

Technical Description Hydraulic Excavator

R 995
Litronic®

Operating Weight with Backhoe Attachment 439,5 t/968,950 lb
Operating Weight with Shovel Attachment 448,5 t/988,750 lb
Engine Output 2140 HP (1600 kW)
Bucket Capacity 24,00 - 26,50 m³/31.4 - 34.7 cuyd
Shovel Capacity 24,00 - 26,50 m³/31.4 - 34.7 cuyd



LIEBHERR

Technical Data



Engine

MTU diesel engine

Rating per SAE J 1995 _____ 2140 HP (1600 kW) at 1800 RPM

Model _____ 16 V 4000 E 20

Type _____ 16 cylinder turbocharged V-engine, after-cooled, two separate water cooling circuits, common-rail direct injection system

Displacement _____ 65 l/3967 cu.in

Bore/Stroke _____ 165/190 mm/6.5/7.48 in

Engine cooling system _____ fans driven via hydraulic piston motor

Air cleaner _____ dry-type air cleaner with pre-cleaner, with automatic dust ejector, primary and safety elements

Fuel tank _____ 10 000 l/2640 gal

Electrical system

Voltage _____ 24 V

Batteries _____ 8 x 170 Ah/12 V

Alternator _____ 24 V/240 Amp

Engine idling _____ sensor controlled

Electronic engine control system _____ engine speed sensing over the entire engine RPM range. Provides integration of engine with other machine systems



Hydraulic System

Hydraulic pumps for attachment and travel drive _____ 6 variable flow axial piston pumps

Max. flow _____ 6 x 840 l/min./6 x 222 gpm

Max. hydr. pressure _____ 320 bar/4640 PSI

Hydraulic pumps for swing drive _____ 4 reversible swash plate pumps, closed-loop circuit

Max. flow _____ 4 x 361 l/min./4 x 95.4 gpm

Max. hydr. pressure _____ 350 bar/5076 PSI

Pump regulation _____ electro-hydraulic, pressure compensation, flow compensation, automatic oil flow optimizer

Hydraulic tank capacity _____ 3030 l/800 gal

Hydraulic system capacity _____ 6400 l/1690 gal

Hydraulic oil filter _____ filtration of entire return flow, 1 high pressure filter for each main pump

Hydraulic oil cooler _____ 2 separate coolers, 3 temperature controlled fans driven via hydraulic piston motors



Hydraulic Controls

Servo circuit _____ independant, electric over hydraulic proportional controls of each function

Emergency control _____ via accumulator for all attachment functions with stopped engine

Power distribution _____ via monoblock control valves with integrated primary relief valves and flanged on secondary valves for travel

Flow summation _____ to attachment and travel drive

Control functions

Attachment and Swing _____ proportional via joystick levers

Travel _____ proportional via foot pedals or hand levers

Bottom dump bucket _____ proportional via foot pedals



Swing Drive

Hydraulic motor _____ 4 Liebherr axial piston motors

Swing gear _____ 4 Liebherr planetary reduction gears

Swing ring _____ Liebherr, sealed triple roller swing ring, internal teeth

Swing speed _____ 0-3.7 RPM

Swing-Holding brake _____ hydraulically released, maintenance-free, multi-disc brakes integrated in each swing gear



Upper Carriage

Design _____ torque resistant designed upper frame in box type construction for superior strength and durability

Attachment mounting _____ parallel longitudinal main girders in box-section construction

Catwalks _____ on the left side with a hydraulically driven access ladder, additional emergency ladder in front of the cab



Service Flap

Design _____ hydraulically actuated service flap, easily accessible from ground level to allow:

- fuel fast refill
- hydraulic oil refill
- engine oil quick change
- splitterbox oil quick change
- swing gearbox oil quick change
- swing ring gearing grease barrel refilling via grease filter
- attachment/swing ring bearing grease barrel refilling via grease filter
- windshield washer water refilling

