# Pall 670-TC

CRANE, CLAMSHELL



# P&H 70 TON TRUCK CRANE... THE CHAMPION WEIGHT LIFTER with EXTRA SAFETY, STABILITY and RELIABILITY

- Exclusive P&H Magnetorque swing provides silk-smooth swing motion, requires no adjustments, practically eliminates maintenance of swingers.
- Exclusive P&H Power Box design completely seals all gears, provides automatic lubrication from oil bath.
- Mitsub'shi K7OI carrier perfectly matched to P&H upper for single source service responsibility for entire rig. Frame and outriggers are High tensile strength steel for greatest strength.
- Independent precision planetary boom hoist is fast, smooth, and "Triple-Safe". Standard equipment.
- P&H hydraulic control system with power assist provides easy and precise control of machine functions.
- High tensile alloy steel tubular chord boom furnished as standard, provides greater strength for longest booms without "load-robbing" weight.
- 10 speeds forward with 2 in reverse increase between job mobility, provide the right gear ratio for every situation.
- Air brakes, on all 8 wheels and Maxi-brakes are standard on rear wheels for safe, fast and effective operation.
- · Hydraulic Outriggers with aluminum floats, standard.

Bulletin No. KP-670T-3



KOBE STEEL, LTD.

# BASIC MACHINE

### UPPER MACHINERY

$\sim$	`~/	ED.	PL/	I NI	т.
-0	**	EK	PLA	111	

Mitsubishi, 6DC20C, 6 cvl. (with transmission) 138 ps @ 1800 rpm

Cummins, H743C, 6 cyl. (with transmission) 135 ps @ 1800 rpm (optional extra)

THROTTLE: Mitsubishi and Cummins engines—Twist grip on swing lever (standard).

TRANSMISSION: Three speed standard. Engine clutch and transmission shifter controls at operator's station (standard).

CONTROLS: Full flow power hydraulic.

SWING UNITS: Swing motion thru two magnetorque units.

CLUTCHES: Band type, internal expanding, separate clutch for each machine function.

BRAKES: (Front and Rear drum) band type-external contracting -full wrap design—with spring set fail safe device.

DUAL BRAKES: (Optional) Additional hydraulic brakes with spring set safety device operates in parallel with standard brake. Planetary load lowering option cannot be used with dual brake on same drum

BOOM HOIST ASSEMBLY: Independent internal expanding band type clutch, with automatic brake and planetary lowering. Twin external safety ratchets for locking main drum and planetary drum. Main drum mounted on anti-friction bearings.

Boom hoist line speed

370	2n	
Raising	30 m/min.	(100 F.P.M.)
Lowering	20 m/min.	(65 F.P.M.)

MAIN DRUMS: Drums in tandem, mounted on anti-friction bearings' (see separate sheets covering attachments for further details).

THIRD DRUM: Mounts on extension of front drum shaft to the left of main drum. Does not interfere with any other machine function or front end attachment. (Optional extra.)

GANTRY: High gentry, folding type, for use with all attachments. COUNTERWEIGHT: One piece external, pin connected ....... 10,200 kg (22,500 lbs.)

Power hydraulic removal available.

TYPE OF FASTENING TO LOWER: 6 adjustable hook rollers, one double front, two double rear.

SWING ROLLERS: 28 rollers, live roller circle.

SWING GEAR: Internal cut teeth-1,494 mm (58.8") pitch dia. ROTATING SPEED ...... 4.3 R.P.M.

SWING BRAKE: External band-spring set, hydraulic release.

## MITSUBISHI K701 CARRIER

8 Wheel, 4 Wheel Drive, 12 Tires

WEIGHT: Including turret and standard hydraulic type outriggers, with 13:00 x 20-16 P.R. tires ..... approx. 28,000 kg (62,000 lbs.)

FRAME: Box section frame members of High tensile strength steel construction housings.

OUTRIGGER HOUSINGS: Two independent housings, front and rear, pin connected and removable

OUTRIGGER BEAMS: High tensile strength steel box, full length -reinforced. Jack screw—at beam ends.

Extended position from center of carrier ....... 3,130 mm (10'-3") HYDRAULIC OUTRIGGERS: Total of 8 double acting hydraulic

cylinders provide independent horizontal and vertical motion of each beam, solenoid valve controlled.

