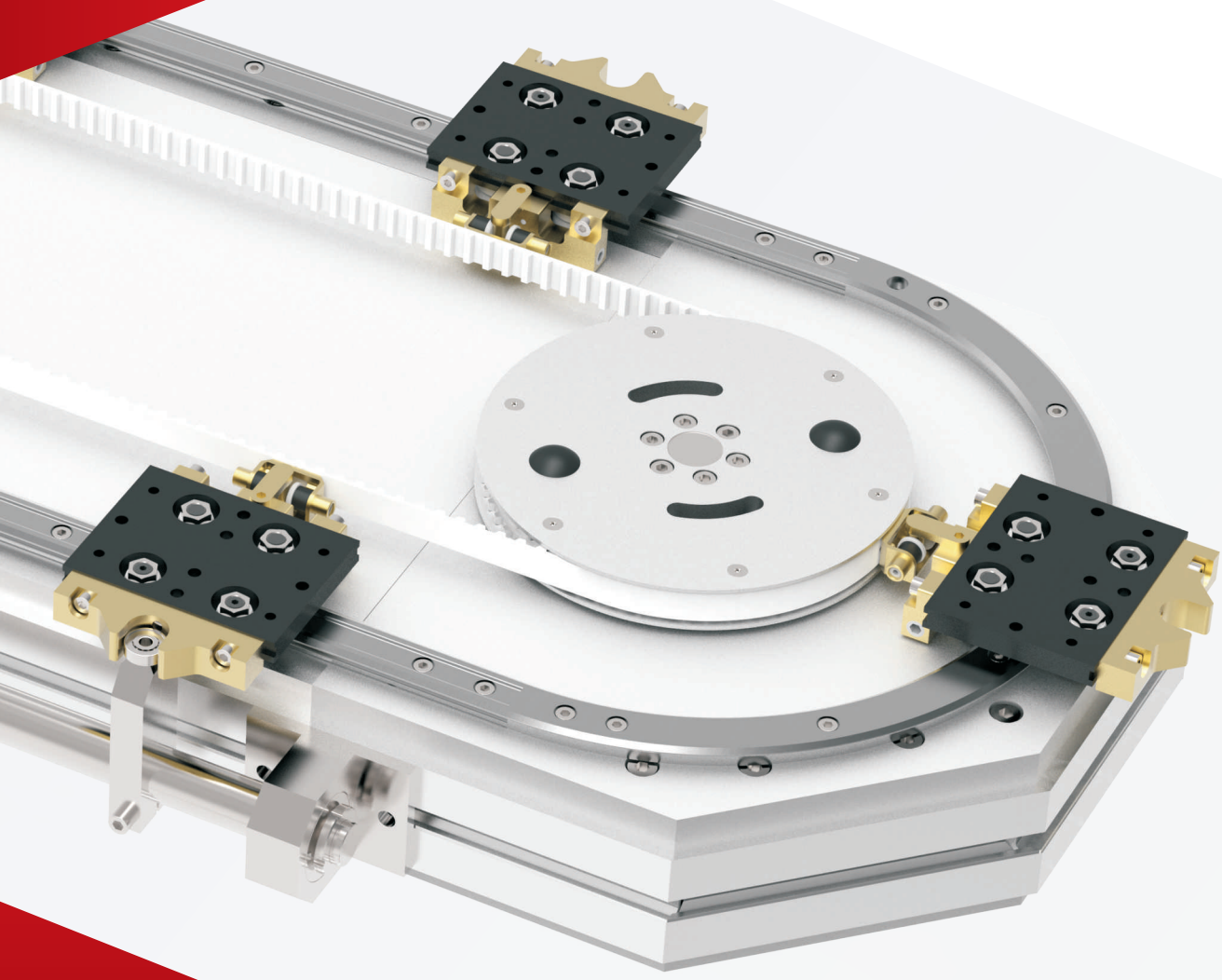
SAIBO
Innovation in Motion



CIRCULAR CONVEYOR MODULE

SAIBO is one of world recognized manufacturers and suppliers of precision bearings and linear motion components.

Since 1998, SAIBO started business from producing precision bearings, and extended to bearing-related linear guides in 2006. Now SAIBO group has developed to two factories (bearing and linear motion) with over 300 employees and 20000 square meters workshops total.

SAIBO bearing factory mainly produces deep groove ball bearing, super slim section bearing, angular contact ball bearing and linear ball bearing etc.

SAIBO linear motion factory mainly produces telescopic rail, ring and curve rail, circular rail and its module system, aluminum body rail, linear shafts etc.

We take the road of internationalization and integrate global advanced technology and high-quality resources. We purchase key materials and technology from Germany and the other European countries to ensure the quality. We rely on the talents meanwhile we train and develop them to grow with SAIBO together.

SAIBO means always pursue higher aim. We seek to work with you and promise the following:

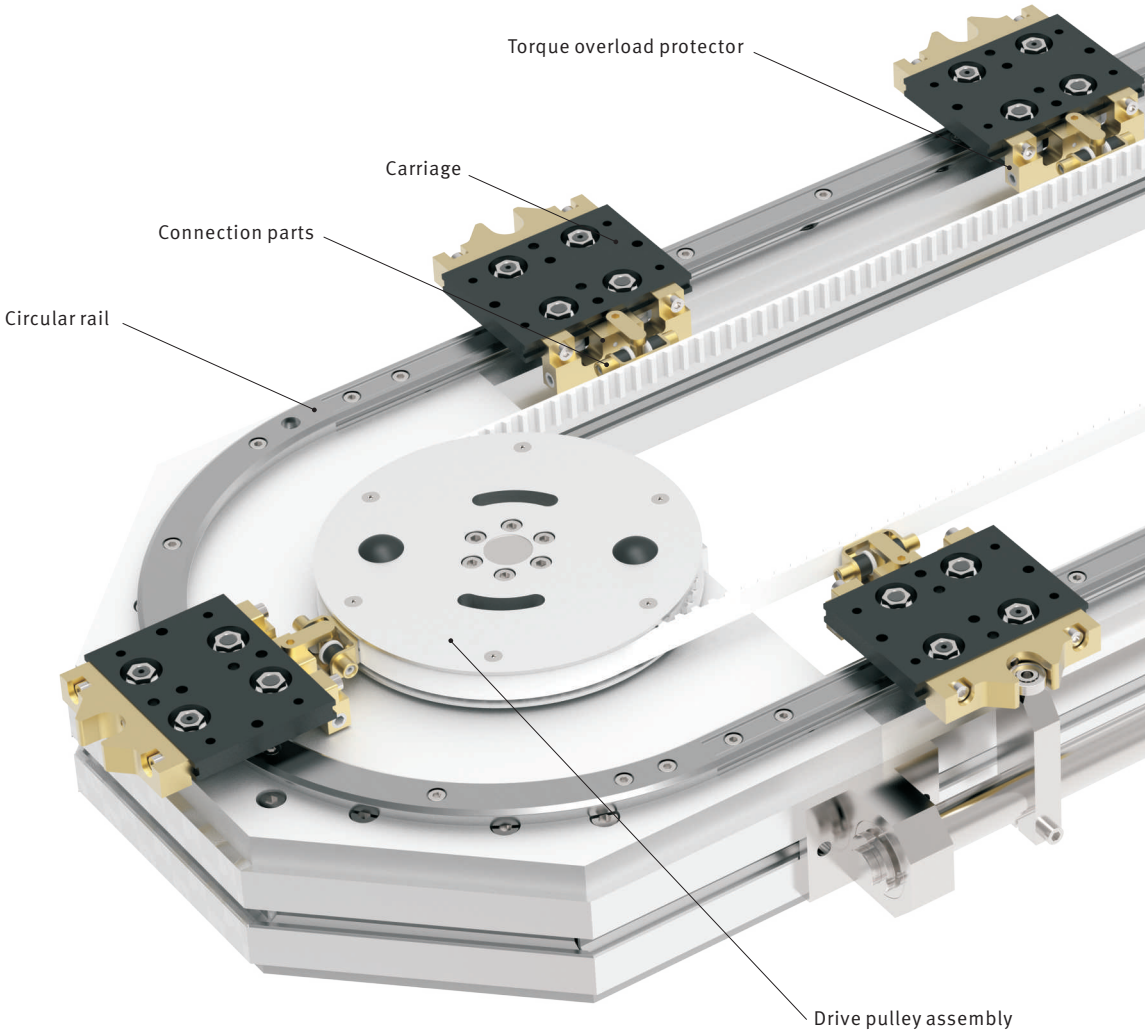
- The right product from your application
- A quality product you can trust
- Engineering assistance that is proven and world renown.

