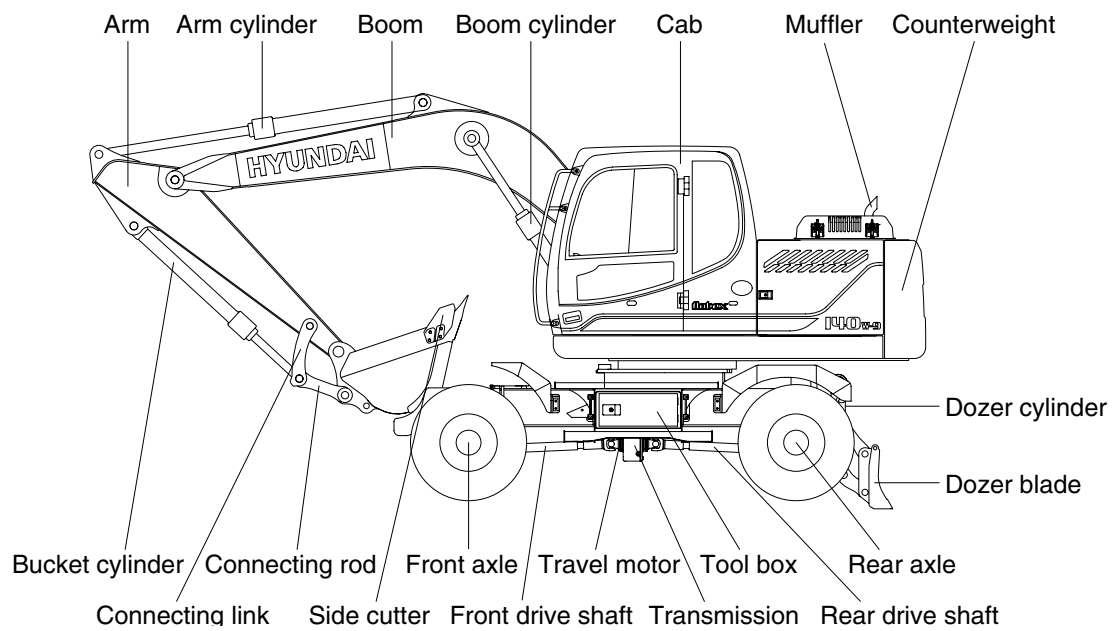
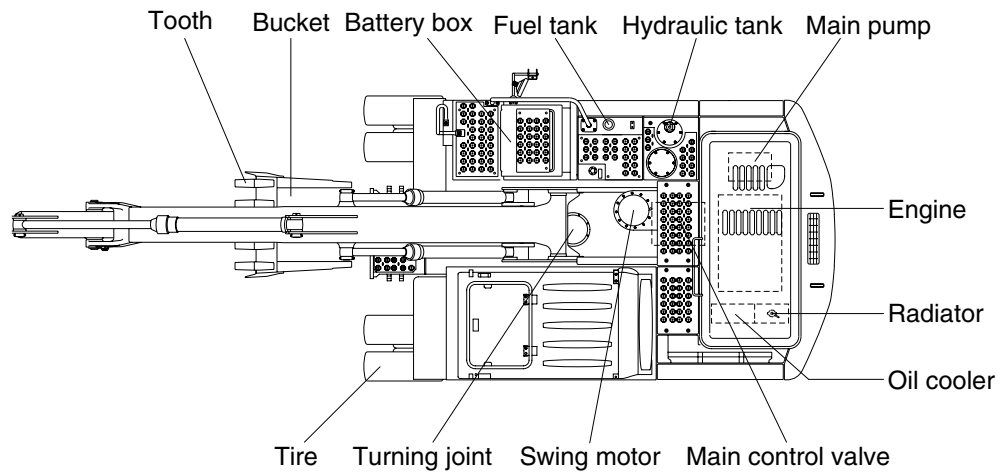


