

Conveyor System

SANYO DENKI

Description

Conveyor systems continually move objects from one location to another.

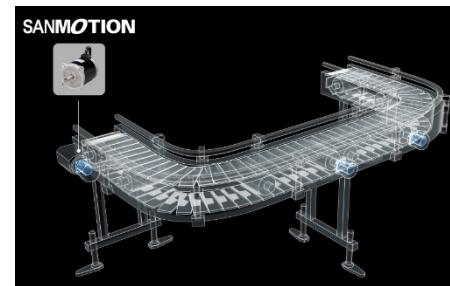
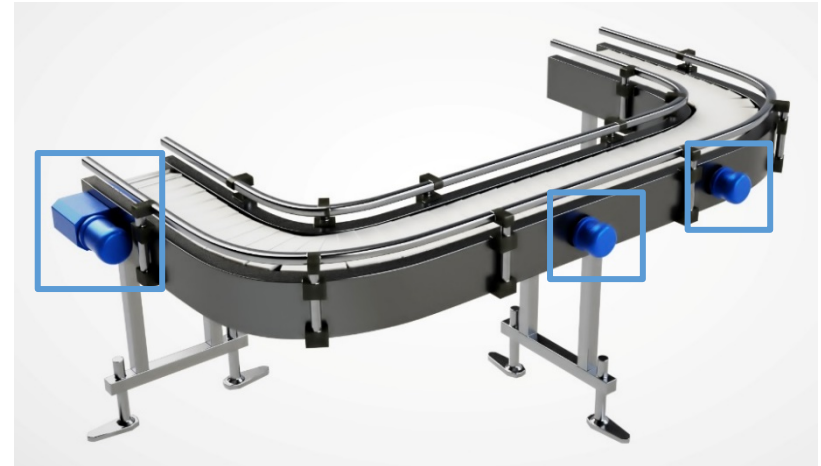
Main types of conveyor systems are "belt conveyor system" and "roller conveyor system." "Belt conveyor system" consists of the belt and the rollers, and the "roller conveyor system" consists of a series of rollers within a metal frame. Both of them are moved by powered rollers using motors.

Induction motor and DC motor are often used in conveyor systems. When speed control in regular intervals is required, such as conveyor moving objects with variable weight, control motor is used.

Low speed synchronous motors are installed to the conveyor rollers at a certain interval in the figure on the right side. Number of rotation is adjusted to the frequency of AC power regardless of load changes.

Application example:

Semiconductor manufacturing equipment, general industrial machines, conveying, cryopumps, and printers.



Synchronous motor



SANMOTION F
STEPPING SYSTEMS

SANYO DENKI Proposal

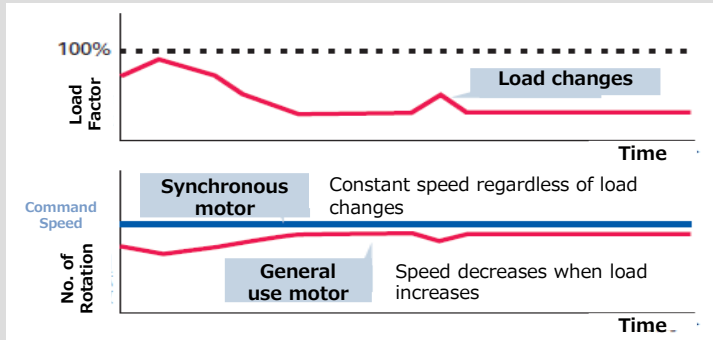
Axis	Motor	No. of Axis	Specifications
Conveyor roller	SANMOTION F2 Synchronous motor	3~6 axes	100 or 200 VAC Motor voltage can be changed to low voltage (e.g. 24 VAC) by custom winding

Features

Synchronous Motor

■ Synchronized to commands

- Number of rotation is synchronized to the frequency of AC power
- Motor runs with accurate speed control without influence by load changes or disturbances.
- Synchronization of several motors is possible.



■ Special drive circuit not necessary

- AC power can be used directly without special drive circuit
- Variable speed operation is possible by using commercially available inverters.
- DC power can be changed to AC by inverter (motor winding change is required)

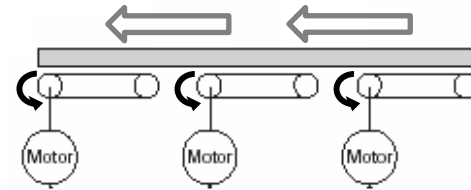
■ Stepping motor based multi-polar motor

- Rotor and stator of synchronous motor are the same as those of stepping motors. Synchronous motors can perform synchronized operation and excel at starting, stopping and reversing.
- It provides high torque at low speed operation; low speed operation is possible without gear.

Merits

■ Improved accuracy

- Motors run at a constant speed regardless of the weight of the load, enabling stable and smooth conveyance



■ Total cost reduced

- Driver is not required for each motor like servo or stepping motor as the system is driven by inverter. Moreover, complicated control is not required for application such as conveyor system which only requires constant speed operation. It contributes to total cost reduction and system simplification.
- Customers can select motors with smaller capacity as the motor provides high torque from low to high speed operation.

■ System simplification

- Fewer labor hours required to set up assembly lines.