

Heavy Duty Crawler Crane

SC-70 HD



soilmec 
Drilling and Foundation Equipment

SC-70 HD Heavy Duty Crawler Crane
LIFTING APPLICATION



Operating weight	73000	160937 lb
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SC-70 HD Heavy Duty Crawler Crane

TECHNICAL DATA SHEET

Diesel engine	CAT C15 with ACERT™ Technology	CAT C15 with ACERT™ Technology
- Max Rated Power	403 kW @ 1800 rpm	540 HP @ 1800 rpm
- Engine conforms to exhaust emissions standard	EU Stage IIIA- EPA Tier 3	EU Stage IIIA- EPA Tier 3
	or EU Stage IV - US EPA Tier 4f	or EU Stage IV - US EPA Tier 4f
- Aspiration	Turbocharged, air to air aftercooled	Turbocharged, air to air aftercooled
- Cooling	Water-cooled	Water-cooled
Hydraulic system		
- Main pumps max oil flow	2x 403 l/min	2x 106.5 US gal
- Cooling	Oil-to-air heat exchanger	Oil-to-air heat exchanger
Service refill capacity		
- Fuel Tank	805 l	212 US gal
- Hydraulic Tank	990 l	261 US gal
Main winches (option 1)	Free Fall	Free Fall
- 1st layer line pull (effective)	213 kN	47884 lbf
- Rope diameter	30 mm	1.18 in
- Rope speed	108 m/min	355 ft/min
- Rope capacity 1st layer	43 m	141.1 ft
Main winches (option 2)	Free Fall	Free Fall
- 1st layer line pull (effective)	250 kN	56202 lbf
- Rope diameter	30 mm	1.18 in
- Rope speed	78 m/min	256 ft/min
- Rope capacity 1st layer	41 m	135 ft
Swing system		
- N° of swing drives	1 or 2 (optional)	1 or 2 (optional)
- Max swing speed	3 rpm (4.5 rpm)	3 rpm (4.5 rpm)
- Tail swing radius	4700 mm	185 in
Boom		
- Length min-max	12 - 51 m	39.4-167.3 ft
- Dimensions (horizontal x vertical)	1100 x 1200 mm	43 x 47 in
- Boom extension length	3 - 6 m	9,8 - 19,7 ft
Undercarriage	variable gauge, telescopic side frames	variable gauge, telescopic side frames
- Overall width (retracted side frames)	3000 mm	118.11 in
- Overall width (extended side frames)	4560 mm	179.5 in
- Overall length of crawler	6000 mm	236.22 in
- Track shoe width - Triple grouser or flat	800 mm	31.50 in
- Travel speed	1,72 km/h	1.1 mph

STANDARD EQUIPMENT

BASE MACHINE

- Two front working lights
- PLC system for electric-hydraulic controls
- Rear view mirror
- Steps for crawlers
- Counterweight self-removal
- Tracks with chain tensioning device
- Swivel for main rope
- Grease lubricated tracks
- Hydro-clean micro filtration with water separation
- Automatic swing parking brake and automatic travel parking brake
- Electric refuelling pumps for diesel and hydraulic oil with automatic stop system.

CAB/CONTROL

- Air conditioner, heater and defroster with automatic climate control
- Beverage/Cup holder
- Stationary skylight
- Radio and CD player
- Sunshade for windshield
- High brightness led internal to the cab
- Travel control pedals with removable hand levers
- Courtesy lights in the cab
- Parallelogram wiper including a washer nozzle mounted below the cab windshield
- Signal/warning horn
- Hydraulic oil contamination warning inside the cab
- H-Cab with sliding doors

- Retracted seat belt
- 12" DMS touch or 10" non touch
- Tempered safety glass panel
- Armrests

SAFETY DEVICE

- Load Moment Limiter (with boom lowering slow stop function)
- Fire extinguisher
- State-of-the-art safety load indicator with graphic display and 3 color percentage indicator traffic light
- Cab top guard
- Catwalk (on side and in front of operator's cab)
- Hoist limit switch on both winches
- Safety 3 rope turns unwinding limited switch on whinches
- Handrails

OPTIONAL EQUIPMENT

- Track triple grouser: 900 mm
- Electric hand throttle
- Flat track shoes
- Tagline winch
- Reversible cooling fan including protective screen
- Automatic lubrication system
- Bio lubrication engine oil
- Boom walk ways with personal fall arrest system

