

Z&J TECHNOLOGIES GMBH

**Breakthrough
Engineering**
for a better
world





Z&J Technologies GmbH
D-52355 Düren



Type:

HEISSWINDSCHIEBER / HOT BLAST VALVE
(wassergekühlt / water cooled)

Nennweite / Size:

DN 1800 / NPS 70"

Auslegungsdruck / Design Pressure:

5,0 bar(g) / 72,5 psi(g)

Auslegungstemperatur / Design Temperature:

02

IMI Z&J

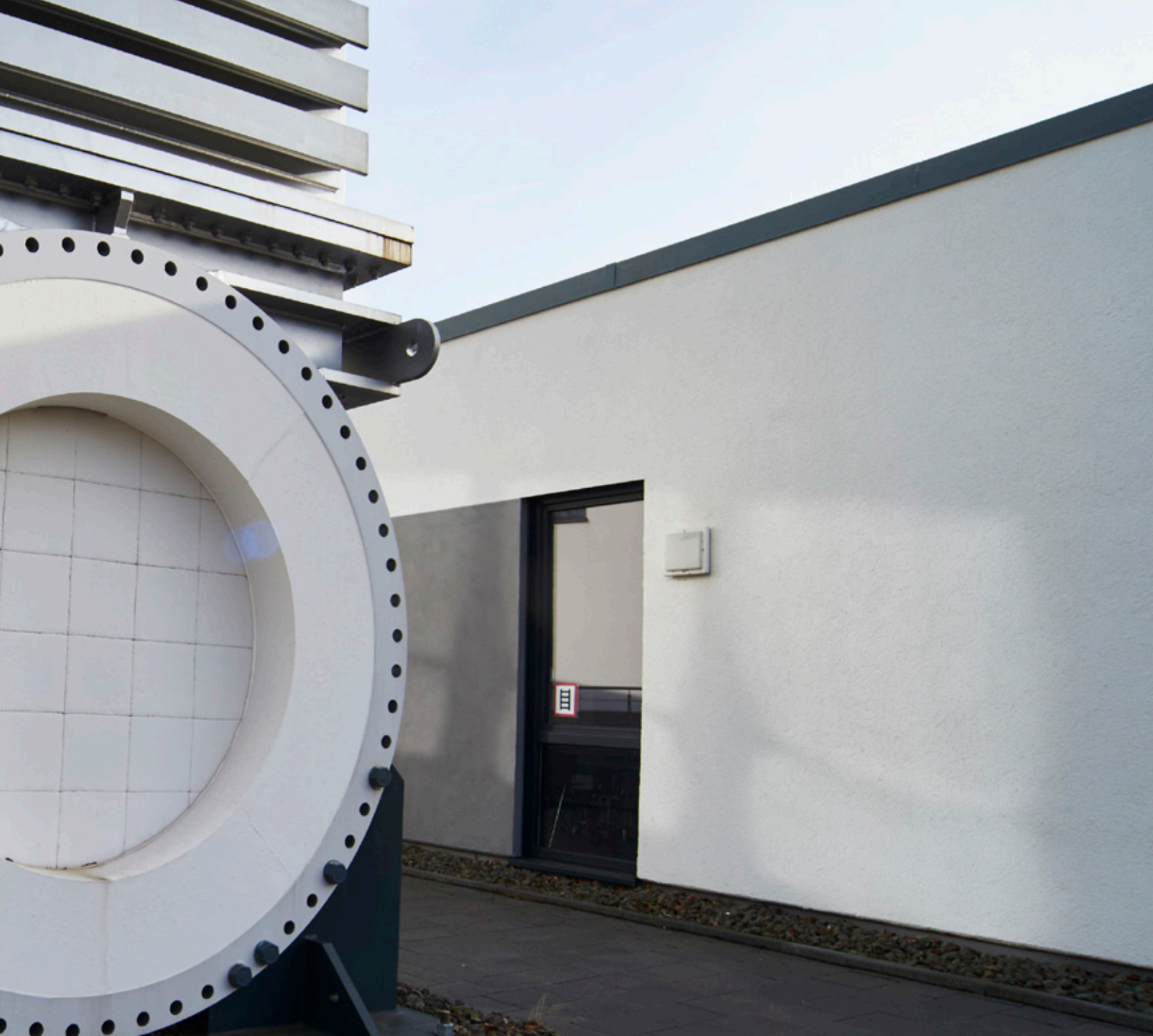
We are an international leader of custom engineered high temperature valves for the Petrochemical and Refining industries.

