



## **MOLASSES COOLING SYSTEM**

## Introduction:

Shrijee has developed, manufactured and supplied the Molasses Cooler for cooling of B Heavy Molasses or Final Molasses, and also for Syrup cooling. To produce ethanol from B Heavy or Final Molasses, cooling of molasses becomes necessary before sending to storage.

## Aim of Molasses Cooling:

To maintain proper conditions for storage of molasses i.e. both qualitative and quantitative losses are to be avoided. As from commercial angle molasses storage has vital importance in view of its revenue earning potential. The effect of non-sucrose in the process is therefore an important factor in determining the quantity of molasses and hence the amount of sugar lost in molasses. The conversion of this fermentable reducing sugars to non-fermentable reducing sugars (NFRS) increases with rise in temperature of storage. At 38°C – 40°C, the increase in this loss of fermentable reducing sugar per year is 2% to 3%. A rise of 10°C is reported to have quadrupled the decomposition. Most rapid decomposition occurs at temp above 40°C with the increase in nitrogen content in juice i.e. with the increase in amino acids and amides etc.

## **Process of Cooling the Molasses:**

Tubular molasses coolers will have more number of tiny coolers with single pass for molasses and cooling water. Molasses will pass through the tubes whereas cooling water shall pass outside of the tubes. The cooling water and molasses will travel in counter current direction and required cooling can be achieved. The required outlet temperature will depend upon the cooling surface area of molasses cooler.



Shrijee Has supplied Molasses/Syrup Cooler ranging in capacity 10 M<sup>3</sup>/Hr to 40 M<sup>3</sup>/Hr to many sugar factories in India.

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