

## **TOGGLE DISC VALVE, DVGW approved, for the Mittelsbühren powerstation**

August 2001

RAUMAG-JANICH Systemtechnik GmbH

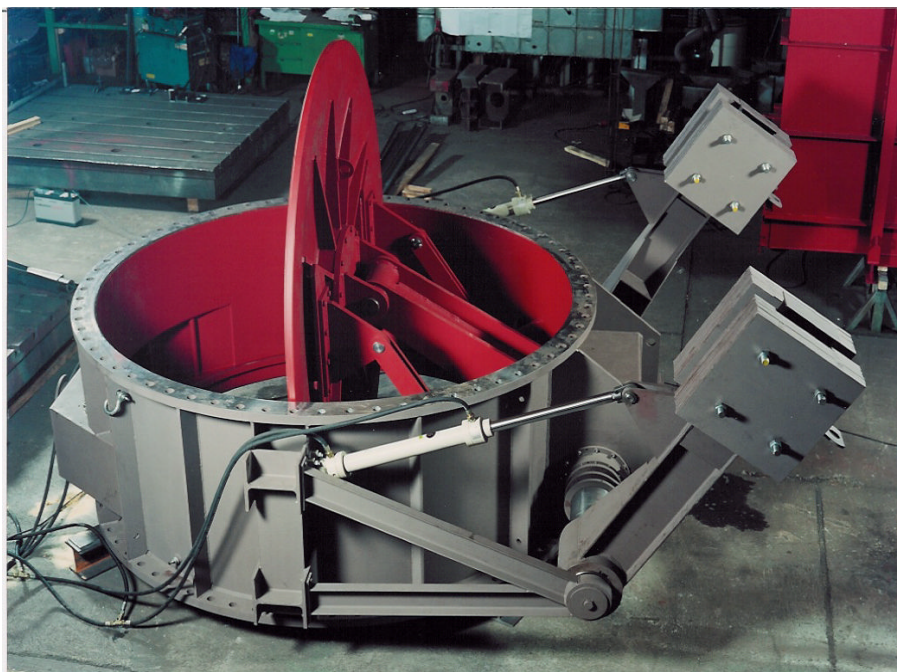
**RAUMAG – JANICH** secured an order from **ALSTOM POWER BOILER**, Stuttgart for the supply of all shut –off and modulation dampers required for the blastfurnace gas fired boiler of the **Mittelsbühren powerstation** at Bremen.

Included in this order was a toggle disc valve, ND 3000 mm dia .eight toggle disc valves, DN 1300 mm dia. and a toggle disc valve 800 mm dia.

The valve DN 3000 is used as a gas deficiency safety device which automatically shuts – off the gas supply within 5 seconds when the gas pressure falls below 20mbar.

Closing is effected by means of two counterweights independent of external energy in compliance with the prevailing regulations.

The valve is hydraulically opened. The hydraulic actuator is equipped with a Siemens SP control system. In the “closed “ position, the sealing element fitted to the valve disc is brought into tight contact with the double landing bar in the casing. The cavity created in this position is pressurized by nitrogen. Because of its importance for the safety of the plant the valve has been DVWG approved.



### **Technical specification :**

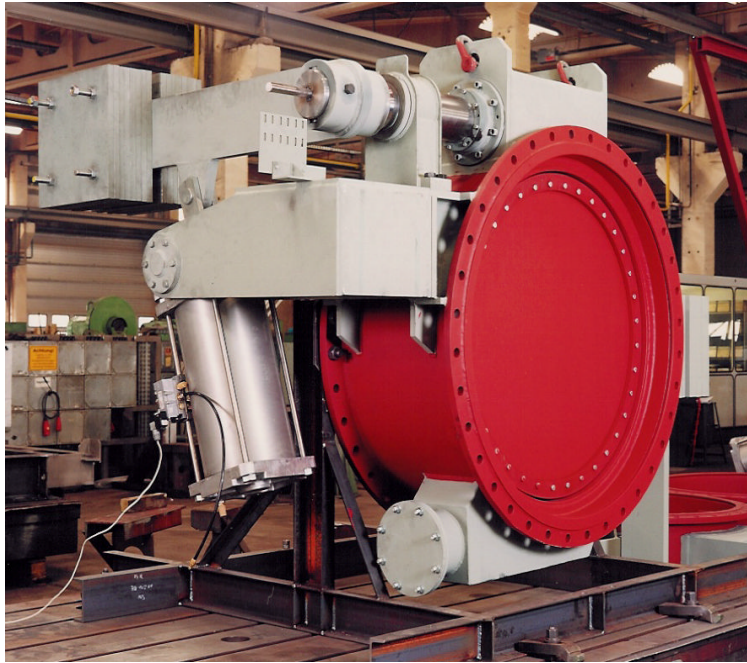
Nominal diameter: 3000 mm  
Closing time : 5 seconds  
Differential pressure:  
60 mbar  
Design pressure:  
150 mbar  
Design temperature:  
220 degrees C

