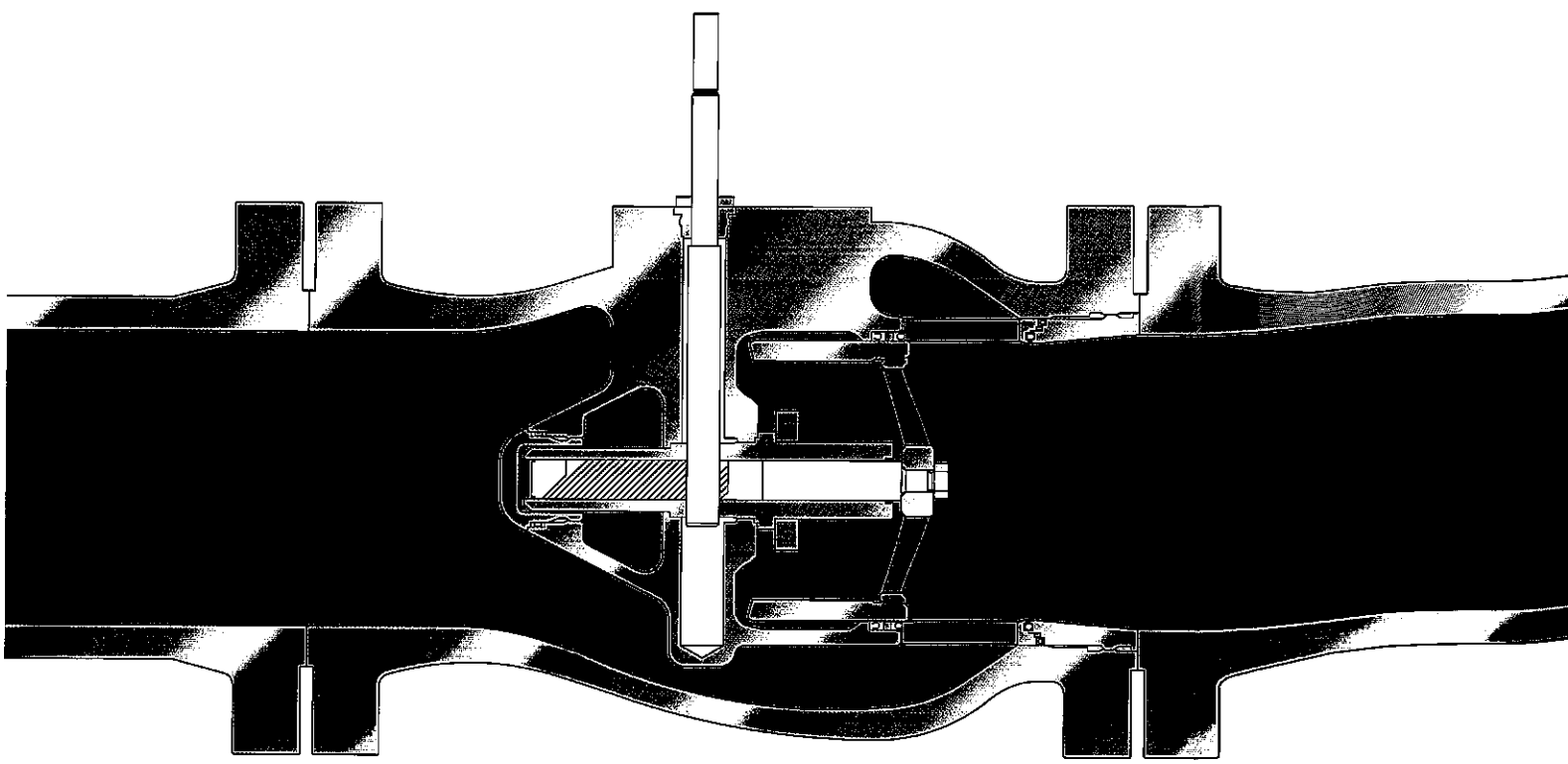
Mokveld

control valves

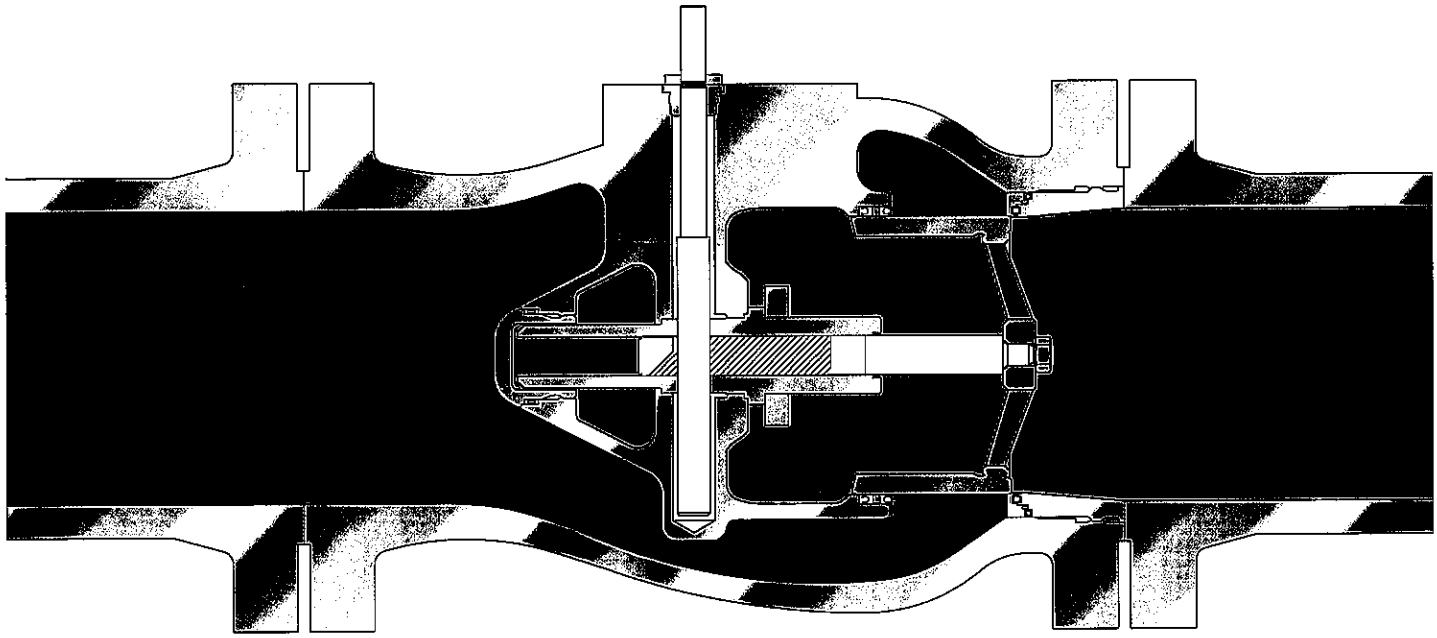
pressure balancing

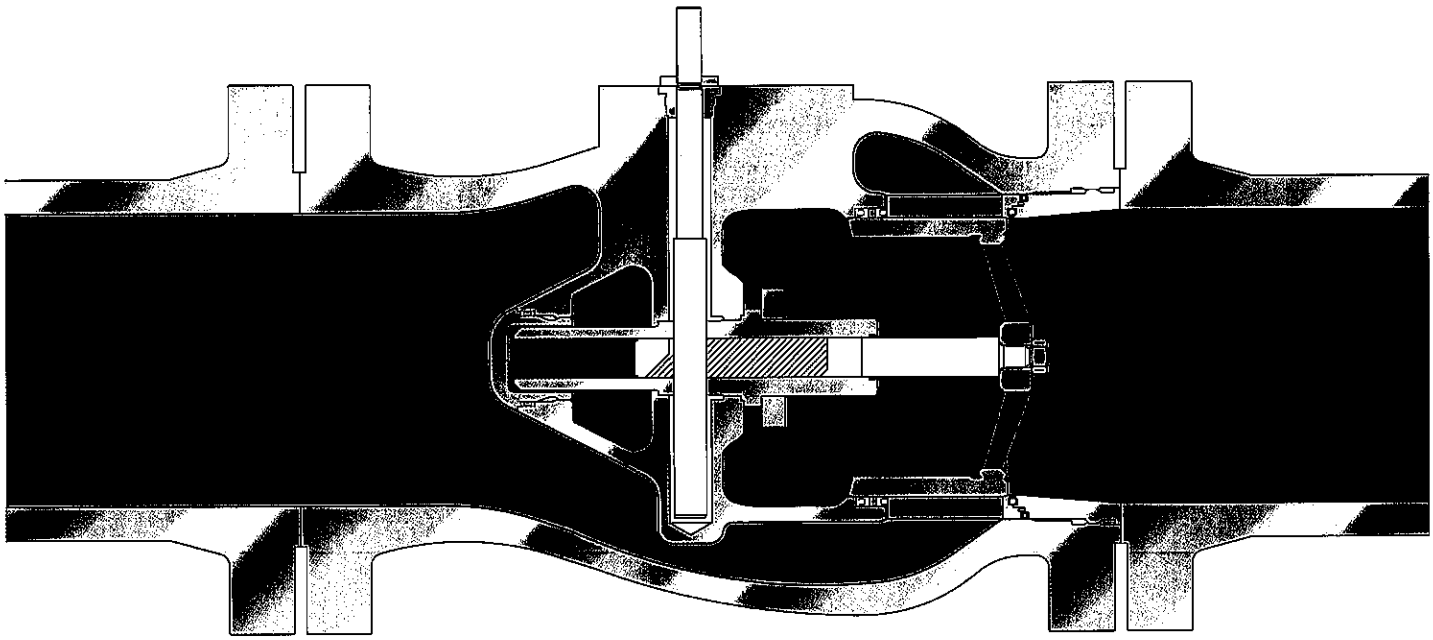
Mokveld control valves are pressure balanced. This is made possible by allowing the fluid to enter the piston and inner valve body, where the fluid then exerts equal opposing forces on all moving parts.

The pressure balanced design permits easier operation and faster stroking times than is possible with conventional valves. Controlled stroking times of less than 2 seconds can be provided, important for applications such as compressor anti-surge.
Regardless of pressure differentials, reduction units are not required. Simple low pressure pneumatic or small electric actuators can be used. Spring return actuators can be applied to all valve sizes avoiding complex trip systems.



