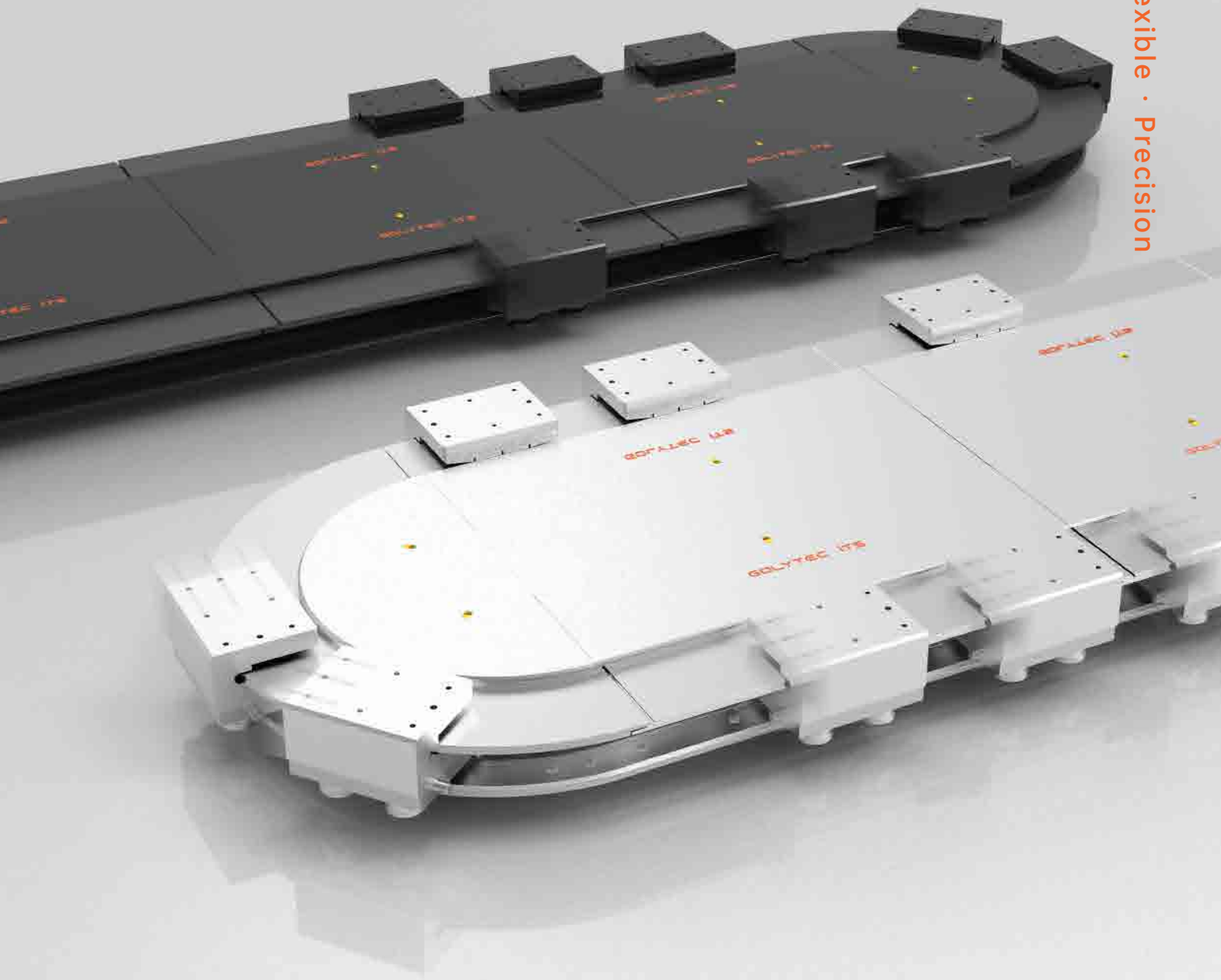




Golytec Automation®

Fast · Flexible · Precision



Golytec iTS intelligent Transport Systems

Pitchless Technology · Maglev-Drive Technology · Modular Design



Mission

Golytec's commitment is to excel in intelligent manufacturing, and we aspire to become an innovator by providing the world-leading intelligent flexible maglev-drive transport technology.



Vision

To become a global leading solution provider for intelligent flexible maglev-drive transport systems.



Values

Customer-centricity, endless innovation, exquisite quality and leading services.

In the era of intelligent flexible manufacturing, iTS (Intelligent Transport System) maglev-drive flexible transport technology optimizes integration flexibility "intelligent modular" system architecture and seamlessly integrates "intelligence" and "flexibility" into Industry 4.0 smart factories.

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About Us

Shanghai Golytec Automation Technology Co., Ltd established in 2015 has strong R&D centers and manufacturing facilities. We focus on the R&D to innovates maglev-drive transport technology. Hence, we are the industry-leading solutions provider in intelligent transport systems.

The Company values the "customer-centricity, endless innovation, exquisite quality and leading service" . We provide simple integration, high-speed, increased throughput and flexibility smart conveyor system to OEMs, manufacturers and partners across the lithium battery, consumer electronics, semiconductors, LCD display, automotive, medical (medicine/ pharmaceuticals/ biotech), intelligent logistics/ warehousing, consumer goods and other industries around the world.

The Company has obtained product safety certifications such as CE, CSA, RoHS, as well as the ISO9001 certification. Golytec was recognized as "high-tech enterprise" by Shanghai Municipal Government in 2018 and rated as a "specialized and sophisticated enterprises that produce new and unique products" in Shanghai 2022. It also owns 15 core patents for maglev drive technology and 35 computer software copyrights.

The Company has established a well-trained after-sales service team, scattered around multiple branches in Suzhou, Shenzhen, Huizhou, Chengdu, etc. It has also established an overseas sales and service network across the United States, Germany, Hungary, South Korea, Singapore, Malaysia, Thailand, etc., providing 7×24 technical support to global customers.

35

computer software copyrights

15

core patents for maglev drive technology

10

R&D centers and offices around the world



Products and Solutions

iTS flexible transport systems are designed to serve the manufacturing industries. Basically, it encompasses many process automation applications in detecting, scanning, welding, punching, fastening, packaging, palletizing, smart warehousing, etc.



High-efficiency

Programmability, high speed, acceleration, precision



High-flexibility

Independently mover technology, synchronous/asynchronous and wide load variation



Environmental:

Adaptable for cleanroom, harsh and other unique environments



Space-saving

Compact production line design



Easy maintenance

Modular design, quick setup and less maintenance



Scalable

Flexibility modular design accommodates thousands of movers (The stator can be extended to 500m with up to 2,000 movers.)



iTS capable of transporting payloads up to 4tons widely used in manufacturing green energy, small scale batteries, automotive, electronics, semiconductor, wire harnesses, etc.



Dual-mover clamping application.



iTS can setup workstations at the curved sections achieving repeatability $\pm 0.03\text{mm}$.



Throughout the entire production line, iTS performs high-speed transportation, changes speed on fly across the scanning stations without waiting or stopping, and features synchronous following and electronic cam. Modular stators can be removed or added easily, or integrated into existing, next-generation or diverse manufacturing line option.



iTS-LTH designed to transport payloads from 100kg till 4tons, with high-speed and precise transportation. It is ideal solution for heavy-duty production lines and assembly for EV power battery packs and entire vehicle manufacturing.

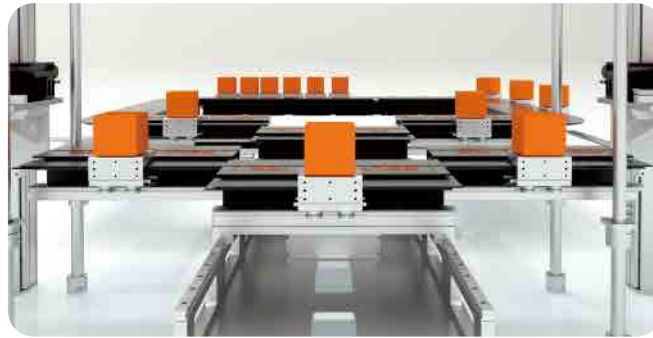


High-precision positioning throughout the whole production line, absolute position control and programmable speed without cogging. With modular design, curved and linear modular stator can be combined in different combination to create circle, rectangle, square and oval in either vertical or horizontal orientation. Moreover, movers are able to intersect into multiple modular stator tracks. Applications - Packaging, high-precision welding, etc.

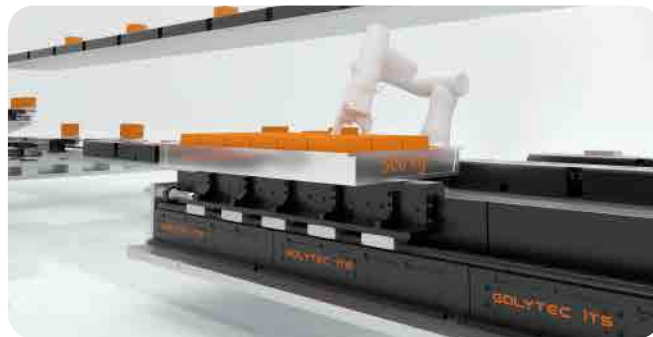
A single stator can control multiple movers that synchronously or asynchronously move at high and low speeds without any cogging occur.



