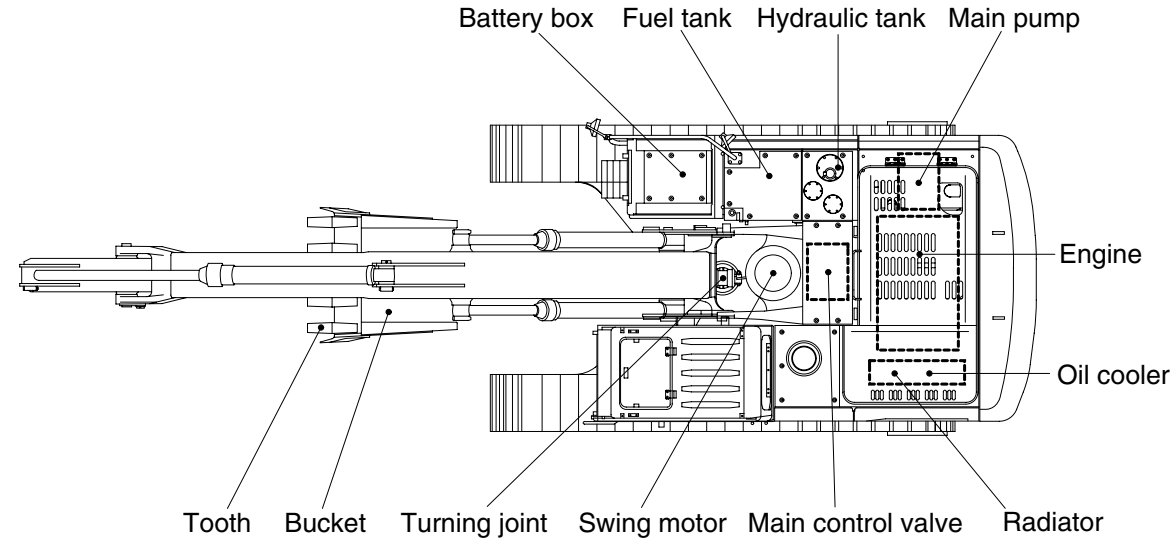
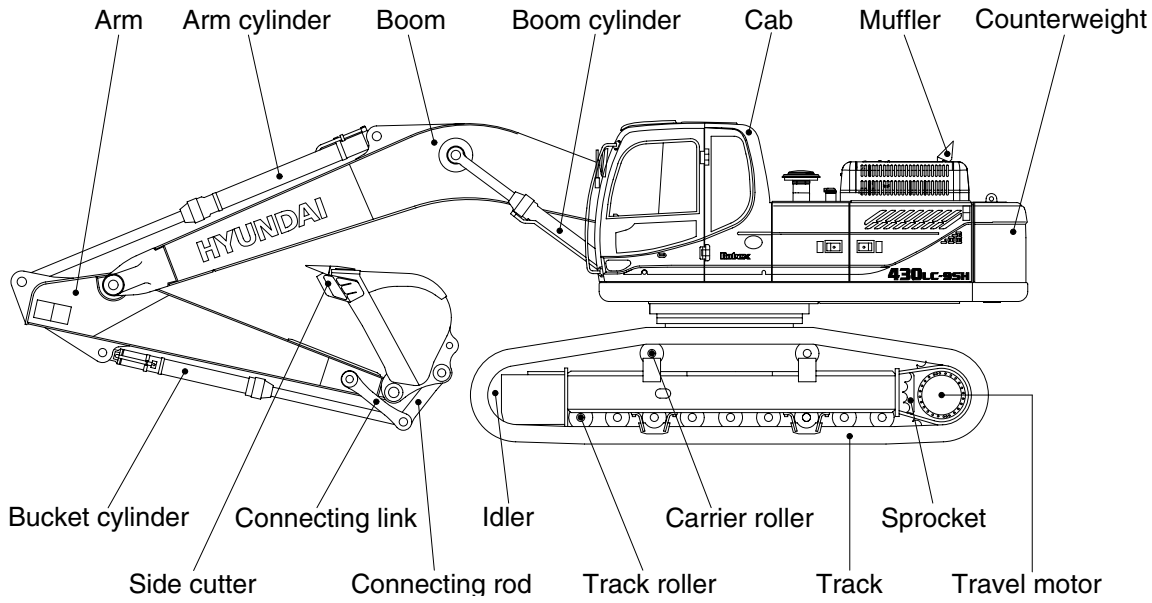
GROUP 2 SPECIFICATIONS

