

SPEED CHAIN CONVEYOR SERIES

INFACCOON INC.

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ABSTRACT

We understand that efficient material handling is essential for businesses to thrive. That's why our core expertise lies in the development and implementation of modular automatic conveyor systems. The speed chain conveyor system consists of a series of conveyor elements and components that work together to facilitate the movement of pallets along a predefined path. At INFACCOON Industries, the pallet conveying system is divided into JTS1, JTS2, JTS4, and JTS5 series according to the maximum loading capacity of a single pallet. In each series, standardized line body and highly modular supporting mechanism are used, which can be conveniently combined for various occasions and industries to meet different automatic production requirements.



INFACCOON INDUSTRIES



INFACCOON Industries is a high-tech enterprise dedicated to the R&D, manufacturing, assembly, integration, and service of industrial automation systems. With 20 years of industry experience, our company has developed a deep understanding of the machinery sector. Our team of skilled professionals possesses extensive knowledge and expertise, allowing us to design, manufacture, and deliver cutting-edge machinery solutions that meet the specific needs of our clients.

We are located in Calgary, Alberta, Canada, with an R&D and production center, and a CNC parts processing base in Kunshan, Suzhou, China, and sales and after-sales services all over the world. With a global presence, we serve clients from various industries around the world. Our extensive network enables us to cater to diverse needs and deliver machinery solutions to businesses of all sizes. We leverage our international expertise to provide localized support and ensure seamless project execution across different regions.

Through our standardized products, customized equipment, PC and PLC control systems, industrial software, and digital factory planning, we aim to enhance productivity, efficiency, and competitiveness for our clients both at home and abroad, with completely independent and controllable suitable solutions. The innovative attitudes, state-of-the-art solutions, reliable automation products, high-quality services, eco-friendly materials and technologies, and reasonable costs make us competitive and future-proof.



Expertise & Experience





Quality & Reliability





Innovative Solutions





Customization & Flexibility



Global Reach



Speed Chain Conveyor System

Speed chain conveyor system is often referred to as gravity conveyor system. It is mainly used for assembling and processing production line conveying. The principle is using the speed-up function of the high-speed chain to make the bearing cargo tooling plate run quickly, and stopped in the corresponding operating position; or complete the product release movement, migration, transportation, special line, and other functions through corresponding instructions.

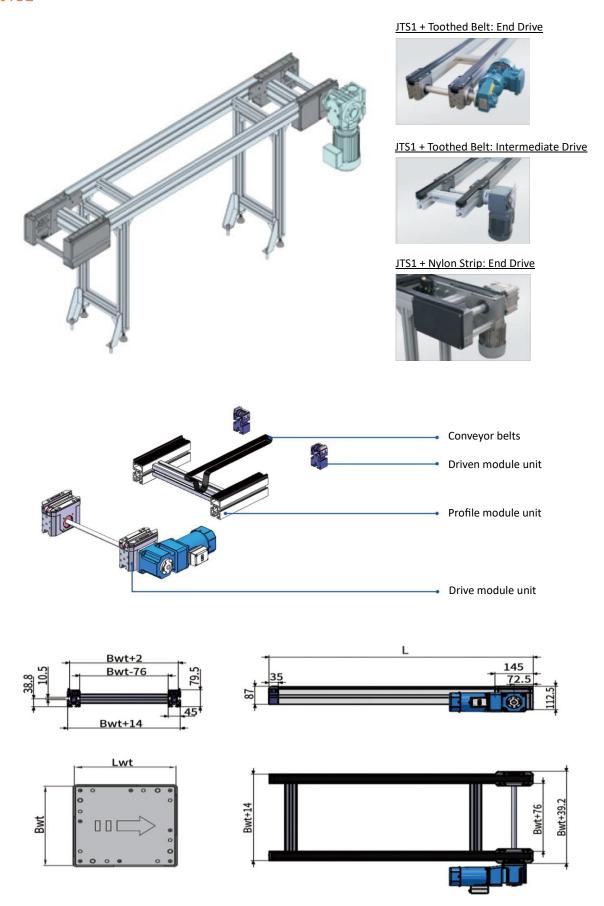
The speed chain conveyor system according to the maximum loading capacity of pallets, can be divided into JTS1, JTS2, JTS4, 3X, and JTS5 series, which are standardized and highly modular. Thus, speed chain conveyor system can deal with various situations by using convenient combination.

At INFACCOON, we provide speed chain conveyor systems that are safe, fast, and reliable. Safe, fast, reliable. They have shorter processing time, faster assembly, and a higher degree of flexibility, which maximizes time and cost efficiency. Their longer lifetime guarantees sustainability and possible reusage.





JTS1



- 1. Reversible is possible, but reversible transmission can reduce the capacity by 1/3.
- 2. The intermediate drive unit should be close to the head end and located within the 1/3 of the length of the entire line body.