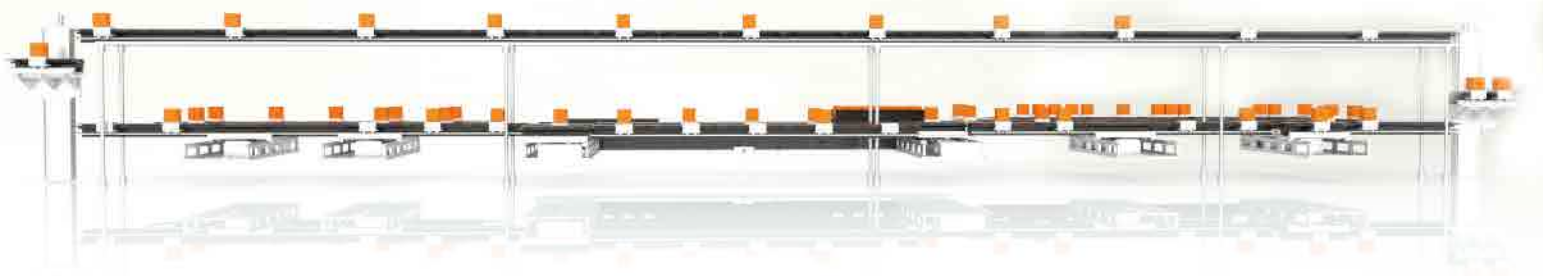
Linear loop transfers



Combination of light and heavy-duty linear transfers



Multiple-mover linear transfer



iTS -L (iTS Linear Loop)



$\pm 0.03\text{mm}$

Repeatability



2kg-20kg

Payload



$\times 5g$

Max Acceleration



2.5m/ s

Max Velocity



Fast&Easy production change-over through Master Device software receipt.



Modular design easily retrofits existing system or integrates next generation production line.



Re-define the number of stations, and remove or add number of stators and movers through software.



Easily added work-station at the transfer module without affecting high-speed transportation on the main track.



Both linear and curved stator modules can control multiple movers simultaneously.

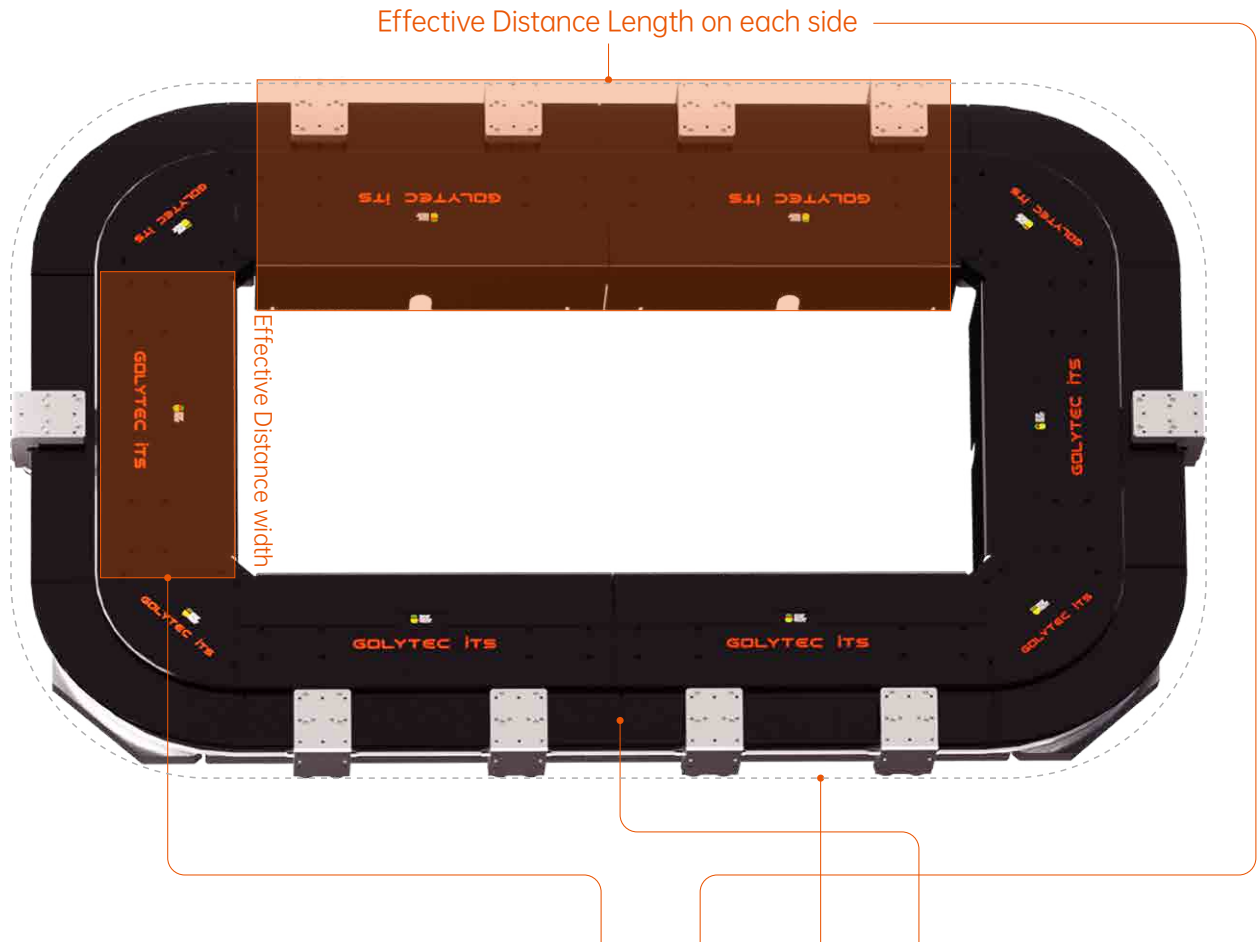


Both linear and curved stator can achieve high-precision positioning.



High repeatability at any in-between stators seam.

Understanding iTS -L System Type



iTS - L - W□□□ - L□□□□ - T□□□□□ - M□ - □□ - □ - □

- ◎ Loop _____
- ◎ Effective Distance Width _____
- ◎ Effective Distance Length on Each Side _____
- ◎ Overall Travel Distance _____
- ◎ Mover Type (MA/MB/MC/MD/MF) _____
- ◎ No. of Movers _____
- ◎ Precision Grade (B:±10μm/C:±30μm) _____
- ◎ Product Standard (S - Standard / C - Customized / L - Lite) _____

iTS -L Configuration



iTS-L Oval Loop System



iTS-L Circular Loop System



iTS-L Rectangular Loop System



iTS-L Diversion Loop System

iTS -L Specification

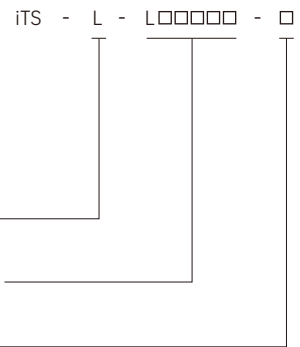
Part No.: iTS-L-M	A	B	C	D	F
Specification	Date				
Peak Force	80N	160N	240N	320N	480N
Max Velocity	2.5m/s				2m/s
Max Acceleration	5g				
PayLoad	2kg	5kg	10kg	15kg	20kg
Repeatability	Selectable: $\pm 10\mu\text{m}$ / $\pm 30\mu\text{m}$				
Voltage Supply	220VAC 50/60 HZ DC24V/36V				
Software Tools	iTS Planner				
Communication Interface	Ethernet UDP & Ether CAT				
Max System Length	500m				
Max No. of Movers	250				
Scalable	Hardware Software	Modular Expansion Supported			

iTS -L Linear Stator

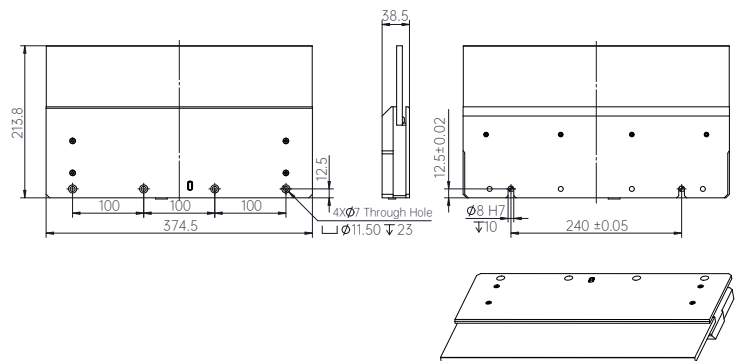
◎ Product Type (L - Loop Stator)

◎ Stator Length (L375/L375C/L500/L500C/L1000/L1000C/L1500/L2000)

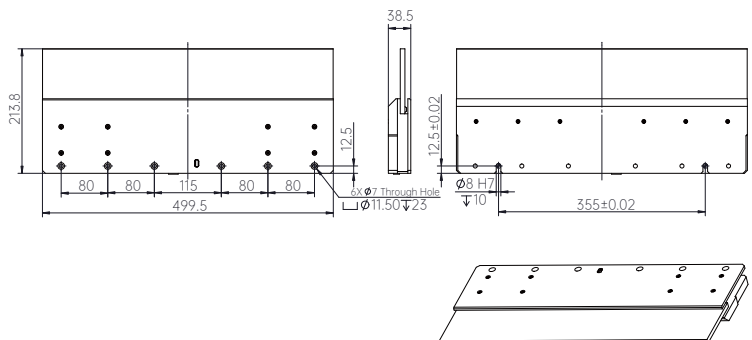
◎ Product Standard (S - Standard / C - Customized / L - Lite)



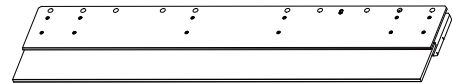
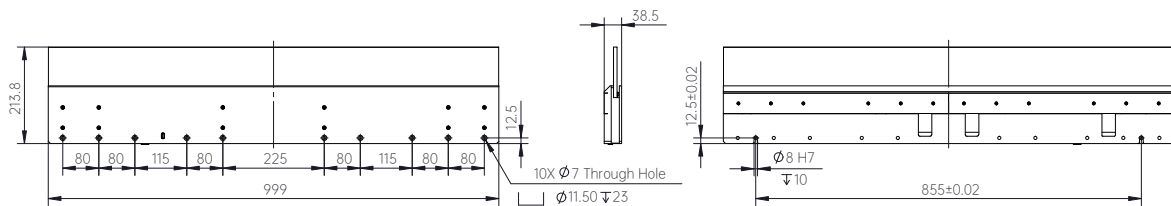
iTS-L-L375