Quick coupler upon request

Technical Data



Operator Cab

Design	resiliently mounted, sound insulated, large windows for all-around visibility, integrated falling object protection FOPS
Operator seat	suspended, body-contoured with shock absorber, adjustable to operator's weight
Cabin windows	20,5 mm/0.8 in tinted armored glass for front window and right hand side windows, all other windows in tinted safety glass, high pressure windshield-washer-system with 75 l/20 gal watertank, sun louvers on all windows in heavy duty design
Heating system/ Air conditioning	heavy duty, high output air conditioner and heater unit
Cabin pressurization	ventilation unit with filters
Controls	joystick levers integrated into armrest of seat
Monitoring	via LCD-Display, data memory
Automatic engine shut off	in case of low engine oil pressure or low coolant level
Destroking of main pumps	in case of engine overheating or low hydraulic oil level
Safety functions	additional gauges with constant display for: engine speed, hourmeter, engine oil pressure, coolant temperature, hydraulic oil temperature



Under Carriage

Design	3-piece undercarriage, box type structures for center piece and side frames, stress relieved
Hydraulic motor	2 axial piston motors per side frame
Travel gear	Liebherr planetary reduction gear
Travel speed	0–2,7 km/h/0–1.67 mph
Parking brake	spring engaged, hydraulically released wet multi-disc brakes for each travel motor, maintenance-free
Track components	maintenance-free combined pad-link, shovel style double grouser pad
Track rollers/ Carrier rollers	7/3
Automatic track tensioner	pressurized hydraulic cylinder, 1 per side frame with accumulator, maintenance free
Transport	undercarriage side frames are removable



Central Lubrication System

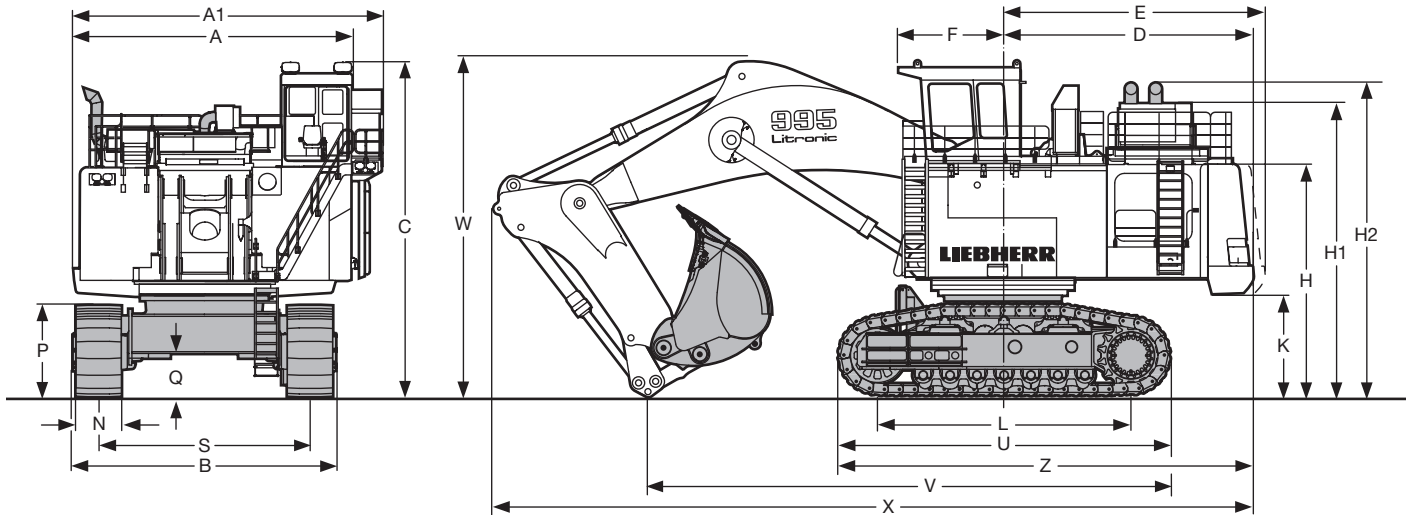
Type	Lincoln Centromatic lubrication system for the entire attachment and swing ring
Grease pumps	2 Lincoln Powermaster pumps with switch over function, plus 1 separate pump for swing ring teeth
Capacity	600 l/158 gal bulk container for attachment and swing ring, separated 80 l/21 gal container for swing ring teeth
Refill	via the service flap for both containers with grease filters



