

## FIELD REPORTS

# Single-screw compressors quell Texas-size tremors

**G**RITTING YOUR TEETH AGAINST THE SOUND OF LARGE, LOUD vibrating compressors may get you successfully through the engine room, but it won't get you successfully through continuous production cycles. Vibration causes more than noise; it often leads to chronic maintenance issues that may leave you grinding your teeth in frustration. Richard Cogburn, ice plant refrigeration supervisor at Brookshire Grocery Company's Tyler, TX plant, knows the feeling only too well. "The vibration we had in our compressors led to extreme noise in the engine room," he says. The plant also faced continuous maintenance issues, resulting in lost time and money.

Brookshire Grocery operates 152 Brookshire and Super 1 Foods stores throughout Texas, Louisiana, Mississippi and Arkansas as well as Ole Foods in Plano, TX. In addition, the company's manufacturing division, SouthWest Foods, recently introduced LeCarb dairy products and YoCarb desserts for diabetics and low-carbohydrate dieters. At the ice and ice cream plant in Tyler, where some of these products are produced, compressors are used for several functions including the production of ice and the refrigeration of the perishable warehouse.

As part of a 491,000-sq. ft. expansion, Cogburn and the management team at Brookshire reviewed various compressors hoping to find a unit that limited noise and vibration. They chose six new Vilter compressors for their quiet operation, proposed energy savings and ease of use. The units feature a single-screw design with one main rotor and either one or two gaterotors.

During ice production, the compressors freeze the ice, and hot gas from the compressors releases the ice from the ice machine tubes for harvest. The compressors are then used to cool the refrigerant to start the freezing

### *Brookshire Grocery eliminates compressor noise and vibration.*

process again. The ice bin is maintained at a steady 12°F to 14°F while the ice bagging area is maintained at 52°F. In the plant's banana ripening area, the compressors maintain exact room temperature (55°F to 58°F) during the ripening process. The same cooling process is used in the stone fruit room where fruits like peaches and apricots are ripened.

In the past, the compressors in the ice production and fruit ripening areas have been especially problematic and noisy. "Since the new compressors have been installed our vibration problems and maintenance issues have been eliminated," says Cogburn. Brookshire Grocery also found that the dual slide design of the single-screw compressors provides up to 20 percent better efficiency at part load conditions. "Two outside energy consultant companies each reached the same conclusion," Cogburn continues. "The Vilter units save energy."

The compressors' micro-controller offers custom programming, a feature that Cogburn says is user-friendly. "The settings allow you to do what you need to for individual control," says Cogburn. "Our compressors interface with the industrial

control equipment used in the plant." The units can operate individually or allow multiple compressor sequencing through a single controller. Programming ease combined with energy savings and noise reduction has really impressed Cogburn, who said he would consider using single-screw compressors in any future plant expansions. ♦

**For more information:**  
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Ice Plant Refrigeration Supervisor Richard Cogburn (left) selected six Vilter compressors to eliminate noise and vibration-related maintenance issues. Source: Vilter Manufacturing.