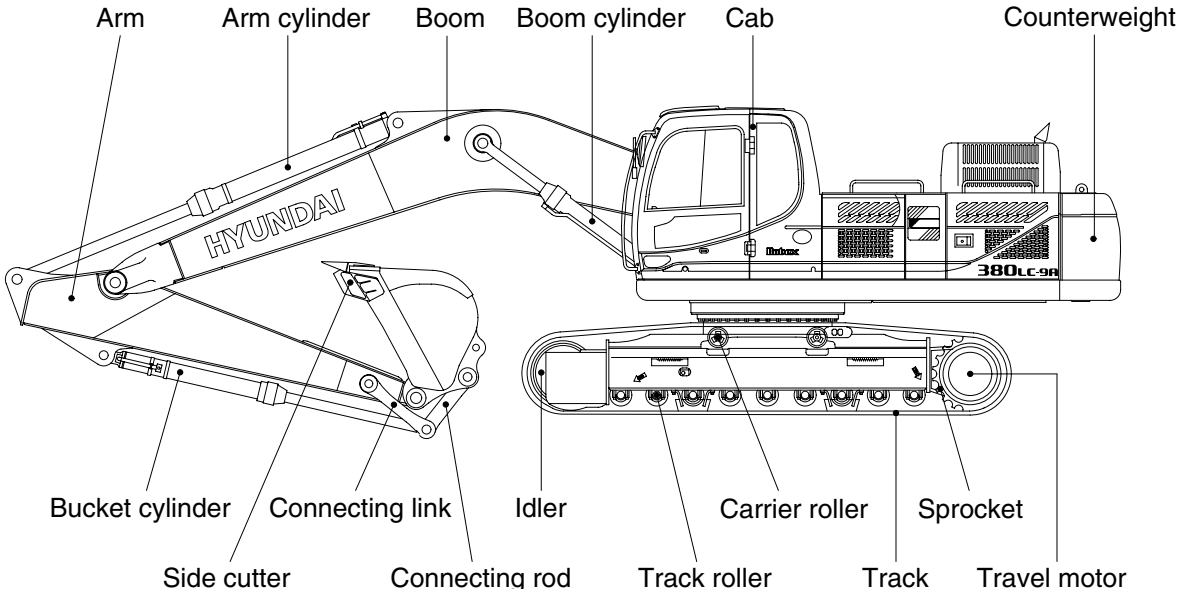
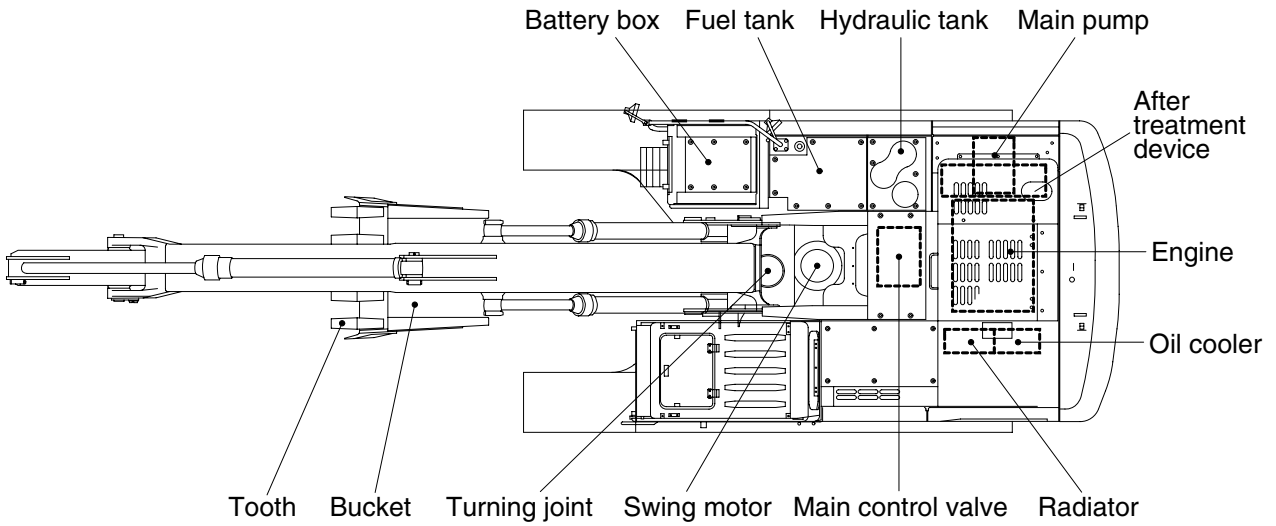


GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT

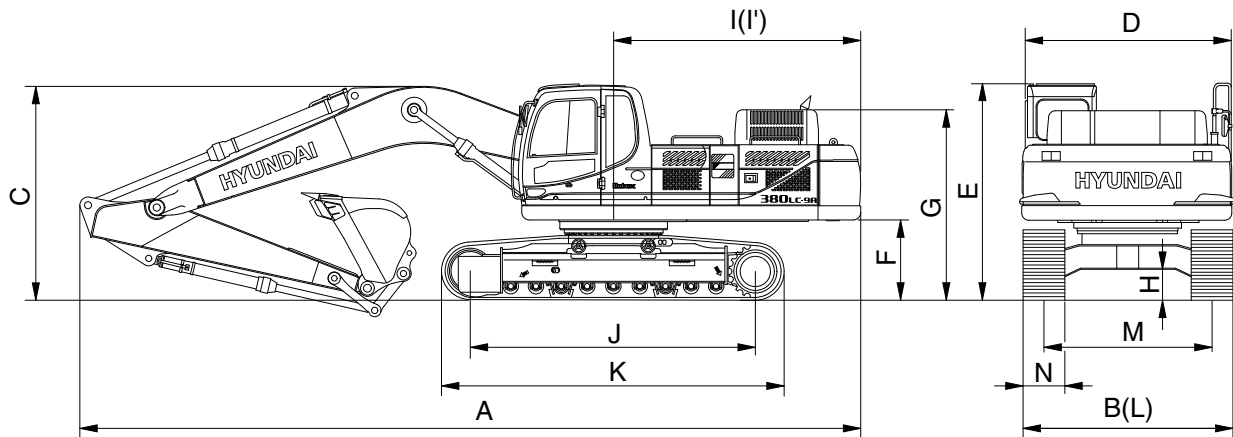


3809A2SP01

2. SPECIFICATIONS

1) R380LC-9A

· 6.5 m (21' 4") BOOM and 3.2 m (10' 6") ARM

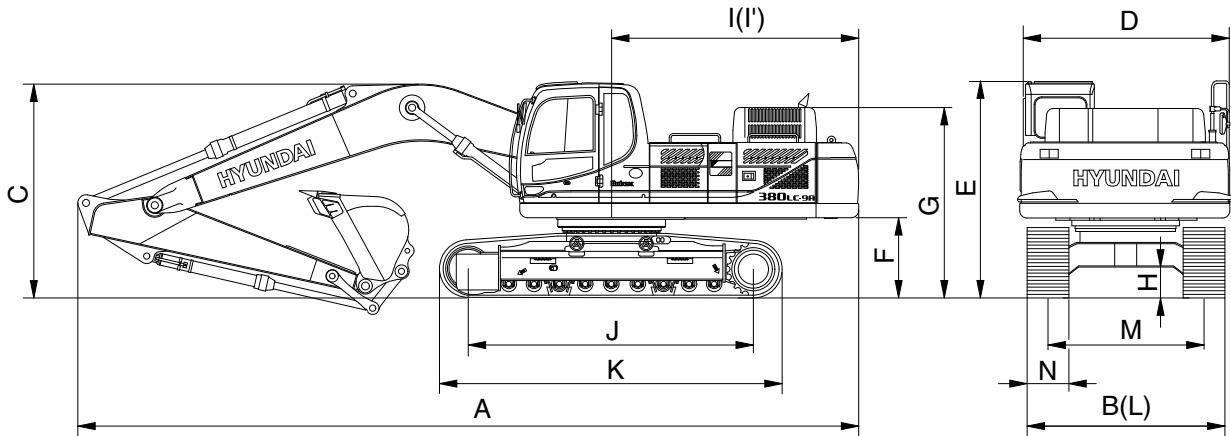


3809A2SP02

Description		Unit	Specification
Operating weight		kg (lb)	38200 (84220)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	1.62 (2.12)
Overall length	A	mm (ft-in)	11120 (36' 6")
Overall width, with 600 mm shoe	B		3340 (10'11")
Overall height	C		3450 (11' 4")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3175 (10' 5")
Ground clearance of counterweight	F		1290 (4' 3")
Engine cover height	G		2925 (9' 7")
Minimum ground clearance	H		550 (1' 10")
Rear-end distance	I		3350 (11' 0")
Rear-end swing radius	I'		3415 (11' 2")
Distance between tumblers	J		4340 (14' 3")
Undercarriage length	K		5280 (17' 4")
Undercarriage width	L		3340 (10' 11")
Track gauge	M		2740 (9' 0")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)			km/hr (mph)
Swing speed		rpm	9.4
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.68 (9.67)
Max traction force		kg (lb)	32000 (70550)

