

FATA AUTOMATION

Power Roll Beds Normal Application

Product Information

2022 Edition



FATA Automation - About the Company



▲ FATA Automation Headquarters, Auburn Hills, MI

FATA Automation is a global company with expertise in design, engineering, manufacturing, fabrication, installation, start-up and training of material handling systems.

We have experience in:

- Automated Storage and Retrieval Systems (ASRS)
- Carrier/Skid Design
- Electrified Monorail Systems (EMS)
- Geo Pallet Conveyor
- Pendulum Conveyors
- Process Conveyors
- Skid Conveyor Systems
- Skillet Conveyor Systems



For over 85 years, FATA Automation has been supporting manufacturing companies worldwide for a variety of industries including automotive, heavy equipment, engine, marine, defense, renewable energy and vehicle parking.

FATA Automation's Headquarters is located in Auburn Hills, Michigan - an ideal location at the center of the automotive industry. We also have satellite offices in Mexico and Italy.

Our Mission

FATA strives to be the industry's premier automated materials handling supplier. We evaluate and implement new technologies and best practices to deliver solutions catered to our customers' needs in order to give them a competitive advantage. Our goal is to provide quality, economical products and services on a schedule that satisfies or exceeds our customers' expectations.

Skid Conveyor Systems



▲ Power Roll Beds shown carrying vehicle bodies in an automotive plant.

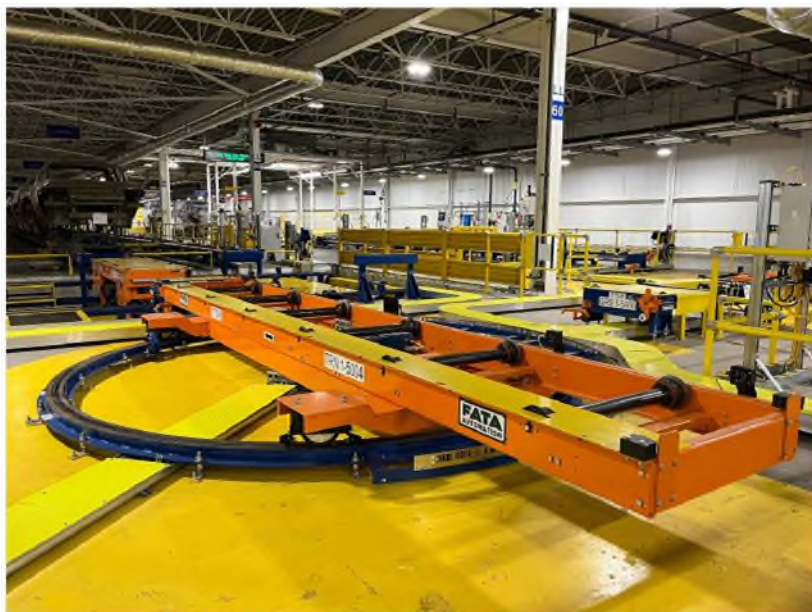
FATA Automation is a global leader in supplying skid conveyors having installed over 175 systems, amounting to over 80 miles (130 km) of conveyor dating back to 1977.

Skid conveyors transfer a product carried on fixtures with two longitudinal runners called skids. They offer an efficient and quiet mode of transport in both longitudinal and transverse directions. Standard designs are available for both dry and wet area applications up to a 4410 lb. (2000 kg) load with roller bed transfer speeds up 354 fpm (108 m/m). Custom engineered designs are also available for loads up to 10,000 lbs. (4536 kg).

Skid conveyor products are modular in design using on-board motor controllers, proximity switches, belts, rollers, and gearmotors.

The advantages of Skid Conveyor Systems include:

- High/variable Speed Process Capabilities
- Repeatability at +/- 2mm
- Modular Component Design
- Multiple Product Capability
- Wide Range of Conveyor Speeds, Production Centers and Rates
- Negligible Downtime Potential
- Minimal Downtime for Model Changeover
- No Lubrication System Requirement
- No Impact Accumulation
- Quiet Operation
- Cleanliness



▲ Turn Table



▲ Vertical Drop Lift (VDL)

Skid Conveyor Products Include the following:

- Powered Roll Beds/Stand
- Cross Transfer Conveyors (Belt/ Chain/ Plastic Chain)
- Eccentric Lift Roll Pop-Up/Hold Tables (Used w/ Cross Transfers)
- Turn/Pivot Tables
- Shuttle Beds
- Lift Tables (Eccentric/Scissor)
- Production Conveyors (Chain/Belt)
- Vertical Drop Lifts
- Stacker/De-stackers
- Accumulation Conveyors
- Docking Station/Skid Pull-Off
- Positioners
- Skid Bases

Skid Conveyor Specialty Products Include the following:

- Skid Lock/ Unlock Device
- Shuttle Rotate
- Cross Transfer Shuttle
- Tilt Tables
- Custom-engineered designs are available for unique applications and special heavy loads.