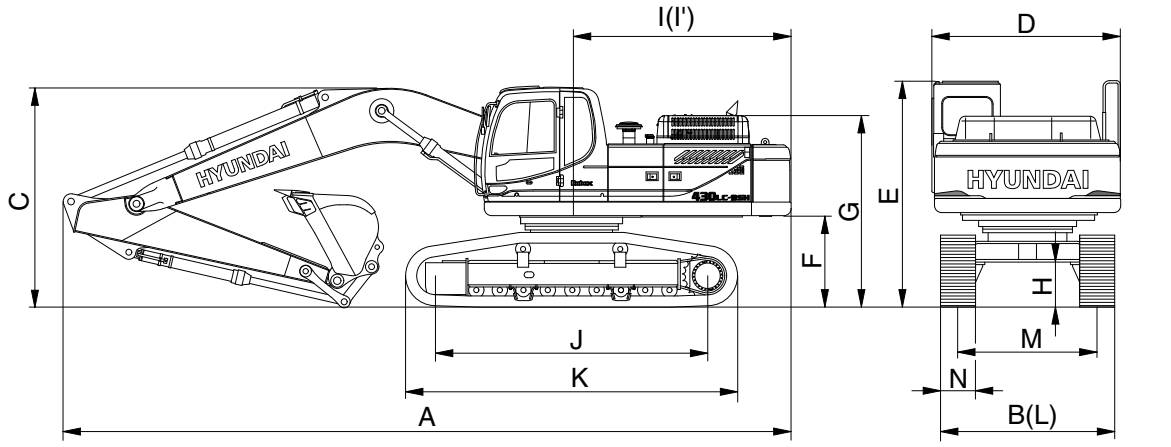
1. MAJOR COMPONENT





4309SH2SP01

2. SPECIFICATIONS

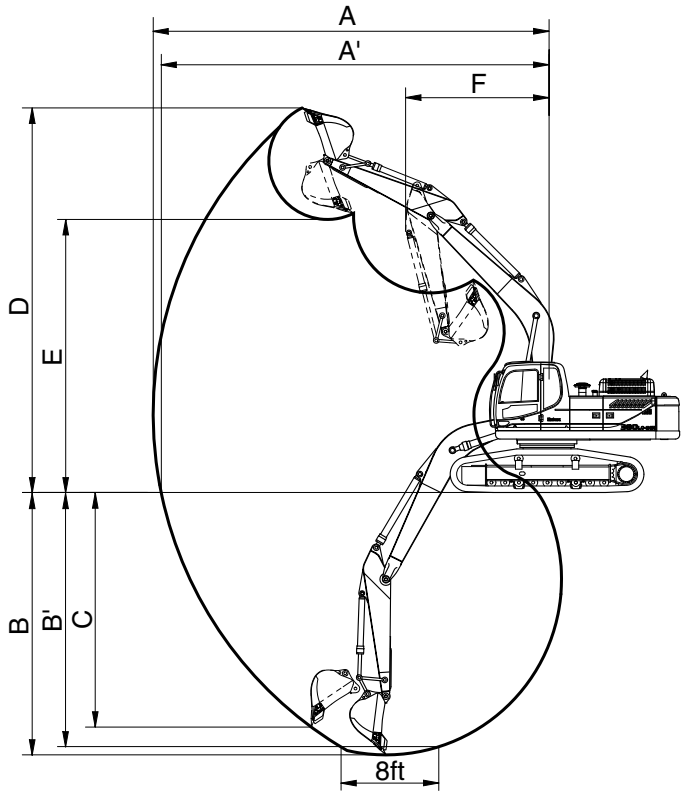


4309SH2SP02

Description		Unit	Specification
Operating weight		kg (lb)	42600 (93920)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.90 (2.49)
Overall length	A	mm (ft-in)	11270 (36' 12")
Overall width, with 600 mm shoe	B		3340 (10'11")
Overall height	C		3500 (11' 6")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3190 (10' 6")
Ground clearance of counterweight	F		1295 (4' 3")
Engine cover height	G		2790 (9' 2")
Minimum ground clearance	H		555 (1' 10")
Rear-end distance	I		3350 (11' 1")
Rear-end swing radius	I'		3415 (11' 2")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5462 (17' 11")
Undercarriage width	L		3340 (11' 0")
Track gauge	M		2740 (9' 0")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.3/5.1 (2.0/3.5)
Swing speed		rpm	9.6
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2(psi)	0.74 (10.52)
Max traction force		kg (lb)	34000 (74960)

