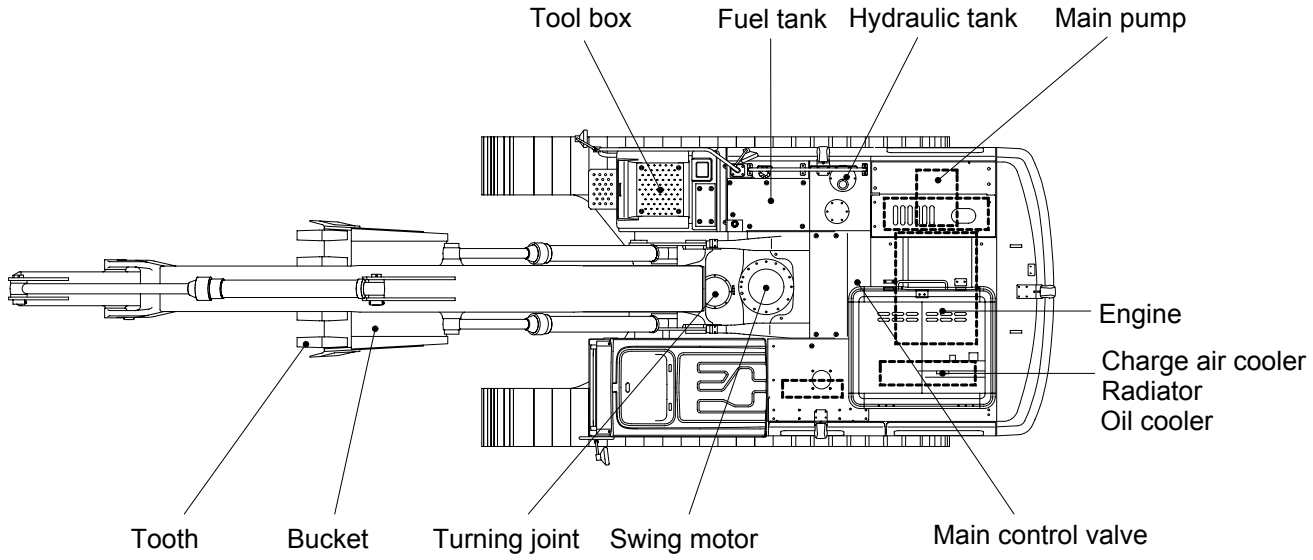
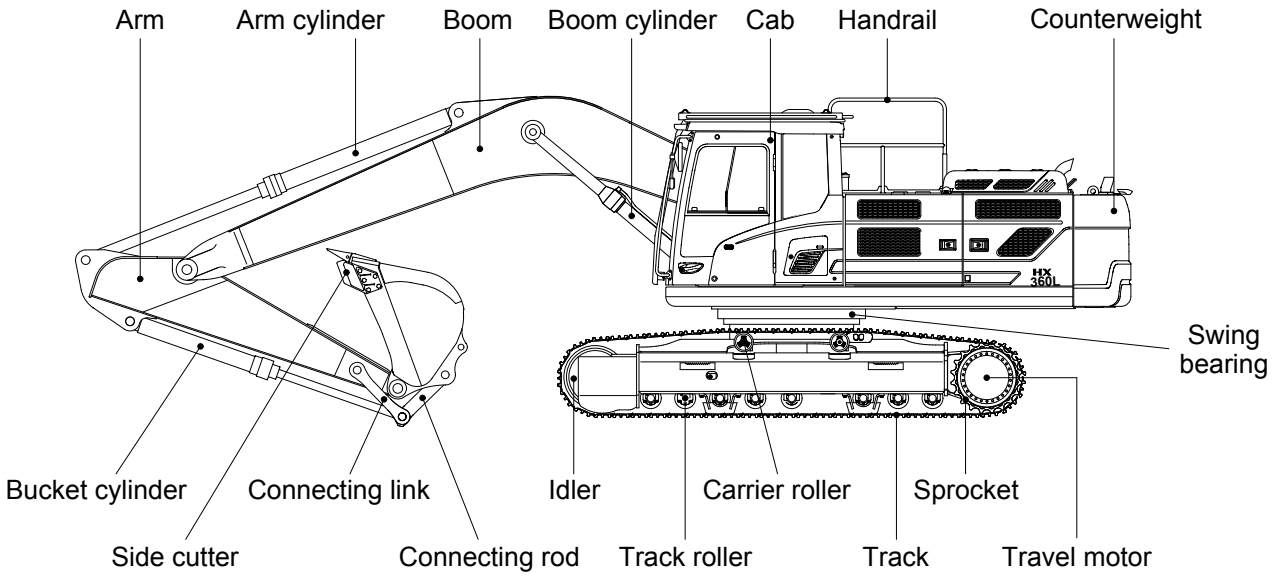
1. MAJOR COMPONENT



