

C : Winning Machinery

CI OPENCAST FACE MACHINERY/HEAVY EARTH MOVING EQUIPMENT

CI (1) Tractors

Capacity : GTW up to 100 T

1. Manufacturer/Supplier : M/s Ashok Leyland Limited,
Marketing Division,
480, Anna Salai,
Nandanam,
Chennai-600 035

		(i)	(ii)	(iii)
Model	:	Beaver Tractor	Hippo Tractor	Hippo Turbo Tractor
		ALB 1/4	ALH 1/4	ALH 1/9
Cap GTW	t :	42	46	62.5
Flywheel Power	:	180 HP @ 2200 rpm	180 HP @ 2200 rpm	240 HP @ 2200 rpm
Engine Make & Model	:	AL 680 Diesel	AL 680 Diesel	AL 690 Diesel
Min turning circle radius	mm :	7115	8650	8650
Max Travel speed	kmph :	55.7	49	49
Max Gradeability	:	1 IN 7.84	1 IN 5.73	1 IN 5.9
Overall	L mm :	5742	6772	6772
W (over rear tyres)	mm :	2434	2434	2434

2. Manufacturer/Supplier : M/s Bharat Earth movers Ltd.,
Unity Buildings,
J.C. Road,
Bangalore-560 001

Model	:	G10T
Cap GTW	t :	7
Engine Make & Model	:	ALU-402/2
BHP	:	110
Gross Vehicle wt	kg :	10,000
Max travel speed	kmph	
	F	25
	R	25
Turning circle radius	mm :	4150
Overall	H mm :	2100
	L mm :	3940
	W mm :	2375

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Cl (2) Bulldozers

Maximum Drawbar Pull : Up to 20,000 kg

1. Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings,
J.C. Road,
Bangalore-560 001

Model	(i) D31A-17 Power Angle Tilt Dozer	(ii) D50A-15 Angle Dozer	(iii) D80A-12 Angle Dozer
Max Drawbar Pull kg	: 8710	10340	19600
Flywheel Power	: 66 HP (49 KW) @ 2350 rpm	90 HP @ 1750 rpm	180 HP @ 1850 rpm
Engine Make & Model	: Komatsu 40 105-5	Kirloskar Cummins N-495-C	Kirloskar Cummins N-743-C
Operating wt kg	: 6150	11000	21100
Max Travel Speed kmph			
F	: 6.5	9.4	10
R	: 7.1	8.0	9.6
Blade Width mm	: 2415	3350	4260
Overall H mm	: 2685	2690	3060
L mm	: 3765	4700	5890
Optional Attachments	: Rops Cabin Trimming Dozer Multi-Shank Ripper Backhoe 3-Point Hitch Towing Winch Swing Drawbar Angle Dozer	Multi-Shank Ripper Towing Winch Backhoe Straight Dozer Rake Dozer Cabin Canopy Swing type Drawbar	Straight Dozer Coal Dozer Cabin Canopy Ripper

Maximum Drawbar Pull : Above 20000 kg

1. Manufacturer/Supplier : M/s Bharat Earth movers Ltd.,
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Bangalore-560 001

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	(i)	(ii)
Model	: D155A-1 straight tilt dozer	D355A-3 straight tilt dozer
Maximum drawbar pull	kg : 65000	90000
Flywheel power	: 320 HP @ 2000 rpm	410 HP @ 2000 rpm
Operating wt	kg : 32510	43840
Engine make & model	: Kirloskar Cummins KT-1150-C	Kirloskar Cummins KTA-1150-C
Max travel speed	kmph	
	F : 11.8	12.7
	R : 13.7	12.6
Blade width	mm : 4130	4315
Overall H	mm : 3640	4035
L	mm : 6555	7120
Optional attachments	: Cabin	Cabin
	Canopy Rops Cabin	Canvos Canopy
	Towing Winch	Rops Cabin
	Multi Shank Ripper	Multi Shank Ripper
	Variable giant ripper	Variable giant ripper
	Pin Puller Equipment	Towing winch
	(for giant ripper)	Pin Puller Equipment
	Scoria Disposal Blade	(for giant ripper)
	Pusher Plate for straight tilt dozer	Scoria Disposal Blade
	Pusher Plate for Angle Dozer	Pusher Plate for straight tilt dozer
	Angle Dozer Attachment	
	Coal Dozer Attachment	
2. Manufacturer	: M/s Hindustan Motors Ltd., Earth Moving Equipment Division, P.O. Melnallathur, Tiruvallur - 602 004, Chingleput District, Tamil Nadu.	
Supplier	: M/s GMMCO Limited, 9/1, R.N. Mukherjee ROAD, Calcutta - 700 001.	
Model	: D6H Crawler Tractor	
Max Drawbar Pull	kg : 25000	
Flywheel Power	: 165 HP (123 kw)	
Engine Make & Model	: Caterpillar 3306	
Operating wt	kg : 16548	
Dozer Blades	: Straight Angle Semi Universal	
Tilting Arrangement	: Mechanical Hydraulic	
Track	: Elevated, sealed and lubricated	
Blade Cap	cu m : Straight Blade	: 3.35
	Semi U Blade	: 4.08
	Angle Blade	: 2.44

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Wheel Dozer

Maximum Drawbar Pull	:	Above 10000 kg	
Manufacturer/Supplier	:	M/s Bharat Earth movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 001	
Model	:	(i) G140-1	(ii) G300
Max Drawbar Pull	kg :	10200	31000
Engine make & model	:	Kirloskar Cummins NT-495-C	Kirloskar Cummins NT-855-C-335
Flywheel power	:	130 HP @ 2000 rpm	300 HP @ 2100 rpm
Operating wt	kg :	15000	30000
Max Speed	kmph F :	31.17	27.8
	R :	31.17	26.8
Blade Cap	cu m :	3.4	Earth : 7.16 / COAL : 13.32
Blade W	mm :	3400	Earth : 4300 / COAL : 4720
Overall	L mm :	6425	Earth : 8750 / COAL : 9000
	H mm :	3.330	4250
Min Turning Radius	m :	5.6	-
Optional Attachments	:	Trench Digger Towing Winch Crane Hook Angle Dozer	Coal Blade Earth Blade

CI (3) Scraper

Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 001
Model	:	229 H
Payload Cap	kg :	23000
Struck Cap	cu m :	11.50
Headed Cap	cu m :	16.06
Flywheel Power	:	332 HP @ 2100 RPM
Engine make & model	:	Kirloskar Cummins NTA-855-C-350
Max Travel Speed	kmph F :	44.1
	R :	8.7
Width for 180° turn overall	m :	9.91
	H mm :	3890
	I mm :	12600
	W mm :	3470
Net wt	kg :	26584
Optional accessories	:	Canopy Cabin Parking Brake Emergency Brake

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CI (4) Loaders

(a) Wheel Loaders

Bucket Capacity cu m : Up to 1.0

1) Manufacturer/Supplier : M/s Escorts Ltd.,
Industrial & Construction Equipment,
Sector 13,
Faridabad-121 007
Haryana.

Model : L-700
Bucket Cap cu m : 0.3, 0.4, 0.5 and 0.6
Payload kg : 700
Flywheel power HP : 50
Operating wt kg : 4350
Dumping Reach mm : 900
Max Dump H mm : 2600
Turning Radius mm : 4800

2) Manufacturer/Supplier : M/s Escorts JCB Ltd.,
23/7, Mathura Road,
Ballabhgarh -121 004,
Haryana.

		(i)	(ii)
Model	:	JCB 3D	JCB 3DS
Bucket Cap	cu m :	1.0	1.0
Payload	kg :	1850	1850
Flywheel Power	:	72 HP (54 KW)	72 HP (54 KW)
Engine make & model	:	Kirloskar RB 44	Kirloskar RB 44
Operating wt	kg :	6565	6750
Max. Travel Speed	kmph		
	F	30	30
	R	8.57	8.57
Dumping reach	mm :	790	790
Dumping H T	mm :	2680	2680
Overall Dimensions			
	H	mm : 3540	2860
	L	mm : 6100	5850
	W	mm : 2440	2440

Attachments : Fork Lift BKT Mounted
Clamshell Mounted
BKTS : GP 1.0 cu m
Light density : 1.5 cu m
6-IN-1 Clam shovel:1.0 cu m

Fork Lift BKT Mounted
Clamshell Mounted
BKTS : GP 1.0 cu m
Light density : 1.5 cu m
6-IN-1 Clam shovel

Options : JCB Telescopic dipper
JCB Roadbreakers
7-spool valve block
4 wheel drive
Bucket Reset
3-Spool loader valve block

JCB Roadbreakers
4 wheel drive
Bucket Reset
3-spool loader valve block
Heavy duty tyres

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Bucket Capacity	cu m :	1.1 to 2.0	
1) Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 001	
		(i)	(ii)
Model	:	WA 200-1	G14207
Bucket cap struck	cu m :	1.5	1.7
Payload	kg :	-	4000
Flywheel Power	:	108 HP @ 2400 rpm	130 HP @ 2000 rpm
Engine make & model	:	KOMATSU GD 105	Kirloskar cummins NT-495-C
Operating wt	kg :	9150	14500
Max travel speed	kmph		
	F :	37	31.6
	R :	37.6	31.6
Dumping Reach	mm :	1025	1070
Dumping Clearance	mm :	2800	2900
Turning Radius	mm :	5620	5600
Overall Dimensions			
	H	mm :	3190
	L	mm :	6175
	W	mm :	2375
Bucket	W	mm :	2440
Optional Attachments	:	-	GP Bucket 1.6 cu m Coal Bucket 3.0 cu m Trench digger Backhoe
2. Manufacturer/Supplier	:	M/s Hindustan Motors Ltd., Earthmoving Equipment Division, P.O. Melnallathur, Tiruvallur-602 004, Chingleput District, Tamil Nadu.	
Supplier	:	M/s GMMCO Limited, 9/1 R.N. Mukherjee Road, Calcutta - 700 001.	
		(i)	(ii)
Model	:	2021	2021 (With Z Bar linkage)
Bucket Cap Struck	cu m :	1.53	1.70
Payload	kg :	2722	2722
Flywheel Power	hp :	112	112
	kw :	84	84
Engine make & model	:	Ashok Leyland ALU-400	Ashok Leyland ALU-400
Operating wt	kg :	9973	10940
Max travel speed	kmph		
	F	:	25.8
	R	:	9.3