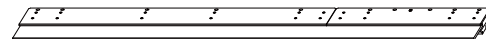
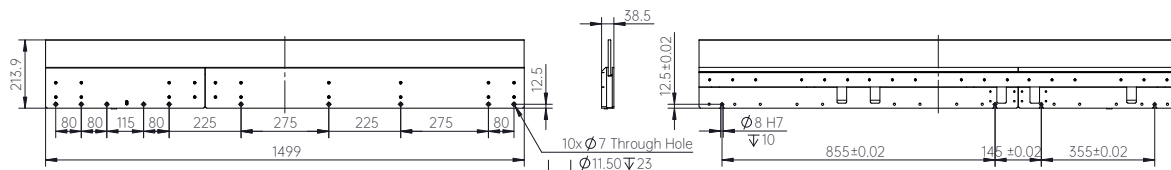
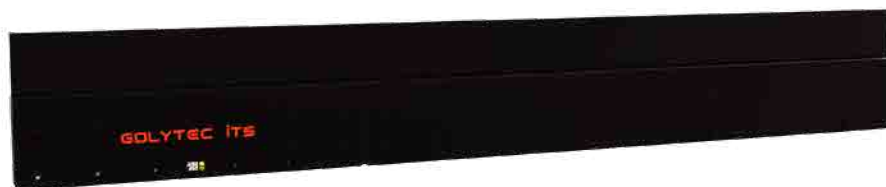
iTS-L-L500



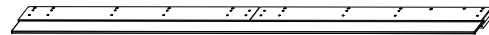
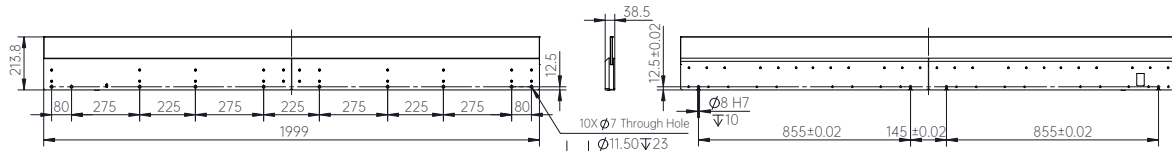
ITS-L-L1000



ITS-L-L1500



iTS-L-L2000

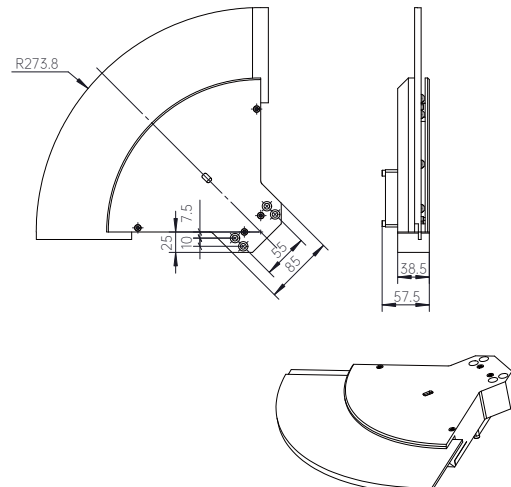


iTS -L Curved Stator

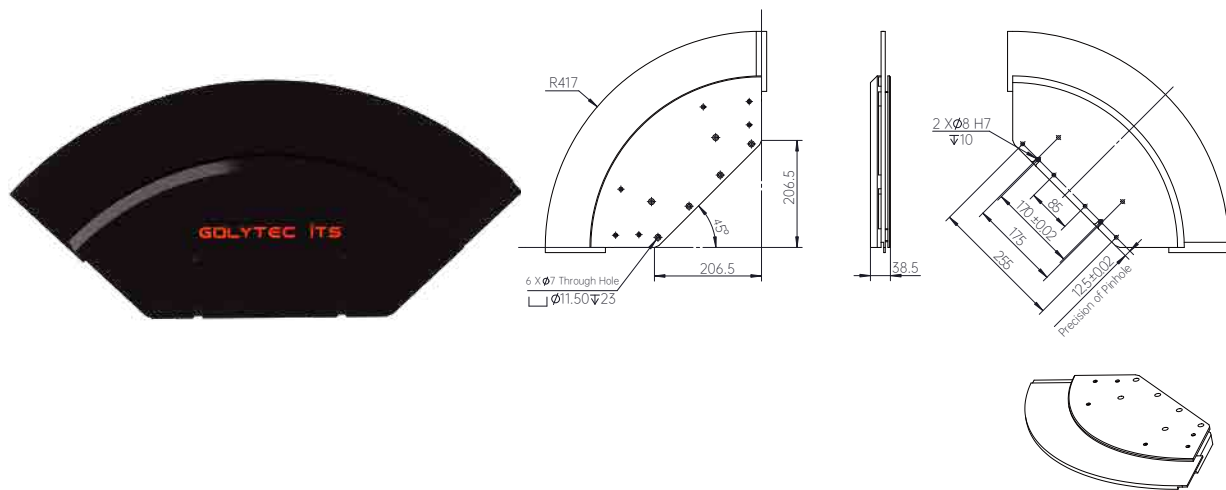
iTS - L - □□□ - □

- ◎ Product Type (L - Loop Stator) _____
- ◎ Stator Angle (C90/C180) _____
- ◎ Product Standard (S - Standard / C - Customized / L - Lite / H - Wide Curved) _____

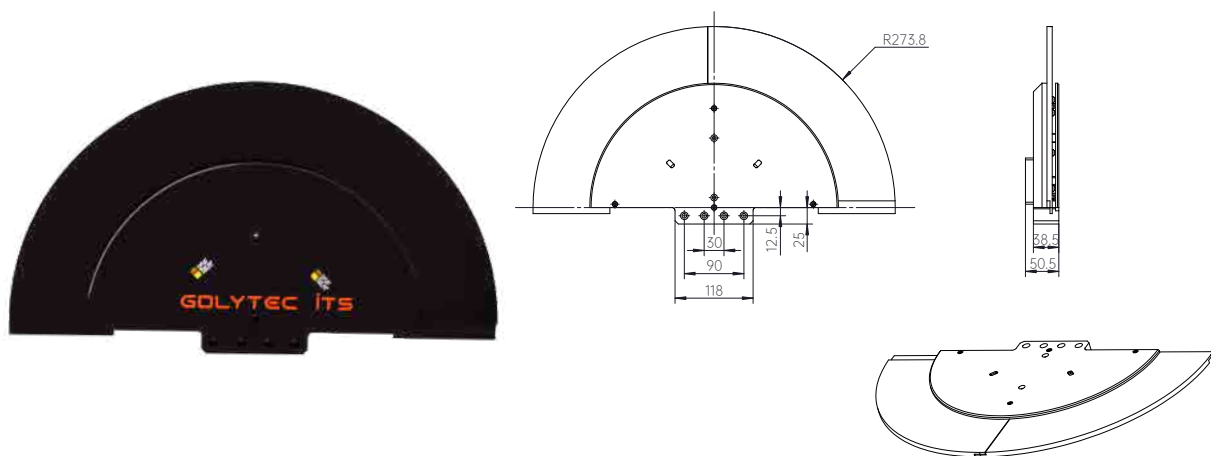
iTS-L-C90



iTS-L-C90-H



iTS-L-C180



iTS -L Mover

iTS - L □ - M □ - □

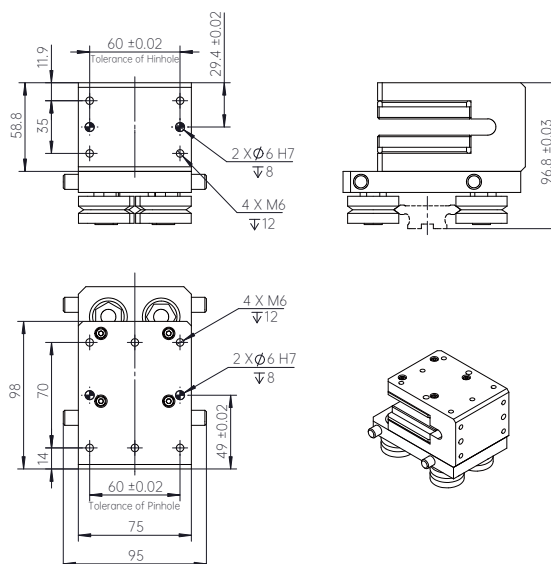
- ◎ Product Type (L - Mover of Loop / LB - with Friction Blocks)
- ◎ Driving Force (MA/MB/MC/MD/MF)
- ◎ Product Standard (S - Standard / C - Customized)

* Note: Movers are classified according to their driving force and product type.

iTS-L-MA



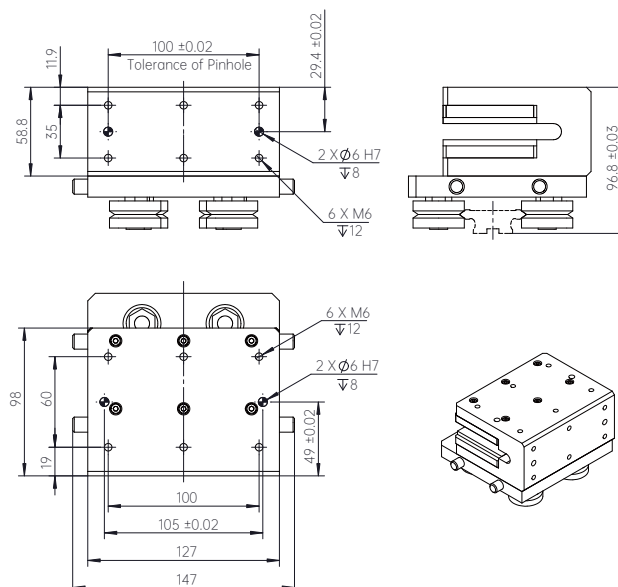
Peak Force	Max Velocity	PayLoad
80N	2.5m/s	2kg



