

#1 TEA HUMIDIFICATION SPECIALISTS



F. Harley



*We Help Make  
Better Tea®*

OVER 500+ INSTALLATIONS ACROSS TEA FACTORIES

*Harley Humidikool™*

COMPLETE HUMIDIFICATION SOLUTIONS

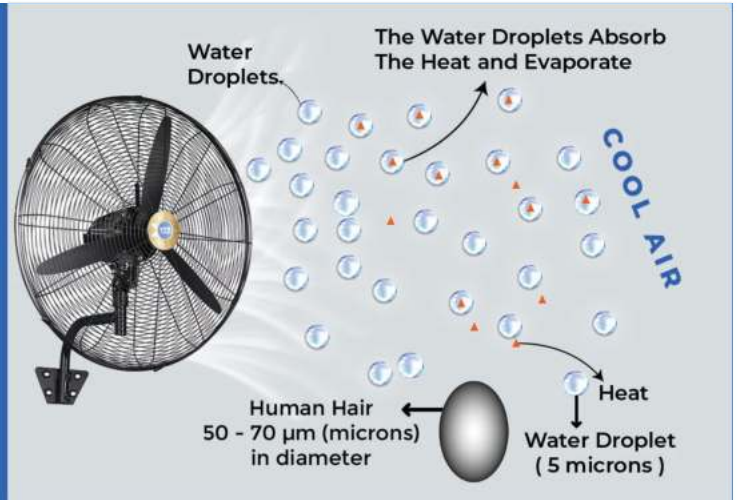
# INTRODUCTION

F. Harley introduced the path breaking and effective humidification system as **Harley Humidikool™** - **Advanced Humidification & Cooling Systems** - for ambient applications in the Tea Industry since 2010, expanding further into machine applications to date. F. Harley has over 500 installations and is growing rapidly in Assam, North Bengal, Bangladesh, Africa and Nepal. Over the years, F. Harley has successfully introduced these systems to the ambient cooling as well as mist chamber applications to the most renowned names in the tea industry.

## WORKING PRINCIPLE

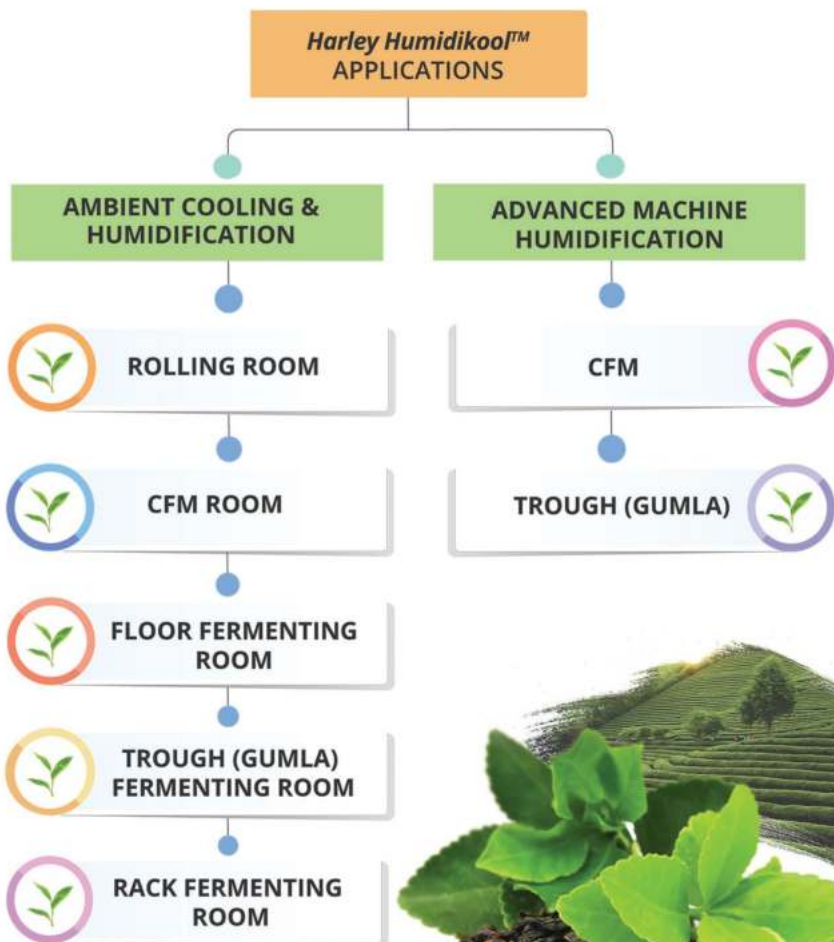
**Harley Humidikool™** Systems work on the basis of Flash Evaporation principle. Based on the said principle, in order to maximize the cooling efficiency, our system employs a way to create the finest 0 - 5 micron mist, which is similar to natural fog.