Attachment

Design	box type structure with large steel castings in all high-stress areas
Pivots	sealed with double side centering with 1 single floating pin per side, all bearings with wear resistant, steel bushings, bolts hardened and chromium-plated
Hydraulic cylinders	Liebherr design, all cylinders located in well protected areas
Hydraulic connections	pipes and hoses equipped with SAE split flange connections
Kinematics	Liebherr parallel face shovel attachment geometry

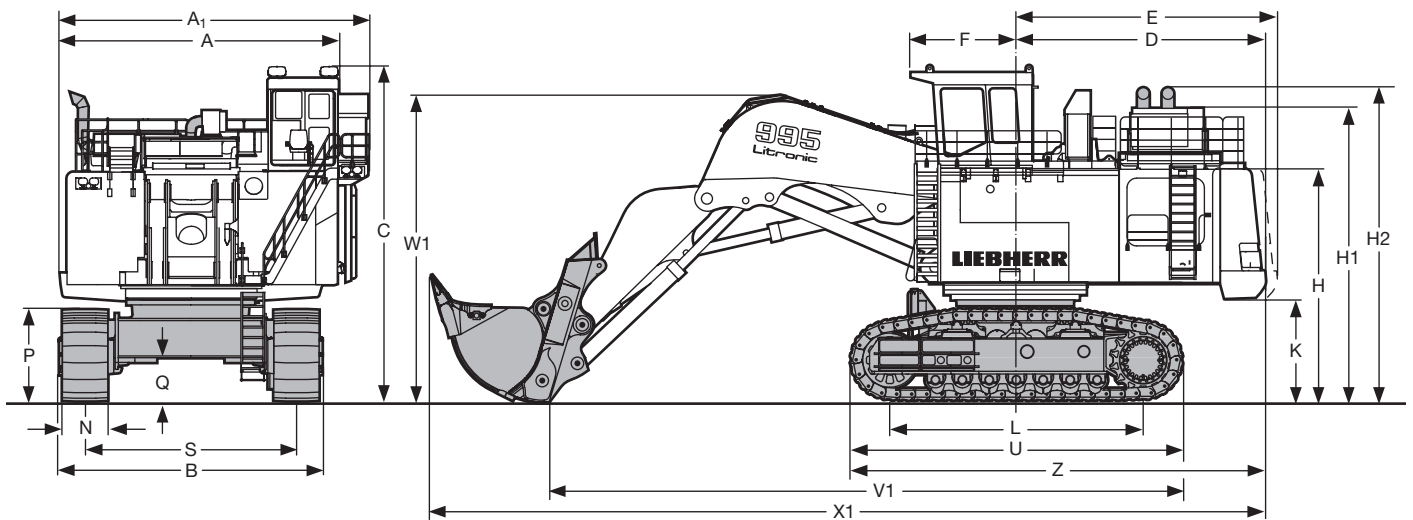
Dimensions



	mm/ft-in
A	7400/24' 3"
A1	8230/27' 0"
C	8820/28'11"
D	6590/21' 7"
E	6900/22' 7"
F	2810/ 9' 3"
H	6025/19' 9"
H1	7620/25' 0"
H2	8170/26' 9"
K	2600/ 8' 6"
L	6700/22' 0"
U	8800/28'10"

	mm/ft-in
P	2420/ 7'11"
Q	1145/ 3' 9"
S	5600/18' 4"
N	1200/ 47"
B	6960/22'10"
Z	11000/36' 1"

	Gooseneck Boom 10,00 m/32'10" mm/ft-in	Gooseneck Boom 10,50 m/34'5" mm/ft-in
V	13200/43' 4"	13900/45' 7"
W	9100/29'10"	9000/29' 6"
X	19600/64' 4"	20100/65'11"