- Winch synchronisation (both winches work at the same speed) for 2 rope grab operations
- "CAT BIO HYD ADVANCED" hydraulic bio-oil (compliant with European directive 2005/360/EC).
- GSM modem
- Hydraulic arrangement for Casing oscillator attachment
- Swing and travel alarm

- Negative free fall controls
- Lights for overall dimensions
- Satellite system for remote transmission of operating data
- LCD cameras monitor multi-display
- Removable tracks
- Swing limitation system
- Depthmeter on both winches

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LOAD CHART

SC-70HD Load chart (t) for lifting operation

Boom Length (m)														
Radius (m)	12 m	15 m	18 m	21 m	24 m	27 m	30 m	33 m	36 m	39 m	42 m	45 m	48 m	51 m
3,3	72,6													
4,0	63,6	57,0	51,4	48,5										
5,0	51,5	47,2	43,4	41,1	38,1	32,5	26,4							
6,0	41,1	39,2	37,4	35,6	33,5	31,4	26,4	25,2	22,8	20,1				
7,0	33,0	32,5	31,3	30,2	29,0	28,0	26,4	25,0	22,5	19,9	18,7	17,1	15,4	
8,0	27,1	27,1	26,9	26,0	24,9	24,1	23,3	22,3	21,6	19,7	18,5	17,0	15,3	14,5
9,0	22,8	22,8	22,9	22,3	21,9	21,2	20,6	19,9	19,3	18,6	18,0	16,8	15,1	14,4
10,0	19,4	19,4	19,4	19,4	19,3	18,7	18,3	17,7	17,2	16,6	16,1	15,4	15,0	14,2
11,0	17,1	17,1	17,2	17,0	17,0	16,7	16,3	15,8	15,3	14,8	14,3	14,0	13,6	13,1
12,0	15,1	15,1	15,2	15,2	15,0	14,9	14,8	14,4	13,8	13,4	13,0	12,7	12,1	11,7
13,0		13,5	13,5	13,5	13,4	13,3	13,2	13,1	12,5	12,1	11,7	11,5	11,0	10,6
14,0		12,2	12,2	12,2	12,1	12,0	12,0	11,7	11,4	11,0	10,6	10,4	9,9	9,6
16,0			10,0	10,0	9,9	9,9	9,8	9,6	9,5	9,3	9,0	8,8	8,4	8,1
18,0			8,6	8,6	8,5	8,5	8,4	8,2	8,1	7,8	7,9	7,4	7,1	6,8
20,0				7,4	7,2	7,2	7,1	7,0	6,8	6,6	6,5	6,4	6,2	6,0
22,0					6,3	6,1	6,0	5,9	5,9	5,6	5,4	5,3	5,1	4,9
24,0					5,6	5,2	5,3	5,0	4,9	5,0	4,8	4,6	4,5	4,4
26,0						4,7	4,7	4,5	4,4	4,1	4,0	3,8	3,7	3,6
28,0							4,1	4,0	3,8	3,7	3,4	3,3	3,1	2,9
30,0							3,6	3,3	3,2	3,2	2,9	2,9	2,7	2,5
32,0								2,9	2,8	2,8	2,6	2,5	2,3	2,2
34,0									2,4	2,4	2,2	2,0	2,0	1,8
36,0									2,1	2,1	1,9	1,8	1,7	1,4
38,0										1,7	1,7	1,3	1,3	1,0
40,0											1,3	1,0	1,0	1,0
42,0											1,3	1,0	1,0	0,8
44,0												1,0	0,8	

