRIAL LINE	•	•	•	•	•	•	•	•	•	•	•	•					•
AGRICULTURAL LINE	•	•	•	•	•												
* These throughout	These throughout are indicative. Please, ask for according to type of machine																

We have a wide range of accessories related with it

These throughput are indicative. Please, ask for according to type of machine.

Harvest season range

Designed to meet the needs during the harvest days **only**. **Basic service factor** suitable during the season. Basic wear resistance protection that may use PE-1000 high density polymer in some cases. It shares with the industrial range the quality of the steel, S350GD galvanized with Z-600 coating.

Industrial range

The industrial range has been designed to withstand the most demanding conditions in grain handling.

Its S350GD galvanized steel construction with Z-600 coating makes it highly robust and allows it to work with a wide range of cereals, seeds, legumes and pellets. Protection using High Density Polyethylengh HDPE.

Our industrial range includes:

Bucket elevators

Chain conveyors

- Configurations:
- Double bottom chain conveyor
- Intake pit chain conveyor
- Z-shaped chain conveyor
- Slide gates for TCI Configurations:
 - Slide gate
 - Longitudinal side gate
 - Motorized flap gate
- Traditional belt conveyors Configurations:
 - Belt conveyor with *tripper*
 - Reversible belt conveyor
 - Curved belt conveyor
- Screw conveyors
- Agricultural screw conveyors
- Industrial screw conveyors
- Sweepers

Heavy-duty range

The heavy-duty range has been designed for daily and continuous use over the year in facilities where reliability and durability are essential.

With innovative solutions, highly durable materials and solutions to guarantee robustness and reliability. We design our projects to be worldwide recognized references.

Made of welded and hot-dip galvanized steel, the heavy-duty machinery is suitable for working with a wide range of grains. Depending on its use, it can have metallic wear resistance coating or Ultra High Molecular Weight Polyethylengh UHMWPE protection.

Our heavy-duty range includes:

- Bucket elevators
- Chain conveyors
 - Configurations:
 - Double bottom chain conveyor
 - Intake pit chain conveyor
- Discharge gates
- Enclosed belt conveyors
 Configurations:
 - Enclosed belt conveyor with stationary *tripper*



Industrial range



ECI – Industrial Bucket Elevator

General characteristics

- Direct transmission
- Shrink disk
- Inspection windows in the motor section
- Regulation hatch
- Torque arm
- Top cover on the motor section
- Covering at the foot of the elevator
- Inspection windows in the foot section
- Intermediate sections of 2 and 3 meters
- Inspection section
- Tensioning section covers
- Easy to use pulley tensioner
- Greaseproof belt
- High density polyethylene HDPE wear resistant material

Standard equipment

- 45° / 60° / 90° inlet
- 45° / 90° outlet hopper
- Belt misalignment detectors
- Rotation sensor
- HDPE polyethylene buckets
- Anti-return brake

- Temperature sensor
- Metal buckets
- Stairs and maintenance platforms
- Dust aspiration
 - Anti-explosion panels
- Ultra high molecular weight polyethylene UHMW wear resistant material
- ATEX 21 or ATEX 22 certification

Model	Throughput (T/h)	Speed (m/s)	Bucket / m	Rows	Belt width (mm)	Pitch circle diameter (mm)
ECI 20	20	2,95	5,26	1	150	420
ECI 30	30	2,95	8,3	1	150	420
ECI 40	40	2,4	6	1	180	430
ECI 50	50	2,4	7,5	1	180	430
ECI 60	60	2,4	8,5	1	180	430
ECI 75	75	2,4	5,5	1	260	530
ECI 100	100	2,4	7	1	260	530
ECI 120	120	2,9	5,5	1	310	630
ECI 150	150	2,9	4	1	350	630
ECI 175	175	2,9	4,5	1	350	630
ECI 200	200	2,9	5,5	1	350	630
ECI 250	250	3	4	1	500	730
ECI 300	300	3	4,75	1	500	730
ECI 350	350	3	5,55	1	500	730
ECI 400	400	3,1	5,88	2	650	900
ECI 500	500	3,23	5,7	2	800	1100
ECI 600	600	3	5	З	1.300	1100

*The specified values have been established using a material with a density of 0,75 T/m³ as a reference



TCI – Industrial Chain Conveyor

General characteristics

- Chain shock absorber system
- Grain anti accumulation system
- Tail section covers
- Inspection windows in the motor section
- Direct transmission
- Shrink disk
- Torque arm
- Side strips
- Chain guide system
- Chain with folding paddles (Redler type)

Standard equipment

- Overflow system
- Input hopper with chain protection and cleaning window in the guide
- Rotation sensor