Specifications

Line body length (mm)	400 – 6000, must be a multiple of 5			
Line body height (mm)	≥ 240			
Pallet width (mm)	160 – 640			
Conveying medium	Dedicated toothed belts	Nylon strip		
Pallet loading capacity (kg)	15	60		
Line body Loading capacity (kg)	60	160		
V _{max} at full loading (m/min)	20	30		
Drive mode	Direct drive			
Operation direction	Reversible operation is possible, but suggesting irreversible			

Features

- 1. Modular design and molded parts for easy assembly, maintenance, and accumulated conveying.
- 2. It is easy to realize accumulation and conveying, in conjunction with pallets, stoppers, turning units, turntables, lifts, lifting and traverse units, lifting and positioning unit, lifting and rotation units, etc., to realize flexible automatic cycle control.
- 3. Independent drive and driven module with unique guide bar groove, for effectively preventing mis-tracking, dust and noise.
- 4. A high-strength aluminum alloy profile with standard notches, which is convenient to install conveyor on other equipment or install other accessories (e.g., sensors, brackets, etc.) on conveyor.
- 5. Special toothed belts and anti-electrostatic nylon strips are options for conveying workpieces.

Application

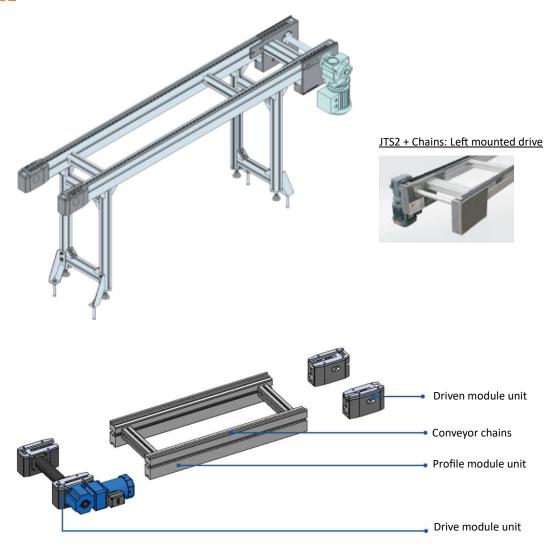
- 1. Applicable to conveying occasions where the load of a single tray is less than 60 kg.
- 2. Ideally used in the production of small products or components.
- 3. Widely used in medical technology (hearing aids, heart pacemakers, etc.), electronic products (hard disk drive, regulator, sensors, etc.), precision machinery (small motor, switches, etc.), optical products (contact lenses, etc.), etc.
- 4. Cooperates with various highly modular supporting mechanisms to meet the requirements of automatic transportation under various conditions.

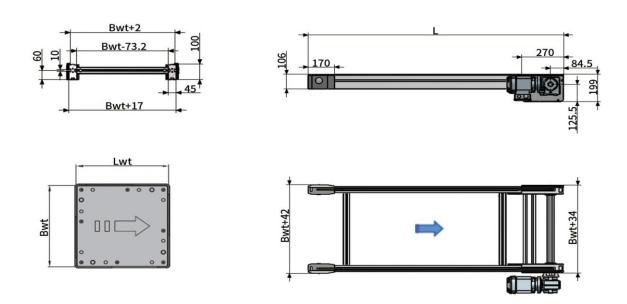






JTS2





- 1. The drive motor is mounted on the right, left, or center at the end of line body.
- 2. JTS2 has options of miniature conveyor (W) and 2.5 speed chain conveyor.
- 3. The operation of miniature conveyor can be reversible while others cannot.

Specifications

JTS2 Systems	JTS2	JTS2/W	JTS2 2.5	JTS2/W 2.5
Line body length (mm)	1000 – 12000	600 – 3000	1000 – 12000	600 – 3000
Line body height (mm)		≥ 2	40	
Pallet width (mm)		160 –	1200	
Pallet loading capacity (kg)	60 – 150			
Line body loading capacity (kg)	1500	300	1500	300
Conveying medium	08BS Accumulation chain BS25 Accumulation cl			ulation chain
V _{max} at full loading (m/min)	30 70			0
Drive mode	Direct drive (left, right, and center mount)			ount)
Operation direction	One way	Reversible	One way	Reversible

Features

- 1. Modular design and molded parts for easy assembly, maintenance, and larger conveying capacity for moderate load.
- 2. It is easy to realize accumulation and conveying, in conjunction with pallets, stoppers, turning units, turntables, lifts, lifting and traverse units, lifting and positioning unit, lifting and rotation units, etc., to realize flexible automatic cycle control.
- 3. Independent drive and driven module designed with sliding vanes for chain returning, and robust construction ideal for light, medium and heavy-duty systems.
- 4. A high-strength T-slot aluminum alloy profile with standard notches, which is convenient to install conveyor on other equipment or install other accessories (e.g., sensors, brackets, etc.) on conveyor.
- 5. 08BS and BS25 Accumulation chain adopts a flexible hinge and firmly riveted pin shaft, so that the rollers can rotate freely within a range of 360°.

Application

- 1. JTS2 speed chain conveyor system has the advantages of diversity, firmness and strong applicability.
- 2. Applicable to conveying occasions where the load of a single tray is less than 60 kg.
- 3. With a variety of highly modular supporting mechanisms, it can realize the needs of automatic conveying under multiple conditions.
- 4. Widely used in the production of new energy (solar panel, etc.), automotive (lithium battery module, motor, car radios, lights, sunroof, etc.), electronics (computer, monitor, printer, decoder, etc.), and small household applications (coffee maker, iron, etc.) electric tools (drill, etc.), etc.