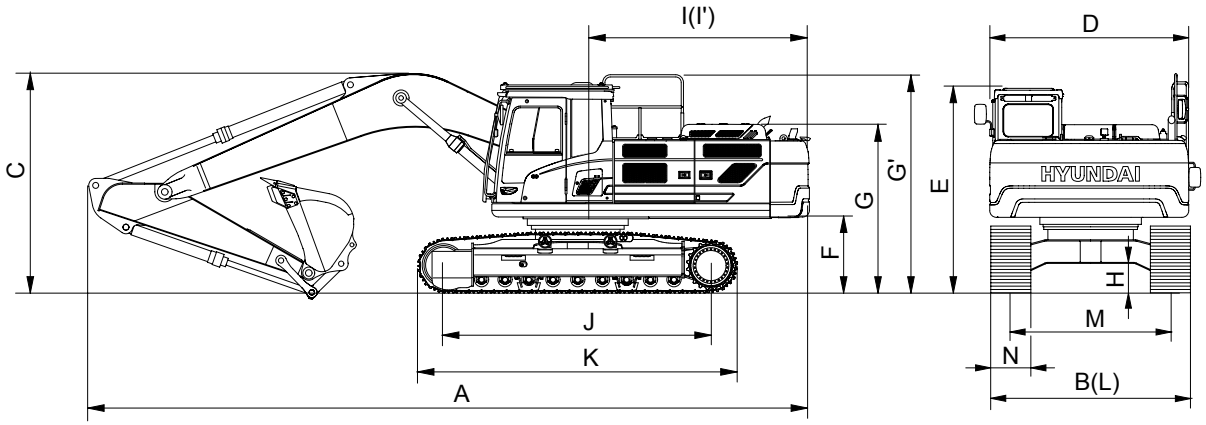


330S2SP01

2. SPECIFICATIONS

1) HX360L

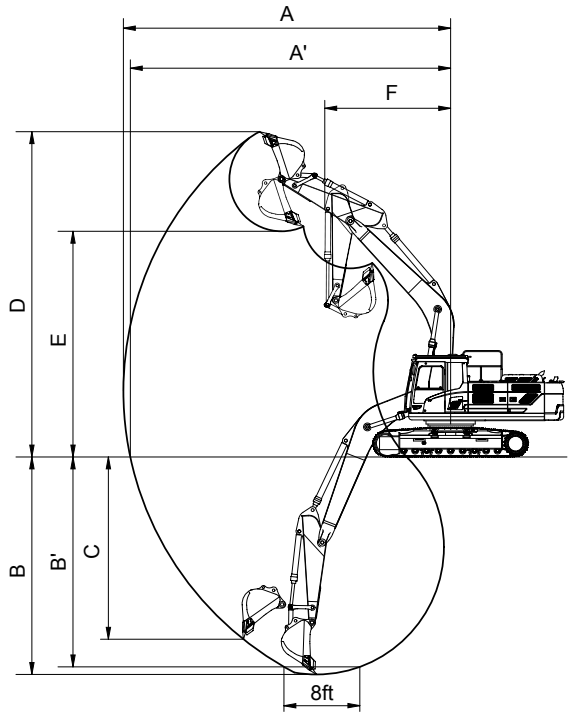
6.45 m (21' 2") boom and 2.65m (8'8") arm



