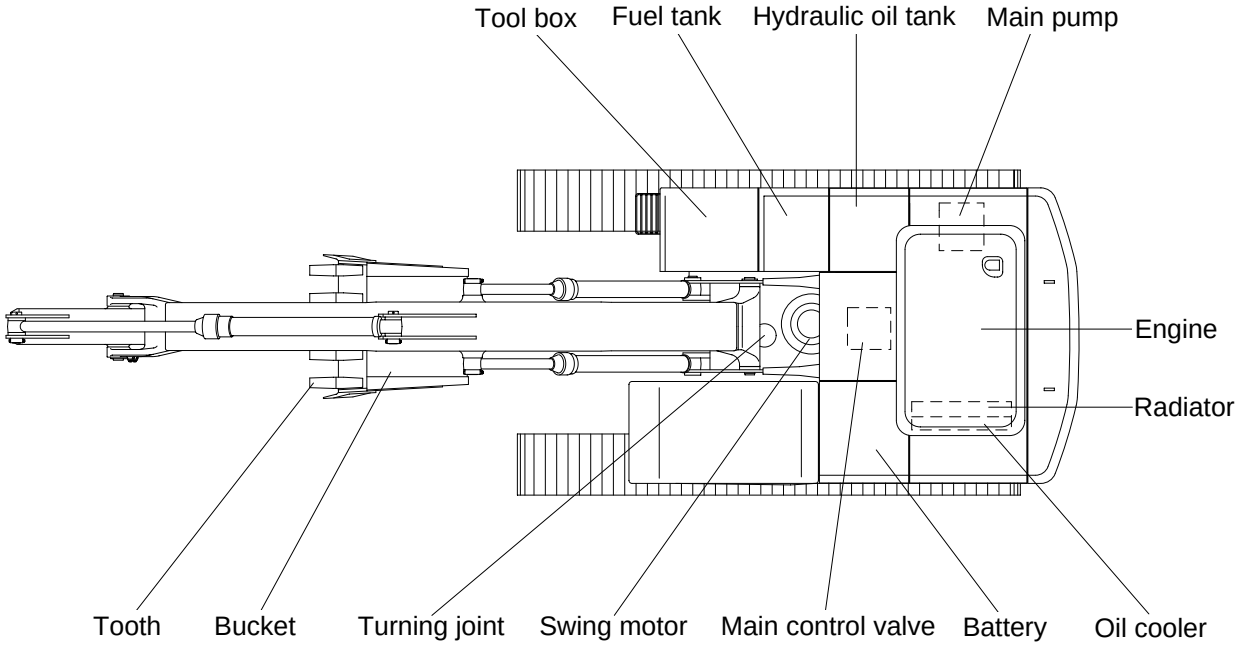
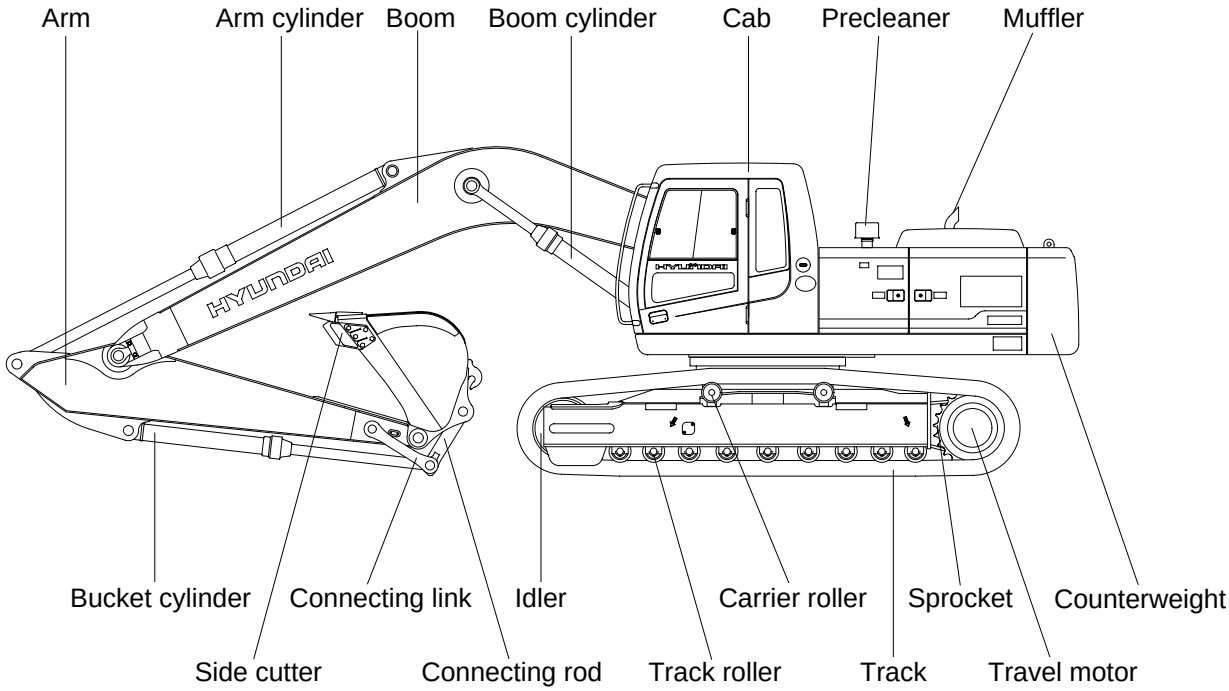