iTS-L-MB



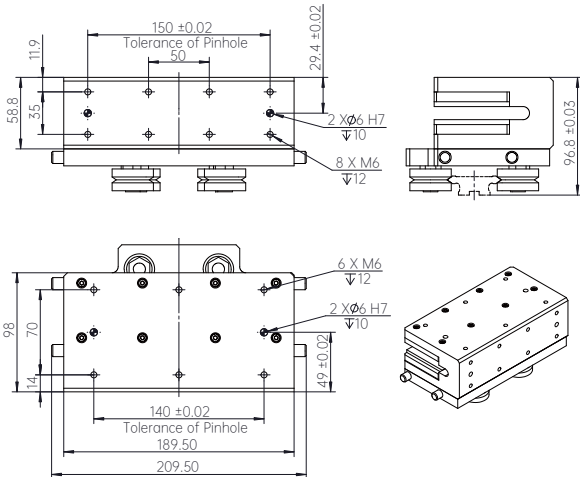
Peak Force	Max Velocity	PayLoad
160N	2.5m/s	5kg



iTS-L-MC



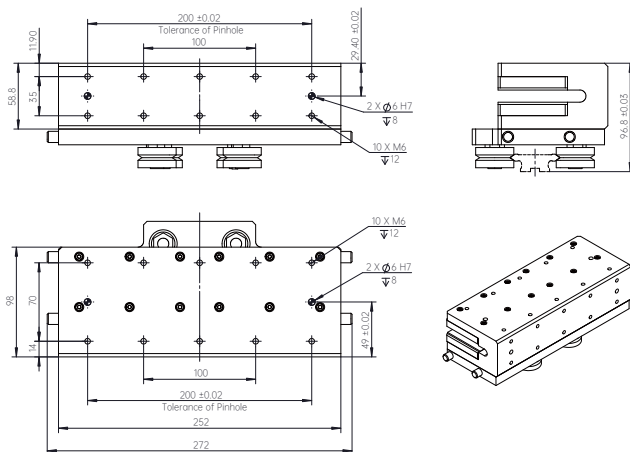
Peak Force	Max Velocity	PayLoad
240N	2.5m/s	10kg



iTS-L-MD



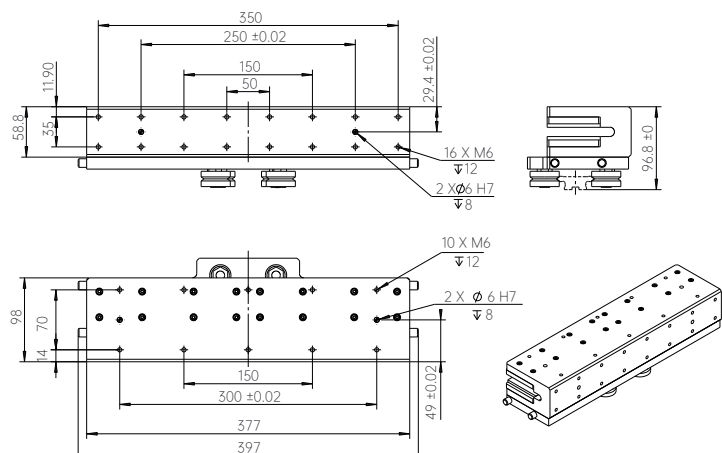
Peak Force	Max Velocity	PayLoad
320N	2.5m/s	15kg



iTS-L-MF



Peak Force	Max Velocity	PayLoad
480N	2m/s	20kg



iTS-LT (iTS Linear Transfer)



$\pm 0.01\text{mm}$

Repeatability



2kg-90kg

Payload



$\times 5g$

Max Acceleration



2-2.5m/ s

Max Velocity



Fast&easy production change-over through fixture and master device software receipt.



Linear stator module can control multiple movers simultaneously.



Re-define the number of stations, and remove or add number of stators and movers through software.



Linear stator can achieve high-precision positioning.



The linear transfer structure orientation designed for horizontal, vertical or rotational transfers.

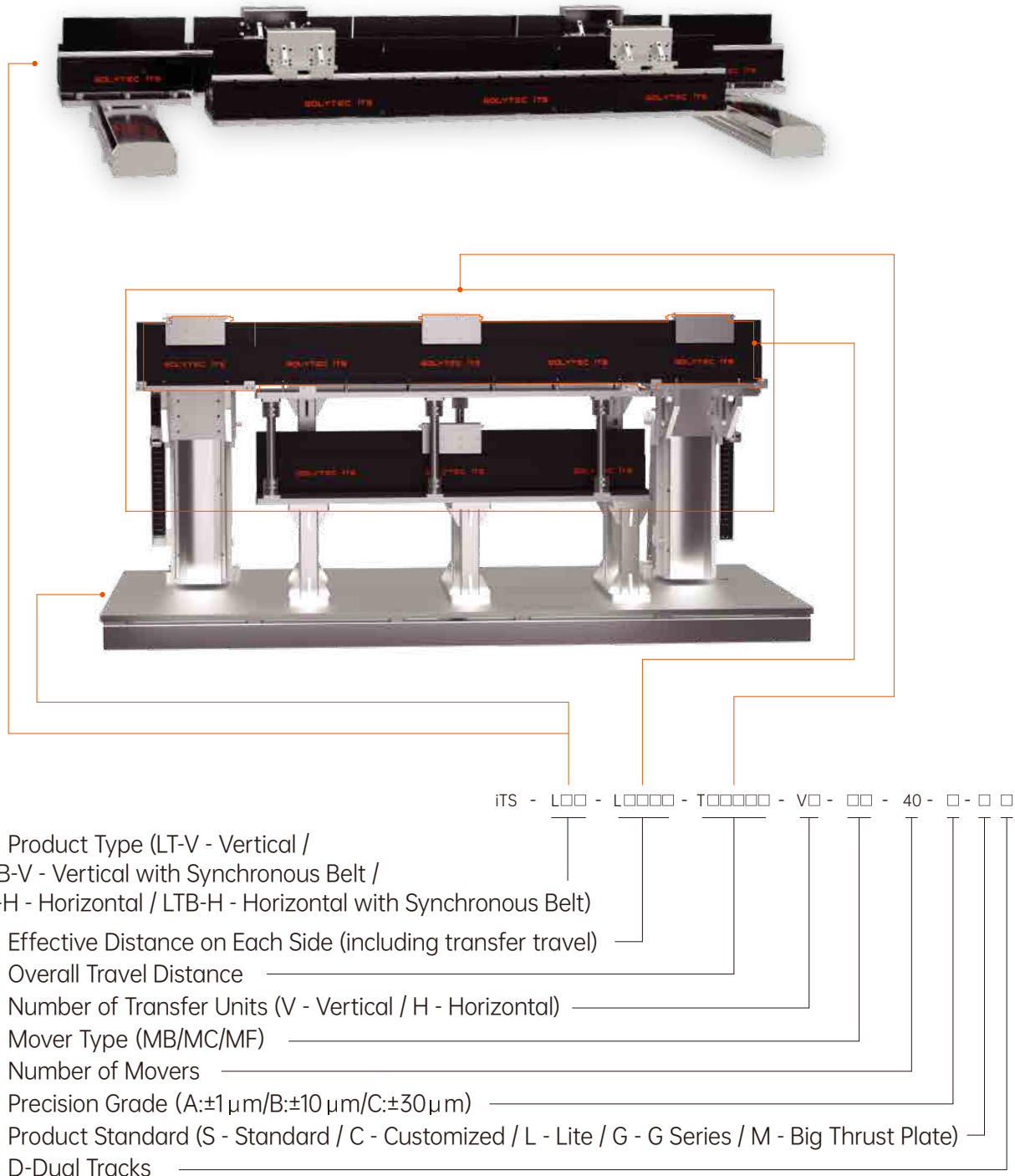


Easily added workstation at both end transfer modules without affecting high-speed transportation on the main track.



The backflow section can be integrated with synchronous belt, which helps to reduce the cost.

Understanding iTS-LT System Type



* Note: The number of transfer units refers to the number of stages either oriented in vertical or horizontal transfers or both. Basically, Linear Transfer depends on both end transfer stator modules, but the total number of transfer stator modules must be added to the total number of stator modules on the entire line. Only dual tracks option must be added with a (-D) in the part no.