POWER PLANT:

Diesel: Mitsubishi 8DC20W, 8 cyl., 250 PS @ 2200 rpm (std.)

CLUTCH: Single dry plate

TRANSMISSIONS:

For Mitsubishi 8DC20W:

Main-5 speed forward, 1 reverse.

Auxiliary-2 speed.

Max. travelling speed	(34 mph)
Min. turning radius	12 m (40')
Climbing ability ( $\sin \theta$ )	0.270

BRAKES-SERVICE: Air on all wheels-Maxi brakes rear. SUSPENSION .

Front and Rear: Torque rods and equalizer bogie beams.

STEERING: Ball & Nut type with hydraulic power booster.

RADIATOR: Vertical flat tube and fin type, core thermostatic temperature control.

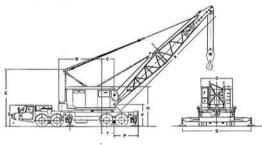
FUEL TANK CAPACITY ...... 300 £ (78 gal.)

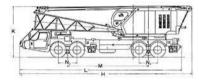
TIRES: Twelve-13:00 x 20-16 PR (standard).

CAB: Steel-two men type low line system-safety glass.

LIGHTS: Headlights, tail lights, stop lights, directional signal lights front and rear, license plate lights, clearance lights on outrigger housings and truck cab. (Clearance lights also furnished on crane cab.) Reflectors on rear. All rear lights recessed in frame, also license plate bracket. 24volt electrical system.

EQUIPMENT: Front bumper, full fenders, skirts, running boards, hood, rigging compartment, frame decking, leatherette cushion seat, 12 volt battery, horn, rear view mirror, electrical windshield wiper, air compressor reserve air tank with hose extension, illu minated instrument panel, with speedometer, ammeter, oil pressure gauge, fuel gauge, air pressure gauge, water temperature indicator, low air pressure indicator light, tachometer, towing hooks front and rear, dash mounted air brake valve, tools and accessories including one hydraulic jack for truck use.







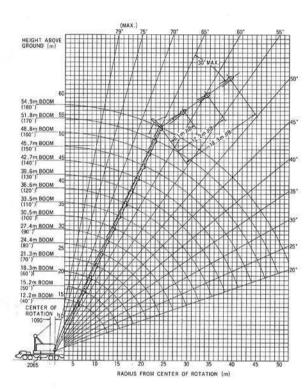
## GENERAL DIMENSIONS

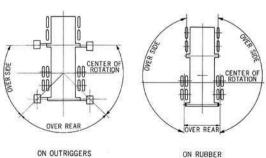
DOM:	Nation design and the Control of the	mm	(FtIns)	
A	Length, basic boom	12,190	(40-0)	
В	Radius of rear end (counterweight),	3,940	(12-111/8)	
C	Center of rotation to boom foot pin	1,090	(3-6%)	
D	Width of cab	2,950	(9-81/6)	
E	Clearance height over gentry (raised)	5,530	(18-1%)	
F	Height from ground to boom foot pin	2,065	(6-9%)	
G	Counterweight ground clearance	1,520	(4-11%)	
Н	Overall length (travelling posture)	12,170	(39-11)	
J	Overall width (travelling posture)	3,300	(10-10)	
K	Overall height (travelling posture)	4,000	(13-13/4)	
L	Length, carrier	11,620	(38-2)	
M	Wheelbase	5,800	(19-36)	
N	Wheelbase (rear)	1,350	(4-5%)	
No	Wheelbase (front)	1,350	(4-5%)	
1.2	Tread (front)	2,490	(8-234)	
_		2,510	(8-2%)	
	Tread (rear)	2,090	(6-7%)	
P	Center of rear bogie to rear of carrier			
Q	Center to center of outrigger floats (fully extended)	6,260	(20-61/2)	
S	Height of carrier cab	2,100	(6-1034)	
T	Crane offset-center of rotation to center of rear bogie	1,200	(3-111/4)	
-	Min. ground clearance	290	(0-11%)	
	Axle Loads (Travelling Posture)			
	Front	10 kg (	29,3201bs)	
	Rear	10 kg (7	73,630 lbs)	
	Total	00kg (10	02,950 lbs)	

# P&H CRANE BOOM

The P&H boom has lattice-type, all-welded construction and chords of tubular high tensile strength alloy steel which provides the strongest crane boom available with the lowest relative weight.