More than 140 years of experience and application of the latest engineering technology and fabrication procedures guarantees unique, high-quality, specialised valves. High operating temperatures, large nominal sizes of up to 6m in diameter (larger by request), together with high frequency of operation and very long maintenance free operating periods are IMI Z&J's specialty.

Our in-house engineering enables IMI Z&J to offer customised solutions for critical applications such as delayed coking, ethylene and FCC. IMI Z&J has contributed significant innovations to the industry by introducing the double disc coke drum unheading technology and the electric actuation for Top Unheading Devices and Bottom Unheading Devices.

Over the years, IMI Z&J engineers have been working closely with refiners, technology licensors and operators to develop advanced technologies to lower the overall long-term operating costs and investments of high temperature valves.

www.imi-critical.com





04

Ethylene

IMI Z&J (Zimmermann & Jansen) supplies various high-quality engineered valves and is a world leader for engineering, design and fabrication of Double Disc Through Conduit (DDTC) Type Gate Valves for use in Ethylene units. To date IMI Z&J has supplied more than 2000 DDTC Valves all over the world. Our IMI Z&J DDTC valves represent the latest stage of valve technology in Transfer Line Valve (TLV) and Decoking Valve (DV) application and provide a higher safety level than any other type of valve design.

General Information

- Engineered high performance valve design, suitable for media with extremely high solid particle content
- Tailor-made, fabricated design according to customer specification and German or international standards
- Materials selected to suit operating conditions
- Most robust and fail-safe design; proven reliability under severe service conditions over many years in operation
- Excellent performance with extremely low maintenance and operating costs
- IMI Z&J offers an extended 3-years warranty period for installation in Ethylene units.



Key Features

- Fabricated, remastered, one-piece valve body design
- Safe and reliable tight shut-off by two independent closure elements
- Active mechanical seating force by means of split-wedge-ball mechanism and actuator high seating thrust
- The goggle type gate assembly is equipped with two independent shut-off discs (closed position) and a special pre-stressed expansion bellow device (open position).
- All valve internals can be removed from the one-piece body through the bolted bonnet opening.

Benefits

- Extra heavy duty valve body designed with Finite Element Analysis (FEA) to withstand individual operating conditions and external piping loads and to minimise valve body distortions and deformations

- True double block & purge performance within one valve body by means of two separate shut-off discs
- The assembly runs smoothly (no blockage) between the two guide plates.
- Mechanical or electrical linkage systems control the valve positions of the associated TLV and DV to maintain a positive pressure between the steam cracker and the transfer line at all times.
- The mechanical linkage system (link lever mechanism) is available for the common operation of a TLV with a small DV.
- The electrical linkage system mimics the actions of a mechanical linkage and allows the TLV and DV to be located in more flexible positions.

Depending on the process requirements and upon customer requests many additional features/modules are available. Please contact us for details.

PDH/CATOFIN/Isomerisation

IMI Z&J has more than 60 years of experience as a manufacturer of wedge-within-wedge gate valves. Its design is most suitable for extreme operating

conditions such as high temperature, high pressure, line stresses and high frequency of operation.