SC-70HD Load chart (t) for duty cycle operation

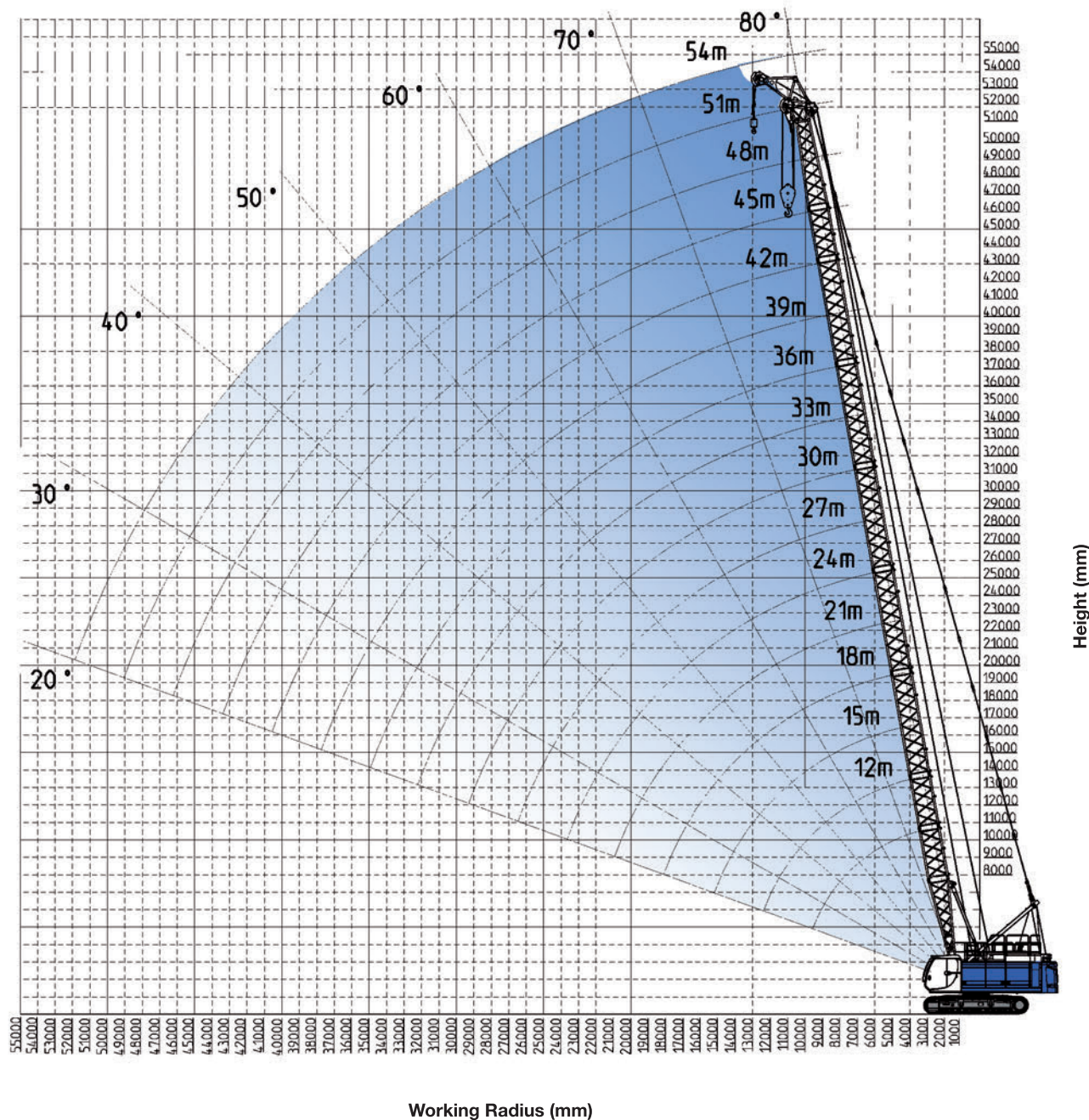
Boom Length (m)							
Radius (m)	12 m	15 m	18 m	21 m	24 m	27 m	30 m
3,3	34,3	30,7	27,5	25,0	22,7	20,7	
4,0	28,6	25,9	23,4	21,5	19,5	17,8	16,6
5,0	24,3	22,2	20,1	18,8	17,2	15,8	14,6
6,0	21,3	19,5	17,9	16,6	15,4	14,1	13,0
7,0	18,3	17,2	16,0	14,8	13,7	12,8	11,8
8,0	15,7	15,3	14,2	13,4	12,4	11,6	10,7
9,0	13,8	13,8	12,9	12,1	11,2	10,5	9,7
10,0	12,2	12,2	11,7	11,0	10,2	9,5	8,8
11,0		10,9	10,9	10,0	9,6	8,6	8,3
12,0		9,9	9,9	9,4	8,7	8,2	7,5
13,0			8,2	8,0	7,6	6,9	6,1
14,0			6,9	6,8	6,2	6,1	5,5
16,0				5,8	5,8	5,4	4,9
18,0					5,0	4,7	4,3
20,0					4,3	4,2	3,8
22,0						3,7	3,4
24,0							2,9
26,0							2,6