SPECIFICATIONS

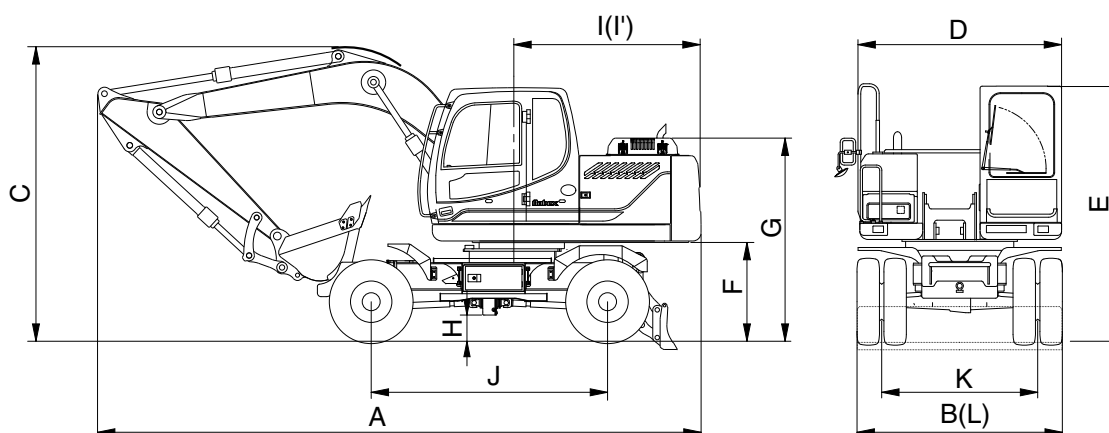
1. MAJOR COMPONENTS



14W92SP01

2. SPECIFICATIONS

1) 4.6 m (15' 1") ONE PIECE BOOM, 2.1 m (6' 11") ARM AND REAR DOZER BLADE

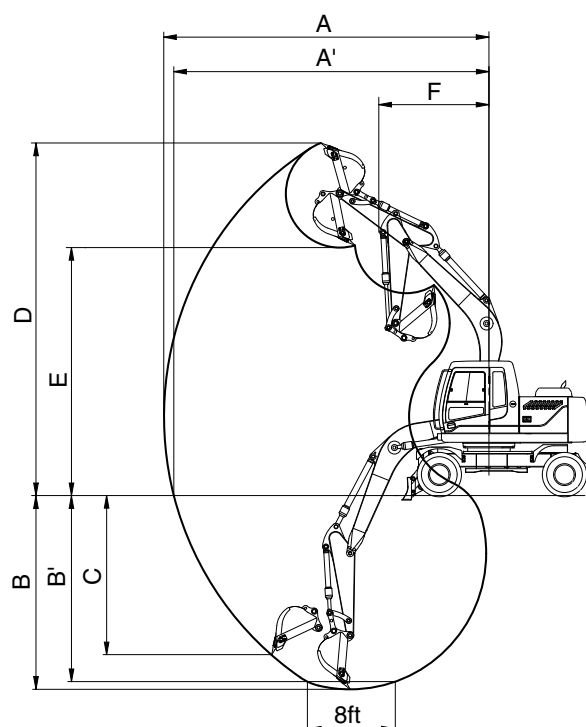


14W92SP02

Description		Unit	Specification
Operating weight		kg (lb)	13700 (30200)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	0.58 (0.76)
Overall length	A	mm (ft-in)	7760 (25' 6")
Overall width	B		2500 (8' 2")
Overall height	C		3500 (11' 6")
Upperstructure width	D		2475 (8' 1")
Cab height	E		3140 (10' 4")
Ground clearance of counterweight	F		1210 (4' 0")
Engine cover height	G		2320 (7' 7")
Minimum ground clearance	H		397 (1' 4")
Rear-end distance	I		2330 (7' 8")
Rear-end swing radius	I'		2330 (7' 8")
Wheel base	J		2600 (8' 6")
Tread	K		1944 (6' 5")
Dozer blade width	L		2490 (8' 2")
Travel speed	Low	km/hr (mph)	10 (6.2)
	High		37 (23.0)
	Creep		3.5 (2.2)
Swing speed		rpm	11.6
Gradeability		Degree (%)	35 (70)
Max traction force		kgf (lbf)	8500 (18740)

