Everything You Need To Know Aboutinstant noodle machine

Detail Introduction :
Reference

The surge in the instant noodle market and the urgent for energy-efficient production

The global instant noodle industry is experiencing an unprecedented wave of
According to the latest data from the World Instant Noodles Association (WINA)
consumption of instant noodles exceeded 60 billionin 2024, with Africa's market gro
a staggering 37%, and Southeast Asia maintaining stable growth of 8-10%
phenomenon is driven by multiple factors.

'The explosive growth in the instant noodle market is primarily due to three key facto
Robert Chen, President of the International Food Machinery Association. 'Firs
widespread adoption of fast-paced lifestyles globally, secondly, the expansion of the
class in emerging markets, and most importantly, the continuation of home e
consumption habits formed during the pandemic.'

However, this prosperous scene conceals serious challenges. Traditional instant
production lines generally have high energy consumption, with a single line consumi
1.5 million kilowatt-hours annually. As global carbon neutrality policies a
environmental regulations such as the EU Carbon Border Adjustment Mechanism
are pushing the industry towards technological innovation.

In this context, a new generation of fully automatic instant noodle production machi
emerged. This equipment uses groundbreaking energy-saving technology, reducing
consumption by 50% compared to traditional devices while maintaining or even im
production efficiency. Test reports from Japan's Food Machinery Research Institu
that production lines using the new microwave drying technology have reduced unit
energy consumption from 1.2 kWh/kg to 0.6 kWh/kg.

'Energy saving is not only an environmental requirement but also a key factor for co
to reduce costs,' emphasized Zhang Mingyuan, Deputy Secretary-General of th
Food Industry Association. 'In the current situation where the cost of instant noo
materials is rising, reducing production energy consumption directly affects th
margins of companies.'

This innovative solution has been introduced at a critical time for industry transforma
upgrading, providing instant noodle manufacturers with a powerful tool to respond to
changes. In the following sections, we will delve into the technical principles and
advantages of this revolutionary equipment.

An overview of the instant noodle production line

The core objective of modern instant noodle production lines is to achieve ef stability, and automation to meet the continuously growing global market dem complete instant noodle production line typically includes the following key dough mixing, where high-quality wheat flour is combined with water and other e ingredients to create a smooth, elastic dough; sheeting, where the dough is rolled thin sheets using precision rollers; cutting, where the sheets are sliced into precise shapes by sharp blades; drying, where the cut noodles are carefully dried to moisture while maintaining their texture and flavor; seasoning and packaging, wh dried noodles are paired with savory seasonings and vacuum-sealed in con resealable packets; quality control, where each batch undergoes rigorous testing to consistency and safety; and finally, storage and distribution, where the finished prod stored under optimal conditions before being shipped to retailers worldwide.

Flour mixing - compounding - boiling - cutting and bending - frying - cooling - packagi

1.Mixing

Mixing dough is the first crucial step in instant noodle production, directly affecting taste and quality of the noodles. Traditionally, flour and water are mixed in a spec (usually 100:28-35) and supplemented with salt and alkali to enhance the dough's e Modern fully automatic production lines use vacuum mixing technology, stirring the d a sealed environment to prevent air from mixing in, making the dough tighter an elastic.

Compared to regular mixers, vacuum mixing reduces dough bubbles, making sub rolling processes smoother and resulting in more uniform sheets. Additionally, a d mixing design ensures thorough mixing of materials, avoiding clumping or uneven m distribution. Some high-end equipment also features an automatic feeding sys precise control of ingredient ratios, reducing manual intervention and improvin consistency.

Optimizing this stage not only enhances the noodle texture but also lowers defect subsequent production steps, laying the foundation for efficient and continuous in production.

2.Rolling and shaping

Rolling and shaping is a crucial step in processing dough into uniform sheets, determining the chewiness and final texture of the noodles. Modern production li continuous compound calendering processes, where the dough passes through precision rollers for repeated rolling, gradually forming sheets with consistent thickn tight structure.

Compared to traditional single-machine calendering, compound calendering significant advantages: through progressive rolling by 5-7 rollers, the gluten networ extended, making the final product more elastic and resilient. The gap between each

precisely calculated, starting from 10-15mm and gradually reducing to 1.0-1.2mm, e
sheet uniformity with an error margin of ±0.05mm.
Advanced calendering equipment is equipped with automatic thickness adjustment s
which monitor sheet quality in real-time using laser thickness gauges and autor
adjust roller pressure. Additionally, food-grade stainless steel rollers have specially
surfaces to ensure hygiene standards and prevent sheet adhesion.
Some high-end models also feature temperature control systems to maintain
working temperatures for the rollers, ensuring stable calendering quality. This in
process not only enhances noodle quality but also significantly increases pr
efficiency. Modern compound calendering machines operate at speeds of 30-50 me
minute, two to three times faster than traditional equipment, providing high-qua
materials for subsequent steaming processes.
3.Steaming
Steaming is a crucial stage in the production of instant noodles, where precise temp
and humidity control ensure that the starch in the noodles fully gelatinizes and the
undergo moderate denaturation, giving the final product its unique texture and
Modern steaming systems use a tunnel-style continuous steamer design, allow
noodles to receive uniform heat treatment while being conveyed at a constant speed.
Advanced steaming equipment features the following key characteristics:
Three-stage temperature zone control: a preheating zone (60-70?), a main cookin
(95-100?), and an insulation zone (85-90?), designed in a gradient to ensure s
gelatinization exceeds 85%
Steam circulation system: Achieves uniform distribution of steam through porous jet
with temperature difference controlled within ±1?.
Smart humidity control: Maintains relative humidity between 90-95% to prevent the
of the noodles from drying out and cracking.
Precise control of steaming time is particularly crucial, typically set between 2 to 4 mi
the time is too short, the starch won't gelatinize properly, making the noodles stick
long, the noodles become too soft, affecting their subsequent shaping. Modern equip
equipped with variable frequency speed control devices, allowing flexible adjustmen
conveyor belt speed based on different product requirements, achieving stepless re
from 30 seconds to 5 minutes.
In terms of energy-saving technology, the new steamer uses:
Heat recovery system: Utilizing the thermal energy from discharged steam to
incoming water
Double-layer insulation structure: reduces heat loss
Automatic water replenishment system: maintains optimal water levels, prevents
waste
The stability of the steaming process directly affects the uniformity of product quality,
renowned food machinery engineer. By using a PLC automatic control system, w
achieved precise coordination of steam pressure, temperature, and time para
ensuring that the degree of gelatinization variation between batches is within 2%.

