

Full Hydraulic Drill Rig

Application

Full Hydraulic Drill Rig is for drilling holes in mine – exploring, as well as railway engineering, tunneling, hydro – power project etc. Customers would have a easy job in engineering by the benefit of its mart design and reliable performance.

Features

1. It's powered by an electric motor, and the drilling is driven by an oil pump, a motor and oil cylinder.
 2. The system of rotation, feeding, pumping and clamping are all hydraulically driven, the performance is stable and efficient.
 3. It's fast in drilling and can drill at any angle.
 4. The V – guide rail improve concentricity of spindle.
 5. The machine is easy to operate, dis-assemble and move.
- The drill rig is composed of power unit, machine body, control panel, rotation unit, holder assembly and slurry pump.
 - The present available models are FAMD150 – 1, FAMD210, FAMD7559, FAMD90 – 1, FAMD90 – 2, FAMD90 – 3.

Power Unit

The power unit is mounted on a mounted frame, which is easy to move, and can be a distance away from the working body when it is working.



The power unit is composed of a high power electric motor, a gear box, a double hydraulic pump (the primary one service rotation unit, the second one is for oil feed cylinder), filter, oil cooler, hand pump, electric control box etc.

Model	Dimension of Power unit / mm	Weight / Kg
FAMD150 – 1	1350 x 940 x 1050	490
FAMD210	1530 x 1100 x 1210	580
FAMD7559	1530 x 1100 x 1210	700
FAMD90 – 1	1650 x 1100 x 1210	800
FAMD90 – 2	1650 x 1100 x 1210	900
FAMD90 – 3	1710 x 1100 x 1270	1100

Main Body

The main body is composed of feed frame, rotation unit, rod holder, column, cylinder etc. It's easy to dis-assemble and assemble. Thanks to the column, it can drill in the tunnel at any angle within 0 – 360.



Model	Dimension of main body / mm	Column Size / mm (cross x height)	Weight / Kg
FAMD150 – 1	1630 x 300 x 500	φ 95 x 2500 – 3200	300
FAMD210	2370 x 300 x 500	φ 95 x 2500 – 3500	350
FAMD7559	2370 x 300 x 500	φ 95 x 2500 – 3500	360
FAMD90 – 1	2500 x 310 x 500	φ 95 x 2500 – 3500	450
FAMD90 – 2	2500 x 310 x 500	φ 95 x 2500 – 3500	550
FAMD90 – 3	2500 x 390 x 620	φ 102 x 2500 – 3500	600

Control Panel

The panel design is simple and easy to operate. By pulling or pushing the joysticks, the drilling can be realized, with feeding and speed under control. Chuck and rod holder will work in the meantime. Drill rod is free of wrench to load or unload. The gauges display system pressure, feeding force, water pressure.

Weight: 112 Kg

Size (Length x width x height) / mm: 550 x 450 x 1150



Rotation Unit



Different models have different rotation units. The spindle inner diameter is 58 mm. To replace the clamp in the chuck can help hold drill rods of different diameters. With hydraulic motor, the spindle has infinitely variable speed. Drilling of low rotational speed and large torque can come true if the gear box be replaced with a pair of gears of 1:2.5 transmission ratio.

Slurry Pump

The slurry pump, an auxiliary equipment of FAMD150 – 1 and FAMD210, is used to convey flushing liquid when drilling shallow holes by using diamond, steel or carbide bits.

The liquid could be clean water, oil water emulsion or slurry etc. BWJ – 80A pump is horizontal, 3 – cylinder, single functional reciprocating piston pump. It's simple in design, compact in size, and easy to move.



➤ Slurry Pump Technical Data

Description	Unit	Parameter
Cylinder Diameter	mm	φ 60
Stroke	mm	50
Impact frequency	Times / min	203/144/107
Water Discharge	L/min	80/57/42
Rated Pressure	Mpa	2.94
Suction Height	m	4
Input Power	Kw	7.5
Suction tube diameter	mm	φ 38
Drain Pipe Diameter	mm	φ 22
Dimension	mm	1220 x 590 x 550
Weight	Kg	300

Drilling

FAMD150 – 1

Drilling Depth / m	Hole Diameter / mm	Drill Rod Diameter / mm	Drill Rod Material
400	36	33	Aluminium
200	36	33	Steel
300	46	43	Aluminium
180	46	42	Steel
140	56	52	Steel

FAMD210

Drill Depth /m	Hole Diameter / mm	Drill Rod Diameter / mm	Drill Rod Material
550	36	33	Aluminium
250	36	32	Steel
400	46	43	Aluminium
210	46	42	Steel
270	56	53	Aluminium
175	56	50	Steel

FAMD7559

Drill Depth /m	Hole Diameter / mm	Drill Rod Diameter /mm	Drill Rod Material
180	75	72	Steel
250	59	55.5	Steel
300	46	42	Steel

FAMD90 – 1

Drill Depth / m	Hole Diameter / mm	Drill Rod Diameter / mm	Drill Rod Material
300	95	89	Steel
400	75	71	Steel
500	59	55.5	Steel

FAMD90 – 2

Drill Depth / m	Hole Diameter / mm	Drill Rod Diameter / mm	Drill Rod Material
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350	95	89	Steel
480	75	71	Steel
600	59	55.5	Steel
FAMD90 – 3			
Drill Depth / m	Hole Diameter / mm	Drill Rod Diameter / mm	Drill Rod Material
360	95	89	Steel
500	75	71	Steel
700	59	55.5	Steel
			

Performance

Model	Model	Spindle Rotational Speed (speed rate 1.5:1)	Torque (spindle rotation speed/rpm, speed rate)	Axial pushing force /kN	Axial pulling force / kN	Working pressure /MPa	Drilling angle	Weight / Kg
1	FAMD150 – 1	>2000	800 rpm 1.51:1>140	>33	>24	20	0 – 360°	1150
2	FAMD210	>2200	800 rpm 1.51:1>150	>40	>30	20	0 – 360°	1300
3	FAMD7559	>1800	800 rpm	>40	>30	20	0 –	1350

			2.1:1>200				360°	
4	FAMD90 – 1	>1200	400 rpm 2.6:1>600	>42	>54	20	0 – 360°	1700
5	FAMD90 – 2	>820 (low gear) >1300 (high gear)	>600	>53	>66	20	0 – 360°	1850
6	FAMD90 – 3	>960 (low gear) >1530 (high gear)	400 rpm 3.5:1>800	>62	>83	20	0 – 360°	2100

Safety Instruction

1. Don't open electric control bow and touch other electric parts when power is on;
2. Don't touch the rotational part when the machine is working;
3. It's requested to us #46 wear – resistant hydraulic oil;
4. Cooling system must be in good condition;
5. The working space should not be smaller than 4 x 3 x 3 (m) and should be clean enough to put drill rods and other in good order.