iTS-LT Configuration



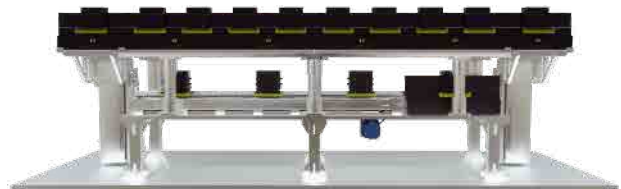
iTS-LT Horizontal System



iTS-LT Horizontal with Synchronous Belt System



iTS-LT Vertical System

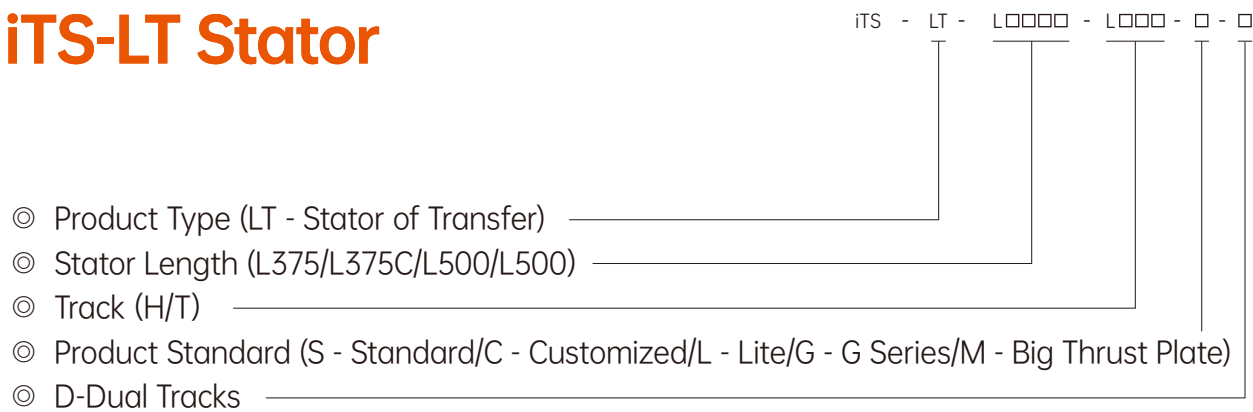


iTS-LT Vertical with Synchronous Belt System

iTS -LT Specification

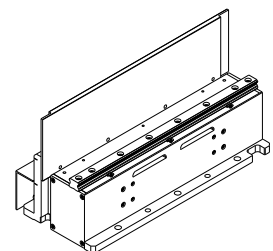
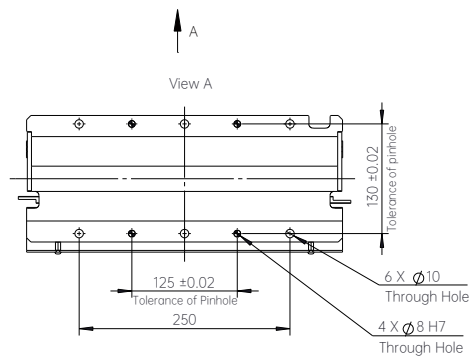
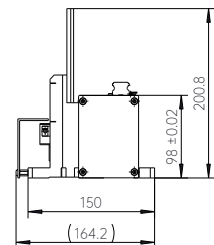
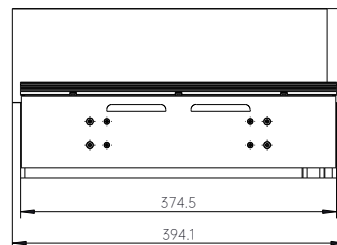
Part No.: iTS-LT-M	A	B	C	D	F	G	J	L	T
Specification	Date								
Peak Force	80N	160N	240N	320N	480N	560N	800N	960N	1600N
Max Velocity	2.5m/s				2m/s				
Max Acceleration	5g								
PayLoad	2kg	5kg	10kg	25kg	25kg	30kg	45kg	55kg	100kg
Repeatability	Selectable:±1µm / ±10µm / ±30µm								
Voltage Supply	220VAC 50/60 HZ DC24V/36V								
Software Tools	iTS Planner								
Communication Interface	Ethernet UDP & Ether CAT								
Max System Length	500m								
Max No. of Movers	250								
Scalable	Hardware	Modular Expansion Supported							
	Software								

iTS-LT Stator



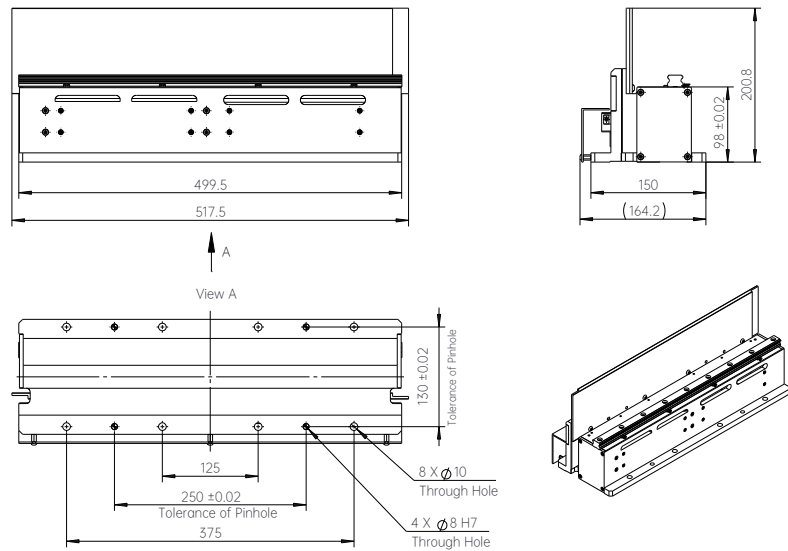
* Note: Only Dual tracks option must be added with a (-D) in the part no.

iTS-LT-L375

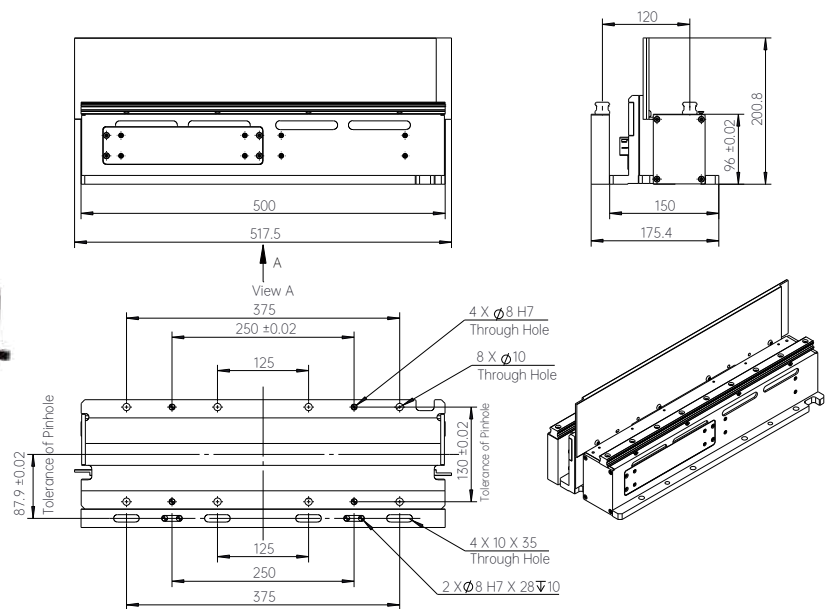


ITS-LT-L500

⊗ ITS-LT-L500 Stator with Single Track

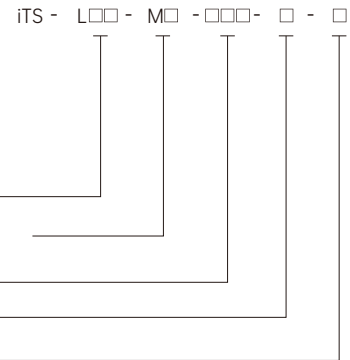


⊗ ITS-LT-L500-D Stator with Dual Tracks



iTS-LT Mover

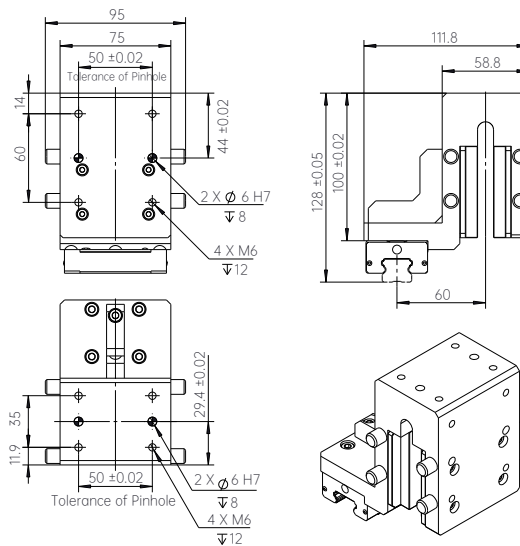
- ◎ Product Type (LT - Linear Transfer Mover / LTB - Linear Transfer Mover with Friction Block)
- ◎ Driving Force(MA/MB/MC/MC-D/MD-D/MF-D/MG-D/MJ-D/ML-D)
- ◎ Track Type (H/T)
- ◎ Product Standard (S - Standard / C - Customized)
- ◎ D-Dual Tracks



iTS-LT-MA



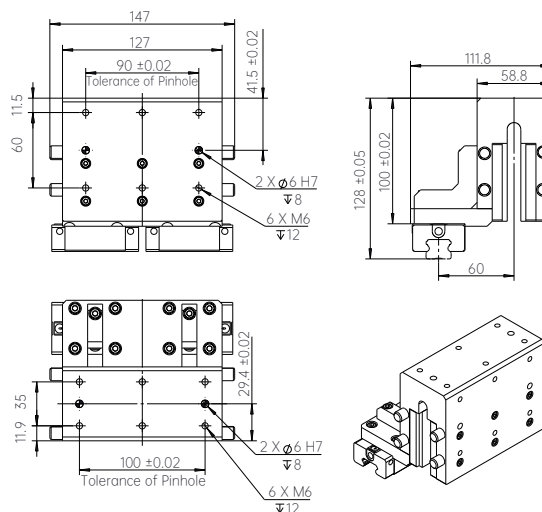
Peak Force	Max Velocity	PayLoad
80N	2.5m/s	2kg