- 8mm High density polyethylene HDPE wear resistance material on the floor
- Output hopper with various slopes according to the connection requirements
- Rubber scraper
- Height adjustable legs up to 1.5m

- Return buckets
- Dust aspiration
- Ultra high molecular weight polyethylene 5mm UHMW wear resistance material on the sides
- Temperature sensor
- Various support heights according to requirements
- Adjustable legs for heights above 1.5m
 - ATEX 21 or ATEX 22 certification

Model	Throughput (T/h)	Throughput (m³/h)	Length max. (m)	Speed (m/s)	Pitch circle diameter (mm)	Pitch (mm)
TCI 20	20	27	55	0,32	200	100
TCI 30	30	40	55	0,5	200	100
TCI 40	40	53	55	0,4	250	125
TCI 50	50	67	55	0,5	250	125
TCI 60	60	80	55	0,6	250	125
TCI 75	75	100	65	0,4	327	125
TCI 100	100	134	65	0,5	327	125
TCI 120	120	160	65	0,6	327	125
TCI 150	150	200	60	0,4	439	150
TCI 175	175	233	60	0,5	439	150
TCI 200	200	266	60	0,6	439	150
TCI 250	250	333	65	0,5	485	150
TCI 300	300	400	65	0,6	550	200
TCI 400	400	533	65	0,75	550	200
TCI 500	500	667	65	0,6	550	200
TCI 600	600	800	65	0,75	550	200

*The specified values have been established using a material with a of density 0.75 T/m³ as a reference

* Maximum slope 10°





Motorized gearbox



Pit intake chain conveyor

Chain tensioner



Z-shaped chain conveyor



Industrial chain conveyor



Industrial chain conveyor - Z-shaped

Industrial chain conveyor – for pit intake

The main use of this accessory is during the reception of the material. Thanks to its hood accessory it can also be used as a confluence point for the entry of several products. It allows the conveyor flow to be regulated automatically and avoids blockage and overloads.

Industrial chain conveyor – Double bottom

This accessory allows the grain to be moved in both directions and increases the choices of position for several inputs and multiple outputs, and does so without the need to use a reversible chain conveyor or to use a special chain. A special motor section and tail section are not needed.

Industrial chain conveyor - Z-shaped

It enables a Z-shaped configuration with a horizontal section and another sloping one that allows it to pass over obstacles or changes in height.

It is a simple design that combines the characteristics of the GCI TCI chain conveyor with a new design of transport sections, which can be installed in a chain conveyor for the reception of material or to avoid long slopes in long chain conveyors.

General characteristics:

- Upward section.
- Downward section.
- Inner skid.
- Anti wear material.

Different uses:

Example 1. Starting from the loading of the conveyor in a horizontal position, changes in levels can be overcome and then continue inclined.

Example 2. Connection of the intake pit conveyor to the elevator lowering the depth of the pit. This option avoids the need to carry out civil engineering work and allows the elevator to be placed on the same level as the chain conveyor.

Example 3. You can go over obstacles and height changes and then return the conveyor to the horizontal.

Example 4. Starting from the loading of the conveyor in an inclined orientation, obstacles can be passed over and the transport continued along a horizontal section.

Model	Throughput (T/h)	Throughput (m³/h)	Length max. (m)	Speed (m/s)	Pitch circle diameter (mm)	Pitch (mm)
TCZ 40	40	53	55	0,4	250	125
TCZ 50	50	67	55	0,5	250	125
TCZ 60	60	80	55	0,6	250	125
TCZ 75	75	100	65	0,4	326,64	125
TCZ 100	100	134	65	0,5	326,64	125
TCZ 120	120	160	65	0,6	326,64	125
TCZ 150	150	200	60	0,4	438,57	150
TCZ 175	175	233	60	0,5	438,57	150
TCZ 200	200	266	60	0,6	438,57	150

*The specified values have been established using a material with a of density 0.75 T/m³ as a reference

*Available in 5° and 10° slopes

Slide gates for TCI

General characteristics

- Easy assembly to the conveyor
- Bolted design
- Protection of the elements
- Opening and closing control through sensor
- Security opening system
- Chain opening guide
- Cleaning brushes

Configurations

Slide Gate

Manual. It is driven by a steering wheel or pulley depending on the needs of the installation.