Boom Configuration

Boom Length		Boom foot	Boom insert	Boom insert	Boom head
m	length	6 m	3 m	6 m	6 m
12	n. boom extension	1	-	-	1
15		1	1	-	1
18		1	- (2)	1 (0)	1
21		1	1	1	1
24		1	- (2)	2 (1)	1
27		1	1	2	1
30		1	- (2)	3 (2)	1
33		1	1	3	1
36		1	- (2)	4 (3)	1
39		1	1	4	1
42		1	- (2)	5 (4)	1
45		1	1	5	1
48		1	- (2)	6 (5)	1
51		1	1	6	1

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LIFTING APPLICATION WORKING RANGE



Auxiliary Jib

standard

Max capacity

20 t 44092 lb

Load chart programmed in Load moment indicator

Boom configuration

- Rated loads are in metric tons valid for 360 degrees working area.
- Lifting capacities are in compliance with ISO 4305 (Table 1+2) + tipping angle 4° for dynamic effect
- Working radius are measured from the swing center of the machine and under load.
- Rated loads are calculated with the machine on firm and level ground, without travelling
- Weights of lifting attachments (e.g.: hook, ropes, bucket, etc.) are included in the rated load: therefore their weights must be subtracted from rated load to obtain net lifting value.
- Load charts are valid with maximum undercarriage track.
- Optional equipment on boom (e.f. boom catwalks; jib; etc.) must be deducted from rated load to get net lifting value.
- Lifting capacities are based on freely suspended loads. Rated loads and operating speeds must be reduced in case of adverse conditions (e.g.: wind, soft ground, out-of-level, pendulum action, sudden load stopping, operating speeds, etc.)
- Load chart above are only for reference. For actual lifting capacities please refer to load chart in operator's manual.
- Instruction in the "Operator's Manual" must be strictly observed during machine operations.