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Dumping reach	mm	:	610	1070
Dumping clearance	mm	:	2667	2801
Overall	L	mm	:	5801
	W	mm	:	2362
Optional Attachment	:		GP excavating G 1.53 cum	Loader bucket 1.7 and 3.2 cum
			GP loose material 1.70 cum	
			Rock bucket 1.24/1.53 cum	
			Material handling Bucket 2.29 cum	
			Light material Bucket 3.1 cum	
			Utility plate	
			Material handling arm	GP loose material 1.70 cu m
			Fork Lift	Rock Bucket 1.24/1.53 cu m
			Straight Dozer Blade	Material Handling Bucket 2.29 cu m
				Light material Bucket 3.1 cu m
				Utility Blade
3. Manufacturer/Supplier	:		M/s Escorts JCB Ltd.,	
			23/7, Mathura Road,	
			Ballabgarh-121 004,	
			Harayana.	
Model	:		JCB 430	
Bucket Cap				
Standard GP	cu m	:	1.7	
Payload	kg	:	3000	
Flywheel Power		:	127 HP (95.6 KW) @ 2250 RPM	
Engine Make & Model		:	Ashok Leyland ALU 402	
Operating wt	kg	:	10986	
Max Travel Speed	kmph			
	F	:	37.5	
	R	:	26.0	
Dumping reach	mm	:	1515 to1686	
Overall Dimensions				
	H	mm	:	3802
	L	mm	:	6475
	W	mm	:	2475
Optional Attachments	:		GP BKT 1.9 cu m	
			Coal BKT 2.7 cu m	
Attachments	:		6 in 1 BKT 1.3 cu m	
	Log Grab	:	Max Dia 1000 mm	
			Max load 1560 kg	
	JIB Crane	:	Cap 800 kg	
			Max reach 3609 mm	
	High dump buckets			
	Cap		3.5 and 4.5 cu m	
	Fork Lift		3876 kg	

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Bucket Capacity	cu m	:	2.1 to 4.0	
1. Manufacturer/Supplier	:		M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 001	
			(i)	(ii)
Model	:		WA 400-1	3035
Bucket Cap Struck	cu m	:	2.6	3.3
Payload	kg	:	-	7000
Flywheel power	:		197 HP @ 2200 RPM	300 HP @ 2100 RPM
Engine make & model	:		KOMATSU SA6D110	Kirloskar cummins NT-855-C
Operating wt	kg	:	16840	26750
Max Travel Speed	kmph	:		
	F	:	33.5	31.62
	R	:	35.8	30.48
Dumping reach	mm	:	1075	1330
Dumping clearance	mm	:	2995	3400
Turning Radius	mm	:	6505	6300
Overall dimensions				
	H	mm	3285	4075
	L	mm	7735	9200
	W	mm	2820	3164
Bucket	W	mm	2905	3425
Optional Attachments	:		-	GP bucket 4.5 cu m Coal bucket 6.0 cu m Rock bucket 3.5 cu m Dozer attachments
2. Manufacturer/Supplier	:		M/s Hindustan Motors Ltd., Earthmoving Equipment Division, P.O. Melnallathur, Tiruvallur -602 004, Chingleput District, Tamil Nadu.	
Supplier	:		M/s GMMCO Limited, 9/1, R.N. Mukherjee Road, Calcutta - 700 001.	
Model	:		966 E	
Bucket cap	cu m	:	3.1 - 4.58	
Payload	kg	:	5448	
Flywheel power	hp	:	216	
	kw	:	16	
Engine make and model	:		Intac four stroke cycle 3306	
Operating wt.	kg	:	19368	
Max Travel Speed	kmph	:		

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	F	:	35.3	
	R	:	25.0	
Dumping Reach		mm :	1400	
Dumping Clearance		mm :	3140	
Overall	L	mm :	8129	
	H	mm :	5561	
	W	mm :	3059	
Optional Attachments		:	GP BKT 3.1 cu m and 3.5 cu m Rock BKT 3.1 cu m and 4.0 cu m Light Material Bucket 4.58 cu m High Lift Arrangement	
Bucket Capacity		cu m :	4.1 to 7.0	
Manufacturer/Supplier		:	M/s Hindustan Motors Ltd., Earth moving Equipment Division, P.O. Melnallathur, Tiruvallur - 602 004, Chingleput District, Tamil Nadu.	
Model		:	2071	
Bucket Cap (Rock)		cu m :	5.74	
Payload		kg :	10206	
Flywheel Power		:	388 HP (290 kw)	
Engine Make & Model		:	Kirloskar Cummins KT -1150-C-450	
Operating wt		kg :	38542	
Max Travel Speed		kmph		
	F	:	32.7	
	R	:	31.5	
Dumping Reach		mm :	1470	
Dumping Clearance		mm :	3490	
Overall	L	mm :	10390 to 10790	
Optional Attachment		:	Iron Ore Bucket 4.59 cu m Rock Bucket 5.74 cu m GP loose material Bucket 6.12 cu m	
(b) Pneumatic Hopper Loader				
Bucket Capacity		cu m :	Up to 2.0	
Manufacturer/Supplier		:	M/s EIMCO Elecon (India) Ltd., Vallabh Vidhyanagar, Gujarat - 388 120.	
Model		:	EE 150/10008	
Bucket Cap		cu m :	0.15	
Haulage Box		cu m :	1.0	
Power		hp :	30 or 36	
Tyres		:	7.00 x 12, 12 PR	

(c) Side Dump Loader

Bucket Capacity cu m : 2.0

1. **Manufacturer/Supplier** : M/s EIMCO ELECON (India) Ltd.,
Vallabh Vidyanagar,
Gujarat -388 120.

Model	:	(i)	(ii)
		625 HD Underground Mining Loader : Track Mounted	627 Track Mounted

Bucket Cap	cu m	:	0.6 to 1.0	1.2
Load (Max)	T	:	2.032	2.268
Power		:	Electro-Hydraulic Powered, Flameproof	Electro-Hydraulic Powered
Motor	HP	:	65	65 or 75
Speed	kmph	:	-	2.3
Weight	T	:	8.45	
Digging Depth	m	:	0.23	
Below Ground				
Dumping	H m	:	Up to 2.3	
Max Operational	L m	:	4.547	
Max	H m	:	3.29	
Discharge	H m	:	-	0.990 to 2.159
Reach	m	:	-	1.632
Overall	L m	:	-	4.674
W	m	:	-	1.448

2. **Manufacturer/Supplier** : M/s Tata-Robins Fraser Ltd.,
11, Station Road,
Burma Mines,
Jamshedpur - 831 007.

Model	:	(i)	(ii)	
		M 412	M 412-TS	
Bucket Cap	cu m	:	0.75 to 1.0	0.75 to 1.0
Payload	t	:	-	2
Drive Power	KW	:	37	45
Slewing Angle		:	2 x 20°	2 x 20°
Total wt.	t	:	9.10	9.10
Travelling Speed	kmph	:	5.04	5.04
AV Gross Loading				
Cap	cu m Pit	:	40 to 70	-
Cable Reel	m	:	-	60 to 100
Operating Voltage	V	:	-	550/400
Gradeability		:	25°	25°

Model	:	(iii)	(iv)	(v)	(vi)	(vii)	
		L 513	L 513 T	K 313	K 313	G 210	
Bucket Cap	cu m	:	0.4 to 0.5	0.45 to 0.50	1.0 to 1.2	1.0 to 1.2	1.6 to 2.0
Drive Power	KW	:	22	30	45	55	63-75
Travelling Speed	kmph	:	3.24	4.32	5.04	5.04	3.78
Total wt.	t	:	5	6	11.5	11.5	21

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Slewing Angle	:	2 x 15°	2 x 15°	2 x 20°	2 x 20°	2 x 20°
AV Gross Loading						
Cap	cu m/hr :	15 to 30	20 to 40	60 to 90	70 to 110	80 to 120
Gradeability	:	25°	25°	25°	25°	25°

CI(5) Mining Shovel (Electric)

Bucket Capacity cu m : 10

Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings,
J.C. Road, Bangalore-560 002.

Model : 182M-HR-17
 Bucket Cap cu m : 10
 Flywheel Power : 600 HP (447 KW) Main AC Motor
 Boom Angle : 45°
 Boom L mm : 12240
 Arm L mm : 8230
 Swing Speed rpm : 2.9
 Max Travel Speed kmph : 1.61
 Max Digging H m : 12.70
 Max Dumping H m : 7.65
 Max Digging Reach m : 17.42
 Operating wt kg : 327497

CI (6) Hydraulic Excavators

(a) Loader (Diesel)

Bucket Capacity cu m : up to 4.0

1. Manufacturer/Supplier : M/s Escorts JCB Ltd.,
23/7, Mathura Road,
Ballabgarh -121 004,
Haryana.

Model : JCB 3D
 Bucket Cap cu m : 0.3
 Flywheel Power : 72 HP (45 KW)
 Engine make & model : Kirloskar R844
 Max Travel speed : kmph
 F : 30
 R : 8.57
 Max dig depth m : 4.77
 Reach m : 5.4
 Max Working H m : 5.97
 Attachments : Buckets cap 0.06 to 0.30 cu m
 JCB jaw cap 0.14 and 0.20 cu m
 Tapered Ditching Bkt Cap 0.07 to 0.12 cu m
 Ditch Cleaning Cap Bkt 0.22 and 0.30 cu m
 Ripper Tooth with replaceable tip

2. Manufacturer : M/s. Hindusthan Motors Ltd.,
Heavy Engineering Division,
9/1 R.N.Mukherjee Road,
Calcutta - 700 001. Supplier : M/s. GMMCO Ltd.,
9/1 R.N.Mukherjee Road,
Calcutta - 700 001.

(i)
 Model : Hind Hydraulic Excavator H 40
 Cap Backhoe bucket cu m : 1.2 to 2.5
 (ii)
 Hind Hydraulic Excavator H 55
 1.6 TO 3

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Bull Clam	cu m	:	2.5		2.7 TO 3.6
WT Basic machine with					
500 mm Track	kg	:	32500		43000
Engine make & model		:	Cummins NTA 495 OR MWM to 232 V 6		Cummins NT 743 C OR MWM to 232 VB
Gradeability	%	:	80		80
L Max	mm	:	5438		6150
H Max	mm	:	3385		3750
Model		:	H 85		
Bucket cap (SAE)	cu m	:	2.0 TO 5.5		
Engine make & model		:	Kirloskar Cummins KT 1150-C 450		
Flywheel power	hp	:	456 AT 2100 RPM		
Travel speed	kmph	:	2.2		
Gradeability	%	:	80		
Overall	L m	:	7.22		
	W m	:	4.40		
3. Manufacturer		:	M/s Hindusthan Motors Ltd., Earth Moving Equipment Division, P. O. Melnallathur Tiruvallur - 602 004 Chingleput district, Tamil Nadu.	Supplier	: M/s. GMMCO Ltd., 9/1 R.N. Mukherjee Road, Calcutta - 700 001.
Model		:	Hindusthan 6021		
Bucket cap	cu m	:	0.4 TO 1.2		
Flywheel power	HP	:	125		
Engine make & model		:	Ashok Layland ALU 680		
Operating WT	kg	:	20620		
Travel speed	kmph	:	8.6		
MAX. Digging depth	mm	:	6210		
Overall	L mm	:	8970		
Overall	H mm	:	3380		
4. Manufacturer		:	M/s Hyderabad Industries Ltd., Heavy Engineering Division, Birla Building, 9/1, R.N. Mukherjee Road, Calcutta - 700 001.	Supplier	: M/s GMMCO Limited, 9/1, R.N. Mukherjee Road, Calcutta - 700 001.
Model		:	(i) H-40	(ii) H-55 N	
Bucket cap	cu m	:	2.5	4 Bullclam and 3.7 Backhoe	
Engine make & model		:	Cummins NTA 495 or MWM TD 232 V6	Cummins NTA 743 C or Caterpillar 3306 BD1-TA	
Flywheel power	HP	:	212 at 2100 rpm 207 at 2300 rpm	335 at 2100 rpm 300 at 1800 rpm	
Travel speed	kmph	:	2.3	2.1	
Gradeability	%	:	80	80	
Overall	L m	:	5.43	11.85	
	W m	:	3.50	3.81	
5. Manufacturer/Supplier		:	M/s Larsen & Toubro Ltd., L&T House, Ballard Estate, Mumbai - 400 038		
Model		:	(i) L&T Poclairn 90 CK	(ii) L&T Poclairn 90P	(iii) Type mounted 170 CK-II