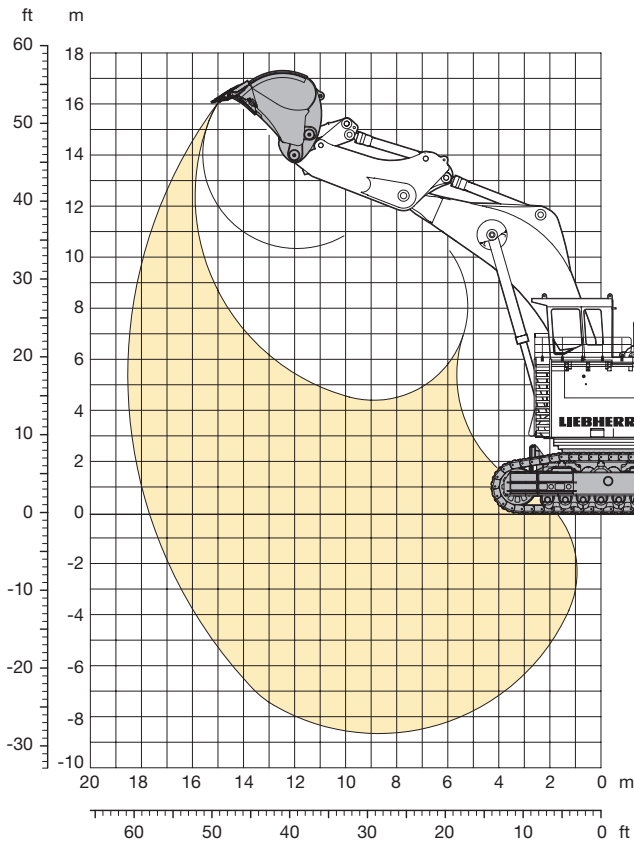


	mm/ft-in
A	7400/24' 3"
A1	8850/29' 0"
C	8820/28'11"
D	6590/21' 7"
E	6900/22' 7"
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	mm/ft-in
U	8800/28'10"
P	2420/ 7'11"
Q	1145/ 3' 9"
S	5600/18' 4"
N	1200/ 47"
B	6960/22'10"
W1	8000/26' 3"
V1	17000/55' 9"
X1	22100/72' 6"
Z	11000/36' 1"

Backhoe Attachment

with Gooseneck Boom 10,00 m/32'10"



Digging Envelope

Max. reach at ground level	7,80 m/58'5"
Max. teeth height	16,30 m/53'6"
Max. dump height	10,50 m/34'5"
Max. digging depth	8,60 m/28'3"

Max. digging force	1150 kN (117,3 t)/258,600 lb
Max. breakout force	1400 kN (142,7 t)/314,600 lb

Operating Weight and Ground Pressure

The operation weight includes the basic machine with backhoe attachment and bucket 26,50 m³/34.7 cuyd.

Pad width	mm/in	1200/47
Weight	kg/lb	439420/968,750
Ground pressure	kg/cm ² /PSI	2,46/35.0

Bucket

Cutting width SAE	mm/in	4300/169 ¹⁾	4300/169 ¹⁾
Capacity SAE heaped	m ³ /cuyd	24,00/31.4	26,50/34.7
Weight	kg/lb	28300/62,390	30220/66,620
Suitable for material up to a specific weight of	t/m ³ /lb/cuyd	2,00/3400	1,80/3000
Wear kit level		II	II

