

# Cooling Technology

## ASU technology

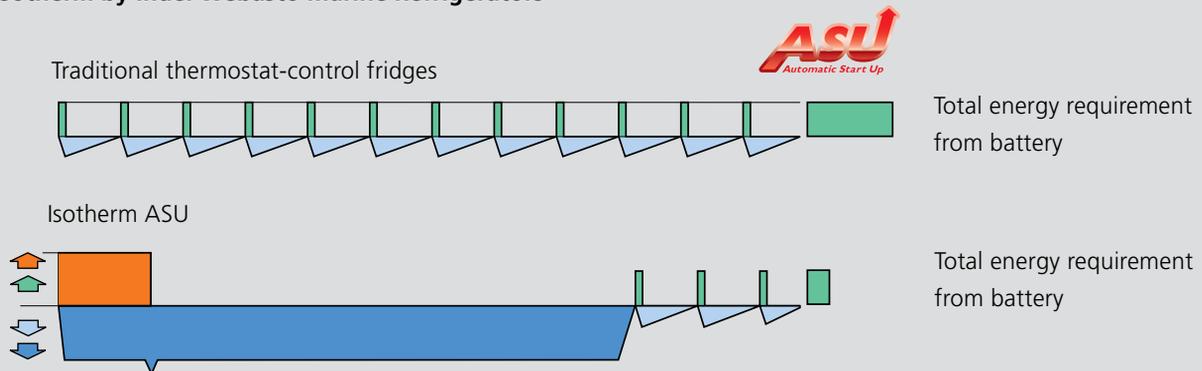
### Isotherm ASU charges the holding plate while the engine is running.

The patented ASU system has now been available for more than 20 years and has been installed on tens of thousands of boats worldwide. The ASU system starts the compressor when the engine is running and extra power is available to freeze the holding plate completely. The energy stored in the holding plate acts like an a block of ice which keeps the refrigerator cold for longer periods. This keeps the compressor from running, which saves battery power. Once the stored cold is completely consumed, the compressor starts to run for short periods at a slower speed to maintain the required temperature in the box. The slower speed also acts to save battery power. With its unique principle of operation – the patented ASU “Automatic Start Up” system – Isotherm ASU has an important competitive advantage over traditional refrigerators.

#### ASU – Automatic Start Up

This unique system is designed to automatically start the compressor at full speed when the engine is running and plenty of power is available. The ASU electronics control the three-phase Danfoss compressor with full-range speed control and achieves a quicker freezing of the holding plate. By taking advantage of the surplus energy generated by the alternator when the engine is running, the ASU feature takes advantage of the surplus power when it is available. The ASU system is perfect for sailing vessels under typical cruising conditions when boats uses engines leaving and entering anchorages, then sailing all day. The ASU system also is perfect for solar panels and takes advantage of their maximum output during the day. ASU systems are available in select cabinet refrigerators.

### Isotherm by Indel Webasto Marine Refrigerators



- Automatic Start Up runs the compressor at high speed storing cooling energy when surplus electrical power is available.
- Compressor runs off battery at low speed and for short periods to maintain cooling level of the refrigerator holding plate.
- Cooling energy stored in the holding plate maintains box temperature without the compressor running.
- Compressor runs at low speed for short periods to maintain stable box temperature.