Motorized. It is driven by a gear motor Optional Atex 22 The powers are detailed in the following table

Model	Power (Kw)
TCI < 30 T/h	0,09
TCI < 60 T/h	0,09
TCI < 120 T/h	0,18
TCI < 150 T/h	0,25-0,37
TCI < 400 T/h	0,37
TCI < 600 T/h	0,37



Pneumatics. It is actuated through a piston. Standard equipment:

- 40mm diameter cylinder with subjection nuts
- Double solenoid valves from 5/2 to 24V DC with connector
- Magnetic detector
- Flow regulator for a slow opening speed
- Silencer

Optional equipment:

ATEX 22



Longitudinal Slide Gate

There are two types of configurations: **Manual and Motorized**. It is ideal for single catwalks. The compact design allows to save space in the catwalk.



Motorized Flap Gate

The motorized slide gate design saves space on the catwalk due to its compact shape. It is driven by a gear motor that opens and closes the slide gate, allowing the grain circulate.



TBI – Industrial belt conveyors

General characteristics

- Low energy use compared to other conveyor types
- Large transport cross-section
- Suitable for fragile products
- Low noise when in use
- With a protective cover
- Max. slope for smooth belt 15°, depending on material
- Ribbed belt from 15° inclination
- Heavy-duty large diameter rollers for longer working life
- Rollers suited to the climatic conditions for greater durability
- Tightener section with outer bearings

Standard equipment

- One loading station per belt
- Belt cleaning scraper
- Detachable cover along the whole length
- Outlet hopper
- Vulcanized driving drum
- Squirrel cage tensioning drum
- Height adjustable legs up to 1.5m
- Flaps at the entrance
- Inspection hatch in the head
- Guide rollers with welded metallic lid
- Return rollers
- Cleaning rollers





Optional equipment

- Rotation sensor
- Belt slippage sensor
- Bearing temperature sensor for head and tightener section
- Sail-type roller to centre the belt
- Skirts along the whole belt
- Safety sliding cover
- Dust aspiration
- Closed underneath
- Adjustable legs for heights above 1.5m
- Antiflame belt

Model	Throughput (T/h)	Throughput (m³/h)	Speed (m/s)	Roller position	Belt width (mm)
TBI 40	40	53,33	1,2	V	500
TBI 60	60	80,00	1,5	V	500
TBI 80	80	106,67	2	V	500
TBI 100	100	133,33	1,5	V	650
TBI 120	120	160,00	1,7	V	650
TBI 150	150	200,00	2	V	650
TBI 180	180	240,00	2,5	V	650
TBI 200	200	266,67	1,45	U	800
TBI 250	250	333,33	1,9	U	800
TBI 300	300	400,00	2,3	U	800
TBI 400	400	533,33	1,8	U	1000
TBI 500	500	666,67	1,5	U	1200
TBI 600	600	800,00	1,9	U	1200
TBI 800	800	1066,67	2,5	U	1200
TBI 1000	1000	1333,33	2,3	U	1400

*The specified values have been established using a material with a density of 0,75 T/m³ as a reference

Belt conveyor with tripper

When required, the belt conveyor can have a tripper.

The tripper enables intermediate discharges and has wheels mounted on bearings that use the conveyor frame itself as a track. A steel cable system and pulleys driven by an independent motorised gearbox with a fixed brake, moves the trolley along the length of the conveyor until it is where the product is required to be discharged. Stop devices can be installed to allow the product to be discharged according to a programme.

Reversible belt conveyor

This allows bidirectional movement and the reception of material at any point along the belt. For discharging the product, it has 2 outlets, at each end of the conveyor. It has two motor units and an intermediate tensioner for belt tensioning. It also has sail-type rollers to avoid the deflection of the belt and to keep it centred.

Curved belt conveyor

This enables a Z-shaped configuration with a horizontal section and another sloping one that allows it to pass over obstacles or changes in height. It is a simple design that combines the characteristics of the belt conveyor with the design of new transport sections, so as to avoid long slopes in long belt conveyors.

TRC - Screw conveyors

General characteristics

- Mechanically simple
- Direct drive type
- Fairing
- Lightweight screw
- Maximum slope 30°
- Easy to maintain

Standard equipment

- Anti-sway supports: one every 3m
- Bronze-plumb bushing
- Maximum screw length sections 3m
- Motorized gearbox with parallel axles
- Discharge outlet in the head
- Loading point in the tail
- Removable cover for inspection

- Gradual screw pitch
- Semi-heavy- or heavy-duty screw as required
- Stainless steel construction
- Capacitive sensors
- Head bearing temperature sensor
- Rotation sensor
- Intermediate discharge at any point of the conveyor using slide gates
- Various loading points
- Reversible screw

Agricultural Tubular Conveyors

Model	Throughput (T/h)	Throughput (m³/h)	Length max. (m)	Speed (r.p.m.)	Screw diameter (mm)
TRC 150 A	18	24	22	350	150
TRC 200 A	38	50	22	300	200
TRC 250 A	59	78	22	240	250
TRC 300 A	85	113	22	200	300
TRC 350 A	115	153	22	170	350
TRC 400 A	152	202	22	150	400

