



# Dehydrated Onion Flakes Line

Complete Turnkey Business Proposal



Supplier reference: real continuous fruit and vegetable dehydration equipment applicable to sliced onion flakes.

|                                                  |                                       |                                              |                                |
|--------------------------------------------------|---------------------------------------|----------------------------------------------|--------------------------------|
| <b>300-500 kg/h</b><br>starter fresh-onion input | <b>3-5 mm</b><br>typical slice target | <b>4-6%</b><br>typical final moisture target | <b>8-12</b><br>entry operators |
|--------------------------------------------------|---------------------------------------|----------------------------------------------|--------------------------------|

Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

## Executive Summary

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A small line for sorting, peeling, washing, uniform slicing, multi-stage drying, cooling, grading and packing dehydrated onion flakes.

### Why this project fits Afghanistan

- Onion dehydration can preserve seasonal surplus and reduce transport weight.
- Flakes supply spice blenders, food-service buyers and packaged-food factories.
- Fines can become granules after the flake process is stable.
- A small tunnel or belt dryer allows staged growth from local sourcing.

### Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

#### Recommended configuration

For the lowest credible entry, select a 300-500 kg/h fresh-onion line with peeler, washer, slicer, optional blancher, small tunnel or belt dryer, grader and semi-automatic packing.

## Manufacturing Process & Product Portfolio

### Integrated process flow



### Target products

| Product                 | Typical specification                                         | Primary market                                  |
|-------------------------|---------------------------------------------------------------|-------------------------------------------------|
| Dehydrated onion flakes | Buyer-approved size, moisture, color, flavor and microbiology | Spice blenders, restaurants and food processors |
| Onion granules          | Milled and sieved released flakes                             | Seasoning and ingredient buyers                 |

Dryer capacity must be based on fresh onion input and required water removal, not finished-flake output. Slice thickness, variety, solids and airflow strongly affect residence time and color.

## Core Equipment Schedule

| Step | Equipment                         | Function                                     | Indicative parameter            |
|------|-----------------------------------|----------------------------------------------|---------------------------------|
| 1    | Onion topper and peeler           | Removes tops, roots and outer skin           | Trialled for local onion sizes  |
| 2    | Bubble washer                     | Removes loose skin and soil                  | Potable final rinse             |
| 3    | Adjustable slicer                 | Produces uniform drying thickness            | 3-5 mm typical target           |
| 4    | Optional blancher                 | Applies buyer-defined pretreatment           | Recorded time and temperature   |
| 5    | Tunnel or mesh-belt dryer         | Reduces moisture in controlled stages        | 300-500 kg/h fresh input basis  |
| 6    | Cooling and conditioning conveyor | Prevents condensation and equalizes moisture | Filtered air                    |
| 7    | Vibratory grader                  | Separates commercial flake sizes             | Return fines for granules       |
| 8    | Metal detector and packer         | Checks and packs released product            | Bulk liner or one retail format |

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

## Reference Equipment Gallery



Supplier reference: real continuous fruit and vegetable dehydration equipment applicable to sliced onion flakes.



Supplier reference: real washing and preparation equipment representative of the onion trimming, cleaning and slicing section.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

## Plant, Raw Materials & Utility Requirements

### Raw materials

- Sound mature Afghan onions
- Potable water
- Only buyer-approved pretreatment aids
- Moisture-barrier bulk liners or pouches
- Labels and cartons

### Utilities & infrastructure

- Stable three-phase electricity
- Potable process water and hygienic drainage
- Food-grade heat source
- Ventilated washable processing room
- Clean dry packing and finished-goods storage

### Quality, safety and environmental controls

- Reject rot, sprouting and unacceptable pesticide lots
- Control peel removal and slice thickness
- Map dryer temperature, airflow and residence time
- Verify final moisture and water activity after conditioning
- Test microbiology, color, flavor and foreign matter
- Validate packaging barrier and shelf life

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

## Indicative Investment & Implementation Plan

### LOW-ENTRY CONFIGURATION

Lowest entry uses semi-manual trimming around one small dryer and bulk packing. Optical sorting, powder milling, sterilization, automatic retail packing, building and onion inventory are excluded.

| Component                              | Indicative range | Notes                                        |
|----------------------------------------|------------------|----------------------------------------------|
| Trimming, peeling, washing and slicing | US\$10k-22k      | 300-500 kg/h preparation                     |
| Small tunnel or belt dryer             | US\$18k-38k      | Heat source confirmed separately             |
| Cooling, grading and packing           | US\$7k-16k       | Bulk or one retail format                    |
| Quality and hygiene equipment          | US\$3k-8k        | Moisture and metal control                   |
| Freight, installation and spares       | US\$6k-14k       | Ducting and dryer footprint matter           |
| Indicative low-entry total             | US\$44k-98k      | Building, onion and working capital excluded |

### Implementation sequence

|         |            |                                                                  |
|---------|------------|------------------------------------------------------------------|
| Phase 1 | 2-3 weeks  | Confirm raw-material, product, capacity and pack specifications  |
| Phase 2 | 2-4 weeks  | Run supplier trials with representative Afghan material          |
| Phase 3 | 6-10 weeks | Manufacture, inspect and ship the selected line                  |
| Phase 4 | 3-5 weeks  | Install, train, validate the process and start shelf-life checks |

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

## Next Steps & Contact Information

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### Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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### Research and image references

- [https://www.made-in-china.com/products-search/hot-china-products/Onion\\_Drying\\_Machine.html](https://www.made-in-china.com/products-search/hot-china-products/Onion_Drying_Machine.html)
- <https://www.alibaba.com/showroom/dehydrated-onion-production-line.html>