3. WORKING RANGE

· 6.5 m (21' 4") BOOM



4309SH2SP03

Description		2.6 m (8' 6") Arm	3.2 m (10' 6") Arm
Max digging reach	A	10810 mm (35' 6")	11250 mm (36'11")
Max digging reach on ground	A'	10580 mm (34' 9")	11030 mm (36' 2")
Max digging depth	B	6865 mm (22' 6")	7470 mm (24' 6")
Max digging depth (8ft level)	B'	6690 mm (21'11")	7310 mm (23' 12")
Max vertical wall digging depth	C	6000 mm (19' 8")	6290 mm (20' 8")
Max digging height	D	10710 mm (35' 2")	10630 mm (34' 11")
Max dumping height	E	7480 mm (24' 6")	7470 mm (24' 6")
Min swing radius	F	4530 mm (14'10")	4450 mm (14' 7")
Bucket digging force	SAE	201.0 [219.3] kN	201.0 [219.3] kN
		20500 [22360] kgf	20400 [22260] kgf
		45190 [49300] lbf	44970 [49060] lbf
	ISO	228.5 [249.3] kN	228.5 [249.3] kN
		23300 [25420] kgf	23310 [25430] kgf
		51370 [56040] lbf	51390 [56060] lbf
Arm crowd force	SAE	184.4 [201.1] kN	152.0 [165.8] kN
		18800 [20510] kgf	15520 [16940] kgf
		41450 [45220] lbf	34220 [37330] lbf
	ISO	192.2 [209.7] kN	156.9 [171.2] kN
		19600 [21380] kgf	16060 [17520] kgf
		43210 [47140] lbf	35410 [38630] lbf

[ ] : Power boost

4. WEIGHT

Item	R430LC-9SH	
	kg	lb
Upperstructure assembly	15540	34260
Main frame weld assembly	3090	6810
Engine assembly	920	2030
Main pump assembly	190	420
Main control valve assembly	340	750
Swing motor assembly	440	970
Hydraulic oil tank assembly	340	750
Fuel tank assembly	230	510
Counterweight	7000	15430
Cab assembly	490	1080
Lower chassis assembly	19200	42330
Track frame weld assembly	7060	15560
Swing bearing	590	1300
Travel motor assembly	620	1370
Turning joint	65	140
Track recoil spring	310	680
Idler	250	550
Carrier roller	40	90
Track roller	80	180
Track-chain assembly (600 ㎜ standard triple grouser shoe)	2700	5950
Front attachment assembly (6.5 ㎥ boom, 3.2 ㎥ arm, 1.90 ㎥ SAE heaped bucket)	7860	17330
6.5 ㎥ boom assembly	3050	6720
3.2 ㎥ arm assembly	1410	3110
1.90 ㎥ SAE heaped bucket	1675	3690
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) 6.5 m (21' 4") boom, 3.2 m (10' 6") arm equipped with 1.90 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe.