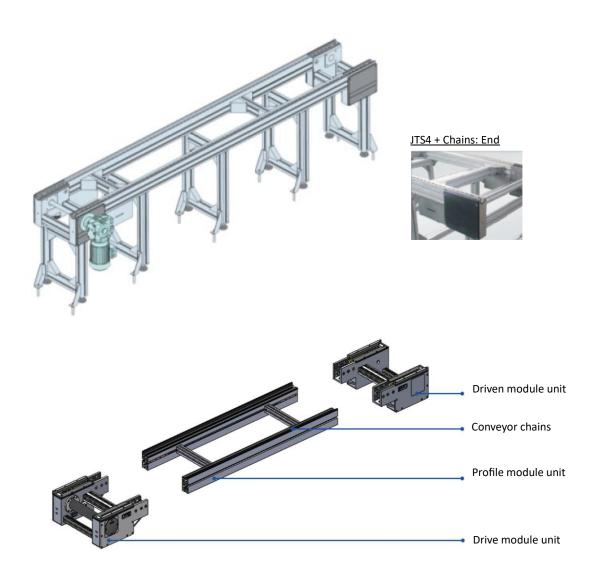


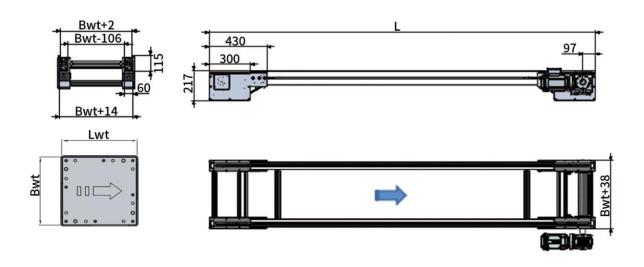






JTS4





1. Must be operated based on the indicated direction, and reverse conveying is prohibited.

Specifications

Line body length (mm)	1200 – 20000
Line body height (mm)	≥ 340
Pallet width (mm)	400 – 1200
Pallet loading capacity (kg)	300
Line body Loading capacity (kg)	2000
Conveying medium	12BS Accumulation chain
V _{max} at full loading (m/min)	30
Drive mode	Direct drive
Operation direction	One way operation, irreversible

Features

- 1. Modular design and molded parts for easy assembly, maintenance, and larger conveying capacity for moderate and heavy loads.
- 2. It is easy to realize accumulation and conveying, in conjunction with pallets, stoppers, turning units, turntables, lifts, lifting and traverse units, lifting and positioning unit, lifting and rotation units, etc., to realize flexible automatic cycle control.
- 3. Independent drive and driven module designed with sliding vanes for chain returning, and robust construction ideal for medium and heavy-duty systems.
- 4. A high-strength T-slot aluminum alloy profile with standard notches, which is convenient to install conveyor on other equipment or install other accessories (e.g., sensors, brackets, etc.) on conveyor.
- 5. JTS4 designed with low friction and long lifetime 12BS accumulation chains, ensuring the safety of workpiece conveying even in the most difficult production conditions.
- 6. 12BS Accumulation chain adopts a flexible hinge and firmly riveted pin shaft, so that the rollers can rotate freely within a range of 360°.

Application

- 1. JTS4 speed chain conveyor system has the advantages of diversity, firmness and strong applicability.
- 2. With a variety of highly modular supporting mechanisms, it can realize the needs of automatic conveying under multiple conditions.
- 3. JTS4 modular system allows you to transport materials efficiently by using either simple circuit systems or complex systems with a discharge station.
- 4. Applicable to conveying occasions where the load of a single tray is up to 300 kg and the total load of a line body is up to 2000 kg.
- 5. It is an ideal choice for the production and assembly of large household applications (oven, dish washer, clothes dryer, refrigerator, etc.), automotive parts (motor, car doors, etc.), entertainment electronic products (TV sets, etc.).

