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DESIGN AND FABRICATION OF A QUICK FREEZE SYSTEM BY IMMERSION

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A Thesis

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by

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ABSTRACT

A Quick Freeze System by Immersion (QFSI) was design and fabricated. After incorporating the compressor condenser, expansion valve, recovery coil, instrumentation and controls, conveyor and the butterfly valves, test were conducted to evaluate the performance of the Quick Freeze System by Immersion in terms of operation and efficiency.

All aspect on the QFSI freezer performance were observed and has been noted that the design criteria requirements, were meet and also the quality of the product being tested was unsurpassed.

As a whole, the innovated system performed well, generating sufficient cooling for prawn preservation applications. However, further improvements should be made. This includes the insulation, butterfly valves and the selection of equivalent refrigerant for the bath. The Quick Freeze System by Immersion uses locally available materials, except on the compressor and controls which are imported. Its design is simple and compact for easy fabrication and handling.



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