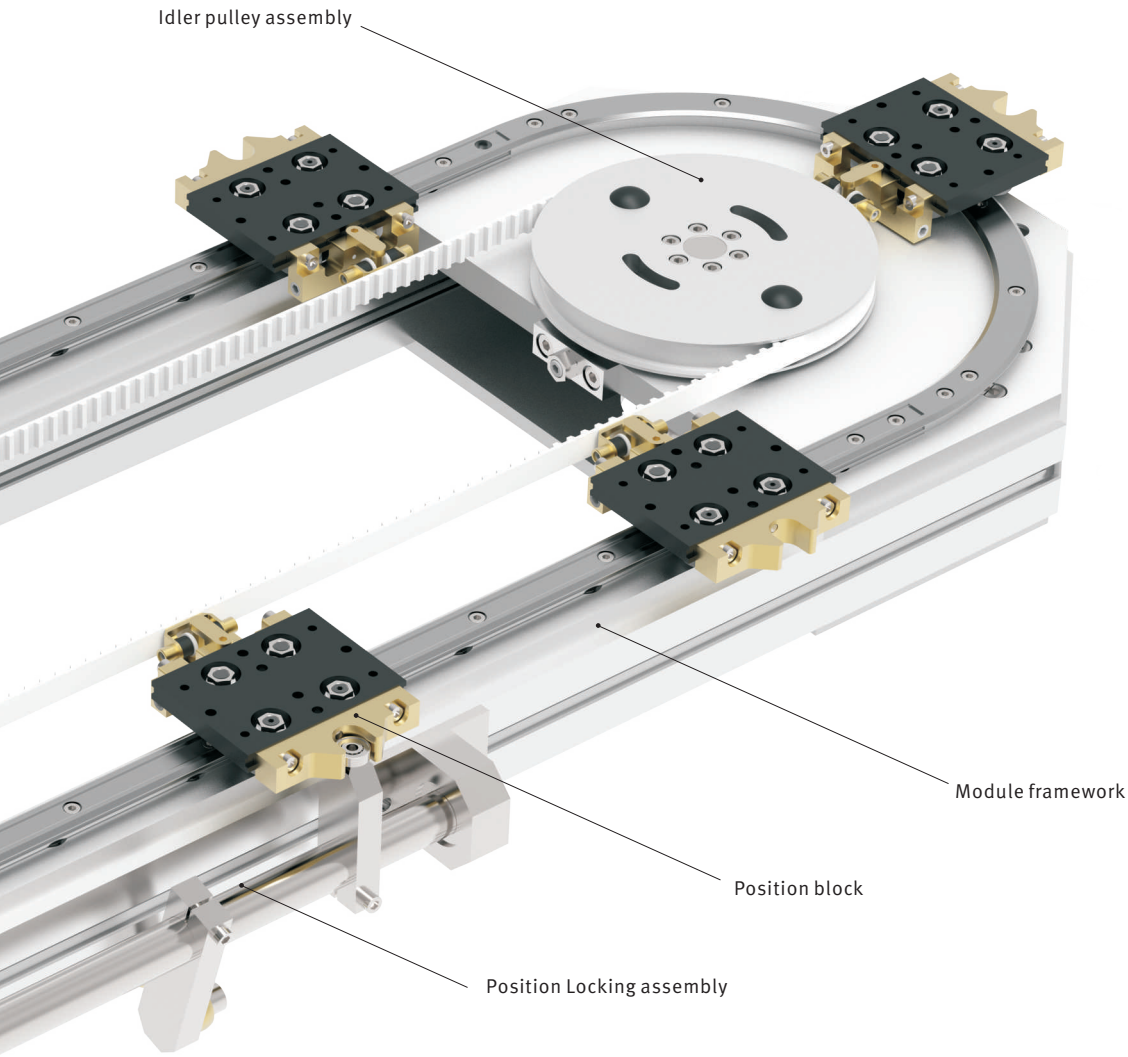
SAIBO is located in WUXI, east China. Wuxi is famous for being one of the birthplaces of Chinese modern industry. Welcome you visit us.

Oval Circular Conveyor Module

SAIBO curve and ring rails' main application is oval circular conveyor module which is driven by timing belt. SAIBO has standardized these conveyors to a series of modules. The module has following advantages: simple structure, Stable and reliable performance, high speed, high positioning accuracy etc.

Main components are linear and ring rails, carriage with rollers, teeth belt and pulleys, connection parts between teeth belt and carriages, position device etc.





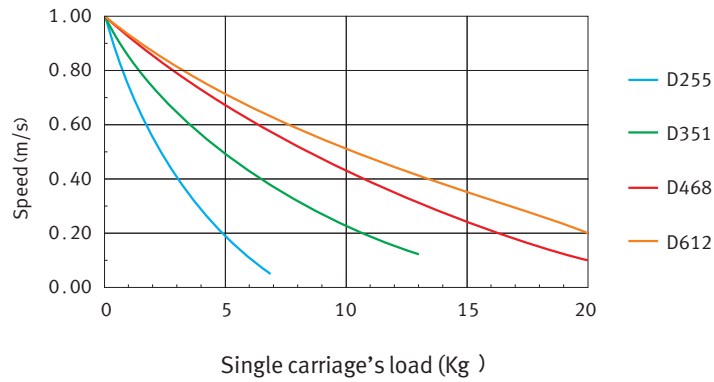
- All parts designed standard
- Supply individual components
- Stainless steel components are available

Convey Capacity

Single carriage's load capacity and running speed are two most important indicators of conveyor capacity. Normally the greater load on the carriage, the smaller speed it runs.

According to ring rail's diameter, there are four standard size circular conveyor modules. They are D255, D351, D468 and D612. Below chart shows the reference between carriage's load capacity and speed in the condition of horizontal installation.

The reference between carriage's load capacity and speed



Above chart data is tested in the conditions of

1. Conveyor is installed horizontal and the rail is in well lubricated.

2. Load gravity center is located at the center of the carriage meanwhile the load does not exceed carriage's space.

3. Appropriate temperature and humidity, clean working condition.

Carriage's quantity is another one of important influence factors of convey capacity. Long rails with a big number of carriages will make single carriage's load capacity smaller at a constant driving force. Please contact us when need those special applications. We provide professional solutions.