Power Roll Beds & Stands Gallery (Normal Application)



▲ Power Roll Stand – 1 Roll



▲ Power Roll Bed – 2 Roll



▲ Power Roll Bed – 3 Roll



▲ Power Roll Bed – 4 Roll



▲ Power Roll Bed – 5 Roll



▲ Power Roll Bed – 6 Roll



▲ *Power Roll Bed – 7 Roll*

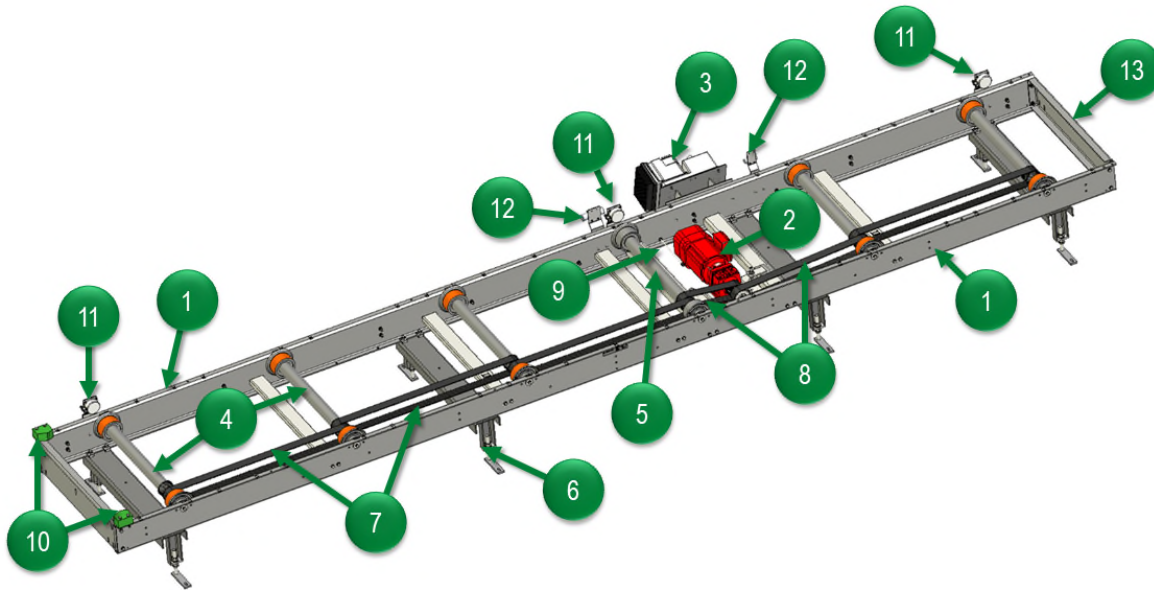


▲ *Power Roll Bed With Full Covers – 8 Roll*



▲ *Power Roll Bed – 9 Roll*

Power Roll Bed Typical Components



▲ Power Roll Bed – 3D rendition of 6 Roll shown with covers removed to show detail.

- | | | |
|-------------------------------------|---------------------|-----------------------|
| 1 Side Frames | 6 Adjustable Feet | 11 Proximity Switches |
| 2 Gearmotor* | 7 Driven Belts | 12 Tee Brackets |
| 3 Integrated Drive Controller (IDC) | 8 Drive Belts | 13 Dashboard |
| 4 Driven Rollers | 9 Motor Brake Level | |
| 5 Drive Roller | 10 Lead-In Blocks | |

* - Gearmotor may be installed internally or externally of PRB frame depending on application and customer specifications.

Main Components

Power Roll Beds are a major element of FATA Automation's Skid Conveyor Systems. The products are modular in design using common components such as motors, belts, rollers, switches, cords, and trunk cables as a complete package.

The side frame of a Power Roll Bed is made of bended Z-profile that mounts the carrying rollers. These side frames have a height of 200mm and in the front and rear of the Power Roll Beds are connecting ends called dashboards.

Underneath the frame are mounted support feet that are adjustable for a height range of 25mm. The typical height from top of floor to the bottom of the skid is 500mm.

The length of Power Roll Beds ranges from 1 roller (bed length 310mm) to 9 rollers (bed length 8862mm) available. At least one drive roller assembly in each Power Roll Bed is made completely out of steel in order to discharge static voltage from the skid.

The standard track width is 800mm from center to center of 50mm wide skid runners. The supporting width is 60mm and the distance from roller to roller is 1064mm.

The drive frame unit can either be mounted between the side frames, typically near the center of the bed, or may be externally mounted depending on customer specifications or application.