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Bucket cap	Lit	: 575 to 1150	575 to 1150	1160 to 2500
	cu m	: 0.575 to 1.150	0.575 to 1.150	1.6 to 2.5
Flywheel power		: 103 HP (76.8 kw) @ 2150 rpm	103 HP (76.8 kw) @ 2150 rpm	250 HP @ 2100 rpm
Engine make & model		: Ashok Leyland ALU - 400	Ashok Leyland ALU - 400	Kirloskar Cummins N743TC
Penetration Force	t	: 10.80 TO 23.75	-	10.8
Travel speed	kmph	: 2.25	-	3.4
Weight	t	: 19.5	17	-
Drawbar pull	t	: 12.1	-	-
Gradeability		: 66%	53% Continuous	-
Overall L	m	: -	5.38	-
W	m	: -	2.45	-
Turning radius Outsidem		: -	7.39	-

		(iv)	(v)	(vi)	(vii)
Model		: 72 CK	72 P	90 CK-3	90 P-3
Type		: Crawler	Tyre	Crawler	Tyre
		: Mounted	Mounted	Mounted	Mounted
Horse Power	HP	: 90	90	120	120
Weight	t	: 13.3	13.7	20	17.5
Bucket size	cu m	: 0.6 - 0.7	0.6 - 0.7	0.9 - 1.2	0.9
Attachments		: Backhoe	Backhoe	Backhoe	Backhoe
Auger		: Auger	Auger	Loader	Loader

Short boom for
Tunnel excavation
Wood grapple
Elevated cabin

Rock breaker
Clamshell
Multiline grapple
Wood grapple
Elevated cabin
Auger

Rock breaker
Clamshell
Multiline grapple
Wood grapple
Elevated cabin
Auger

Electric version also available

		(viii)	(ix)	(x)
Model		: 580-2(Loader backhoe)	W-20	W-36
Horse power	HP	: 72	135	212
Weight	t	: 6.7	10	17
Bucket size	cu m	: Backhoe 0.11 - 0.33	1.53 - 2.8	2.68 - 4.6
Loader		: 0.76	-	1.5
Options		: Bottom dump bucket JIB Crane attachment Rock breaker Ripper tooth Plate vibrators Lifting attachments Extending type dipper Back fill blades Sheet pillar Swamp version Heavy duty tyres 4 Wheel drive Dozer blade	Rock bucket Coal bucket Side dump bucket	Long grapple Rock bucket

C : Winning Machinery

6. Manufacturer/Supplier : M/s Stanford Engineering Limited,
4, Community Centre, Saket,
New Delhi - 110 017

	(i)	(ii)	(iii)	(iv)
Model	R - 825	R - 825 LC	R - 835	R - 835 LC
Cap backhoe bucket				
Heavy duty	cu m : 0.61 to 0.9	0.61 to 0.9	0.52 to 1.61	0.52 to 1.61
General purpose	cu m : 0.24 to 0.99	0.24 to 0.99	-	-
Rock Bucket extra				
Heavy duty	cu m : 0.33 to 0.9	0.33 to 0.9	0.56 to 1.22	0.56 to 1.22
Heavy duty	cu m : 0.35 to 0.91	0.35 to 0.91	-	-
Clambshell grab	cu m : 0.13 to 1.17	0.13 to 1.17	0.21 to 1	0.21 TO 1
Ditch cleaning bucket	cu m : 0.35 to 0.48	0.38 to 0.48	0.64 to 0.77	0.64 to 0.77
Multi-tine Grapple	cu m :	0.33 and 0.50	0.33 and 0.50	-
Loader bucket	cu m :	-	0.97 to 1.6	0.97 to 1.6
WT Operating	kg : 18100	19200	25895	27300
Engine make & model	Kirloskar Diesel Engine - HA 694	Kirloskar Diesel Engine - HA 694	Deutz Diesel Engine BF 6L913	Deutz Diesel Engine BF6 L913
Alternative engine	-	Ashok Leyland Diesel engine ALU 402	Ashok Leyland Diesel engine ALU 411	Ashok Leyland Diesel engine ALU 411
Boom	L mm : 3620	3620	4150	4150
ARM	L mm : 2550, 3040, 3560	2550, 3040, 3560	2540, 3045, 3565, 4765	2540, 3045, 3565, 4765
Travel speed	kmph : 2.8	2.8	2.4	2.4
Gradeability	% : 86	80	100	92
H max	mm : 2962	2945	3420	3420
L max	mm : 8620	8620	9190	9190

Bucket Capacity t : Above 4

1. Manufacturer : M/s Hyderabad Industries Ltd., Supplier : M/s GMMCO Limited,
Heavy Engineering Division, 9/1, R.N. Mukherjee Road,
Birla Building, Calcutta - 700 001.
9/1, R.N. Mukherjee Road,
Calcutta - 700 001.

	(i)	(ii)	(iii)
Model	H-121	H-135 S	H 185 S
Bucket Cap	cum : 5.5, 8.3 & 11.5 Backhoe 4.5 & 5.5 long Backhoe 2.2 & 3.3 extralong Backhoe	10.4 Shovel 3 to 9.5 Backhoe -	14 Shovel 9.5 to 13 Backhoe -
Engine Make & Model	Cummins VTA 1710 C Detroit 16-V-71 T	Cummins VTA 28-C-800 Caterpillar 34-12 D-TA	Caterpillar 3508 D1-TA Detroit GM 12V-149T Cummins KTTA 38C Cummins KTA 38 C
Flywheel Power	HP : 725 at 2100 rpm 699 at 2100 rpm	800 at 2100 rpm 760 at 2100 rpm	1000 at 1800 rpm 1126 at 1800 rpm 1125 at 1800 rpm
Travel speed	kmph : 2.3	2.4	2.3
Gradeability	% : 70	60	60
Overall	m : 7.89	7.93	9.03
W	m : 4.80	5.11	6.27

C : Winning Machinery

2. Manufacturer/Supplier	:	M/s Larsen & Toubro Ltd., L&T House, Ballard Estate, Mumbai-400 038
Model	:	L&T Poclairn 300 CK-II
Bucket Cap	lit :	3200 to 4100
	cum :	3.2 to 4.1
Engine Make & Model	:	Kirloskar Cummins NT 855-C335
Flywheel Power	:	238.6 KW (320 HP) at 1900 rpm
Travel Speed	kmph :	2.6
Gradeability	:	72%
Overall	L m :	6.37
	W m :	3.99

(b) Backhoe (Diesel)

Bucket Capacity cu m : Up to 2

1. Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore - 560 002.
Model	:	(i) PC 220-3 (ii) PC 300-3
Bucket Cap Range	cu m :	0.44 to 1.26 0.5 to 1.8
Operating wt.	kg :	22000 29000
Flywheel Power	:	148 HP @ 2100 rpm 197 HP @ 1550 rpm
Engine make & model	:	Komatsu S6 D105 Komatsu S6 D125
Boom	L mm :	5850 6470
Arm	L mm :	3045 3130
Swing speed	rpm :	13 9.4
Max travel speed	kmph :	3.4 3.2
Max digging	H m :	9.18 10.15
Max dumping	H m :	6.36 7.10
Max digging depth	m :	6.70 7.32
Max digging reach	m :	10.18 10.92
Gradeability	:	70% (35°) 70% (35°)
Overall	H mm :	3060 3080
	L mm :	10000 10810
	W mm :	2940 3190

2. Manufacturer/Supplier	:	M/s Larsen & Toubro Ltd., L&T House, Ballard Estate, Mumbai - 400 038
Model	:	(i) L & T Poclairn 90 CK (ii) L & T Poclairn 90CK-II (iii) L & T Poclairn 90P
Bucket Cap Range	lit :	Track Mounted Track Mounted Tyre Mounted
	cu m :	620 to 900 900 620 to 900
Digging Depth	m :	0.62 to 0.90 0.90 0.62 to 0.90
	m :	7.10 - -

C : Winning Machinery

Reach at ground level	m	:	10.20	-	10.40
Flywheel power		:	103 HP (76.8 KW)	115 HP at 2150 rpm at 2150 rpm	103 HP (76.8 KW)
Engine Make & Model		:	Ashok Leyland ALU-400	Ashok Leyland ALU-40	Ashok Leyland ALU-402
Weight	t	:	19.5	20	17
Drawbar Pull	t	:	12.1	-	-
Gradeability		:	66%	-	-
Travel speed	kmph	:	2.25	-	-
Swing speed	rpm	:	-	9.0	-
Digging depth	m	:	-	-	7.05
Overall	L	m	:	4.56	5.38
	W	m	:	2.75	2.45
Special purpose Attachments		:	-	Boring Wood Grapple Ditch cleaning Beetroot Multiline Rock Breaker V-line Bucket Long mount	-
3. Manufacturer/Supplier :					
			M/s Tata Engineering Locomotive Co. Ltd., 148, Mahatma Gandhi Road, Mumbai-400 023.		
(i)					
Model		:	UH083LC		
Bucket Cap	cu m	:	0.91 to 1.1		
Engine make & Model		:	TATA 697		
Flywheel Power		:	88 KW		
(ii)					
Model		:	UH 181 Track Mounted		
Bucket Cap	cu m	:	1.82 to 2.07		
Engine make & Model		:	Kirloskar Cummins NT-855-C-335		
Flywheel Power		:	(i) 285 HP (212.6 KW) at 2100 rpm (ii) 184 KW at 1800 rpm		
Operating wt.		:	19100 kg		
Max Digging Reach	m	:	9.19 to 9.85		
Max Digging Depth	m	:	5.86 to 6.55		
Max Digging	ht	m	:	8.97 to 9.37	
Max Cutting	ht	m	:	-	
Max Dumping	ht	m	:	10.39	
Boom	m	:	7.31		
Arm	m	:	5.62		
Max travel speed	kmph	:	2.22		
		:	3.6		
4. Manufacturer :					
			M/s. Hindustan Motors Ltd., Supplier : M/s. GMMCO Limited, Earth Moving Equipment Division, 9/1 R.N. Mukherjee Road, Wheel Loader Plant, Sedarapet, Pondicherry - 605 101. Calcutta - 700 001.		
Model		:	50 HX		
Bucket Cap Range	cu m	:	0.221 to 0.380		
Loader Bucket Cap	cu m	:	0.95		
Digging Depth	m	:	4.88		
Engine Make & Model		:	PERKINS P1004-4		
Flywheel Power	hp	:	82		
	kw	:	61		
Travel speed	F	kmph	:	30.7	
	R	kmph	:	30.7	
Overall	L	mm	:	600	
	H	mm	:	3550	
	W	mm	:	2236	

