

Optimal fish handling in the refitted New Zealand trawler 'Pacific Explorer'

The 'Pacific Explorer' is a commercial trawler owned by Forty South in Napier, New Zealand. It was recently brought from Peru and has been refitted in Napier in order to be optimised for fishing in the waters of New Zealand.

The target for the refit was to optimise the handling of the catch and get maximum possible storage for the catch. The layout is straight forward, with the catch from the trawl deposited in a stainless steel container placed on the starboard aft part of the main deck. From here, the fish is dispensed via a conveyor belt to gutting and heading. It is then transported straight down to the refrigerated fish hold where it is sorted with the help of a sophisticated conveyor system.

The catch is then put into boxes and iced with ice produced onboard. The hold has a capacity of approximately 165 cubic metres, is lined with aluminium, and is refrigerated with the innovative Searef S-3000 system, produced in Sweden. The system is a secondary system and consists of a compact, prefabricated refrigeration unit. This unit has been placed in a separate refrigeration room on top of the hold, along with the machinery for ice production.

The Searef system uses very small charges of the refrigerant R 404 A. In this case, only five kilos. The created cold is transformed into a liquid, which can be pumped at low temperatures and is circulated in plastic pipes placed in the roof of the hold. These pipes are very robust and they condition the hold to an



optimal 0°C. This is done without any fans and therefore there is no drying out of the catch. The piping system is very compact and does not interfere with the loading volume.

"I am impressed by the speed which the system refrigerates the hold down to zero Centigrade," said Bryan Hjorring, vessel manager at Forty South. "The system cools the 165 cubic metres down in less than 90 minutes. We can turn it on when leaving port, and have perfect storage conditions when we take the first catch."

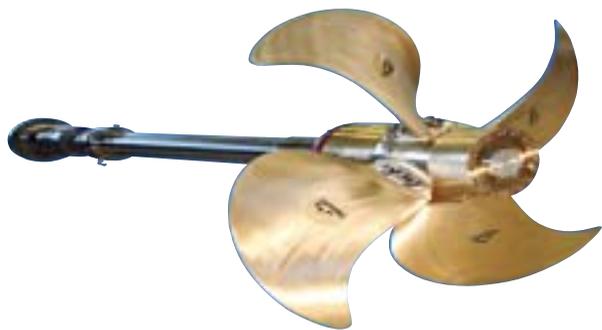
Forty South will also install the system in three other of their vessels in the near future.

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