With the valve in closed position high pressure can be allowed from both upstream and downstream sides without effecting the stem thrust required to operate the valve.





trim styles, applications and key characteristics

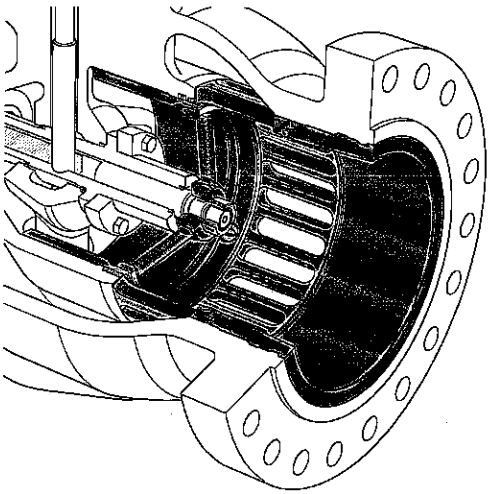
RZD-RVX (linear)
RZD-REVX (=%)

For flow and pressure control of both liquids and gases; for pump discharge applications. Multi purpose control valve with slots cage

very high Cv

average pressure recovery

average noise abatement



RZD-RCX (linear)
RZD-RECX (=%)

For flow and pressure control of liquids; for pump discharge, pump recirculation. Multi purpose control valve with multi orifice cage

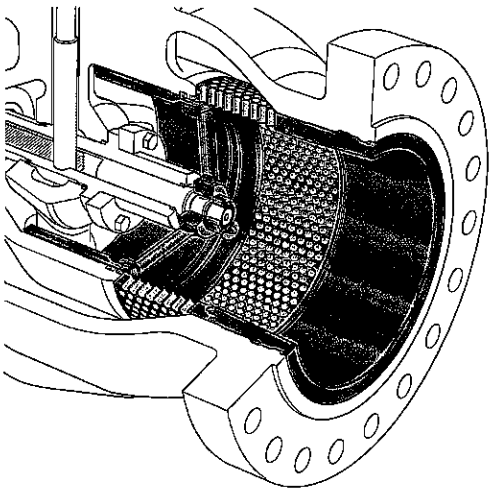
RZD-RQX (linear)
RZD-REQX (=%)