3. WORKING RANGE

1) 4.6 m (15' 1") MONO BOOM

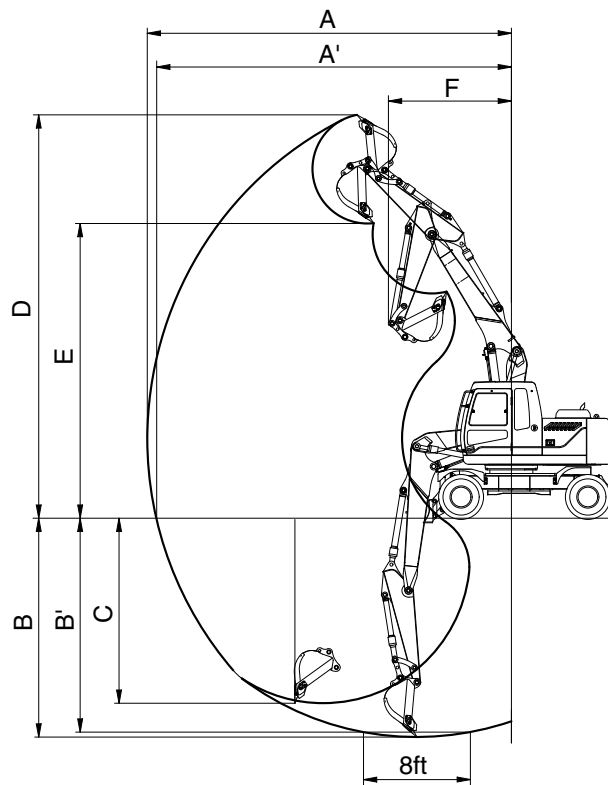


14W92SP03

Description		1.9 m (6' 3") Arm	*2.1 m (6' 11") Arm	2.5 m (8' 2") Arm	3.0 m (9' 10") Arm
Max digging reach	A	7750 mm (25' 5")	7920 mm (26' 0")	8320 mm (27' 4")	8780 mm (28'10")
Max digging reach on ground	A'	7530 mm (24' 8")	7700 mm (25' 3")	8120 mm (26' 8")	8590 mm (28' 2")
Max digging depth	B	4650 mm (15' 3")	4850 mm (15'11")	5250 mm (17' 3")	5750 mm (18'10")
Max digging depth (8 ft level)	B'	4390 mm (14' 5")	4600 mm (15' 1")	5040 mm (16' 6")	5570 mm (18' 3")
Max vertical wall digging depth	C	4350 mm (14' 3")	4460 mm (14' 8")	5030 mm (16' 6")	5550 mm (18' 3")
Max digging height	D	8400 mm (27' 7")	8470 mm (27' 9")	8790 mm (28'10")	9070 mm (29' 9")
Max dumping height	E	5960 mm (19' 7")	6040 mm (19'10")	6350 mm (20'10")	6620 mm (21' 9")
Min swing radius	F	2620 mm (8' 7")	2670 mm (8' 10")	2650 mm (8' 8")	2670 mm (8' 9")
Bucket digging force	SAE	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN
		8800 [9660] kgf	8800 [9660] kgf	8800 [9660] kgf	8800 [9660] kgf
		19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf
	ISO	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN
		10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf
		22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf
Arm digging force	SAE	76.5 [83.1] kN	73.6 [79.9] kN	62.8 [68.2] kN	55.9 [60.7] kN
		7800 [8470] kgf	7500 [8140] kgf	6400 [6950] kgf	5700 [6190] kgf
		17200 [18670] lbf	16530 [17950] lbf	14110 [15320] lbf	12570 [13640] lbf
	ISO	80.4 [87.3] kN	77.5 [84.1] kN	65.7 [71.4] kN	57.9 [62.8] kN
		8200 [8900] kgf	7900 [8580] kgf	6700 [7270] kgf	5900 [6410] kgf
		18080 [19630] lbf	17420 [18910] lbf	14770 [16040] lbf	13010 [14120] lbf