The optimum amount of mist created also helps in increasing desired level of RH% in the specialized processes like tea fermentation with desired air changes.

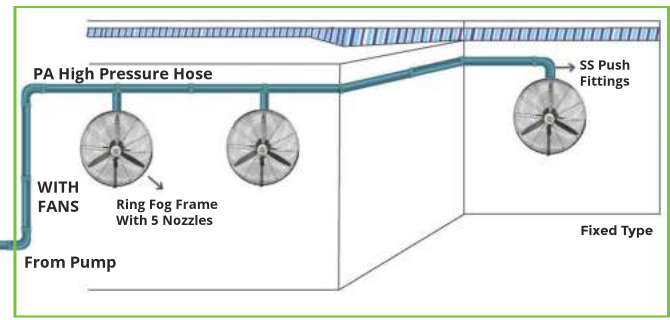
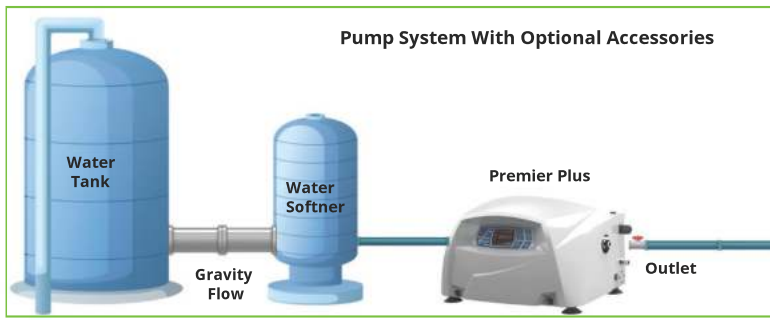


## Harley Humidikool™ - COMPLETE HUMIDIFICATION SOLUTIONS

**Harley Humidikool™** offers a wide range of applications in the Tea Industry.



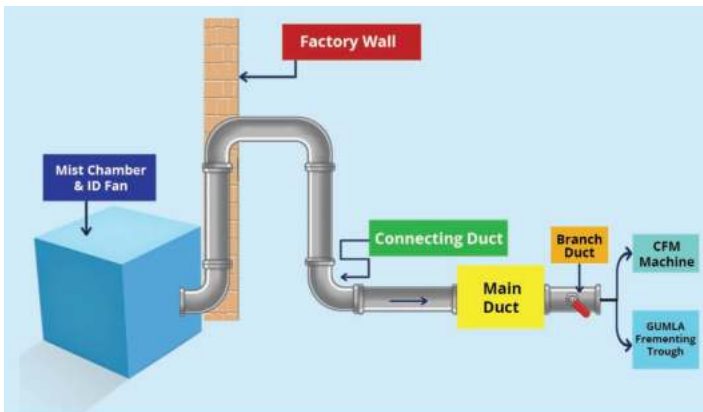
# CUSTOMIZED SYSTEM LAYOUTS



## INTRODUCTION TO 'EFFECTIVE HUMIDIFICATION WITHOUT MIST CHAMBER'

Now, with **Harley Humidikool™** System, you can very effectively humidify the inside portions of CFM and Trough (Gumla) processes, without the requirement of Mist Chambers!