2) R380NLC-9A

· 6.5 m (21' 4") BOOM and 3.2 m (10' 6") ARM

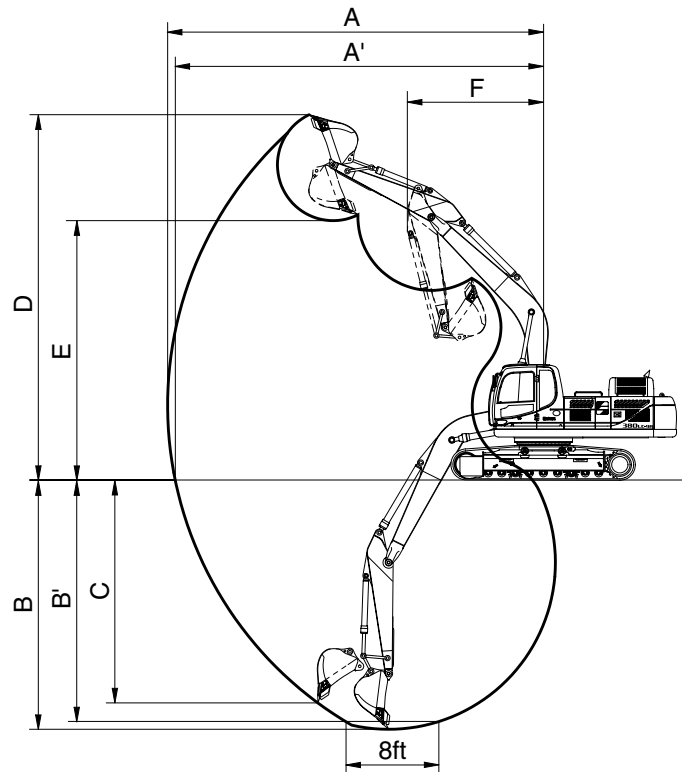


3809A2SP04

Description		Unit	Specification
Operating weight		kg (lb)	38100 (84000)
Bucket capacity (SAE heaped), standard		m ³ (yd ³)	1.62 (2.12)
Overall length	A	mm (ft-in)	11120 (36' 6")
Overall width, with 600 mm shoe	B		2990 (9' 10")
Overall height	C		3450 (11' 4")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3175 (10' 5")
Ground clearance of counterweight	F		1290 (4' 3")
Engine cover height	G		2925 (9' 7")
Minimum ground clearance	H		550 (1' 10")
Rear-end distance	I		3350 (11' 0")
Rear-end swing radius	I'		3415 (11' 2")
Distance between tumblers	J		4340 (14' 3")
Undercarriage length	K		5280 (17' 4")
Undercarriage width	L		2990 (9' 10")
Track gauge	M		2390 (7' 10")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.1/4.8 (1.9/3.0)
Swing speed		rpm	9.4
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm ² (psi)	0.68 (9.67)
Max traction force		kg (lb)	32000 (70550)

3. WORKING RANGE

1) R380LC-9A, R380NLC-9A [6.5 m (21' 4") BOOM]