C : Winning Machinery

Bucket Capacity

	cu m	:	2.1 to 5
1. Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 002.	
Model	:	PC 650-3	
Bucket Cap Range	cu m	:	2.4 to 3.7
Operating wt	t	:	65
Flywheel power	:	404 HP @ 1800 rpm	
Engine Make & Model	:	Kirloskar cummins KT 1150	
Boom	L m	:	8.4
Arm	L m	:	3.58
Max travel speed	kmph	:	4.1
Max digging	H m	:	12.51
Max dumping	H m	:	8.325
Max digging depth	m	:	8.865
Max digging reach	m	:	14.015
Gradeability	:	70% (35°)	
Overall	L x W x H m	:	14.040 x 4.135 x 4.91
2. Manufacturer/Supplier	:	M/s Larsen & Toubro Ltd., L&T House, Ballard Estate, Mumbai - 400 038	
Model	:	300 CK II Track Mounted	
Bucket cap	Lit	:	2100 to 3000
	cu m	:	1.9 to 4.0
Engine make & Model	:	Kirloskar Cummins NT 855-C335	
Flywheel Power	:	320 HP (238.6 KW) at 1900 rpm	
Operating wt.	t	:	60
Travel speed	kmph	:	2.6
Gradeability	:	72%	
Overall	L m	:	6.37
	W m	:	3.99

(b) Backhoe (Electric)

Bucket Capacity

	cu m	:	2 to 5
Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 002.	
Model	:	DC 650E-3	
Bucket Cap Range	cu m	:	2.4 to 3.7
Flywheel Power	:	404 HP @ 1800 rpm	
Boom	L m	:	8.4
ARM	L m	:	3.58
Max Travel Speed	kmph	:	4.1
Max Digging HT	m	:	12.51
Max Digging Depth	m	:	8.865
Max Dumping HT	m	:	8.325
Max Digging Reach	m	:	14.015
Gradeability	:	70% (35°)	
Overall	L x W x H m	:	14.040 x 4.135 x 4.91

(c) Loading Shovel

Bucket Capacity

	T	:	Up to 1
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C : Winning Machinery

Manufacturer/Supplier : M/s Escorts JCB Ltd.,
23/7, Mathura Road,
Ballabgarh -121 004,
Haryana.

Model : JCB 3 D
Bucket Cap cu m : 0.3
Payload t : 1.85
Engine Make & Model : Kirloskar RB 44 (Diesel)
Flywheel Power : 54 KW (72 HP)
Max Travel speed kmph : 30
Operating wt t : 6.565
Dump H m : 2.68
Dump Angle : 45°
Overall L m : 6.11
H m : 3.54
W m : 2.44
Optional/Attachments : Clamshell
Jibcrane
Concrete Skip
Forklift
Lifting Hook
Grab John
Square Hole Bucket
Power Breaker Raod Breaker
Ditch Clearing Bucket
Ripper Tooth
Jaw Bucket
Taper Ditching Bucket
Auger
Doier Blade
1.5 cu m Coal Bucket

Bucket Capacity cu m : 1.1 to 5

1. Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings,
J.C. Road,
Bangalore-560 002.

Model : PC 650-3
Bucket Cap Range cu m : 3.8 to 4.5
Operating wt. t : 67
Flywheel Power : 404 HP @ 1800 rpm
Engine Make & Model : Kirloskar Cummins KT 1150 (Diesel)
Boom L m : 4.6
ARM L m : 3.4
Max travel speed kmph : 4.1
Max Digging HT m : 10.68
Max Dumping HT m : 7.71
Max Digging Depth m : 3.43
Max Digging Reach m : 10.00
Gradeability : 70% (35°)
Overall L x W x H m : 9.54 x 4.135 x 5.05

2. Manufacturer/Supplier : M/s Tata Engineering &
Locomotive Co. Ltd.,
148, Mahatma Gandhi Road,
Mumbai-400 023.

C : Winning Machinery

		(i)	(ii)
Model	:	UH 083 LC	UH 181
Bucket Cap	cu m :	1.2	2.3 to 2.6
Engine Make & Model	:	Tata 697 (Diesel)	Kirloskar Cummins NT 855C-335 (Diesel)
Flywheel Power	:	88 KW (120 PS)	212.6 KW (285 HP) at 2100 rpm
Operating wt.	t :	19.5	42.5
Max Digging Reach	m :	7.2	11.97
Max Digging Depth	m :	2.5	7.73
Max Digging HT	m :	6.42	-
Boom	m :	3.1	6.8
ARM	m :	2.85	3.1
Max Travel Speed	kmph :	3.6	-
Max Cutting HT	m :	-	10.39
Max Dumping HT	m :	-	.31
Bucket Capacity	:	1.1 to 5	
Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road Bangalore - 560 002.	M/s Heavy Engineering Corp. Ltd., Ranchi - 834 044.
		(i)	(ii)
Model	:	PC 650E-3(Electric)	EQC-4.68 (Electric)
Bucket Cap	cu m :	Sae Heaped 3.8	4.6
Bucket Cap Range	cu m :	3.8 to 4.5	-
Flywheel Power	:	404 HP @ 1800 rpm	-
Operating wt	t :	-	170
Main Motor of MG Set	KW :	-	250
Boom	L mm :	4600	10.5
ARM	L mm :	3400	-
Max travel speed	kmph :	4.1	0.55
Working Cycle through 90°	Sec :	-	23
Max Digging	H m :	10.68	-
Max Dumping	H m :	7.71	-
Max Digging Depth	m :	3.43	-
Max Digging Reach	m :	10.00	-
Gradeability	:	70% (35°)	12°
Overall	H mm :	5050	-
	L mm :	9540	-
	W mm :	4135	-
Supply	:	-	6.6/3.3 KV, 3 Phase, 50 cycles
Bucket Capacity	cu m :	5.1 to 15.0	
1. Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 002.	
Model	:	1500E-1 (ELEC)	
Bucket Cap Range	cu m :	7.6 to 14 Sae Heaped : 8.5	
Operating wt.	t :	162.5	
Flywheel Power	:	2 x 402 HP @ 1488 rpm	

C : Winning Machinery

Elec Motor : AC Squirrel Cage Type
 Phase : Three phase
 Voltage : 3300 V or 6600 V
 Frequency : 50 HZ
 Speed : 1488 rpm

Boom L m : 6.205
 ARM L m : 4.250
 Max Travel Speed kmph : 2.4
 Max Digging HT m : 13.78
 Max Dumping HT m : 10.10
 Max Digging Depth m : 4.13
 Max Digging Reach m : 13.05
 Gradeability : 70% (35°)
 Overall H mm : 660
 L mm : 12220
 W mm : 7260

2. Manufacturer/Supplier : M/s Heavy Engineering Corporation Ltd.,
 Ranchi-834 004.

Model : 19581(Elec)
 Bucket Cap cu m : 10
 Operating wt t : 357
 Power Supply : 3.3/6.6 KV, 3 Phase, 50 Cycles
 Hoist Motor : 477 KW
 Boom L m : 12.65
 AV Shovel Cycle Time sec : 28
 Max Travel speed kmph : 1.46
 Max Digging HT m : 13.03
 Max Dumping HT m : 7.67
 Max Digging Depth m : 2.74
 Gradeability : Continuous 13.4%
 Max 38.4%

Bucket Capacity cu m : 5.1 to 15

1. Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
 Unity Buildings,
 J.C. Road,
 Bangalore - 560 002.

Model : PC 1500-1
 Bucket Cap Range cu m : 6.14
 Sae Heaped: 8.5
 Operating wt kg : 160000
 Flywheel Power : 2 x 410 HP @ 1600 rpm
 Engine Make & Model : Komatsu S60170 x 2 (Diesel)
 Boom L mm : 6205
 ARM L mm : 4250
 Swing Speed rpm : 4.4
 Max Travel Speed kmph : 2.4
 Max Dumping HT m : 10.10
 Max Digging HT m : 17.78
 Max Digging Depth m : 4.13
 Max Digging Reach m : 13.05
 Gradeability : 70% (35°)
 Overall H mm : 6600
 L mm : 12180
 W mm : 6530

C : Winning Machinery

(d) Clamshell (Diesel)

Bucket Capacity	Lit	: 500 to 1000		
Manufacturer/Supplier		: M/s Larsen & Toubro Ltd., L&T House, Ballard Estate, Mumbai-400 038		
		(i)	(ii)	
Model		: L&T Poclair 90 CK	: L&T Poclair 90 P Tyre Mounted	
Clamshells	Lit	: 500 to 1000	: 500 to 1000	
Digging Depth	m	: 13.35	: 13.25	
Engine Make & Model		: Ashok Leyland ALU -400	: Ashok Leyland ALU -400	
Flywheel Power		: 76.8 KW (103 HP)	: 76.8 KW (103 HP) at 2150 rpm	
Weight	t	: 19.5	: 17	
Drawbar Pull	t	: 12.1		
Gradeability		: 66%		
Travel Speed	kmph	: 2.25	-	
Overall	L	m : -	5.38	
	W	m : -	2.45	

CI(7) Walking Dragline

Capacity	cu m	: 25 to 35
Manufacturer/Supplier		: M/s Heavy Engineering Corporation Ltd., Ranchi-834 004.
Model		: W2000
Bucket Cap	cu m	: 26 to 34
Base Dia	m	: 15.25
Installed Power	HP	: 2 x 1750
Walking Shoe	m	: 17.0 x 2.8 on each side
Walking Speed	kmph	: 0.24
Walking Step	m	: 2.28
Throw	m	: 0.6
Boom	L	m : 74.6, 85.1, 95.6
Operating Angle		: 30° or 38°
Operating Radius	m	: 64 to 88
Working	t	: 1686 to 1845
Dump	HT	m : 25.5 to 48.1
Digging Depth	m	: 46.2 to 74.5

CI(8) Bucket Wheel Excavator

Manufacturer/ supplier		: M/s Krupp Industries India Ltd., Pimpri, Pune -411 018.		
		(i)	(ii)	(iii)
Model		: C 100 Standard Bucket Wheel Excavator	: C 500 Standard Bucket Wheel Excavator	: SCH RS 700/3.20
Hourly Output				
Upto	cu m	: 690	2100	2730
Service wt	t	: 97	332	1310
Digging HT	m	: 9.5	10	20
Deep Cut	m	: -	-	3
Discharge Boom Length	m	: 20	20	-

CI (9) Bucket Wheel Reclaimers

Manufacturer/Supplier		: M/s Krupp Industries India Ltd., Pimpri, Pune-411 018.		
Model		(i)	(ii)	(iii)
		Combined	Reversible	Combined
		Stacker Reclaimer	Stacker Reclaimer	Stacker Reclaimer
Reclaiming Rate	tph	: 1800 (Max)	: 1900 (Max)	: 4500
Stacking Rate	tph	: 2800 (Max)	: 2000 (Max)	: 5000
Boom	L	m : 36	: 36	: 55
Service	WT	t : 300	: 380	: 825
Model		(iv)		(v)
		Combined Stacker Reclaimer with intermediate Boom		Bucket Wheel Reclaimer
Reclaiming Rate	tph	: 5500 (MAX)	: 6600 (MAX)	
		4700 (AV)	6000 (AV)	
Stacking Rate	tph	: 4500 (MAX)	-	
Boom	L	m : 55	: 52	
Service wt		t : 925	: 910	

CI(10) Spreaders

Manufacturer/Supplier		: M/s Krupp Industries India/Ltd., Pimpri, Pune-411 018.		
Model		(i)	(ii)	
		ARs 2000 26.5	ARs 1200 22	
Hourly Output	cu m	: 30 + 63	: 34 + 60	
Service wt	t	: 7500	: 2800	
Discharge Boom	L	m : 1100	: 800	
Receiving Boom	L	m : 63	: 60	
		m : 30	: 30	

