

# Tip Top Folds Three IQF Diced Poultry Lines into One

## Business benefits

When Tip Top replaced their existing flighted freezers with the Cryoline® CW they:

- Reduced operational labour by producing all their IQF production through one freezer
- Improved their operational efficiencies by cutting freeze times from 5 mins to a maximum of 3 mins
- Improved their cryogen efficiencies
- Improved product quality through the introduction of a “less abusive” process

Flighted freezers that operate the individually quick frozen process (IQF) have traditionally presented food manufacturers with a variety of challenges that impact on production efficiencies. The new Cryoline® CW IQF freezer has been developed to address these inefficiencies and build more flexibility into manufacturer’s production lines.

### The issue

Tip Top Poultry of Georgia, USA, is the largest baking and stewing hen producer in the United States and a major supplier of individually quick frozen (IQF) cooked, pulled and diced chicken meat to the foodservice and retail market sectors.

Boiled hens are deboned and meat is filleted, pulled or diced to size, from 0.6mm to 25mm and then individually quick-frozen. At the Rockmart plant in Georgia, USA, diced poultry is screened and fines are packed for separate sale. In the past, diced poultry and other IQF products were fed into three or four CO<sub>2</sub> flighted freezers, feeding two packaging lines.

Flighted freezers have been the mainstay for IQF diced poultry for more than 20 years.

“Yet there are a few problems with CO<sub>2</sub> flighted freezers”, notes Curt McNiff, plant manager for Tip Top’s Rockmart facility, “from freezing efficiency to exhaust and CO<sub>2</sub> carryover.”

Snow needs to be cleaned from internals, often several times a shift and fines need to be screened from the snow post-freeze at the Rockmart plant; both contribute to yield losses.

“With CO<sub>2</sub>, we had to use extra labour and equipment to remove the snow from the fines to pack them off. If you boxed them with the snow, you’d be looking at a (weight) shortage.”



## The solution

Now, Tip Top has found a better way. They replaced two of the Rockmart plant's three CO<sub>2</sub> flighted freezers used to meet current production capacity requirements, with a single 8-meter (27-foot) Cryoline® CW tunnel freezer from Linde that uses nitrogen.

With the Cryoline® CW tunnel freezer, diced poultry is layered onto the belt two-inches deep in a continuous operation and produces almost 100% IQF high-quality product. The freezer features a patented rolling-wave action that keeps products in motion and separate during the freeze.

Based on its own in-plant audits and engineering assessments, estimations were made by Linde in regards to the "cost to freeze" for converting that first line.

"Linde met all the projected targets, and the savings were substantial," McNiff says. "They gave us a lot of support before, during and after the installation and start up. Even now, they're at the plant, checking to make sure everything is optimum."

## The business benefits

"When you're looking at automation in packout, if you can put IQF production all through one IQF freezer, you only have to buy one scale and one bagger. Our ability to run it through a single system results in a reduction of operational and sanitation labour," McNiff explains. "At the front end we have a manual deboning process, so if you have to stop that line for changeovers or other reasons, it becomes very costly."

In addition, hygienic design allows complete access to all internal surfaces for easy cleaning, now down to once a shift. Most importantly, the Cryoline® CW cuts freeze time from 5 minutes with the CO<sub>2</sub> freezer to about 1.5 to 3 min. maximum, with diced poultry at the lower range, based on performance and further in-plant engineering by Linde.

Tip Top can now eliminate the third flighted freezer and move all current production to the single Cryoline® CW tunnel simply by adding a modular extension. The extra 3-meter (9 ft. 9 in.) extension improves cryogen efficiency and also adds surge capacity to help avoid bottlenecks.

Curt McNiff, Plant Manager

**"The Cryoline® CW is less abusive to the product, utilises less cryogen and eliminates the labour associated with CO<sub>2</sub> snow removal."**

## Contact us

### BOC

Tel 0800 111 333

Fax 0800 111 555

[www.BOCOnline.co.uk](http://www.BOCOnline.co.uk)

### BOC Ireland

Tel 1890 355 255

Fax (0)1 409 1801

[www.BOCOnline.ie](http://www.BOCOnline.ie)



## BOC

The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey GU2 7XY, United Kingdom  
Tel +44 1483 579 857, Fax +44 1483 505 211, [www.BOCOnline.co.uk](http://www.BOCOnline.co.uk)

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