

Mechatronics Modular Conveyor Belt Systems

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Robotics & Mechatronics

Modular conveyor systems bring a working automated production line to the lab: belt conveyors with motor drives, sensors, pushers and sorting stations link together and integrate with PLCs or microcontrollers for sorting, counting and reject workflows.

Key Features

- Modular belt modules and supports
- Motorised drives with speed control
- Sensor stations (proximity, colour, vision)
- Pusher and gate actuators
- PLC or microcontroller interface

Typical Uses in the Workshop

- Build sorting and counting lines
- Teach sensors, actuation and control
- Simulate factory automation
- Team projects with integrated stations

Safe Operation

1. Assemble the modules on the frame
2. Connect the drives and sensors
3. Program the control logic
4. Test each station separately
5. Run the integrated line and refine

SAFETY NOTES

- Guard the moving belts and drives
- Keep hands and hair clear of the belt
- Wire power with proper protection
- Lock out before servicing
- Keep the line area clear

Maintenance & Consumables

- Check belt tension and tracking
- Clean the belt and sensors
- Lubricate the drives
- Check the wiring and connectors
- Keep the spares for actuators

Specification & Buying Notes

Start with one drive module and sensor stations, expanding as projects grow. Quality modules mate cleanly; cheap systems misalign. Check PLC or Arduino compatibility before purchase.