CI (11) Crane

Maximum Lifting Capacity	t	: Up to 50
1. Manufacturer/Supplier		: M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore -560 002.
Model		: CM - 20
Max Lifting Cap	kg	: 18150
Flywheel Power		: 332 @ 2100 rpm
Engine Make & Model		: Kirloskar Cummins NTA-855-C-350
Max Travel Speed	kmph	: 44.1
	F	: 8.7
	R	: 9.82
Width For 180° Turn	m	: 10300
Max Reach	mm	: 10300
Max Lift	mm	: 11020
Overall	H	: 23040
	L	: 3960
	W	: 9140
Wheel Base	mm	: 9140

C : Winning Machinery

2. Manufacturer/Supplier	:	M/s Hyderabad Industries Ltd, HeaveEngineering Division, Birla Building, 9/1, R.N. Mukherjee Road, Calcutta - 700 001.	Supplier :	M/s GMMCO Limited, 9/1, R.N. Mukherjee Road, Calcutta - 700 001.	
Model	:	101-MK (Crawler Mounted)			
Lifting Cap	kg :	1500 to 75000			
Engine Make & Model	:	Kirloskar Cummins NT - 743C			
Flywheel Power	hp :	262 at 2000 rpm			
Travel Spd	kmph :	1.25			
Crawler	L mm :	6010			
Crawler	W mm :	3890			
3. Manufacturer/Supplier	:	M/s Voltas Limited, 18, J.N. Heredia Road, Ballard Estate, Mumbai-400 038.			
Model	:	(i) Omega -20	(ii) Omega-23	(iii) Omega-25	(iv) Omega-30
Type of Crane	:	HYD R T	HYD RT	HYT RT	HYD RT
Type of Carrier	:	4 x 4 x 4	4 x 4 x 4	4 x 4 x 4	4 x 4 x 4
Cap					
On Outriggers For 360° Slew at 3m radius	kg :	18150	20000	25000	28000
On Tyres Over Front At 3 m Radius and 4 KMPH Speed	kg :	8950	12700	12700	12700
Engine Make & Model	:	KOEL-HA 694	KOEL-HA 694	KCL-6BT 5.9	KCL-6BT 5.9
Power Rating	:	112 HP @ 2500 rpm	112 HP @ 2500 rpm	152 HP @ 2500 rpm	152 HP @ 2500 rpm
Tyre Size	:	14.00 x 25	16.00 x 25	16.00 x 25	16.00 x 25
Retracted	L m :	8	8	9.75	9.75
Extended	L m :	19	24.4	24.4	24.4
Model	:	(v) Omega-35	(vi) Omega-40	(vii) Omega-45	(viii) Omega-50
Type of crane	:	HYD R T	HYD R T	HYD R T	HYD R T
Type of carrier	:	4 x 4 x 4	4 x 4 x 4	4 x 4 x 4	4 x 4 x 4
Cap					
On outriggers for 360° Slew at 3 m radius	kg :	31750	36300	40800	45350
On tyres over front at 3 m radius and 4 KMPH Speed	kg :	12700	18450	18450	18900
Engine Make & Model	:	KCL-6 BT 5.9 232 VB	RUSTON-D 232 VB	RUSTON-D 232 VB	RUSTON-D
Power Rating	:	152 HP @ 2500 rpm	216 HP @ 2500 rpm	216 HP @ 2500 rpm	216 HP @ 2500 rpm
Tyre size	:	16.00 x 25	21.00 x 25	21.00 x 25	26.5 x 29
Retracted	L m :	9.75	9.91	9.91	9.91
Extended	L m :	24.4	33.50	33.50	33.50
Cl (12) Motor Grader					
Manufacturer/Supplier	:	M/s Bharat Earth Movers Ltd., Unity Buildings, J.C. Road, Bangalore-560 001.			

C : Winning Machinery

Model	:	GD605R-2
Flywheel Power	:	145 HP @ 1800 rpm
Engine Make & Model	:	Kirloskar Cummins N-743-C
Operating wt.	kg	: 12650
Max Travel Speed	kmph	:
	F	: 43.6
	R	: 51.6
Max Drawbar Pull	kg	: 7280
Max Lift	mm	: 400
Max Drop Below Ground	mm	: 570
Max Bank Cutting Aangle	:	90°
Max Shoulder Reach	mm	:
	Right	: 2055
	Left	: 2155
Min Turning Radius	m	: 10.4
Overall	H	mm : 3200
	L	mm : 8415
	W	mm : 2375
Optional Attachments	:	Scarifier, Dozer, Ripper, Rops, Cabin, Canavas, Canopy etc.

CI (13) Hydraulic Pipe Layer

Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings, J.C. Road,
Bangalore-560 001.

Model	:	GPL 8041 H
Max Lifting Cap	kg	: 41000
Flywheel Power	:	180 HP @ 1850 rpm
Operating wt	kg	: 29870
Engine Make & Model	:	Kirloskar Cummins N4-220-CI
Max Travel Speed	kmph	:
	F	: 10
	R	: 9.6
Overall	H	mm : 2935
	L	mm : 4890
	W	mm : 3595

CI (14) Tyre Handler

Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings, J.C. Road,
Bangalore-560 001.

Model	:	G14TH-2
Tyre Lifting Cap	:	3T Tyre Mounted on rim. 18.00 x 25 Through 27.00 x 51

CI (15) Attachments for Bulldozers

Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings, J.C. Road,
Bangalore-560 001.

- 1) Angledozer : Blade angled upto 25° on either side tiltable by manual adjustment of brace length particularly suitable in side casting.
- 2) Straight dozer : With a fixed blade for obtaining a greater blade load.
- 3) Straight-Tiltedozer : For allowing more productivity and versatility

C : Winning Machinery

- 4) U-Dozer : Particularly convenient for moving large volumes of materials over long Hauling Distances
- 5) Coal Dozer : For pushing/carrying coal and other materials of light specific gravity without cutting ground.
- 6) Pusher Plate : Installed on angle or straight blades used to perform push loading for scrapers
- 7) Rake Dozer : Straight type and angle type primarily used for removing stumps, roots and fallen trees
- 8) Multishank Ripper : Rigid type and variable digging angle types for crushing and digging rock beds and other hard-to-penetrate materials
- 9) Giant Ripper : Variable type and rigid digging angle type. Particularly useful for very Hard Rock
- 10) Towing Winch : For pulling, lifting and lowering materials
- 11) Backhoe : Installed on rear of machine used for ditching, excavating and loading
- 12) Rear Power Control : A rear mounted power control unit for controlling attachments such as towed scraper
- 13) ROPS (Roll over protective structure) CAB
- 14) FOPS CAB
- 15) Snowplow for mortar Grader

CI (16) Undercarriage Components for Crawler Tractors and other Earth Moving Machinery

- 1. Manufacturer/Supplier : M/s Bharat Earth Movers Ltd.,
Unity Buildings, J.C. Road,
Bangalore-560 001.
- Track Shoes
 - i) Single-Grouser Shoe : Bites the ground firmly for great traction Suitable for bulldozer
 - ii) Semi-Double-Grouse Shoe : Used for dozer shovel
 - iii) Triple-Grouser Shoe : Used for dozer shovel
 - iv) Rockbed Shoe : Reinforced to withstand heavy duty breaking/bending force
 - v) Scoria Disposal Shoe : Made of Low manganese steel to prevent deterioration due to heat
 - vi) Scarifier attachments : For Grader
 - vii) Trench Digger Attachment : For Loader
- 2. Manufacturer/Supplier : M/s Trackparts of India Ltd.,
4, Industrial Area,
Govind Nagar,
P.O. Udyog Nagar,
Kanpur-208 022.
- ii) Track Shoe Assemblies
- iii) Track Link Assemblies
- iv) Track Pins
- v) Track Bushes
- vi) Grouser Shoes
- vii) Roller Assemblies
- viii) Closed Die Steel Forgings
- ix) Track System Sealed & Lubricated

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CI (17) Sub-Assemblies and Accessories for Earth Moving Machinery

1. **Manufacturer/Supplier** : M/s Larsen & Toubro Ltd.,
L & T House, Ballard Estate,
Mumbai- 400 038.

- Hydraulic Motors** : Shaft Motors, Wheel Motors, Compact Motors, Torque Motors
High Torque low speed hydraulic Motors are designed to deliver
very high torque at a speed less than 1 rpm Without any jerks.
They can operate upto a maximum pressure of 450 bar.

2. **Manufacturer/Supplier** : M/s Mukund Ltd.,
L.B.S. Marg, Kurla,
Mumbai - 400 070.

- Type** : Crawler Shoe (Link/Track)
Dipper Tooth
Back Dipper Wall
Front Dipper Wall
Take up Tumbler
Driving Tumbler
Handle Rack
Door Hinge
Door Plate
Tooth Point (P & H 1900 Shovel)
Tooth Point (P & H 1500 Shovel)
Tooth Point (Ransome Rapier 24/96 Dragline)
Tooth Point Adapter of (Ransome Rapier 24/96 Dragline)
Track Shoe (P & H 1500 Shovel)
Crawler Show (Marion 111 m Dragline)
Apron Pans

3. **Manufacturer/Supplier** : M/s Usha Tele Hoist Ltd.,
33, Chittaranjan Avenue,
Calcutta-700 012.

- i) **Suspension Cylinders** : Front and Rear-Hydro Pneumatic Type - For Heavy Duty
off-highway Dumpers
- ii) **Hydraulic Cylinders** : Heavy duty single and multi-Stage double acting cylinders -for
Dumpers, Dozers, Pay Loaders, Scrapers, and allied
Earth Moving Equipment
- iii) **Tipping Gears** : Under Body Slant type, Link type, and 3- way tipping gears for a
range of chasis used in Earth Moving Equipment
- iv) **Hydraulic Pumps and valves**
- v) **Hydraulic Power Lifts**
- vi) **Fluid Power Systems**
- vii) **Crawler Undercarriages** : For earth moving and mining equipment
- viii) **Hydraulic Truck** : Specially designed platforms on which trucks can be positioned
and tilted to unload bulk materials

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CII BLAST HOLE/SHOT HOLE DRILLS

