

CASE STUDY REF: 008

REPLACEMENT OF CONVENTIONAL KNIFE GATE VALVE BY JASH SCHUTTE SWING GATE VALVE, MODEL KU-HT FOR BED ASH DRAIN APPLICATION



Background

Thermax Babcock and Wilcox Energy Solution Pvt. Ltd. a major supplier of boiler systems were observing the major problem in their system due to operational issues in conventional knife gate valves used in the CFBC boiler for bed ash discharge application. Problems observed were –

- Jamming due to deposition of ash in horizontal dead pockets of knife gate valve.
- Opening blockages due to clinker lump formations, heavy leakages from the gland area.
- frequent wear and tear of gate edges and entire replacement of valve within six months.
- Increased input and maintenance cost and also affected the relationship with their customer.

Solution Provided

Jash Schutte with its approach of application-based valve solution had introduced its swing gate valve, model KU-HT, series C312 which was advantageous over conventional knife gate valves, such as no leakages due to its glandless design, no jamming due to the absence of horizontal dead surface inside the valve, fast and powerful closing action, etc. However, on account of the huge difference in pricing, Thermax could not decide on the same. Ultimately, increased operational problems and maintenance costs have pushed Thermax to consider this alternative.

Customizing to suit application requirements

Thermax decided to try out our swing gate valve, model KU-HT for the few existing projects on a trial basis and we agreed to supply these valves and be paid only if the valve performs to Thermax expectations. Initially, we have supplied the standard swing gate valve as per the existing German design but within a few months of installation, several minor problems were observed. After continuous monitoring of the installed valve at these sites, we along with our German Partner came out with several design modifications to overcome all these problems. Our persistence to find a longterm solution to overcome problems faced in this application finally paid off after a year, when all the teething troubles were addressed. The modified KU-HT valve now performs trouble-free and works with minimal maintenance and parts replacement thereby recovering the additional investment of higher capital cost in a year.

Project Details	
Customer	Thermax Babcock and Wilcox Energy Solutions Pvt. Ltd.
Project	M/s Bajaj Energy Limited
Location	Balrampur, Uttar Pradesh
Product	Swing Gate Valve
Model	KU-HT
Series	C-312
Size	DN200
Application	Boiler bed ash drain application

Material Parameters	
Opr. Temp	950°C
Opr. Press	1.5 Bar
Material Comp	SiO ₂ , Fe ₂ O ₃ , TiO ₂ , Al ₂ O ₃ , CaO
Particle Sizing	Maximum up to 3 Inches



“First choice” of industry for bed ash drain valve

Once Thermax was satisfied with the results of Jash Schutte swing gate valve, model KU-HT for high temperature bed ash drain application, it changed the conventional knife gate valve by it in over two hundred installations till now for projects as Bajaj Energy Limited, Welspun captive power gen. Ltd., Grasim Cellulosic division, Wonder cement limited, Ultratech Cements Limited, Reliance Industries Limited, RSPL Limited, JSW Energy Limited, etc.

Replacement of conventional knife gate valves which was earlier a biyearly event has become a four year event when replaced by Jash Schutte swing gate valve, model KU-HT. after seeing these results other industry leaders like ISGEC, Thyssenkrupp have followed the footsteps of Thermax and integrated Jash Schutte swing gate valve, model KU-HT in their bedash drain system. These companies too have placed regular and repeat orders for these valves after seeing superior performance in their projects.

The best testimonial comes from our competitor, who after realizing deficiency in their product, has started copying our product and ended up in offering substandard cheap copies of this valve without fully understanding the efficacy of our design and the modifications that we made with trial and error in filed for over a period of one year at numerous sites.

Installation Photographs



KU-HT DN200
Installed at M/s Bajaj Energy Ltd.



KU-HT DN200
Installed at M/s J.K. Cement Ltd.

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