



**BUILT TO HERRENKNECHT'S DEMANDING STANDARDS  
FOR A DISCERNING CUSTOMER:  
DEEP DRILLING RIG TERRA INVADER 250.**



## DESIGNED AND MANUFACTURED FOR SHELL INTERNATIONAL EXPLORATION AND PRODUCTION.

Herrenknecht Vertical constructed this unique experimental drilling and equipment testing facility based on a design brief from Shell International Exploration and Production. The deep drilling rig Terra Invader 250 skids forwards and backwards to access three test wells, and the entire structure is able to jack itself up by 2 meters to allow any combination of wellhead spools to be used. The travelling block and top drive system is hydraulically driven and is specially designed to push as well as pull. Customer specification of millimeter increments under full load is achieved using Herrenknecht's market leading experience in the design and build of hydraulic tunnel boring machines. Operating within Shell Exploration and Production's Research Laboratories in Rijswijk, Netherlands, this deep drilling rig Terra Invader 250 is powered entirely by an electrohydraulic system to meet stringent sound and visual impact requirements.

## DEEP DRILLING RIG TERRA INVADER 250. TECHNICAL SPECIFICATIONS.

### HOOK LOAD

Max. hook load: 295mt (325sht)

### MAST\*

Type: twin profile  
Height: 30m (98.5ft)

### SUBSTRUCTURE\*

The substructure was engineered to customer order. It can be lifted up to 2m by telescopic cylinders and its advanced skidding device moves the rig horizontally in three different positions.

The deep drilling rig TI-250 is also available with box-on-box and slingshot substructure.

### CYLINDER HOISTING SYSTEM

Type: cylinder system  
Hoist power: 1,200kW (1,600hp)  
Brake: hydraulic lowering brake valves  
Stroke: 16m (52.5ft)

### TOP DRIVE\*

Type: HV TD H 385-400  
Max. static load: 350mt (385sht)  
Max. push load: 160mt (175sht)  
Max. rotary speed: 190rpm  
Max. continuous rotary torque: 21,200Nm (15,600ft-lb)  
Rated power: 300kW (400hp)

### AUXILIARY CRANE

Type: PK 10000 M  
Drive: hydraulic  
Lifting moment: 93,500Nm (70,000ft-lb)  
Max. lifting capacity: 5.7mt (6.3sht)  
Slewing angle: 400 degrees

The auxiliary crane mounted on the rig floor can be steered by a wireless remote-control panel and has a maximum reach of 12.4m.

### PIPE HANDLING SYSTEM\*

Drive: hydraulic  
Operating range: 73mm (2 7/8") to 620mm (24 1/2")  
Lifting capacity: 4.5mt (5sht)  
Max. tripping speed: 350m/h (1,145ft/h)

The complete pipe handling system is designed to handle drill pipe range 3 in singles, drill collars and casing. The controls are semi-automated and the system is operated by the pipe handling operator or the driller.

### ROTARY TABLE\*

Table opening: 953mm (37 1/2")  
Max. static load: 450mt (500sht)  
Max. dynamic load: 350mt (385sht)  
Drive: hydraulic

\* Components manufactured by Herrenknecht Vertical

HERRENKNECHT VERTICAL GmbH

Im Heidenwinkel 5

D-77963 Schwanau

Phone +49 7824 302-1300

Fax +49 7824 302-1330

info@vertical-herrenknecht.com

www.herrenknecht-vertical.com