Key Features

- Double disc design available as: double block and purge or double block and bleed
- Metal to metal seating
- Rising stem (O&Y type)
- Round, oval or flat valve designs available
- With flanges or butt-weld ends

Benefits

- No jamming of the discs, even under the most stringent operating conditions. During actuation of the wedges the discs collapse and are free to be moved
- Tightness and flexibility are achieved by the discs being pressed via a central ball between the internal wedges
- Minimum wear due to very short travel contacts on the sealing seats
- Under low differential pressure seat surfaces are free of wear due to axial pressing in closed position
- Available with electric, hydraulic or pneumatic actuator



LMT100/200

Hochgenaue Erfassung von Flüssigkeitsständen und Grenzschichten

Lesen Sie mehr unter:
www.abb.de/level



Welding Alloys

Fülldrahtelektroden für Plattierungen, Hartauftragungen und Verbindungsschweißungen

- ✓ maßgeschneiderte Analysen
- ✓ Spezielle Kundenanforderungen
- ✓ Kurze Lieferzeiten
- ✓ Anwenderfreundliche Schweißzusatzwerkstoffe

100% EIGENE
TECHNOLOGIE



Welding Alloys Deutschland GmbH
info.germany@welding-alloys.com
www.welding-alloys.com



- Exportverpackung
- Schwergutverpackung
- Lager- & Versandlogistik

07

WERTE SCHÜTZEN mit Sicherheit nach Maß

Der ungebrochene Trend zur Globalisierung erfordert schnelle Reaktion, kurze Produktionszyklen, hohe Flexibilität – und Perfektion im Versand. Wir sind Ihr Partner, wenn es darum geht, hochwertige Industriegüter innerhalb kürzester Zeit für den weltweiten Versand zu verpacken. Mit Fachwissen und kompetentem Personal unterstützen wir unsere Kunden von der Verpackungsberatung über Auftragsabwicklung bis hin zum Versand an den Bestimmungsort. 50.000m² Hallen- und Freifläche sowie Krananlagen bis zu 40 Tonnen stehen zur Verfügung.

Profitieren Sie von 150 Jahren Erfahrung. Ihre Güter haben es verdient.

Seit 1860. Damit Ihre Güter sicher ankommen.

52222 Stolberg-Münsterbusch · Tel. +49 (0) 2402 / 95 20-0 · www.peter-krings.de

Mubea

Tellerfedern GmbH



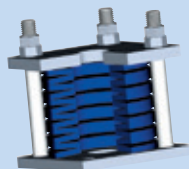
Qualität vom Weltmarktführer

Dank ihrer Anwendungsvielfalt werden Tellerfedern weltweit in den unterschiedlichsten Industriebereichen eingesetzt. Seit mehr als 60 Jahren produziert Mubea Qualitätstellerfedern nach DIN EN 16983. Neben der Produktion von Normabmessungen hat sich Mubea auch auf die Auslegung und Herstellung kundenspezifischer Sonderabmessungen bis zu 1000 mm Außendurchmesser spezialisiert.

Mubea Tellerfedern finden Sie z. B.

- zur Schwingungsdämpfung

bei Kesselaufhängungen und Rohrleitungen, in Stadien- und Hallendächern, in Fundamenten, im Brückenbau und zur Absicherung von Gebäuden in erdbebengefährdeten Gebieten



- zum Schutz von Wärmeausdehnung

im Kraftwerksbau, Fassadenbau und Solaranlagenbau

- in sicherheitsrelevanten Bereichen

wie Stellventilen und Sicherheitsschaltern, sowie in Bremsanlagen von Aufzügen, Windkraftanlagen und Kränen



Kontaktieren Sie unsere Entwicklungsingenieure und lassen Sie prüfen, ob durch den Einsatz von Tellerfedern der Generation II für Ihre Anwendung

- der Außendurchmesser bis zu 25 % verringert werden kann
- die Einbaulänge bis zu 33% reduziert werden kann
- die Lebensdauer bis zum 10-fachen gesteigert werden kann

Mubea Tellerfedern GmbH

Postfach 120

57564 Daaden, Germany

Tel.: +49 2743 806 0

E-Mail: Tellerfedern@mubea.com

www.mubea.com

FLUIDISED CATALYTIC CRACKING (FCC)

IMI Z&J Special Check Valves are typically installed to automatically prevent back flow (reverse flow) when fluid in the line reverses direction, avoiding damage to equipment.