For flow and pressure control of gases, compressor surge control, blow down, separator let down, injection and gas production control Low noise control valve with multi small orifice cage

low pressure recovery

high cavitation index

high noise abatement



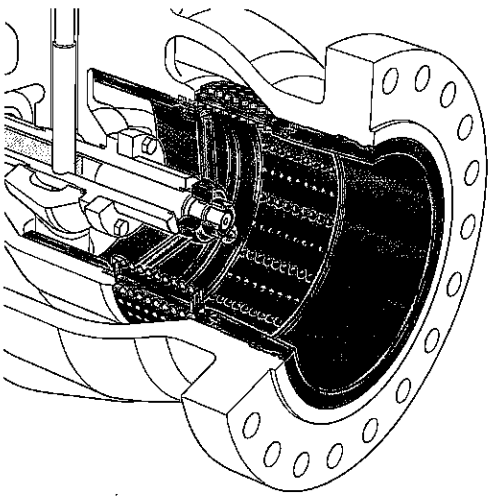
RZD-RDX 1/2 without (=1) or with (=2) integrated diffuser (dry gas only)

RZD-RDX (linear)
RZD-REDX (=%)

For flow and pressure control of gases; for gas production, compressor and anti-surge control, let down, blow down and very high pressure drops. Control valve with three stage pressure reduction and integrated diffuser 2; (dry gas only). The intermediate stages permit full expansion of the gas avoiding critical pressure drop over the final stage

very low pressure recovery

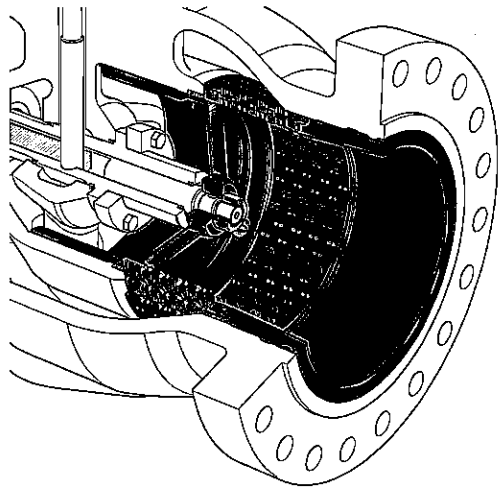
very high noise abatement



Gas
RZD-RMX
2/ - /20
(relates to the P1/P2 ratio)

Liquid
RZD-RMX
68/ - /100
(relates to the Cavitation index)

For flow and pressure control of liquids with cavitation risk; for pump back pressure control or minimum flow by-pass, pressure control on separator inlet. For flow and pressure control of gases; blowdown or letdown applications.
Control valve using the patented labyrinth style, 'multi-impingement' principal in a number of stages. To be customised to specific requirements.

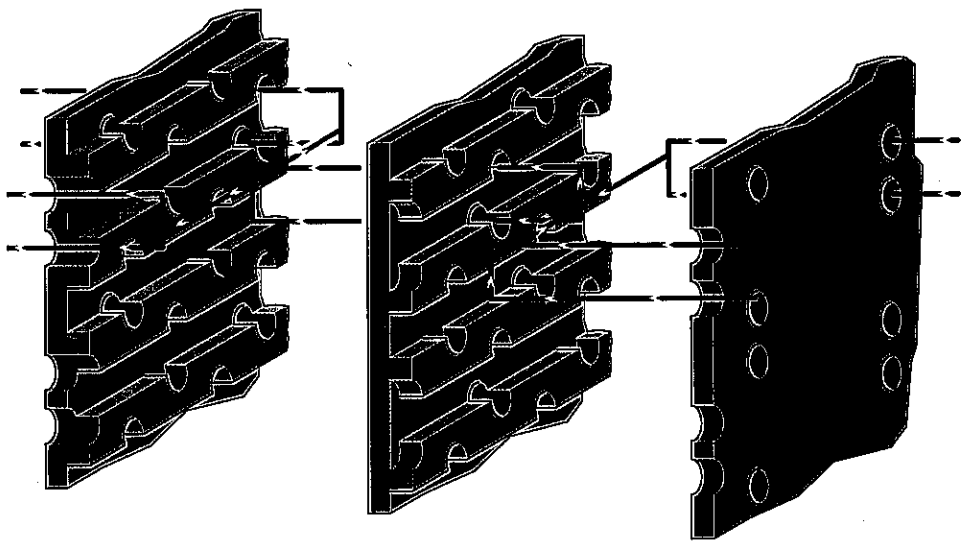


ultimate high cavitation index

ultimate low pressure recovery

very high noise abatement

The flowing velocities are controlled by forcing the fluid to follow an expanding path of right angle turns in combination with impingement. Depending on the pressure drop the exact number of steps are calculated to achieve low fluid velocities and ensure the elimination of abrasion, erosion, vibration and cavitation throughout the valve.



example of 13 stage labyrinth

custom design

The control valve is often the most critical and costly component in the control loop. Over the years Mokveld has developed the expertise for correct selection and sizing of control valves, in particular for noise predictions, determination of trim and valve characteristics, cavitation onset, rangeability, and other features required for the application. Experience, plus sound engineering ensure that the control valve selected for each application will provide excellent performance and service.

For certain complex process requirements Mokveld control valves can be provided with an individually designed trim. For these cases several trim styles are combined to match the special conditions, or to offer the most economic solution to control problems. Mokveld continues to conduct intensive studies of their valves, both in the laboratory and in the field. Comprehensive guides for valve sizing and noise prediction are provided in the Mokveld catalogue. Clients may take advantage of the company's computerised valve sizing programme that conform to International standards.

custom design cage

control valve testing

a variety of options

materials

Mokveld has wide experience in the application of valve metallurgy in gas, oil, formation water, seawater, potable water and multiphase fluids. Material selection of valve bodies and trims are based on individual service conditions, where fluid chemical composition, temperature, pressure and velocity are important parameters, all taken into consideration.

valve bodies are available in:
- carbon steel
- austenitic stainless steel
- carbon and low-alloy steel for low temperature service
- duplex alloys
- aluminum-nickel bronze
- carbon steel with rubber or epoxy-phenolic linings
- 13% chromium steel
- Incoloy 825
- Alloy 20

temperature ranges

Mokveld control valves can be supplied to operate within a temperature range of –90°C to +260°C (–130°F to +500°F).