SC-70 HD Heavy Duty Crawler Crane

MECHANICAL DW GRAB APPLICATION

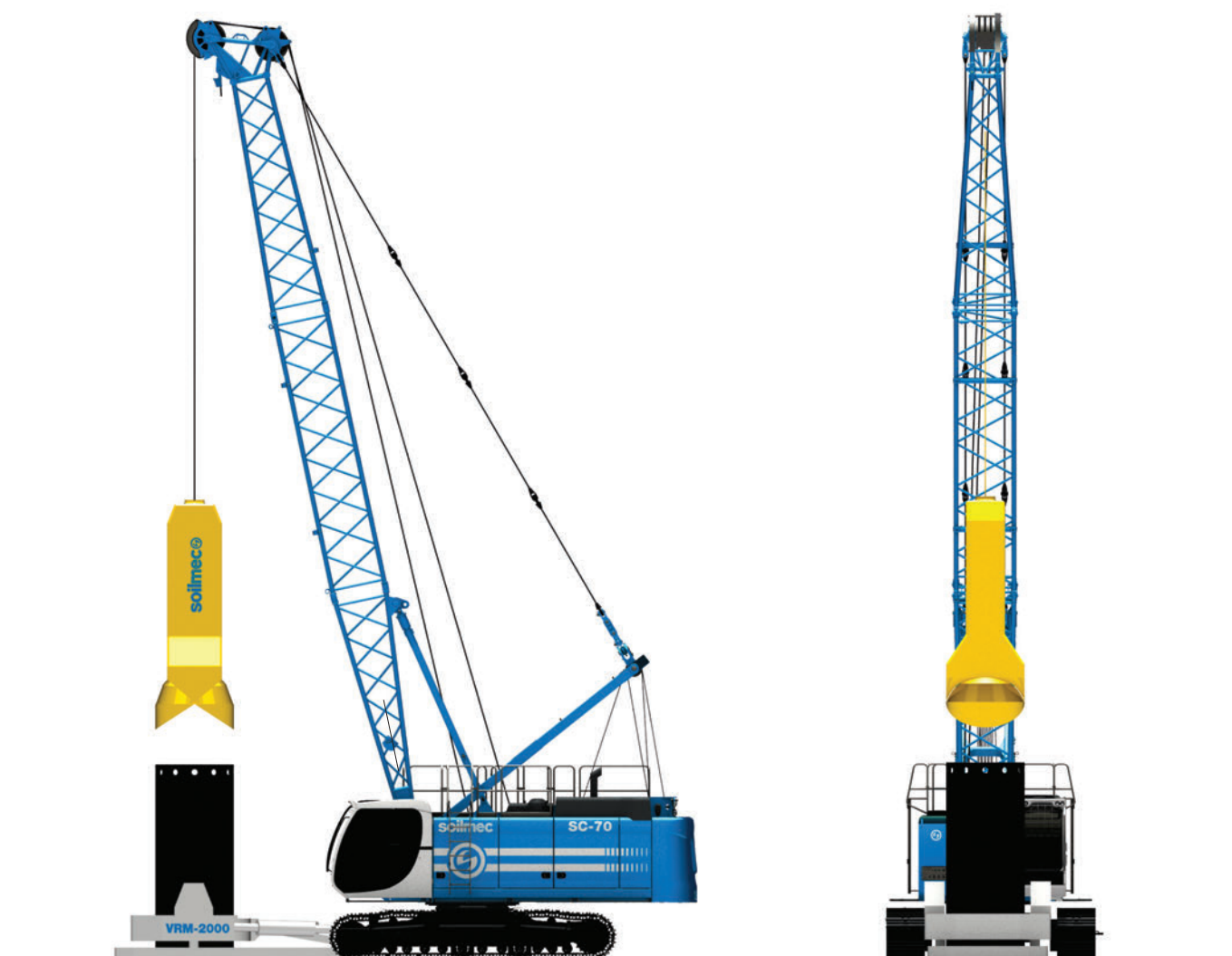


Diaphragm Wall Grab		
Max grab weight	14 t	30865 lb
Winches (option 1)	2 x 213 kN	2 x 47884 lbf
Max rope speed at first layer (option 1)	60 m/min	355 ft/min
Winches (option 2)	2 x 250 kN	2 x 56202 lbf
Max rope speed at first layer (option 2)	39 m/min	256 ft/min

Please refer to load chart for duty cycle operation

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HAMMER GRAB AND CASING OSCILLATOR APPLICATION



Hammer grab and casing oscillator

Max chisel weight	14 t	30865 lb
Winches (option 1)	2 x 213 kN	2 x 47884 lbf
Max rope speed at first layer (option 1)	60 m/min	355 ft/min
Winches (option 2)	2 x 250 kN	2 x 56202 lbf
Max rope speed at first layer (option 2)	39 m/min	256 ft/min

Please refer to load chart for duty cycle operation

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VIBRATORY DRIVERS APPLICATION



Vibratory drives		
Max vibrator weight	10 t	22046 lb
Winches (option 1)	2 x 213 kN	2 x 47884 lbf
Max rope speed at first layer (option 1)	60 m/min	355 ft/min
Winches (option 2)	2 x 250 kN	2 x 56202 lbf
Max rope speed at first layer (option 2)	39 m/min	256 ft/min

