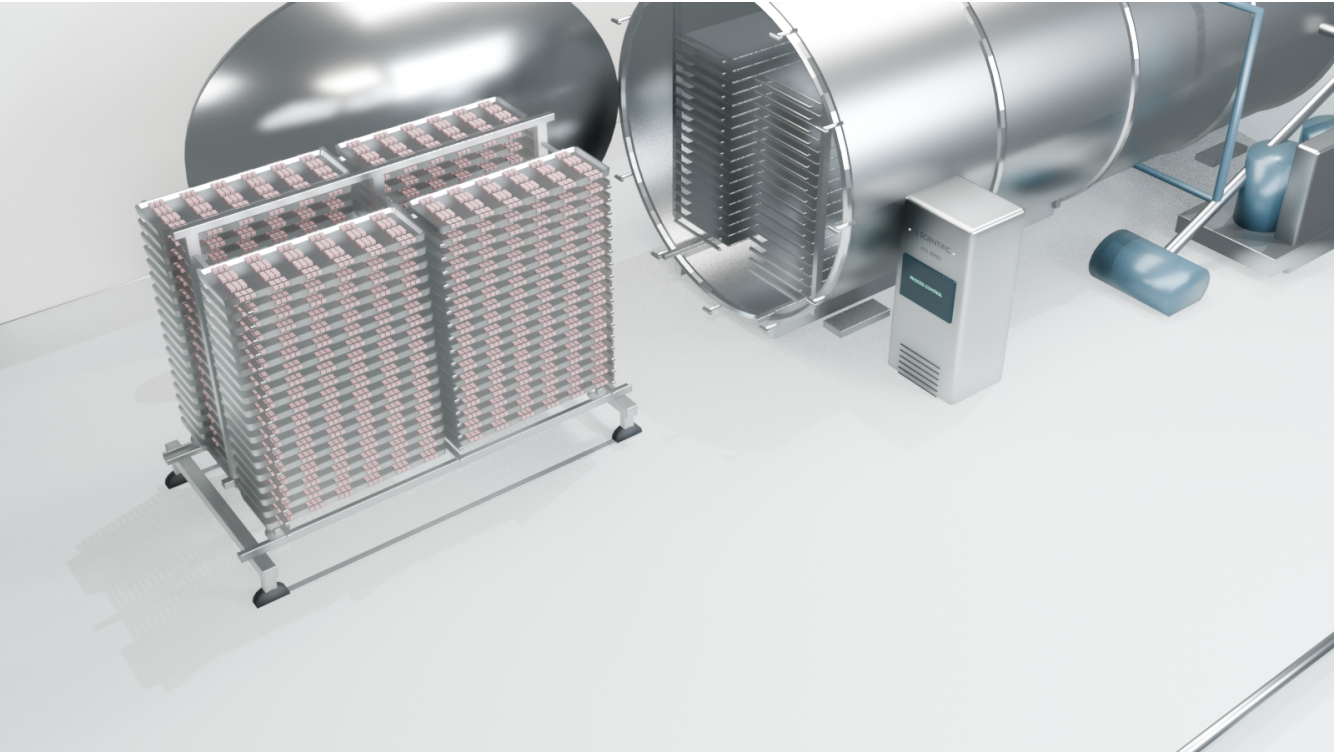


SJ-FFD-100 pet-food freeze-drying line

Meat preparation, tray handling, pre-freezing and industrial batch freeze drying.



1,000 kg / batch

Approx. reference fresh-material load

100 m²

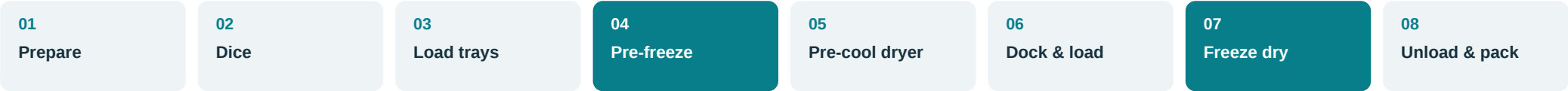
Usable shelf area

1,200 kg / batch

Published condenser ice capacity

Actual loading depends on the meat, cut size, tray fill, water load and drying cycle.