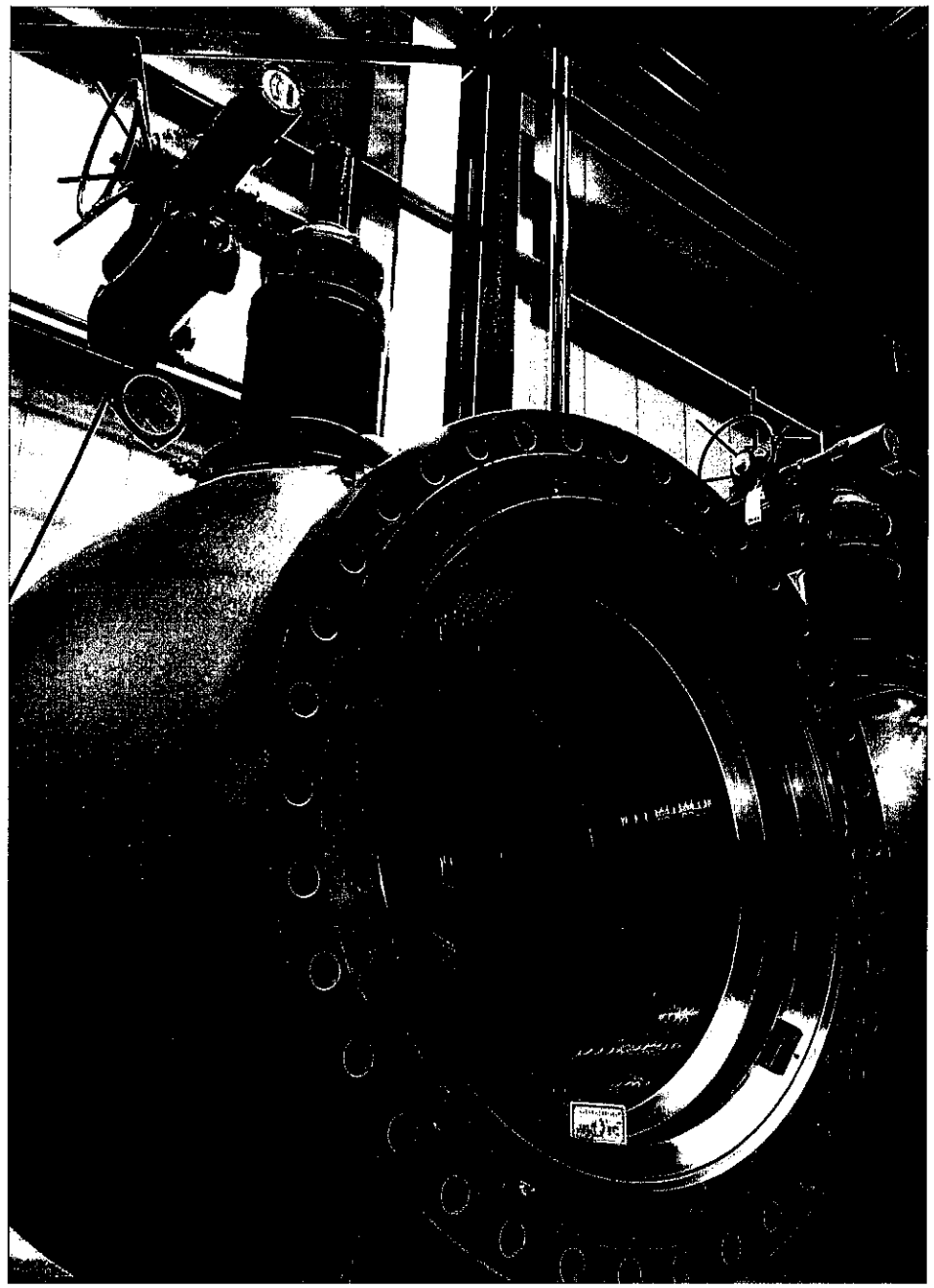
actuators and control systems

Mokveld control valves can be equipped with the following types of actuators:

pneumatic
hydraulic
electric
electro hydraulic

Control systems are available to suit all requirements including fail safe action, positioning, power packs, etc.

For more details please refer to our brochure 'Actuators and Control Systems'.



quality control and quality assurance

It is Mokveld's policy that all valves are manufactured within strict quality standards. All valves are subjected to body and seat tests prior to shipment.

Mokveld Quality Assurance department takes full responsibility to ensure that all applicable customer contractual requirements are fulfilled. For this purpose, the Mokveld Quality Assurance Manual has been developed. The manual outlines all relevant procedures to ensure a high quality level. The procedures include all stages of sales, engineering, procurement and manufacturing. A copy of the Quality Assurance Manual is available upon request.
Mokveld's quality system is in full compliance with ISO 9001 and API Q1 and has been audited and approved by all major oil and gas companies, engineering contractors and inspection authorities.

