SANAATCHI
INDUSTRIAL VISION GROUP

Flavored Whey-Drink Production Line

Complete Turnkey Business Proposal

Made-in-China supplier reference: real small dairy/beverage processing line with mixing, heat treatment and sanitary tanks.

300-500 L/batch	**1**	**1**	**6-10**
starter whey batch	**approved whey source**	**launch flavor**	**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

A by-product beverage line that receives only food-grade sweet or acid whey from a controlled cheese process, screens and clarifies it, standardizes acidity and solids, blends potable water, sugar or approved sweetener and flavor, applies a validated heat treatment, cools or hot-fills according to the chosen formulation, closes, codes and stores the drink. It is not a whey-protein-isolate plant.

Why this project fits Afghanistan

- Cheese whey can become a saleable beverage instead of a high-load waste stream.
- A beverage branch improves value recovery from a small cheese plant.
- One non-carbonated flavor limits formulation and packaging cost.
- Afghan fruit flavors can be tested after acidity and shelf-life validation.

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, use same-day food-grade whey from one cheese line, a 300-500 L receiving/blending tank, coarse and fine filters, batch pasteurizer, protected balance tank, semi-automatic bottle filler/capper and basic CIP. Launch one non-carbonated flavor in purchased bottles; exclude membrane concentration and protein powder.

Manufacturing Process & Product Portfolio

Integrated process flow

Target products

Product	Typical specification	Primary market
Still flavored whey drink	Declared whey content, acidity, soluble solids, flavor and validated shelf life	Value retail and institutional refreshment
Fruit-flavored whey drink	Approved fruit ingredient, stable appearance and controlled heat treatment	Retail after pilot stability trials

Only food-grade whey collected hygienically from a controlled cheese process is suitable. Whey type, salt, acidity and microbial load determine the recipe. The entry line does not recover whey protein concentrate or powder. Acceptance records whey age, pH, solids, heat process, sediment, flavor, packaging and shelf life.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Whey receiving tank and screen	Receives same-day food-grade whey and removes curd fines	300-500 L entry
2	Fine filter or clarifier	Improves beverage appearance	Selected after whey trial
3	Jacketed blending tank	Controls water, sweetener, acid and flavor recipe	300-500 L/batch
4	Batch pasteurizer	Applies the validated beverage heat process	Recorded time and temperature
5	Protected balance tank	Feeds filler through a closed path	Sanitary gentle agitation
6	Semi-automatic bottle filler/capper	Packages one non-carbonated drink	Purchased bottles, one size
7	Coder and inspection table	Applies traceability and checks closure	Manual release gate
8	CIP and quality bench	Supports hygiene and product checks	Whey-specific cleaning plan

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

Made-in-China supplier reference: real small dairy/beverage processing line with mixing, heat treatment and sanitary tanks.

Made-in-China supplier reference: real dairy beverage filling equipment used after blending and pasteurization.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Same-day food-grade sweet or acid whey from one approved cheese process
- Potable water, food-grade sugar or approved sweetener
- Approved flavor, acid and optional fruit ingredient
- Purchased bottles, caps, labels, cartons and detergents

Utilities & infrastructure

- Stable electricity matched to motors, controls and refrigeration
- Potable process and cleaning water
- Washable food-grade rooms with drainage and pest control
- Segregated raw-milk, ingredients, packaging and finished-goods areas
- Steam or hot water, chilled water and compressed air only where specified

Quality, safety and environmental controls

- Approve whey source, age, salt, pH, solids and microbiology
- Reject floor whey, mixed cleaning water or uncontrolled by-product
- Record full recipe and validated heat-treatment curve
- Test sediment, separation, color, flavor and soluble solids
- Check bottle fill, closure, leakage and code
- Validate microbiology and shelf life for the actual storage route

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 same-day whey from one approved cheese line and one still flavor in purchased bottles. Membrane concentration, evaporation, spray drying, carbonation, bottle blowing, building and working stock are excluded.

Component	Indicative range	Notes
Whey receiving, screening and filtration	US$3k-8k	One approved whey source
Blending and batch heat treatment	US$6k-15k	300-500 L/batch
Bottle filling, capping and coding	US$4k-11k	One purchased bottle size
CIP and quality tools	US$3k-8k	One non-carbonated flavor
Freight, installation and spares	US$4k-9k	Sanitary commissioning
Indicative low-entry total	US$20k-51k	Cheese line, membranes, powder plant and building excluded

Implementation sequence

Phase 1	2-3 weeks	Confirm milk quality, product specification, capacity, packs and cold route
Phase 2	2-4 weeks	Run representative Afghan milk, culture, ingredient and packaging trials
Phase 3	5-9 weeks	Manufacture, inspect and ship approved equipment
Phase 4	3-5 weeks	Install, train and validate hygiene, process and product release controls

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

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

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