-  : 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													*5530	*5530	7.74
	lb													*12190	*12190	(25.4)
7.5 m (25.0 ft)	kg									*4110	*4110			*5580	5460	8.91
	lb									*9060	*9060			*12300	12040	(29.2)
6.0 m (20.0 ft)	kg									*6120	*6120			*5720	4510	9.68
	lb									*13490	*13490			*12610	9940	(31.8)
4.5 m (15.0 ft)	kg							*7780	*7780	*6820	*6820	*4030	*4030	*5900	3970	10.14
	lb							*17150	*17150	*15040	*15040	*8880	*8880	*13010	8750	(33.3)
3.0 m (10.0 ft)	kg					*13020	*13020	*9470	*9470	*7740	6900	*5960	4930	*6150	3700	10.34
	lb					*28700	*28700	*20880	*20880	*17060	15210	*13140	10870	*13560	8160	(33.9)
1.5 m (5.0 ft)	kg					*15860	14740	*11060	9390	*8660	6530	*7130	4740	*6430	3630	10.29
	lb					*34970	32500	*24380	20700	*19090	14400	*15720	10450	*14180	8000	(33.8)
Ground Line	kg			*13570	*13570	*17330	14080	*12180	8930	*9380	6250	*6710	4590	*6730	3780	10.01
	lb			*29920	*29920	*38210	31040	*26850	19690	*20680	13780	*14790	10120	*14840	8330	(32.8)
-1.5 m (-5.0 ft)	kg	*14160	*14160	*18010	*18010	*17610	13870	*12650	8710	*9700	6100			*7050	4190	9.44
	lb	*31220	*31220	*39710	*39710	*38820	30580	*27890	19200	*21380	13450			*15540	9240	(31.0)
-3.0 m (-10.0 ft)	kg	*18350	*18350	*23300	*23300	*16900	13950	*12370	8700	*9400	6110			*7320	5050	8.55
	lb	*40450	*40450	*51370	*51370	*37260	30750	*27270	19180	*20720	13470			*16140	11130	(28.1)
-4.5 m (-15.0 ft)	kg	*23090	*23090	*21340	*21340	*15010	14280	*11010	8910					*7330	6990	7.18
	lb	*50900	*50900	*47050	*47050	*33090	31480	*24270	19640					*16160	15410	(23.6)
-6.0 m (-20.0 ft)	kg					*10930	*10930									
	lb					*24100	*24100									

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.

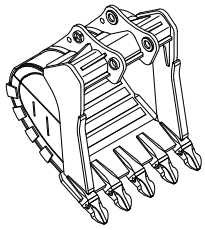
4. *indicates load limited by hydraulic capacity.

(2) 6.5 m (21' 4") boom, 2.6 m (8' 6") arm equipped with 2.10 m³ (SAE heaped) bucket and 600 mm (24") triple grouser shoe.

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													*6230	*6230	7.12
	lb													*13730	*13730	(23.4)
7.5 m (25.0 ft)	kg													*6160	5920	8.39
	lb													*13580	13050	(27.5)
6.0 m (20.0 ft)	kg							*7250	*7250	*6760	*6760			*6240	4800	9.20
	lb							*15980	*15980	*14900	*14900			*13760	10580	(30.2)
4.5 m (15.0 ft)	kg					*11050	*11050	*8580	*8580	*7380	7050			*6390	4200	9.69
	lb					*24360	*24360	*18920	*18920	*16270	15540			*14090	9260	(31.8)
3.0 m (10.0 ft)	kg					*14380	*14380	*10180	9760	*8210	6710	*5630	4770	*6590	3910	9.90
	lb					*31700	*31700	*22440	21520	*18100	14790	*12410	10520	*14530	8620	(32.5)
1.5 m (5.0 ft)	kg					*16740	14320	*11590	9170	*9020	6390	*6530	4630	*6820	3870	9.85
	lb					*36910	31570	*25550	20220	*19890	14090	*14400	10210	*15040	8530	(32.3)
Ground Line	kg					*17580	13910	*12450	8810	*9570	6170			*7070	4060	9.55
	lb					*38760	30670	*27450	19420	*21100	13600			*15590	8950	(31.3)
-1.5 m (-5.0 ft)	kg			*18020	*18020	*17350	13870	*12630	8680	*9660	6080			*7280	4580	8.95
	lb			*39730	*39730	*38250	30580	*27840	19140	*21300	13400			*16050	10100	(29.4)
-3.0 m (-10.0 ft)	kg	*20380	*20380	*22670	*22670	*16170	14070	*11960	8760					*7330	5700	8.00
	lb	*44930	*44930	*49980	*49980	*35650	31020	*26370	19310					*16160	12570	(26.2)
-4.5 m (-15.0 ft)	kg			*18770	*18770	*13630	*13630	*9820	9120					*6780	*6780	6.49
	lb			*41380	*41380	*30050	*30050	*21650	20110					*14950	*14950	(21.3)

6. BUCKET SELECTION GUIDE

1) ROCK-HEAVY DUTY BUCKET



1.90 m³ SAE
2.10 m³ SAE
heaped bucket

Capacity m³ (yd³)				Width mm (in)		Weight kg (lb)		Tooth EA	Recommendation mm (ft-in)	
									6500 (21' 4") boom	
SAE heaped		CECE heaped							2600 (8' 2") arm	3200 (10' 6") arm
1.90	(2.49)	1.65	(2.16)	1,600	(63")	1990	(4390)	5	●	◐
2.10	(2.75)	1.84	(2.41)	1,735	(68")	2090	(4610)	5	◐	■

