ZDFJ76A2 Twin-boom Hydraulic Face Drilling Jumbo

Made by ZONGDA in China



ZDFJ76A2 twin-boom hydraulic Face Drilling Jumbo

ZDFJ76A2 hydraulic face drilling jumbo is designed for underground mining,tunneling, and construction applications. It is suitable for medium- to large tunnel with coverage area max. up to 8.7 meters x 6.3 meters. Drilling hole diameter ranges from 32mm to 76mm, hole depth ranges from 2.1 to 3.5 meters. The jumbo is equipped with a patent-winning ZDG550 Hydraulic rock drill with 24KW impact power.

The electric motor provides power for the operation. The hydraulic system controls the drilling process, and the the diesel engine provides the power for the moving and slope climbing of the jumbo. Safe and efficient hydraulic-driven system applies to the entire machine. Separate hydraulic pumps controls anti- jamming, feeding, and rotary of the drilling process. All the alarm indicators, such as the overheat indicators for water and oil temperature, guarantee the miners to know the real conditions of the jumbo all the time.

The jumbo can be used not only for drilling blast holes, but also can drill drift rods. The rock drill guarantees accurate precision and maximum drilling speed. For the miners, the jumbo provides maximum safety protection, better working efficiency and lower expenses on the drilling rods.

Main Advantages

Rock drill- saving costs for the miners

- Equipped with ZDG550 rock drill with impact power reaching to24Kw
- High drilling speed and low failure rate, especially design for hard rocks Made by our own company means low costs and faster delivery on spare parts, save the time and expenses of the miners Self-lubrication material is applied in the rock drills - the maintenance period is
- longer than similar products
- Pressurized housing and mating surfaces to reduce internal contamination of
- the rock drill and the system - the life circle is longer than similar products



ZDT 650 Hydraulic boom & Feed - Design and made by Hong Yuan

- ZDT telescopic feed for bolt hole drilling, face drilling, and cross cuttings in a limited space where both long and short rods have to be used. The design of the feeds aims at simplicity of structure and ease of maintenance.
- The beams are made of special aluminium profile with sliding surfaces faced with stainless steel strips.
- The drill rod centralizers are equipped with hardened steel wear pieces for optimum visibility and durability
- America Helac Rotary actuator applied - Compact, High load capacity, no position shift and anti-pollution guaranteed.