The gearmotor is connected to adjacent drive rollers with its double tooth pulley fitted to the motor shaft and they in turn are connected to the driven rollers and timing belts to transport skids along the table.

The typical drive roller assembly consists of a flange disc at each side and a polyurethane-coated center (125mm diameter). The continuous solid shaft has internal bearings that are locked at each shaft end.

A variety of cover options are available to protect the belts and pulleys. The complete Power Roll Bed can be covered with full guard plates as an option.

The function of each individual Power Roll Bed is ensured by the integrated drive controller (IDC).

Unistrut is laterally mounted on one side plate. Adjustable proximity switch brackets are mounted on the Unistrut as well as any TEE and IDC brackets.



▲ Close up of a Power Roll Bed drive frame showing a gearmotor, double pulley and drive belts.



▲ Power Roll Bed with drive mounted externally.



▲ Driven roller assembly.

Technical Data by Power Roll Bed Type



▲ Power Roll Beds as shown with robots in an automotive body shop.

PRB Type	Overall Length (mm)	Speed (m/mm)	Weight (kg)
1-Roller Gravity	310	No motor	72
1-Roller Slow Speed	310	4 - 20	124
1-Roller Medium Speed	310	9 - 45	128
1-Roller High Speed	310	14 - 70	137
2-Roller Slow Speed	1414	4 - 20	182
2-Roller Medium Speed	1414	9 - 45	187
2-Roller High Speed	1414	14 - 70	195

Technical Data by Power Roll Bed Type (Continued)

PRB Type	Overall Length (mm)	Speed (m/mm)	Weight (kg)
3-Roller Slow Speed	2478	4 - 20	232
3-Roller Medium Speed	2478	9 - 45	236
3-Roller High Speed	2478	14 - 70	245
4-Roller Slow Speed	3480	4 - 20	310
4-Roller Medium Speed	3480	9 - 45	313
4-Roller High Speed	3480	14 - 70	310
4-Roller Module Mounted Medium Speed (EL stroke 80mm)	3480	9.45	308
4-Roller Module Mounted High Speed (EL stroke 80mm)	3480	14 - 70	317
5-Roller Slow Speed	4606	4 - 20	365
5-Roller Medium Speed	4606	9 - 45	371
5-Roller High Speed	4606	14.70	380
6-Roller Slow Speed	6160	4 - 20	437
6-Roller Medium Speed	6160	9 - 45	441
6-Roller High Speed	6160	14 - 70	453
6-Roller Tooling Speed	6160	21 - 109	631
6-Roller Module Mounted Medium speed (TT)	6160	9 - 45	421

Technical Data by Power Roll Bed Type (Continued)

PRB Type	Overall Length (mm)	Speed (m/mm)	Weight (kg)
6-Roller Module Mounted Medium speed (PT)	6160	9 - 45	426
6-Roller Module Mounted Medium speed (SC)	6160	9 - 45	409
6-Roller Module Mounted Medium speed (SL)	6160	9 - 45	448
6-Roller Module Mounted Medium speed (Stacker)	6160	9 - 45	514
6-Roller Module Mounted High speed (VDL)	6160	14 - 70	392
6-Roller Module Mounted High speed tooling (TT)	6160	21 - 109	451
6-Roller Module Mounted High speed tooling (VDL)	6160	21 - 109	376
6-Roller Module Mounted High speed tooling (ELT 175)	6160	21 - 109	378
7-Roller Slow Speed	6734	4 - 20	478
7-Roller Medium Speed	6734	9 - 45	482
7-Roller High Speed	6734	14 - 70	491
8-Roller Slow Speed	8242	4 - 20	749
8-Roller Medium Speed	8242	9 - 45	752
8-Roller High Speed	8242	14 - 70	765
9-Roller Medium Speed	8862	9 - 45	800

Typical Bevel Gearmotor Drive Unit



▲ Externally mounted gearmotor.



▲ Internally mounted gearmotor.

	Slow	Medium	High	Tooling
Speed [m/min]	4-20	9 - 47	15-70	21 - 109
SEW Gearmotor Type	R37 DRS71S4BE05HR	R37 DRS80M4BE1HR	R37 DRS80M4BE2HR	R37 DRS90L4BE1HR
Voltage [VAC]	480	480	480	480
Frequency [Hz]	60	60	60	60
Drive Power [kW]	0.37	0.75	1.1	1.5
Motor Speed [Min-1 / rpm]	1700	1725	1730	1710
Output Speed [Min-1 / rpm]	60	112	146	175
Ratio	28.33	15.6	11.83	10.11
Output Torque [Nm]	59	63.27	72	81.35

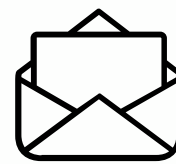
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