

Godrej Industries Pvt. Ltd. - Case Study/Report

Customer Details			
Name of Company	Godrej Industries Ltd.		
Address	Valia,Gujarat		
Person Name	Mr.Amarsinh Rana		
Designation	Head Project/Maintenance		
Contact phone			
Contact Email	amarsinh.rana@godrejinds.com		
Case Study ref. No. #			
Date of installation	29/05/2015		
Background			
Type of Industry	Chemical Factory		
Applications/Utility	Hot water for Deaerator and Cold Water for Cooling Tower		
Existing System	Method	Cost of O&M	Remarks
	Boiler		Boiler efficiency 65%
Site Survey	The installation was to be completed on level 2 of the New Steam Generating Plant.		
Ambient Temperature	30 C (annual average)		
Feed Water	Centralised DM Water Source		
Storage Existing/New	Existing Deaerator Tank		
Installation Space	Open to air proposed location for installation close to Hot water tank.		
Backup	NA		
Connection for Utility	Electrical	Common Headers	Remarks
	Available	No	
Details of previous dealing (if any):			
This is a pilot project			

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Requirement						
Application	Hot water in Deaerator is used to take away the oxygen and other soluble gases in water, after which the water is used for steam Generation. For Cold Side, the Processed water from plant is sent to the machine to lower down the Temperature.					
Heating/Cooling	Heating & Cooling					
No of Sites	1					
Temperature	Average In (C)	Average out (C)			Remarks	
	30	60			as hot as possible	
Flow rate per day	50000 liters					
Usage Pattern	Usage of Hot water Depends on the Steam Generation Load. i.e the Hot Water Requirement is directly proportional to the Steam that needs to be generated. Whereas the Cold Water is the By Product and would be used to lower down the cooling water temperature.					
Hydro-pneumatic System?	Yes					
Remarks						
Supply/Device						
System Name	MUG 20Z30			Type	Water to Water	
Size of unit (KW)	20					
No of units	3					
Temperature	Average In	Average out			Remarks	
	35	60				
	Average In	Average out				
	35	20				
Pump	Type	Rating (kW)		Make	Remarks	
	No Pumps were needed as the Inlet Pressure and flow was enough for the Systems Essentials.					
Storage	Type	Layout	Insulation	Capacity (litres)	No s	Low-Level Sensor
	Non-Press.	Horizontal	Yes	NA	1	NA
Remarks						

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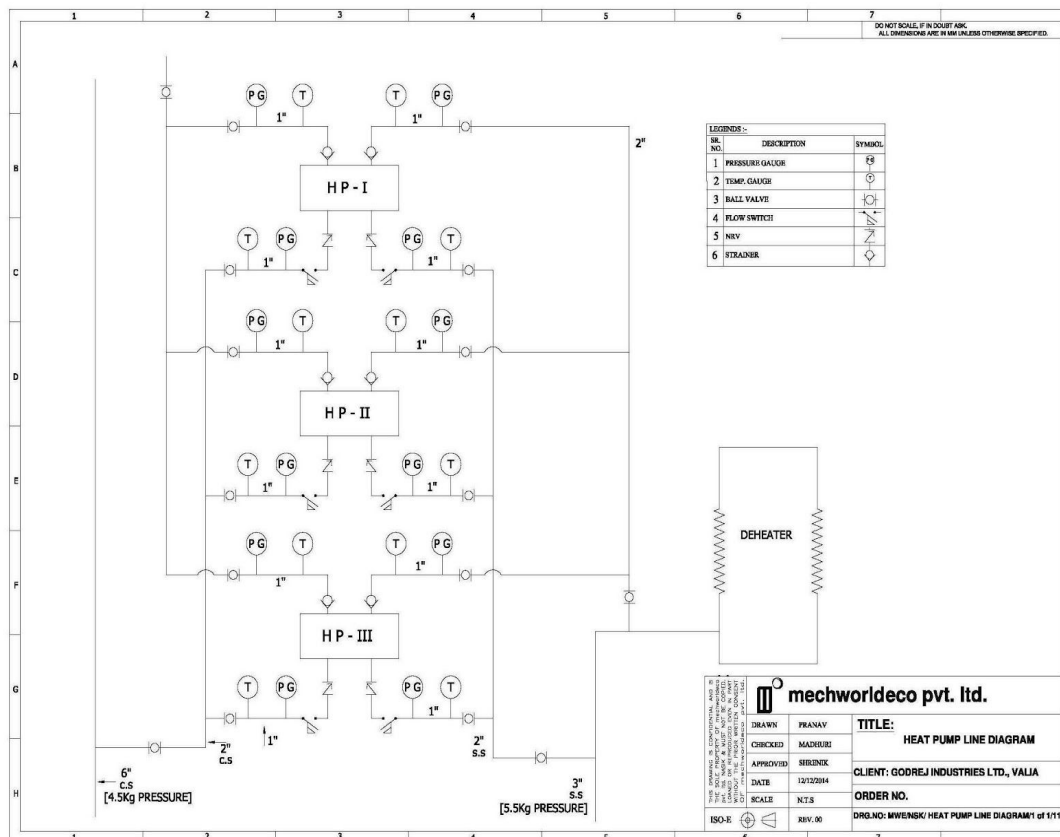
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Engineering + Installation + Challenges

System Engineering

Three System were Placed Side By side with a Common Header Inlet and Outlet at the Same Junction. The Inlet of Both Hot Side and Cold Side where given with a flow switch Provision. As the Pumps were avoided in Installation, it was better to safeguard the System with Flow switches rather than Low Pressure and High Pressure Switches. Pressure and Temperature Gauges were installed to the individual Inlet and Outlet of the Machine as to know the Temperature Output of the Machines.

Layout/Schematics



Problem Troubleshooting

The Flow rate of the Cold water from the Machine was high because of which the Cooling tower was getting overflowed. Due to the Over Flow of Cooling Tower the Technician at the Site was shutting off the Inlet Cold water, hence tripping off the System. To avoid such Problem the Engg. Team at Godrej are looking to utilise the additional Cold Water Supplied through the System.

Remarks

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System Instruments/ Features								
Automatic ON/OFF	Yes							
Temperature Regulation	Yes							
Timers	Provision Made							
Level Sensors	No							
Safety Features	Electrical	Flow	Temp.	HVAC	Remark			
	Earthing	Flow Switch	Trip at 65	Pressure Trip				
Remarks								
Performance (Results from actual Data)								
Supply#	Temp In (Hot)	Temp Out	LPM	Temp In (Cold)	Temp Out	LPM	COP (overall)	Savings
	36	60	15	35	21	15	7.6	Please Contact
	36	58	17	36	24	16	8.7	
	36	57	17	34	20	14	9	
Remarks for Supply # (ROI if applicable)								
Please Contact								
Remarks								
Excellent performance.								
Conclusion								
The System was designed and successfully installed. All parameters were checked and the client was extremely satisfied with the results provided.								

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