● Applicable for materials with density of 2100 kg/m³ (3500 lb/yd³) or less

◐ Applicable for materials with density of 1800 kg/m³ (3000 lb/yd³) or less

■ Applicable for materials with density of 1500 kg/m³ (2500 lb/yd³) or less

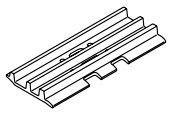
▲ Applicable for materials with density of 1200 kg/m³ (2000 lb/yd³) or less

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				
							
R430LC-9SH	Shoe width	mm (in)	600 (24)	700 (28)	750 (30)	800 (32)	900 (36)
	Operating weight	kg (lb)	42600 (93920)	43140 (95110)	43410 (95700)	43680 (96300)	44220 (97490)
	Ground pressure	kgf/cm^2 (psi)	0.74 (10.52)	0.64 (9.10)	0.60 (8.53)	0.57 (8.11)	0.51 (7.25)
	Overall width	mm (ft-in)	3340 (10' 11")	3440 (11' 3")	3490 (11' 5")	3540 (11' 7")	3640 (11' 11")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2 EA
Track rollers	9 EA
Track shoes	53 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	· 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	HMC D6AC-C
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	130 × 140 mm (5.12" × 5.51")
Piston displacement	11,149 cc (680 cu in)
Compression ratio	17 : 1
Rated gross horse power (SAE J1995)	276 Hp at 1900 rpm (206 kW at 1900 rpm)
Maximum torque	120.0 kgf · m (868 lbf · ft) at 1400 rpm
Engine oil quantity	27.3 ℓ (7.2 U.S. gal)
Dry weight	920 kg (2028 lb)
Low idling speed	800 ± 100 rpm
High idling speed	2050 + 50 rpm
Rated fuel consumption	157.1 g/Hp · hr at 1900 rpm
Starting motor	24V-5.5 kW
Alternator	24V-70A
Battery	2 × 12V × 160Ah, *2 × 12V × 200Ah

*: Artic machinery

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 185 cc/rev
Maximum pressure	330 kgf/cm^2 (4690 psi) [360 kgf/cm^2 (5120 psi)]
Rated oil flow	2 × 333 ℓ /min (88 U.S. gpm/73.2 U.K. gpm)

[ ] : 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	25.5 ℓ /min (6.7 U.S. gpm/5.6 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	380 kgf/cm^2 (5400 psi)

[ ]: Power boost

5) SWING MOTOR

Item	Specification
Type	Axial piston motor
Capacity	250 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	360 kgf/cm^2 (5120 psi)
Capacity (max / min)	282.6/160.8 cc/rev
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	15.3 kgf/cm^2 (218 psi)
Braking torque	143 kgf · m (1034 lbf · ft)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Stroke	ø 160 × 1500 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Stroke	ø 170 × 1760 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Stroke	ø 150 × 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
R430LC-9SH	Standard	600 mm (24")	0.74 kgf/cm^2 (10.52 psi)	53	3340 mm (10' 11")
	Option	700 mm (28")	0.64 kgf/cm^2 (9.10 psi)	53	3440 mm (11' 3")
		750 mm (30")	0.60 kgf/cm^2 (8.53 psi)	53	3490 mm (11' 5")
		800 mm (32")	0.57 kgf/cm^2 (8.11 psi)	53	3540 mm (11' 7")
		900 mm (36")	0.51 kgf/cm^2 (7.25 psi)	53	3640 mm (11' 11")

9) BUCKET

Item	Capacity m^3 (yd^3)				Tooth quantity EA	Width mm (in)	
	SAE heaped		CECE heaped				
R430LC-9SH	1.90	(2.49)	1.65	(2.16)	5	1600	(63")
	2.10	(2.75)	1.84	(2.41)	5	1735	(68")

◎ : 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) 30 (86) 40 (104)
Engine oil pan	Engine oil	27.3 (7.2)	★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		12 × 2 (3.2 × 2)	SAE 80W-90
Hydraulic tank	Hydraulic oil	Tank; 210 (55.5) System; 410 (108.3)	★ISO VG 15 ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	550 (145)	★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	45 (13.7)	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 Material

★ : Arctic machine