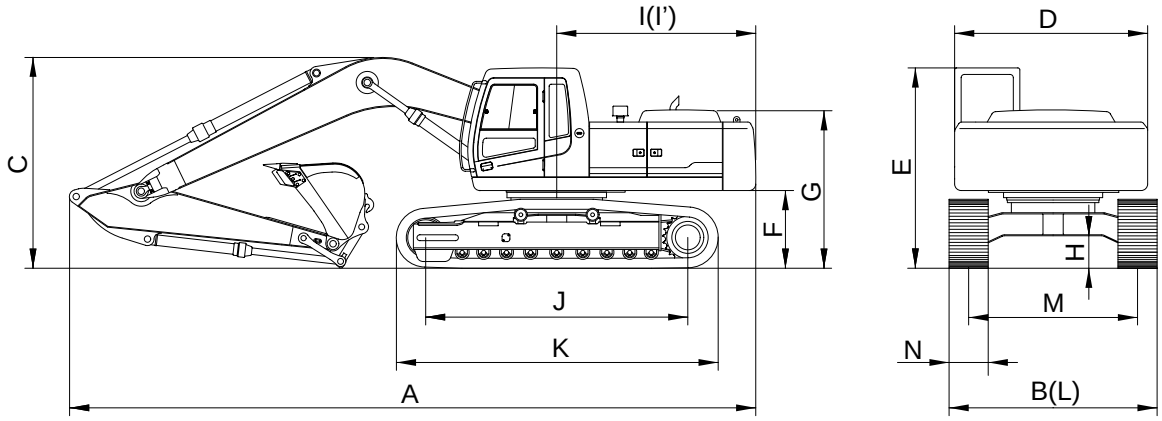
GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT





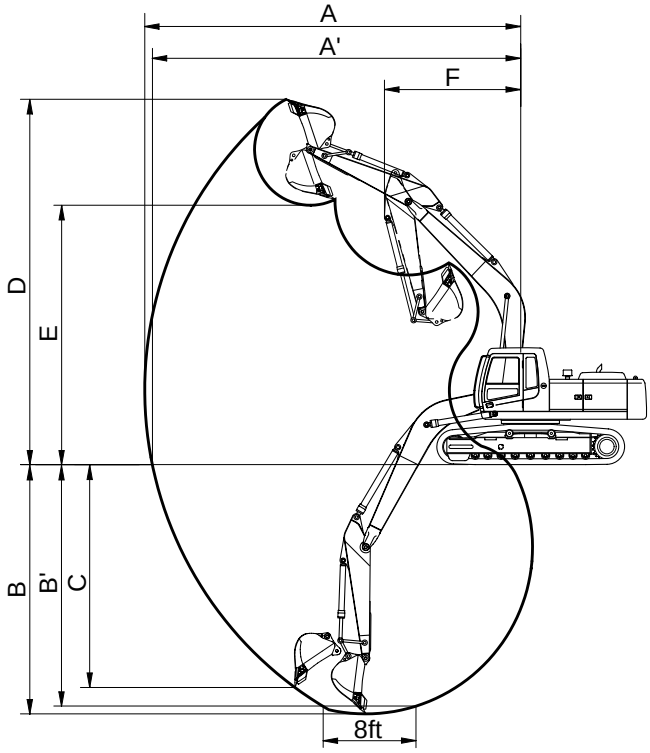
2. SPECIFICATIONS



Description		Unit	Specification
Operating weight		kg(lb)	28900(63710)
Bucket capacity(PCSA heaped), standard		$m^3(yd^3)$	1.27(1.66)
Overall length	A	mm(ft-in)	10560(34' 8")
Overall width, with 600mm shoe	B		3200(10' 6")
Overall height	C		3290(10' 10")
Superstructure width	D		2980(9' 9")
Overall height of cab	E		3010(9' 11")
Ground clearance of counterweight	F		1190(3' 11")
Engine cover height	G		3190(10' 6")
Minimum ground clearance	H		500(1' 8")
Rear-end distance	I		3200(10' 6")
Rear-end swing radius	I'		3120(10' 3")
Distance between tumblers	J		4030(13' 3")
Undercarriage length	K		4940(16' 2")
Undercarriage width	L		3200(10' 6")
Track gauge	M		2600(8' 6")
Track shoe width, standard	N		600(24")
Travel speed(Low/high)		km/hr(mph)	3.0/5.0(1.9/3.1)
Swing speed		rpm	11
Gradeability		Degree(%)	35(70)
Ground pressure(600mm shoe)		$kgf/cm^2(psi)$	0.55(7.82)

3. WORKING RANGE

1) 6.25m(20' 6") BOOM



Description		2.10m(6' 11") Arm	2.50m(8' 2") Arm	3.05m(10' 0") Arm	3.75m(12' 4") Arm
Max digging reach	A	10020mm(32'10")	10280mm(33' 7")	10820mm(35' 6")	11400mm(37' 5")
Max digging reach on ground	A'	9820mm(32' 3")	10080mm(33' 1")	10620mm(34'10")	11220mm(36'10")
Max digging depth	B	6440mm(21' 1")	6840mm(22' 5")	7500mm(24' 7")	8090mm(26' 7")
Max digging depth (8ft level)	B'	6240mm(20' 6")	6630mm(21' 9")	7300mm(23'11")	7920mm(26' 0")
Max vertical wall digging depth	C	6000mm(19' 8")	5850mm(19' 2")	6410mm(21' 0")	7080mm(23' 3")
Max digging height	D	10070mm(33' 0")	10110mm(33' 2")	10160mm(33' 4")	10360mm(34' 0")
Max dumping height	E	6940mm(22' 9")	7030mm(23' 1")	7110mm(23' 4")	7310mm(24' 0")
Min swing radius	F	4380mm(14' 4")	4260mm(14' 0")	4230mm(13'11")	4140mm(13' 7")
Bucket digging force	SAE	169[184]kN	169[184]kN	169[184]kN	169[184]kN
		17200[18760]kgf	17200[18760]kgf	17200[18760]kgf	17200[18760]kgf
		37920[41370]lbf	37920[41370]lbf	37920[41370]lbf	37920[41370]lbf
	ISO	192[210]kN	192[210]kN	192[210]kN	192[210]kN
		19600[21380]kgf	19600[21380]kgf	19600[21380]kgf	19600[21380]kgf
		43210[47140]lbf	43210[47140]lbf	43210[47140]lbf	43210[47140]lbf
Arm crowd force	SAE	170[185]kN	147[161]kN	124[135]kN	109[119]kN
		17300[18870]kgf	15000[16360]kgf	12600[13750]kgf	11100[12110]kgf
		38140[41610]lbf	33070[36080]lbf	27780[30310]lbf	24470[26690]lbf
	ISO	178[194]kN	154[168]kN	129[140]kN	112[122]kN
		18100[19750]kgf	15700[17130]kgf	13100[14290]kgf	11400[12440]kgf
		39900[43530]lbf	34610[37760]lbf	28880[31510]lbf	25130[27410]lbf