This optimization not only improves product quality but also reduces unit consumption by 15-20%, bringing significant economic benefits to production ente
The steamed dough sheet then proceeds to the shaping process, preparing for sub frying or hot air drying.

4.Fried/non-fried drying process

The drying process is the core step that determines the final quality and character instant noodles. Modern instant noodles making machines mainly use two technique and non-frying, each with its own features and suited to different market demands.

The frying and drying system:

Using high-temperature rapid dehydration to give instant noodles their distinctiv texture and rich flavor. Modern frying equipment features the following t characteristics:

Segmented temperature-controlled frying tanks: Utilizing 3-5 independent temp zones (with a gradient change from 140-160°C) to ensure even frying.

Automatic oil circulation filtration system: Capable of processing 5-8 tons of oil p extending the lifespan of edible oil.

Microwave-assisted frying technology: Combining microwave preheating to reduc time by 30% and lower oil absorption rates.

Frying time is typically controlled between 60-90 seconds, with precise conveyor be adjustments to reduce moisture content in the dough sheets to 3-5%. Advance systems are equipped with:

- Automatic oil level compensation device
- Exhaust gas recovery and treatment system
- Online acid value monitor

Non-fried drying systems:

Using hot air or microwave drying to meet health-conscious dietary needs:

Multi-layer mesh belt hot air drying: temperature of 80-100°C, duration of 30-40 minu

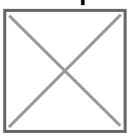
Microwave-hot air combined drying: leveraging the rapid heating of microwaves uniform drying of hot air;

Far-infrared assisted drying: enhancing thermal energy efficiency and reducing dry by 20%

5.Cooling and packaging

The cooling and packaging stages of the automatic fried instant noodle making pro line are crucial for ensuring product quality and extending shelf life. During the process, the production line employs a sophisticated progressive three-stage system. Initially, powerful convective air cooling rapidly reduces the temperature o dried noodles from a scorching 60°C down to a more manageable 40°C. The intense whisks away heat with precision, ensuring the noodles retain their texture and elastic noodles then transition into a balancing zone where they cool gradually to a com 25°C, allowing the moisture within to stabilize without compromising the integrity product. Finally, the noodles reach ambient room temperature in the stabilizatio where they rest quietly, their aroma subtly mingling with the surrounding a

meticulously segmented cooling method effectively prevents the noodles from crack to abrupt temperature fluctuations, while a specially designed mesh belt ensures cooling, allowing each strand to achieve optimal consistency and freshness. Th process is a harmonious blend of technology and culinary science, culminating in a that promises both quality and longevity.



Parameter

Item	Output
LYN-ll3Y	30,000pieces/8h
LYN-ll 6Y	60,000pieces/8h
LYN-ll 8Y	80,000pieces/8h
LYN-ll 10Y	100,000pieces/8h
LYN-ll 12Y	120,000pieces/8h
LYN-ll 16Y	160,000pieces/8h
LYN-ll 18Y	180,000pieces/8h
LYN-ll 20Y	200,000pieces/8h
LYN-ll 30Y	300,000pieces/8h

FAQ:

?What does after-sales service include?
A: • Basic services:
? Free installation and commissioning + operation training
? 1-year full machine warranty
• Value-added services (optional):
? Remote monitoring system (real-time fault diagnosis)
? Annual maintenance plan
?Does the equipment meet food safety certification requirements?
A: Certifications: CE, , ISO 22000 certifications.
Material Safety: All parts that come into contact with food are made of 304 stainles eliminating any risk of contamination.
?How automated is the production line? Is it necessary to have a technician operate
A: • Automation level:
? The entire process from raw material input to packaging is fully automated, requir manual input of raw materials and random inspections.
? Touchscreen control allows for one-button start-up after parameter settings.
• Operational difficulty:
? Ordinary workers can be trained to operate within 1 to 3 days.

? We provide operation manuals in both Chinese and English along with a fault code
As one professional small instant noodles making machines manufacturer, our
noodle making machine is designed to optimize the instant noodles manufacturing p
The instant noodle machine utilizes high-quality ingredients such as wheat flour, wa
grain flour, and vegetable juice to produce a variety of instant noodles. These inclu
instant noodles, unfried instant noodles, and Indomie-style instant noodles, all of w
ready for sales. The machine ensures a consistent texture and flavor, making each
noodles a delightful culinary experience.

Reference

The following are five authoritative foreign literature websites in the field of Industrial
machinery:
1. Food Engineering Magazine
Website: https://www.foodengineeringmag.com/
2.Food Processing Magazine
Website: https://www.foodprocessing.com/
3.Journal of Food Engineering
Website:https://www.journals.elsevier.com/journal-of-food-engineering
4. Food Manufacturing Magazine
Website:https://www.foodmanufacturing.com/
5. International Journal of Food Science & Technology
Website:https://onlinelibrary.wiley.com/