Recommend Load

Size	Recommend Load		Max Load	
	Load for Single Carriage (Kg)	Speed (m/s)	Load for Single Carriage (Kg)	Speed (m/s)
D255	3	0.4	6	0.1
D351	5	0.5	12	0.1
D468	10	0.5	20	0.1
D612	10	0.5	20	0.2

Stability and Reliability

1. Based on the design criteria of this ring rail, one of rollers will develop a small clearance momently when carriage running across the joint of straight rail and ring rail. This frequent on-and-off clearance is a small shock for this conveyor. We optimize the parameter to reduce the clearance value and then reduce the shock. But it could not completely eliminate.

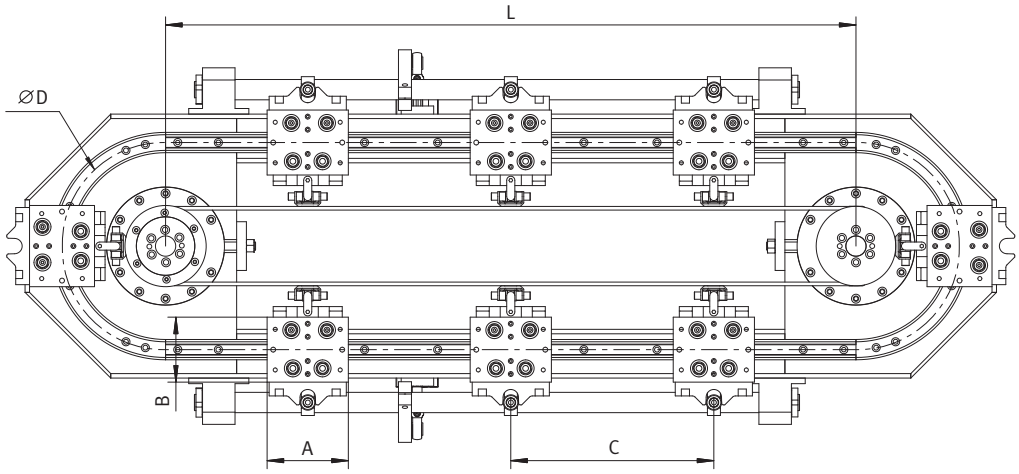
2. High speed, big load or big arm of the force will enlarge above shock.

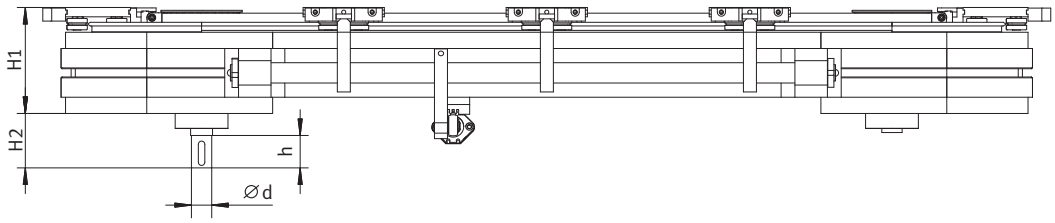
Strongly Recommend

We strongly recommend size D351 and D612 modules. Because these two size rails momently clearances are smaller than other sizes. Furthermore our numerous applications proved these two size conveyors are most stable and reliable.

Module Parameter

MOV25-D255R180-L-CA-□





Ring Rail Diameter ∅D	A	B	H1	H2	∅d	h
∅255	100	80	130.5	67	25	39.9

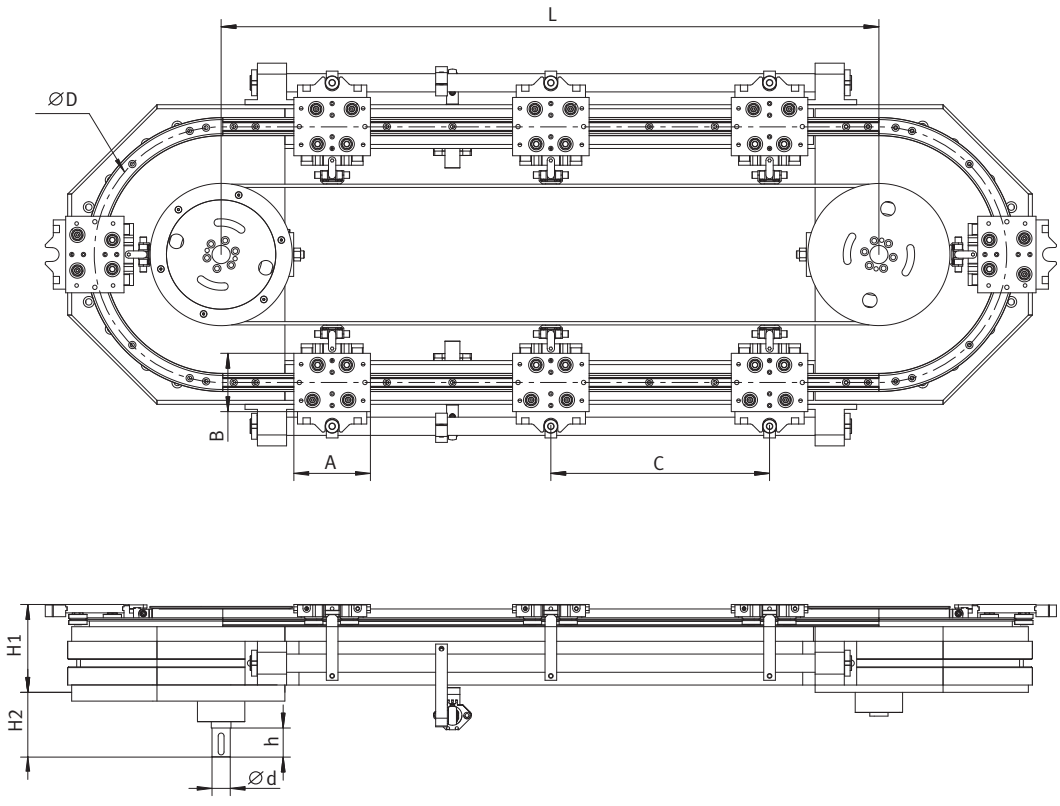
1. Circular Rail Type Number: SB-LGV25XL-CR25 255 R180 CA □

