

# BE220

# G

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) @ 2000 rpm
Bucket capacity (SAE/ISO heaped)	: 0.44 - 1.26 m <sup>3</sup>

[www.bemlindia.com](http://www.bemlindia.com)

# BE220 **G** 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. "L" Mode for Light duty application\* and better fuel efficiency and "S" Mode for Standard Duty conditions.

### 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.

\* Fuel consumption for 'L' & 'S' modes is depends on the load factor.

## ENGINE

Make	BEML / BS6D105-1
Type	Diesel, 4 stroke, Water Cooled, turbo charged, direct injection
Bore & Stroke	∅ 105 mm x 125 mm
Piston displacement	6.494 ℓ (6494 cc)
Net horsepower	110 kW (148 fhp) @ 2000 rpm
No. of cylinders	6, In-line
Governor	All speed, mechanical
<b>Electricals</b>	
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
<b>Drives</b>	
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	0.81 to 0.83 m/sec (2.9 ± 0.1 kmph)
Travel / Parking Brake	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 <sup>2</sup> )

## STANDARD EQUIPMENT

Dry type air cleaner	PPC hydraulic control
610 mm track shoe	Grease type track adjuster
Fully hydrostatic drive	Hydraulic track adjuster
Radiator & oil cooler	Suction fan
Electric horn	Front light
Rear view mirror	Counter weight
All weather steel cab (with safety glass windows, lockable door, window wiper, room lamp and adjustable seat)	Electronic monitoring system
	Tool kit
	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 m <sup>3</sup> )
Slope finishing bucket (0.35 m <sup>3</sup> )
Ripper bucket (0.56 m <sup>3</sup> )
Clamshell bucket (0.6 m <sup>3</sup> & 1.2 m <sup>3</sup> )
Super long front bucket (0.64m <sup>3</sup> & 0.44 m <sup>3</sup> )
Light duty bucket (1.14 m <sup>3</sup> & 1.26 m <sup>3</sup> )
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

### Hydraulic Pumps

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

### Hydraulic Motors

Travel 2 nos. Axial piston motor  
 Swing 1 no. Axial piston motor

### Relief valve settings

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

### Control valves

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

### Hydraulic Cylinders

Type Double acting piston type

Cylinders	No.	Bore x Stroke
Boom	2	130 x 1234 mm
Arm	1	140 x 1628 mm
Bucket	1	130 x 989 mm

## COOLANT & LUBRICANT CAPACITY (Refill)

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

## SWING SYSTEM

Swing lock	Hydraulic disc brake type
Swing reduction	Spur and planetary reduction
Swing speed	13 rpm
Tail swing radius	2859 mm

## DIMENSIONS (mm) (Fig B)

Overall length	10000
Overall width	2990
Overall height (top of boom)	3060
Track length on ground	3445
Track gauge	2380
Minimum ground clearance	465

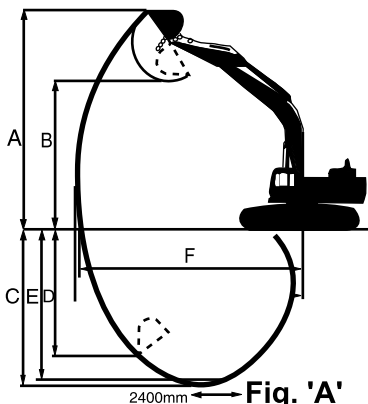


Fig. 'A'

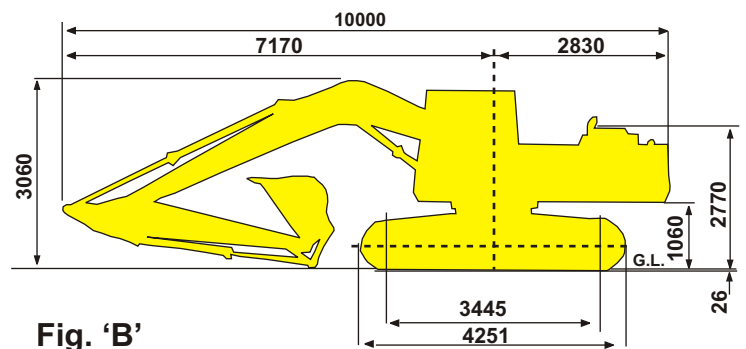
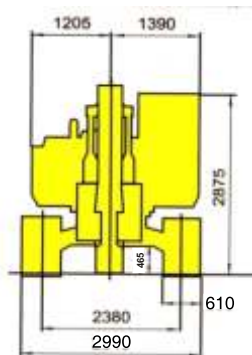


Fig. 'B'

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
Indicators & alarms	Hydraulic oil level, engine oil level, battery charge (indicator), radiator water level, engine oil pressure