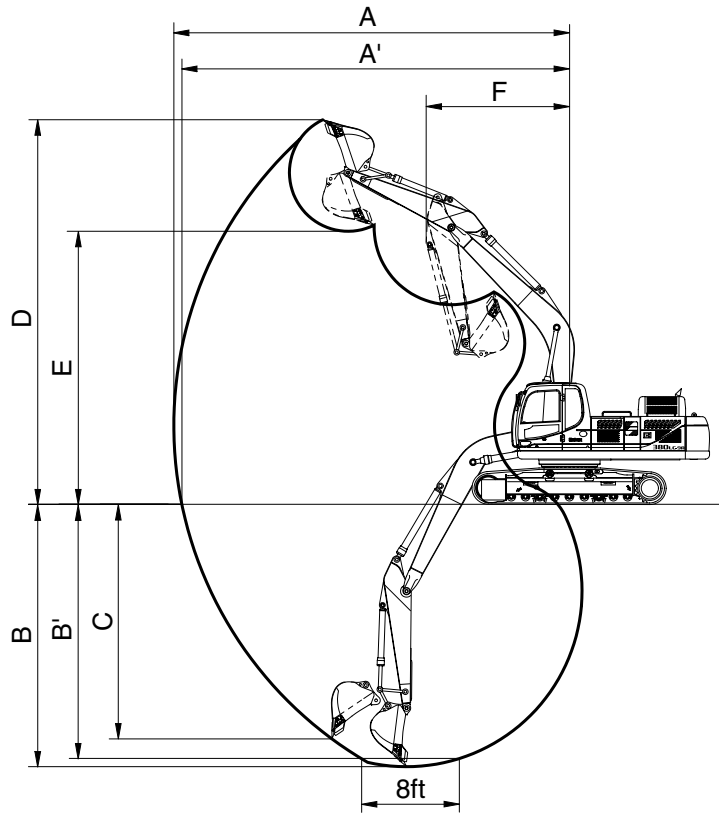


3809A2SP03

Description		2.5 m (8' 2") Arm	*3.2 m (10' 6") Arm	3.9 m (12' 10") Arm	4.3 m (14' 1") Arm
Max digging reach	A	10720 mm (35' 2")	11250 mm (36' 11")	11870 mm (38' 11")	12380 mm (40' 7")
Max digging reach on ground	A'	10490 mm (34' 5")	11040 mm (36' 3")	11670 mm (38' 3")	12180 mm (40' 0")
Max digging depth	B	6820 mm (22' 5")	7520 mm (24' 8")	8220 mm (27' 0")	8620 mm (28' 3")
Max digging depth (8ft level)	B'	6640 mm (21' 9")	7360 mm (24' 2")	8080 mm (26' 6")	8490 mm (27' 10")
Max vertical wall digging depth	C	5930 mm (19' 5")	6330 mm (20' 9")	7040 mm (23' 1")	7540 mm (24' 9")
Max digging height	D	10590 mm (34' 9")	10570 mm (34' 8")	10800 mm (35' 5")	11360 mm (37' 3")
Max dumping height	E	7370 mm (24' 2")	7410 mm (24' 4")	7640 mm (25' 1")	8160 mm (26' 9")
Min swing radius	F	4530 mm (14' 10")	4450 mm (14' 7")	4440 mm (14' 7")	4460 mm (14' 8")
Bucket digging force	SAE	201.0 [219.3] kN	201.0 [219.3] kN	201.0 [219.3] kN	201.0 [219.3] kN
		20500 [22360] kgf	20500 [22360] kgf	20500 [22360] kgf	20500 [22360] kgf
		45190 [49300] lbf	45190 [49300] lbf	45190 [49300] lbf	45190 [49300] lbf
	ISO	228.5 [249.3] kN	228.5 [249.3] kN	228.5 [249.3] kN	228.5 [249.3] kN
		23300 [25420] kgf	23300 [25420] kgf	23300 [25420] kgf	23300 [25420] kgf
		51370 [56040] lbf	51370 [56040] lbf	51370 [56040] lbf	51370 [56040] lbf
Arm crowd force	SAE	184.4 [201.1] kN	152.0 [165.8] kN	135.3 [147.6] kN	124.5 [135.9] kN
		18800 [20510] kgf	15500 [16910] kgf	13800 [15050] kgf	12700 [13850] kgf
		41450 [45220] lbf	34170 [37280] lbf	30420 [33190] lbf	28000 [30550] lbf
	ISO	192.2 [209.7] kN	156.9 [171.2] kN	139.3 [151.9] kN	128.5 [140.1] kN
		19600 [21380] kgf	16000 [17450] kgf	14200 [15490] kgf	13100 [14290] kgf
		43210 [47140] lbf	35270 [38480] lbf	31310 [34160] lbf	28880 [31510] lbf

[] : Power boost * : STD

2) R380LC-9A, R380NLC-9A [6.15 m (20' 2") BOOM]