* : Standard [] : Power boost

2) 4.9 m (16' 1") HYDRAULIC ADJUSTABLE BOOM



14W92SP04

Description		1.9 m (6' 3") Arm	2.1 m (6' 11") Arm	2.5 m (8' 2") Arm
Max digging reach	A	8140 mm (26' 8")	8310 mm (27' 3")	8720 mm (28' 7")
Max digging reach on ground	A'	7930 mm (26' 0")	8110 mm (26' 7")	8530 mm (28' 0")
Max digging depth	B	4810 mm (15' 9")	5010 mm (16' 5")	5410 mm (17' 9")
Max digging depth (8 ft level)	B'	4700 mm (15' 5")	4890 mm (16' 1")	5310 mm (17' 5")
Max vertical wall digging depth	C	4190 mm (13' 9")	4360 mm (14' 4")	4820 mm (15'10")
Max digging height	D	9100 mm (29'10")	9180 mm (30' 1")	9560 mm (31' 4")
Max dumping height	E	6620 mm (21' 9")	6700 mm (22' 0")	7070 mm (23' 2")
Min swing radius	F	2660 mm (8' 9")	2820 mm (9' 3")	2690 mm (8'10")
Bucket digging force	SAE	87.3 [94.8] kN	87.3 [94.8] kN	87.3 [94.8] kN
		8800 [9660] kgf	8800 [9660] kgf	8800 [9660] kgf
		19620 [21300] lbf	19620 [21300] lbf	19620 [21300] lbf
	ISO	102 [110.8] kN	102 [110.8] kN	102 [110.8] kN
		10400 [11290] kgf	10400 [11290] kgf	10400 [11290] kgf
		22930 [24890] lbf	22930 [24890] lbf	22930 [24890] lbf
Arm digging force	SAE	76.5 [83.1] kN	73.6 [79.9] kN	62.8 [68.2] kN
		7800 [8470] kgf	7500 [8140] kgf	6400 [6950] kgf
		17200 [18670] lbf	16530 [17950] lbf	14110 [15320] lbf
	ISO	80.4 [87.3] kN	77.5 [84.1] kN	65.7 [71.4] kN
		8200 [8900] kgf	7900 [8580] kgf	6700 [7270] kgf
		18080 [19630] lbf	17420 [18910] lbf	14770 [16040] lbf

[] : Power boost

4. WEIGHT

Item	R140W-9	
	kg	lb
Upperstructure assembly	4680	10320
Main frame weld assembly	1150	2540
Engine assembly	560	1230
Main pump assembly	100	220
Main control valve assembly	145	320
Swing motor assembly	130	290
Hydraulic oil tank assembly	180	400
Fuel tank assembly	140	310
Counterweight	1700	3750
Cab assembly	500	1100
Lower frame weld assembly	1340	2950
Swing bearing	210	465
Travel motor assembly	65	145
Turning joint	120	265
Transmission assembly	140	310
Front axle assembly	520	1150
Rear axle assembly	480	1060
Dozer blade assembly (front)	590	1300
Dozer blade assembly (rear)	560	1240
Front attachment assembly (4.6 m boom, 2.1 m arm, 0.58 m ³ SAE heaped bucket)	2380	5250
4.6 m boom assembly	830	1830
4.9 m adjustable boom assembly	1150	2540
2.1 m arm assembly	385	850
0.58 m ³ SAE heaped bucket assembly	480	1060
Boom cylinder assembly	130	290
Arm cylinder assembly	160	350
Bucket cylinder assembly	100	220
Bucket control link assembly	80	180
2.5 m arm assembly	435	960
Oscillating cylinder assembly	30	70
Front outrigger assembly	800	1765
Rear outrigger assembly	790	1740
Adjustable boom cylinder assembly	120	260
Adjustable cylinder assembly	80	180
Outrigger cylinder assembly	110	240
Blade cylinder assembly (front)	45	100
Blade cylinder assembly (rear)	50	110

5. LIFTING CAPACITIES

1) ROBEX 140W-9

(1) 4.60 m (15' 1") boom, 2.1 m (6'11") arm equipped with 0.58 m³ (SAE heaped) bucket and rear dozer blade down with 1700 kg counterweight.

