

HYDX-2 Full Hydraulic Portable Drilling Rig

I. General Overview

HYDX-2 full hydraulic portable drilling rig is a kind of light rig designed for geological exploration in remote area difficult to enter. It is mainly suitable for diamond drilling with wire line coring technique. The rig consists of diesel power unit, hydraulic system, control panel, mast, and main winch, wire line winch, drill head, feed system, foot clamp, etc.



The rig is completely hydraulic driven for all its surface coring function. Fission style design makes the rig in good assimilability and disassemblability, facilitating transportation to most inaccessible areas. Robust structure plus exact control system ensures high penetration rate and outstanding reliability.



II. Main Technical Features:

1. Full hydraulic and drill head model. The drill head rotation is realized with four hydraulic pumps driven by five diesel engines; this also makes the

feeding hydraulic cylinder system realize its full stroke feeding in both higher and lower speed.

2. With Good dismantlability. The rig is adopted fission style in design, including power unit, hydraulic oil tank, manipulation platform and operation mechanism, i.e. the drilling section. So they are in light weight and can be carried by man power or animal power. The rig can be applied and performed in narrow space for drilling of hole at $45^{\circ} - 90^{\circ}$ with stronger adaptability.

3. Strong techniques adaptability. Besides diamond drilling with wire line coring technique, it is in strong techniques adaptability. It is applicable for the drilling and feeding requirement of any other stratum.

III. Specifications

1. Basic parameter of drilling capacity Hole depth

BQ ($\Phi 55.6\text{mm}$ equal to $\Phi 2.19$ inch) drill rod: 350 m (1148feet)

NQ ($\Phi 69.9\text{mm}$ equal to $\Phi 2.75$ inch) drill rod: 230 m (754feet)

HQ ($\Phi 88.9\text{mm}$ equal to $\Phi 3.50$ inch) drill rod: 120 m (394feet)

2. Power Unit

Modle: 5 sets Double Cylinder Diesel Engine R2V870

Cooling Method: air

Rated Power of single Engine: 11 KW/59Kg (14.75HP/130Lb)

Rated Speed: 2500rpm

3. Drill head

Max. Spindle speed (r/min): 0 to 900

Max. Spindle torque: 334-930 N·m (246-685 lbf·ft)

4. Feeding system (feed with hydraulic cylinder)

Feeding stroke: 1700mm (67inch)

Lifting Capacity: 50KN (11240 lbf)

Feeding Capacity: 25KN (5620 lbf)

5. Main Hoist

Lifting Capacity (single-wire, bare drum): 18KN (4046 lbf)

Lifting Speed: 84m/min (276feet/min)

Rope Capacity: 30m (98.4feet)

Steel Wire dia.: 12mm (0.47inch)

6. Wire line Winch

Lifting Capacity (single-wire, bare drum): 8.4KN (1888 lbf)

Lifting Speed: 90-240m/min (295-787feet/min)

Rope Capacity: 500m (1640feet)

Steel Wire dia.: 6mm (0.24inch)

7. Mud Pump

Model: BW-100A

8. Overall Dimensions of main machine (L×W×H): 3500×1500×1300mm

(138×59×51 inch)

9. Dimensions of the disassembled Parts:

The largest part not more than 100 Kg (excluding mud pump)

Specification

	Model	Parameter
Drill Capacity of portable drilling rig	BQ	350 m
	NQ	230 m
	HQ	120 m
Power System of portable drilling rig	Model of hydraulic drilling rig	R2V870 Air Cooled, Diesel Engine (5 PCS)
	Rated Power / weight	11kw/59kg (one PCS)
	Rated Revolution	2500r/min
Unit Head	Torque Range	334-930 N.m
	Revolving Speed Range	0-900 rpm
Feeding System of portable drilling rig	Hoist Travel (Hydro-cylinder Feeding)	1700 mm
	Lifting Force	50 Kn
	Feeding Force of hydraulic drilling rig	25 Kn
Main Winch	Max. Lifting Force	18 Kn
	Lifting Speed	84 m/min
	Rope Capacity	30 m
	Diameter of Wire Line	φ12 mm
Wire line Coring Winch of portable drilling rig	Lifting Force	8.4 Kn
	Lifting Speed	90-240 m/min
	Rope Capacity of hydraulic drilling rig	500 m
	Diameter of Wire Line	φ6 mm
Mud Dump	Model	BW-100A
Dimension of Main Machine	L×W×H of hydraulic drilling rig	3500×1500×1300 mm
Weight of portable drilling rig	Max. Weight of the Disassembled	100 kg