

BE220G

HYDRAULIC EXCAVATOR



- Efficient Hydraulic System
- Powerful Economical Engine
- Effort-free Operation
- Maximum working performance
- Easy maintenance
- Operator Comfort



Operating Mass	: 22,800 kg
Flywheel horsepower	: 110 kW (148 hp) @ 2100 rpm
Bucket capacity (SAE/ISO heaped)	: 0.44 - 1.26 m ³

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BE220G HYDRAULIC EXCAVATOR

Salient Features :

Efficient Hydraulic System

Positive control main pump hydraulic system with advanced optimum hydraulic control system assures easy & smooth independent and simultaneous compound functions. The horse power summation feature makes full use of engine output power for maximum productivity with faster cycle time. The positive control pump, tandem-parallel circuit featuring boom and arm regeneration functions and advanced control valve with load sensing feature reduces the hydraulic loss during idling and increases oil flow in direct proportion to joystick movement for precise control.

Powerful economic engine

BEML diesel engine BS6D105-1 delivers 110 kW (148hp). A direct injection system ensures reduced fuel consumption and assures high operational economy. The turbo charger allows engine to attain high performance even on high altitude job sites.

Effort free operation

Work equipment controls are simple and light touch due to the hydraulically assisted control system.

Maximum working performance

2 mode selection switch provided in the operator cabin can be used for high excavation efficiency. "S" Mode for standard working condition and better fuel efficiency and "H" Mode for Heavy duty application

Easy maintenance

Centralised monitoring system within the operator's cab allows fast daily checks and also keeps the operator constantly informed of any abnormality during operation.

Operator Comfort

Specially designed cab provides plenty of work space and excellent visibility.



ENGINE

Make / Model	BEML / BS6D105-1
Type	Diesel, 4 stroke, Water Cooled. turbo charged, direct injection
Bore & Stroke	φ 105 mm x 125 mm
Piston displacement	6.494 l (6494 cc)
Net horsepower	110 kW (148 fhp) @ 2100 rpm
No. of cylinders	6, In-line
Governor	All speed, mechanical
Electricals	
Alternator	24 V, 45A
Starting Motor	24V, 4.5 kW
Battery	2 x 12 V, 120 Ah



DRIVES & BRAKES

Steering Control	Either hand levers or foot pedals
Drives	
Drive Type	Compact design with planetary reduction with inbuilt counter balance valve and anti shock valve for smooth operation
Max. Drawbar pull	158 kN (16,145 kg)
Max. Travel speed	0.94 m/sec (3.4 kmph)
Travel / Parking	Hydraulic wet Brake coupled to motor
Brake	Spring applied and hydraulically released oil disc brakes, Travel motors are equipped with counter balance valve which regulates speed when making descents.



UNDERCARRIAGE

Track frame	H bar type centre frame is integrally welded with reinforced box-section track frame
Shoe width	610
No. of shoes	47 each side
No. of carrier rollers	2 each Side
No. of track rollers	8 each side
Ground Pressure	48 kPa (0.49 kg/cm ²)

STANDARD EQUIPMENT

Dry type air cleaner	PPC hydraulic control
610 mm track shoe	Hydraulic track adjuster
Fully hydrostatic drive	Suction fan
Radiator & oil cooler	Front light
Electric horn	Counter weight
Rear view mirror	Electronic monitoring system
All weather steel cab	Tool kit
(with safety glass windows, lockable door, window wiper, room lamp and adjustable seat)	Portable fire extinguisher

OPTIONAL ACCESSORIES / ATTACHMENTS / BUCKETS

Windshield washer
 Front windshield protective guard
 FOPS
 Cabin heater
 Air conditioner
 High rise cabin
 Track shoes (500 mm, 710 mm & 810 mm)
 Long arm (3.045 m)
 Extra long arm (3.5 m)
 Short arm (2.0 m & 2.2 m)
 Super long front (for 12.2m & 18.3 m reach)
 Trapezoidal bucket (0.5 m³)
 Slope finishing bucket (0.35 m³)
 Ripper bucket (0.56 m³)
 Clamshell bucket (0.6 m³ x 1.2 m³)
 Super long front bucket (0.64m³ & 0.44 m³)
 Light duty bucket (1.14 m³ & 1.26 m³)
 Single shank ripper
 Three shank ripper
 Hydraulic rock breaker





HYDRAULIC SYSTEM

Type	Positive control hydraulic system featuring boom and arm regeneration with summation and two mode selection for optimum utilisation of hydraulic power resulting in improved fuel efficiency.
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Hydraulic Pumps

Main Pump	Variable displacement axial piston pump
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Maximum flow	405 l/min @ 2150 rpm
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Pilot pump	1 no. Auxiliary pump
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Hydraulic Motors

Travel	2 nos. Axial piston motor
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Swing	1 no. Axial piston motor
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Relief valve settings

Implement circuits (Boom, arm & bucket)	31.4 MPa (320 kg/cm ²)
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Swing circuits	29.13 MPa (297 kg/cm ²)
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Travel circuits	31.4 MPa (320 kg/cm ²)
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Pilot circuits	2.94 - 3.53 Mpa (30 - 36 kg / cm ²)
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Control valves

Type	8 Spool control valve including a spare spool for auxiliary attachment
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Hydraulic Cylinders

