

technical data

CH50



50t Hydraulic Crawler Crane



FEATURES

Computer Aided Crane Design

Hi- tech analysis provided the optimum design criteria and material specifications for manufacture. Maximum machine life and reliability are ensured.

Deluxe Operator’s Command Centre

Designed to provide the ultimate in operator safety and comfort, insulated against noise and vibration. Fully adjustable reclining seat harmonises with the joystick controls. Audible, visible indicators alert operator to non-standard performance of major functions. Cab heater, window wipers and washers are standard.

Control

The control mode of both drums can be selected by the operator. In the crane mode, hoisting and lowering uses the hydraulic system. Clutches remain set and braking of the drum is fully automatic. Selecting excavator mode allows the drums to free fall, and the clutches release automatically when the control is in neutral. Braking in this mode is controlled by the foot pedals.

Load Sensing Hydraulics

Pumps are variable displacement with load sensing control, which automatically power matches the power available to the load. This system ensures optimum fuel economy and ultra fine load control.

Tandem Drums

Large capacity grooved tandem drums are independently driven by radial piston motors. “Micro” positioning of loads is ensured with load sensing variable displacement hydraulic system. Single lever controls, wide range of drum speeds, from zero to maximum.

Clutches and Brakes

Each drum is equipped with a hydraulically set clutch. Brakes are externally contracting, spring set hydraulically released.

Boom Hoist

The Boom Hoist unit is fully independent and the drum is driven in each direction by a bent axis motor and multi stage planetary gear reduction. The drum is equipped with a spring set hydraulically released brake and sprag clutch, ensuring safe and precise control of the boom. The rope drum is equipped with a locking pawl. Rear A frame is self erecting.

Third Drum

A high powered hydraulically driven third drum is available as optional equipment.

Micro Swing System

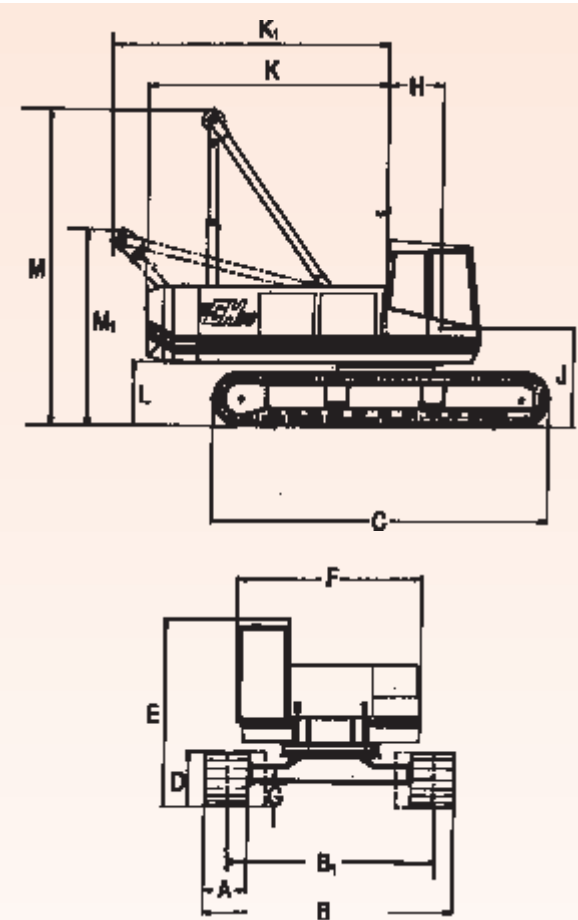
High torque hydraulics allow the machine’s swing speed o be precisely controlled by the operator. A spring set hydraulically released brake is operated electronically by a button mounted on the swing lever. A positive mechanical swing lock is fitted as standard equipment. Machine has a single row ball swing circle.

Long and Wide Crawlers

The extra long and wide crawlers are constructed of superior quality steel. The all welded truck frame, integral axles and side frames provide immense strength coupled with exceptional

stability for high capacity at long radii. Each crawler is driven by a bent axis motor and multi stage gear box, steering and pivot turns are controlled by a single lever. Crawler extension/retraction is powered by electro hydraulics.

