

# **Government Engineering College, Valsad**

## **Chemical Engineering Department**

**Webinar Title:** Advancement of Heat Exchanger

**Name of Expert:** Mr. Nikhil Khadse

**Date of Webinar:** 7/6/2020

**Time:** 10:00 A. M onwards

**Faculty Coordinator:** Prof. B. M. Pandya

**Organising Committee:** Prof. H.M.Jariwala, Prof. A.R.Magodara, Prof. A.H.Prajapati

**No. of Registered Participants:** 68

### **Guest Profile:**

Mr. Nikhil Khadse (B.E. Chemical) is working as Deputy Manager in process function and heading one plant for process improvement at Aarti Industries Ltd.

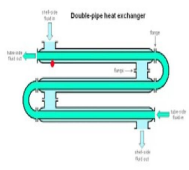
### **Webinar description:**

The Department of Chemical Engineering organized a webinar on “Advancement of Heat Exchanger” on 7<sup>th</sup> June 2020. The webinar was organized for all students of the chemical engineering department. Prof. B. M. Pandya introduced Mr. Nikhil Khadse to all participants. Mr. Nikhil Khadse started with introduction of heat exchanger and discussion on types of H.E and applications. Mr. Nikhil Khadse shared his personal experience on advancement of H.E With comparison of latest developments in H.E design .The session ended with a vote of thanks by Prof. B. M. Pandya in appreciation to Mr. Nikhil Khadse for sharing his valuable time for interacting with students and faculties.

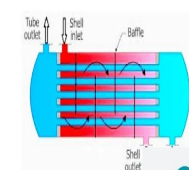
## Glimpses of Expert lecture

**Types of Heat exchangers**

- ❖ Double pipe Heat Exchanger




- ❖ Shell and Tube Heat Exchanger



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**Finned Tubes Construction**

Integral low-fin tubes      High-fin tubes

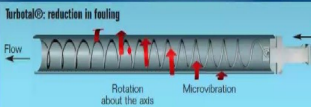


Low-fin tubes are used in shell & tube heat exchangers; high-fin tubes in air-cooled heat exchangers

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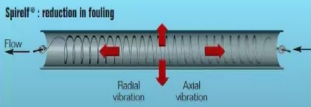
**Tube Inserts Concept**

**Turbotal®: reduction in fouling**




Flow → Rotation about the axis → Microvibration

**Spiralfin®: reduction in fouling**



Flow → Radial vibration → Axial vibration

**Fixtural®: improvement in heat transfer**



Flow → Vibration

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**Twisted-Tube® Heat Exchangers**

**Shell side flow**



Uniform flow distribution and velocity



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Vala Vish...  
Nikhil Kh...

Head of Department  
Chemical Engineering Department  
GEC, Valsad