

Slat Conveyor

Complete Product Guide & Manual

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Washdown Cleanable

Curved Routing

Food-Grade Options

Multi-Material Slats

HeNan Lvlon Industrial Co., Ltd.

Website: <https://www.lvlonmachinery.com> | WhatsApp/WeChat/Phone: +8615290836583 | Email: lvlonxu@gmail.com

What This Machine Is

A slat conveyor uses slats as the carrying surface and moves product horizontally, on an incline, vertically, or around curves. Two structural versions exist: a conveyor chain built from chain, pivot shafts and metal slats, and a metal-plate belt version where angled chain carries metal plates — above 800 mm width, a twin-chain construction is used. The full machine consists of the drive unit (motor, gearbox, drive sprocket), drive shaft, rollers, a screw take-up, sprockets, chain, bearings and the slats themselves.

Its best-known habitat is bottling and canning lines: glass bottles, PET bottles, cans and cases ride the flat, smooth slat surface without tipping or clattering.

Why Production Lines Keep Specifying It

Five reasons. Stability: the carrying surface is flat and smooth, friction stays low, and bottles and jars don't wobble. Material choice: stainless steel, carbon steel and engineering plastics cover everything from food lines to heavy handling. Capacity and accuracy: the chain gives real load capacity, the speed stays accurate and repeatable, and multiple line sections can be kept in sync. Cleaning: slats take direct washdown or even immersion, which is what food and beverage hygiene standards demand. Routing: one line can do horizontal, inclined and steep curve sections, with a small bending radius that fits tight plant layouts.

How the Slat Conveyor Works

Four stages:

1

Drive

The motor turns the gearbox, which turns the drive sprocket; the haulage chain runs as a closed loop.

2

Carrying

Metal or plastic slats fixed to the chain form the load-bearing surface and travel with it.

3

Conveying

Product moves along the slats horizontally or on an incline; curve sections are guided by angled chain or dedicated curve slats.

4

Return cycle

The slats turn at the screw take-up and tail sprocket and start the next pass.

Two things to remember: keep the initial chain tension moderate — too slack and the slats sag, too tight and the bearings pay for it; start empty, unload before stopping, and follow the material-flow order on start and stop.

Specifications

BMF series slat conveyor (feeding capacity and motor power vary with line parameters — reference ranges shown)

Effective Width (mm)	Feed Capacity (m ³ /h)	Material Lump (mm)	Motor Power (kW)	Suitable Feed
1200	65–210	1000	3–5.5	Pulp board, waste paper, etc.
1400	80–255	1200	4–7.5	Pulp board, waste paper, etc.
1600	95–300	1400	5.5–11	Pulp board, waste paper, etc.
1800	110–345	1600	11–15	Pulp board, waste paper, etc.
2000	140–390	1800	15–22	Pulp board, waste paper, etc.
2200	160–430	2000	22–30.5	Pulp board, waste paper, etc.
2400	200–500	2200	30–45	Pulp board, waste paper, etc.
2600	240–600	2400	37–55	Pulp board, waste paper, etc.

Standard slat widths also include 63.5, 82.5, 101.6, 114.3, 152.4, 190.5, 254 and 304.8 mm; common curve slat sizes are 82.5, 114.3, 152.4, 190.5 and 304.8 mm.

Where It Gets Used

Power generation, metallurgy, brewing, chemical, pharmaceutical, food and beverage (bottling and canning lines), waste paper and pulp transport, and machinery manufacturing automation — all standard slat conveyor territory. Food-grade plastic slat lines and high-volume waste paper and pulp handling are two classic applications.

Installation and Commissioning

1. **Selection check** — match the machine and slat type to the material, the routing (straight / incline / curve) and the line parameters (width, height, pitch, speed, load).
2. **Foundation and frame** — set the base or supports per the drawing; align and level the frame, then tighten down.
3. **Slats and chain** — lay the slats to the chain pitch, cut the joints square and connect them properly; never mix slat sizes from different batches.
4. **Tension and drive** — set the screw take-up to moderate initial tension; align the drive sprocket and shaft; fill the gearbox with the specified oil.
5. **Electrical and safety** — check motor wiring and phase sequence; verify the red emergency-stop circuit works.
6. **No-load run** — start empty; watch slat smoothness, tracking and tension stability.
7. **Load run** — start in the material-flow order, feed evenly, and watch synchronization and curve-section behavior.

⚠ Lift by the designated points only — never by motors or sprockets; keep personnel clear of the lift zone.

⚠ During operation, stay clear of the slat runs and the head/tail sprocket nip points; stop and lock out before cleaning or adjusting.

⚠ Hit the red emergency stop immediately on any unsafe condition; after mistracking, noise or chain jams, shut down and inspect before restarting.

First-use rules: start empty, unload before stopping, and follow the material-flow order so the line never starts or stops under load shock.

Running and Maintenance

Mistracking is the most common complaint, and the fix is a three-step routine: re-mount or re-align a loose frame; cut the slat joints square; then correct head/tail wheel misalignment by adjusting the bearing blocks on the offset side. When connector chain links fail, the usual suspects are fatigue from long-term pulsating load, uneven loading after pin or bolt loss, chain-jam shock, or links with inadequate toughness and hardness — check those before anything else.

The daily round: tension in range (sagging or slipping both need attention), slats free of distortion, bearings lubricated on schedule. On food and beverage lines, follow the hygiene washdown procedure after each run and check the bearings for water ingress afterward.