MACHINE DIMENSIONS



A	– Width of track links	750
B	– Width of tracks extended	4320
B1	– Width of tracks retracted	3300
C	– Length of tracks	5770
D	– Height of tracks	960
E	– Height of operator’s cab	3277*
F	– Width of cab	3195
G	– Clearance under machine	420
H	– Boom foot pin from centre of rotation	940
J	– Height of boom pin foot	1727
K	– Radius of rear end	4090
K1	– Radius over folded A frame	5047
M	– Height over A frame	5508
M1	– Height over folded A frame	3288
L	– Clearance under rev. frame	1102

*3277 with guard removed

Swing speed	3.0rpm.
Travel speed	1.6 - 2.6kph (1.0 - 1.6mph)





MACHINE WEIGHTS

Machine	Working weight (t)	Counterweight (t)
Lift Crane Dragline Clamshell	47.6	14.0
Ground Bearing Pressure	0.61kg/sq.cm.	

Weights are given with basic boom only.

POWER UNIT

Make and model	Cummins 6 BTA
Type	6 cyl. Water cooled
Engine kW(hp)	126 (169)
Engine speed (rpm)	2100
Fuel tank capacity (litres)	300 or 700
Hydraulic tank capacity (litres)	250

DRUM DATA - ROPE PULLS & SPEEDS

Drums	Pitch dia	Rope dia	Rope pull(t)	Line speed Standard	High
Main hoist	480mm	22mm	12.0	43mpm	86m/m
Fly jib hoist	480mm	22mm	12.0	43mpm	86m/m
Boom hoist	340mm	16mm	-	67mpm	

* Maximum running rope pull + Independent operation only

MAXIMUM AVAILABLE LOADS FOR MAIN HOIST REEVING

Hoist Rope								
No. of parts	1 part	2 part	3 part	4 part	5 part	6 part	7 part	8 part
Load t Last in t	6.25	12.3	18.0	24.0	29.5	35.0	40.5	50.0
Charge t								

SERVICE NOTES

Published Ratings.

The main boom working loads given for each machine are for the machine standing on level ground. Loads must be freely suspended. The radii specified are loaded and the working loads listed are for booms without fly jibs. Published ratings are with maximum counterweight and include blocks, hooks, slings and other equipment used in handling loads. Proper care must be exercised by the operator at all times to avoid shock or side loadings on the boom (and jib when fitted) which might hazard crane stability, particularly when operating with long boom at low angles.

British Standards

The published ratings for lift cranes are with maximum counterweight fitted and are based on BSS recommendations and do not exceed BS1757, 1986, Class A, ISO 4305 1981 DIN 15019 Part 2.

U.S Rating Factors

The published ratings do not exceed 75% of the tipping load. Ratings only apply to machines having booms in the first class condition built and recommendations by R-B International plc. The machines should not be operated outside the range of published ratings, appropriate to the service and equipment fitted.

Hook Blocks

The weight of the hook block in use, together with any slings or other lifting tackle, must be deducted from the published ratings to arrive at the actual (net) load lifting capacity for any boom length and radius.

Hook Block Weights (Kg)

50t	=	805
18t	=	300
6t	=	120



LIFTING CAPACITIES ON MAIN BOOM (t) = Metric Tonnes

Boom (m)	Radius(m)	Rated Load (t)	
		BSS 1757 1986	US Rating factors
12	3.7	50.00	50.00
	4.0	45.60	45.60
	5.0	33.20	32.03
	6.0	25.77	24.24
	7.0	20.61	19.41
	8.0	17.09	16.11
	9.0	14.53	13.73
	10.0	12.58	11.89
	11.0	11.04	10.45
	11.6	10.26	9.72
15	3.9	45.00	45.00
	4.5	38.40	38.03
	5.0	33.10	32.03
	6.0	25.75	24.23
	7.0	20.59	19.40
	8.0	17.08	16.11
	9.0	14.53	13.72
	10.0	12.59	11.91
	12.0	9.84	9.33
	14.5	7.58	7.22
18	4.5	37.00	37.00
	5.0	33.00	32.01
	6.0	25.71	24.20
	7.0	20.54	19.37
	8.0	17.03	16.07
	10.0	12.55	11.88
	12.0	9.81	9.31
	14.0	7.95	7.57
	16.0	6.61	6.31
	17.0	6.06	5.80
21	5.0	32.00	31.96
	5.5	28.90	27.58
	6.0	25.69	24.19
	7.0	20.52	19.35
	8.0	17.01	16.06
	10.0	12.53	11.86
	12.0	9.80	9.30
	14.0	7.95	7.57
	16.0	6.61	6.32
	18.0	5.60	5.37
24	20.0	4.80	4.62
	5.5	27.50	27.50
	6.0	25.64	24.16
	7.0	20.47	19.31
	8.0	16.95	16.01
	10.0	12.46	11.81
	12.0	9.72	9.24
	14.0	7.88	7.51
	16.0	6.55	6.26
	18.0	5.54	5.32
27	20.0	4.74	4.58
	22.0	4.10	3.98
	23.0	3.83	3.72
	6.0	24.00	23.98
	7.0	20.45	19.30
	8.0	16.93	15.99
	10.0	12.44	11.79
	12.0	9.70	9.22
	14.0	7.85	7.49
	16.0	6.52	6.24
30	18.0	5.52	5.30
	20.0	4.73	4.56
	22.0	4.09	3.97
	24.0	3.56	3.48
	25.0	3.33	3.26
	6.6	21.00	20.91
	7.0	20.38	19.24
	8.0	16.85	15.93
	10.0	12.36	11.72
	12.0	9.62	9.15