-  : Rating over-front
-  : Rating over-side or 360 degree

Load point height		Load radius								At max. reach		
		1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity		Reach
												m (ft)
6.0 m (20.0 ft)	kg					*3130	*3130			*3050	1950	6.43
	lb					*6900	*6900			*6720	4300	(21.1)
4.5 m (15.0 ft)	kg					*3540	*3540	*3210	2120	*3160	1520	7.23
	lb					*7800	*7800	*7080	4670	*6970	3350	(23.7)
3.0 m (10.0 ft)	kg			*6620	6450	*4510	3310	*3770	2040	3230	1340	7.59
	lb			*14590	14220	*9940	7300	*8310	4500	7120	2950	(24.9)
1.5 m (5.0 ft)	kg			*8650	5730	*5580	3060	*4230	1930	3180	1300	7.59
	lb			*19070	12630	*12300	6750	*9330	4250	7010	2870	(24.9)
Ground Line	kg			*9090	5510	*6240	2900	*4540	1860	3420	1390	7.24
	lb			*20040	12150	*13760	6390	*10010	4100	7540	3060	(23.8)
-1.5 m (-5.0 ft)	kg	*7380	*7380	*9530	5530	*6240	2860			*3760	1700	6.45
	lb	*16270	*16270	*21010	12190	*13760	6310			*8290	3750	(21.2)
-3.0 m (-10.0 ft)	kg	*11710	*11710	*7990	5690	*5240	2950					
	lb	*25820	*25820	*17610	12540	*11550	6500					

Note 1. Lifting capacity are based on SAE J1097 and ISO 10567.

2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.

3. The load point is a hook located on the back of the bucket.

4. *Indicates load limited by hydraulic capacity.

(2) 4.60 m (15' 1") boom, 2.5 m (8' 2") arm equipped with 0.58 m³ (SAE heaped) bucket and rear dozer blade down with 1700 kg counterweight.

Load point height		Load radius								At max. reach		
		1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity		Reach
												m (ft)
6.0 m (20.0 ft)	kg lb									*2820 *6220	1700 3750	6.92 (22.7)
4.5 m (15.0 ft)	kg lb					*3110 *6860	*3110 *6860	*2980 *6570	2150 4740	*2880 *6350	1360 3000	7.66 (25.1)
3.0 m (10.0 ft)	kg lb			*5700 *12570	*5700 *12570	*4110 *9060	3360 7410	*3500 *7720	2050 4520	*2930 *6460	1200 2650	8.00 (26.2)
1.5 m (5.0 ft)	kg lb			*8610 *18980	5850 12900	*5270 *11620	3080 6790	*4030 *8880	1930 4250	2900 6390	1160 2560	8.00 (26.2)
Ground Line	kg lb	*3820 *8420	*3820 *8420	*9000 *19840	5500 12130	*6070 *13380	2890 6370	*4430 *9770	1830 4030	3090 6810	1240 2730	7.67 (25.2)
-1.5 m (-5.0 ft)	kg lb	*6470 *14260	*6470 *14260	*9740 *21470	5460 12040	*6260 *13800	2820 6220	*4470 *9850	1800 3970	*3510 *7740	1480 3260	6.94 (22.8)
-3.0 m (-10.0 ft)	kg lb	*9750 *21500	*9750 *21500	*8560 *18870	5580 12300	*5620 *12390	2870 6330			*3480 *7670	2150 4740	5.64 (18.5)

2) ROBEX 140W-9 ADJUST BOOM

(1) 4.90 m (16' 9") hydraulic adjustable boom, 1.9 m (6' 3") arm equipped with 0.58 m³ (SAE heaped) bucket and rear dozer blade down with 1700 kg counterweight.