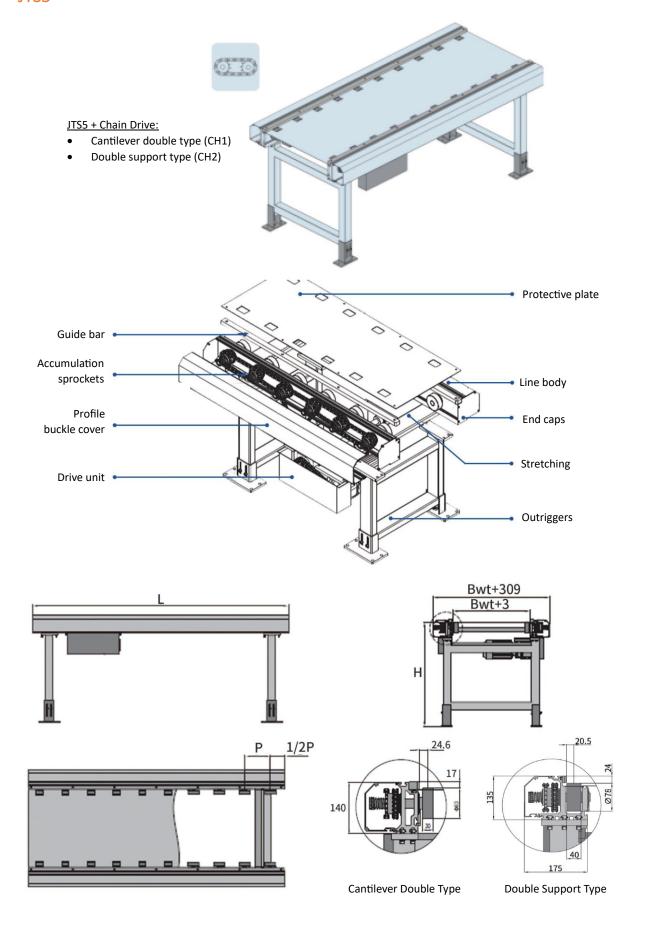


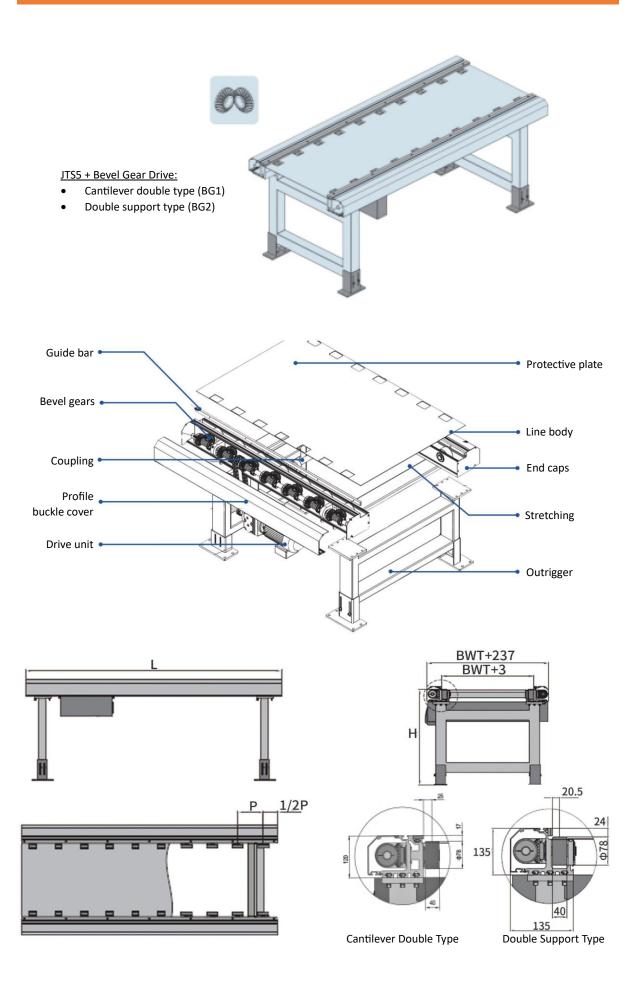






JTS5





- 1. The maximum length of the line body is determined by the roller spacing and the number of rollers working at the same time.
- 2. The line body height and roller spacing can be specified according to needs and requirements.

Specifications

JST5 Systems	CH1	CH2	BG1	BG2
Line body length (mm)	1000 – 6000			
Pallet width (mm)	300 – 1200	400 – 1200	300 – 1200	400 – 1200
Line body Loading capacity (kg)	4000	5000	4000	5000
Line volume load per meter (kg)	≤ 600	≤ 800	≤ 600	≤ 800
Drive medium	Sprocket Bevel gear			l gear
Conveying medium	Rollers			
Roller spacing	158/196/247		160/20	00/250
V _{max} at full loading (m/min)	1	.5	3 -	15

Features

- 1. Modular design for splicing with standard units, and depending on roller spacing, the standard unit lengths of JTS5 + CH are 1905/1968/1981mm, and that of JTS5 + BG are 1920/2000 mm.
- 2. Suitable for heavy-duty pallet conveying, and pallets can be flexibly controlled.
- 3. It is easy to realize accumulation and conveying, in conjunction with pallets, stoppers, turning units, turntables, lifts, lifting and traverse units, lifting and positioning unit, lifting and rotation units, etc., to realize flexible automatic cycle control.
- 4. Workpieces can be conveyed on the pallet or directly transport on the roller track.
- 5. It adopts spindle which is a high-quality technology drive during conveying.
- 6. JTS5 has the following advantages compared to ordinary chain drive conveyors: high efficiency delivery system with heavy load, operating from two directions, suitable for any factory layout, maintenance free, no tools required from external adjustment of each roller friction, modular system with defined interfaces, etc.

Application

- 1. JTS5 speed chain conveyor system has the advantages of diversity, firmness and strong applicability.
- 2. JTS5 pallet conveyor series is suitable for conveying occasions where the total weight of pallets is less than 5000 kg.
- 3. With a variety of highly modular supporting mechanisms, it can realize the needs of automatic conveying under multiple conditions.
- 4. It is an ideal choice for the heavy-duty automatic assembly and production line (automotive engine, transmissions, circuit breakers, etc.), machining applications, etc.





