

2TPH Straw Pellet Production Line Complete Product Guide & Manual

Version: V1.0 | Date: 2026-08-18

2 t/h Capacity

Twin Pellet Mills

18–19 MJ/kg

Magnet Iron Guard

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What This Line Is

This is a 2TPH straw pellet production line that turns waste crop straw — corn stalk, rice straw, wheat straw, cotton stalk — into dense, high-calorific biomass pellets through cutting, grinding, pressing, cooling and packing.

Finished pellets carry about 18–19 MJ/kg, under 3% ash and under 10% moisture — clean-burning and ready to replace coal, oil and gas in biomass boilers. Two MZLH508 ring die pellet mills run in parallel; each rates at 1.5 t/h, and the pair covers 2–3 t/h.

Why It Gets Specified

Three reasons. Efficiency: a fully matched line — high output, low energy, stable running. Feed tolerance: the cutting unit takes straw bales of any diameter, length and moisture; the ring die mills carry permanent-magnet iron removal to guard against tramp-metal damage. Product quality: the high-efficiency cooling system drops pellet temperature and moisture, preventing caking for long storage and long-haul shipping.

How the 2TPH Straw Pellet Production Line Works

Full flow: cutting → hammer grinding → ring die pressing → counterflow cooling → bagging. Five stages:

1

Cutting

Large or rolled straw bales are pre-cut by the straw cutter before grinding.

2

Hammer grinding

The hammer crusher reduces the material to powder finer than 50 mesh.

3

Ring die pressing

Powder feeds to the twin ring die mills; rollers and dies press it through the die holes into pellets.

4

Counterflow cooling

Pellets pass the counterflow cooler to shed heat and moisture, preventing caking.

5

Bagging

The packer fills and weighs the bags automatically.

Two things to remember: the product standard is 18–19 MJ/kg, ash under 3%, moisture under 10% — controlled from both the feedstock and the process; the magnet iron guard protects the dies and rollers — clean it on schedule.

Equipment Configuration

1. HM600 wood hammer crusher machine

Model	Power	Capacity	Dimensions	Weight
HM600	30 kW	1500–2000 kg/h (1.5–2 t/h)	1600×850×1350 mm	900 kg

2. MZLH508 ring die straw pellet mill ×2 units

Model	Main motor	Feeder screw	Capacity/unit	Die ID	Roller OD/qty	Die speed	Pellet size	Roller temp
MZLH508	90 kW	2.2 kW	1.5 t/h (pair covers 2–3 t/h)	508 mm	190 mm / 2	150 rpm	6/8/10 mm	≤85°C

3. SKLN1.5 straw pellet cooler

Model	Volume	Main/air-lock power	Capacity	Cooling time
SKLN1.5	1.5 m ³	0.75 kW / 1.1 kW	3 t/h	≥6–10 min

4. WDCS-50 straw pellet packing machine

Model	Packing rate	Power	Dimensions
WDCS-50	3–4 bags/min (5–50 kg/bag)	2.2 kW	2×0.8×2.6 m

The straw cutter in the flow is not specified with a model number on the source page — confirm with the factory at selection.

Where It Gets Used

Feedstock: farm waste straw and agricultural recycling stations. Downstream: industrial biomass boilers, district heating, power plants, cement plants, and — after drying — roughage or bedding for ruminants.

Installation and Commissioning

1. **Shop layout** — arrange the machines per the flow (cut → grind → pellet×2 → cool → pack); confirm twin-mill split piping and section conveyors.
2. **Positioning** — set and fix each machine per the drawing; level and isolate both pellet mill bases individually.
3. **Electrical and power** — wire each motor and confirm phase sequence; check oil level in both mills' gear transmissions.
4. **Linked no-load run** — run the whole line empty; watch twin-mill operation, material split, vibration and noise.
5. **Load run** — feed cut and ground straw evenly to both mills; check forming rate, cooling and packing; ramp to rated capacity.

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

⚠ During operation, stay clear of all feed and discharge openings; stop and lock out before clearing or servicing.

⚠ The pellet mills run hot — never touch them in operation; stop immediately on abnormal vibration, noise or overheating.

Pick large stones and metal out of the straw feed — the magnet guard handles small tramp metal, not boulders. Have the manufacturer's technician on site for the first load run.

Running and Maintenance

The two MZLH508 mills are the core: the dies and rollers are the main wear items — check die-hole wear and roller clearance, and replace or flip at the wear limit. Clean the magnet iron guard regularly — a loaded magnet face stops protecting. Roller temperature should stay $\leq 85^{\circ}\text{C}$. The twin-mill split must stay even.

The cutter and hammer crusher: blades, hammers and screen wear. The cooler: pellets must leave properly cooled. The packer: weighing accuracy. Section capacities: grind 1.5–2 t/h (add a second unit if pushing toward 3 t/h), twin mills up to 3 t/h (2 t/h rated), cool 3 t/h. Daily round: motor temperatures, twin-mill sync, dust extraction.