CII(1) Hand Held Percussive and Rotary Percussive Rock Drills and Rotary Drills

Hand Held Rock Drills

1. Manufacturer/Supplier	:	M/s Atlas Copco (India) Ltd., Mahatma Gandhi Memorial Building, Netaji Subhash Road, Mumbai-400 002.				
Type	:	(i)	(ii)	(iii)	(iv)	(v)
Air Consumption at 6 kg/sq cm	cu m :	RH 658-5L 3.4	RH 657-4 3.4	RH 656-4W 2.9	656-4W 2.9	RH 571-3L 2.2
Wt Approx	kg :	24.4	25.4	25.7	24.3	19.3
Handle Arrangement	:	'T' Handle	'T' Handle	'T' Handle	'D' Handle	'T' Handle
Type of Drilling	:	-	-	wet	wet	-
2. Manufacturer/Supplier	:	M/s Chanda & Co. (Engg) Pvt. Ltd., 3/1 B, Mahendra Road, Calcutta-700 025.				
Type	:	B Chanda Brand Coal/Stone Drill				
Operating Power	:	AC - Phase : 3 Volts : 110/125 Cycles : 50 H P : 1.5				
Chuck Speed	rpm :	480				
Total wt	kg :	19				
Approved By	:	DGMS For U/G use				
3. Manufacturer/Supplier	:	M/s Chicago Pneumatic India Ltd., 301/302, L.B. Shastri Marg, Mulund, Mumbai-400 080.				
Type	:	(i)	(ii)	(iii)		
Bore	mm :	CP - 225 60.3	32A - Dry 66.7	32AW - Wet 66.7		
Stroke	mm :	41.3	50.8	50.8		
Wt	kg :	17.2	24.7	25.6		
L	mm :	-	577.9	577.9		
Air Hose	mm :	-	19	-		
Water Hose	mm :	-	-	12.7		
4. Manufacturer/Supplier	:	M/s Holman-Climax Manufacturing Ltd., Dolphin Court, 7A Middleton Street, Calcutta-700 071.				
Type	:	(i)	(ii)	(iii)		
Bore	mm :	Silver 3 76	Silver 30 76	SL 9 D 64		
Stroke	mm :	49	49	48		
Shank Size	mm :	108 x 22	108 x 22	108 x 22		
Air Consumption	cu m / min :	3.4	2.75	1.70		
Air Hose	mm :	25	19	19		

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Water Hose	mm :	13	13	13
Wt	kg :	22.6	22.6	-
Wt Dry Model	kg :	-	-	19
Wt Wet Model	kg :	-	-	20

5. Manufacturer/Supplier : M/s Kirloskar Pneumatic Co. Ltd.,
Hadapsar Industrial Estate,
Pune - 411 013.

		(i)	(ii)
Type	:	CB 250	CB 600
Stroke	mm :	57.10	50.80
Bore	mm :	60.30	66.60
Approx wt	kg :	19.5	24.04
Approx Overall	L mm :	545	550
Air Consumption	cu m/min :	2.34	2.9

CII(2) Wagon Drills and Tyre Mounted Down-the-Hole Drills

Capacity : 30 m depth

1. Manufacturer/Supplier : M/s Atlas Copco (India) Ltd.,
Mahatama Gandhi Memorial Building,
Netaji Subhash Road,
Mumbai - 400 002.

Model	:	BVB - 15
Hole Dia	mm :	105 - 115
Depth	m :	15
Weight	kg :	880

2. Manufacturer : M/s Killick Halco Ltd., Supplier : M/s Killick Nixon Ltd.,
Killick house, Drilling division,
Charanjit rai marg, 31, Murzban road,
P.O. box 109, Mumbai-400 001.

Type	:	Halcodrill 150/29 HR
Hole dia	mm :	100 to 115
CA rotation motor HP	:	2
Winch motor HP	:	2
Overall	L mm :	3860
	H mm :	1000
	W mm :	1650
	WT kg :	760

Type mounted all angles between vertical and horizontal

5. Manufacturer/supplier : M/S Krishna Rock Drills Pvt. Ltd.,
107, Park Lane,
Secunderabad-500 003.

Type	:	KR - 110
Hole dia	mm :	100 to 112
CA Rotation motor HP	:	4.5
Winch motor HP	:	4.5

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Traverse rotation Head	mm	:	2340
Mast raised	H	mm	: 3700
Mast lowered	H	mm	: 860
Mast lowered	L	mm	: 3960
Mast raised	L	mm	: 3100
	W	mm	: 1660
	WT	kg	: 800

Capacity : 75 to 80 m depth

Manufacturer/supplier : M/S Atlas Copco (India) Ltd.
Mahatma Gandhi Memorial Building,
Netaji Subhash Road,
Mumbai-400 002.

Type		(i)	Wagon Drill BVB 25 - 10 (1)	(ii)	Wagon Drill BVB 25 - 12 (1)
Hole dia	mm	:	51 to 115 or upto 127 For special purpose hole	:	51 to 115 or upto 127 For special purpose holes
Attachment		:	Typy : COP 4 Down the Hole Hammer	:	BBC 120 F Heavy Duty Rock Drill
	L	mm	: 985 (Without BIT)	:	780 (Without BIT)
	Piston Dia	mm	: 66	:	120
	Outer Dia	mm	: 93	:	-
	Type of Rotation	:	-	:	Rifle Bar
	Air Consumption				
	cum/min	:		:	
	At 6 Bar	:	3.6	:	10.5
	At 10.5 Bar	:	6.7	:	-
	Wt	kg	: 36	:	69

CII (3) Self Propelled Down -the Hole & Rotary Blast Hole Drill

Capacity Depth m : Up to 50

1. **Manufacturer/Supplier** : M/s Ingersoll-Rand (India) Ltd.,
Maybaker House,
S.K. Ahire Marg,
Mumbai-400 025.

Type		(i)	IDB 70 Crawler Mounted	(ii)	IDB 20 Crawler Mounted
Depth	m	:	30.5 to 38.1	:	30
Hole Dia	mm	:	229 to 270	:	152 to 165
CA PR	kg/sq cm	:	7.03	:	7
Rotary Head		:	Hydraulic Motors 149 KW (200 HP)	:	-
Power Pack		:	Electric Motor 336 KW (450 HP)	:	-
Tram Speed	km/Hr	:	1.29	:	-
Length Tower Horizontal	m	:	12.85	:	10.21
Tower Vertical	m	:	11.20	:	6.41
Height Tower Horizontal	m	:	6.36	:	3.80
Tower Vertical	m	:	14.04	:	10.59
Overall	W	m	: 5.98	:	3.88
	Wt	kg	: 65000	:	-

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Type	(iii) IDM-30 Drill Master Crawler Mounted	(iv) IDM-15 Crawler Mounted	(v) IBH-10 Rotary DHD Combination Blast Hole Drill
Depth	m : 30		
Hole Dia	mm : 152 to 200	100 to 115	100 to 152
Prime Mover	: Diesel engine or Electric Motor	-	-
CA PR	kg/Sq cm : -	7	7
Air Compressor	: Screw compressor of Varying Capacities and Pressure		
Length Tower Horizontal	m : 10.6		
Tower Vertical	m : 6.70		
Height Tower Horizontal	m : 3.76		
Tower Vertical	m : 11.70		
Track	W m : 3.09		
Overall	W m : 3.80		
Rod Size Dia	mm : -	73	-
	L mm : -	3/4.57	-
Track Length	m : -	-	3
Drill Pipe Size	mm : -		Outer Dia mm 114 L M : 1.82 OR 3.04 Extension
Wt	kg : -	9,000	10,000
Type	(vi) CM-351 Crawler Drill Crawler Mounted	(vii) LM-100 Crawler Drill Crawler Mounted	
Hole Dia DHD	mm : 102/114	102/114	
Drifter	mm : 63/102	44/63	
Drill Pipe Size Outer Dia	mm : 73	73	
	L m : 1.8 and 3	3 with DHD	
Drill Pipe for Drifter Round	mm : 38	-	
	L m : 3.7	-	
Length	m : 2.8	-	
Track	W m : 2.2	-	
Height Boom Lowered	m : 1.5	-	
Boom Vertical	m : 3.4	-	
Grouser	W m : 0.3	-	
Wt	kg : 4700	-	
Tramming Speed	km/Hr : -	2.6	
Rod Size Dia (Round)	mm : -	32	
L With (Drifter)	m : -	3	
2. Manufacturer	: M/s Killick Halco Limited, Killick House, Charanjit Rai Marg, P.O. Box 109, Mumbai-400 001.	Supplier	: M/s Killick Nixon Ltd., Drilling Division, 31, Murzban Road, Mumbai-400 001.
Type	: Halcotrack 150/78 Hr Crawler Mounted		

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Depth	m	:	30	
Hole Dia	mm	:	67 TO 100	
CA PR	kg/sq cm	:	7	
Wt	kg	:	2721	
Overall	L	:	Mast Vertical	- 3.048
		:	Mast Lowered	- 3.962
	W	:	2.311	
		H	:	Mast Highest Horizontal
:	Mast Lowest Horizontal		- 1.219	

Capacity : 100 m depth

Manufacturer : M/s Killick Halco Limited,
Killick House, Charanjit Rai Marg,
P.O. Box 109, Mumbai-400 001.

Supplier : M/s Killick Nixon Ltd.,
Drilling Division, 31, Murzban Road,
Mumbai-400 001.

Type	(i)	(ii)	(iii)	(iv)
	Halco Track	Halco Track	Halco Track	Halco Mast
	300	400	625	400
	Crawler mounted	Crawler mounted	Crawler mounted	Diesel operated compressor truck mounted

Hole Dia	mm	:	105 to 115	105 to 115	150 to 165	105 to 115
CA PR	kg/sq/cm	:	6.3	6.3	-	-
Rotation Motor H. P.		:	5.5	5.5	10	5.5
Winch Motor H.P.		:	5.5	5.5	10	5.5
Elec Track Drive Motor	2 HP	:	10	-	-	-
Winch Lifting Cap	kg	:	-	2720	-	2720
Length Mast Lowered	m	:	5.5	-	-	-
Mast Vertical	m	:	3.5	6.05	6.05	-
Mast Horizontal	m	:	-	6.05	8.14	-
Height Mast Lowered	m	:	2.3	-	-	-
Mast Vertical	m	:	5.5	5.50	7.98	-
Mast Horizontal	m	:	-	3.62	3.99	-
Width Overall Track	m	:	2.3	-	-	-
Width	m	:	-	3.15	-	-
Wt	kg	:	4200	10700	10500	-

Capacity : 120 m Depth

Manufacturer : M/s Killick Halco Limited,
Killick House, Charanjit Rai Marg,
P.O. Box 109, Mumbai-400 001.

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Supplier	:	M/s Killick Nixon Ltd., Drilling Division, 31, Murzban Road, Mumbai-400 001.
Type	:	Halcomast 625 Diesel Operated, Compressor Truck Mounted
Hole Dia	mm :	150 TO 165
CA Rotation Motor	HP :	10
Winch Motor	HP :	10
Winch Lifting Cap	kg :	5161
Air Motor For Hydraulic Pump	HP :	5.5

CII (4) Special Drills for Surface i.e. Water Well Drills

Capacity	:	30 to 92 m Depth	
Manufacturer/Supplier	:	M/s Atlas Copco (India) Ltd., Mahatma Gandhi Memorial Building, Netaji Subhash Road, Mumbai-400 002.	
Type	:	(i) BMN 31 C Dug Well for Horizontal Drilling (Suitable for various Rock Drills)	(ii) Dugwell Rig for Vertical Drilling
Cap Depth	m :	30	45
Hole Dia	mm :	70	105 to 115
Air Consumption At 7 Bar	cfm :	170	335
H Feed Cylinder lowered	mm :	-	2900 Approx.
H feed Cylinder baised	mm :	-	5090 Approx.
Standard Feed Beam	m :	2.5	-
Feed L	m :	1.6	-
Wt	kg :	22.3	400A Approx.
Type	:	(iii) MWD 25 DTH Water Well Rig	(iv) Aquadriill 441(I) DTH Water well Rig
Cap Depth	m :	90	92
Hole Dia	mm :	105 to 115 (Rock) 152 (Overburden)	105 to 115 (Hard Rock) 152 to 165 (Overburden)
Air Consumption at 6 Bar	cfm :	127	127
Wt	kg :	1200	1900

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CII(5) Down-the-Hole Hammers

1. Manufacturer/Supplier : M/s Atlas Copco (India) Ltd.,
Mahatma Gandhi Memorial Building,
Netaji Subhash Road,
Mumbai-400 002.