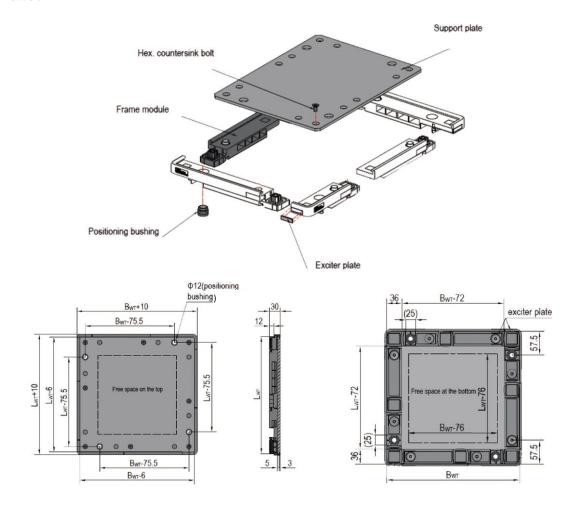




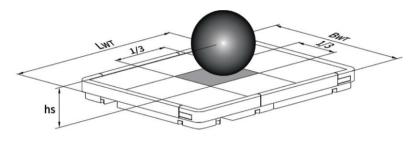




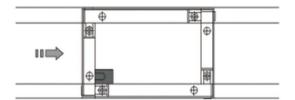
Pallet

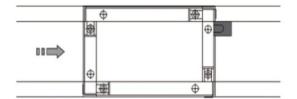


The illustration of load in the center of pallet, where the height of gravity (hs) is suggested to be smaller than ½ Bwt.



Two installation positions of pallet stopper:





- 1. The function of the pallet is to transport the workpiece to the various processing stations as a tool for transporting the workpiece in the conveyor system. The pallet arrives at work position, the stopper is stopped, and the conveying medium can continue to operate.
- 2. The gravity center of the workpiece on the pallet is crucial for the stability of the pallet, when the pallet is stopped, or direction changed. The service lifetime of the equipment and pallet will be affected due to high gravity center or offset gravity center. Hence, we suggest that:
 - The load should be placed at the center of the pallet.
 - The height of gravity should not exceed the ½ B_{WT} (B_{WT} < L_{WT}).
 - In order to keep the load at the center of the pallet, it is suggested to choose a bigger pallet for heavy and uneven workpieces.
- 3. The pallet is positioned using a positioning bushing with a positioning accuracy of +0.1 mm.
- 4. Standard induction spacers, i.e., exciter plates, are used to detect the position of the pallet in conjunction with proximity switches.

Specification

Bwt (mm)	160 – 640			
Lwt (mm)	160 – 640			
Thickness (mm)	5 5 or 8			
Flatness	0.3 – 0.6			
Surface treatment	Natural oxidation Black electrophoresis			
Plate materials	Aluminum Steel			
Profile frame materials	Plastic or Aluminum			

- 1. We offer two kinds of pallet: A plastic frame pallet with steel or aluminum bearing bracket and an aluminum profile frame pallet with steel or aluminum bearing bracket.
- 2. Both are applicable to small and medium-sized loads.
- 3. Both are anti-static.
- 4. The standardized pallets (length and width) range from 160 mm to 640 mm with 80 mm increasement from the one level to the next, i.e., 160 mm, 240 mm, 320mm, ..., 640 mm.
- 5. Conveying media and its unit loading capacity (f) for pallets with PE friction strip:

Conveying	Toothed Belt	Base Belt	Accumulation	Accumulation
Media			Roller Chain (PA)	Roller Chain (ST)
Illustration			08BS	08BS
Unit Loading Capacity (kg/cm)	1	1	3	3

- 6. The allowable pallet and workpiece gross mass are subject to the following aspects:
- Conveying media: toothed belt, base belt, accumulation roller chain.

- The contact length between the pallet and the surface of the conveying media: B_{WT} or L_{WT} .
- The maximum allowable gross mass is subject to the short side of the non-square pallet.
- The estimated allowable pallet and workpiece gross mass:

$$m_G = L_{WT} \times f$$

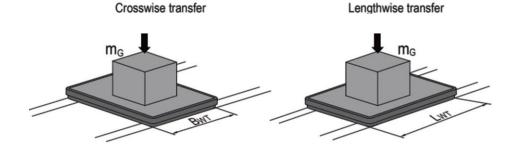
$$m_G = B_{WT} \times f$$

 $m_{\it G}$: the total weight of pallet and workpiece (kg)

 L_{WT} : the long side of contact length between the pallet and conveying media surface (mm)

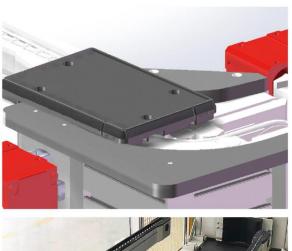
 B_{WT} : the short side of contact length between the pallet and conveying media surface (mm)

f: the loading capacity of conveying media (kg/mm)



Application

- 1. Anti-static, applicable to areas sensitive to static electricity.
- 2. Resistant to common lubricants and cleaning detergents in industrial environment.
- 3. However, it is not guaranteed to be resistant to corrosion of various test fluids, gases, and solvent products.
- 4. Therefore, when selecting pallet products, customers should first inform the site working conditions to avoid unnecessary losses.