Industrial Tubular Conveyors

Model	Throughput (T/h)	Throughput (m³/h)	Length max. (m)	Speed (r.p.m.)	Screw diameter (mm)
TRC 150 I	6	8	22	120	150
TRC 200 I	15	20	22	120	200
TRC 250 I	29	38	22	120	250
TRC 300 I	51	68	22	120	300
TRC 350 I	81	108	22	120	350
TRC 400 I	122	162	22	120	400

*The specified values have been established using a material with a of density 0.75 T/m³ as a reference

*The slope can significantly reduce the stated flow depending on the characteristics of the product.

* Approximate outputs depending on the gearbox model









SF - Agricultural Tubular Conveyors

General characteristics

- Mechanically simple
- Belt and pulley transmission
- Completely sealed construction
- Hot-dip galvanised finish
- Lightweight screw

Standard equipment / optional

- Discharge outlet in the head / Standard
- Loading point in the tail / Standard
- Gradual screw pitch / optional
- Various loading points / optional
- Load regulation using manual slide gates / optional

Model	Throughput (T/h)	Throughput (m ³ /h)	Length max. (m)	Speed (r.p.m.)	Screw diameter (mm)
SF 110	18	6,67	12	600	110
SF 140	25	24	12	600	140
SF 180	35	50,67	12	600	180
SF 200	45	78,67	10	600	200

*The specified values have been established using a material with a density of 0,75 T/m³ as a reference.

*The slope can significantly reduce the stated flow depending on the characteristics of the product.

TRT - Industrial Tubular Conveyors

General characteristics

- Mechanically simple
- Transmission direct-drive type
- Completely sealed construction
- Hot-dip galvanised finish
- Lightweight screw

Standard equipment

- Anti-sway supports maximum every 3m
- Lead bronze bushings
- Maximum screw length sections 3m

- Direct-drive systems have parallel axles
- Discharge outlet at head
- Loading inlet at tail

Optional equipment

- Gradual screw pitch
- Semi-heavy- or heavy-duty screw as required
- Bearing temperature sensors
- Rotation sensor
- Load regulation using manual slide gates
- Several loading points

Model	Throughput (T/h)	Throughput (m³/h)	Length max. (m)	Speed (r.p.m.)	Screw diameter (mm)
TRT 110	2	3	18	120	110
TRT 150	6	8	18	120	150
TRT 200	15	20	18	120	200
TRT 250	29	38	18	120	250
TRT 300	51	68	18	120	200
TRT 350	81	108	18	120	350

*The specified values have been established using a material with a density of 0,75 T/m³ as a reference.

*The slope can significantly reduce the stated flow depending on the characteristics of the product.





TSB - Sweeper

General Characteristics

- Angle drive unit
- Robust design
- Protective cover for the screw
- Robust joint supports that ensure proper alignment

Standard equipment

- Protective motor housing
- Adjustable flow gate in the sweeping section

- Intermediate supports for screw and fairing
- Height adjustable support system for the tail
- Dual tail traction for heavy loads

Optional equipment

- Cleaning rubber band
- Side clearing screw
- Position sensor
- Level sensor
- Screw reinforcement

Model	Throughput (T/h)	Screw diameter (mm)	Silo diameter max. (m)	Power (kw)
TSB 01	50	180	18,33	4 - 7,5
TSB 02	70	200	32,08	4 - 18,5
TSB 03	180	280	32,08	18,5 - 30

*The specified values have been established using a material with a density of 0,75 T/m³ as a reference.

*Use limited to wheat and maize. For other grains, please ask.









Heavy-duty range



ECH – Heavy-duty Bucket Elevators

General characteristics

- Direct transmission
- Shrink disk
- Inspection windows in foot and head
- Adjustable anti-return flap in the head
- Tensioning system with protective cover in the base
- Manganese steel wear resistance material (HARDOX) in the base and head
- Torque arm built into the head
- Discharge curve protected with wear resistance material
- Inspection section with easily removable view pannel
- Bearings protected from the weather
- Tensioning pulley squirrel type
- Elevator base cover
- Support tower required

Standard equipment

- 45° or 90° inlet
- 45° or 90° outlet hopper
- Belt misalignment detectors
- Rotation sensor
- HDPE polyethylene buckets
- Mechanical stop-return brake
- Tension rule