Type		(i) COP 4	(ii) COP 6
L Without Drill Bit	mm	989	1243
External Dia	mm	95	136
Piston Dia	mm	66	97
Wt Without Drill Bit	kg	37.5	92
Air Consumption at 6 Bar	cfm	127	244

2. Manufacturer/Supplier : M/s Ingersoll-Rand (India) Ltd.,
Maybaker House,
S.K. Ahirer Marg, P.O.Box 9138,
Mumbai-400 025.

Type		(i) DHD - 14	(ii) DHD - 16 A	(iii) DHD - 160 Valveless	(iv) DHD - 360 Valveless
Outside Dia	mm	87	133	137	137
Hole Dia	mm	102 - 114	152 - 165	152 - 165	152 - 165
L Bit Extended	mm	1178	1491	-	-
L Bit Retracted	mm	1108	1411	-	-
Bit Sizes	mm	102, 115	152, 165, 203	-	-
Air Consumption @ 7 kg/sq cm	cum/min	5.6	9.19	-	-
Wt (Less Bit)	kg	31	86	106	106
L	mm	-	-	1385	1385

3. Manufacturer : M/s Killick Halco Limited,
Killick House,
Charanjit Rai Marg,
P.O. Box 109,
Mumbai-400 001. Supplier : M/s Killick Nixon Ltd.,
Drilling Division,
31, Murzban Road,
Mumbai-400 001.

Type		(i) 100 ASS Hammer	(ii) DA 265	(iii) DG 325	(iv) DH 325
Outside Dia	mm	89	59	73	73
L Without Bit	cm	94	-	-	-
Wt Without Bit	kg	30.90	-	-	-
Air Consumption At 100 PSI	cfm	195	80	170	120
Drill Bit Dia	mm	70-75	85-95	85-95	-
Type		(v) MACH 30*	(vi) DH 400	(vii) WH 400*	(viii) MACH 4 B*
Outside Dia	mm	75	93	93	93
Drill Bit Dia	mm	85-95	105-165	105-165	105-165
Air Consumption at 100 PSI	cfm	150	190	190	170

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		<i>*High Pressure Valveless Hammers</i>	<i>*Hammer is used with drill rods For simultaneous but independent air and water injection</i>	<i>*Hammer with Valve</i>
Type	:	(ix) MACH 40*	(x) MACH 5	(xi) Mach 50*
Outside Dia	mm :	93	112	112
Drill Bit Dia	mm :	105-165	127-165	127-165*
Air Consumption at 100 PSI	cfm :	-	250	-
Air Consumption at 200 PSI	cfm :	260	-	390
		<i>*High Pressure Valveless Hammers</i>		<i>*High Pressure Valveless Hammers</i>
Type	:	(xii) MACH 6**	(xiii) MACH 60**	(xiv) MACH 80**
Outside Dia	mm :	135	135	180
Drill Bit Dia	mm :	150-311	150-225	200-444
Air Consumption at 100 PSI	cfm :	330	-	-
Air Consumption at 200 PSI	cfm :	-	440	520
		<i>**Hammer with valve</i>	<i>**High pressure valveless hammers</i>	<i>**High pressure valveless hammers</i>

Heavy Rock Drill

Manufacturer/Supplier : M/s Atlas Copco (India) Ltd.,
Mahatma Gandhi Memorial Building,
Netaji Subhash Road,
Mumbai-400 002.

Type : BBC 120 F
Piston Dia mm : 120
Stroke mm : 65
L mm : 780
Wt kg : 69
Air Consumption cum/min : 9.3
For Hammer and
Rotation Mechanism
at 6 Bar
Hose (Air) mm : 38
Water mm : 20

CII(6) Drill Rods

1. Manufacturer/Supplier		M/s Bharat Gold Mines Ltd., Suvarna Bhavan, Oorgaum Post, Kolar Gold Fields -563 120, Karnataka.					
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Dia	Tungsten Carbide Tipped Integral Drill Rods "Goldrill"	33	34	38	39	40	22
L	1600	1200	800	1600	1200	800	-
Shank	83 or 108	83 or 108	83 or 108	83 or 108	83 or 108	83 or 108	-
2. Manufacturer/Supplier		M/s Chicago Pneumatic India Ltd., 301/302 Lal Bahadur Shastri Marg, Mulund, Mumbai-400 080.					
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)	
Dia	Integral Drill Steels (Series-11)	32	31	30	29	29	
L	800	1600	2400	3200	4000	4800	
Shank	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)	
Dia	Integral Drill Steels (Series-12)	38	37	36	35	35	
L	800	1600	2400	3200	4000	4800	
Shank	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)	
Dia	(a) Integral Drill Steels (Series-16)	33	32	32	34	34	
L	600	1200	1800	2400	400	400	
Shank	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	
3. Manufacturer/Supplier		M/s Kem Drills Private Ltd., 333, Chenoy Trade Centre, Secunderabad-500 003.					
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)	
Dia	Tungsten Carbide Tipped Integral Drill Rods (Series : 11513 - 1)	32	31	30	29	29	
L	800	1600	2400	3200	4000	4800	

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Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	: Tungsten Carbide	Tipped Integral	Drill Rods (Series : 11513 - 2)			
L	: 40	39	38	37	36	35
	: 800	1600	2400	3200	4000	4800
Type	(i)	(ii)	(iii)			
Dia	: Tungsten Carbide	Tipped Integral	Drill Rods (Series : 11513 - 3)			
L	: 35	34	33			
	: 600	1200	1800			
Type	(i)	(ii)	(iii)	(iv)		
Dia	: Tungsten Carbide	Tipped Integral	Drill Rods (Series : SPLS)			
L	: 34	33	32	38		
	: 400	1200	2000	2000		

4. Manufacturer/Supplier

: M/s Kirloskar Pneumatic Co. Ltd.,
Hadapsar Industrial Estate,
Pune-411 013.

Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
Dia	: Integral Drill Rods (Hexagonal Hollow)								
L	: 34	33	32	31	30	29	40	39	38
Shank	: 800	1600	2400	3200	4000	4800	800	1600	2400
	: 22x108	22x108	22x108	22x108	22x108	22x108	22x108	22x108	22x108
Type	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)	(xvi)	(xvii)	(xviii)
Dia	: Integral Drill Rods (Hexagonal Hollow)								
L	: 37	36	35	34	35	34	33	32	33
Shank	: 3200	4000	4800	400	600	1200	1200	1200	1800
	: 22x108	22x108	22x108	22x108	22x108	22x108	22x108	22x108	22x108
Type	(xix)	(xx)	(xxi)						
Dia	: Integral Drill Rods (Hexagonal Hollow)								
L	: 30	38	38						
Shank	: 2000	3600	4000						
	: 22x108	22x108	22x108						

5. Manufacturer/Supplier

: M/s Sandvik Asia Ltd.,
Mumbai Poona Road,
Pune-411 012.

Supplier

: M/s Atlas Copco (India) Ltd.,
Mahatma Gandhi Memorial Building,
Netaji Subhash Road,
Mumbai-400 002.

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Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	Integral Drill Steels (Series - 11)					
L	34	33	32	31	30	29
Shank	800	1600	2400	3200	4000	4800
	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	Integral Drill Steels (Series - 12)					
L	40	39	38	37	36	35
Shank	800	1600	2400	3200	4000	4800
	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	Integral Drill Steels (Series - 13)					
L	34	33	32	31	30	29
Shank	400	800	1200	1600	2000	2400
	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108	22 x 108
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	(a) Integral Drill Steels (Series - 16)					
L	35	34	33	32	31	30
Shank	600	1200	1800	2400	3000	3600
	22x108	22x108	22x108	22x108	22x108	22x108
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	(a) Integral Drill Steels (Boulder Steel)					
L	32	31	30	29	28	27
Shank	500	1000	1500	2000	2500	3000
Type	(b) Plug Hole Steels (19 mm HEX)					
Dia	32	31	30	29	28	27
L	500	1000	1500	2000	2500	3000
Shank	22x108	22x108	22x108	22x108	22x108	22x108
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	Integral Drill Steels (No Packing)					
L	40	39	38	37	36	35
Shank	3200	3200	3200	3200	3200	3200
	25x159	25x159	25x159	25x159	25x159	25x159
Type	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dia	Integral Drill Steels (with shank packing- 795 - 1811)					
L	38	38	38	35	35	35
Shank	3200	3600	4000	3200	3600	4000
	25x159	25x159	25x159	25x159	25x159	25x159

C : Winning Machinery

CII(7) Down-the-Hole Bits

1. Manufacturer/Supplier : M/s Ingersoll-Rand (India) Ltd.,
Maybaker House, S. K. Ahire Marg,
P.O. Box 9138, Mumbai -400 025.

Button Bits for Ingersoll Rand Down-the-Hole Drills

Type		(i)	(ii)	(iii)	(iv)	(v)
Bit Dia		4 B 9	4½ B 9	6 B 5	6½ B 5	6½ B 36
L	mm	102**	114**	152**	165**	165**
L	mm	324	324	402	402	408
Wt	kg	7.3	9.1	25.4	26.3	26.8
Type		(vi)	(vii)	(viii)	(ix)	
Bit Dia		6 B 36	8 B 5	8½ B 5	8 B 36	
L	mm	152**	203**	216*	203*	
L	mm	408	440	479	465	
Wt	kg	25	44	48	45.4	

** For Hard Rock Drilling * For Overburden Drilling

2. Manufacturer/Supplier : M/s Sandvik Asia Ltd.,
Mumbai Poona Road,
Pune-411 012. Supplier : M/s Atlas Copco (India) Ltd.,
Mahatma Gandhi Memorial Building,
Netaji Subhash Road,
Mumbai - 400 002.

