# Drive Systems and Heavy Movable Structures





Movable Bridges • Gates • Link Spans





# **Erasmusbrug, Rotterdam**Over River Maas in the City Centre, Netherlands



Built in 1995, DSD NOELL GmbH supplied and installed 2 hydraulic power units, 4 cylinders 600/400x6940 stroke, max. force per cyl. 5300 KN, locking systems and a control system Telemecanique TS 7.

☐ Length of bascule bridge: 56 m

# **Este Barrage, Northern Germany**Over River Maas in the City Centre, Netherlands



In 1999 DSD NOELL GmbH supplied 1 hydraulic power unit, 2 cylinder 500/360x10600 stroke, max. force per cyl. 5300 KN 4 cylinder 460/280x7700 stroke, max. force per cyl. 2245 KN 4 cylinder 100/70x1000 stroke, 4 cylinder 100/70x200 stroke and a control system SUCOS PS4

☐ Length of bascule bridge: 53 m

### Tarragona Bridge, Spain



In 1999 DSD NOELL GmbH supplied 2 HPU's with 165 KW, 4 cylinder 500/300x4000 stroke, max. force per cyl. 3100 KN 4 pivot bearings 600, locking devices, dampers Control system: Simatic S7-400, Profibus, visualisation

☐ Width of bascule bridge opening: 80 m

### Estacio Bridge, Murcia, Spain



In 2002 DSD NOELL GmbH supplied 2 HPU's with 110 KW, 4 cylinder 460/280x3900 stroke, max. force per cyl. 2200 KN 4 Pivot bearings 440, locking devices, dampers Control system: Simatic S7-400, Profibus, visualisation

☐ Width of bascule bridge opening: 65 m



## Ferry Landing Bridges, Yantai, Dalian East-China for Railways, Trucks and Passangers



In 2006 DSD NOELL GmbH supplied and installed 2 hydraulic power units with oil conditioning system and oil coolers, 4 centre lifting cylinders Ø700/260x4850 with stroke measuring system and control block, lifting capacity of 6530 kN each. 4 shipside lifting cylinders Ø480/200x7100 with stroke measuring system and control block, lifting capacity of max. 4000 kN each. 4 cylinders with control blocks for rest bars. Plus 16 cylinders for auxiliary functions.

# Double Rolling Bridge, Oldenburg Germany

Rehabilitation of Railway Steel Bridge





In 2003 DSD NOELL GmbH supplied and installed, 2 hydraulic power units with 74 KW, 4 cylinder 380/260x3620 stroke, max. force per cyl. 1535 KN. Control system: Simatic, visualisation.

### Masjed Suleman, Spillway Drives, Iran





In 1995 DSD NOELL GmbH supplied 1 hydraulic power unit 10 cylinder 420/160x17500 stroke

☐ Gate size 15m wide x 20 m high

## Karun 3, Spillway Radial Gates, Iran



In 2005 DSD NOELL GmbH supplied and installed 2 spill-way radial gates, 2 HPUs with 75 KW each, 4 cylinder 520/250x11100 stroke, max. force per cyl. 3500 KN, Control system: Simatic S7-300.

### Vegesack Ped.Bridge, Bremen Germany



In 1999 DSD NOELL GmbH supplied the complete bascule pedestrian bridge including a wire rope hoisting system. The Architecture of this bridge is of extraordinary nature.

☐ Bridge opening 19,5 m





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