Boom (m)	Radius(m)	Rated Load (t)	
		BSS 1757 1986	US Rating factors
33	7.1	18.00	18.00
	8.0	16.25	15.90
	9.0	14.25	13.50
	10.0	12.31	11.68
	12.0	9.56	9.11
	14.0	7.71	7.37
	16.0	6.38	6.12
	18.0	5.37	5.18
	20.0	4.58	4.44
	22.0	3.95	3.85
36	26.0	3.00	2.96
	28.0	2.62	2.61
	30.0	2.30	2.31
	7.6	16.50	16.50
	8.0	16.00	15.84
	10.0	12.23	11.62
	12.0	9.48	9.04
	14.0	7.63	7.31
	16.0	6.30	6.06
	18.0	5.29	5.11
39	20.0	4.51	4.38
	22.0	3.88	3.79
	24.0	3.36	3.30
	26.0	2.92	2.90
	28.0	2.55	2.55
	30.0	2.24	2.25
	33.0	1.83	1.88
	8.2	14.50	14.50
	10.0	12.15	11.55
	12.0	9.40	8.97
42	14.0	7.54	7.23
	16.0	6.21	5.98
	18.0	5.20	5.04
	20.0	4.42	4.30
	22.0	3.79	3.71
	24.0	3.27	3.23
	26.0	2.84	2.82
	28.0	2.47	2.48
	32.0	1.88	1.93
	34.0	1.64	1.70
45	9.0	12.30	12.30
	10.0	11.50	11.52
	12.0	9.36	8.94
	14.0	7.50	7.20
	16.0	6.16	5.94
	20.0	4.37	4.25
	22.0	3.73	3.67
	24.0	3.21	3.18
	26.0	2.78	2.77
	28.0	2.41	2.43
48	30.0	2.09	2.13
	32.0	1.81	1.87
	34.0	1.57	1.64
	9.2	11.50	11.50
	10.0	11.00	11.00
	12.0	9.28	8.87
	16.0	6.08	5.87
	18.0	5.07	4.93
	20.0	4.28	4.19
	22.0	3.65	3.60
51	24.0	3.13	3.11
	26.0	2.70	2.70
	28.0	2.33	2.36
	30.0	2.01	2.06
	32.0	1.73	1.80
	34.0	1.49	1.58
	10.0	9.50	9.50
	12.0	8.50	8.50
	14.0	7.33	7.05
	16.0	5.99	5.80