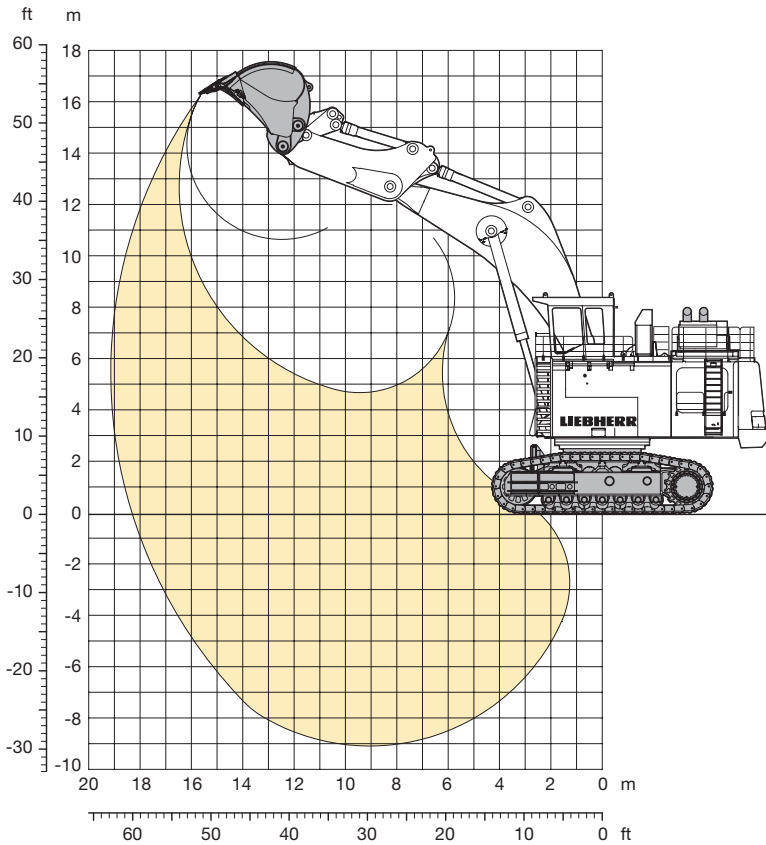
¹⁾ Bucket with delta cutting edge and tooth system Posilok size S 110.

Wear kit level II: For heavy rock, not deteriorated or cracked. Has to be shot to be dug.

Additional buckets on request.

Backhoe Attachment

with Gooseneck Boom 10,50 m/34'5"



Digging Envelope

Max. reach at ground level	18,25 m/59'11"
Max. teeth height	16,50 m/54' 2"
Max. dump height	10,70 m/35' 1"
Max. digging depth	9,00 m/29' 6"

Max. digging force	1150 kN (117,3 t)/258,600 lb
Max. breakout force	1400 kN (142,7 t)/314,600 lb

Operating Weight and Ground Pressure

The operation weight includes the basic machine with backhoe attachment and bucket 24,00 m³/31.4 cuyd.

Pad width	mm/in	1200/47
Weight	kg/lb	439400/968,710
Ground pressure	kg/cm ² /PSI	2,45/34.85

Bucket

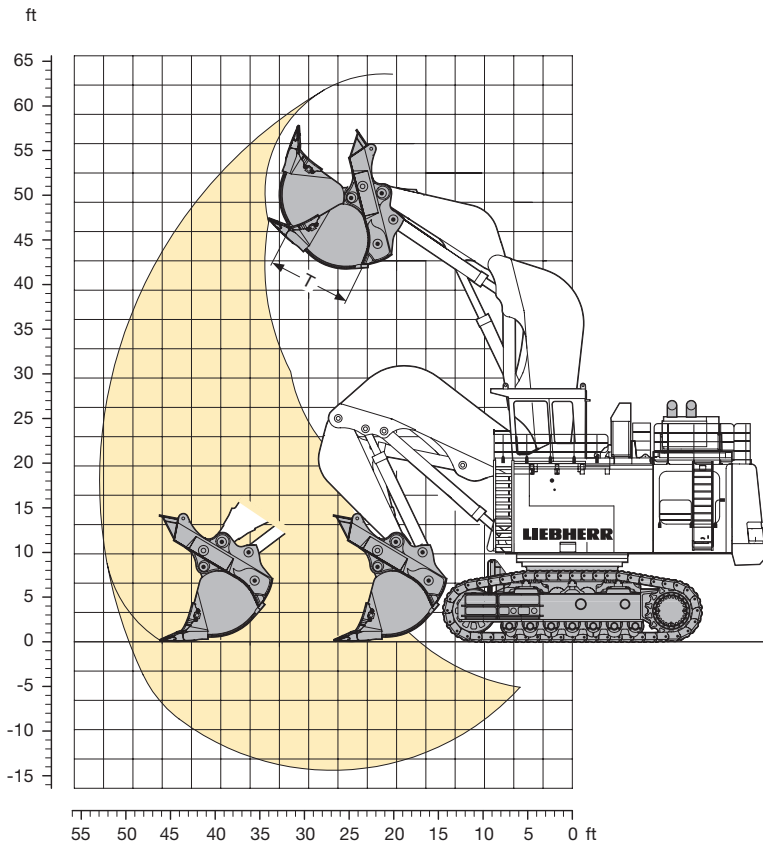
Cutting width SAE	mm/in	4300/169 ¹⁾	4300/169 ¹⁾
Capacity SAE heaped	m ³ /cuyd	24,00/31.4	26,50/34.7
Weight	kg/lb	28300/62,390	30220/66,620
Suitable for material up to a specific weight of	t/m ³ /lb/cuyd	1,80/3000	1,60/2720
Wear kit level		II	II