iTS-LT-MB

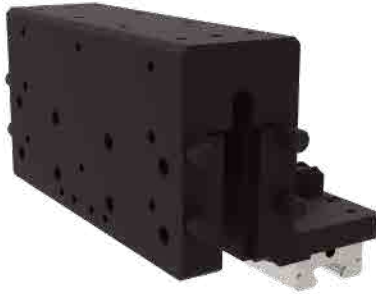


Peak Force	Max Velocity	PayLoad
160N	2.5m/s	5kg

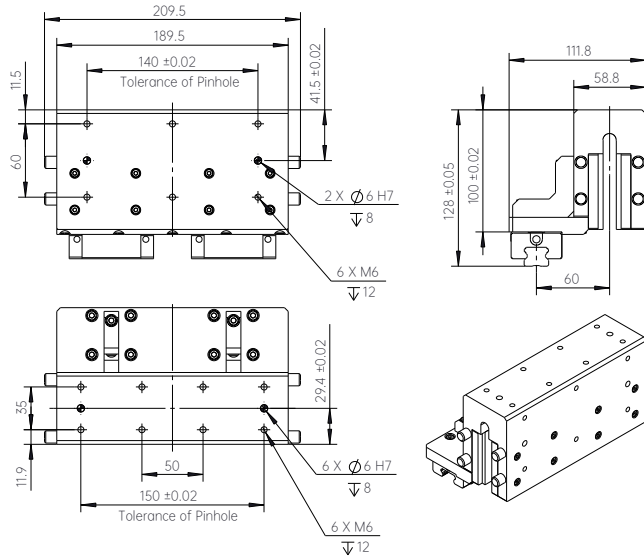


iTS-LT-MC

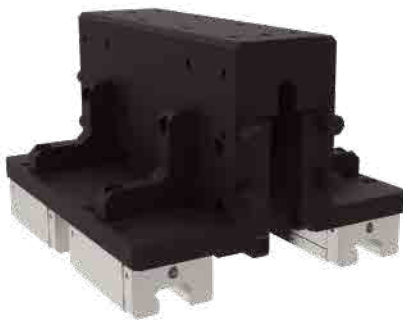
⊗ iTS-LT-MC Mover with Single Track



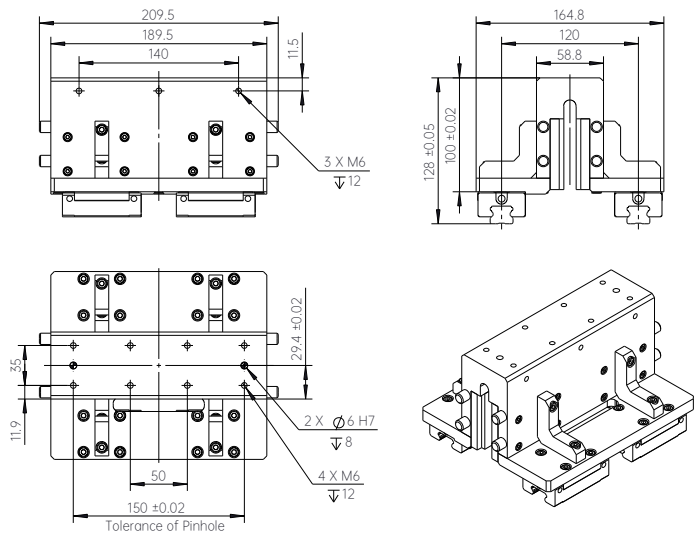
Peak Force	Max Velocity	PayLoad
240N	2.5m/s	10kg



⊗ iTS-LT-MC-D Mover with Dual Tracks



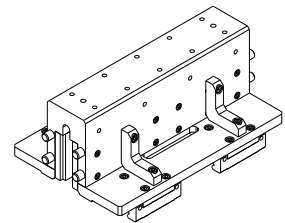
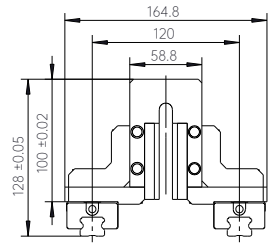
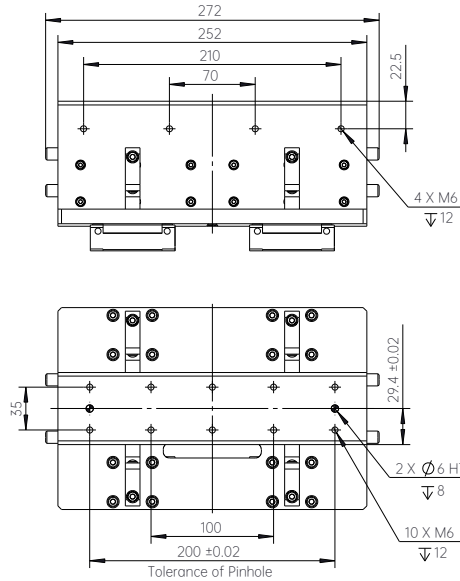
Peak Force	Max Velocity	PayLoad
240N	2.5m/s	10kg



iTS-LT-MD-D



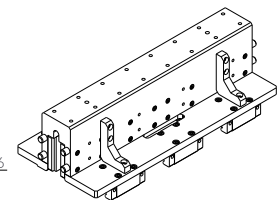
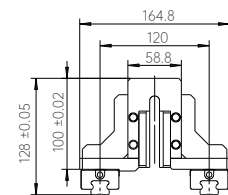
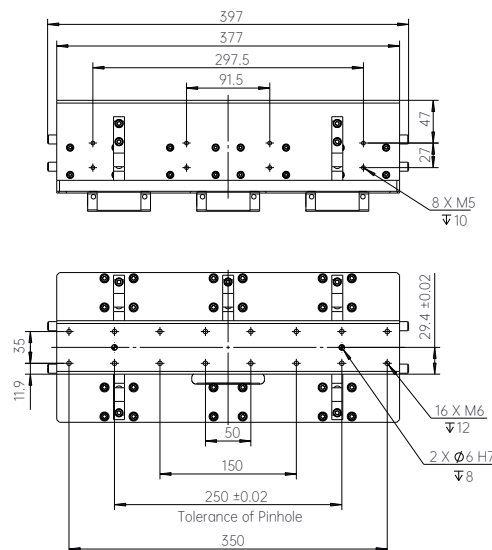
Peak Force	Max Velocity	PayLoad
320N	2.5m/s	25kg



iTS-LT-MF-D



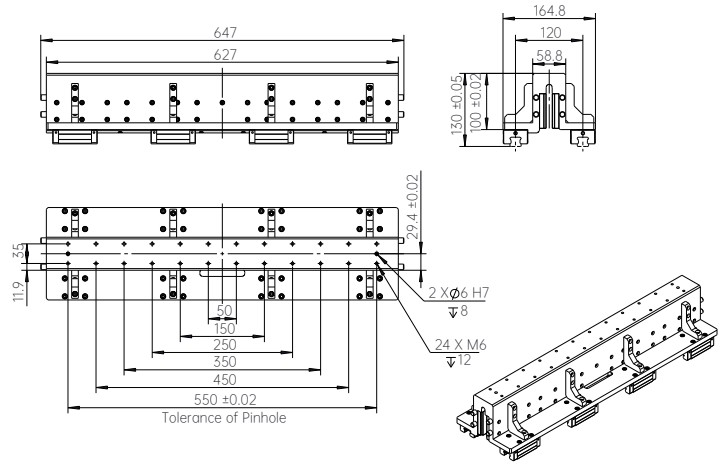
Peak Force	Max Velocity	PayLoad
480N	2m/s	25kg



iTS-LT-MG-D



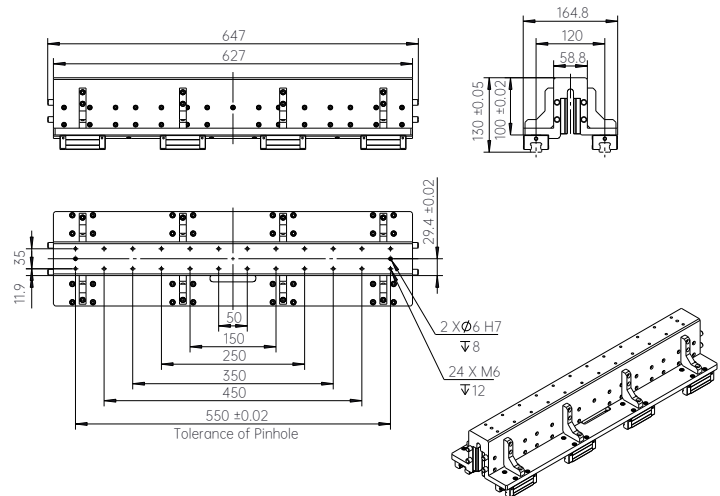
Peak Force	Max Velocity	PayLoad
560N	2m/s	30kg



iTS-LT-MJ-D



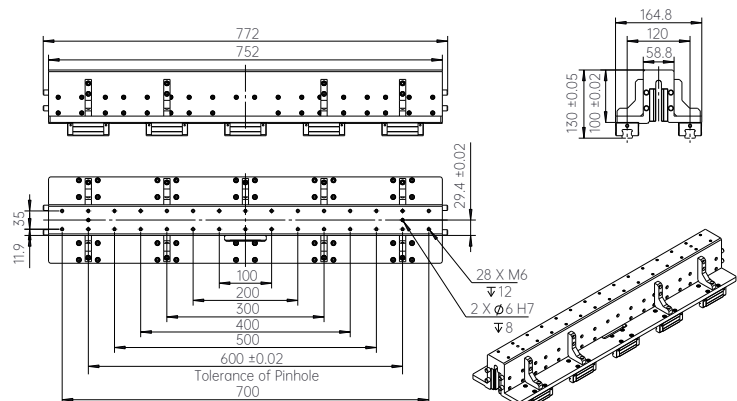
Peak Force	Max Velocity	PayLoad
800N	2m/s	45kg



iTS-LT-ML-D









Peak Force	Max Velocity	PayLoad
960N	2m/s	55kg



iTS-LTH (iTS Heavy-duty Linear Transfer)

 ±0.03mm Repeatability	 100kg-500kg Payload	 ×2g Max Acceleration	 2m/ s Max Velocity
--	--	--	---



 Fast&easy production change-over through fixture and master device software receipt.	 Linear stator module can control multiple movers simultaneously.
 Re-define the number of stations, and remove or add number of stators and movers through software.	 Linear stator can achieve high-precision positioning.
 Linear transfer structure orientation designed for horizontal and rotational high load application.	 Easily added workstation at both end transfer modules without affecting high-speed transportation on the main track.