Key Features

- In fully open position the valve provides clear throughway / body run, leading to an ultra low pressure drop (Compared with tilting disc check valve design where the disc remains in the throughway passage).
- Valves fully engineered according to customer required design conditions
- Large sizes of up to 80" in fabricated design possible
- Large variety of fabrication materials, IMI Z&J can also adhere to specifications with severe conditions and non-standard materials
- Long-lasting metal-to-metal seats due to corrosion and wear resistant hard-facing on all seats
- Free swinging disc with external level and counterweight
- Self-aligning disc and disc lever
- Hydraulic damper / dash pot with "end cushioning feature" avoids slamming of disc and body seats and unwanted swinging, chattering or vibration in open position
- Stuffing boxes with bushing made of self-lubricated material
- FE analysis to calculate the required valve body wall thickness

Benefits

- Low pressure drop in open position
- No undue swinging or chattering thanks to the dashpot system
- Spring-loaded cylinder to assist closing in case of power loss
- Settable counterweight system to regulate closure speed; typically 3-5 second operation time, but up to 1.5 seconds can be reached for any size upon special request
- Fully customised design
- Easy inspection and maintenance thanks to offset bolted bonnet cover (large enough even for disc removal), without need of removing valve from pipeline





DELAYED COKING

IMI Z&J has been a reputable manufacturer of large diameter valves for more than 140 years, with thousands of valve installations worldwide in severe refining and petrochemical applications such as FCC, Ethylene and Delayed Coking. After reviewing the Delayed Coking process, IMI Z&J developed the most robust, safe and cost-effective design for this complex and

challenging application. The double design provides more safety than any other design. Also, a single gate valve cannot meet the ultra-low steam consumption and the long lifetime of a double disc valve, which makes the double disc design not only the safest but also the most cost-effective solution for automatic coke drum unheading.

Delayed Coking Top Unheading CFD-TUD Delayed Coking Bottom Unheading CFD-BUD

Key Features

- Compact valve body – small fact-to-face dimensions
- Two independent discs => Limited thermal distortion => less steam => less erosion
- Two independent discs => true double block (double isolation) and purge
- Two independent discs - multiple seal design
- Lowest steam consumption => high energy savings => environmental safety
- Corrosion & wear resistant hard-faced seats
- Guided carrier between two plates => preventing coke fines in valve body
- No cooling water required
- Easy inspection of seats & discs
- Minimal spare parts
- Actuator options: electric or hydraulic

Benefits

- Safety - Double Block (double isolation) & Purge
- API 598 shutoff
- Fully remote operation, no operator on deck during unheading
- Cost Savings: On deck maintenance - easy access to internals
- Low steam consumption
- Reduction in fugitive emissions
- Low maintenance with minimal downtime
- Efficiency: Cycle time reduction – optimised production output

09



Prager GmbH | Zerspanungs- und Werkzeugtechnik
47918 Tönisvorst · Telefon: +49 (0) 2151 - 70 00 07
info@pragergmbh.de | www.pragergmbh.de



I&S SHUT-OFF VALVE

Our current modern products for the Iron and Steel Industry like for example Hot Blast Valves, Goggle Valves and Lever Valves are known world-wide for their exten-

sive and trouble-free operation. In terms of service you benefit from decades of experience accumulated by our highly motivated staff.