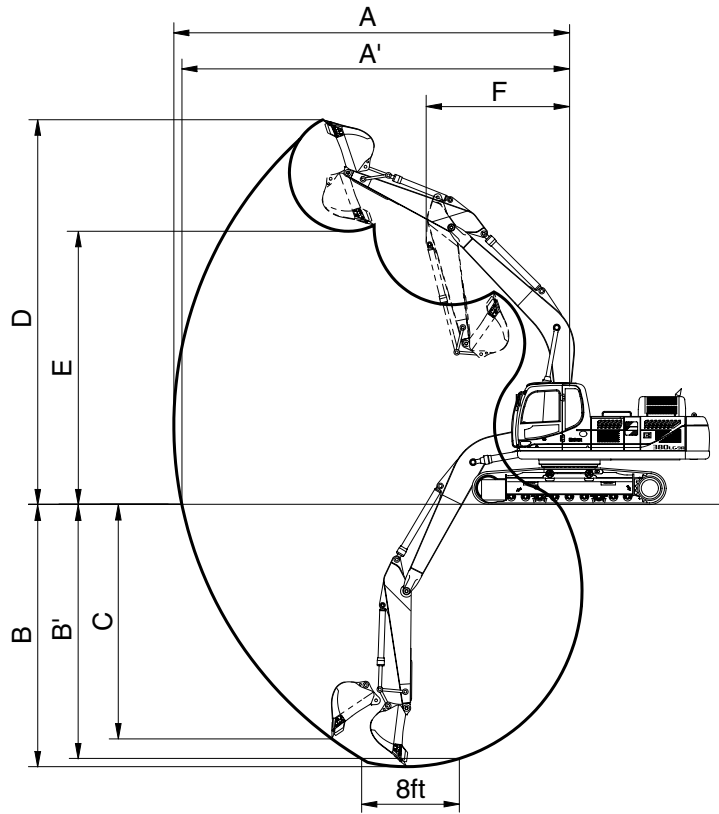


3809A2SP03

Description		2.5 m (8' 2") Arm
Max digging reach	A	10330 mm (33'11")
Max digging reach on ground	A'	10100 mm (33' 2")
Max digging depth	B	6450 mm (21' 2")
Max digging depth (8ft level)	B'	6270 mm (20' 7")
Max vertical wall digging depth	C	5490 mm (18' 0")
Max digging height	D	10320 mm (33'10")
Max dumping height	E	7120 mm (23' 4")
Min swing radius	F	4220 mm (13'10")
Bucket digging force	SAE	201.0 [219.3] kN
		20500 [22360] kgf
		45190 [49300] lbf
	ISO	228.5 [249.3] kN
		23300 [25420] kgf
		51370 [56040] lbf
Arm crowd force	SAE	184.4 [201.1] kN
		18800 [20510] kgf
		41450 [45220] lbf
	ISO	192.2 [209.7] kN
		19600 [21380] kgf
		43210 [47140] lbf

[] : Power boost

3) R380LC-9A [8.6 m (28' 3") BOOM]



3809A2SP03

Description		5.1 m (16' 9") Arm
Max digging reach	A	15280 mm (50' 2")
Max digging reach on ground	A'	15120 mm (49' 7")
Max digging depth	B	11230 mm (36'10")
Max digging depth (8ft level)	B'	11120 mm (36' 6")
Max vertical wall digging depth	C	10060 mm (33' 0")
Max digging height	D	13350 mm (43'10")
Max dumping height	E	10150 mm (33' 4")
Min swing radius	F	5900 mm (19' 4")
Bucket digging force	SAE	201.0 [220.4] kN
		20500 [22360] kgf
		45190 [49550] lbf
	ISO	228.5 [250.3] kN
		23300 [25420] kgf
		51370 [56280] lbf
Arm crowd force	SAE	109.8 [119.8] kN
		11200 [12220] kgf
		24690 [26930] lbf
	ISO	112.8 [123.0] kN
		11500 [12550] kgf
		25350 [27650] lbf

[] : Power boost

4. WEIGHT

Item		R380LC-9A		R380NLC-9A	
		kg	lb	kg	lb
Upperstructure assembly		15000	33070	←	←
Main frame weld assembly		3045	6710	←	←
Engine assembly		790	1740	←	←
Main pump assembly		190	420	←	←
Main control valve assembly		340	750	←	←
Swing motor assembly		360	790	←	←
Hydraulic oil tank assembly		340	750	←	←
Fuel tank assembly		260	570	←	←
Counterweight	6.5, 6.15 m boom	6200	13670	←	←
	8.6 m boom	8100	17860	-	-
Cab assembly		490	1080	←	←
Lower chassis assembly		14310	31550	13310	29340
Track frame weld assembly		5415	11940	5315	11720
Swing bearing		590	1300	←	←
Travel motor assembly	TYPE 1	380	840	←	←
	TYPE 2	425	940	←	←
Turning joint		65	140	←	←
Track recoil spring and idler		270	600	←	←
Idler		230	510	←	←
Carrier roller		40	90	←	←
Track roller		80	180	←	←
Track-chain assembly (600 mm standard triple grouser shoe)		2420	5340	←	←
Front attachment assembly (6.5 m boom, 3.2 m arm, 1.62 m ³ SAE heaped bucket)		7670	16910	←	←
6.5 m boom assembly		2930	6460	←	←
3.2 m arm assembly		1340	2950	←	←
1.62 m ³ SAE heaped bucket		1280	2820	←	←
Boom cylinder assembly		370	820	←	←
Arm cylinder assembly		490	1080	←	←
Bucket cylinder assembly		320	710	←	←
Bucket control linkage assembly		370	820	←	←