   Carriage Type Number: SRC25 255

2. Carriages' distance C could be customized set. We suggest C≥110 when position locking system applied.

3. Linear rail length L should be determined by carriage's number and distance.

MOV25-D351R180-L-CA-□



Ring Rail Diameter ∅D	A	B	H1	H2	∅d	h
∅351	105	80	130.5	67	25	39.9

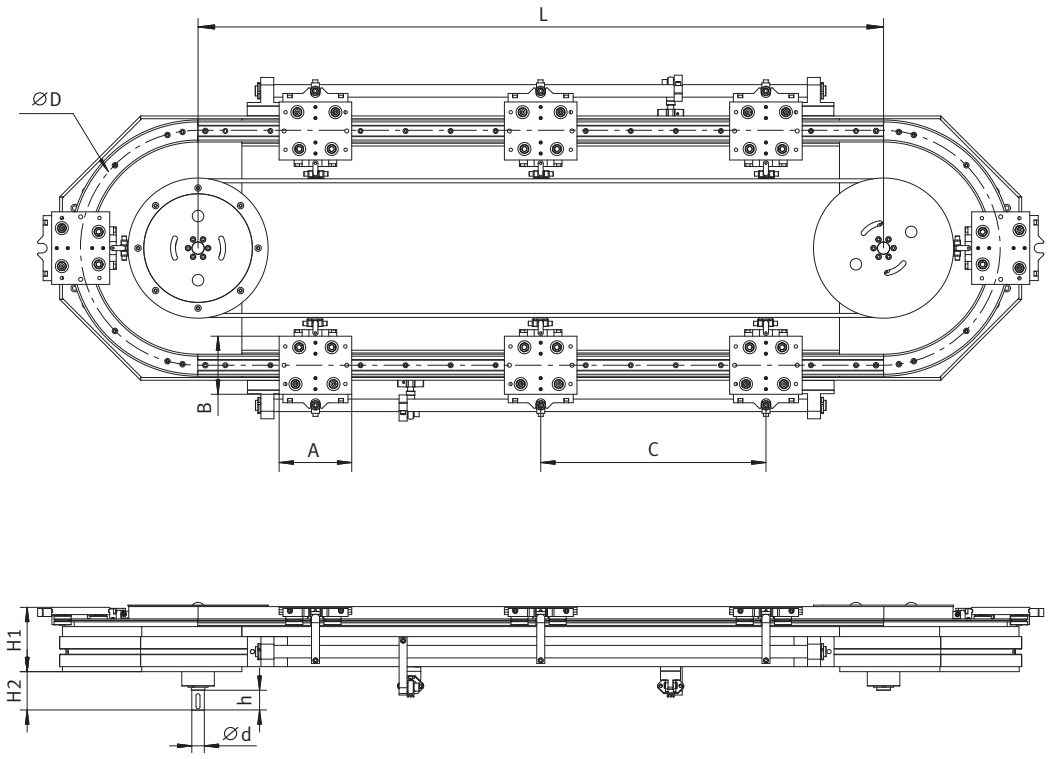
1. Circular Rail Type Number: SB-LGV25XL-CR25 351 R180 CA □

   Carriage Type Number: SRC25 351

2. Carriages' distance C could be customized set. We suggest C≥180 when position locking system applied.

3. Linear rail length L should be determined by carriage's number and distance.

MOV44-D468R180-L-CA-□



Ring Rail Diameter ∅D	A	B	H1	H2	∅d	h
∅468	145	116	138.5	67	25	39.9

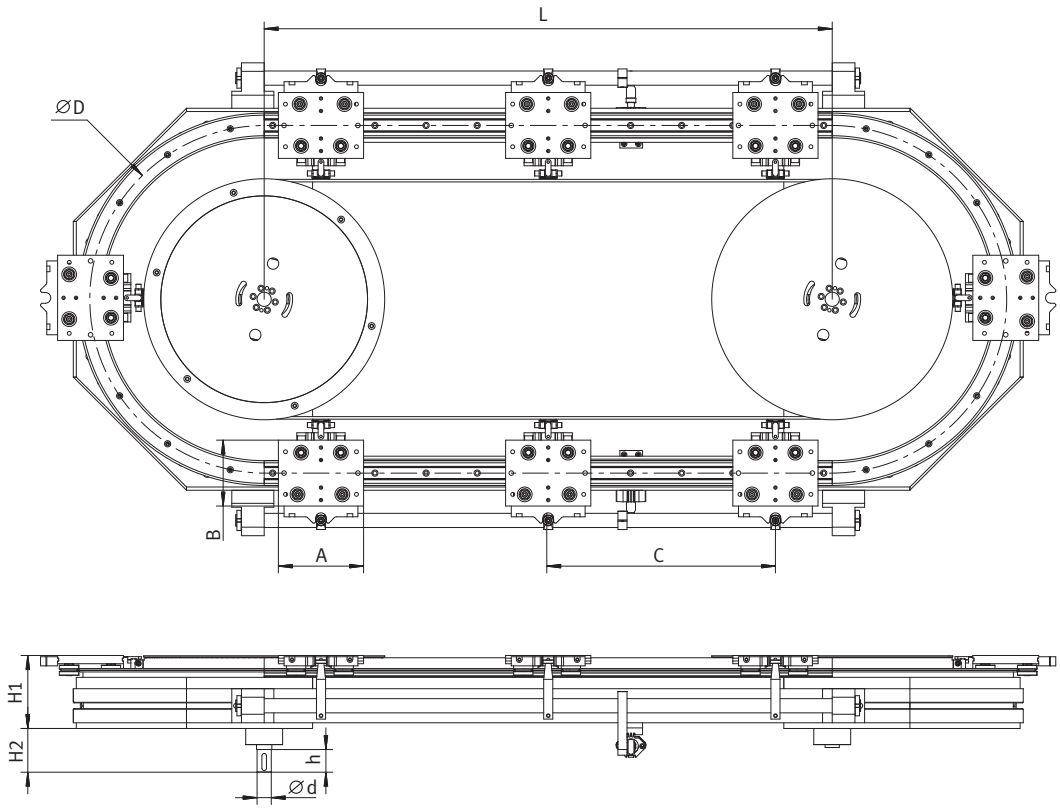
1. Circular Rail Type Number: SB-LGV44XL-CR44 468 R180 CA □

   Carriage Type Number: SRC44 468

2. Carriages' distance C could be customized set. We suggest C≥270 when position locking system applied.

3. Linear rail length L should be determined by carriage's number and distance.

MOV44-D612R180-L-CA-□



Ring Rail Diameter ∅D	A	B	H1	H2	∅d	h
∅612	150	116	138.5	67	25	39.9

1. Circular Rail Type Number: SB-LGV44XL-CR44 612 R180 CA □

   Carriage Type Number: SRC44 612

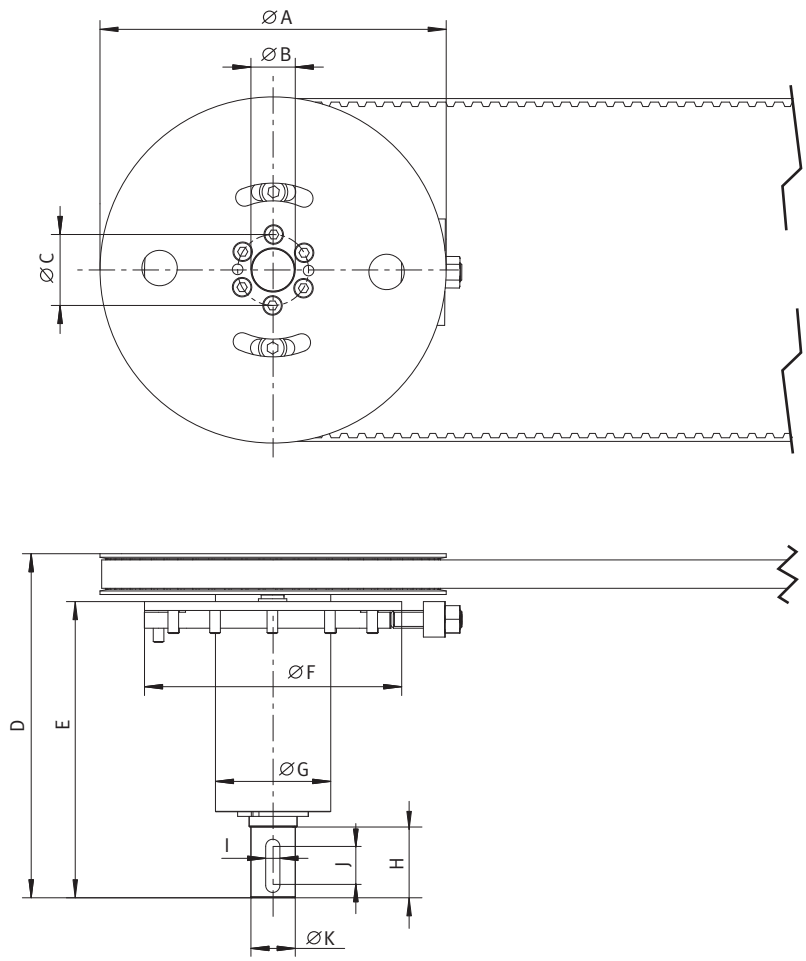
2. Carriages' distance C could be customized set. We suggest C≥370 when position locking system applied.