(a) Button Bits for Ingersoll Rand Down-the-Hole-Drills

Type		(i)	(ii)	(iii)	(iv)	(v)
Bit Dia	mm	DHD-14	DHD-16/260	DHD-275	DHD-325	DHD-360
		102, 115	152, 165	127	152, 165	152, 165
		152*, 165*	203*		203*	203*

* For Overburden Drilling

(b) Button Bits for Atlas Copco Down-the-Hole-Drills

Type		(i)	(ii)
Bit Dia	mm	COP 4	COP 6
		105, 115, 127*, 152*, 165*	152, 165, 203*, 216*

* For Overburden Drilling

(c) Button Bits for Halco Down-the-Hole-Drills

Type		(i)	(ii)	(iii)
Bit Dia	mm	ASS-100	DF/DG 400	MACH-6
		102, 105, 115	102, 105,	152, 165, 203*
		127*, 152*	152, 115	

* For Overburden Drilling

C : Winning Machinery

(d) Button Bits for Mission Down-the-Hole-Drills

Type		(i)	(ii)	(iii)
Bit Dia	mm	Megadron A-53-15/20/25 152, 165, 203*, 216*	A 63-15 203, 216*	A 53-15/25 152, 165, 203*, 216*
		<i>* For Overburden Drilling</i>		

(e) Button Bits for WDS Down-the-Hole-Drills

Type		(i)	(ii)	(iii)
Bit Dia	mm	WD 90 (Panther) 105, 115, 152*	WD 125 (Bison) 152, 165, 203*	WD 90 Mark II 105, 115, 152*
Type		(iv)	(v)	
Bison Bit Dia	mm	WD 125 Mark III 152*, 165, 203*	WD 90 Mark II 152*, 105, 115 (Central And Side Flushing)	
		<i>* For Overburden Drilling</i>		

(f) Full Head BD Bits For Atlas Copco Down-the-Hole-Drills

Type		COP 6
Bit Dia	mm	152, 165, 126*
		<i>* For Overburden Drilling</i>

(g) Full Head Bits For Halco Down-the-Hole-Drills

Type		ASS 100
Bit Dia	mm	102, 105, 115, 127*, 152*
		<i>* For Overburden Drilling</i>

(h) Full Head Bits for Ingersoll Rand Down-the-Hole-Drills

Type		(i)	(ii)	(iii)
Bit Dia	mm	DHD - 14 102, 115, 152*, 165*	DHD - 275 127	DHD - 125 152, 165, 203*
		<i>* For Overburden Drilling</i>		

(i) Core Crusher Bits For Atlas Copco Down-the-Hole-Drills

Type		COP 4
Bit Dia	mm	105, 115, 127*, 152*, 165*
		<i>* For Overburden Drilling</i>

(j) Core Crusher Bits For Halco Down-the-Hole-Drills

Type		DF/DG 400
Bit Dia	mm	102, 115, 152*
		<i>* For Overburden Drilling</i>

(k) Core Crusher Bits For Ingersoll Rand Down-the-Hole-Drills

Type		(i)	(ii)
Bit Dia	mm	DHD - 15 127, 140	DHD 16/260 152, 165, 203*
		<i>* For Overburden Drilling</i>	

C : Winning Machinery

(I) Core Crusher Bits For Mission Down-the-Hole-Drills

Type	:	(i) A 53-15/20/25	(ii) A 53-15/25	(iii) 51 - 10
Bit Dia	mm :	Megadrill 152, 165, 203*, 216*	Megadrill 152, 165, 203*	152, 165, 203* 216*
* For Overburden Drilling				

CII (8) Pusher Legs

1. Manufacturer/Supplier : M/s Atlas Copco (India) Ltd.,
Mahatama Gandhi Memorial Building,
Netaji Subhas Road, Bombay - 400 002.

Type	:	(i) BMK 55 SA 2	(ii) BMK 62 SA 2
L	mm :	1395	1825
Feed L	mm :	900	1300
Piston Dia	mm :	53	53
Air Hose	mm :	12.7	12.7
Wt	kg :	18	21.8

2. Manufacturer/Supplier : M/s Holman Climax Manufacturing Ltd.,
Dolphin Court, 2nd Floor,
7A, Middleton Street,
Calcutta - 700071

Type	:	(i) Unfied Airleg	(ii) Unfied Airleg
L	mm :	1441	1822
Feed L	mm :	914	1321
WT	kg :	18.6	24.5

3. Manufacturer/Supplier : M/s Kirloskar Pneumatic Co. Ltd.,
Hadapsar Industrial Estate,
Pune - 411 013

Type	:	BD - 51
Feed	mm :	1295
Bore	mm :	57.10
Wt	kg :	21.10
Overall L	mm :	1854 (Closed) 3150 (Extended)

CII(9) Accessories

(a) Lubricators

1. Manufacturer/Supplier : M/s Atlas Copco (India) Ltd.,
Mahatama Gandhi Memorial Building,
Netaji Subhas Road,
Mumbai - 400 002.

Type	:	BLG - 30 Lubricator
Oil Cap	lit :	1.3
Wt	kg :	3
Air FLOW Cap	cum/ min :	1.5 to 8
Hose Connection	mm :	19 to 25

C : Winning Machinery

2. Manufacturer/Supplier : M/s Kirloskar Pneumatic Co. Ltd.,
Hadapsar Industrial Estate,
Pune - 411 013

		(i)	(ii)
Type		KP 8	KP - 16
Oil Cap	lit	0.425	0.850
Wt	kg	5.2	8.5
Overall	L mm	230	310

(b) Grinders

Manufacturer : M/s Sandvik Asia Ltd., Mumbai Poona Road, Poona - 411 012. Supplier : M/s Atlas Copco (India) Ltd., Mahatama Gandhi Memorial Building, Netaji Shbhas Road, Mumbai - 400 002.

Items : LSD 61 Bever
Electrical (796 - 1401)

(c) Other Items

1. Manufacturer/Supplier : M/s Atlas Copco (India) Ltd., Mahatama Gandhi Memorial Building, Netaji Subhas Road, Mumbai - 400 002.

Items : Compressed Air Hose
Claw coupling with male thread
Packing -made of oil and temperature
Resistant Rubber
Claw Coupling with Hose Nipple
Claw Coupling with female thread

2. Manufacturer : M/s Sandvik Asia Ltd., Mumbai Poone Road, Pune - 411 012. Supplier : M/s Atlas Copco (India) Ltd., Mahatama Gandhi Memorial Building, Netaji Subhas Road, Mumbai - 400 002.

		(i)	(ii)
Items		R-22 Extension Drill Steel Equipment	R-32 Round Extension Drill Equipment
Chiser Bits Dia	mm	36 & 38	-
Button Bits Dia	mm	-	51, 57 & 64
Four Point Bits (Internal Thread)			
Dia	mm	35, 38, 41, 45 & 48	48, 51, 57, 64, 76 & 78
Coupling Sleeves			
Dia	mm	32	44
L	mm	140	167
Retrac Bits	Dia	48	48, 51, 57 & 64
Extension Rods	L mm	800, 1200, 1600 2400 & 3200	1220, 1830, 2433 & 3050
Wt	kg/m	3.06	-

C : Winning Machinery

Shank Rods	L mm	:	255, 800, 1000, 1600, 1800, 2000 & 2400	-
For Central Flushing Shank	mm	:	108	-
Flushing Device Hose Connection Dia	mm	:	-	19
Items			(iii) R-38 Round Extension Drill Steel Equipment	(iv) 32/38 mm Round Rope Threaded Extension
Equipment				
X Bits Dia	mm	:	64, 70, 76, 89 & 102	
Button Bits Dia	mm	:	64, 70, 76, 89 & 102	
Guide Retract	L mm	:	180	
Dia	mm	:	64, 70, 76 & 89	
Coupling Sleeve	L mm	:	180	
Dia	mm	:	55	
Extension Rods	L mm	:	1220, 1830, 2435, 3050 & 3660	
Items		:	Grinding Template	
Wrench				
Chuck Bush Gauge				

CIII Underground Face Machinery

(1) Coal Cutters

Manufacturer/Supplier	:	M/s Jardine Henderson Ltd., Meameco Division, 4, Clive Row, Calcutta - 700 001.	
Type	:	(i) AB-15 Modified Longwall/ Shortwall Coal Cutters	(ii) AB-15 Skid Mounted Arcwall Middle Cut/ Overcut Coal Cutters
H	cm	:	38
W	cm	:	66
L	cm	:	231
AC Flame Proof Motor	hp	:	50, 60, OR 70
	V	:	400/440 OR 500/550
Type of Switch	:	Remote Control- FLP Star/ Delta FLP	Remote Control FLP
Nominal Size of JIB	mm	:	1067, 1219, 1372, 1524, 1676, 1829, 1981, 2134, 2286 & 2438
Actual JIB	L mm	:	889, 1054, 1219, 1384, 1549, 1715, 1880, 3045, 2210 & 2375
Undercut	D mm	:	991, 1143, 1321, 1473, 1651, 1803, 1981, 2134, 2311 & 2464
No. of Pick Holders	:	991, 1143, 1321, 1473, 1651, 1803, 1981, 2134, 2311 & 2464	
No. of Pick Holders In chain	:	19, 21, 23, 25, 27, 29, 31, 33, 35 & 37	

C : Winning Machinery

The Machine is Mounted on a tilting underframe to facilitate flitting and fitted with a low type JIB bracket to allow cutting at floor level

Approved by DGMS

Approved by DGMS

(2) Rocker Shovel Loader

Bucket Capacity cu m : Up to 1.0

Manufacturer/Supplier : M/s EIMCO ELECON (India) Ltd.,
Vallabh Vidyanagar,
Gujarat - 388 120.

	(i)	(ii)	(iii)
Model	EIMCO 12 B	EIMCO 21	EIMCO 824
Bucket Cap cu m	0.13 to 0.17	0.21 to 0.28	0.425
Loading Cap per min cu m	0.5 to 1.0	0.99 to 1.41	-
Complete Loading Cycle	6 sec	-	-
Cap of Car cu m	0.3 to 1.5	0.56 to 2.83	-
WT t	1.905	3.266	4.436
Discharge HT of Bucket m	1.17 to 1.50	1.321 to 1.727	1.461
Discharge Distance m	0.355 to 0.610	0.457 to 0.711	0.508
Overall W mm	735	1.067	1.829
L mm	1805 to 1980	2210 to 2286	1626
H mm	1220 to 1245	1422 to 1549	2788
Air Pressure Range kg/sqcm	4.2 to 8.8	-	-
Air Consumption M3/min	-	8.5	-
Travelling speed kmph	-	-	5.63
Max Digging Depth m	-	-	0.102

(3) Load Haul Dumper

Bucket Capacity cu m : up to 2

1. Manufacturer/Supplier : M/s Tata-Robins-Fraser Ltd.,
11, Station Road,
Burma Mines,
Jamshedpur - 831 007.

	(i)	(ii)	(iii)
Model	LF-2HE(S)	LF-4.1	LF-4.2 E(S)
Bucket Cap cu m	1.6	2.0	2.00
Tramming cap t	2.2	3.80	3.8
Engine Power	37 KW	64 KW/86HP at 2,300 rpm	-
Cable Reel m	100	-	-
Travelling Speed 10%	-	-	-
Inclination kmph	7.2	-	-
Operational wt t	7	-	-

C : Winning Machinery

Tipping Load	t	:	-	9.7	12.0
Travel speed horizontal	kmph	:	-	19.3	-
Tramming speed at 7.5° Gradient	kmph	:	-	-	6.0
2. Manufacturer/Supplier : M/s EIMCO ELECON (India) Ltd., Vallabh Vidyanagar - 388 120, Gujarat					
Model		:	(i) EIMCO 802 H Load Haul Dump	(ii) 811 E Load Haul Dump Under Ground mining Loader	(iii) 912 B LHD Under Ground mining Loader
Bucket Cap	cum	:	0.57	1.5	1.7
Pay Load	t	:	2.267	2.27	3.63
Power		:	Compressed Air	Electro-Hydrau Lic	Diesel Engine (Air Cooled) 100 HP
Engine Power		:	-	-	-
Vehicle Wt	t	:	4.489	7.190	-
Operating Wt	t	:	-	-	12.9
Travelling Speed	kmph	:	6.04	-	-
Motor		:	-	37 KW (50 HP)	-
Electrical System	V	:	-	440/550	12
Dump	m	:	0.673	-	-
Max Dump	H m	:	-	-	2.54
Reach	m	:	0.914	-	-
Overall	L m	:	4.013	-	7.93
H	m	:	1.676	-	-
W	m	:	1.661	-	-
Max	W m	:	-	-	1.73