- The P&H open-throat design provides greater load clearance. Boom point sheaves ride on anti-friction bearings for longer wear.
- Booms feature an "offset" head for added clearance factor which gives increased lifting height for each boom length.
- P&H pin connections permit fast, easy erection and takedown.





AREAS OF OPERATION

# **CRANE** SPECIFICATIONS

### GENERAL DATA

BOOM: Tubular High tensile strength steel chords [1,270 mm (50") × 1,270 mm (50") chordal dimension] lattice construction.

Basic length, pin connected in two equal sections...12.19m (40 ft.)

Basic length, pin connected in two equal sections...12.19 m (40 ft.)

Open throat with five boom point sheaves on offset boom point on anti-friction bearings—pitch diameter................. 475 mm (18 %")

12 part boom hoist reeving, standard.

Roller type boom point sheave guard (optional extra).

POWER CONTROLLED LOAD LOWERING: Planetary device for controlling load lowering speed with engine.

Standard on both front and rear main hoist drums.

THIRD HOIST DRUM: Mounted on extension of main front drum shaft—optional extra.

BOOM BACKSTOP: Telescoping type with spring bumper.
(optional extra)

GANTRY: High gantry—folding type (standard).

WORKING WEIGHT: [Including block)...59,300 kg (130,700 lbs.) (Counterweight included in working weight and removable 10,200 kg (22,500 lbs.)).

### DRUM SHAFT ASSEMBLY

Laggings Smooth P.D.	Cable Dia.	Max. Cable Capacity	*Line Pull	*Line Speed
Front-420 mm (16½")	24mm	205 m	15,300 kg	36.9 m/min
	(%")	(672')	(33,660 lbs)	(121 fpm)
Rear-416 mm (16%")	20 mm	250 m	15,000 kg	36.5 m/min
	(¾")	(820°)	(33,000 lbs)	(120 fpm)

<sup>\*</sup>Line pulls and speeds based on single line and first layer of rope and at 2nd of transmission.

# HOIST REEVING

	of Parts of st Reeving	1	2	3	4
	m Load (Lbs.)	7,000 (15,400)	14,000 (30,800)		
5	6	7	8	9	10
35,000 (77,000)	42,000 (92,400)	49,000 (107,800)	56,000 (123,200)	63,000 (138,600)	70,000 (154,000)

## MAXIMUM JIB RATINGS in Kg (Lbs.)

Offset Angle	6.1 m	12,19 m	18.29 m
Jib to Boom	(20')	(40')	(60')
under Full Load	Jib	Jib	Jib
10°	10,000 (22,000)	5,600 (12,340)	3,650 (7,990)
20°	7,250	5,000	3,200
	(15,970)	(11,000)	(6,990)
30° (Max.)	5,900	4,000	2,700
	(12,970)	(8,820)	(5,990)

Jib crane rating at any radius from center of rotation is the same as crane rating shown in table for main boom when operated at that radius but not to exceed maximum jib ratings shown. For bucket ratings on jib deduct 20% from jib ratings. Maximum jib operating radius not to exceed max. operating radius of main boom on which it is being used. Use of outriggers recommended when boom is equipped with jib.

# MAXIMUM BOOM LENGTH TO LIFT OFF GROUND in Meters (Ft.)

	WITH	OUTRIGGERS	WITHOUT OUTRIGGERS
	Boom Only	Boom & Jib	Boom Only
Side	54.86 (180) 54.86	48.77+12.19 (160) (40)	36.58 (120) 36.58
Rear	54.86	*54.86+18.29 (180) (60)	36.58 (120)

<sup>\*</sup>This length needs front bumper weight. (2,700 kg) (opt. extra)

CRANE RATED LOADS in Kg (Lbs.) WITH OUTRIGGERS (Over Side and Over Rear)