3. Linear rail length L should be determined by carriage's number and distance.

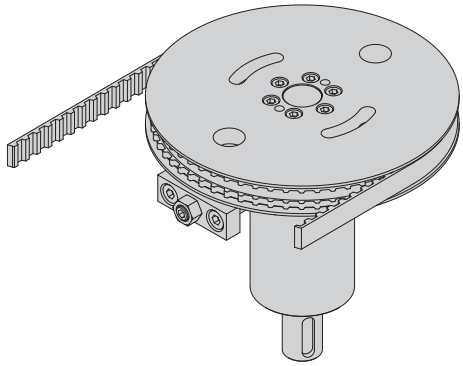
Standard Components

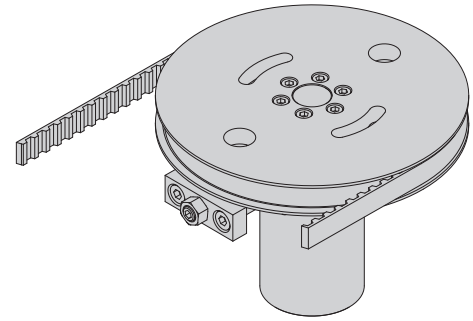
SAIBO not only supply complete conveyor modules, but also supply standard components. Main components are Drive pulley assembly, Idler pulley assembly, Timing belt and Connection assembly, Position locking assembly etc.

Drive pulley assembly

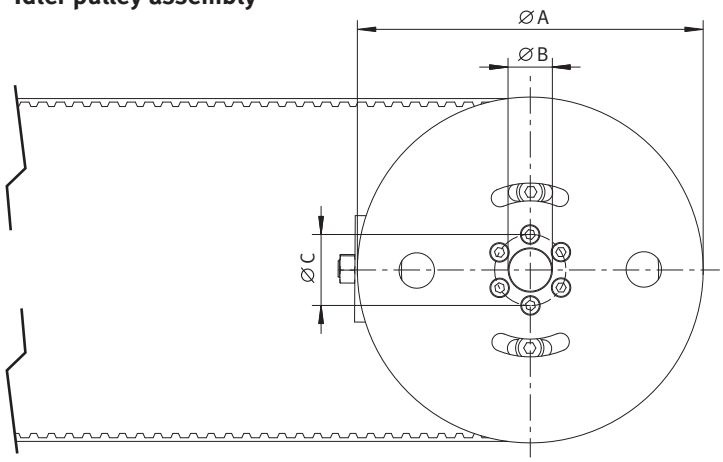


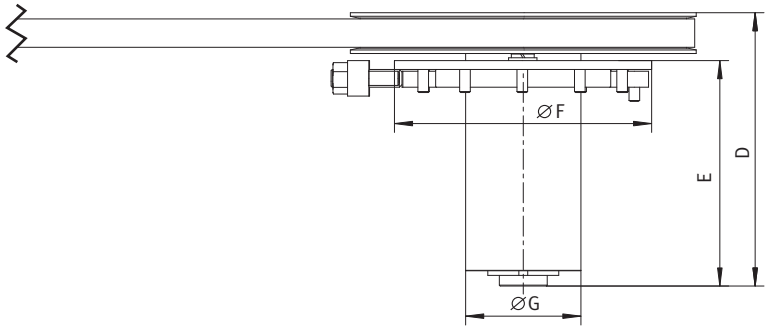
Type Number	ØA	ØB	ØC	D	E	ØF	ØG	H	I	J	ØK	Teeth Width – Shape	Teeth Number
MPT2530	100.2	25	40	194	167	145	65	39.9	8	22	25	16-AT10	30
MPT2531	195.2	25	40	194	167	145	65	39.9	8	22	25	16-AT10	60
MPT4430	278.2	25	40	205	167	145	65	39.9	8	22	25	32-AT20	43
MPT4431	424.2	25	40	205	167	145	65	39.9	8	22	25	32-AT20	66





Idler pulley assembly

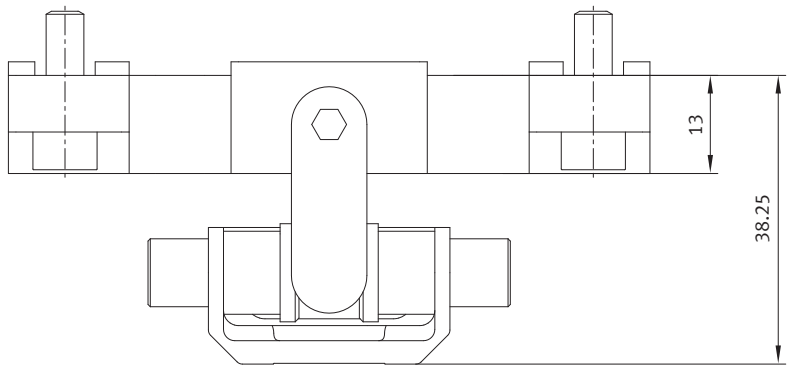


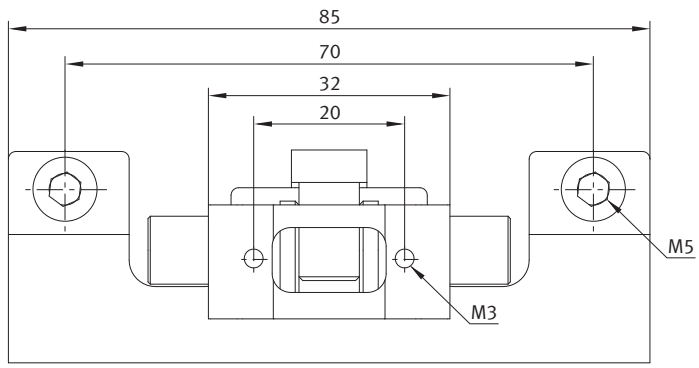


Type Number	∅A	∅B	∅C	D	E	∅F	∅G
MPT2540	100	25	40	154	127	145	65
MPT2541	195	25	40	154	127	145	65
MPT4440	278	25	40	165	127	145	65
MPT4441	424	25	40	165	127	145	65

Connection Assembly

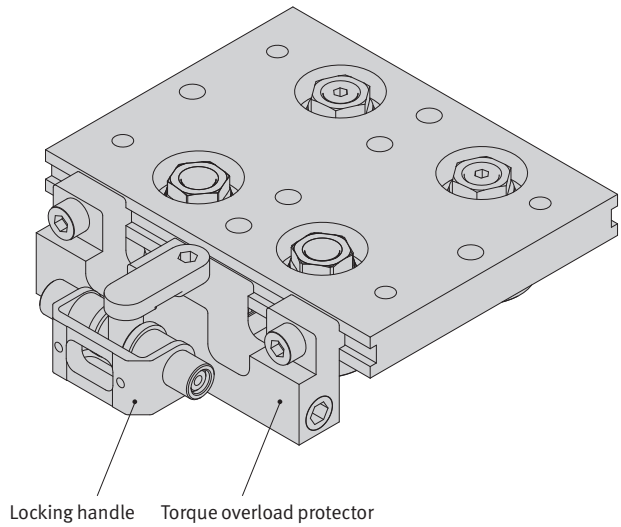
Connection assemblies are used to join the carriage to the timing belt. It contains two components, a locking handle on the belt and a Torque overload protector on the carriage. There are two rubber damping rings on locking handle to reduce shock during running. This connection assembly make the conveyor to realize flexibility, stablity and reliability.