## 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, 2.5 m arm, 1.0 m<sup>3</sup> 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 Capacity m <sup>3</sup>	Narrow bucket	Gen. Purpose bucket	Light duty bucket	S t d . bucket
	SAE heaped	0.44	0.72	1.00
Struck	0.36	0.55	0.76	0.83 0.90 0.75
Bucket width mm				
Without side cutters	600	900	1155	1300 1400 1085
With side cutters	705	1005	1250	1405 1505 1180
Bucket Mass kg (with teeth)				
Without side cutters	609	810	918	877 886 732
With side cutters	643	844	952	911 900 759.6
No. of bucket teeth	3	3	4	5 5 4

# बी ई एम एल लिमिटेड

## BEML LIMITED

A Govt. of India Miniratna Company Under Ministry of Defence

### Business Network

### Corporate Office

BEML Soudha, 23/1, 4th Main,  
S.R. Nagar, Bangalore-560 027

T + 91 80 22963240, 22963250

F + 91 80 22963278/516/280/164

E-mail: office@cpd.beml.co.in  
office@pr.beml.co.in

### International Business Division

BEML Soudha, 23/1, 4th Main,  
S.R. Nagar, Bangalore-560 027

T + 91 80 22222730, 22233350  
22963187, 22963215

F + 91 80 22224874

E-mail: office@export.beml.co.in

### Marketing Division

5th Floor, Unity Building,  
J.C. Road, Bangalore-560 002

T + 91 80 22963501/02/07/510/553

F + 91 80 22963541

E-mail: m@beml.co.in  
bemldealer@dealer.beml.co.in

### REGIONAL OFFICES

#### Bangalore

No -23/1, Haudin Road Cross,  
Ulsoor Road, Bangalore 560008  
Karnataka

T + 91-80-22963590/92/93/94  
F + 91-80-2558156  
E-mail: mg@beml.co.in

#### Bilaspur

1/A, Sector-C, Sirgitti Industrial Area,  
P.O: Tifra, Bilaspur - 495 223.  
Chattisgarh

T + 91-7752-252745, 252598  
F + 91-7752 252065  
E-mail: bilaspur@rm.beml.co.in

#### Chennai

Flat No. 10&11, Supriya Estates,  
Sterling Road, Nungambakkam,  
Chennai - 600 034, Tamil Nadu,

T + 91-44-28276576 / 28220844  
F + 91-44-28257319  
E-mail: chennai@rm.beml.co.in

#### Dhanbad

Kamal Kunj, Kola Kusuma,  
Saraidhela, Dhanbad - 828 127  
Jharkhand

T + 91 326 2200180 / 2208982/5827  
F + 91 326 2200182  
E-mail:dhanbad@rm.beml.co.in

#### Hyderabad

3-6-114, Himayat Nagar,  
Hyderabad - 500 029  
Andhra Pradesh

T + 91 40 23225250 / 7032 / 2166  
F + 91 40 23221794  
E-mail: hyderabad@rm.beml.co.in

#### Kolkatta

35/1, Taratala Road,  
Kolkatta - 700 088.  
West Bengal

T + 91 33 24015286 / 87 / 98 / 99  
F + 91 33 24015288  
E-mail: kolkatta@rm.beml.co.in

#### Mumbai

C/o Richardson & Cruddas (1972) Ltd.  
3rd Floor, Corporate Office Building  
Sir J.J Road Byculla, Mumbai - 400 020

T + 91 22 23781457 / 23781382  
F + 91 22 23780915  
E-mail: mumbai@rm.beml.co.in

#### Nagpur

33,Cement Road,  
Shivaji Nagar,  
Nagpur - 440 010, Maharashtra.

T + 91 0712 2248435 / 2248343  
F + 91 0712 2249997  
E-mail: nagpur@rm.beml.co.in

#### New Delhi

Flat EFGH, 'Vandana', 11th Floor,  
Tolstoy Marg, Cannought Palace,  
New Delhi - 110 001

T + 91 11 23310035 / 23316500  
F + 91 11 23325085  
E-mail: delhi@rm.beml.co.in

#### Ranchi

206/D-1, Bhagirathi, (Behind NCC Campus)  
Rameshwaram Colony, Bariatu Road,  
Ranchi, Jharkhand - 834009

T + 91 651 2540710 / 2540791  
F + 91 651 2540624  
E-mail: ranchi@rm.beml.co.in

#### Sambalpur

BEML Complex, NH-6, Baraipalli,  
Sambalpur - 768 150  
Orissa.

T + 91 663 2521604 / 2520393  
F + 91 663 2521603  
E-mail: sambalpur@rm.beml.co.in

#### Singrauli

PB No. 5, Jhingurdha Colliery,  
Sidhi, Singrauli - 486 889  
Madhya Pradesh.