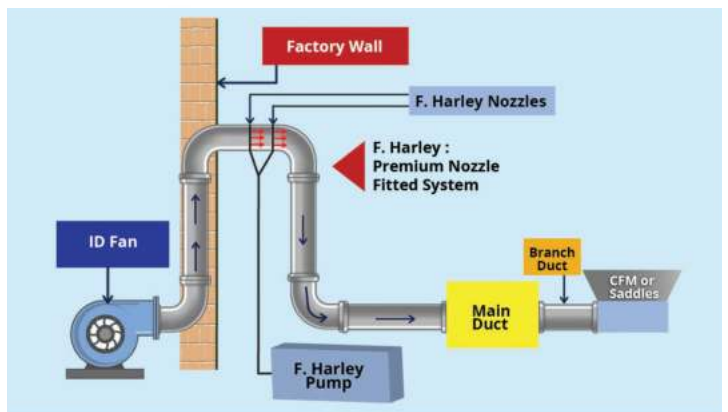
### ✗ With Mist Chamber



### Disadvantages

- Insufficient Humidification (In Certain Conditions)
- Civil Construction Cost
- Bad Hygiene Due To Deposited Water
- Higher Power Consumption
- Higher Water Consumption.

### ✓ Using Harley Humidikool™ System, Without Mist Chamber



### Advantages

- Guaranteed 90% Or More RH!
- No Civil Construction Required
- No Space Required
- No Water Deposition, Better Hygiene
- Much Lesser Power Consumption
- Much Lesser Water Consumption.

## BENEFITS OF *Harley Humidikool™* SYSTEM

### A) Benefits for CTC & Fermenting Room







- Reduction In Air Temperature
- Uniform Cooling And Humidification
- Better Fermentation
- No Dripping Problem, Lesser Bacteria Contamination
- Enabling of More Air Change In Processing Room
- Greater Area Coverage
- Easy and Minimal Maintenance
- Huge Energy Saving
- Option Available for Sensor Controller
- Very Low Noise Level
- Customized Solution Offered

### B) Benefits by Eliminating Mist Chamber

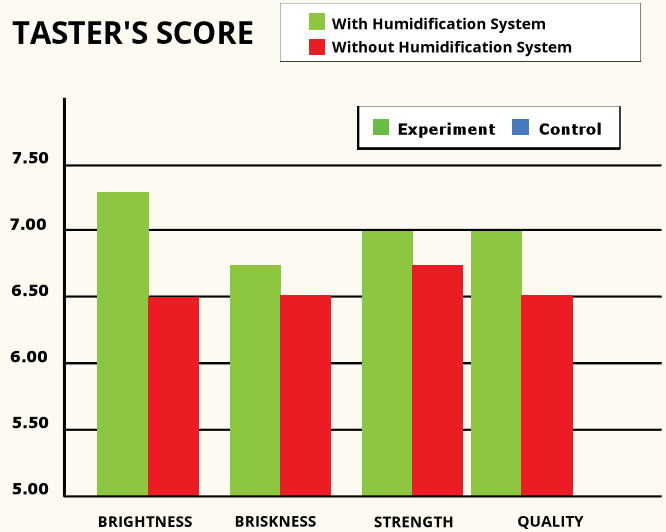
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# OBSERVATIONS UPON *Harley Humidikool™* SYSTEMS SINCE 2019 IN MTF JORHAT BY TEA RESEARCH ASSOCIATION (TRA) TOCKLAI

-  70 sets of trials were taken during tea processing, both with and without the system in operation.
-  System achieved humidity of 91.8% to 95.9% inside the fermenting room (prevailing ambient humidity levels from 71.9% to 74.40%)
-  Spot humidifiers are often found to be inadequate in preventing moisture loss
-  The appearance of the treated samples on fermentation bed was very bright and the made teas were preferred by the tasters.
-  Observations were more pronounced on days of low ambient humidity.
-  Tasters' scores on made tea were significantly higher with respect to brightness, briskness, strength and quality, compared to the control samples.

## TASTER'S SCORE

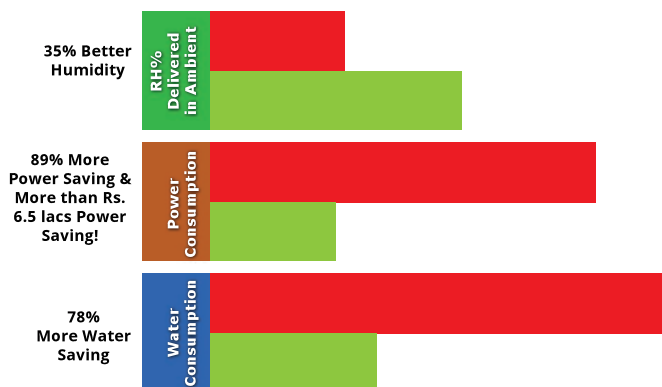


Variation in organoleptic parameters of made tea with and without humidification on days with low ambient humidity only.