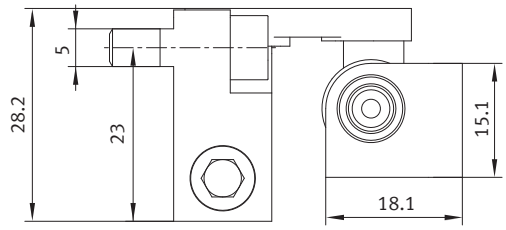




Torque overload protector

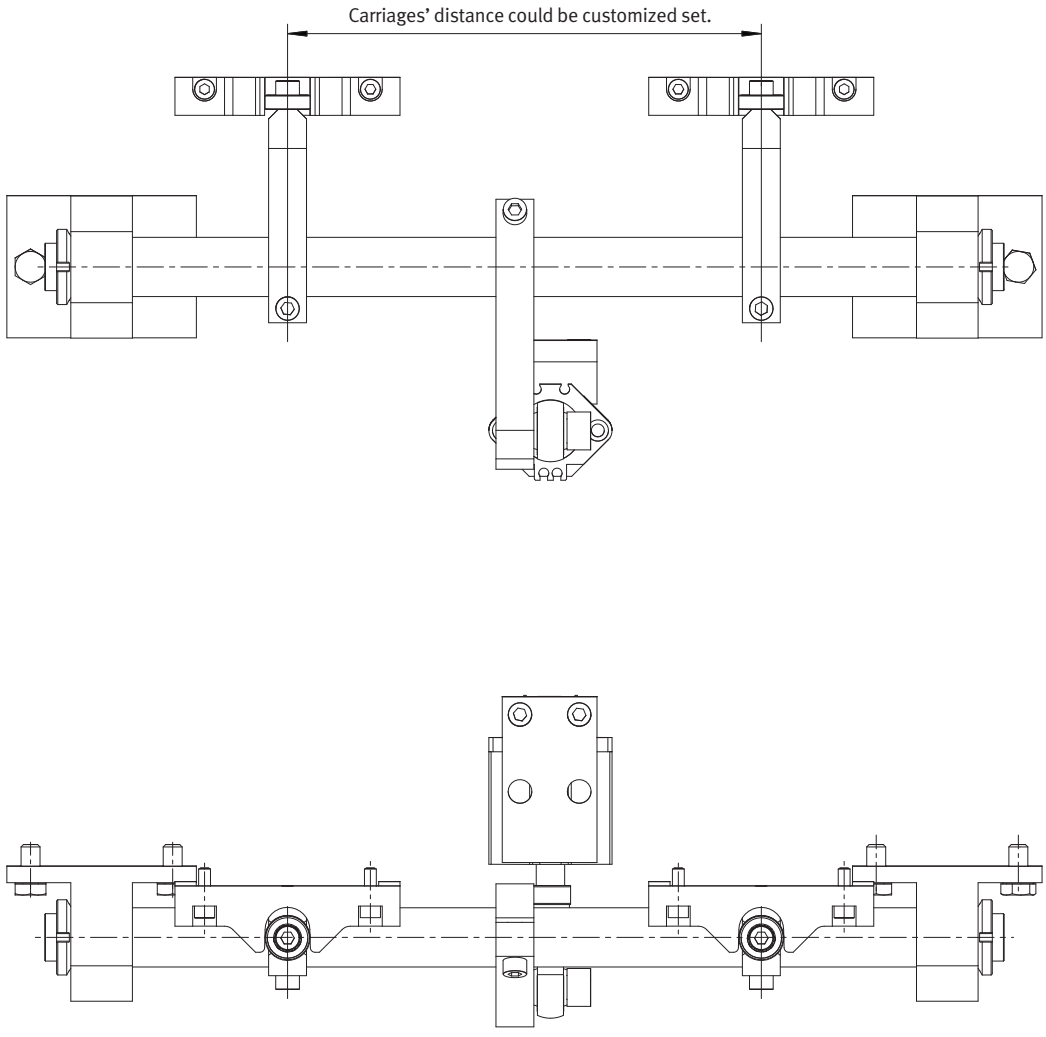
Torque overload protector is to protect the conveyor when it is overloaded. There are two adjusting screw to set torque value. Locking handle and Torque overload protector are made of qualified brass with perfect performance and beautiful outlooking.

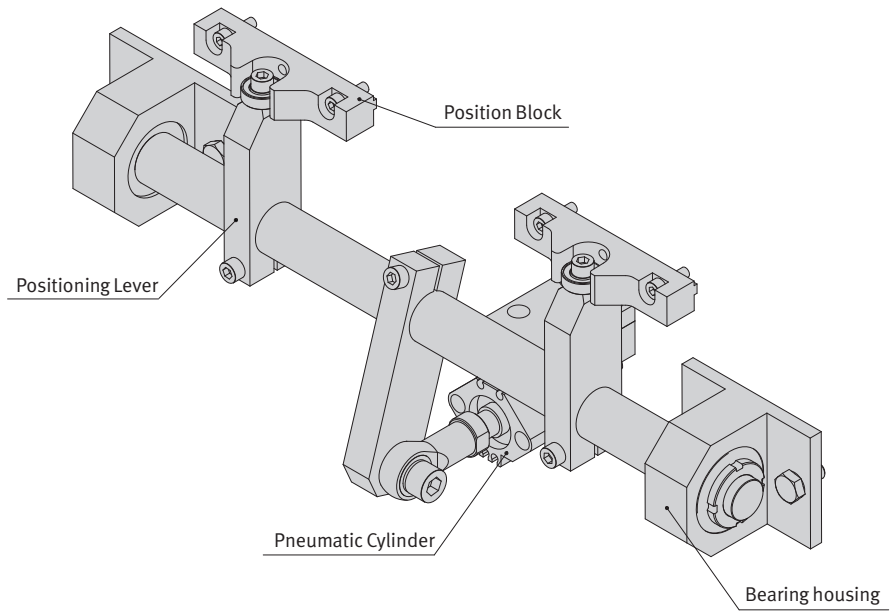


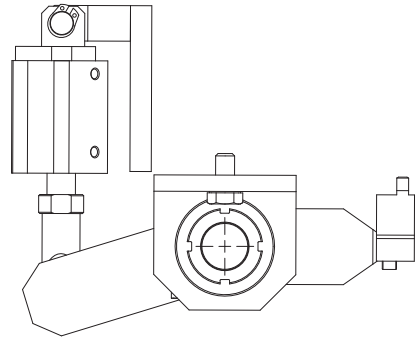


Position Locking Assembly

This device principle is to achieve accurate position by swinging the positioning lever and locking in the positioning groove. Swinging motion is driven by a pneumatic cylinder which can realize accurate positioning rapidly. The advantage of this device is that it does not interfere the accuracy and stability of the carriage.