¹⁾ Bucket with delta cutting edge and tooth system Posilok size S 110.

Wear kit level II: For heavy rock, not deteriorated or cracked. Has to be shot to be dug.

Additional buckets on request.

Shovel Attachment



Digging Envelope

Max. reach at ground level	15,15 m/49'8"
Max. dump height	12,80 m/42'0"
Max. crowd length	6,00 m/19'8"
Bucket opening width T	2800 mm/110"
Crowd force at ground level	1400 kN (142,7 t)/314,600 lb
Max. crowd force	1800 kN (183,5 t)/404,500 lb
Max. breakout force	1400 kN (142,7 t)/314,600 lb

Operating Weight and Ground Pressure

The operation weight includes the basic machine with shovel attachment and bottom dump bucket 26,50 m³/34.7 cuyd.

Pad width	mm/in	1200/47
Weight	kg/lb	448500/988,770
Ground pressure	kg/cm ² /PSI	2,51/35.70

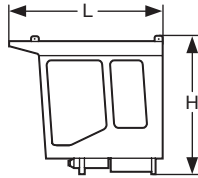
Bottom Dump Bucket

Cutting width SAE	mm/in	4300/169 ¹⁾	4300/169 ¹⁾
Capacity SAE heaped	m ³ /cuyd	24,00/31.4	26,50/34.7
Weight	kg/lb	41500/91,490	42600/93,920
Suitable for material up to a specific weight of	t/m ³ /lb/cuyd	2,00/3400	1,80/3000
Wear kit level		II	II

¹⁾ Bottom dump bucket with delta cutting edge and tooth system Posilok size S 110.
Wear kit level II: For heavy rock, not deteriorated or cracked. Has to be shot to be dug.

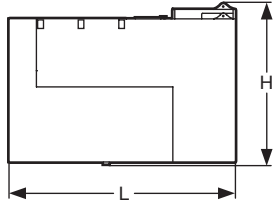
Additional bottom dump buckets on request.

Component Dimensions and Weights



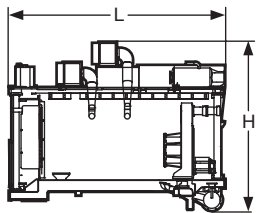
Cab

L Length	mm/ft-in	3215/10'6"
H Height	mm/ft-in	2885/ 9'6"
Width	mm/ft-in	1900/ 6'3"
Weight	kg/lb	2600/5,750



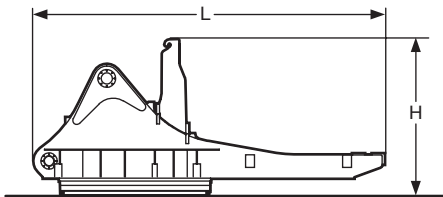
Cab Elevation with Fuel Tank

L Length	mm/ft-in	4755/15' 7"
H Height	mm/ft-in	3400/11' 2"
Width	mm/ft-in	3015/ 9'11"
Weight	kg/lb	10250/22,600



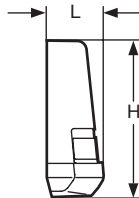
Powerpack Module

L Length	mm/ft-in	5720/18'9"
H Height	mm/ft-in	4500/14'9"
Width	mm/ft-in	2650/ 8'8"
Weight	kg/lb	24250/53,460