[ ] : Power boost

4. WEIGHT

Item	R290LC-7	
	kg	lb
Upperstructure assembly	12610	27800
Main frame weld assembly	2361	5210
Engine assembly	590	1300
Main pump assembly	155	340
Main control valve assembly	200	442
Swing motor assembly	311	687
Hydraulic oil tank assembly	227	500
Fuel tank assembly	209	460
Counterweight	4700	10090
Cab assembly	310	680
Lower chassis assembly	10740	23680
Track frame weld assembly	3765	8310
Swing bearing	410	910
Travel motor assembly	350	770
Turning joint	54	240
Track recoil spring and idler	457	1010
Idler	252	560
Carrier roller	40	88
Track roller	54	119
Track-chain assembly(600mm standard triple grouser shoe)	1860	4110
Front attachment assembly(6.25m boom, 3.05m arm, 1.27m³ PCSA heaped bucket)	5450	12020
6.25m boom assembly	2200	4860
3.05m arm assembly	975	2150
1.27m³ PCSA heaped bucket	960	2120
Boom cylinder assembly	290	640
Arm cylinder assembly	375	826
Bucket cylinder assembly	250	551
Bucket control rod assembly	112	248

5. LIFTING CAPACITIES

1) 6.25m(20' 6") boom, 2.10m(6' 11") arm equipped with 1.27m³(PCSA heaped) bucket and 600mm (24") triple grouser shoe.

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

Load point height		Load radius								At max. reach		
		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		Capacity		Reach
												m(ft)
7.5m (25ft)	kg lb					*5760 *12700	*5760 *12700			*5290 *11660	4470 9850	8.01 (26.3)
6.0m (20ft)	kg lb					*6090 *13430	*6090 *13430	*5900 *13010	4830 10650	*5380 *11860	3570 7870	8.90 (29.2)
4.5m (15ft)	kg lb			*8940 *19710	*8940 *19710	*7040 *15520	6910 15230	*6210 *13690	4710 10380	5150 11350	3120 6880	9.42 (30.9)
3.0m (10ft)	kg lb			*11660 *25710	9960 21960	*8270 *18230	6440 14200	*6800 *14990	4490 9900	4870 10740	2910 6420	9.64 (31.6)
1.5m (5ft)	kg lb			*13520 *29810	9270 20440	*9370 *20660	6050 13340	7160 15790	4290 9460	4860 10710	2880 6350	9.58 (31.4)
Ground Line	kg lb			*14060 *31000	9060 19970	10010 22070	5830 12850	7010 15450	4150 9150	5130 11310	3050 6720	9.23 (30.3)
-1.5m (-5ft)	kg lb	*13470 *29700	*13470 *29700	*13770 *30360	9080 20020	9940 21910	5770 12720	6980 15390	4120 9080	5830 12850	3490 7690	8.57 (28.1)
-3.0m (-10ft)	kg lb	*17570 *38740	*17570 *38740	*12710 *28020	9260 20410	*9440 *20810	5870 12940			*6180 *13620	4490 9900	7.47 (24.5)
-4.5m (-15ft)	kg lb	*14150 *31200	*14150 *31200	*10330 *22770	9660 21300							

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) 6.25m(20' 6") boom, 2.50m(8' 2") arm equipped with 1.27m³(PCSA heaped) bucket and 600mm (24") triple grouser shoe.

Load point height		Load radius										At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		Capacity		Reach
														m(ft)
7.5m (25ft)	kg lb											*4880 *10760	4230 9330	8.34 (27.4)
6.0m (20ft)	kg lb									*5470 *12060	4940 10890	*5020 *11070	3420 7540	9.19 (30.2)
4.5m (15ft)	kg lb					*8180 18030	*8180 *18030	*6610 *14570	*6610 *14570	*5880 *12960	4780 10540	4950 10910	2990 6590	9.69 (31.8)
3.0m (10ft)	kg lb					*10910 *24050	10210 22510	*7890 *17390	6550 14440	*6530 *14400	4550 10030	4680 10320	2790 6150	9.90 (32.5)
1.5m (5ft)	kg lb					*13040 *28750	9410 20750	*9080 *20020	6120 13490	*7190 *15850	4320 9520	4650 10250	2750 6060	9.84 (32.3)
Ground Line	kg lb					*13950 *30750	9080 20020	9870 *21760	5850 12900	7020 15480	4160 9170	4880 10760	2890 6370	9.51 (31.2)
-1.5m (-5ft)	kg lb			*14370 *31680	*14370 *31680	*13930 *30710	9030 19910	9910 21850	5740 12650	6950 15320	4090 9020	5480 12080	3270 7210	8.87 (29.1)
-3.0m (-10ft)	kg lb	*16270 *35870	*16270 *35870	*18700 *41230	*18700 *41230	*13110 *28900	9160 20190	*9690 *21360	5800 12790			*6310 *13910	4100 9040	7.82 (25.7)
-4.5m (-15ft)	kg lb			*15620 *34440	*15620 *34440	*11170 *24630	9490 20920							