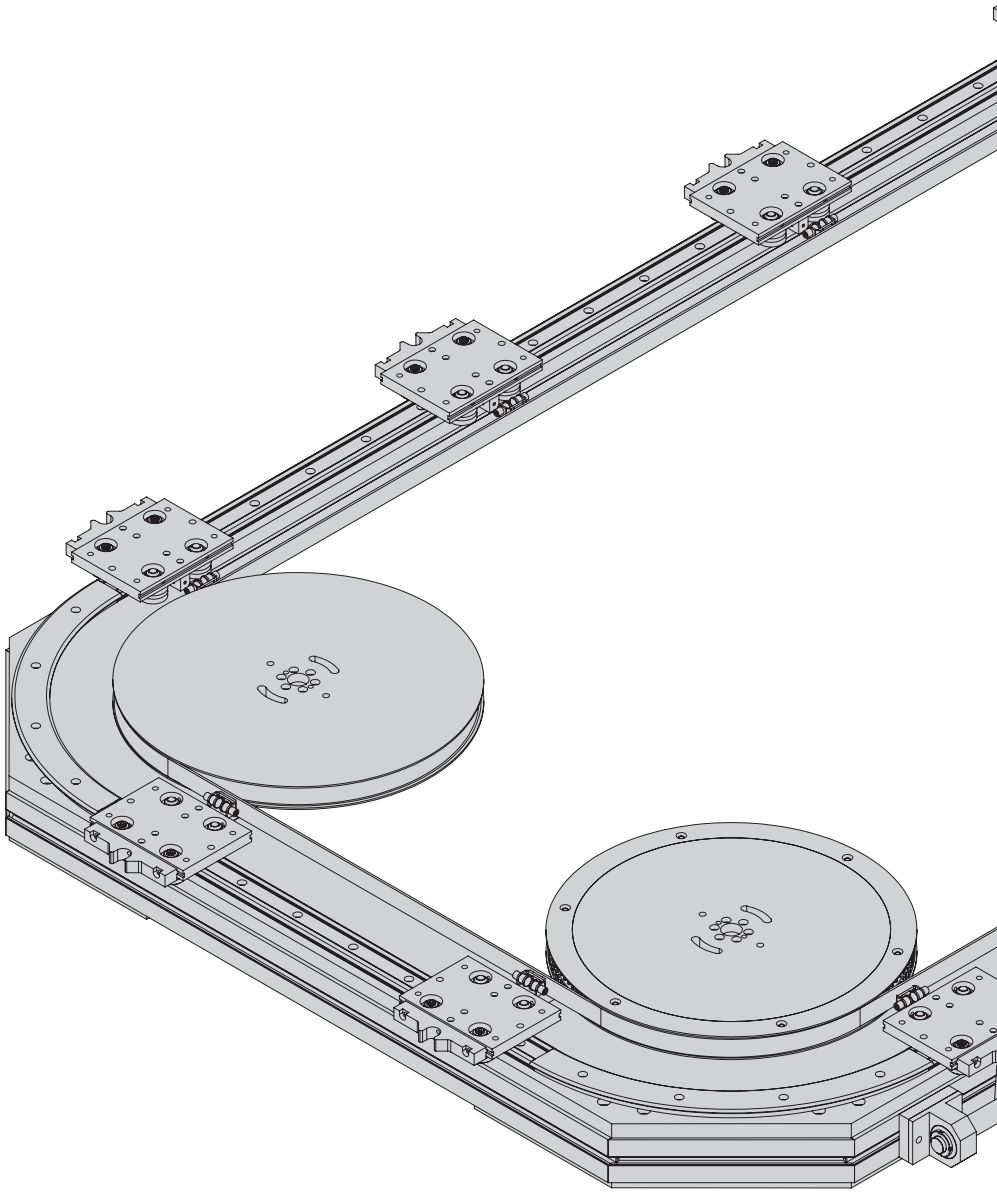


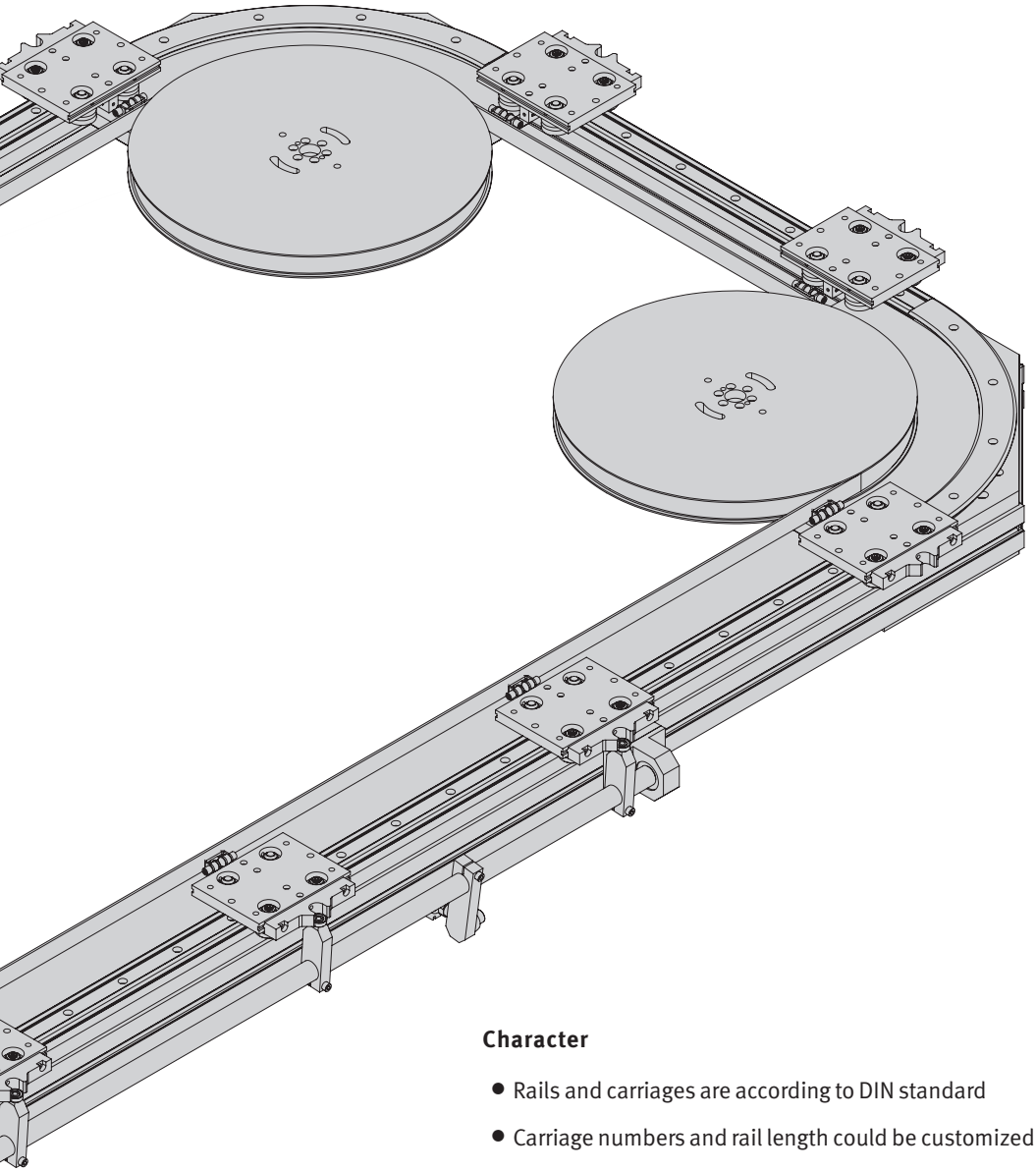

Position Block
Positioning Lever
Pneumatic Cylinder
Bearing housing



Rectangle Circular Conveyor Module

There are four linear rails which could increase the number or working station. So Rectangle Circular Conveyor Module is often used in automation industries. Power transmission component could be belt or chain. If load is big and speed is lower, chain is a good option. Rectangle circular conveyor's components are interchangeable to Oval circular conveyor module.