Key Features

- Fabricated construction
- In the initial stage of opening and final stage of closing, the disc moves parallel to the body seat
- Providing friction-free motion
- Various seat arrangements
- A special lever mechanism connects to, and applies pressure on the centre of the disc
- The shaft is arranged close to the valve centreline
- Operating lever and guide levers are of nearly the same length
- Compact design
- Materials according to operating conditions
- Valve actuation in accordance with customer's requirements (manual/electr./hydr./pneum.)
- Pressure rating up to PN 10
- Operating temperatures up to 600 °C (1100 °F)
- Nominal diameters up to 4000 mm (160 inch)
- Other sizes or operating conditions on request

Benefits

- Low wear at the seats due to parallel and friction-free closing and opening of the valve disc
- No jamming of lever system not even at higher temperatures, due to nearly the same length of drive lever and guide levers
- Seat tightness by central disc connection/pressure point providing self-aligning feature
- Low torque requirement at the drive shaft due to proximity to the valve centreline

Specifications/Other

Especially suitable for extreme operating conditions, such as:

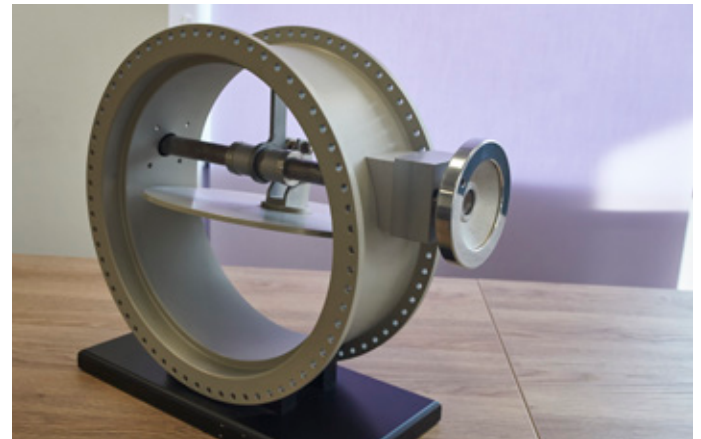
- High operating pressure in open as well as in closed position
- High frequency of operation
- Temperature differences
- Temperature fluctuations
- Shut-off of clean and dust laden air and gas media
- Short closing and opening time

Seat versions for various applications

- Soft sealing
- Metallic sealing
- Double soft sealing with purge gas chamber
- Metallic and soft sealing

Industry / Applications

- For all clean and dust laden air and gas media

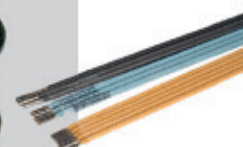
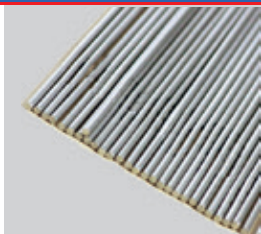