Model specifications: SJ Scientific / SJ-FFD-100 | Shared FFD-series process illustration; final configuration varies by model.

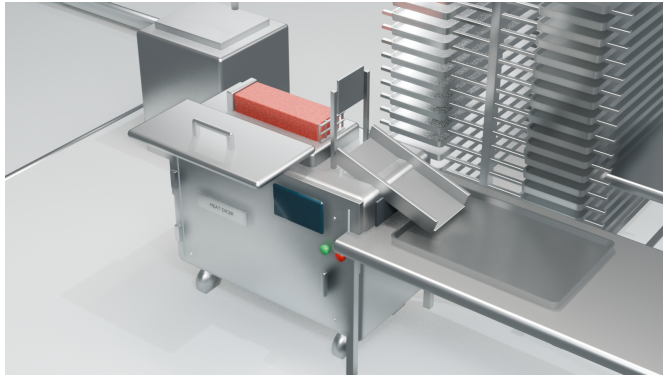


Planning references

Approx. overall dimensions: 9,000 x 2,800 x 3,200 mm. Approx. installed power: 150 kW.
Allow additional space for pre-freezing, cart staging, loading, service access and dry-side packing.

From whole meat to frozen trays

Coordinate preparation and frozen inventory around a 1,000 kg reference fresh-material batch.

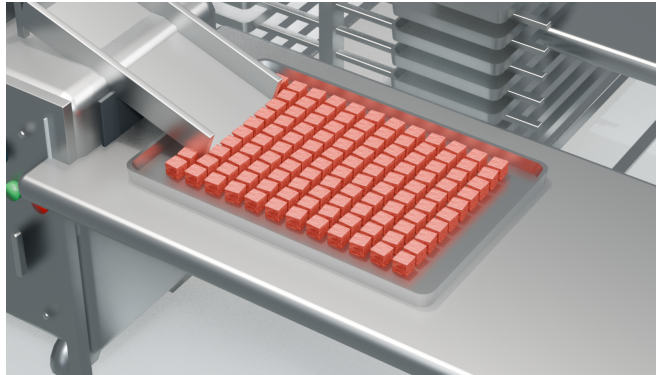


MEAT DICING

1

Prepare and dice

Inspect and trim the meat. A feed ram, cutting grid and cross-cut action create separate cubes. Select dicer throughput and the number of preparation stations for the required batch schedule.



MEAT CUBES IN SHALLOW TRAYS

2

Fill trays and rack

Check cube size and spread the meat evenly in shallow trays. Place trays on the upper rack supports. Confirm kilograms per tray, fill depth and rack quantity for the selected model.



PRE-FREEZING + FROZEN STORAGE

3

Pre-freeze and store

Move the loaded rack on its transfer trolley to the freezer. Confirm full freezing using product core temperature and holding time. Hold the frozen batch until the dryer is prepared.