-  : Rating over-front
-  : Rating over-side or 360 degree

Load point height		Load radius						At max. reach		
		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity		Reach
										m (ft)
6.0 m (20.0 ft)	kg lb			*2960 *6530	*2960 *6530			*2910 *6420	1790 3950	6.70 (22.0)
4.5 m (15.0 ft)	kg lb	*4240 *9350	*4240 *9350	*3500 *7720	*3500 *7720	*3230 *7120	2110 4650	*3010 *6640	1410 3110	7.46 (24.5)
3.0 m (10.0 ft)	kg lb			*4520 *9960	3250 7170	*3630 *8000	2020 4450	3080 6790	1250 2760	7.81 (25.6)
1.5 m (5.0 ft)	kg lb			*5550 *12240	2980 6570	*4110 *9060	1900 4190	3040 6700	1220 2690	7.81 (25.6)
Ground Line	kg lb	*6150 *13560	5410 11930	*6150 *13560	2840 6260	*4450 *9810	1830 4030	3260 7190	1310 2890	7.47 (24.5)
-1.5 m (-5.0 ft)	kg lb	*9320 *20550	5480 12080	*6170 *13600	2820 6220	*4410 *9720	1820 4010	*3580 *7890	1590 3510	6.72 (22.0)
-3.0 m (-10.0 ft)	kg lb			*5400 *11900	2920 6440					

Note 1. Lifting capacity are based on SAE J1097 and ISO 10567.

2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.

3. The load point is a hook located on the back of the bucket.

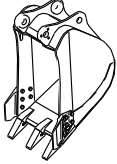
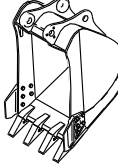
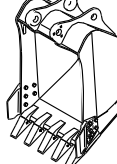
4. *Indicates load limited by hydraulic capacity.

(2) 4.90 m (16' 9") hydraulic adjustable boom, 2.1 m (6'11") arm equipped with 0.58 m³ (SAE heaped) bucket and rear dozer blade down with 1700 kg counterweight.

Load point height		Load radius						At max. reach		
		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity		Reach
										m (ft)
6.0 m (20.0 ft)	kg lb			*2770 *6110	*2770 *6110			*2780 *6130	1680 3700	6.91 (22.7)
4.5 m (15.0 ft)	kg lb			*3300 *7280	*3300 *7280	*3090 *6810	2110 4650	*2880 *6350	1330 2930	7.65 (25.1)
3.0 m (10.0 ft)	kg lb			*4320 *9520	3240 7140	*3500 *7720	2000 4410	2950 6500	1180 2600	7.99 (26.2)
1.5 m (5.0 ft)	kg lb			*5380 *11860	2950 6500	*4000 *8820	1870 4120	2910 6420	1140 2510	7.99 (26.2)
Ground Line	kg lb	*6320 *13930	5320 11730	*6040 *13320	2790 6150	*4370 *9630	1790 3950	3110 6860	1220 2690	7.66 (25.1)
-1.5 m (-5.0 ft)	kg lb	*9370 *20660	5370 11840	*6140 *13540	2760 6080	*4400 *9700	1770 3900	*3480 *7670	1470 3240	6.93 (22.7)
-3.0 m (-10.0 ft)	kg lb			*5500 *12130	2840 6260					

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

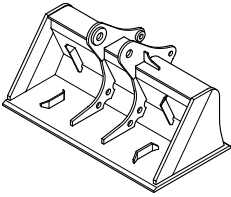
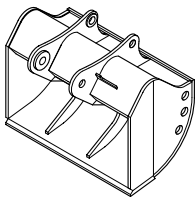
		
0.23 m³ SAE heaped bucket	0.40, 0.46 m³ SAE heaped bucket	0.52, ※ 0.58, 0.65, 0.71 m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation						
					4.6 m (15' 1") Mono boom				4.9 m (16' 9") Hyd adjustable boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")	3.0 m arm (9' 10")	1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")
0.23 m³ (0.30 yd³)	0.20 m³ (0.26 yd³)	520 mm (20.5")	620 mm (24.4")	335 kg (740 lb)							
0.40 m³ (0.52 yd³)	0.35 m³ (0.46 yd³)	760 mm (29.9")	860 mm (33.9")	410 kg (900 lb)							
0.46 m³ (0.60 yd³)	0.40 m³ (0.52 yd³)	850 mm (33.5")	950 mm (37.4")	435 kg (960 lb)							
0.52 m³ (0.68 yd³)	0.45 m³ (0.59 yd³)	935 mm (36.8")	1035 mm (40.7")	460 kg (1010 lb)							
※ 0.58 m³ (0.76 yd³)	0.50 m³ (0.65 yd³)	1030 mm (40.6")	1130 mm (44.5")	480 kg (1060 lb)							
0.65 m³ (0.85 yd³)	0.55 m³ (0.72 yd³)	1110 mm (43.7")	1210 mm (47.6")	500 kg (1100 lb)							
0.71 m³ (0.93 yd³)	0.60 m³ (0.78 yd³)	1205 mm (47.4")	1305 mm (51.4")	540 kg (1190 lb)							