Operating Radius in m (Ft.)	12.19 m (40') Boom	15.24 m (50°) Boom	18.29 m (60°) Boom	21.34 m (70') Boom	24,38 m (80') Boom	27.43 m (90') Boom	30.48 m (100') Boom	33.53 m (110') Boom	36.58 m (120′) Boom	39.62 m (130') Boom	42,67 m (140') Boom	45.72 m (150') Boom	48.77 m (160') Boom	51,82 m (170') Boom	54.86 rr (180') Boom
3.5	70,000	***	***			431		440	123	222	1222	19997	744	0333	
(11-6)	(154,300) 70,000	***	***	***	***	555.0	255	1222	3555	527	2755	0.555	3555	0.000	2250
(12-0)	(154,300)	***	355	***		11 11 11 11	***	***	***	***	***	***	2.00	***	***
4.0	66,600	66,400	***	***	1480	****	2000	***	2006		1444		5665	77222	
(13-1)	(146,900)	(146,400)				111			47.5				100	***	***
4.5	61,800	61,600	61,400	3335	1767	387	200	95.71			1.000				
(14-9)	(136,300)	(135,800)	(135,400)	***			- :::				225	855	1000	677	255
5	57,100	56,900	56,700	56,500	100			95528		1		- 200	775		
(16-5)	(125,900)	(125,500)	(125,000)	(124,600)	255			***						50.000	
6	48,300	48,100	47,900	47,700	47,500 (104,700)	42,000		***		***		***	***	200	444
(19-8)	(106,500)	(106,100)	(105,600)	(105,200)	(104,700)	(92,600)	***	***			***		***		222
7	38,900	38,700	38,500	38,300	38,100	37,900	35,000		2002		2000	2344		200	304
(22-11)	(85,800)	(85,300)	(84,900)	(84,500)	(84,000)	(83,600)	(77,200)				***		936	3.0	
(26-3)	(67,700)	(67,300)	30,300	30,100	29,900	29,700	29,500	29,300	29,100	28,000	***	****	222	12.55	325
(20-3)	24,900	24,800	(66,800) 24,700	(66,400) 24,600	(65,900) 24,500	(65,500) 24,300	(65,000)	(64,600)	(64,200) 23,800	(61,700)	23,000	***	101	- 414	***
(29-6)	(54,900)	(54,700)	(54,500)	(54,200)	(54,000)	(53,600)	(53,400)	(52,900)	(52,500)	(52,000)	(50,700)		***	200	200
10	21,200		01.000	100 mm (4)	00.000	10000	00.400	00.000	1000	100 St	1000	20000000	3588	5500	200
(32-10)	(46,700)	21,100 (46,500)	21,000 (46,300)	20,900 (46,100)	20,800 (45,900)	(45,600)	20,600 (45,400)	20,500 (45,200)	(45,000)	20,200 (44,500)	19,900 (43,900)	19,600 (43,200)	***	***	***
12	16,200	16,100	16,000	15,900	15,800	15,700	15,600	15,500	15,400	15,300	15,200	15,000	14,800	14,500	227
(39-4)	(35,700)	(35,500)	(35,300)	(35,100)	(34,800)	(34,600)	(34,400)	(34,200)	(34,000)	(33.700)	(33,500)	(33,100)	(32,600)	(32,000)	
14	10.00	13,400	13,200	13,000	12,800	12,600	12,500	12,400	12,300	12,200	12,100	12,000	11,900	11,700	11,400
(45-11)	2255	(29,500)	(29,100)	(28,700)	(28,200)	(27,800)	(27,600)	(27,300)	(27,100)	(26,900)	(26,700)	(26,500)	(26,200)	(25,800)	(25,100
16	522	2002	11,200	11,000	10,800	10,600	10,400	10,200	10,100	10,000	9,900	9,800	9,700	9,600	9,400
(52-5)	859	1986	(24,700)	(24,300)	(23,800)	(23,400)	(22,900)	(22,500)	(22,300)	(22,100)	(21,800)	(21,600)	(21,400)	(21,200)	1 (20.700
18	344	143	9,600	9,400	9,200	9,000	8,800	8,600	8,500	8,400	8,300	8,200	8,100	8,000	7,800
(59-0) 20	544	***	(21,200)	(20,700) 8,200	(20,300) 8,000	(19,800) 7,800	7,600	(19,000) 7,400	(18,700) 7,300	(18,500) 7,200	(18,300) 7,100	(18,100) 7,000	(17,900) 6,900	(17,600)	(17,200
(65-7)	33	200		(18,100)	(17,600)	(17,200)	(16,800)	(16,300)	(16,100)	(15,900)	(15,700)	(15,400)	(15,200)	(15,000)	6,600
25	0.00	0.5656	09.30			5,700	5,500	5,300	5,200	5,100	5,000				
(82-0)	320	0.555	255	***	***	(12,600)	(12,100)	(11,700)	(11,500)	(11,200)	(11,000)	4,900 (10,800)	4,800 (10,600)	4,600 (10,100)	4,400
30	***	***				and the second	*: NO. 600 S. 1000	4,100	3,900	3,700	3,600	3,500	3,400	3,300	3,200
(98-5)							2000	(9,000)	(8,000)	(8,200)	(7,900)	(7,700)	(7,500)	(7,300)	(7,100
35	***	91505	100	***		22	***	26,452,540	3,200	3,100	3,000	2,900	2,800	(7,300) 2,700	2.600
(114-10)	322	***		100	1	- 70	227	110	(7,100)	(6,800)	(6,600)	(6,400)	(6,200)	(6,000)	(5,700
40		5000	300	***			***	1999	***	199	2,400	2,300	2,200	2,100	2,000
(131-3)	5,00	444		222	335	200		100	- 50	0.83	(5,300)	(5,100)	(4.900)	(4,600)	(4,400
45		2705	925	5550	1.000	0.655	2000	2886	9000	1900	7.00	450, 1120	1,500	1,400	1,300
(146-8)	***	***	***	***	***	***			***	546	***	***	(3,300)	(3,100)	(2,900
(163-1)	+**	0.00	444		***		227			- 111	111	0/444	***	***	800
(100-1)	0.555	37555	3330	***	8555	****	5553	1755	***	1998	2223	1000	***	***	(1,800