Understanding iTS-LTH System Type



iTS - L□□□ - L□□□□ - M□□□ - □ - □□ - □□

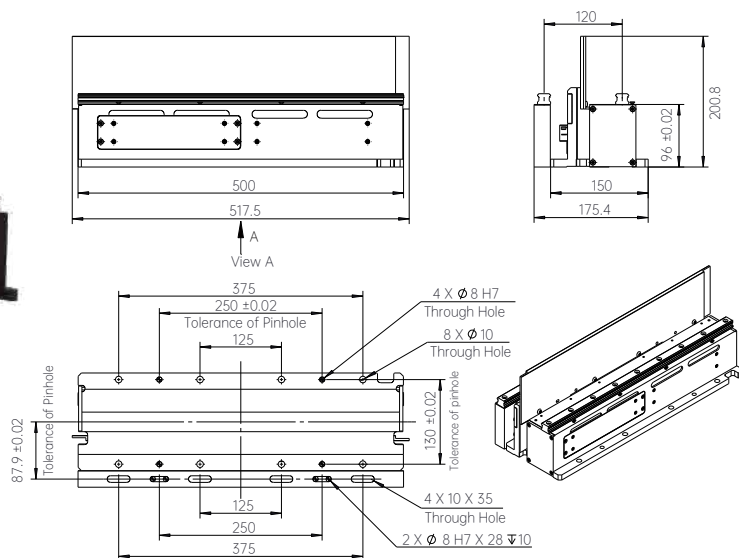
- ◎ Product Type (LTH - Heavy-duty Transfer / LTHB - with Synchronous Belt)
- ◎ System Length
- ◎ Driving Force
- ◎ Repeatability (A:±1μm/B:±10μm/C:±30μm)
- ◎ Fan (FC/NC)
- ◎ Product Standard (S - Standard / C - Customized)

iTS-LTH Specification

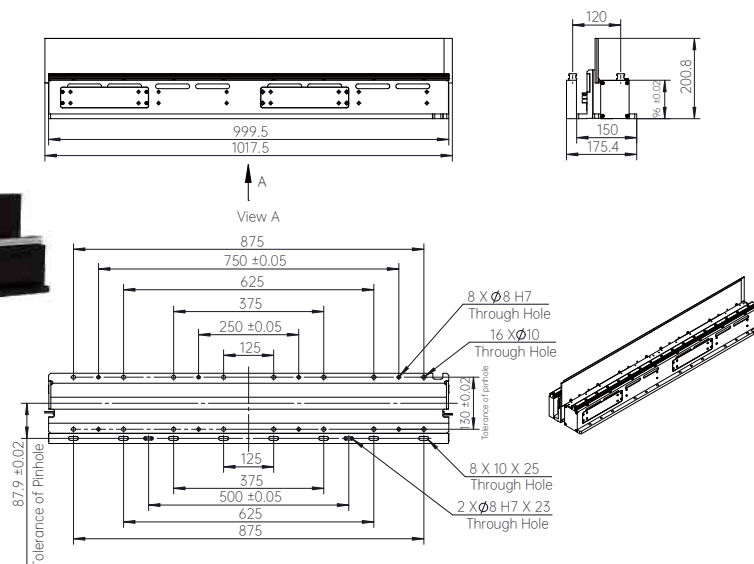
Part No.:	iTS-LTH-M	T	10	3Y
Specification	Date			
Peak Force	1600N	3200N	8000N	
Max Velocity	2m/s			
Max Acceleration	2g			
PayLoad	100kg	200kg	500kg	
Repeatability	Selectable:±1µm / ±10µm / ±30µm			
Voltage Supply	220VAC 50/60 HZ DC24V/36V			
Software Tools	iTS Planner			
Communication Interface	Ethernet UDP & Ether CAT			
Max System Length	500m			
Max No. of Movers	250			
Scalable	Hardware	Modular Expansion Supported		
	Software			

iTS-LTH Stator

iTS-LTH-L500

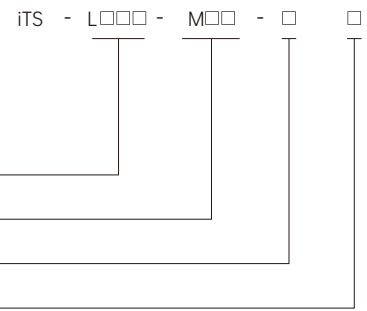


iTS-LTH-L1000

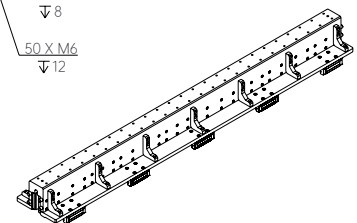
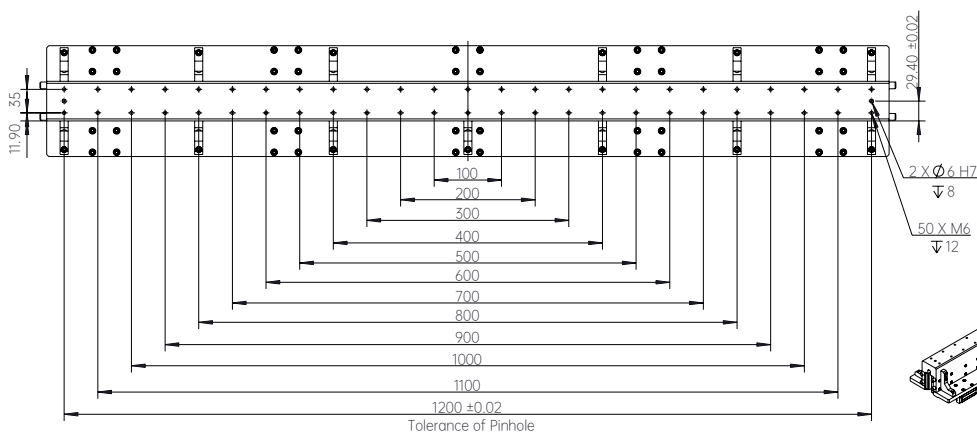
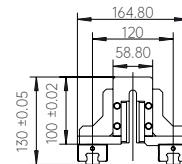
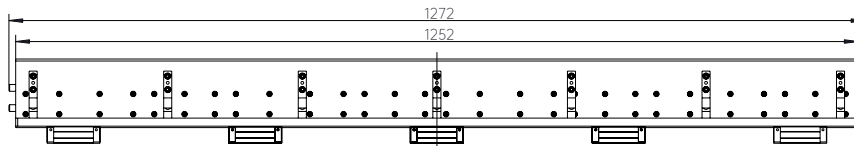


iTS-LTH Mover

- ◎ LTH - Heavy-duty Transfer / LTHB - with Synchronous Belt
- ◎ Driving Force (M(T/10/3Y)
- ◎ Repeatability (A/B/C)
- ◎ Product Standard (S - Standard / C - Customized)

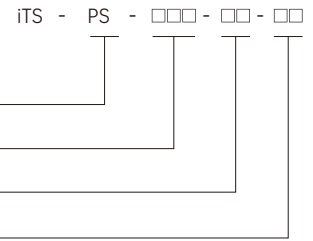


iTS-LTH-MT



Understanding iTS Power Supply Module Part Number

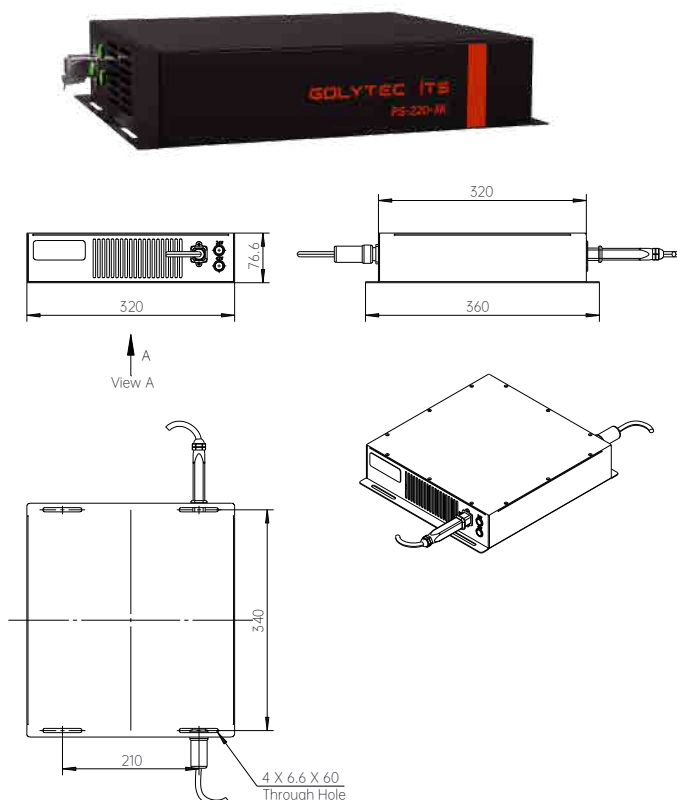
- ◎ Power Box _____
 ◎ Input Voltage (110VAC ~220VAC) _____
 ◎ Power (3k-3000W/6k-6000W) _____
 ◎ Product Standard (S - Standard) _____



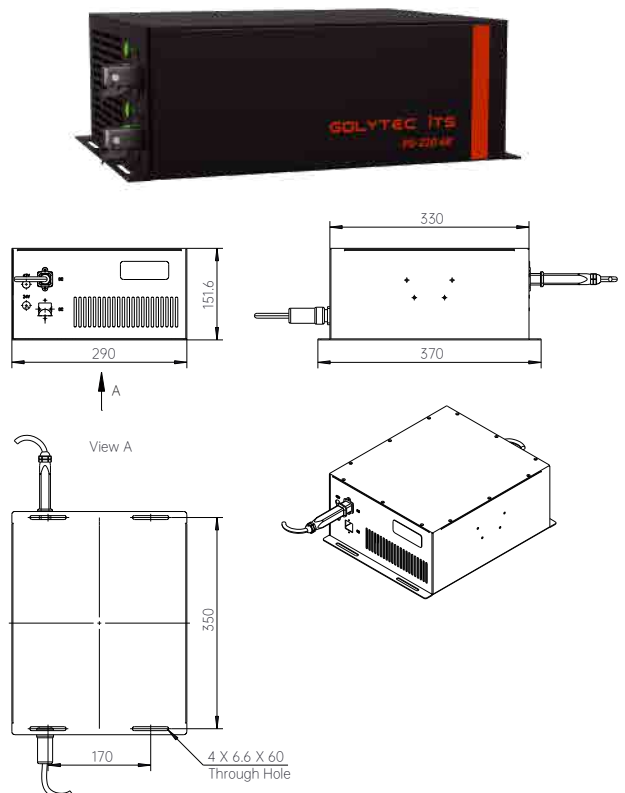
iTS-PS Module Specification

Model	3k	6k
Output Voltage	24VDC/36VDC	24VDC/36VDC
Power	3000W	6000W
Input Voltage	110VAC ~ 220VAC	
Frequency	50/60 HZ	
Temperature	-30°C~45°C	
Humidity	20-90 RH No Condensation	

