

# MARMOROK 90 E

## Gemsa's Quarry Drill Rig



*more creativity, high productivity*

**GEMSA**

# TECHNICAL INFORMATION

## Drill Rig Specifications

### MARMOROK 90 E



DRILLING DEPTH GUIDELINES				
DRILL ROD	Hole Ø "METRIC"	Hole Ø "U.S."	Hole Depth "METRIC"	Hole Depth "U.S."
Ø 76 mm X 2.000 mm 3" Hammer	90 mm	3,5 in	40 m	130 ft

BASE FRAME ASSEMBLY / UNDERCARRIAGE		
	METRIC	U.S.
Weight of the Rig	4.050 kg	8.928 lb
Length	4.500 mm	14,7 ft
Width	2.250 mm	7,4 ft
Height	1.800 mm	5,9 ft
Stabilization	Four hydraulic jacks sides of the rig	
Traction	Three Wheel Drive, Negative Brake Release Towing Purpose Manual Brake Release	
Wheel	Heavy Duty Tires 7.50x15	
Steering	Hydraulic Control	
Driving Speed	2.7 km/h	1,7 Mph

POWER PACK		
	METRIC	U.S.
Engine	DEUTZ F2L2011	
Type of Cooling	Air - Cooled	
Fuel	Diesel	
Fuel Consumption	220 g/kWh	0,362 lb/hph
Number of cylinders, Method of Operation	2 cylinders, 4 stroke	
Max. Power	23 kW @ 2800 min <sup>-1</sup>	31 hp @ 2800 rpm
Max. Torque	90 Nm @ 1700 min <sup>-1</sup>	66,4 lb/ft @ 1700 rpm
Min. Idling Speed	900 min <sup>-1</sup>	900 rpm
Electrical Circuit	12 V	
Fuel Tank Capacity	30 liter	8 gal
Electrical Circuit	12 V	

Electric Motor	GAMAK	
Power	22 kW @ 1475 min <sup>-1</sup>	29,48 hp @ 1475 rpm
Electric System	380 V – 50 Hz	

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HYDRAULIC SYSTEM			
		METRIC	U.S.
Pump 1 for electric engine		PARKER Open Circuit Gear Pump	
Working Input Speeds	Minimum	500 min <sup>-1</sup>	500 rpm
	Maximum	2200 min <sup>-1</sup>	2200 rpm
Working Pressure	Continuous	160 bar	2.321 psi
	Maximum	220 bar	3.191 psi
Flow at Rated Speed		59,5 l/min	15,72 gal/min
Displacement		41 cm <sup>3</sup> / rev	2,5 in <sup>3</sup> / rev
Pump 2 for electric engine		PARKER Open Circuit Gear Pump	
Working Input Speeds	Continuous	500 min <sup>-1</sup>	500 rpm
	Maximum	2200 min <sup>-1</sup>	2200 rpm
Working Pressure	Continuous	160 bar	2.321 psi
	Maximum	250 bar	3.626 psi
Flow at Rated Speed		21 l/min	5,5 gal/min
Displacement		14 cm <sup>3</sup> / rev	0,85 in <sup>3</sup> / rev
Pump 1 for diesel engine		PARKER Open Circuit Gear Pump	
Working Input Speeds	Minimum	500 min <sup>-1</sup>	500 rpm
	Maximum	2200 min <sup>-1</sup>	2200 rpm
Working Pressure	Continuous	160 bar	2.321 psi
	Maximum	210 bar	3.045 psi
Flow at 2200 rpm (min <sup>-1</sup> )		63,8 l/min	16,8 gal/min
Displacement		29 cm <sup>3</sup> / rev	11,4 in <sup>3</sup> / rev
Pump 2 for diesel engine		PARKER Open Circuit Gear Pump	
Working Input Speeds	Minimum	500 min <sup>-1</sup>	500 rpm
	Maximum	2200 min <sup>-1</sup>	2200 rpm
Working Pressure	Continuous	160 bar	2.321 psi
	Maximum	210 bar	3.045 psi
Flow at 2200 rpm (min <sup>-1</sup> )		22 l/min	5,8 gal/min
Displacement		10 cm <sup>3</sup> / rev	3,94 in <sup>3</sup> / rev
Hydraulic Valves		Walvoil or Hydro Control Hydraulic Valves	
Hydraulic Hose, Fittings, Gauges		Parker	
Hydraulic Oil Tank Capacity		150 liter	39,6 gal

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#### MACHINE CONTROLS

Drilling Controls	Manual Control
Drilling Control Panel	Ergonomic Design
Driving Controls	Manual Control.

#### DRILL HEAD

		METRIC	U.S.
Model		GEMSA DW Model Drill Head "Drilling Both Ways"	
Spindle Thread		2 3/8" API female	
Drive Motor		Hydraulic Orbital Motor	
Displacement		199,8 cm <sup>3</sup> / rev	12,23 in <sup>3</sup> / rev
Working Speed	Continuous	300 min <sup>-1</sup>	300 rpm
	Maximum	375 min <sup>-1</sup>	375 rpm
Working Pressure		150 bar	2.175 psi
Power		11 kW	14,74 hp
Drill Head Torque		1.020 Nm	752 lbf ft
Drill Head Rotation Speed		100 min <sup>-1</sup>	100 rpm
Oil Flow " Engine Speed 1900 min <sup>-1</sup>   rpm "	Drilling	50 L @ 150 bar	13,2 gal @ 2.175 psi
	Unscrew	50 L @ 150 bar	13,2 gal @ 2.175 psi

#### DRILL MAST and FEED SYSTEM

		METRIC	U.S.
Mast		Drill Head Operating Surfaces Covered with Hardox Plates	
Cradle		Supported with Rollers	
Feeding System		Negative Brake Planetary Gearbox with Hydraulic Motor	
Drill Mast Length		4.020 mm	13,2 ft
Feeding Stroke		2.500 mm	8,2 ft
Fast Feeding Down Speed		30 m/min	98,43 ft /min
Pull Back Force		25 kN ( 2,5 tones @ 160 bar )	5.620 lbf @ 2.321 psi
Pull Back Speed		30 m/min	98,43 ft /min
Maximum Rod Length		2 m	9,84 ft
Rod Key		Manual	
Dust Diverter		Air Controlled	

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AIR LINE LUBRICATOR		
	METRIC	U.S.
Lubricator	Venturi System	
Lubricator Tank Capacity	3 Liter	0,79 gal

WATER PUMP		
	METRIC	U.S.
Water Pump	Gemsa Model Pneumatic Control Water Pump	
Working Pressure	7 bar	102 psi
Water Tank Capacity	50 Liter	13,2 gal

SAFETY SYSTEM	
Fire Extinguishers	There are 12 kg fire extinguishers several places where operator and assistant can reach easily .Also fire sensitive balls inside the engine cabinet .
Safety Stops	On each side of the machine where operator and assistant can reach easily.

OPTIONAL EQUIPMENT		
	METRIC	U.S.
Extra Valve Outlet		
Dust Collector	Gemsa Model ( Hydraulic )	
Rig Lighting	Extra Nordic Led Lights Optional	
Drill Rig Color	Standard Color : Yellow – Black ( Customer's choice is Optional )	

## ***general makine***

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