5. LIFTING CAPACITIES

1) R380LC-9A

(1) 6.5 m (21' 4") boom, 3.2 m (10' 6") arm equipped with 1.62 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 6200 kg (13670 lb) 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)		7.5 m (25.0 ft)		9.0 m (30.0 ft)		Capacity	Reach			
															m (ft)		
9.0 m (30 ft)	kg														*5950	*5950	7.97
	lb														*13120	*13120	(26.1)
7.5 m (25.0 ft)	kg								*4560	*4560					*6020	4860	9.12
	lb								*10050	*10050					*13270	10710	(29.9)
6.0 m (20.0 ft)	kg								*6620	*6620					*6110	4040	9.87
	lb								*14590	*14590					*13470	8910	(32.4)
4.5 m (15.0 ft)	kg						*8260	*8260	*7320	6580	*4450	*4450	*6190	3580	10.32		
	lb						*18210	*18210	*16140	14510	*9810	*9810	*13650	7890	(33.9)		
3.0 m (10.0 ft)	kg				*13520	*13520	*9960	8980	*8240	6200	*6360	4470	5970	3340	10.50		
	lb				*29810	*29810	*21960	19800	*18170	13670	*14020	9850	13160	7360	(34.4)		
1.5 m (5.0 ft)	kg				*16390	12970	*11570	8330	*9170	5850	*7510	4270	5920	3290	10.45		
	lb				*36130	28590	*25510	18360	*20220	12900	*16560	9410	13050	7250	(34.3)		
Ground Line	kg			*13090	*13090	*17880	12330	*12690	7890	*9880	5570	*7070	4130	6160	10.14		
	lb			*28860	*28860	*39420	27180	*27980	17390	*21780	12280	*15590	9110	13580	(33.3)		
-1.5 m (-5.0 ft)	kg	*13720	*13720	*17520	*17520	*18150	12120	*13170	7670	9800	5420			6770	3770	9.57	
	lb	*30250	*30250	*38620	*38620	*40010	26720	*29030	16910	21610	11950			14930	8310	(31.4)	
-3.0 m (-10.0 ft)	kg	*17880	*17880	*22800	*22800	*17430	12180	*12880	7650	9800	5420			*7730	4540	8.65	
	lb	*39420	*39420	*50270	*50270	*38430	26850	*28400	16870	21610	11950			*17040	10010	(28.4)	
-4.5 m (-15.0 ft)	kg	*22600	*22600	*21880	*21880	*15520	12490	*11510	7850					*7690	6250	7.25	
	lb	*49820	*49820	*48240	*48240	*34220	27540	*25380	17310					*16950	13780	(23.8)	
-6.0 m (-20.0 ft)	kg				*11410	*11410											
	lb				*25150	*25150											

















- 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) R380NLC-9A

(1) 6.5 m (21' 4") boom, 3.2 m (10' 6") arm equipped with 1.62 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe and 6200 kg (13670 lb) counterweight.

·  : Rating over-front

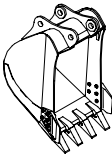
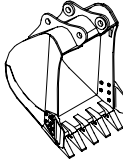
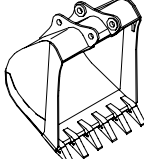
·  : Rating over-side or 360 degree

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)		7.5 m (25.0 ft)		9.0 m (30.0 ft)		Capacity		Reach	
																	
9.0 m (30 ft)	kg lb														*5950 *13120	5510 12150	7.97 (26.1)
7.5 m (25.0 ft)	kg lb								*4560 *10050	*4560 *10050					*6020 *13270	4120 9080	9.12 (29.9)
6.0 m (20.0 ft)	kg lb								*6620 *14590	5880 12960					*6110 *13470	3380 7450	9.87 (32.4)
4.5 m (15.0 ft)	kg lb							*8260 *18210	*8260 *18210	*7320 *16140	5590 12320	*4450 *9810	3900 8600	*6190 *13650	2960 6530	10.32 (33.9)	
3.0 m (10.0 ft)	kg lb					*13520 *29810	11890 26210	*9960 *21960	7590 16730	*8240 *18170	5230 11530	*6360 *14020	3720 8200	5950 13120	2740 6040	10.50 (34.4)	
1.5 m (5.0 ft)	kg lb					*16390 *36130	10710 23610	*11570 *25510	6970 15370	*9170 *20220	4880 10760	*7510 *16560	3530 7780	5910 13030	2680 5910	10.45 (34.3)	
Ground Line	kg lb			*13090 *28860	*13090 *28860	*17880 *39420	10100 22270	*12690 *27980	6540 14420	*9880 *21780	4610 10160	*7070 *15590	3390 7470	6140 13540	2780 6130	10.14 (33.3)	
-1.5 m (-5.0 ft)	kg lb	*13720 *30250	*13720 *30250	*17520 *38620	*17520 *38620	*18150 *40010	9910 21850	*13170 *29030	6320 13930	9770 21540	4470 9850			6750 14880	3090 6810	9.57 (31.4)	
-3.0 m (-10.0 ft)	kg lb	*17880 *39420	*17880 *39420	*22800 *50270	20400 44970	*17430 *38430	9970 21980	*12880 *28400	6310 13910	9780 21560	4470 9850			*7730 *17040	3750 8270	8.65 (28.4)	
-4.5 m (-15.0 ft)	kg lb	*22600 *49820	*22600 *49820	*21880 *48240	21010 46320	*15520 *34220	10260 22620	*11510 *25380	6500 14330					*7690 *16950	5230 11530	7.25 (23.8)	
-6.0 m (-20.0 ft)	kg lb					*11410 *25150	10900 24030										

- 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.