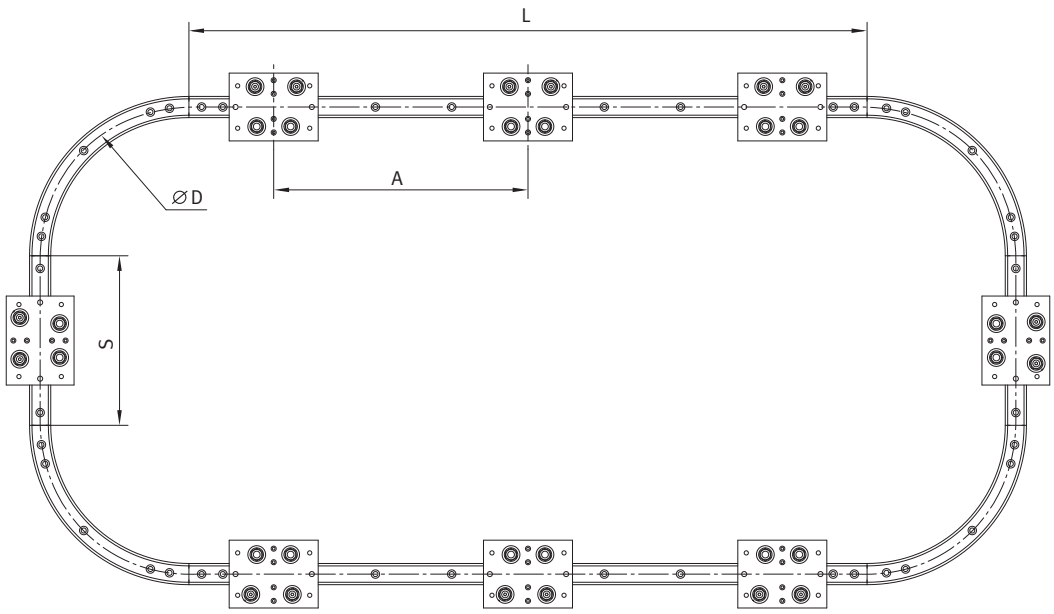




Character

- Rails and carriages are according to DIN standard
- Carriage numbers and rail length could be customized set
- Position assembly could be applied to realize accurate positioning
- Four linear rails increase the number or working station
- All component could be treated for anti-corrosion

Rectangle Circular Conveyor Module

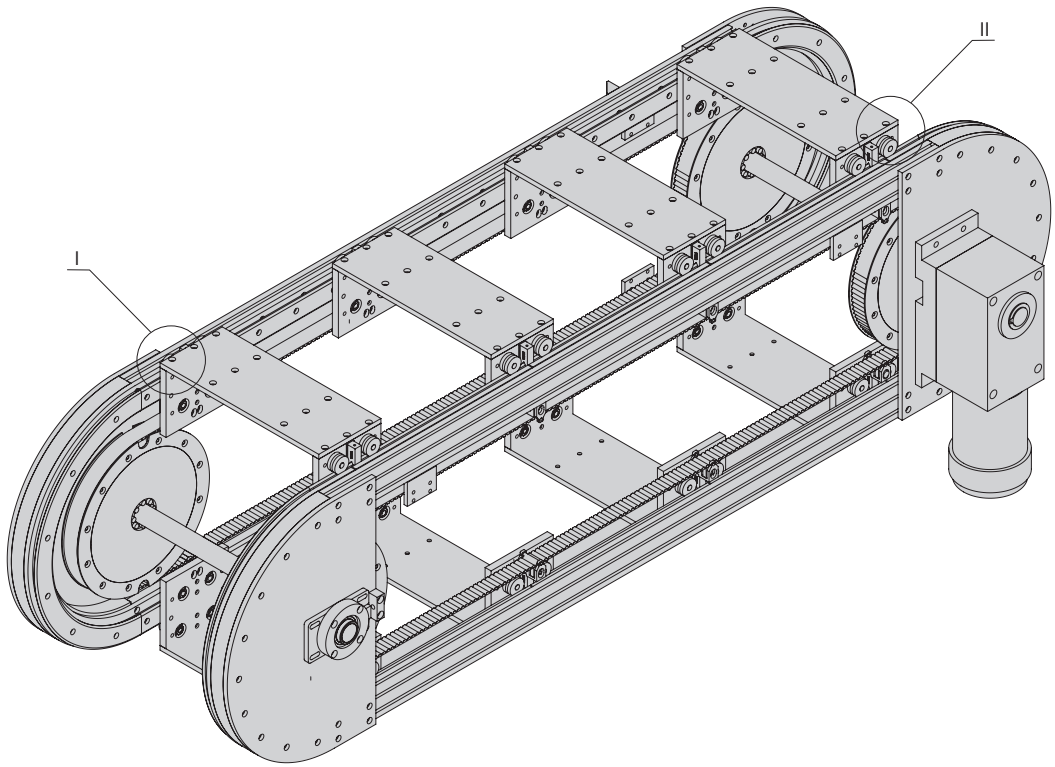


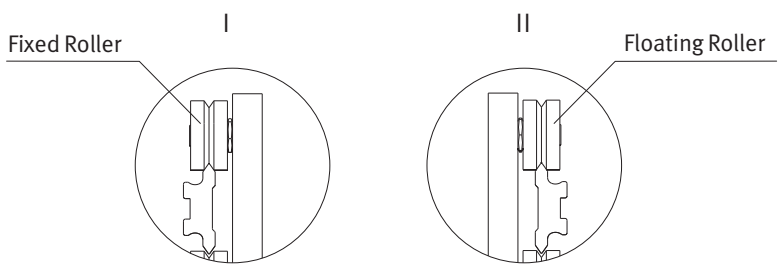
Size selection consideration

- Load capacity on each carriage
- Working speed and beat
- Distance between carriages and carriage number
- Linear rail length L and S
- Ring rail diameter ∅D

Dual Oval Circular Conveyor Module

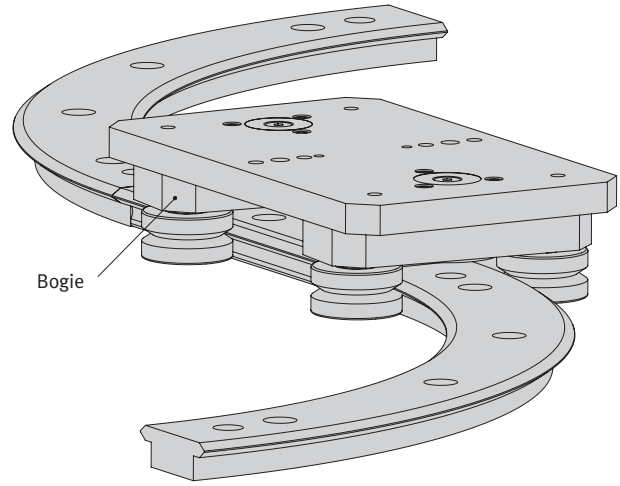
This module mainly transfers big size or long shape load. To achieve heavy duty transmission power, heavy duty timing belts are applied. To compensate for the parallel deviation of two oval rails, Floating rollers are used on one size rails.





S Shape Rail

SAIBO build S shape rail with ring rails and linear rails. As below figure, two rollers fixed in each bogie. Two bogies fixed the carriage block. Two bogies could rotate individually in different directions. Then Bogie structure carriage achieves smooth running.



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