# CRANE RATED LOADS in Kg (Lbs.) WITHOUT OUTRIGGERS (Over Side and Over Rear)

Operation Radius in Feet (n	(40')	15.24 m (50') Boom	18.29 m (60') Boom	21.34 m (70') Boom	24.38 m (80') Boom	27.43 m (90') Boom	30.48 m (100') Boom	33.53 m (110') Boom	36.58 m (120') Boom
4.5 (14-9 5 (16-5 6 (19-8	20,550 (45,300) 17,650 (38,900) 13,700 (30,200)	17,500 (38,600) 13,550 (29,900)	13,400 (29,500)	********					
7 (22-1 8 (26-3 9 (29-6	) 11,100 (24,500) 9,300 (20,500) 7,950 (17,500)	10,950 (24,100) 9,150 (20,200) 7,800 (17,200)	10,800 (23,800) 9,000 (19,800) 7,650 (16,900)	10,700 (23,600) 8,900 (19,600) 7,550 (16,600)	10,550 (23,300) 8,750 (19,300) 7,450 (16,400)	8,650 (19,100) 7,300 (16,100)	7,200 (15,900)		
10 (32-1 11 (36-1 12 (39-4	6,900 (15,200) 6,100 (13,500) 5,400 (11,900)	6,750 (14,900) 5,950 (13,100) 5,250 (11,600)	6,650 (14,700) 5,800 (12,800) 5,150 (11,400)	6,500 (14,300) 5,700 (12,600) 5,050 (11,100)	6,400 (14,100) 5,600 (12,300) 4,900 (10,800)	6,300 (13,900) 5,500 (12,100) 4,800 (10,600)	6,200 (13,700) 5,400 (11,900) 4,700 (10,400)	6,100 (13,500) 5,300 (11,700) 4,600 (10,100)	6,000 (13,200) 5,200 (11,500) 4,500 (9,900)
14 (45-1 16 (52-5 18 (59-0	)	4,250 (9,400)	4,100 (9,000) 3,350 (7,400)	4,000 (8,800) 3,250 (7,200) 2,700 (6,000)	3,900 (8,600) 3,150 (6,900) 2,600 (5,700)	3,800 (8,400) 3,050 (6,700) 2,500 (5,500)	3,700 (8,200) 2,950 (6,500) 2,400 (5,300)	3,600 (7,900) 2,850 (6,300) 2,300 (5,100)	3,500 (7,700) 2,750 (6,100) 2,200 (4,900)
20 (65-7 25 (82-0			20200001		2,150 (4,700)	2,050 (4,500)	1,950 (4,300) 1,200 (2,600)	1,850 (4,100) 1,100 (2,400)	1,750 (3,900) 1,000 (2,200)