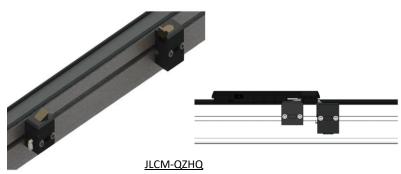


Stopper

Pneumatic Stopper without Damping:



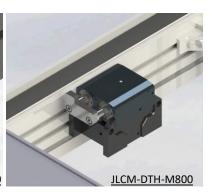




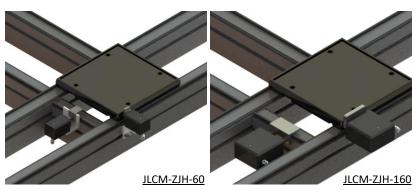
Pneumatic Stopper with Damping:







Angle Damper:



Note

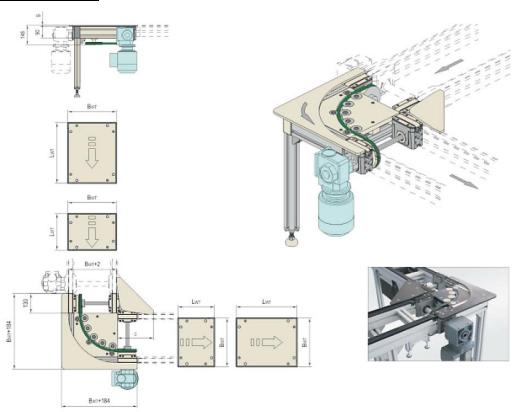
- 1. The pneumatic stopper (JLCM-DT) is mounted directly on the conveyor line body, for realizing the stop and release of one or more stacking pallets or workpieces at a preset position.
- 2. For pneumatic buffer stopper (JLCM-DTH), due to the damping effect during the stop process, a smooth and slow deceleration can be achieved.
- 3. When the pallet moves into or out of the main line, the angle damper (JLCM-ZJH) reduces its impact force and stops the pallet at a predetermined stop position.
- 4. The return stops (JLCM-ZHK) are used to avoid rebounding of the pallet against the stopper. Pneumatic return stops (JLCM-QZHQ) can release pallet in a reversing operation.

Specifications

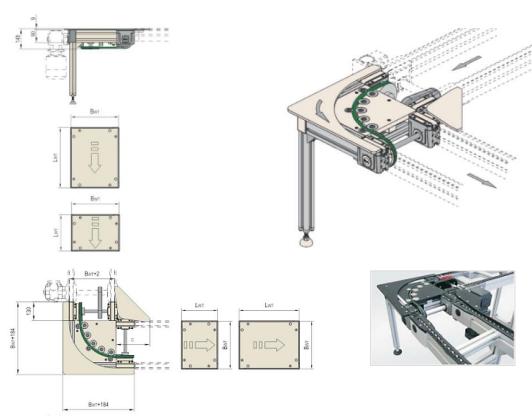
Double action	Single action	Air connection	Pressure range	Mounting position	Operation direction	Operation noise	Loading capacity	Damping stroke	Stop height and release stroke	Model			
When the pressu	When the pre			Inside the profile	Reversible		400 kg	NA	9 mm	JLCM-DT-M400			
When the pressure is released, the stopper remains in its last position due to no spring action.	ssure is released, the osition of stopping t	sure is released, the osition of stopping the				On		60 kg	18 mm	8 mm	JLCM-DTH-M400		
pper remains in its la g action.	When the pressure is released, the stopper is automatically reset to the position of stopping the tray by spring action.		Treatec	Inside the tracks	Inside the tracks	Inside the tracks	Inside the tracks	One direction, irreversible		140 kg	20 mm	8 mm	JLCM-DTH-M600
st position due to	Illy reset to the n.	M5-Ø6	Treated compressed air 4 – 8 bars	compressed air 4 –		ble	≤ 60 dB	150 kg	20 mm	9 mm	JLCM-DTH-M800		
The stopper is retracted compressed air, and the pall pass without obstacle.	The stopper is retr		8 bars	Installed at the end of the conveyor or the lift unit.	One direction, irreversible		60 kg	18 mm	NA	JLCM-ZJH-60			
The stopper is retracted by compressed air, and the pallet can pass without obstacle.	stopper is retracted by the collision of the pallet and reset after ventilation.			id of the conveyor ift unit.	٦, irreversible		160 kg	20 mm	NA	JLCM-ZJH-160			
NA	n of the pallet and			Inside the tracks	Reversible		1000 kg	NA	8 mm	JLCM-QZHQ			

90° Turn Unit

90° Turn unit + Direct drive:



90° Turn unit + Indirect drive:

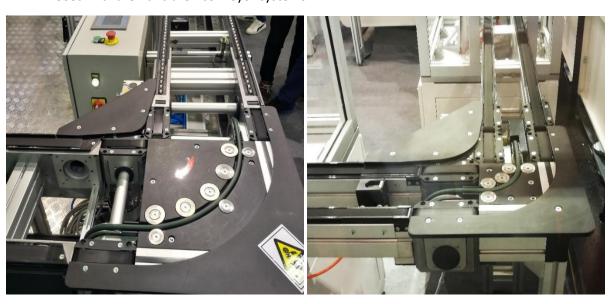


- 1. The total load of a single pallet is 10 kg for the turn unit with borrow line drive and 20 kg for that with self-powered drive.
- 2. The 90° round belt turning machine can only pass through a single pallet at a time, and stacking pallets is prohibited.
- 3. The length ratio of conveying pallets should not exceed 1.5 times (Lwt/Bwt < 1.5).