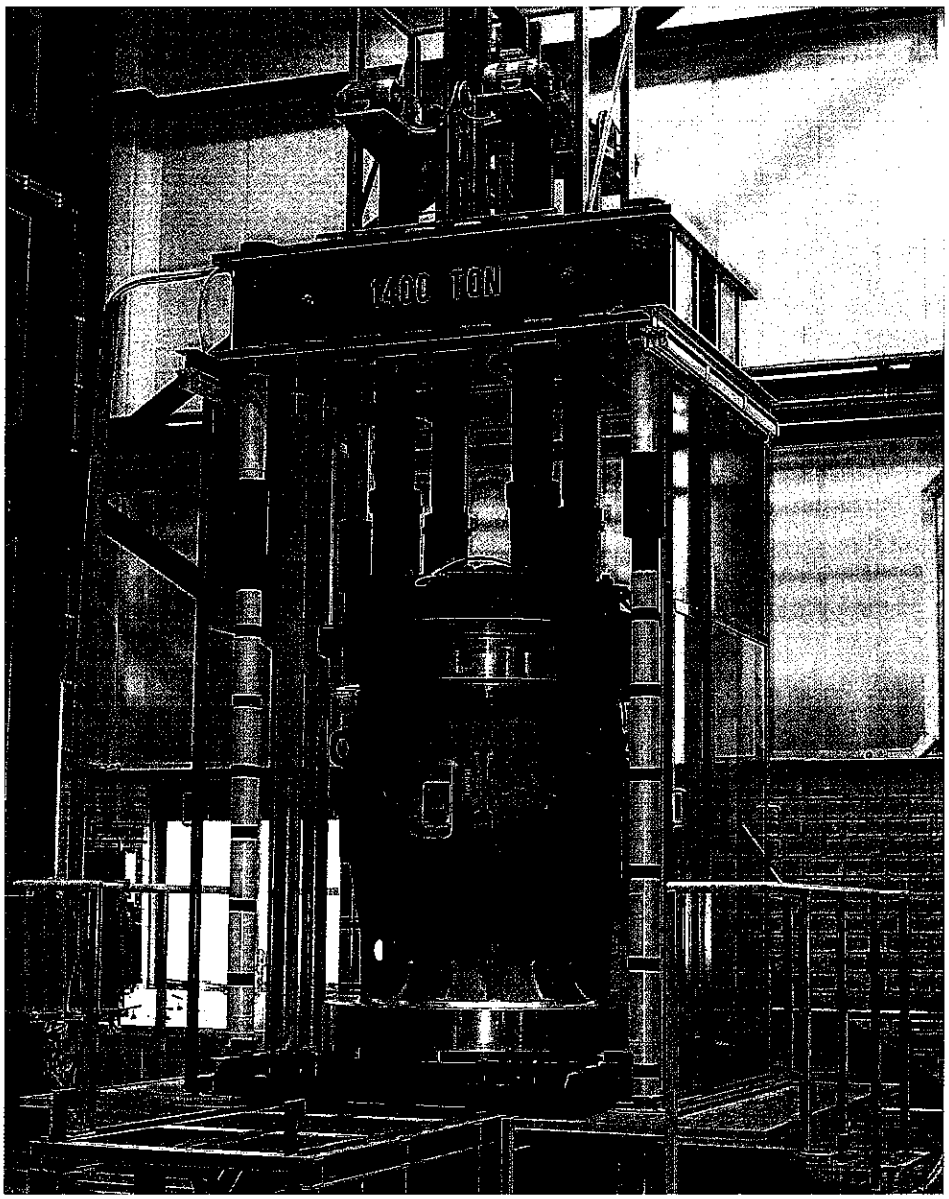
Mokveld control valves are designed and manufactured with the most up-to-date machine tools and systems. The design work is done on CAD systems and manufacturing takes place on advanced CNC machines.

Inventory control, order processing and QA/QC are computerised to provide efficient and reliable customer service. The same systems are used for after sales service and spare parts control. Hence, the users of Mokveld control valves will receive a level of service that every oil and gas operating company requires.

Mokveld manufactures and tests its products in accordance with standards and codes issued by ASME, ANSI, API, BS, CSA, DIN, MSS, NACE, NS, TRbF, TRB 801; no 45, TRGL and more.

In-house valve test facilities are available for hydrostatic and nitrogen body tests, hydrostatic and pneumatic seat tests and functional tests. The facilities and procedures meet the requirements outlined in industry standards like ASME B16.34, ANSI/FCI 70-2, API 6D, API 6A, and other specifications.

Non-destructive testing is performed by certified ASNT-TC-1A level II inspectors. Where applicable, weld procedures are developed, qualified and executed in accordance with ASME Code Section IX.

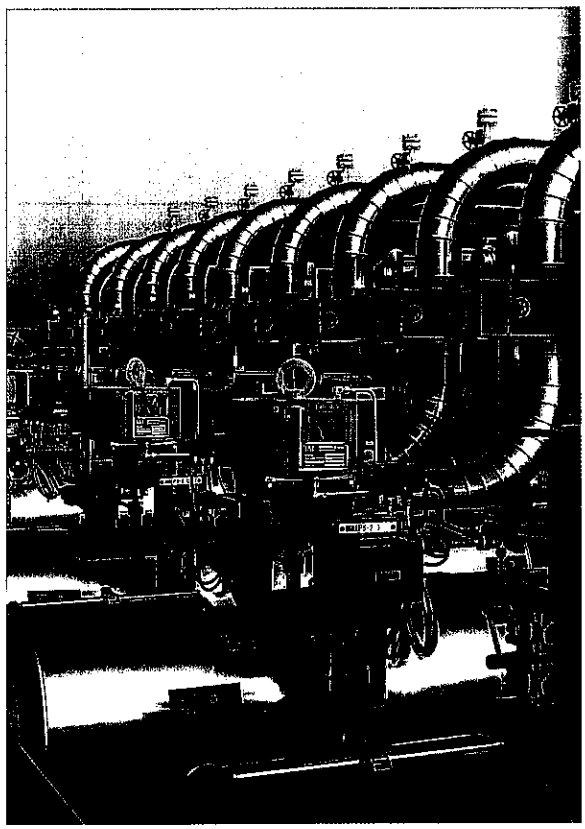


other Mokveld products

Mokveld Valves is manufacturer of:

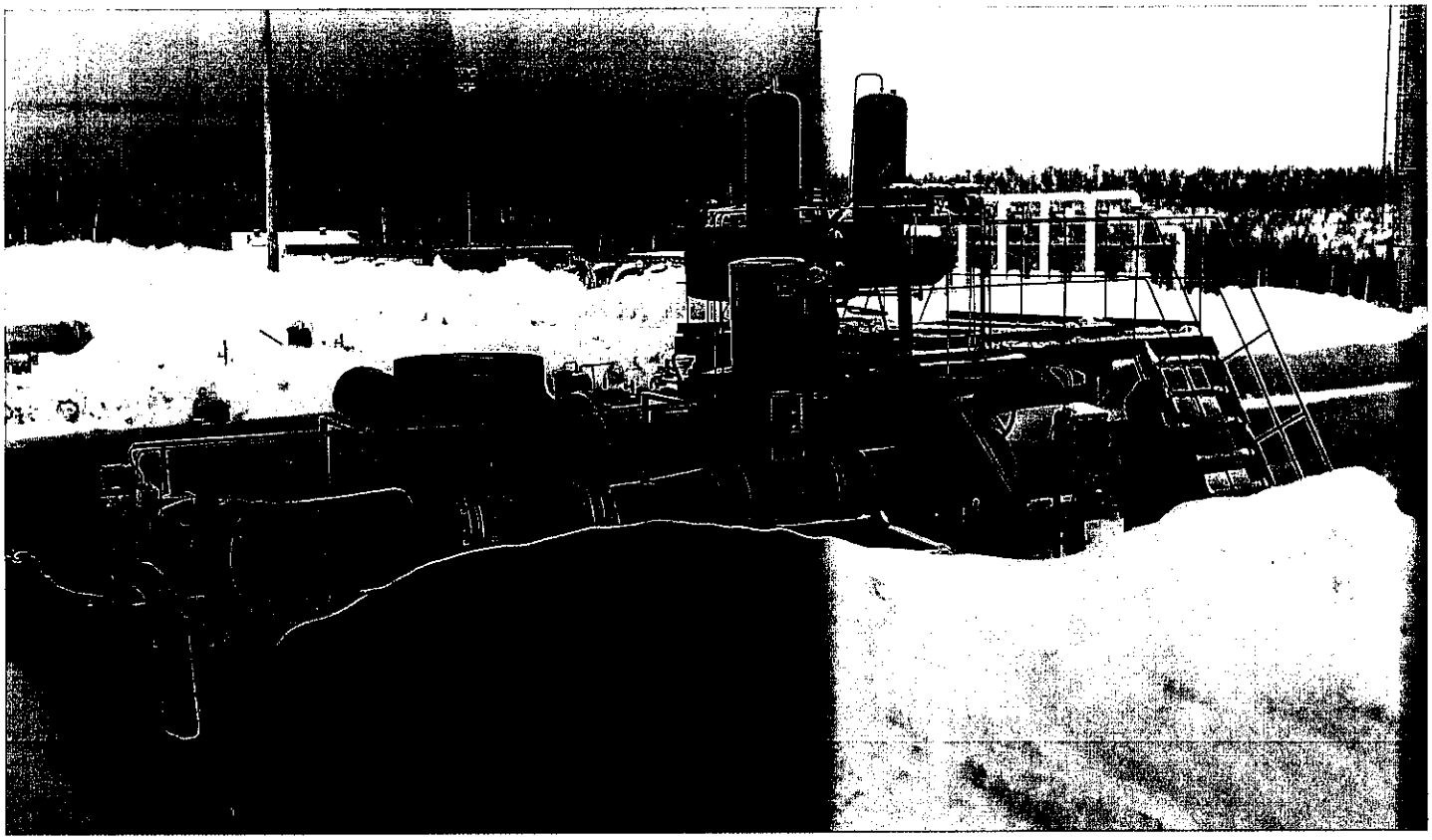
control valves
shut-off valves
surge relief valves
choke valves
check valves
actuators and control systems

Separate brochures are available upon request.



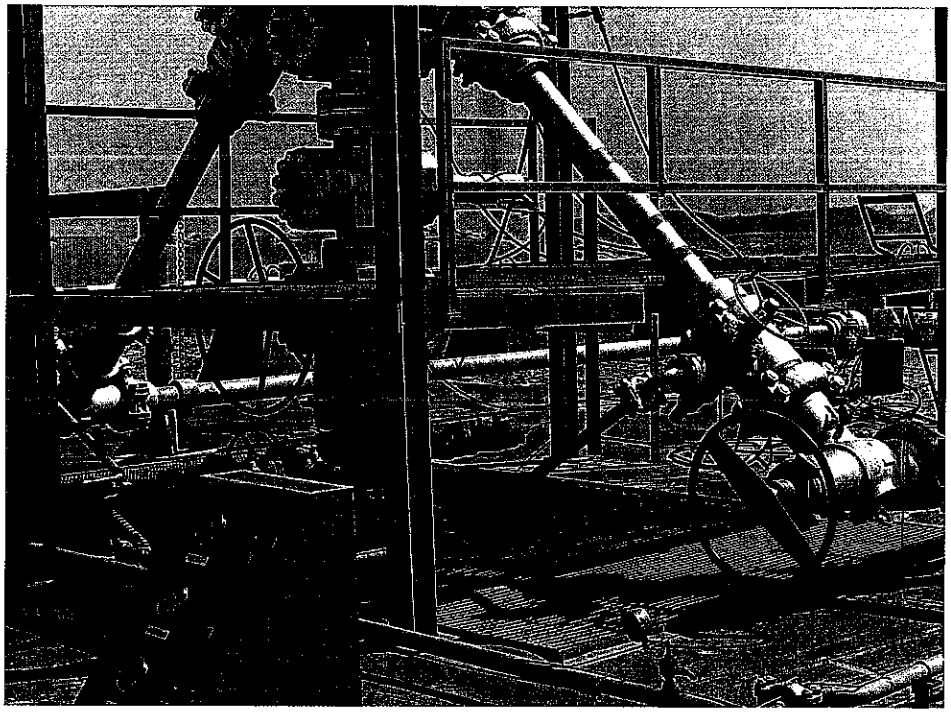
flowline shut-off valves
gas production plant N/E
Netherlands
(by courtesy of NAM)

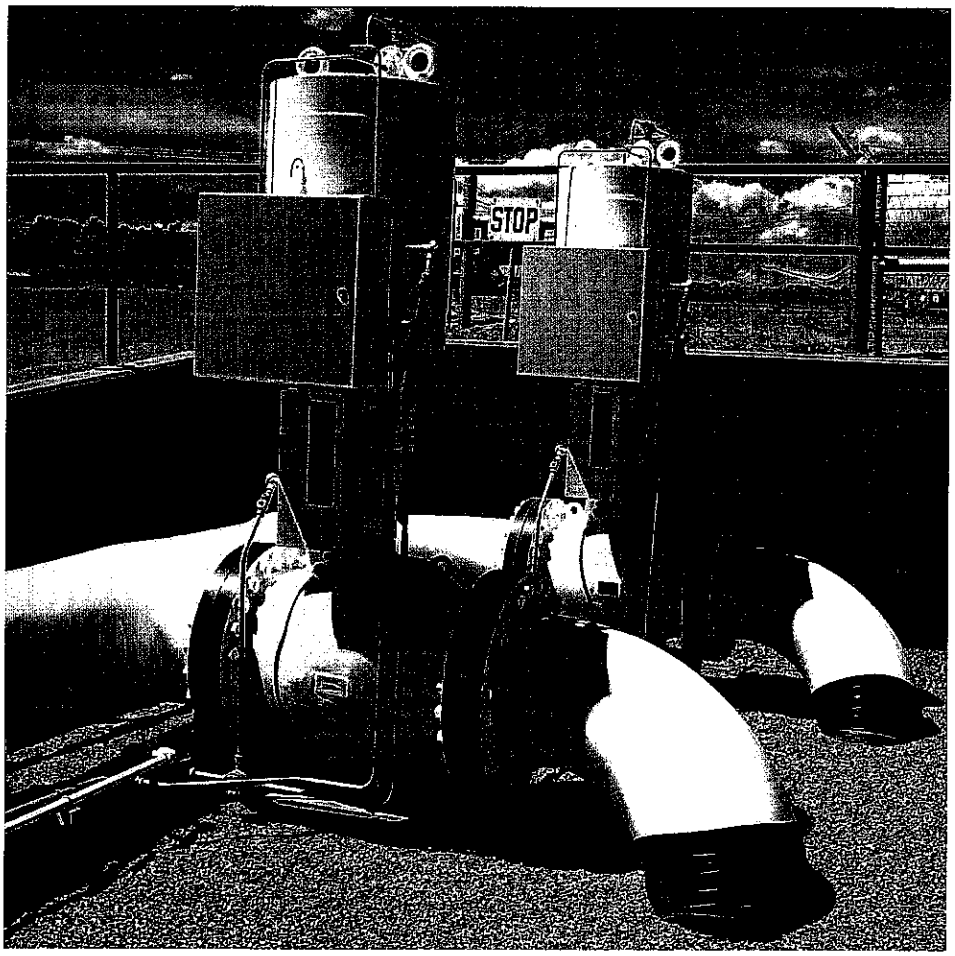
anti-surge control valve 12" ANSI 600
compressor station Russia

