

# AC Variable Frequency Drive Drilling Rig

AC variable frequency drive (VFD) drilling rigs offer enhanced safety and efficiency for drilling operations. Driven by AC motors, they provide wide rotation speed adjustment and significant torque output, suitable for drawworks, mud pumps, rotary tables, and top drive systems.



## Product Overview

### Advanced AC VFD Drilling Technology

The DBS series AC Variable Frequency Drive (VFD) drilling rig is engineered for high performance and economic efficiency in demanding oil and gas exploration. By utilizing AC motor drives, the system provides wide rotation speed adjustment and high torque output, significantly increasing drilling efficiency while reducing labor intensity. The integrated dynamic braking and zero-speed maximum torque capabilities ensure a safer operational environment compared to traditional mechanical or SCR rigs.

## Key Advantages

### Performance Features

- High transmission efficiency and improved power factor
- Reduced electricity power consumption
- Simplified mechanical transmission for easier maintenance
- Dynamic braking functionality
- Maximum torque output at zero rotation speed
- Explosion-proof area compatibility

## Technical Specifications

### Technical Parameters

Model	Nom. Depth	Drawworks Power	Max. Static Hook Load	Pump Power	Power Equipped
ZJ30DBS	3,000m/9,840ft	750HP	180mt/396,832lbs	2x597kW 2x800HP	2x1,152kW 2x1,555HP
ZJ40DBS	4,000m/13,000ft	1,000HP	225mt/500,000lbs	2x746kW 2x1,000HP	3x1,152kW 3x1,555HP
ZJ50DBS	5,000m/16,400ft	1,500HP	315mt/700,000lbs 340mt/750,000lbs	2x1,193kW 2x1,600HP	3x1,152kW 3x1,555HP
ZJ70DBS	7,000m/23,000ft	2,000HP	450mt/1,000,000lbs	3x1,193kW 3x1,600HP	4x1,152kW 4x1,555HP
ZJ80DBS	8,000m/26,200ft	2,500HP	585mt/1,300,000lbs	3x1,193kW 3x1,600HP	4x1,152kW 4x1,555HP
ZJ90DBS	9,000m/29,500ft	3,000HP	675mt/1,500,000lbs	3x1,193kW 3x1,600HP	5x1,152kW 5x1,555HP
ZJ120DBS	12,000m/39,400ft	4,000HP	900mt/2,000,000lbs	3x1,641kW 3x2,200HP	6x1,152kW 6x1,555HP
ZJ150DBS	15,000m/49,200ft	6,000HP	1,125mt/2,500,000lbs	4x1,641kW 4x2,200HP	9x1,152kW 9x1,555HP

Detailed technical parameters including nominal depth, drawworks power, and hook load for various DBS series models.

### Rig Model Specifications

Model	Nom. Depth (m/ft)	Drawworks Power (HP)	Max Static Hook Load (mt/lbs)
ZJ30DBS	3,000m / 9,840ft	750 HP	180mt / 396,832lbs
ZJ40DBS	4,000m / 13,000ft	1,000 HP	225mt / 500,000lbs
ZJ50DBS	5,000m / 16,400ft	1,500 HP	315mt / 700,000lbs
ZJ70DBS	7,000m / 23,000ft	2,000 HP	450mt / 1,000,000lbs
ZJ80DBS	8,000m / 26,200ft	2,500 HP	585mt / 1,300,000lbs
ZJ90DBS	9,000m / 29,500ft	3,000 HP	675mt / 1,500,000lbs
ZJ120DBS	12,000m / 39,400ft	4,000 HP	900mt / 2,000,000lbs
ZJ150DBS	15,000m / 49,200ft	6,000 HP	1,125mt / 2,500,000lbs

### Drive System

AC Variable Frequency Drive (VFD)

## Operational Metrics

### Global Track Record

**400 +**

Rigs in Operation

**2002**

First Delivery Year

## System Compatibility

### Driven Components

Drawworks, Mud Pump, Rotary Table, Top Drive System