※ : Standard bucket

-  Applicable for materials with density of 2000 kg/m³ (3370 lb/yd³) or less
-  Applicable for materials with density of 1600 kg/m³ (2700 lb/yd³) or less
-  Applicable for materials with density of 1100 kg/m³ (1850 lb/yd³) or less

2) Special bucket

Slope finishing bucket 	Ditch cleaning bucket 
◎ 0.55 m³ SAE heaped bucket	★ 0.45 m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation					
					4.6 m (15' 1") Mono boom			4.9 m (16' 9") Hyd adjustable boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")	1.9 m arm (6' 3")	2.1 m arm (6' 11")	2.5 m arm (8' 2")
◎ 0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	1800 mm (70.9")	-	585 kg (1290 lb)						
★ 0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	1520 mm (59.8")	-	410 kg (900 lb)						

◎ : Slope finishing bucket

★ : Ditch cleaning bucket

 Applicable for materials with density of 2000 kg/m³ (3370 lb/yd³) or less

 Applicable for materials with density of 1600 kg/m³ (2700 lb/yd³) or less

 Applicable for materials with density of 1100 kg/m³ (1850 lb/yd³) or less

7. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins QSB 6.7 / HYUNDAI HE6.7
Type	4-cycle turbocharged diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore×stroke	107×124 mm (4.2"×4.9")
Piston displacement	6700 cc (409 cu in)
Compression ratio	17.2 : 1
Rated gross horse power (SAE J1995)	146 Hp (109 kW) at 2100 rpm
Maximum torque	59.7 kgfm (432 lbf.ft) at 1500 rpm
Engine oil quantity	24l (6.3 U.S. gal)
Dry weight	556 kg (1226 lb)
High idling speed	2150±50 rpm
Low idling speed	800±100 rpm
Rated fuel consumption	172.5 g/Hp·hr at 2100 rpm
Starting motor	Nippon densor (24 V - 4.5 kW)
Alternator	Delco remy (24 V - 50 A)
Battery	2×12 V×100 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2×80 cc/rev
Maximum pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Rated oil flow	2×172 l/min (45.4 U.S. gpm / 37.8 U.K. gpm)
Rated speed	2100 rpm

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	31.5 l/min (8.3 U.S. gpm/6.9 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	11 spools two-block
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Overload relief valve pressure	400 kgf/cm ² (5690 psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	72 cc/rev
Relief pressure	260 kgf/cm ² (3698 psi) -#0358, 240 kgf/cm ² (3414 psi) #0359-
Braking system	Automatic, spring applied hydraulic released
Braking torque	25 kgf·m (181 lbf·ft)
Brake release pressure	15~50 kgf/cm ² (213~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement bent-axis axial piston motor
Relief pressure	380 kgf/cm ² (5400 psi)
Counter balance valve	Applied
Capacity	107 cc/rev

7) POWER TRAIN

Item	Description		Specification
Transmission	Type		2 speed power shift transmission
	Gear ratio	1st	4.87
		2nd	1.20
Parking brake	Type		Multi disc brake integrated in transmission
	Maximum braking torque		2124 kgf·m (15360 lbf·ft)
Axle	Type		4 wheel drive with differential
	Gear ratio		15.43
	Brake		Multi disc brake

8) CYLINDER

Item			Specification
Boom cylinder	Bore dia×Rod dia×Stroke		Ø105×Ø75×1075mm
	Cushion		Extend only
Arm cylinder	Bore dia×Rod dia×Stroke		Ø115×Ø80×1188mm
	Cushion		Extend and retract
Bucket cylinder	Bore dia×Rod dia×Stroke		Ø100×Ø70×840mm
	Cushion		Extend only
Dozer cylinder	Rear	Bore dia×Rod dia×Stroke	Ø100×Ø65×236mm
	Front	Bore dia×Rod dia×Stroke	Ø100×Ø65×240mm
	Cushion		Extend only
Outrigger cylinder	Bore dia×Rod dia×Stroke		Ø110×Ø75×475mm
	Cushion		-
Adjust cylinder	Bore dia×Rod dia×Stroke		Ø145×Ø90×613mm
	Cushion		Extend only
Adjust boom cylinder	Bore dia×Rod dia×Stroke		Ø105×Ø75×975mm
	Cushion		Extend only