3) 6.25m(20' 6") boom, 3.05m(10' 0") arm equipped with 1.27m³(PCSA heaped) bucket and 600mm (24") triple grouser shoe.

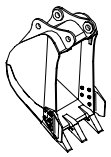
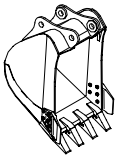
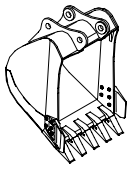
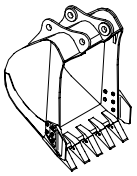
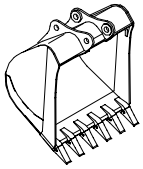
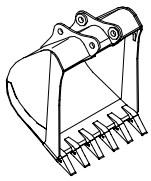
Load point height		Load radius												At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		9.0m(30ft)		Capacity		Reach
																m(ft)
7.5m (25ft)	kg lb													*4460 *9830	3740 8250	8.94 (29.3)
6.0m (20ft)	kg lb									*4910 *10820	*4910 *10820			*4600 *10140	3080 6790	9.74 (32.0)
4.5m (15ft)	kg lb							*5960 *13140	*5960 *13140	*5390 *11880	4840 10670			4530 9990	2710 5970	10.20 (33.5)
3.0m (10ft)	kg lb			*9910 *21850	*9910 *21850	*9820 *21650	*9820 *21650	*7280 *16050	6630 14620	*6090 *13430	4580 10100	*4140 *9130	3280 7230	4290 9460	2530 5580	10.40 (34.1)
1.5m (5ft)	kg lb					*12250 *27010	9550 21050	*8590 *18940	6160 13580	*6830 *15060	4320 9520	*4900 *10800	3150 6940	4250 9370	2490 5490	10.35 (34.0)
Ground Line	kg lb			*9590 *21140	*9590 *21140	*13580 *29940	9070 20000	*9550 *21050	5820 12830	6980 15390	4120 9080	*4310 *9500	3050 6720	4430 9770	2590 5710	10.04 (32.9)
-1.5m (-5ft)	kg lb	*10390 *22910	*10390 *22910	*13470 *29700	*13470 *29700	*13920 *30690	8910 19640	9830 21670	5660 12480	6860 15120	4010 8840			4900 10800	2880 6350	9.44 (31.0)
-3.0m (-10ft)	kg lb	*14060 *31000	*14060 *31000	*18180 *40080	*18180 *40080	*13440 *29630	8970 19780	9830 21670	5660 12480	6880 15170	4030 8880			5880 12960	3510 7740	8.48 (27.8)
-4.5m (-15ft)	kg lb	*18380 *40520	*18380 *40520	*17190 *37900	*17190 *37900	*11970 *26390	9220 20330	*8750 *19290	5830 12850					*5960 *13140	5000 11020	6.97 (22.9)

4) 6.25m(20' 6") boom, 3.75m(12' 4") arm equipped with 1.27m³(PCSA heaped) bucket and 600mm (24") triple grouser shoe.

