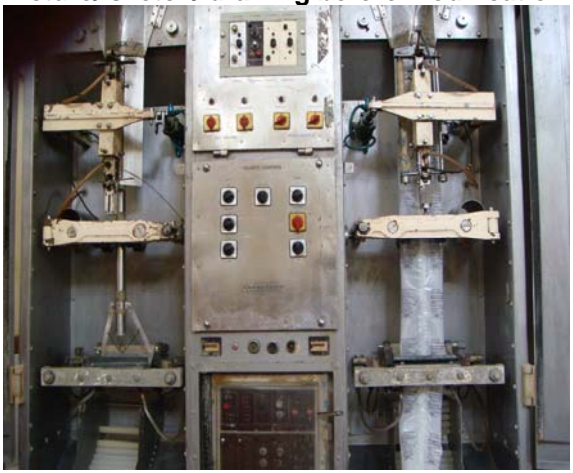



### Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure <b>Installation of Heat recovery unit for ammonia compressors(120TR)</b>	Sector :Dairy.
Year to be filled by BEE		Technology : De-super heater
<p>Description of the energy conservation measure:</p> <p>Adiabatic compression in ammonia compressor results in high discharge gas temperatures at compressor outlet(120<sup>0</sup> C and above). This gas is cooled and condensed in condenser and stored in receiver at 14 - 16 kg/cm<sup>2</sup> pressure. Condensing temperature (varying between 30<sup>0</sup> to 45<sup>0</sup> C) vary depending upon type of condenser cooling and atmospheric conditions.</p> <p>De-superheater installed in ammonia circuit between compressor discharge and condenser, removes high temperature gas heat(super heat) and passes entire gas to condenser to condense similar to normal refrigeration cycle. Gas heat removed in de-superheater heats circulating water to 55<sup>0</sup> – 70<sup>0</sup> C. The hot water generated per day at hassan dairy is around 19.45KL at 62<sup>0</sup>C.This hot water is stored in 10KL hot water tank to meet fluctuating demand of hot water in plant . The hot water is pumped to an over head insulated tank (2KL) and then distributed to all the user sections including boiler.</p>		
<b>Picture/ sketch/ drawing before modification</b>	<b>Picture/ sketch/ drawing after modification</b>	
		
Agency that executed the project: M/S Refricon Magic Systems, Pune, Maharastra.Ph:09422306717		
Total investment, Rs.:7.93 lakhs	Year of implementation:2006	

First year energy cost savings, Rs.: 3.47 lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Fire wood (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	<b>1086.828</b>	<b>1201.45</b>			
Energy consumption after	<b>1020.499</b>	<b>1054.33</b>			
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	<b>4.52</b>	<b>1325</b>			
Company complete address: <b>M/S Hassan Co-operative Milk Producers' Societies Union ltd,          Industrial Estate, B.M.Road, Hassan, Karnataka.</b>				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: G.S.Govindaraju, Deputy Manager (D.T), Hassan Milk Union,				Signature  Date	

## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure <b>Replacement of Pneumatic Milk packing machines with Mechanical machines</b>	Sector : Dairy.			
Year to be filled by BEE		Technology : Milk Packing			
The old and energy intensive pneumatic milk packing machines(03Nos double head) have been replaced with energy efficient mechanical machines( with PLC). The pneumatic machine requires a constant pressure of compressed air at 6 kg/cm <sup>2</sup> . The mechanical machine does not require compressed air for its operation. The operation of 200CFM air compressor driven by 50Hp motor and 5Hp cooling water circulation pump was discontinued. The savings shown does not include the maintenance cost of the compressor, moisture separator, line losses, and the down time.					
<b>Picture/ sketch/ drawing before modification</b>			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project: M/S R.M.C. Packaging Systems Pvt Ltd, 25A & B, Electronics Complex, Kushaiguda, Hyderabad – 500062. Ph:09394742200, 09391029842					
Total investment, Rs.:17.97 lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 6.09 lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Fire wood (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	<b>149.487</b>				
Energy consumption after	<b>14.704</b>				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	<b>4.52</b>				
Company complete address: <b>M/S Hassan Co-operative Milk Producers' Societies Union ltd,                  Industrial Estate, B.M.Road, Hassan, Karnataka.</b>				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: G.S.Govindaraju, Deputy Manager (D.T), Hassan Milk Union,				Signature  Date	

## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure <b>Installation of 10KLPH Milk pasteurizer with 90% regeneration efficiency</b>	Sector :Dairy.
Year to be filled by BEE		Technology : Milk Pasteurisation

Milk pasteurizers plays an important role in dairy industry. Entire quantity of milk received is pasteurized before it reaches the customers. Regeneration efficiency of the pasteurizer and the temperature of pasteurization are the major contributors to cost of milk processing. Normally the temperature of pasteurization is set by the operator higher than the prescribed standard to have 'safety cushion'. The Temperature of the pasteuriser can be controlled as per the set norms if the pasteuriser has auto controls. Reduction in pasteurization temperature will considerably reduce the required heat load of cooling and heating medium. We could reduce the pasteurization temperature by 4°C after continuously monitoring the bacterial count in the processed milk.

### Comparison of Energy efficiency features:

Particulars	Old Pasteuriser	New pasteuriser
Through put	8KL/Hr	10KL/Hr
Regeneration efficiency	80%	90%
Milk to chilled ratio required	1:3	1:2
Milk to Hot water ratio required	1.2	1:1.2
Connected load	7.5 KW	5.5 KW
Hot water system	Mixing battery	PHE
Controls	Manual	Auto

**Picture/ sketch/ drawing before modification**



**Picture/ sketch/ drawing after modification**



Agency that executed the project: M/S I.D.M.C Ltd, V.U.Nagar, Gujrath.

Total investment, Rs.: 13.0 lakhs

Year of implementation: 2006

First year energy cost savings, Rs.: 5.22lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Fire wood (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	<b>61.265</b>	<b>555.184</b>			
Energy consumption after	<b>37.848</b>	<b>161.104</b>			
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	<b>4.52</b>	<b>1325</b>			
Company complete address: <b>M/S Hassan Co-operative Milk Producers' Societies Union ltd,          Industrial Estate, B.M.Road, Hassan, Karnataka.</b>				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: G.S.Govindaraju, Deputy Manager (D.T), Hassan Milk Union,				Signature  Date	