6. BUCKET SELECTION GUIDE

1) GENERAL BUCKET

		
1.46 m ³ SAE heaped bucket	※ 1.62 m ³ , 1.86 m ³ SAE heaped bucket	2.10 m ³ , 2.32 m ³ SAE heaped bucket

Capacity		Width		Weight	Recommendation					
					6.5 m (21' 4") boom				6.15 m (20' 2") boom	8.6 m (28' 3") boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.5 m arm (8' 2")	3.2 m arm (10' 6")	3.9 m arm (12' 10")	4.3 m arm (14' 1")	2.5 m arm (8' 2")	5.1 m arm (16' 9")
1.46 m ³ (1.91 yd ³)	1.27 m ³ (1.66 yd ³)	1380 mm (54.3")	1510 mm (59.4")	1170 kg (2580 lb)						
※ 1.62 m ³ (2.12 yd ³)	1.40 m ³ (1.83 yd ³)	1440 mm (56.7")	1570 mm (61.8")	1280 kg (2820 lb)						
1.86 m ³ (2.43 yd ³)	1.60 m ³ (2.1 yd ³)	1620 mm (63.8")	1750 mm (68.9")	1390 kg (3060 lb)						
2.10 m ³ (2.75 yd ³)	1.80 m ³ (2.4 yd ³)	1810 mm (71.3")	1940 mm (76.4")	1520 kg (3350 lb)						
2.32 m ³ (3.03 yd ³)	2.00 m ³ (2.62 yd ³)	1990 mm (78.3")	2120 mm (83.5")	1760 kg (3880 lb)						

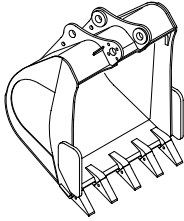
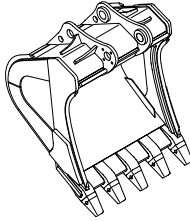
※ : Standard bucket

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) HEAVY DUTY AND ROCK-HEAVY DUTY BUCKET

	
<p>◆ 1.62 m³ SAE heaped bucket</p>	<p>⊙ 1.44 m³, 1.62 m³, 1.86 m³ SAE heaped bucket</p>

Capacity		Width		Weight	Recommendation				
					6.5 m (21' 4") boom				6.15 m (20' 2") boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.5 m arm (8' 2")	3.2 m arm (10' 6")	3.9 m arm (12' 10")	4.3 m arm (14' 1")	2.5 m arm (8' 2")
◆ 1.62 m ³ (2.12 yd ³)	1.40 m ³ (1.83 yd ³)	1540 mm (60.6")	-	1570 kg (3460 lb)					
⊙ 1.44 m ³ (1.88 yd ³)	1.27 m ³ (1.66 yd ³)	1280 mm (50.4")	-	1565 kg (3450 lb)					
⊙ 1.62 m ³ (2.12 yd ³)	1.40 m ³ (1.83 yd ³)	1545 mm (60.8")	-	1610 kg (3550 lb)					
⊙ 1.86 m ³ (2.43 yd ³)	1.60 m ³ (2.1 yd ³)	1725 mm (67.9")	-	1710 kg (3770 lb)					

◆ : Heavy duty bucket

⊙ : Rock-heavy duty 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

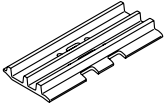
Applicable for materials with density of 1100 kg/m³ (1850 lb/yd³) or less

7. 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				
							
R380LC-9A	Shoe width	mm (in)	600 (24)	700 (28)	750 (30)	800 (32)	900 (36)
	Operating weight	kg (lb)	38200 (84220)	38650 (85210)	38875 (85700)	39100 (86200)	39550 (87190)
	Ground pressure	kgf/cm ² (psi)	0.68 (9.67)	0.59 (8.39)	0.56 (7.96)	0.52 (7.39)	0.47 (6.68)
	Overall width	mm (ft-in)	3340 (10' 11")	3440 (11' 3")	3490 (11' 5")	3540 (11' 7")	3640 (11' 11")
R380NLC-9A	Shoe width	mm (in)	600 (24)	-	-	-	-
	Operating weight	kg (lb)	38100 (84000)	-	-	-	-
	Ground pressure	kgf/cm ² (psi)	0.68 (9.67)	-	-	-	-
	Overall width	mm (ft-in)	2990 (9' 10")	-	-	-	-

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2 EA
Track rollers	9 EA
Track shoes	51 EA

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
600 mm triple grouser	Standard	A
700 mm triple grouser	Option	B
750 mm triple grouser	Option	B
800 mm triple grouser	Option	C
900 mm triple grouser	Option	C