Illustrative 10-batch buffer

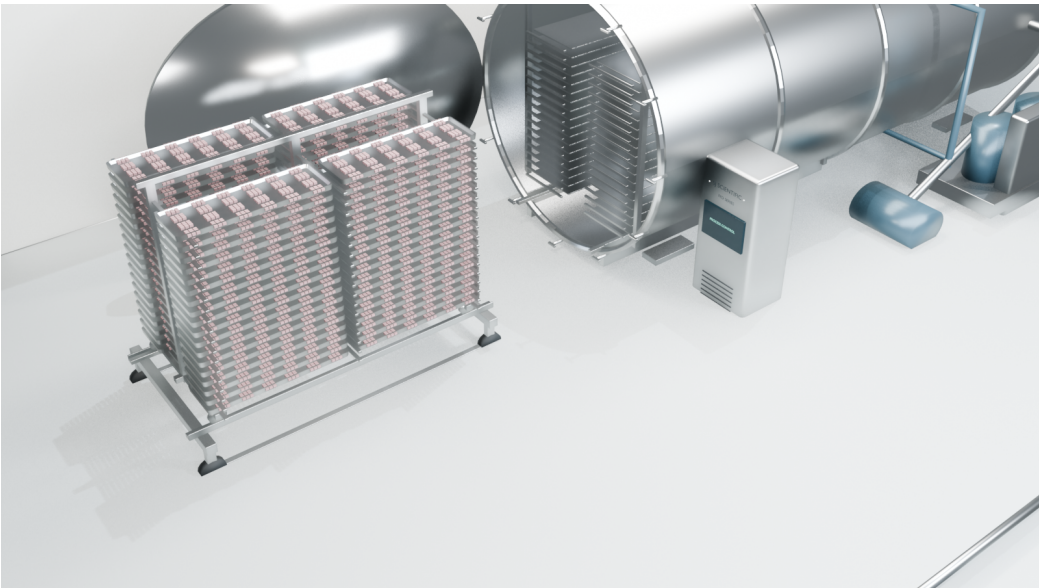
10,000 kg

Example: 10 batches x 1,000 kg = 10,000 kg of frozen inventory.

This is a planning example. Select actual storage capacity and freezing throughput separately from the production schedule.

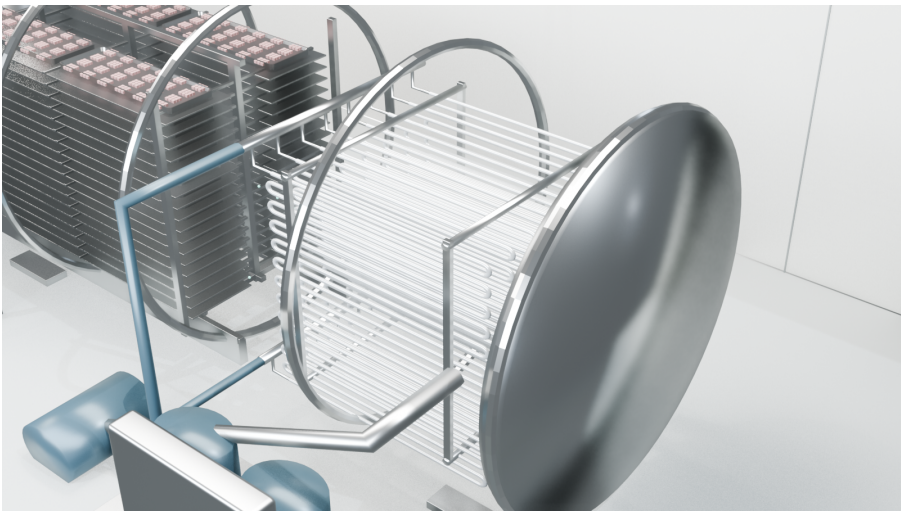
Dock, transfer and freeze dry

The upper rack moves onto chamber rails. The separate lower trolley remains outside.



RACK-TO-RAIL TRANSFER PRINCIPLE

Align the trolley with the chamber rails. Roll the upper rack and trays into the dryer, then withdraw the empty lower trolley. After drying and controlled repressurization, reverse the transfer and pack the product.



INTERNAL REAR COLD-TRAP CONCEPT

Ice sublimates from the product under vacuum. Water vapor reaches the refrigerated coil bank and deposits as ice. Continue drying to the product-specific moisture endpoint, then unload and seal.

Published shelf arrangement
(18 + 1 radiant) x 2

Two shelf groups in the published arrangement.

Reference pre-cooling before loading

Illustrative loading targets from the reference workflow.
Confirm settings against the product and equipment recipe.

Shelves

-15 to -25°C

Internal cold trap

-45°C

Common 3D process concept. Exact shelf-bank layout, rack counts, rails and coil circuits follow the approved project drawing.