Load point height		Load radius												At max. reach		
		1.5m(5ft)		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		9.0m(30ft)		Capacity		Reach
																m(ft)
7.5m (25ft)	kg													*3930	3230	9.67
	lb													*8660	7120	(31.7)
6.0m (20ft)	kg									*4160	*4160	*2370	*2370	*4090	2700	10.40
	lb									*9170	*9170	*5220	*5220	*9020	5950	(34.1)
4.5m (15ft)	kg									*4710	*4710	*3720	3460	4060	2390	10.83
	lb									*10380	*10380	*8200	7630	8950	5270	(35.5)
3.0m (10ft)	kg			*13490	*13490	*8320	*8320	*6410	*6410	*5470	4640	*4740	3310	3850	2230	11.02
	lb			*29740	*29740	*18340	*18340	*14130	*14130	*12060	10230	*10450	7300	8490	4920	(36.2)
1.5m (5ft)	kg			*9980	*9980	*11050	9860	*7850	6270	*6300	4350	5320	3140	3810	2180	10.97
	lb			*22000	*22000	*24360	21740	*17310	13820	*13890	9590	11730	6920	8400	4810	(36.0)
Ground Line	kg	*6470	*6470	*10300	*10300	*12890	9170	*9020	5860	6980	4110	5170	3010	3950	2250	10.68
	lb	*14260	*14260	*22710	*22710	*28420	20220	*19890	12920	15390	9060	11400	6640	8710	4960	(35.0)
-1.5m (-5ft)	kg	*9310	*9310	*12760	*12760	*13720	8860	*9730	5620	6800	3950	5080	2920	4300	2470	10.12
	lb	*20530	*20530	*28130	*28130	*30250	19530	*21450	12390	14990	8710	11200	6440	9480	5450	(33.2)
-3.0m (-10ft)	kg	*12290	*12290	*16240	*16240	*13690	8810	9710	5540	6750	3900			5020	2940	9.25
	lb	*27090	*27090	*35800	*35800	*30180	19420	21410	12210	14880	8600			11070	6480	(30.3)
-4.5m (-15ft)	kg	*15740	*15740	*18940	18880	*12770	8960	*9310	5620					*5780	3920	7.92
	lb	*34700	*34700	*41760	41620	*28150	19750	*20530	12390					*12740	8640	(26.0)

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

					
0.79m³ PCSA heaped bucket	1.03m³ PCSA heaped bucket	※1.27m³ PCSA heaped bucket	1.50m³ PCSA heaped bucket	1.73m³ PCSA heaped bucket	1.85m³ PCSA heaped bucket

Capacity		Width		Weight	Recommendation			
					6.25m (20' 6") boom			
PCSA heaped	CECE heaped	Without side cutter	With side cutter		2.1m arm (6' 11")	2.5m arm (8' 2")	3.05m arm (10' 0")	3.6m arm (11' 10")
0.79m³ (1.03yd³)	0.70m³ (0.92yd³)	890mm (35.0")	1010mm (39.8")	740kg (1630lb)				
1.03m³ (1.35yd³)	0.90m³ (1.18yd³)	1090mm (42.9")	1210mm (47.6")	850kg (1870lb)				
※1.27m³ (1.66yd³)	1.10m³ (1.44yd³)	1290mm (50.8")	1410mm (55.5")	960kg (2120lb)				
1.50m³ (1.96yd³)	1.30m³ (1.70yd³)	1490mm (58.7")	1610mm (63.4")	1020kg (2250lb)				
1.73m³ (2.26yd³)	1.50m³ (1.96yd³)	1696mm (66.8")	-	1120kg (2470lb)				
1.85m³ (2.42yd³)	1.60m³ (2.09yd³)	1800mm (70.9")	-	1160kg (2560lb)				

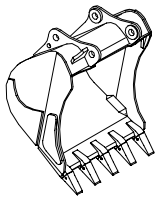
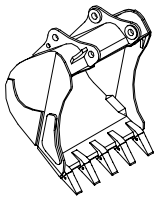
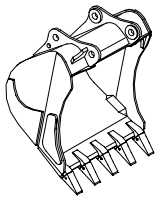
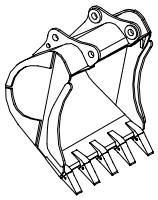
※ : Standard bucket

Applicable for materials with density of 2000kgf/m³ (3370lbf/yd³) or less

Applicable for materials with density of 1600kgf/m³ (2700lbf/yd³) or less

Applicable for materials with density of 1100kgf/m³ (1850lbf/yd³) or less

2) ROCK AND HEAVY DUTY BUCKET

			
1.07m³ PCSA heaped bucket	1.27m³ PCSA heaped bucket	1.46m³ PCSA heaped bucket	铗1.16m³ PCSA heaped bucket