※ **Table 2**

Category	Applications	Applications
A	Rocky ground, river beds, normal soil	<ul style="list-style-type: none"> Travel at low speed on rough ground with large obstacles such as boulders or fallen trees
B	Normal soil, soft ground	<ul style="list-style-type: none"> 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 ground (swampy ground)	<ul style="list-style-type: none"> 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 QSL9
Type	4-cycle turbocharged charger air cooled 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 × 145 mm (4.49" × 5.69")
Piston displacement	8900 cc (540 cu in)
Compression ratio	17.8 : 1
Rated gross horse power (SAE J1995)	310 Hp at 1650 rpm (231 kW at 1650 rpm)
Maximum torque	148 kgf · m (1070 lbf · ft) at 1400 rpm
Engine oil quantity	26.4 l (7.0 U.S. gal)
Dry weight	710 kg (1565 lb)
Low idling speed	800 ± 100 rpm
High idling speed	2000 + 50 rpm
Rated fuel consumption	161.1 g/Hp · hr at 1650 rpm
Starting motor	Denso (24V-7.8 kW)
Alternator	Delco Remy 24V-95A
Battery	2 × 12V × 160Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 175 cc/rev
Maximum pressure	330 kgf/cm ² (4690 psi) [360 kgf/cm ² (5120 psi)]
Rated oil flow	2 × 288.8 l /min (76.3 U.S. gpm / 63.5 U.K. gpm)
Rated speed	1650 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	27 l /min (7.1 U.S. gpm/5.9 U.K. gpm)

4) MAIN CONTROL VALVE

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

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Axial piston motor
Capacity	233 cc/rev
Relief pressure	290 kgf/cm ² (4120 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	107 kgf · m (773 lbf · ft)
Brake release pressure	30~50 kgf/cm ² (427~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	370 kgf/cm ² (5260 psi)
Capacity (max / min)	185/114 cc/rev
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	10.6 kgf/cm ² (151 psi)
Braking torque	57.1 kgf · m (413 lbf · ft)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	∅ 160 × ∅ 110 × 1500 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	∅ 170 × ∅ 120 × 1760 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	∅ 150 × ∅ 105 × 1295 mm
	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.

8) SHOE

Item		Width	Ground pressure	Link quantity	Overall width
R380LC-9A	Standard	600 mm (24")	0.68 kgf/cm ² (9.67 psi)	51	3340 mm (10' 11")
	Option	700 mm (28")	0.59 kgf/cm ² (8.39 psi)	51	3440 mm (11' 3")
		750 mm (30")	0.56 kgf/cm ² (7.96 psi)	51	3490 mm (11' 5")
		800 mm (32")	0.52 kgf/cm ² (7.39 psi)	51	3540 mm (11' 7")
		900 mm (36")	0.47 kgf/cm ² (6.68 psi)	51	3640 mm (11' 11")
R380NLC-9A	Standard	600 mm (24")	0.68 kgf/cm ² (9.67 psi)	51	2990 mm (9' 10")

9) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R380LC-9A R380NLC-9A	Standard	1.62 m ³ (2.12 yd ³)	1.40 m ³ (1.8 yd ³)	5	1440 mm (56.7")	1570 mm (61.8")
		1.46 m ³ (1.91 yd ³)	1.27 m ³ (1.66 yd ³)	4	1380 mm (54.3")	1510 mm (59.4")
		◆1.62 m ³ (2.12 yd ³)	1.40 m ³ (1.83 yd ³)	5	1540 mm (60.6")	-
		◎1.44 m ³ (1.88 yd ³)	1.27 m ³ (1.66 yd ³)	5	1280 mm (50.4")	-
		◎1.62 m ³ (2.12 yd ³)	1.40 m ³ (1.83 yd ³)	5	1545 mm (60.8")	-
		◎1.86 m ³ (2.43 yd ³)	1.60 m ³ (2.1 yd ³)	5	1725 mm (67.9")	-
		1.86 m ³ (2.43 yd ³)	1.60 m ³ (2.1 yd ³)	5	1620 mm (63.8")	1750 mm (68.9")
		2.10 m ³ (2.75 yd ³)	1.80 m ³ (2.4 yd ³)	6	1810 mm (71.3")	1940 mm (76.4")
		2.32 m ³ (3.03 yd ³)	2.00 m ³ (2.62 yd ³)	6	1990 mm (78.3")	2120 mm (83.5")

◆ : Heavy duty bucket

◎ : Rock bucket (esco type)

9. RECOMMENDED OILS

Use only oils listed below. Do not mix different brand oil.

Please use HYUNDAI genuine oil and grease.

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)
Engine oil pan	Engine oil	30 (7.9)	★SAE 5W-40						
			SAE 30						
			SAE 10W						
			SAE 10W-30						
			SAE 15W-40						
Swing drive	Gear oil	8.0 (2.1)	★SAE 75W-90						
Final drive		TYPE 1 5.5×2 (1.5×2)	SAE 80W-90						
		TYPE 2 4.3×2 (1.1×2)							
Hydraulic tank	Hydraulic oil	Tank : 210 (55.5) System : 415 (110)	★ISO VG 15						
			ISO VG 32						
			ISO VG 46						
			ISO VG 68						
Fuel tank	Diesel fuel★ ¹	600 (159)	★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	40 (10.6)	Ethylene glycol base permanent type						
			★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 Material

★¹ Ultra low sulfur diesel

- sulfur content ≤ 15 ppm

★ : Cold region

Russia, CIS, Mongolia