- Temperature sensor
- Metal buckets
- Blockage sensor in inlet hopper
- Blockage sensor in oulet hopper
- Tower and stairs
- Anti-explosion panels
- Automatic bearing lubrication
- ATEX 21 or ATEX 22 certification

Modelo	Throughput (T/h)	Speed (m/s)	Bucket / m	Rows	Belt width (mm)	Pitch circle diameter (mm)
ECH 300	300	З	3,5	2	750	800
ECH 350	350	З	4	2	750	800
ECH 400	400	З	4,5	2	750	800
ECH 500	500	З	5,5	2	750	800
ECH 600	600	З	4,5	2	1086	1000
ECH 800	800	3	5,7	2	1086	1000





TCH - Heavy-duty Chain Conveyors

General characteristics

- Highly robust sections with reinforcement and welded flanges
- Rear cleaning hatch
- Tensioner bearings protected from the weather
- Inspection windows in head and tail section
- Elastic coupling
- Shrink disk
- Inspection access window in head and tail
- Curved chain guide for silent operation
- Forged core chain and welded paddles
- Heat treated pinion and pulley

Standard equipment

- Overflow system in outlet hopper
- Rotation sensor
- Wear resistant plates on the floors and walls
- Plastic scraper
- Heat treated pinion and pulley
- Inlet and outlet hoppers with different slopes
- Height adjustable legs up to 1.5 m
- Bedframe up to 1.5 m

- Bedframe for heights higher than 1.5 m
- Temperature sensor on bearings
- Adjustable legs for heights higher than 1.5 m
- ATEX 21 or ATEX 22 certification

Model	Throughput (T/h)	Throughput (m³/h)	Speed (m/s)	Pitch circle diameter (mm)	Chain type	Pitch (mm)
TCH 300	300	400	0,6	459,52	Forged	142
TCH 350	350	466,67	0,7	459,52	Forged	142
TCH 400	400	533,33	0,8	459,52	Forged	142
TCH 500	500	666,67	0,9	459,52	Forged	142

Chain conveyor with intake pit module

Reception hopper located in the storage reception area. It allows automatic flow regulation on the conveyor avoiding blockages jams and overload.

Double bottom chain conveyor

This configuration allows bidirectional transport of the product without the need to have a reversible chain conveyor or to use a special chain.



CDH – Heavy-duty Discharge Gates

General characteristics

- Quick fixing to the conveyor
- Bolted modular design
- HARDOX chain guide supplement
- Optional open/close detector sensors for manuals slider gate
- Protection of moving parts
- Cleaning brushes

Model	Motor power (kw)	Motor torque (N/m)	Opening dimensions (mm)
5045	0,55	116	500×1000
		Model (kw)	Model (kw) (N/m)



TBC - Enclosed Belt Conveyors

General characteristics

- Enclosed type design to avoid the release of dust
- Automatic roller centering
- Large transport capacity
- Self-regulating scraper in the head
- Overflow detector
- Self protected head
- Quick opening system using a hatch
- Inspection windows on both sides
- Torque arm built into the head
- Inlets and outlets protected with metallic wear resistant material
- Bearing adjustment system in the tail
- Sides with reinforced ribs
- Inspection window in the tail
- Inspection view-ports in head and tail and panels removable for easy cleaning

Standard equipment

- Belt misalignment detector
- Rotation sensor in tail
- Over flow sensor in head
- Wear resistant floor
- Drive pulley scraper
- Cleaning system in tail with product recovery
- Inlet and outlet hoppers
- Height adjustable legs up to 1.5m

- Temperature sensor on bearings
- Automatic bearing lubrication
- Stationary tripper for intermediate discharges
- Adjustable legs for heights higher than 1.5m
- ATEX 21 or ATEX 22 certification



Model	Throughput (T/h)	Throughput (m³/h)	Speed (m/s)	Roller positions	Belt width (mm)
TBC 500	500	666,66	2	U	1000
TBC 600	600	800	2,3	U	1000
TBC 700	700	933,33	2,7	U	1000
TBC 800	800	1066,66	3	U	1000

Enclosed belt conveyor with stationary tripper

- It allows clean and safe intermediate discharge from the enclosed belt.
- Negligible energy consumption compared with traditional movable tripper systems.
- Movable mechanical elements built into the box.
- Very simple mechanisms compared to traditional mobile trippers.
- No chance of derailing.
- It does not need a tunnel-type walkway to work.
- Virtually maintenance-free compared to traditional systems.







silos@silosspain.com (034) 606 80 17 22 (034) 924 75 00 08

SILOS SPAIN

Spain

28023 Madrid

Version: 1/2/2024

C/Astronauta Pedro Duque

29320 Campillos, Málaga

Spain

www.silosspain.com