FLY JIB RATINGS (t) = Metric Tonnes

	Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) (t)	
				BSS 1757(1986)	US Rating factors
6m FLY	39	14.0	45.11	6.25	6.25
		16.0	44.47	6.21	5.99
		20.0	42.86	4.36	4.26
		24.0	40.78	3.17	3.15
		28.0	38.15	2.34	2.37
		32.0	34.83	1.72	1.79
		36.0	30.59	1.24	1.35
	42	14.0	48.23	6.25	6.25
		16.0	47.63	6.10	5.90
		20.0	46.14	4.25	4.16
		24.0	44.22	3.06	3.05
		28.0	41.81	2.23	2.27
		32.0	38.82	1.61	1.70
		34.0	37.06	1.36	1.48
	45	14.0	51.34	6.25	6.25
		16.0	50.77	6.02	5.83
		20.0	49.38	4.17	4.09
		24.0	47.60	2.97	2.98
		28.0	45.38	2.14	2.20
		32.0	42.65	1.53	1.63
		34.0	41.06	1.28	1.39
12m FLY	Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) (t)	
				BSS 1757(1986)	US Rating factors
	36	14.0	48.25	6.00	6.00
		16.0	47.65	5.85	5.85
		20.0	46.15	4.65	4.50
		24.0	44.24	3.44	3.38
		28.0	41.83	2.60	2.59
		32.0	38.84	1.97	2.01
		36.0	35.11	1.49	1.56
	39	14.0	51.35	6.00	6.00
		16.0	50.79	5.80	5.80
		20.0	49.39	4.57	4.44
		24.0	47.61	3.36	3.31
		28.0	45.39	2.51	2.52
		32.0	42.66	1.89	1.94
		36.0	39.31	1.41	1.49
	42	14.0	54.44	6.00	6.00
		16.0	53.91	5.75	5.75
		20.0	52.60	4.46	4.35
		24.0	50.93	3.25	3.22
		28.0	48.87	2.40	2.43
		32.0	46.35	1.78	1.84
		36.0	43.31	1.30	1.39
18m FLY	Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) (t)	
				BSS 1757(1986)	US Rating factors
	33	14.0	51.40	3.60	3.60
		16.0	50.84	3.50	3.50
		20.0	49.44	3.40	3.40
		24.0	47.66	3.30	3.30
		28.0	45.45	2.80	2.76
		32.0	42.72	2.17	2.18
		36.0	39.38	1.69	1.73
	36	15.0	54.23	3.60	3.60
		16.0	53.96	3.50	3.50
		20.0	52.65	3.40	3.40
		24.0	50.98	3.30	3.30
		28.0	48.92	2.72	2.70
		32.0	46.41	2.09	2.11
		36.0	43.36	1.60	1.66
	39	16.0	57.06	3.60	3.60
		20.0	55.83	3.50	3.50
		24.0	54.26	3.30	3.30
		28.0	52.34	2.64	2.62
		32.0	50.00	2.01	2.04
		36.0	47.20	1.52	1.58

Fly Jib Service Notes

Working load reduction to fly jib.
The published ratings over the main boom sheaves, at any radius, must be reduced by the weights shown in the following tabulation when fly-jib is fitted (but not in use).

Jib length m	6m	12m	18m
Weight Reduction kg	770	1045	1405
Hook blocks kg			
50t	=	805	
18t	=	300	
6t	=	120	



BUCKET SERVICE RATINGS

DRAGLINE	Boom Length (in)		Radius (in)		Rated Load kg (75%)	
	12M		7.5		5400	
			9.0		5400	
			10.6		5400	
			11.7		5400	
	15M		9.0		5400	
			11.0		5400	
			12.8		5400	
			14.3		5400	
	18M		10.5		5400	
			13.0		5400	
			15.0		5100	
			16.9		4400	

BUCKETS	Capacity		Weight Empty		Material Density	Application
	m ³	yd ³	kg	lb	kg/in ³	
	0.96	1¼	1040	2300	2.0	Heavy
	1.15	1½	1315	2900	1.8	Medium-Heavy
	1.35	1¾	1419	3300	1.6	Medium
	1.53	2	1925	4250	1.4	Light

CLAMSHELL	Boom Length (m)	Radius (m)	Rated Load kg	
			BSS 1757 (1986)	US Rating factors
	12M	7.5	5400	5400
		9.0	5400	5400
		10.6	5400	5400
		11.7	5400	5400
	15M	9.0	5400	5400
		11.0	5400	5400
		12.8	5400	5400
		14.3	5400	5400
	18M	10.5	5400	5400
		13.0	5400	5400
		15.0	5100	5100
		16.9	4400	4400

Bucket Service Notes

Dragline Service. Published ratings listed are for the machine standing on firm level ground with the boom in the least favourable position. Working loads do not exceed 75% of the tipping load. Loads should be reduced when working in soft or uneven ground, or unfavourable operating conditions.

Clamshell Service. Published ratings listed are for the machine standing on firm level ground with the boom in the least favourable position.

British Standards. The published ratings are based on BS 1757 1986 class A3, and do not exceed 80% of the lifting crane safe working load, at the same load radius.

Export Ratings. The published ratings do not exceed 68% of the tipping load.





NOTES



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Due to our policy of continual product improvements all designs and specifications are subject to change without advance notice.



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