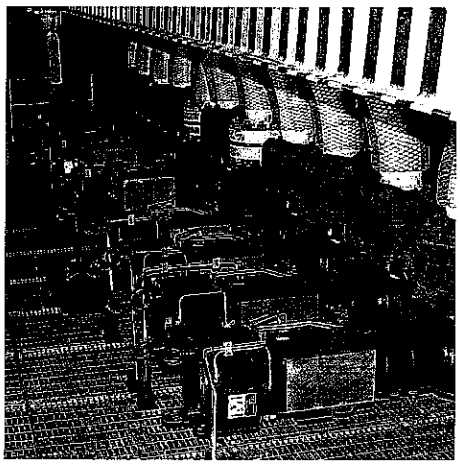


other Mokveld products

adjustable choke valves 7 1/16" API 10,000 with inconel cladding, gas production field UAE



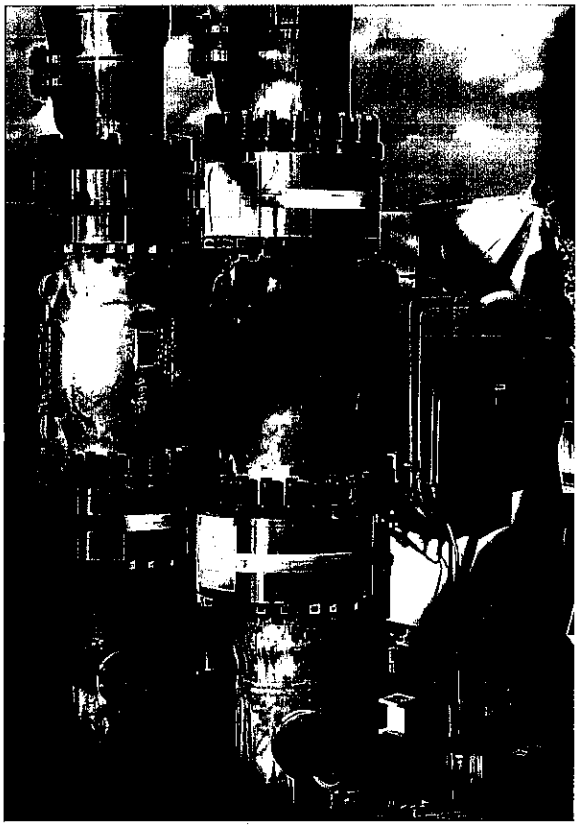




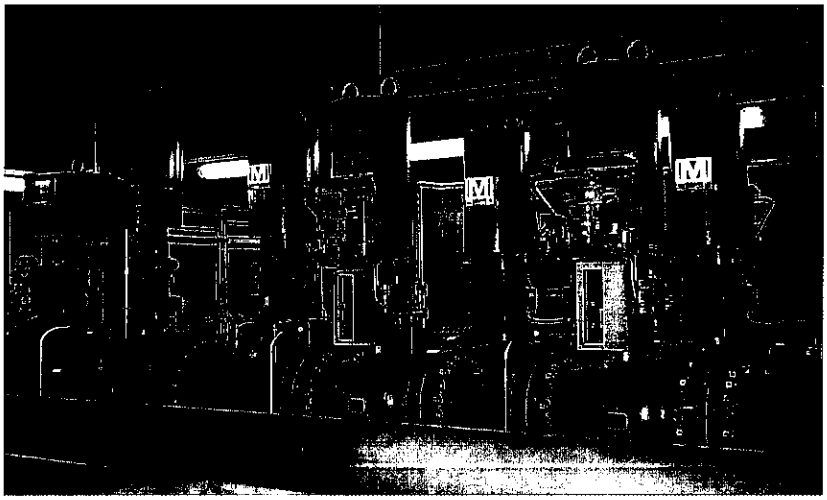
adjustable choke valves 8" ANSI 900 lbs with pneumatic actuators, gas production offshore Malaysia

surge control valves 20" and 24" ANSI 300 lbs, gas compression facility New Mexico