Please refer to load chart for duty cycle operation

SC-70 HD Heavy Duty Crawler Crane

HYDRAULIC DW GRAB APPLICATION

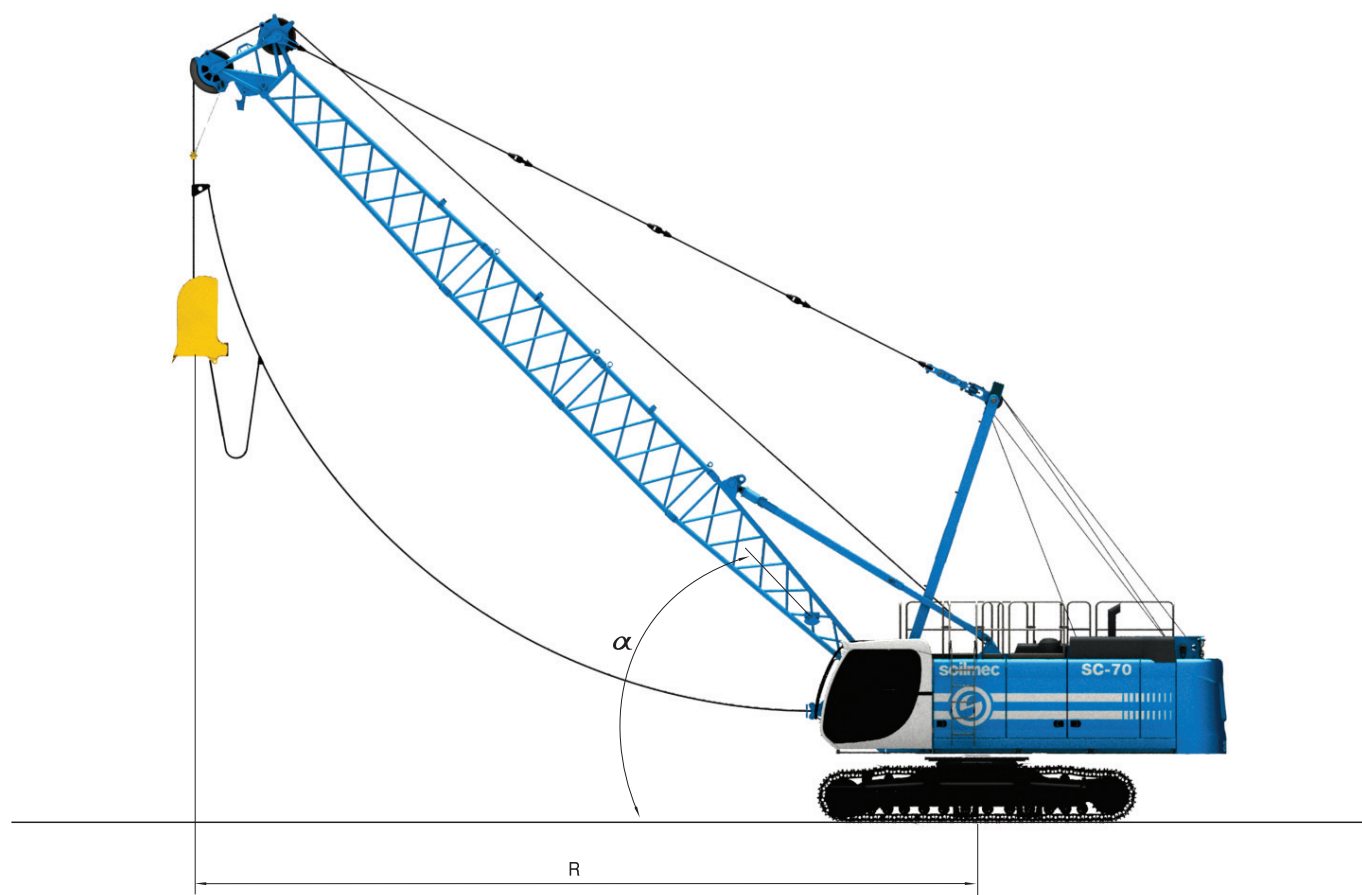


Diaphragm Wall Grab			
Max Depth	80 m	262 ft	
Excavation Dimension	500/1200 x 2500/4200 mm	20/47 x 98/165 in	
Grab weight tot. (1000 x 2800 mm)	12,5 t	27558 lb	
Max grab weight	14 t	30865 lb	

