

XY-42A CORE DRILLING RIG

I. Applications

XY-42A is a kind of core drill driven with Tungaloy-carbide-tipped bit and diamond-bit, small-diameter. It is mainly suitable for exploration of metal or non-metal solid mineral ore bed. It is widely applied in the field of geology, metallurgy, coal mine, hydrological and engineering drilling. It can also be used in the fields of superficial-zone petroleum and natural gas mining, mine workings ventilation and water discharge tunnel drilling as well as foundation pile

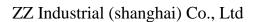
II. Characteristics

construction in large diameter.

1. With eight rotary speeds and reasonable ranges of speed (please see the list of spindle speed). Max. Torque 3.5 KN·m (2580 lbf·ft) (while with lower rotary Speed of spindle).



- 2. With large spindle I.D. 93mm
- (3.66 inch), the rig is driven by hydraulic double cylinders with much longer stroke up to 600mm (23.62 inch). The rig is suitable for various drilling technologies to improve drilling efficiency.
- 3. In two reverse speeds, it is suitable to deal with faulties.





- 4. With the features of reasonable power and lower oil temperature, it adopted simplex hydraulic gear pump for oil supplying.
- 5. Double-action hydraulic chuck in powerful clamping force.
- 6. In light weight, easy disassembling (into nine parts), and convenient for maintenance and repair, due to the advantages of compact structure and reasonable layout.
- 7. It steadies in the high drilling speed because of its smooth movement and low centre of gravity.
- 8. Fitted with measuring scale for your good knowledge of the drilling condition at the bottom of the hole; every handle can be operated nimbly and reliability.

III Specifications

A: Drilling Capacity

1. Core Drilling

Drill rod type		Drill rod size	Drilling depth
		42 mm (1.65	1100 m (3608
		inch)	feet)
	Inside upset drill	50 mm (1.97	820 m (2690
	rod	inch)	feet)
The rod		60 mm (2.36	610 m (2001
made in		inch)	feet)
China			
		53 mm (2.09	950 m (3116



Γ	ZZ maustrar (shanghar) Co., Ltd			
		inch)	feet)	
	Wire-line drill rod	71 mm (2.80	700 m (2296	
		inch)	feet)	
		89 mm (3.50	550 m (1804	
		inch)	feet)	
		AW	1100 m (3608	
		AW	feet)	
	Inside upset drill rod	BW	820 m (2690	
		DW	feet)	
		NTST/	650 m (2132	
		NW	feet)	
		I IVV	430 m (1410	
		HW	feet)	
DCDMA rod	Wire-line drill rod	40	1200 m (3936	
		AQ	feet)	
		DO	950 m (3116	
		BQ	feet)	
		NO	730 m (2394	
		NQ	feet)	
		HQ	500 m (1640	



		feet)

2. Hydro-geological, water well drilling

Outside upset drill	Hole dia.	Drilling depth
rod size		
60 mm (2.36 inch)	200mm (7.87 inch)	400m (1312 feet)
73 mm (2.87 inch)	350mm (13.78 inch)	250m (820 feet)
89 mm (3.50 inch)	500mm (19.69 inch)	150m (5379 feet)

3. Foundation Pile Hole Drilling

A. Use outside upset drill rod of size 89mm (3.50 inch), hole dia.

Loose formation: 800mm (31.50 inch)

Hard rock formation: 500mm (19.69 inch)

Hole depth: 100m (328 feet)

B. Drill Head

The drill head is hydraulic feed of double oil cylinders and mechanical transmission type.

Drilling rotation angle range: 0°—360°

C. Spindle

The list of spindle speed (r/min)

Speed power stage	Power machine	Power machine
number	speed 1500 r/min	speed 1000 r/min



Forwar	Slow 4	82, 151, 215, 313	54. 100, 143,207
d		251, 463,	166, 307, 437,
ď	High 4	661,961	636
Reverse	Slow 1	67	44
	High 1	205	135

Max. Spindle torque

Power machine efficiency 30KW (40HP) speed 1500 r/min: 3.2 KN·m (2358 lbf·ft)

Power machine efficiency 22KW (29.5HP) speed 1000 r/min: 3.5 KN·m (2580

lbf·ft)

Max. Hoisting capacity: 80 KN (17984 lbf)

Max. Feed pressure: 60 KN (13488 lbf)

Spindle storke: 600 mm (23.62 inch)

Spindle I.D.: 92 mm (3.62 inch)

D. Hoister

Lifting speed (3rd layer single line)

Power machine speed 1500 r/min: 0.78, 1.44, 2.06, 2.99 m/s (2.56, 4.72, 6.76, 9.81

feet/s)

Power machine speed 1000r/min: 0.52, 0.96, 1.36, 1.98 m/s (1.71, 3.15, 4.46, 6.49

feet/s)

Max. Single line lifting capacity



Power machine efficiency 30kw (40HP) speed 1500 r/min: 30 KN (6744 lbf)

Power machine efficiency 22kw (29.5HP) speed 1000 r/min: 34 KN (7643 lbf)

Wire rope dia.: 16 mm (0.63 inch)

Drum capacity: 90 m (295.2 feet)

Drum dia.: 285 mm (11.22 inch)

Brake drum dia.: 490 mm (19.29 inch)

Brake band width: 120 mm (4.72 inch)

E. Clutch and Speed Change Box

Dry-type single plate friction clutch.

In speed change box, the speed is changed by sliding gear forward 4, reverse 1.

F. Skid-type Frame (with slide base)

Remove length: 460 mm (18.11 inch)

Distance between drill and hole top: 310 mm (12.20 inch)

G. Oil Pump

Single Gear Pump

Displacement: 32+12 L/min (8.5+3.2 US gallons/min)

Working pressure: 0—8 Mpa (0-1160 psi)

Max. Pressure: 12 MPa (1740 psi)

Speed (r/min): 1500

H. Drill Power



Name type	Electric motor Y200L-4	Deutz F4L 912 diesel engine
Power	30 KW(40HP)	38KW (51HP)
Speed	1500 r/min	1800 r/min

- I. Dimensions (L×W×H): 2730×1100×1860 mm (107.5×43.3×73.2 inch)
- J. Weight (excluding power unit): approx. 1800 kg (3969 lb)