T + 91 7805 268260 / 266668  
F + 91 7805 267282 / 318  
E-mail: singrauli@rm.beml.co.in

### ACTIVITY CENTERS

#### Bhopal

Ground Floor, Hall No.1, Chittod Complex, Zone-1,  
Maharanapratap Nagar (MP Nagar), Bhopal - 462 023

T + 91 755 2550711  
E-mail: bemlbhopal@gmail.com

#### Cochin

No. 39/2122, Chittor Road, Ernakulam South,  
Cochin-682 016

T + 91 484 2375138  
E-mail: bemlkochi@gmail.com

#### Panjim

67-12, Dattaprasad Building, 3rd Floor, MG road  
Timphoni School, Panjim, - 403001, Goa

T + 91 832 2225135  
E-mail: goa@rm.beml.co.in

#### Madurai

9-4/49, Kalai Nagar, IInd Main Road  
Madurai - 625 017

T/F + 91 452 2649458  
E-mail: madurai@rm.beml.co.in

#### Vishakhapatnam

No. 8-45-11, 4h Lane, China Waitair Colony  
Vishakhapatnam - 530 003

T/F 0891 2754608  
E-mail: vizag@rm.beml.co.in

#### Katni

J2, Housing Board Colony, Shanthi Nagar, Katni

Mob: +91 7987553768

### DISTRICT OFFICES

#### Ahmedabad

266-1, Dilbaug Villa, Darshan Society Road  
Navrangpura, Ahmedabad - 380 009  
Gujarat

T + 91 79 26445523  
F + 91 79 26423950  
E-mail: ahmedabad@rm.beml.co.in

#### Asansol

3, Burnpur Road,  
Asansol - 713 304  
West Bengal

T + 91 341 2252480  
F + 91 341 2250601  
E-mail: asansol@rm.beml.co.in

#### Bacheli

Behind Central Stores  
of NMDC Ltd., Depot 5, Bacheli - 494 553.  
Chhattisgarh

T + 91 7857 200518  
F + 91 7857 230005  
E-mail: bacheli@rm.beml.co.in

#### Bhilai

Room no 22/C, BSP Expansion Building,  
Near Ispat Bhaven, Bhilai 490 001  
Chhattisgarh

T + 91 788 2223880  
F + 91 788 2221652  
E-mail: mnboffice@beml.co.in

#### Bhubaneswar

252/A, LEWIS Road  
Bhubaneswar - 751 014  
Orissa

T + 91 674 2434428  
T/F + 91 674 2434427  
E-mail: bhuvaneshwar@rm.beml.co.in

#### Chandrapur

Mamidwar, Tiles Factory Compound  
Ghugus Road, Padoli  
Chandrapur - 442 406 Maharashtra

T + 91 7172 287230  
F + 91 7172 287072  
E-mail: chandrapur@rm.beml.co.in

#### Guwahati

Hegrabari Road, House No. 11,  
Ganesh Puri, Dispur,  
Guwahati - 781 006 Assam

T + 91 361 2232966  
F + 91 361 2232967  
E-mail: guwahati@rm.beml.co.in

#### Hospet

No.1431, Manjunatha Complex, New Ward No.31  
Bhagat Singh Nagar, Opp. KSSIDC Indl. Estate,  
Dam Road, Hospet - 583 203, Karnataka

T + 91 8394 230173  
F + 91 8394 230172  
E-mail: hospet@rm.beml.co.in

#### Jammu

62C, Block D/C, Gandhi Nagar,  
Jammu tawi - 180 004  
Jammu and Kashmir

T + 91 191 2430447  
F + 91 191 2477469  
E-mail: jammu@rm.beml.co.in

#### Kothagudem

Old Project Planning Department,  
Near SCCL Corporate Office,  
Kothagudem - 507 101, Telangana State

T + 91 8744 245572  
F + 91 8744 245530  
E-mail: kothagudem@rm.beml.co.in

#### LEH

#135, Fort Road, Sheynam  
LEH, Ladakh, 194 101

T + 91 9622973460  
E-mail: bemlleh@gmail.com

#### Neyveli

F-4, Rajendraprasad Road, Block-27  
Neyveli - 607 803. Tamil Nadu

T/F + 91 4142 268517  
E-mail: neyveli@rm.beml.co.in

#### Ramagundam

Opp. SCCL 11A Mines, Manthani,  
(PO) Jallaram, GK - 505 184  
Karimnagar Dt. Telangana State

T + 91 8728 248299  
F + 91 8728 247423  
E-mail: ramagundam@rm.beml.co.in

#### Udaipur

20-B, Uchhab Bhawan, Bedia Road,  
New Fatehpura, Udaipur - 313 001.  
Rajasthan

T + 91 294 2452053, 2452055  
F + 91 294 2452054  
E-mail: udaipur@rm.beml.co.in

#### Vijayawada

No 48-13-1C, G Floor, Ramchandra Nagar,  
Near Ayush Hospital, Vijayawada -520 008

T / F + 91 866 2975499  
E-mail: bemlbza@gmail.com

### www.bemlindia.com

Represented by :



Form No. BE220G/001/08/2017

# बी ई एम एल लिमिटेड

## BEML LIMITED

A Govt. of India Miniratna Company Under Ministry of Defence