iTS-PS-220-3K



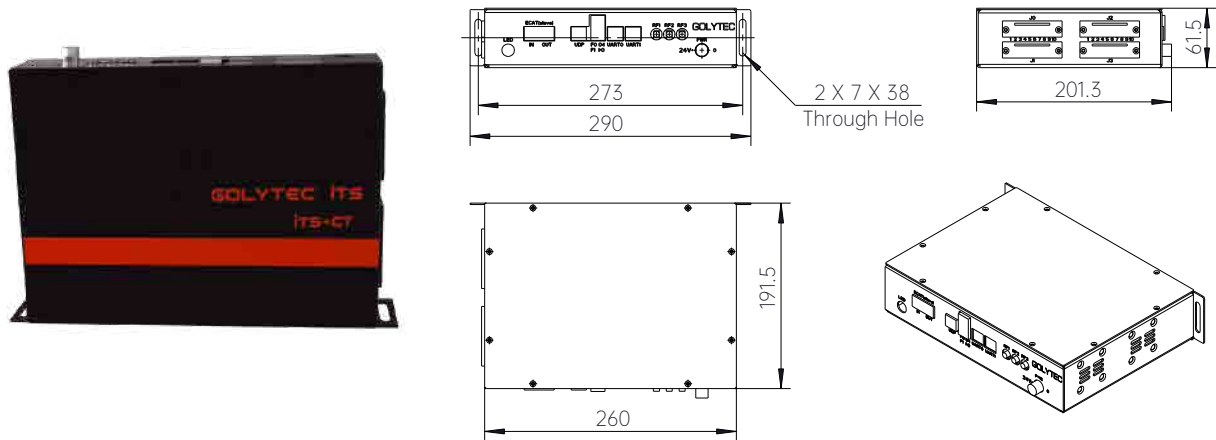
iTS-PS-220-6K



iTS - CT Controller

- ◎ Product Type (CT - Controller) _____
- ◎ Product Standard (S - Standard) _____

iTS-CT

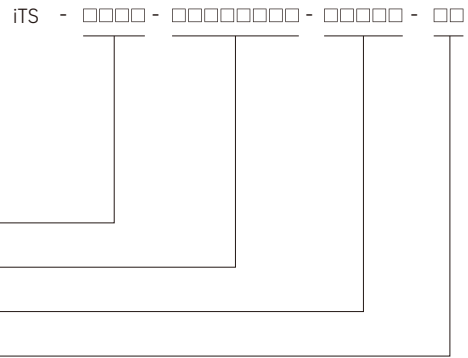


iTS - CT Controller Specification

Model	iTS-CT-S
Power	30W
Supply Voltage	24VDC
Communication Type	Ethernet UDP & Ether CAT
Max System Length	500m
Max No. of Mover	250/个
Temperature	-30°C~45°C
Humidity	20-90 RH No Condensation

Understanding iTS Cable Part Number

- © Product Type (FOC/PSC/PSMC/CTC)
- © Voltage (24VDC ~ 36VDC/220VAC ~ 240VAC)
- © Cable Length (L680/L3000/L5000)
- © Product Standard (S - Standard / CP - Non-standard)



iTS-FOC Optical Fiber Cable

iTS-FOC-L680-S



iTS-FOC-L3000-S



iTS-PSC Power Cable

iTS-PSC-220VAC-L3000-S



iTS-PSC-24VDC-36VDC-L3000-S



iTS-PSMC Module Power Cable

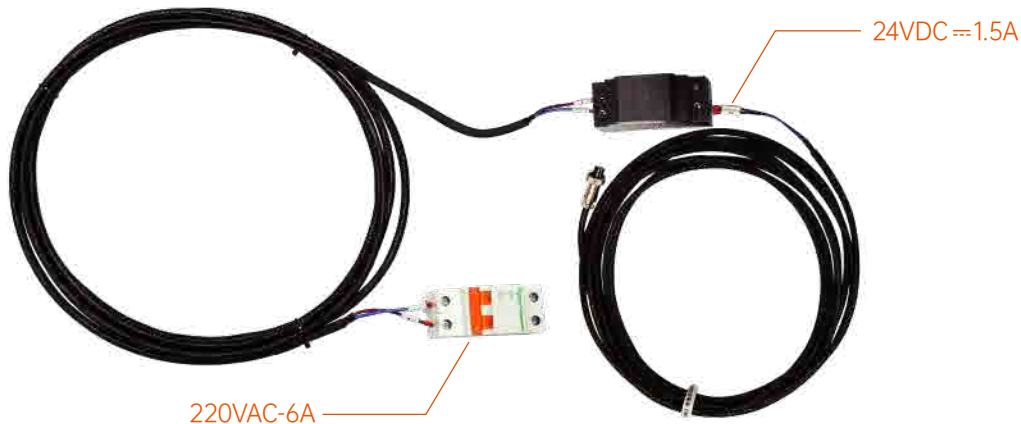
iTS-PSMC-24VDC-36VDC-L680-S



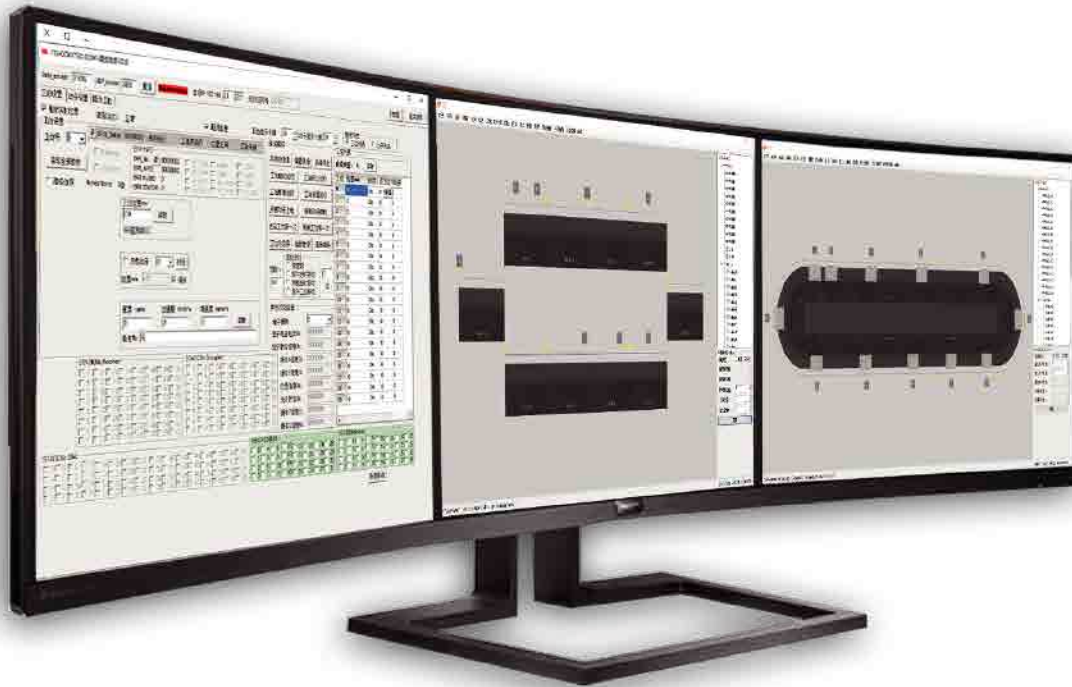
iTS-CTC Power& Cable

iTS-CTC-220VAC-L5000-S

iTS-CTC-24VDC-L5000-S



iTS Planner Functional



Supported 250 Movers



Supported 128 Process Stations



Different Multiple PID Controls
at Different Sector



Internal Following Control within
the Movers or Following External Device Control

iTS software toolkit configuration includes production line planning, station setting, mover setting, system parameter setting, velocity-position oscilloscope, real-time tracking movers ID/Station status and simulation, which greatly benefits users.

The system provides two control modes: flexible movers control and station-to-station control. Users do not need to sequentially program movers independently nor conduct logic programming in the iTS Controller, whereby users can use its own Master device and quickly get started with the application to run the flexible production lines.

Mover Control Features

- Movers have 3 types of control modes (Position, Velocity and Torque Control).
- Closed Loop Positioning and Real-time Tracking Movers ID.
- Easily use anti-collision function to set any safety distance between the movers and at any sections.
- Easily use Station Offset function for position deviation.
- Dynamically auto error compensation while Movers perform following function.
- Easily record Mover QR code or Process barcode or rewrite mover ID relation.
- Easily use anti-collision function to set any safety Distance between any pallets size on the movers.
- Easily use anti-collision function to set any safety distance between different type of movers.

Station Control Features

- Support up to 128 process stations.
- Easily set enabled and disabled Station dynamically.
- Easily set specified movers to stop at designated stations.
- Easily set movers to skip the next following any number of stations.
- Easily resume operation making all movers return to previous stations.
- Easily set mover entering or wait outside the workstation zone dynamically.
- Easily create Virtual working zone at any Work-Stations limiting movers entering.
- Easily Teach No. of Movers moving to new target station position recorded by soft-bottom.
- Easily set No. of Station coordinates throughout the entire track and displayed station locations graphically in the software.
- Easy programmable few motion profiles (velocity, acceleration, and deceleration) at any different section or between stations.
- Easily configure cross-over station function commanding multiple movers synchronously in line at multiple common stations and leave synchronously in group to next multiple stations.

Other Control Features

- Support up to 250 movers and controls to stop / move independently at any precise position
- Support system max length up to 500m.
- Beside system default global speed, speed limits can also set to specific zones.
- Acceleration and Velocity can set limitation during commissioning the system.
- There is a hardware emergency stop interfaced in the iTS Controller for immediate stop all the movers.
- Complete traceability through diagnostic software, tracking all stator modules, movers and communications status.
- iTS provides three diagnostic levels including error codes and recommended solutions.
- Configuration parameters can be imported, exported, backed-up and copied.
- Multiple PLCs/IPC's can divide into controlling different sections or different stations throughout the whole production line simultaneously.

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www.imsmotion.com
enquiry@imsmotion.com
04-2863380

No.59, Jalan Hijauan Hills 2, Hijauan Hills, 14200
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©Shanghai Golytec Automation Co.Ltd
©ADD. Building 8, No.333 Wanfang Road, Minhang District, Shanghai
©TEL. 021-5219-0166
©Mobile. 180-1935-3097 (East China)
181-3820-8713 (South China)
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