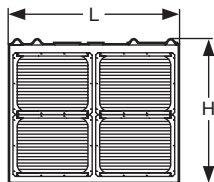
Rotation Deck (with swing ring, swing gears and control valve bracket)

L Length	mm/ft-in	8700/28'6"
H Height	mm/ft-in	3900/12'9"
Width	mm/ft-in	4000/13'1"
Weight	kg/lb	56800/125,220



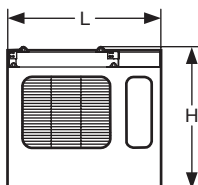
Counterweight

L Length	mm/ft-in	1250/ 4' 1"
H Height	mm/ft-in	3430/11' 3"
Width	mm/ft-in	6970/22'10"
Weight	kg/lb	44000/97,000



Hydraulic Oil Cooling

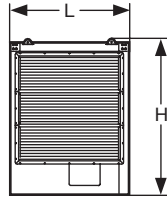
L Length	mm/ft-in	3650/12' 0"
H Height	mm/ft-in	3150/10' 4"
Width	mm/ft-in	2100/ 6'11"
Weight	kg/lb	7700/17,000



Compartment Panel Right

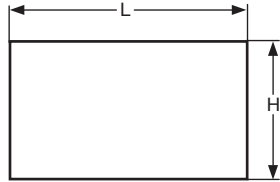
L Length	mm/ft-in	3800/12'6"
H Height	mm/ft-in	3500/11'6"
Width	mm/ft-in	830/ 2'9"
Weight	kg/lb	1500/3,300

Component Dimensions and Weights



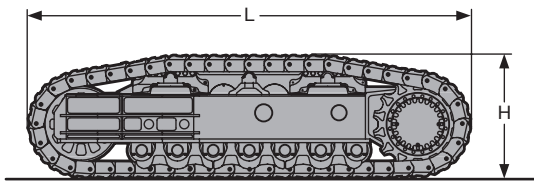
Compartment Panel Left with Rotary Ladder

L Length	mm/ft-in	2650/ 8' 8"
H Height	mm/ft-in	3500/11' 6"
Width	mm/ft-in	860/ 2'10"
Weight	kg/lb	1800/3,970



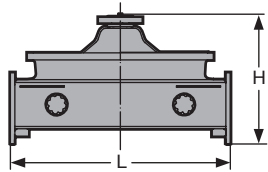
Miscellaneous

L Length	mm/ft-in	4500/14'9"
H Height	mm/ft-in	2600/ 8'6"
Width	mm/ft-in	2000/ 6'7"
Weight	kg/lb	5000/11,000



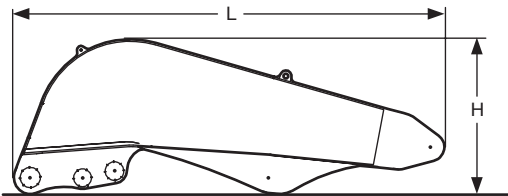
Side Frame (two)

L Length	mm/ft-in	8800/28'10"
H Height	mm/ft-in	2500/ 8' 3"
Width over travel drive	mm/ft-in	1800/ 5'11"
Width without travel drive	mm/ft-in	1650/ 5' 5"
Weight	kg/lb	2 x 67000/2 x 147,700



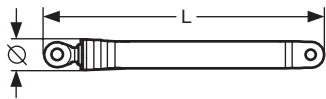
Under Carriage Central Girder

L Length	mm/ft-in	4020/13'2"
H Height	mm/ft-in	2557/ 8'5"
Width	mm/ft-in	4440/14'7"
Weight	kg/lb	34200/75,400



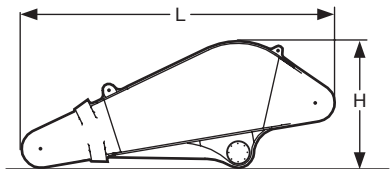
Shovel Boom

L Length	mm/ft-in	8200/26'11"
H Height	mm/ft-in	3000/ 9'10"
Width	mm/ft-in	2750/ 9' 0"
Weight	kg/lb	38000/83,800