Operating radius is horizontal distance from centerline of rotation to a vertical line through the gravity center of the load. Gross crane ratings shown are for units mounted on Mitsubishi K701 crane carrier with dual front and reer axles and do not exceed 78% of tipping loads. The crane ratings include weight of hook, block, slings and all other load handling accessories. Ratings with outriggers are based on outriggers extended to a fulcrum point 3.13m (10'-3") from center of carrier. Ratings with outriggers depend upon proper inflation, capacity, and condition of tires.

Gantry must be in raised position for all conditions. Standard boom hoist reeving: 12 part line. Ratings are based on counterweight of 10,200 kg (22,500 lbs.). Center hitch required for boom lengths 45,72 m (150 ft.) and over. Ratings shown are based upon boom insert arrangement shown in the care and operation manuel.

When boom is equipped with jib, main hook ratings should be reduced by  $$50\,kg (1,100\,lbs.)$$  for  $6.09\,m (20\,ft.)$$  jib;  $$900\,kg (2,000\,lbs.)$$  for  $12.19\,m (40\,ft.)$$  jib and  $1,400\,kg (3,080\,lbs.)$$  for  $18.29\,m (60\,ft.)$$  jib.

Ratings on outriggers apply to lifts over sides and rear only.

# WEIGHT OF LOAD HANDLING ACCESSORIES

Single Sheave Hook Block	500 kg	(1,100 lbs.)
Three sheave Hook Block	700 kg	(1,540 lbs.)
Five Sheave Hook Block	1,200 kg	(2,640 lbs.)
Clamshell	Depends on siz	e and make

Backstops recommended for all boom lengths. At radii and boom lengths where no retings are shown on plate, operation is not intended or approved. Ratings are based upon freely suspended loads and machine standing on firm, level, uniformly supporting surface. Safe loads depend upon ground conditions, boom lengths, radius of operation, and proper hendling, all of which must be taken into account by the user. Ratings are contingent upon machine being equipped with proper P&H boom.

# GREATER CAPACITIES. LONGER BOOMS WITH P&H BOOM CONSTRUCTION

The P&H boom has tubular high Tensile Strength Steel Alloy chords with lattice-type all-welded construction. This provides greater strength and added rigidity against twisting strains at a minimum weight. In clamshell operation, this relative lightness permits heavier loads and faster work cycles.

Basic boom sections and inserts are designed for greater rigidity, fast assembly and take-down. Open throat and offset boom point design assures excellent performance when converted to heavy-duty crane service.

# CLAMSHELL WORKING RANGES in m (Ft.-Ins.)

Operating Radius	12.19 m (	(40') Boom	15.24 m (	50') Boom	Boom 18.29 m (60') E		
"D" in m (Ft-Ins)			HEIGHT (	OF BIN "E	**		
7 (22-11) 8 (26.3) 9 (29-6) 10 (32-10) 12 (39-4) 14 (45-11) 16 (52-5)	0.00	(26-0) (24-0) (21-4) (18-1) (8-10)	10.9 10.3 9.7 7.9 5.4	(35-10) (33-10) (31-10) (26-0) (17-9)	13-8 13.2 12.0 10.2 7.8	(45-3) (43-4) (39-4) (33-6) (25-7)	
	F	V	F	V	F	٧	
Height and Width of Stock Pile	6.0 (19-8)	13.2 (43-4)	8.1 (26-7)	17.6 (57-9)	10.3 (33-10)	22.0 (72-2)	
at Radius		Э	0	>	6	•	
	9.6	(31-6)	11.8	(38-9)	14.0	(45-11)	

"T" height of clamshell bucket varies between 4.1 m (9'-10") and 4.5 m (14'-9"), depending upon size and make of bucket.