Specifications

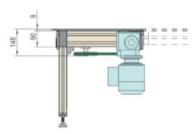
Bwt (mm)	Lwt (mm)	C (mm)
160	160	130
160	240	260
240	160	130
	240	260
	320	260
320	240	260
	320	260
	400	300

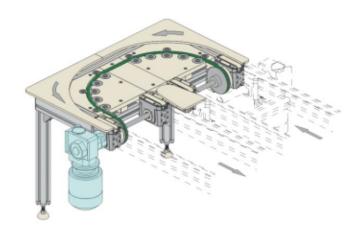
- 1. Modular design, independent components, simple structure, convenient assembly, easy maintenance.
- 2. It can realize 90° turning of standard size pallet conveying with a width of 320 mm and below, without changing the conveying direction of the pallet. If there is a need for larger width pallet turning, it is recommended to use a 30 kg turntable.
- 3. A high-strength T-slot aluminum alloy profile with standard notches, which is convenient to install conveyor on other equipment or install other accessories (e.g., sensors, brackets, etc.) on conveyor.
- 4. Used with JTS1 and JTS2 conveyor systems.

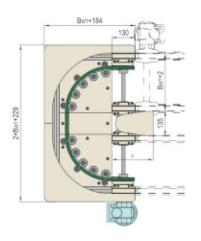


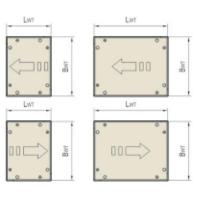
180° Turn Unit

180° Turn unit + Direct drive:

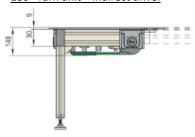


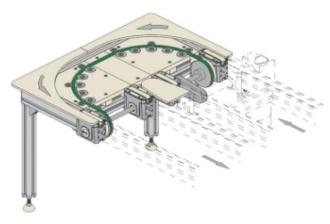


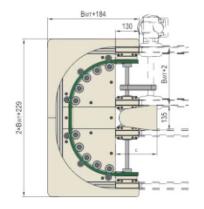


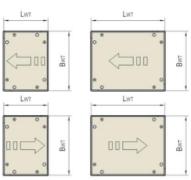


180° Turn unit + Indirect drive:









- 1. The total load of a single pallet is 10 kg for the turn unit with borrow line drive and 20 kg for that with self-powered drive.
- 2. The 90° round belt turning machine can only pass through a single pallet at a time, and stacking pallets is prohibited.
- 3. The length ratio of conveying pallets should not exceed 1.5 times (Lwt/Bwt < 1.5).

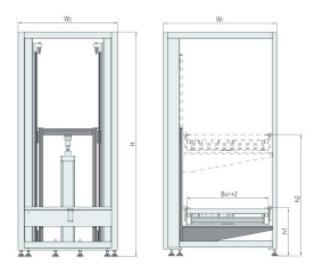
Specifications

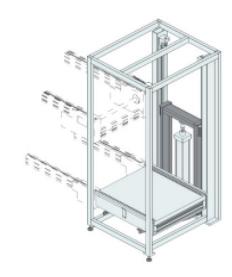
Bwt (mm)	Lwt (mm)	C (mm)
160	160	130
160	240	260
240	160	130
	240	260
	320	260
320	240	260
	320	260
	400	300

- 1. Modular design, independent components, simple structure, convenient assembly, easy maintenance.
- 2. It can realize 180° turning of standard size pallet conveying with a width of 320 mm and below, without changing the conveying direction of the pallet. If there is a need for larger width pallet turning, it is recommended to use a 30 kg turntable.
- 3. A high-strength T-slot aluminum alloy profile with standard notches, which is convenient to install conveyor on other equipment or install other accessories (e.g., sensors, brackets, etc.) on conveyor.
- 4. Used with JTS1 and JTS2 conveyor systems.



Lift





Specifications

Lift Unit	30 kg Lift	400 kg Lift
Load capacity (kg)	30	400
V _{max} at full load (m/min)	20	20
Frame	Steel structure welding	Steel structure welding
Conveyor unit size	All JTP pallet	All JTP pallet
Internal transmission	Direct drive	Direct drive
Lift	Cylinder lift	Cylinder lift
Chain	NA	Double chain
Cylinder bore	50/63/80	120/140/160
Protection	Acrylic	Door with carbon steel spray plastic sealing plate

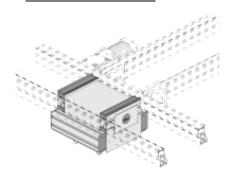
- 1. Modular design and high practicality.
- 2. It can realize vertical circulation conveying between high and low layer conveyors, and change the conveying direction of the pallet.
- 3. The frame is a high-strength carbon steel square tube.