Hoist Cylinder (two)

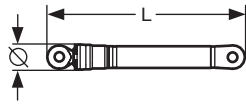
L Length	mm/ft-in	5100/16' 9"
Ø Diameter	mm/in	550/ 22"
Weight	kg/lb	2 x 5000/2 x 11,020



Shovel Stick

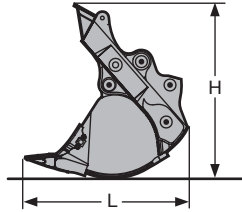
L Length	mm/ft-in	5200/17' 1"
H Height	mm/ft-in	2100/ 6'11"
Width	mm/ft-in	2300/ 7' 6"
Weight	kg/lb	20300/44,750

Component Dimensions and Weights



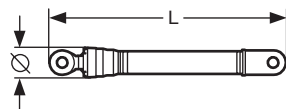
Crow Cylinder (two)

L Length	mm/ft-in	3600/11'10"
Ø Diameter	mm/in	450/ 18"
Weight	kg/lb	2 x 2000/2 x 4,400



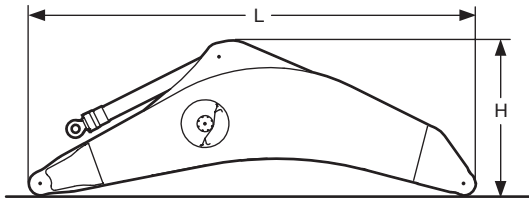
Bottom Dump Bucket (including clam cylinders)

		24,00 m ³ / 31.4 cuyd	26,50 m ³ / 34.7 cuyd
L Length	mm/ft-in	4350/14'3"	4650/15'3"
H Height	mm/ft-in	4800/15'9"	4800/15'9"
Width	mm/ft-in	4300/14'1"	4300/14'1"
Weight	kg/lb	41500/91,490	42600/93,920



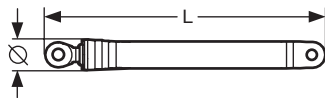
Bucket Tilt Cylinder (two)

L Length	mm/ft-in	4300/14' 1"
Ø Diameter	mm/in	520/ 20"
Weight	kg/lb	2 x 3000/2 x 6,600



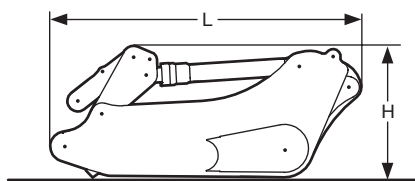
Gooseneck Boom with two Stick Cylinders

		10,00 m/ 32'10"	10,50 m/ 34' 5"
L Length	mm/ft-in	10600/34' 9"	11100/36' 5"
H Height	mm/ft-in	4100/13' 5"	4100/13' 5"
Width	mm/ft-in	2700/ 8'10"	2700/ 8'10"
Weight	kg/lb	44300/97,660	46200/101,850



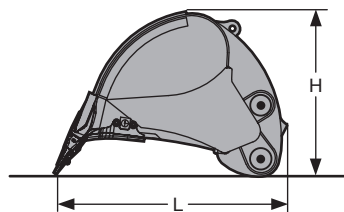
Hoist Cylinders (two)

L Length	mm/ft-in	5100/16' 9"
Ø Diameter	mm/in	550/ 22"
Weight	kg/lb	2 x 4900/2 x 10,800



Stick with two Bucket Cylinders

L Length	mm/ft-in	6400/20'8"
H Height	mm/ft-in	2200/ 7'3"
Width	mm/ft-in	2150/ 7'1"
Weight	kg/lb	27500/60,600



Backhoe Bucket

		24,00 m ³ / 31.4 cuyd	26,50 m ³ / 34.7 cuyd
L Length	mm/ft-in	4300/14' 1"	4300/14'1"
H Height	mm/ft-in	3000/ 9'10"	3200/10'6"
Width	mm/ft-in	4300/14' 1"	4300/14'1"
Weight	kg/lb	28300/62,390	30220/66,620

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