

Heat Exchanger Diagnostics

The Challenges for Customers

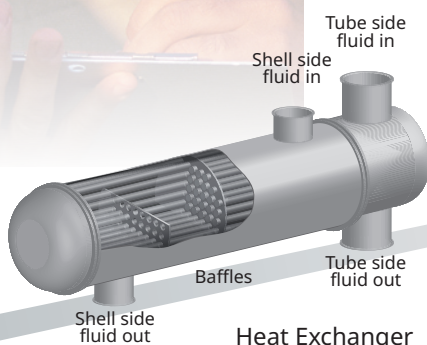
- A lack of expertise in performing early-stage diagnosis of heat exchanger problems to minimize maintenance shutdown costs
- Currently available tools are difficult to use and require high-level expertise to interpret results. Most are intended only for offline-use.

Key Features of Heat Exchanger Diagnostics

- Evaluation of heat exchanger performance that helps optimize energy consumption
- Sophisticated fouling prediction mechanism that enables more proactive maintenance approach and cost savings on problematic heat exchangers

InsightSuiteAE Solutions for Heat Exchanger Diagnostics

- Smart algorithms developed by Yokogawa experts enable dynamic troubleshooting of heat exchanger performance. InsightSuiteAE takes a four-way approach to heat exchanger diagnosis by monitoring heat balance, thermal balance, fouling, and the rate of pressure drop.
- Key performance indicators (KPIs) allow users to keep track of heat exchanger effectiveness, thermal efficiency, and fouling rates.
- Daily reports generated by InsightSuiteAE give a quick grasp of all essential heat exchanger performance parameters.



PLANT Details (HEX)

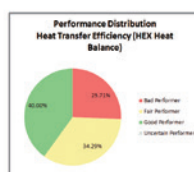
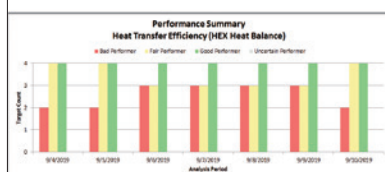
From Date: 8/4/2019
To Date: 8/10/2019
Servers: ISAB-Server-01

No.	Server	Tag	Priority	Comment	Watch Mark	Rank No.	Ranking	Avg Heat Transfer Efficiency	Value Changed
1	ISAB-Server-01	E2010	Low	Buffer Receiver		1	Best	80.00	0.00
2	ISAB-Server-02	E2009	Low	Hydrogenation A	3/20/2018 8:16:39 PM	2	Best	64.91	<0.77
3	ISAB-Server-05	E2004	High	Distillation		3	Best	79.70	3.60
4	ISAB-Server-02	E2005	Normal	Hydrogenation		4	Fair	78.00	0.10
5	ISAB-Server-01	E2001	Low	PCC	3/18/2018 8:21:55 AM	5	Fair	78.81	0.00
6	ISAB-Server-02	E2002	High	Distillation		6	Fair	79.81	0.00
7	ISAB-Server-02	E2007	Low	Hydrogenation B		7	Fair	79.81	0.00
8	ISAB-Server-01	E2006	Normal	PCC		8	Fair	79.81	0.00
9	ISAB-Server-01	E2008	Low	Hydrogenation		9	Fair	80.00	2.40
10	ISAB-Server-01	E2009	Low	Distillation		10	Fair	80.00	0.00

PLANT Summary

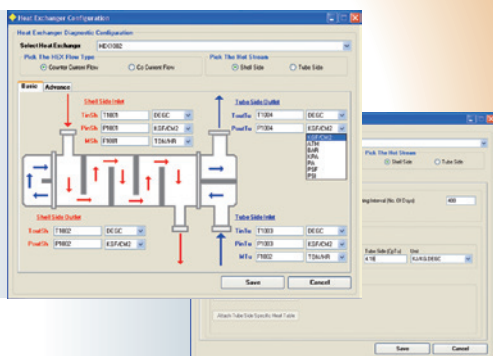
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Heat Transfer Efficiency (HEX Heat Balance)				SFC Index (HEX Thermal Efficiency)			
Rank	Tag	Target	Value	Rank	Tag	Target	Value
1	E2010	80.00	80.00	1	E2010	80.00	80.00
2	E2009	64.91	64.91	2	E2009	64.91	64.91
3	E2004	79.70	79.70	3	E2004	79.70	79.70
4	E2005	78.00	78.00	4	E2005	78.00	78.00
5	E2001	78.81	78.81	5	E2001	78.81	78.81
6	E2002	79.81	79.81	6	E2002	79.81	79.81
7	E2007	79.81	79.81	7	E2007	79.81	79.81
8	E2006	79.81	79.81	8	E2006	79.81	79.81
9	E2008	80.00	80.00	9	E2008	80.00	80.00
10	E2009	80.00	80.00	10	E2009	80.00	80.00

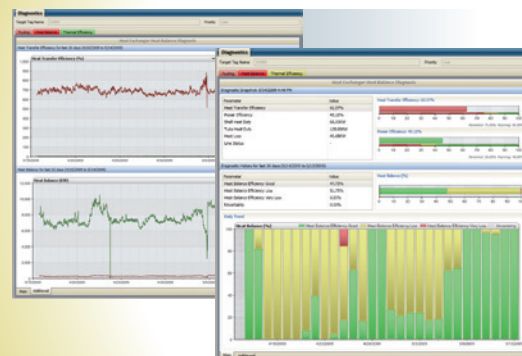




The Benefits for Customers



Configuration panel



Trend display panel

- InsightSuiteAE's online monitoring helps eliminate heat exchanger failures and prevent plant shutdowns by showing current performance levels and long-term trends, and KPIs keep expenses down by showing the optimum time for heat exchanger cleaning.
- Daily reports quickly identify energy-inefficient assets, and KPIs alert operators to abnormalities, help engineers perform root cause analysis, and facilitate timely decisions by management.
- Yokogawa's unique and easy-to-configure diagnostic tool and services preempt failures by identifying the slightest deterioration in health and suggesting how a heat exchanger can be returned to optimum performance.

OpreX™

Yokogawa achieves operational excellence by providing products, services, and solutions based on the OpreX comprehensive brand that cover everything from business management to operations.

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