

HYDX-6 Full Hydraulic Drilling Rig



I. General Introduction

HYDX-6 Hydraulic Core Drilling Rig, an up-to-date new product made by Lianyungang Huanghai Machinery, is a thoroughly new-typed drilling rig developed on the basis of the advanced techniques in the world. HYDX-6 is reasonable in design, excellent in performance, easy for operation and convenient for maintenance.

1. Main Features of the rig:

The rig, equipped with tracks, has a hydraulic driving system. It owns a brief but advanced structure, with its power head driven by a variable motor and its speed adjustable for 2 gears. With the oil cylinder working with a speed-changeable chain, its performance is stable and reliable. The mast is adjustable in the range from 0° to 90° to ensure a proper hole-drilling angle. The low gravity center of the rig promises

a steady operation. And it provides the operators with a convenient and comfortable working circumstance with a wide view. In short, the rig has a beautiful outline and shows a people-oriented design idea.

(1) Reliable Quality

The main parts and auxiliary equipment, including the engine, diesel engine, hydraulic pump, gear reducer and some key valves and hydraulic accessories, are all products with well-known brands.

(2) High Efficiency

Big torque, powerful driving force, rational and practical design, advanced controlling mode and a 6-meter-long (19.7 feet) drilling rod guarantee the high operation efficiency of the rig.

(3) Environmental Protection

The diesel engine is professionally designed to reduce noise and other contamination (The noise can not be over 72db), which makes the rig proper to be operated in urban areas.

(4) Energy Saving

The advanced technique of loading-sensor-controlling helps the rig reduce its consumption of driving force and heat discharge to the minimum extent.

HYDX-6 has an outstanding external appearance, a compacted structure, a reliable function, and a flexible operating system. All these factors have made the rig the best choice among the same products in both domestic and abroad markets.

2. Application Range

HYDX-6 can be applied to both slant and vertical drilling. Being a rig equipped with diamond and the carbide alloy bit drilling, it can be used in the fields of geology, metallurgy, coal mining, nuke industry and hydrology measuring.

II. Main Performance Parameters of HYDX-6

The figures in these tables have been calculated, based on field experiences, and may be reasonably expected. Actual drilling capacity will depend on in-hole tools and conditions, drilling techniques and equipment used.

	Model	Cummins 6CTA (turbocharged and charge water cooled)
Diesel Engine	Displacement	8.3L (2.19 US Gallons)
	Power	178kW (240HP)
	Rated RPM(Factory setting)	2200rpm
Drilling Capacity	BQ	2000 m(6560 feet)
	NQ	1600 m(5248 feet)
	HQ	1300 m(4264 feet)
	PQ	1000 m(3280 feet)
	Rotation Motor	Double Hydraulic Motor -variable and Reversible Maker: SAUER-DANFOSS
	RPM	Two Shifts/ Stepless Change

		0-1100 RPM
	Ratios	1st 8.776:1 2nd 2.716:1
	Head Opener	sidewise sliding way with hydraulic drive
Drill Head	Hydraulic Chuck(PQ)	Hydraulically opened, Disc Spring Clamping, Normally Closed Type Axial Holding Capacity of 222 400 N
	Max. Torque	6400 N·m(4717 lbf·ft)
	Hold Diameter	121 mm(4.76 inch)
	Max. Lifting capacity of Spindle	220 kN(49456 lbf)
	Max. Feeding Power	110 kN(24728 lbf)
Primary Pump	Hydraulic pump: Axial Piston variable displacement Triplex pump for driving of rotator, winch mud pump & leveling jacks. With load sensing system.	Maker: DANFOSS 1st Pump: 200LPM at 31.5MPa 2nd Pump: 120LPM at 28MPa 3rd Pump: 102 LPM at 16MPa
Hydraulic Tank	Capacity	420 L (111 US Gallons)

	Hoisting Speed (single wire)	38-70m/min(bare drum)
Capacity of Main	Hoisting force (single wire)	120kN(26976 lbf)
Hoist	Steel Wire Diameter	22 mm(0.86 inch)
	Steel Wire Length	50 m(164 feet)
Capacity of Wireline Hoist	Hoisting Force (single wire)	15 kN(3372 lbf) (bare drum)
	Steel Wire Diameter	6 mm(0.24 inch)
	Steel Wire Length	2000 m(6560 feet)
	Mast Height	11 m(36 feet)
	Mast Adjusting Angle	0°—90°
	Drilling Angle	45° off horizontal to 90°vertical down
Mast	Feeding Stroke	3800 mm(150 inch)
	Slippage Stroke	1500 mm(59 inch)
	Feed Pull	22000kg(48510 lb)
	Feed Thrust	11000kg(24255 lb)
	Rod Pull	3m or 6m(9.84feet or 19.68feet)
	Type	Reciprocating Pump Triplex Plunger

	Model	BW320
Mud Pump	Stroke	110mm(4.3 inch)
	Output volume	320,230,165,118 L/min (84.5, 61, 44, 31 US Gallons/min)
	Discharge pressure	4.0, 5.0, 6.0, 8.0 Mpa (580, 725, 870, 1160 psi)
Foot Clamp	Clamping Scope	55.5-117.5 mm(2.19-4.63 inch) through hole Φ 154mm(6.06 inch)
	Weight	14500 Kg(31973 lb)
Others	Transport Dimensions (L \times W \times H)	5900 \times 2240 \times 2500mm (232.3 \times 88.1 \times 98.4 inch)
	Transport Way	Steel Crawler