Type	Double acting piston type
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Cylinders	No. Bore x Stroke
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Boom	2 130 x 1234 mm
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Arm	1 140 x 1628 mm
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Bucket	1 130 x 989 mm
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COOLANT & LUBRICANT CAPACITY (Refill)

Fuel tank	280.0 l
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Radiator	26.5 l
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Engine	17.5 l
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Final drive each side	5.0 l
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Swing drive	5.0 l
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Hydraulic tank	150.0 l
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SWING SYSTEM

Swing lock	Hydraulic disc brake type
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Swing reduction	Spur and planetary reduction
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Swing speed	13 rpm
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Tail swing radius	2859 mm
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DIMENSIONS (mm) (Fig B)

Overall length	10000
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Overall width	2990
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Overall height (top of boom)	3060
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Track length on ground	3445
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Track gauge	2380
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Minimum ground clearance	590
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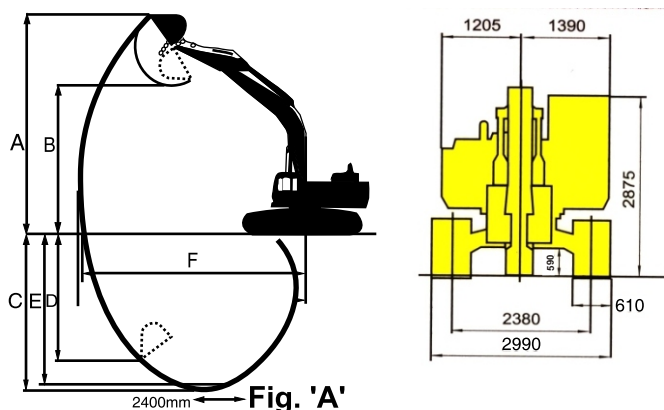


Fig. 'A'

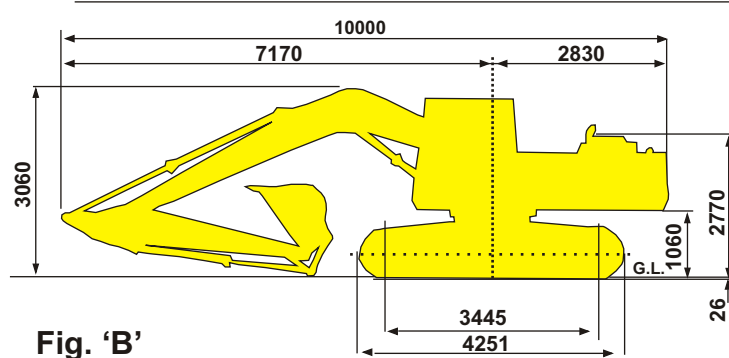
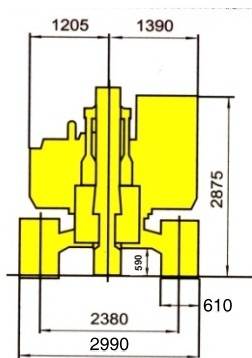


Fig. 'B'

Material and specifications are subject to change without notice, Illustrations may include optional equipment & accessories



GAUGES & INDICATORS

LCD Gauge	Fuel gauge, hydraulic oil level & temperature gauge, engine cooling water temperature gauge, engine oil pressure gauge, service meter
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Indicators & alarms	Hydraulic oil level, engine oil level, battery charge (indicator), radiator water level, engine oil pressure
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WORKING RANGE (Fig A)

Arm length	3.045m	2.0m	2.2m	2.5m	3.5m
A max. digging height (m)	9.18	8.90	8.93	8.97	9.44
B max. dumping height (m)	6.36	6.10	6.13	6.20	6.61
C max. digging depth (m)	6.70	5.67	5.88	6.17	7.16
D max. vertical wall digging depth (m)	5.76	4.61	5.74	4.97	6.20
E max. digging depth of cut for 2440 mm level bottom (m)	6.57	5.43	5.67	5.96	7.01
F max. digging reach at ground level (m)	10.00	9.09	9.27	9.51	10.46
Bucket digging force kN (kg)	125 (12700)	125 (12700)	126 (12820)	125 (12700)	125 (12700)
Arm crowd force kN (kg)	100 (10200)	147 (14990)	136 (13905)	120 (12270)	91 (9280)



OPERATING MASS

22800 kg (including 5.85 m boom, 2.5m arm, 1.0 m³ SAE heaped backhoe bucket, coolant, full fuel tank, Hydraulic tank and operator)



FILTRATION

Engine	Two stage fuel filter with water separator
Air-intake	Dry type, two stage air cleaner with dust evacuator
Hydraulic	One suction strainer, one return line filter and one pilot filter



BACKHOE BUCKETS

BACKHOE BUCKETS	Narrow bucket	Gen. purpose bucket	Light duty bucket	Std. bucket
Capacity m ³	0.44	0.72	1.00	1.14
SAE heaped	0.72	1.00	1.14	1.26
Struck	0.36	0.55	0.76	0.83
0.90	0.75			
Bucket width mm				
Without side cutters	600	900	1155	1300
With side cutters	705	1005	1250	1405
Bucket Mass kg (with teeth)				
Without side cutters	609	810	918	877
With side cutters	643	844	952	911
No. of bucket teeth	3	3	4	5
				5
				4

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