# CLAMSHELL RATED LOADS in Kg (Lbs.)

Operating	12.19 m	15.24 m	18.29 m	
Radius	(40')	(50°)	(60')	
in Feet (m)	Boom	Boom	Boom	
7 (22-11) 8 (26-3) 9 (29-6) 10 (32-10) 12 (39-4) 14 (45-11) 16 (52-5)	6,350 (14,000) 6,350 (14,000) 6,350 (14,000) 5,800 (12,800) 4,500 (9,900)	6,350 (14,000) 6,350 (14,000) 5,650 (12,400) 4,400 (9,700) 3,550 (7,800)	6,350 (14,000 5,550 (12,200 4,300 (9,500 3,450 (7,600 2,800 (6,200	

Clamshell ratings shown also apply to magnet, grapple and all other material Clambian ratings shown also apply to magnet graphic and or class had handling buckets except dragline, which is rated separately. For clamshell and magnet operations, the weight of bucket or magnet is considered a part of the load and the total weight of bucket plus contents or magnet plus load must not exceed the corresponding ratings shown.

To select bucket size best suited for your application, use the following formula: Refer to chart to obtain clamshell capacity in pounds. Clamshell capacity=cu.

meter capacity of bucket)X (weight of material per cu. meter) + (weight of
specific clamshell bucket). 1.5m³ is maximum allowable digging-type bucket. Larger size may be approved depending on type of material, type of bucket-within limitations of rating chart.

Ratings are contingent upon machine being equipped with proper P&H boom 

# CLAMSHELL 1.5 m3 (17% Cu. yds.) SPECIFICATIONS

## GENERAL DATA

BOOM: Tubular high tensile alloy steel chords, lattice construction, pin connected, two equal sections, basic length ... 12.19 m (40 ft.) Open throat with five boom point sheaves offset from centerline on anti-friction bearings, pitch diameter ....... 475 mm (181//s") 12 part boom hoist reeving (standard).

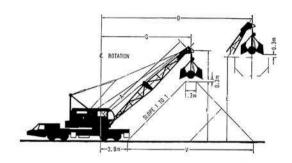
Roller type boom point sheave guard (optional extra).

GANTRY: High gentry—folding type—standard.
TAGLINE WINDER: Spring Type

BOOM BACKSTOP: Telescoping type with spring bumper (optional extra).

WORKING WEIGHT: Without bucket-

approx...... 58,900 kg (129,800 lbs.) Removable counterweight included in working weight ...... 10,200 kg (22,500 lbs.)



# DRUM SHAFT ASSEMBLY

Clam, Laggings (Smooth)	Cable Dia.	*Line Pulls	*Line Speeds
Front Drum 420 mm (16½*) P.D	24 mm	15,300 kg	36.9 m/min
	(%")	(33,600 lbs.)	(121 fpm)
Rear Drum 420 mm (16½") P.D	24 mm	14,900 kg	36.9 m/min
	(%")	(32,780 lbs.)	(121 fpm)

<sup>\*</sup>Line pulls and speeds based on single line and first layer of rope and at 2nd gear of transmission



# **Higher Production Capacities Lower Operating Costs**

Data published herein is statistical and for information only. Performance may vary with the conditions encountered. Kobe Steel, Ltd. reserves the right to make changes in specifications without advance.

> Licensed by HARNISCHFEGER INTERNATIONAL CORPORATION Milwaukee, Wisconsin, U.S.A.



CONSTRUCTION MACHINERY DIVISION

Tokyo Head Office: Tekko Bldg.,

No. 8-2, 1-chome, Marunouchi, Chiyoda-ku, Tokyo, Japan Phone: Tokyo (03) 218-7111

Telex No. 222-3601 (KOBESTEEL TOK) Cable: "KOBESTEEL TOKYO"

Construction

Machinery Plant: 123, Fukuda, Okubo-cho, Akashi-city, Japan

Phone: Akashi (078) 936-1331 Cable: "KOBESTEEL AKA" Telex: No. 5628944 (KOBESTL J)

Address Inquiries to:

763500 (F)