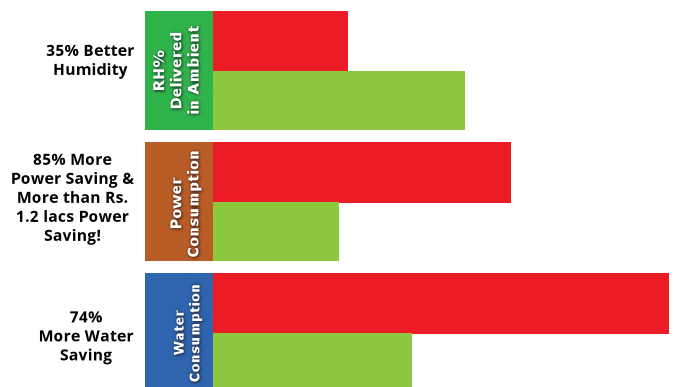
## SAVE MORE, GAIN MORE



### CASE STUDY ON AMBIENT HUMIDIFICATION WITH *Harley Humidikool™* SYSTEMS



 Conventional Humidification Systems  
 *Harley Humidikool™* Systems

### CASE STUDY ON CFM HUMIDIFICATION WITH *Harley Humidikool™* SYSTEMS



 Conventional Humidification Systems  
 *Harley Humidikool™* Systems

## INDUSTRY SPEAK



**Humidity Increase**



**Power Savings**



**Ambient Temp Reduction**



**Lesser Space Requirement**



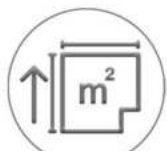
**Civil Work Eliminated**



**Bacteria Reduction**



**More Air Changes**



**Greater Area Coverage**



**Water Savings**

"F. Harley's systems are very effective in controlling & maintaining humidity to desired levels in tea fermenting areas. I have also used them to great advantage in bringing down temperatures in the processing rooms by increasing humidity. This is helping even more today with rise in temperatures & sudden dry spells as witnessed this year. That there is no dripping from the system is a huge advantage, eliminating a lot of the bacteria contamination problems that used to be associated with conventional humidification equipment, especially when efforts were made to increase humidity in very dry weather. The innovations made in the usage of its systems to replace the monster mist chambers has brought about tremendous improvement in humidity, reduction in power & water usage, flexibility of putting in the system even during peak production. And the work in progress on the Continuous Fermenting Machines will make a huge difference."

**Mr. Harkirat Sidhu**

Renowned Tea Consultant

Humidity has a substantial impact on the Quality of Tea being produced. Selecting the correct type of humidifying machinery with proper humidification goes a long way in producing quality teas. In my career in tea for the last 27 Years, the **Harley Humidikool™** system is the best system of humidification I have ever come across and have had the privilege to experience the transformation it can make in producing quality teas.

The best part of the system is atomisation of water molecules to 5-10 microns thereby evaporating in the Processing/Fermenting area and thereby dropping the ambient room temperature. This helps maintaining RH above 90% even on hot days. The water droplets, as it doesn't fall into the teas helps in maintaining the inherent quality of tea. Should I have the opportunity I would always recommend **Harley Humidikool™** Humidification System to produce the best of teas.

**Mr. Pranjal Borthakur**

Manager Mcleod Russel Bhooteachang and ex Goodricke

The F. Harley Humidification System **Harley Humidikool™** is very effective system even at ambient temp of 37 °C the humidification fans controls the temp in the CTC room to 26 °C and fermenting room temp to 22 °C. We are satisfied and our tea quality has improved very much.

**Mr Rajendra Kumar Singh**

MD Budhkarana Tea Company Nepal



### About F Harley

F. Harley & Company Pvt. Ltd. was established in 1825 and enjoys a long history that has seen it evolve from a predominantly textile based company to being an eminent player in environmental engineering in the Indian market. With its core activity being in the field of Air Pollution Control Systems, F. Harley also extended its business line into the area of Outdoor Cooling and Humidification Systems in technical collaborations with international pioneers and has engaged in research with Tocklai Research Association, Jorhat upon improvement in Humidification for the Tea Industry. F. Harley has also been recently awarded Corporate Heritage Recognition 2022.



### F.Harley & Company Pvt. Limited

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