Please refer to load chart for duty cycle operation

SC-70 HD Heavy Duty Crawler Crane

DRAGLINE APPLICATION



Capacities in metric ton

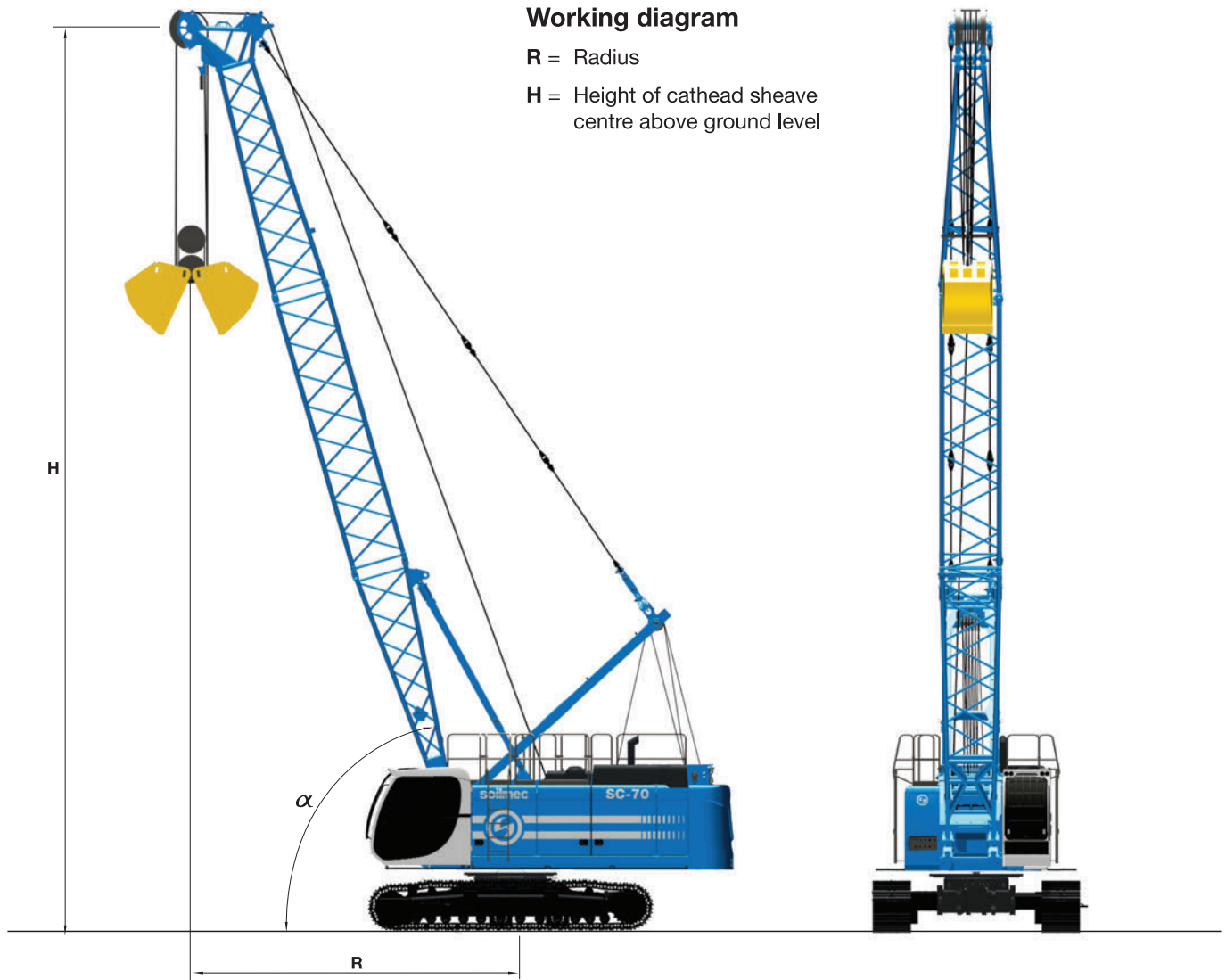
Boom length (m)	12			15			18			21			24		
	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity
Boom angle (°) α	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t
45	10,1	9,7	15	12,2	11,8	12	14,3	13,9	10	16,4	16,1	8,7	18,5	18,2	7,6
40	10,8	8,9	14	13,1	10,9	11,1	15,4	12,8	8,9	17,7	14,7	7,6	20	16,6	6,6
35	11,4	8,1	12,9	13,9	9,8	10	16,3	11,5	8,1	18,8	13,3	6,9	21,2	15	5,9
30	12	7,2	11,7	14,6	8,7	8,9	17,2	10,2	7,4	19,8	11,7	6,3	22,4	13,2	5,3

Capacities in pound

Boom length (ft)	12			15			18			21			24		
	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity
Boom angle (°) α	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft	ft	lb
45	33	31.8	33069	40	38.8	26455	46.9	45.7	22046	53.9	52.7	19180	60.9	59.7	15755
40	35.3	29.3	30864	42.9	35.6	24471	50.4	41.9	19621	57.9	48.3	16755	65.5	54.6	14550
35	37.4	26.6	28439	45.5	32.2	22046	53.5	37.9	17857	61.6	43.5	15212	69.7	49.1	13007
30	39.3	23.7	25794	47.8	28.6	19621	56.3	33.5	16314	64.8	38.4	13889	73.4	43.4	11684