other Mokveld products

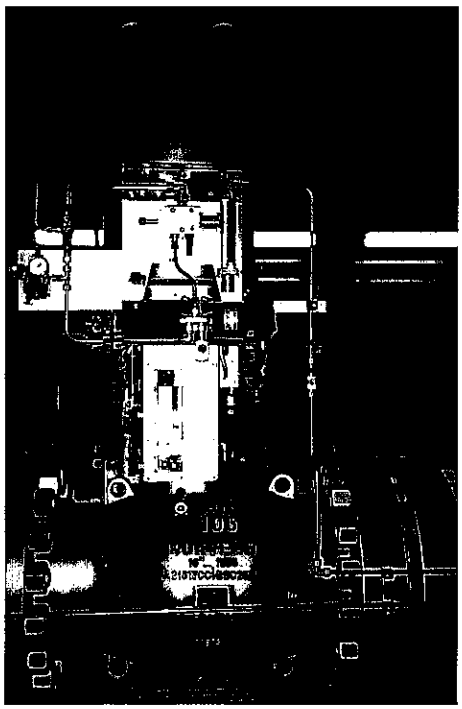


inline production chokes 10" ANSI 1500, FPSO Norway

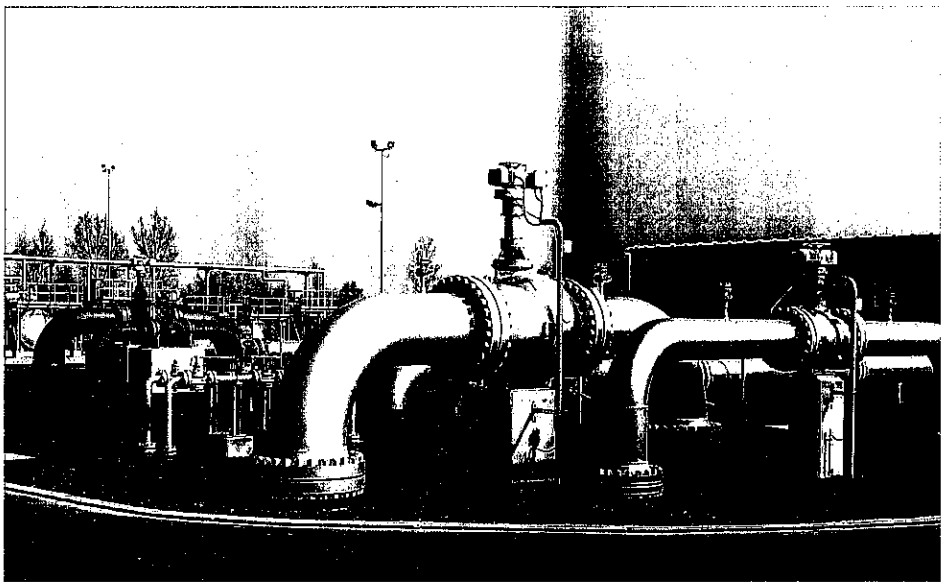


pressure control valves 20" ANSI 600 lbs and safety slam shut valves 16" ANSI 600 lbs, M & R station Germany

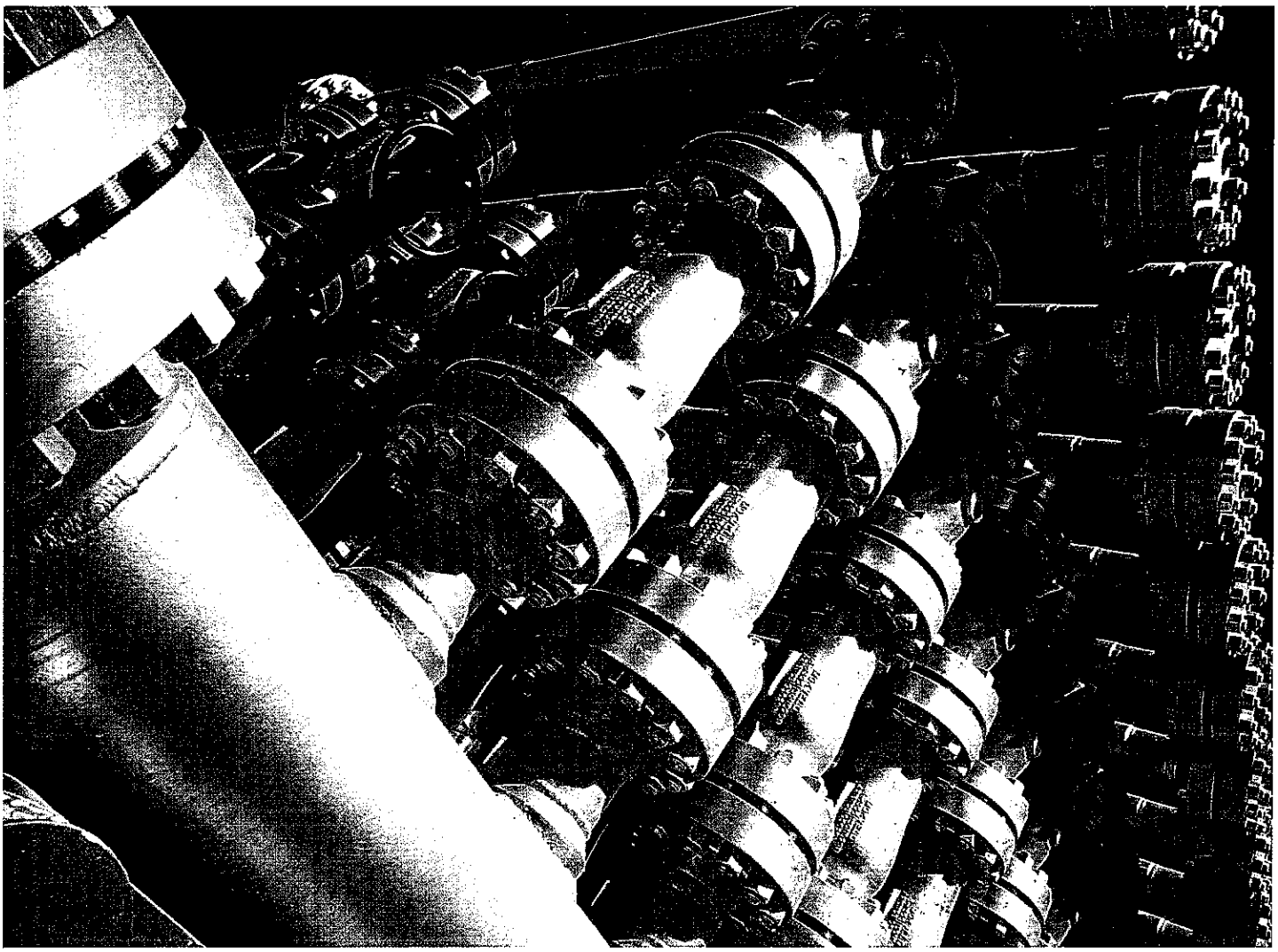
safety shut-off valve 16" ANSI 600, underground storage field Germany



flow control valves, underground gasstorage field Germany



other Mokveld products



shut-off valves and non-slam check valves 6" ANSI 900 lbs, water injection manifold of a crude oil production field, North Africa

flow pressure control valves and safety shut-off valves, M & R station Germany

Mokveld Valves

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