9) BUCKET

Item	Capacity		Tooth quantity	Width	
	SAE heaped	CECE heaped		Without side cutter	With side cutter
Standard	※ 0.58 m ³ (0.76 yd ³)	0.50 m ³ (0.65 yd ³)	5	1030 mm (40.6")	1130 mm (44.5")
Option	0.23 m ³ (0.30 yd ³)	0.20 m ³ (0.26 yd ³)	3	520 mm (20.5")	620 mm (24.4")
	0.40 m ³ (0.52 yd ³)	0.35 m ³ (0.46 yd ³)	4	760 mm (29.9")	860 mm (33.9")
	0.46 m ³ (0.60 yd ³)	0.40 m ³ (0.52 yd ³)	4	850 mm (33.5")	950 mm (37.4")
	0.52 m ³ (0.68 yd ³)	0.45 m ³ (0.59 yd ³)	5	935 mm (36.8")	1035 mm (40.7")
	0.65 m ³ (0.85 yd ³)	0.55 m ³ (0.72 yd ³)	5	1110 mm (43.7")	1210 mm (47.6")
	0.71 m ³ (0.93 yd ³)	0.60 m ³ (0.78 yd ³)	5	1205 mm (47.4")	1305 mm (51.4")
	◎ 0.55 m ³ (0.72 yd ³)	0.45 m ³ (0.59 yd ³)	-	1800 mm (70.9")	-
	★ 0.45 m ³ (0.59 yd ³)	0.40 m ³ (0.52 yd ³)	-	1520 mm (59.8")	-

◎ : Slope finishing bucket

★ : Ditch cleaning bucket

8. RECOMMENDED OILS

Use only oils listed below or equivalent.

Do not mix different brand oil.

Service point	Kind of fluid	Capacity l (U.S. gal)	Ambient temperature °C(°F)							
			-50 (-58)	-30 (-22)	-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)
Engine oil pan	Engine oil	24 (6.3)	★SAE 5W-40					SAE 30		
Transmission case		2.5 (0.7)	SAE 10W			SAE 10W-30				
			SAE 15W-40							
Swing drive	Gear oil	2.5 (0.7)★ ¹	★SAE 75W-90					SAE 85W-140		
		3.5 (1.0)								
	Grease	0.35 (0.1)	★NLGI NO.1			NLGI NO.2				
Front axle	Gear oil	Center : 7.7 (2.03) Hub : 2.8×2 (0.74×2)	SAE 85W-90 LSD or UTTO							
Rear axle		Center : 10.5(2.77) Hub : 2.8×2 (0.74×2)								
Hydraulic tank	Hydraulic oil	Tank: 124 (32.8) System: 210 (59.4)	★ISO VG 15							
			ISO VG 32							
			ISO VG 46							
			ISO VG 68							
Fuel tank	Diesel fuel	270 (71.3)	★ASTM D975 NO.1				ASTM D975 NO.2			
Fitting (Grease nipple)	Grease	As required	★NLGI NO.1					NLGI NO.2		
Radiator (Reservoir tank)	Mixture of antifreeze and soft water★ ¹	19.5 (5.2)	Ethylene glycol base permanent type (50 : 50)							
			★Ethylene glycol base permanent type (60 : 40)							

SAE : Society of Automotive Engineers

API : American Petroleum Institute

ISO : International Organization for Standardization

NLGI : National Lubricating Grease Institute

ASTM : American Society of Testing and Materia

UTTO : Universal Tractor Transmission Oil

★ : Cold region

Russia, CIS, Mongolia

★¹ : Soft water

City water or distilled water

★² : Service when the grease inlet exists on the equipment