Capacity		Width		Weight	Recommendation			
					6.25m (20' 6") boom			
PCSA heaped	CECE heaped	Without side cutter	With side cutter		2.1m arm (6' 11")	2.5m arm (8' 2")	3.05m arm (10' 0")	3.6m arm (11' 10")
1.07m³ (1.40yd³)	0.95m³ (1.24yd³)	1060mm (42.0")	-	1110kg (2450lb)				
1.27m³ (1.66yd³)	1.10m³ (1.44yd³)	1220mm (48.0")	-	1130kg (2490lb)				
1.46m³ (1.91yd³)	1.28m³ (1.67yd³)	1370mm (54.0")	-	1260kg (2780lb)				
铗1.16m³ (1.52yd³)	1.00m³ (1.05yd³)	1305mm (51.4")	-	1260kg (2780lb)				

: Heavy duty bucket

铗 : Rock bucket

Applicable for materials with density of 2000kgf/m³ (3370lbf/yd³) or less

Applicable for materials with density of 1600kgf/m³ (2700lbf/yd³) or less

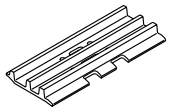
Applicable for materials with density of 1100kgf/m³ (1850lbf/yd³) or less

7. UNDERCARRIAGE

1) TRACKS

X-leg type center frame is integrally welded with reinforced box-section track frames. The design includes dry tracks, lubricated rollers, idlers, sprockets, hydraulic track adjusters with shock absorbing springs and assembled track-type tractor shoes with triple grousers.

2) TYPES OF SHOES

Model	Shapes		Triple grouser			
						
R290LC-7	Shoe width	mm(in)	600(24)	700(28)	800(32)	900(36)
	Operating weight	kg(lb)	28800(63500)	29370(64700)	29750(65600)	30130(66400)
	Ground pressure	kgf/cm^2(psi)	0.55(7.82)	0.48(6.83)	0.43(6.11)	0.38(5.40)
	Overall width	mm(ft-in)	3190(10' 6")	3290(10' 10")	3390(11' 1")	3490(11' 5")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2EA
Track rollers	9EA
Track shoes	48EA

4) SELECTION OF TRACK SHOE

Suitable track shoes should be selected according to operating conditions.

Method of selecting shoes

Confirm the category from the list of applications in **table 2**, then use **table 1** to select the shoe. Wide shoes(Categories B and C) have limitations on applications. Before using wide shoes, check the precautions, then investigate and study the operating conditions to confirm if these shoes are suitable.

Select the narrowest shoe possible to meet the required flotation and ground pressure. Application of wider shoes than recommendations will cause unexpected problem such as bending of shoes, crack of link, breakage of pin, loosening of shoe bolts and the other various problems.

※ **Table 1**

Track shoe	Specification	Category
600mm triple grouser	Standard	A
700mm triple grouser	Option	B
750mm triple grouser	Option	B
800mm triple grouser	Option	C
900mm triple grouser	Option	C

※ **Table 2**

Category	Applications	Precautions
A	Rocky ground, river beds, normal soil	· Travel at low speed on rough ground with large obstacles such as boulders or fallen trees
B	Normal soil, soft ground	· These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees · Travel at high speed only on flat ground · Travel slowly at low speed if it is impossible to avoid going over obstacles
C	Extremely soft gound (Swampy ground)	· Use the shoes only in the conditions that the machine sinks and it is impossible to use the shoes of category A or B · These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees · Travel at high speed only on flat ground · Travel slowly at low speed if it is impossible to avoid going over obstacles