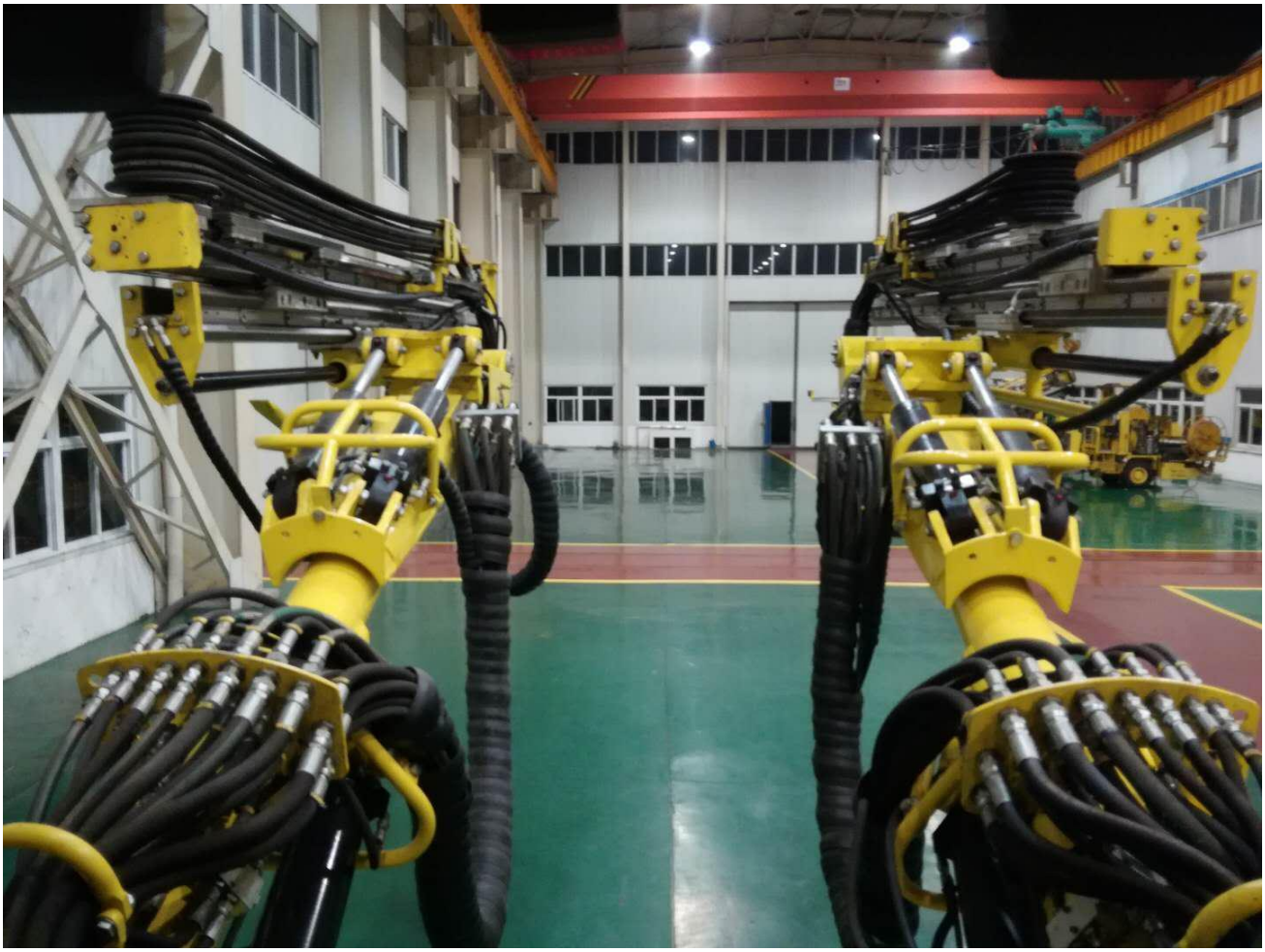


Carrier - Dana carrier and Deutz Engine

- Sturdy, articulated carrier with four-wheel drive - Dana Axle from Germany
- Powered by a strong and 5-cylinder Deutz diesel engine - EPA III/COM III approved and Quality guaranteed
- Four jacks for stable set up - Jack cylinders made by Hong Yuan

Control system -PLC system and Anti-jamming system

- PLC control system makes the further mining equipment - Intelligent mining
- Anti-jamming system with the rotation pressure control feed saves the miners on the costs of drilling rods
- Two systems are designed by Hong Yuan - It makes us unique because we know mining process and rock conditions



- Hydraulically controlled drilling system which incorporates the anti-jamming function Rotation Pressure Controlled Feed(RPCF); Impact, Rotation and feed adopt separate hydraulic pump, independent control loop ensure the stable power output

Cable Reel - From Cavotec Itlay

- Automatic hydraulic -driven Electric cable reel for customer requirements - Cable from Cavotec, Itlay
- The cable reel can automatically retract the cable when the equipment is moving forward or backward, save labor and material resources, improve safety, higher automation degree and higher working efficiency



General - Best quality guaranteed

- Firm steel protective FOPS proofed roof for the maximum safety
- Automatic hydraulic -driven cable reel for customer requirements
- Electrically driven compressor
- Michelin tyres - the most famous tyres brand from France



Technical Specifications

Rock Drill	**ZDG550**
Shank adapter	R32 R38 T38 T45 T76
Feed impact force	≤425 J
Impact power	24KW
Impact rate	---60-75 HZ
Impact pressure	17-21 Mpa
Rotation system	Separate rotation
Rotation speed	0---300 rpm
Rotation torque, max	980 Nm
Water consumption	80 L/min
Lub. Air consumption	5m3/min
Hole diameter	32mm-76mm
Length without shank	600mm
Height over drill center	88mm
Weight	190 Kg
Sound Level	<110 dB(A)

Feed	**ZDT650**
Total length	5300 mm
Drill rod length	3700 mm

Feed extension	1250mm
Hole depth	3500 mm
Feed force, max	15KN

Boom	**HYZB 4**
Feed extension	1250mm
Parallel holding	Complete
Feed roll-over	±180°
Max. Lifting angle	+65°/-30°
Max. Swinging angle	±30°
Weight, boom only	1750 kg

Shank adapters	
Thread	R32 R38 T38 T45 T76
Shank lubrication	Oil-pressure air
Shank Length	3090-6135mm
Hole diameter	32mm-76mm

Dimensions	
Width	1990mm
Height roof (up/down)	3000/2300mm
Length	11800 mm
Weight	18000Kg

Tramming speed	
On flat grond	10 Km/h
Gradeability	14°

Air System	
Air pump	ABB 5.5KW
Working pressure/air supply	2-8 bar
Flow rate	600 L/Min (6bar)
Air pressure gauge	Yes

Water System	
Water pump	ABB 7.5KW
Working pressure	8-12 bar
Max Capacity	150L/min （13.5 bar)
Water pump power	7.5 kw

Carrier	
Diesel engine	Deutz Engine 5 cylinder
Power rating	52kW
Torque , max	258Nm
Fuel oil tank volume	60L