Klaus Zander
Schweiss- & Schleiftechnik

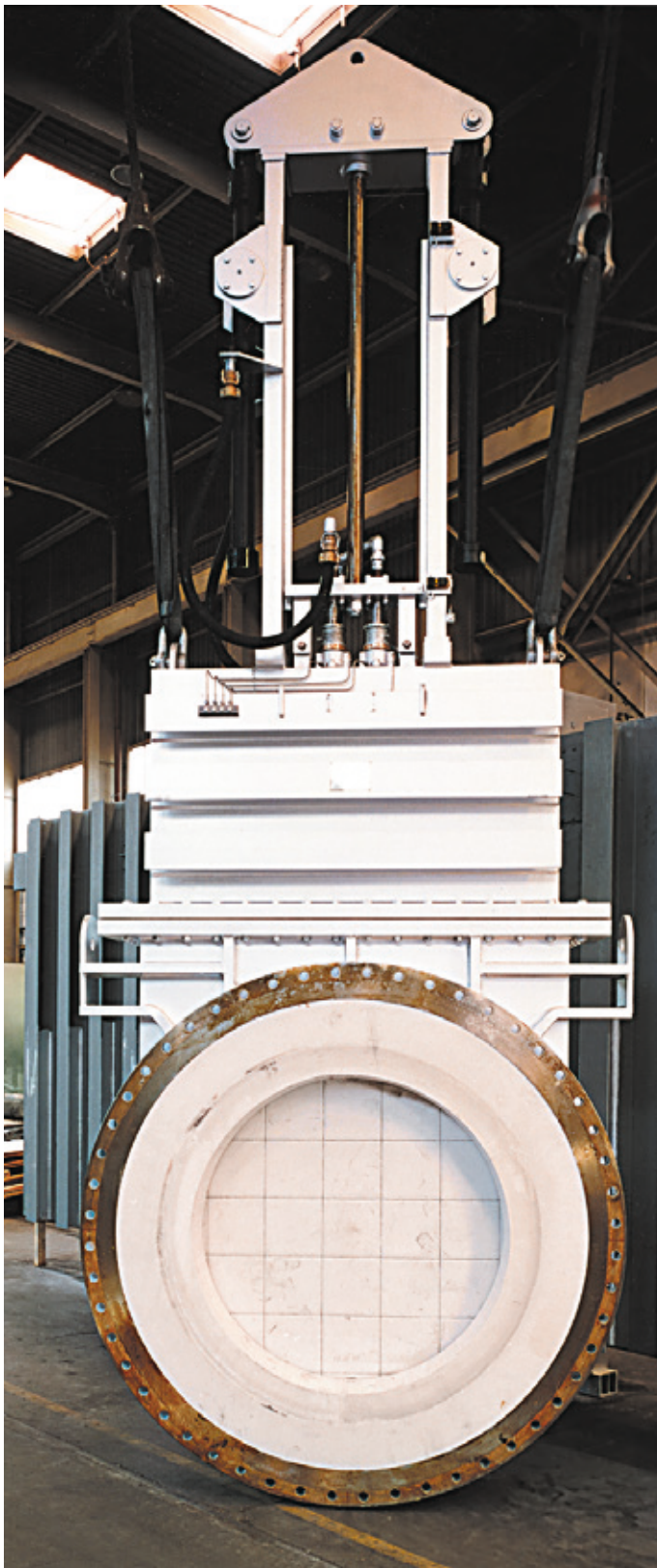
Ottostr. 9 - 41540 Dormagen
Telefon: 02133 97888-0
info.zander-welding.de



**IHR SPEZIALIST IN SACHEN
SCHWEISS- UND SCHLEIFTECHNIK**



www.zander-welding.de

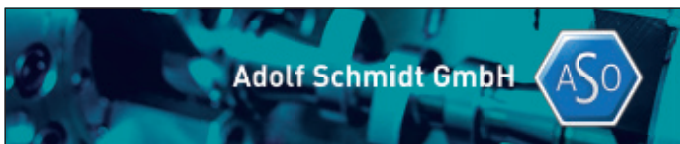


Lösungen für die
Industrie



11

- ✦ Ihr starker Partner für die Elektro- und Automatisierungstechnik.
- ✦ Wir bieten Komplettlösungen für alle Branchen.



Adolf Schmidt GmbH
Spezialschrauben und Sonderdrehteile
Seelbacher Straße 91
D-57258 Freudenberg-Alchen

Telefon: +49 (0) 271 / 3 75 01-0
Telefax: +49 (0) 271 / 3 75 01-18
E-Mail: info@aso-schrauben.de
Internet: www.aso-schrauben.de



Actemium Cegelec GmbH
Rudi-Conin-Str. 4
50829 Köln
Telefon: +49 221 5491-0
www.actemium.de
info.rheinland@actemium.de





IMI Z&J

Z&J Technologies GmbH
Bertramsweg 6
52355 Düren
DEUTSCHLAND
+49 2421 691-0
imizandj.germany@imi-critical.com
www.imi-critical.com

IMI Critical Engineering and associated logos
are trade marks of IMI Kynoch Ltd