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins C8.3-C
Type	4-cycle turbocharged diesel engine
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	114 × 135mm(4.49" × 5.32")
Piston displacement	8270cc(505cu in)
Compression ratio	17.3 : 1
Rated gross horse power(SAE J1349)	195Hp at 1900rpm(145kW at 1900rpm)
Maximum torque	62.1kgf · m(449lbf · ft) at 1600rpm
Engine oil quantity	18.9 ℓ (4.9U.S. gal)
Dry weight	588kg(1296lb)
High idling speed	2093+ 50rpm
Low idling speed	800± 100rpm
Rated fuel consumption	166.3g/Hp · hr at 1900rpm
Starting motor	Nippon denso(24V-7.5kW)
Alternator	Delco Remy 24V-50A
Battery	2 × 12V × 160Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 136.8cc/rev
Maximum pressure	330kgf/cm^2 (4690psi)[360kgf/cm^2 (5120psi)]
Rated oil flow	2 × 260 ℓ /min (68.7U.S. gpm/ 57.2U.K. gpm)
Rated speed	1900rpm

[ ]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	35kgf/cm^2(500psi)
Rated oil flow	28.5 ℓ /min(7.5U.S. gpm/6.3U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	330kgf/cm^2(4690psi) [360kgf/cm^2(5120psi)]
Overload relief valve pressure	390kgf/cm^2(5550psi)

[ ]: Power boost

5) SWING MOTOR

Item	Specification
Type	Two fixed displacement axial piston motor
Capacity	169.4cc/rev
Relief pressure	265kgf/cm^2(3770psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	70kgf · m(506lbf · ft)
Brake release pressure	28.5~32kgf/cm^2(405~455psi)
Reduction gear type	2 - stage planetary
Swing speed	11rpm

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	330kgf/cm^2(4620psi)
Capacity(max / min)	134.7/87.3cc/rev
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	15.7kgf/cm^2(223psi)
Braking torque	78.8kgf · m(570lbf · ft)

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	6.5kgf/cm²(92psi)
	Maximum	26kgf/cm²(370psi)
Single operation stroke	Lever	61mm(2.4in)
	Pedal	123mm(4.84in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø140× Ø100× 1465mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø150× Ø110× 1765mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø140× Ø95× 1185mm
	Cushion	Extend only

※ Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.

※ Discoloration does not cause any harmful effect on the cylinder performance.

9) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R290LC-7	Standard	600mm(24")	0.55kgf/cm²(7.82psi)	48	3190mm(10' 6")
	Option	700mm(28")	0.48kgf/cm²(6.83psi)	48	3290mm(10' 10")
		800mm(32")	0.43kgf/cm²(6.11psi)	48	3390mm(11' 1")
		900mm(36")	0.38kgf/cm²(5.40psi)	48	3490mm(11' 5")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		PCSA heaped	CECE heaped		Without side cutter	With side cutter
R290LC-7	Standard	1.27m³(1.66yd³)	1.10m³(1.44yd³)	5	1290mm(50.8")	1410mm(55.5")
	Option	0.79m³(1.03yd³)	0.70m³(0.92yd³)	3	890mm(35.0")	1010mm(39.8")
		1.03m³(1.35yd³)	0.90m³(1.18yd³)	4	1090mm(42.9")	1210mm(47.6")
		1.07m³(1.40yd³)	0.95m³(1.24yd³)	5	1060mm(42.0")	-
		1.27m³(1.66yd³)	1.10m³(1.44yd³)	5	1220mm(48.0")	-
		1.46m³(1.91yd³)	1.28m³(1.67yd³)	5	1370mm(54.0")	-
		锬1.16m³(1.52yd³)	1.00m³(1.05yd³)	5	1305mm(51.4")	-
		1.50m³(1.96yd³)	1.30m³(1.70yd³)	6	1490mm(58.7")	1610mm(63.4")
		1.73m³(2.26yd³)	1.50m³(1.96yd³)	6	1696mm(66.8")	-
		1.85m³(2.42yd³)	1.60m³(2.09yd³)	5	1800mm(70.9")	-

: Heavy duty bucket

锬 : Rock bucket(Esco type)

9. 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) -20 (-4) / -10 (14) / 0 (32) / 10 (50) / 20 (68) / 30 (86) / 40 (104)
Engine oil pan	Engine oil	19(5.0)	SAE 30 SAE 10W SAE 10W-30 SAE 15W-40
Swing drive	Gear oil	7.0(1.8)	SAE 85W-140
Final drive		11×2 (2.9×2)	
Hydraulic tank	Hydraulic oil	Tank; 210(55) System; 380(100)	ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	450(119)	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 water 50 : 50	50(13.2)	Ethylene glycol base permanent type

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 Material