SC-70 HD Hydraulic Crawler Crane

CLAMSHELL APPLICATION



Capacities in metric ton

boom length (m)	12			15			18			21			24		
	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity
boom angle (°) α	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t
70	5,9	12,9	20,2	6,9	15,7	20,1	7,9	18,6	20,0	8,9	21,4	17,8	10,0	24,2	15,3
60	7,8	12,0	20,0	9,3	14,6	17,2	10,8	17,2	14,8	12,3	19,8	12,1	13,8	22,4	10,3
50	9,5	10,8	16,9	11,4	13,1	13,6	13,3	15,4	11,0	15,3	17,7	9,3	17,2	20,0	7,8
40	10,9	9,4	14,4	13,2	11,3	11,2	15,5	13,2	9,0	17,8	15,1	7,3	20,1	17,1	6,2
30	12,1	7,6	12,5	14,7	9,1	9,6	17,3	10,6	7,6	19,9	12,1	6,2	22,5	13,6	5,2

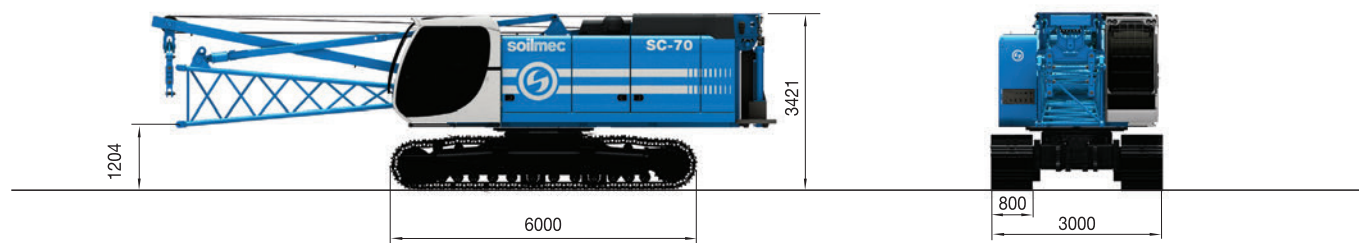
Capacities in pound

boom length (ft)	39.4			49.2			59.1			68.9			78.7		
	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity	R	H	Capacity
boom angle (°) α	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft	ft	lb
70	19.2	42.4	44533	22.6	51.6	44312	26.0	60.9	44092	29.3	70.1	39242	32.7	79.4	33730
60	25.4	39.5	44092	30.4	48.0	37919	35.3	56.5	32628	40.2	65.1	26676	45.1	73.6	22751
50	31.1	35.6	37258	37.4	43.1	29983	43.7	50.6	24251	50.1	58.1	20503	56.4	65.7	17196
40	35.9	30.7	31746	43.5	37.0	24692	51.0	43.4	19841	58.5	49.7	16094	66.1	56.0	13669
30	39.8	25.1	27558	48.4	30.0	21164	56.9	34.9	16755	65.4	39.8	13669	73.9	44.8	11464

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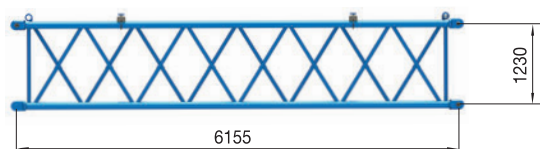
TRANSPORT DIMENSIONS AND WEIGHTS

Main machine

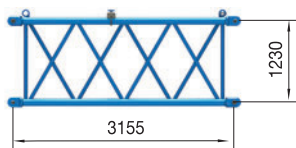


Width	3000 mm	118 in
Weight	50000 kg	110231 lb

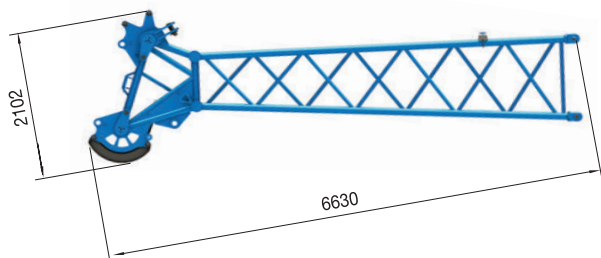
Boom



Width	1350 mm	53 in
Weight	750 kg	1653 lb



Width	1350 mm	53 in
Weight	500 kg	1102 lb



Width	1350 mm	53 in
Weight	1600 kg	3527 lb

Counterweight



Block weight	17300 kg	38140 lb
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