### **Design :**

Fitted into horizontal duct,  
double landing bar in the  
casing with nitrogen seal me-  
dium, closing by means of  
counterweights, hydraulically  
opened.

As burner safety valves eight toggle disc valves, ND 1300 mm dia ., have been supplied. ( see picture overleaf ) The valves are opened pneumatically and , in the event of an operational fault or a power failure, they are closed through counterweights within 2,5 seconds. In the “ closed “ position, the sealing element fitted to the valve disc is brought into tight contact with the double landing bar in the casing. The valve tightness is checked by monitoring the pressure of the nitrogen sealing medium. All valves have been individually DVWG approved.

## Burner safety valves, ND 1300 mm dia., DVWG approved, for the Mittelsbühren powerstation.



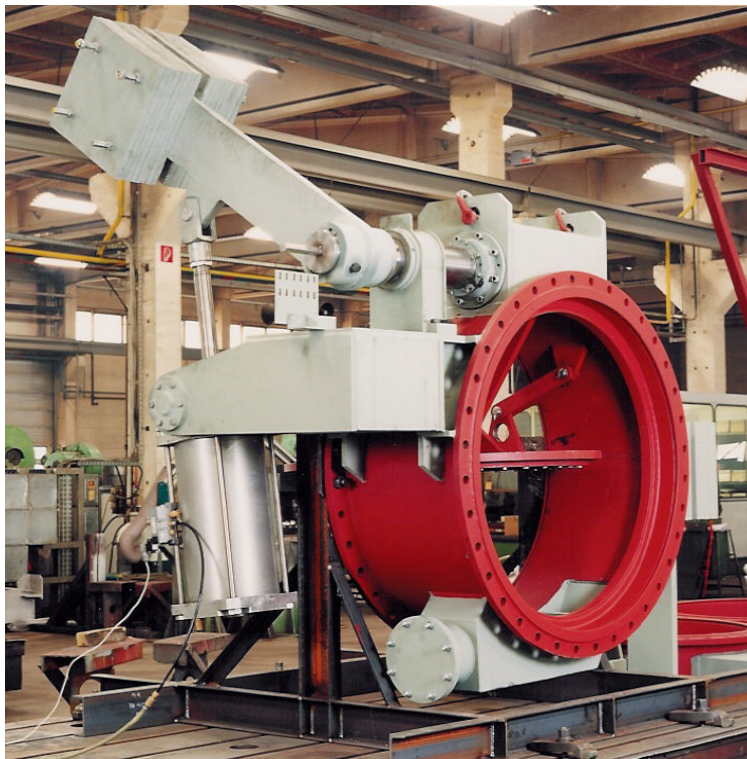
The pictures show the toggle disc valves during tests and trial operations at the Rauenstein works.

Picture above :

Valve in closed position, the seal, fitted to the valve disc is in close contact with the endless landing bar of the casing, tightness is maintained by means of the counterweights.

Picture below :

Valve in open position, the valve disc is in the centre of the duct. In this position the sealing element is easily replaceable.



### Technical specification :

Closing time : 2,5 sec.  
Differential pressure :  
Design pressure :  
Design temperature :

### Design :

Fitted into horizontal duct, double landing bar in the casing with nitrogen seal medium, closing by means of counterweights without external energy, hydraulically opened.

**RAUMAG-JANICH Systemtechnik GmbH**

RAUMAG-JANICH Systemtechnik  
GmbH  
Im Grund 6  
96528 Rauenstein

Telefon: 036766 / 881-0  
Fax: 036766 / 81032  
E-Mail: info @ raumag-janich. de

**Perfect technique, Quality and Security**