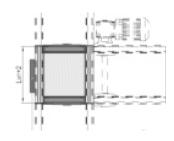




Lift and Traverse Unit

JTS1 Lift and Traverse Unit:

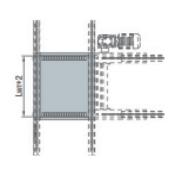


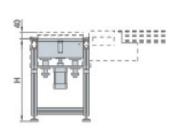




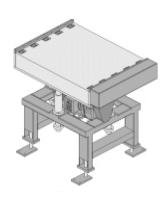
Three-point Chain Lift and Traverse Unit:

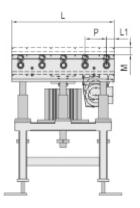


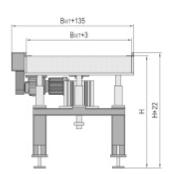




Four-point Chain Lift and Traverse Unit:







Specifications

Lift and traverse units	JTS1 lift and traverse unit	Three-point chain lift and traverse unit	Four-point chain lift and traverse unit	
Model	JTS-LT1	JTS-LT06C	JTS-LT08B	
Conveyor unit		Pallet		
Conveyor unit size (mm)	Minimum 320*400, Maximum 640*640 Nonstandard des			
Conveying medium	Belt Accumulation chain		tion chain	
Lifting load (kg)	≤ 60 ≤ 100 ≤		≤ 400	
Lifting method	Cylinder			
Lifting profiles (mm)	30 – 60 Nonstandard design			
Guiding institutions	Linear bearings, shaft supports			

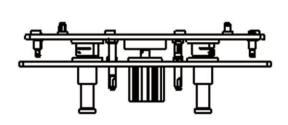
- 1. Modular design, independent components, simple structure, convenient assembly, convenient maintenance.
- 2. Lifting traverse allows pallets to be traversed from the current line body to another vertical line body, and change the direction of the pallet when conveying.
- 3. The frame is a high-strength aluminum alloy profile with standard notches, which is convenient for conveyor installation on other equipment or installing other attachments on conveyor pieces (e.g. sensors, brackets, etc.).

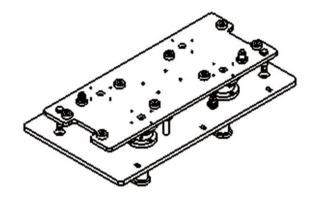






Lift and Position Unit

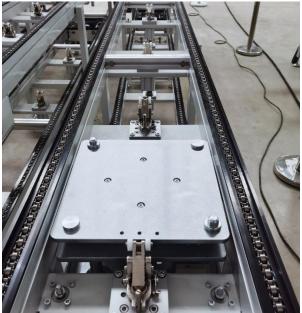




Specifications

Model	JTS-LT08B
Conveyor unit	Pallet
Conveyor unit size (mm)	According to the pallet and layout drawing
Lifting load (kg)	≤ 200
Lifting method	Cylinder
Lifting positioning	Repeatable positioning accuracy 0.4mm
Guiding institutions	Linear bearings, shaft supports

- 1. A Lifting positioning consists of a Lifting mechanism, a guiding mechanism, a positioning mechanism, detection elements and other components.
- 2. The Lifting positioning mechanism has no interference with the line body, and the operation is stable.
- 3. The Lifting cylinder can be equipped with solenoid valve and one-way throttle valve to ensure the shut-off and pressure holding.

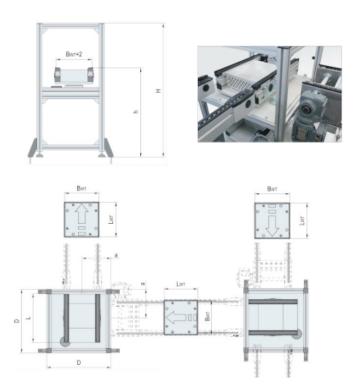




Turntable

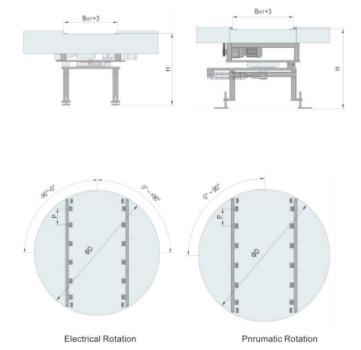
30 kg Turntable:





600 kg Turntable:



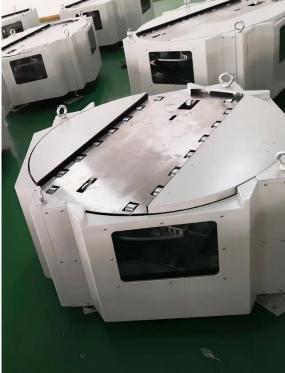


Specifications

Turntable	30 kg Turntable	600 kg Turntable
Conveyor unit	Pallet	Pallet or workpiece
Conveyor unit size (mm)	Minimum 320*400, Maximum 640*640	Nonstandard design
Conveying medium	Belt	Rollers
Load capacity (kg)	≤ 30	≤ 600

- 1. Modular design, independent components, simple structure, convenient assembly and convenient maintenance.
- 2. 30 kg Turntable has aluminum frame structure, standard cylinder lifting, can realize the 90° turn of pallet without changing the conveying direction.
- 3. The frame is a high-strength aluminum alloy profile with standard notches, which is convenient for conveyor installation on other equipment or installing other attachments on conveyor pieces (e.g. sensors, brackets, etc.).
- 4. Transmission medium is antistatic toothed belts for 30 kg turntable, and rollers for 600 kg turntable.
- 5. 600 kg Turntable, through the choice of electrical or pneumatic rotary drive, can realize the 90° or 180° turn of pallet without changing the conveying direction.







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WE WOULD LOVE TO HEAR FROM YOU!