Fixed seat for tramming with safety belt	Yes
Articulated Steering	± 40° steering angle
Horn, beacon and reverse alarm	Yes
Four---wheel drive	Yes
Hydrostatic power steering system	Yes
Hydrostatic transmission	Clark 12000
Front axle	Dana123
Rear axle	Dana123
Clearance outside axles	15°
Hydraulic jacks, front	2 extendable
Hydraulic jacks, rear	2 extendable
Service brakes	2 separate circuits
Emergency and parking brakes	SHAR
Electric system	24V
Batteries	2 x 12V, 70Ah

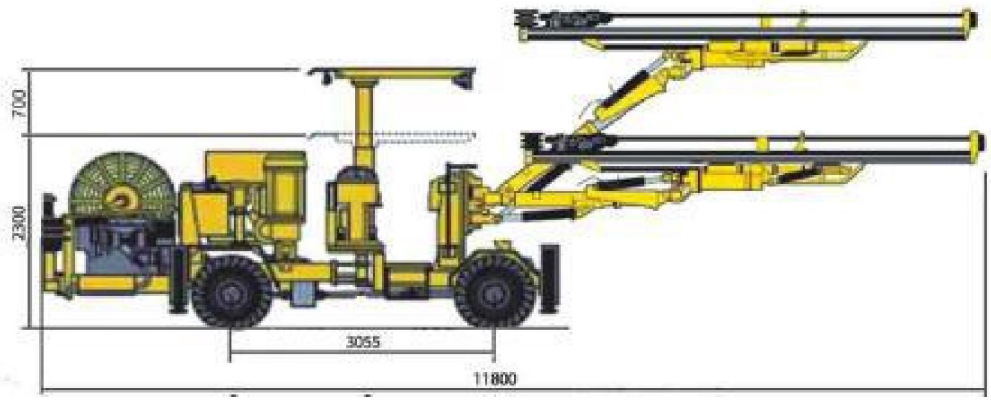
Hydraulic System	
Pumps unloaded at start .	Yes
System pressure, max .	200 bar
Low oil level indicator	Yes

Oil temperature gauge on oil tank	Yes
Manual oil filing pump	Yes
Oil filter indicator	Yes
Water cooled oil	Yes
Filtration	Yes
Mineral hydraulic oil	Yes

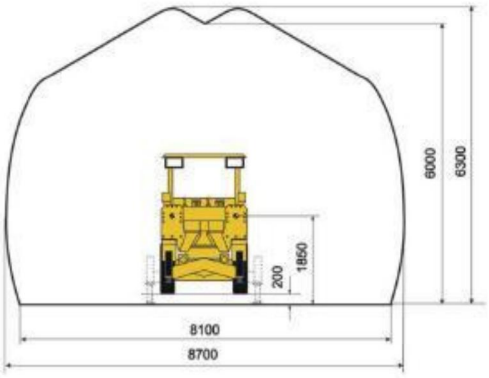
Electric System	
Motor model	ABB YX3 250M-4
Power rating	55KW

Measurements

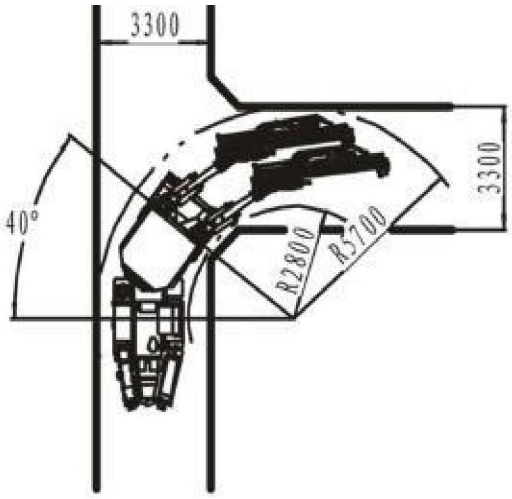
Side view



Coverage area



Turning Radius



Main Configuration of CYTJ 76A2 Twin boom drilling jumbo			
No.	Name	Manufacturer	Note
1	Hydraulic drill machine	ZDG550	made by Hong Yuan
2	Main pump (Variable Pump)	REXOTH	imported from German
3	Diesel Engine	Deutz F5L912W	imported from German
4	Axel	Dana 123	imported from USA
5	Spiral swing hydraulic cylinder	HELAC(USA)	imported from USA,Global Brand
6	Traveling motor	ABB	imported from German
7	Tyres	Michelin	imported from France
8	Electric Motor	ABB	imported from German
9	Pressure senor	Helac	imported from German
10	Proportional triple valve	REXOTH	imported from German
11	Manual selection valve	REXOTH	imported from German
12	Impact valve	REXOTH	imported from German
13	Water pump	ABB 7.5KW	imported from German
14	Air pump	ABB 5.5KW	imported from German
15	Oil Cooler	Bowman	imported from England
16	Electric Cable	Cavotec	imported from Italy
17	Water flow switch	SIKA	imported from German