Description		Unit	Specification
Operating weight		kg (lb)	36070 (79521)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	1.44 (1.88)
Overall length	A	mm (ft-in)	11400 (37' 4")
Overall width, with 600 mm shoe	B		3230 (10' 9")
Overall height of boom	C		3360 (11' 0")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3190 (10' 4")
Ground clearance of counterweight	F		1250 (3' 11")
Overall height of engine hood	G		2672 (8' 9")
Overall height of handrail	G'		3350 (11' 0")
Minimum ground clearance	H		530 (1' 8")
Rear-end distance	I		3510 (11' 6")
Rear-end swing radius	I'		3570 (11' 9")
Distance between tumblers	J		4030 (13' 3")
Undercarriage length	K		4940 (16' 2")
Undercarriage width	L		3280 (10' 9")
Track gauge	M		2590 (8' 5")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.6/6.4 (2.11/3.98)
Swing speed		rpm	11.2
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm^2(psi)	0.64 (9.03)
Max traction force		kg (lb)	32500 (71650)

3. WORKING RANGE

1) HX360L



Description		6.45 m (21' 2") Boom			6.15 m (20' 2") Boom
		2.2 m (7' 3") Arm	2.65 m (8' 8") Arm	3.2 m (10' 6") Arm	2.2 m (7' 3") Arm
Max digging reach	A	10330 mm (33'11")	10730mm (35' 2")	11150 mm (36' 7")	10020 mm (32'10")
Max digging reach on ground	A'	10120 mm (33' 2")	10520mm (34' 6")	10950 mm (35'11")	9810 mm (32' 2")
Max digging depth	B	6360 mm (20'10")	6830 mm (22' 5")	7360 mm (24' 2")	6150 mm (20' 2")
Max digging depth (8ft level)	B'	6170 mm (20' 3")	6680 mm (21' 10")	7200 mm (23' 7")	5950 mm (19' 6")
Max vertical wall digging depth	C	5970 mm (19' 7")	5050 mm (16' 7")	6330 mm (20' 9")	5700 mm (18' 8")
Max digging height	D	10260 mm (33' 8")	10120 mm (33' 2")	10360 mm (34' 0")	9980 mm (32' 9")
Max dumping height	E	7060 mm (23' 2")	7040 mm (23'1")	7260 mm (23'10")	6790 mm (22' 3")
Min swing radius	F	4630 mm (15' 2")	4740 mm (15' 7")	4360 mm (14' 4")	4450 mm (14' 7")
Bucket digging force	SAE	186.3 [203.3] kN	186.3 [203.3] kN	188.3 [205.5] kN	186.3 [203.3] kN
		19000 [20730] kgf	19000 [20730] kgf	19200 [20950] kgf	19000 [20730] kgf
		41890 [45700] lbf	41890 [45700] lbf	42330 [46190] lbf	41890 [45700] lbf
	ISO	214.8 [234.3] kN	214.8 [234.3] kN	216.7 [236.4] kN	214.8 [234.3] kN
		21900 [23890] kgf	21900 [23890] kgf	22100 [24110] kgf	21900 [23890] kgf
		48280 [52670] lbf	48280 [52670] lbf	48720 [53150] lbf	48280 [52670] lbf
Arm crowd force	SAE	195.2 [212.9] kN	156.9[171.2] kN	140.2 [153.0] kN	195.2 [212.9] kN
		19900 [21710] kgf	16000 [17480] kgf	14300 [15600] kgf	19900 [21710] kgf
		43870 [47860] lbf	35270 [38480] lbf	31530 [34390] lbf	43870 [47860] lbf
	ISO	205.0 [223.6] kN	162.8 [177.6] kN	145.1 [158.4] kN	205.0 [223.6] kN
		20900 [22800] kgf	16600 [18080] kgf	14800 [16150] kgf	20900 [22800] kgf
		46080 [50270] lbf	36600[39930] lbf	32630 [35600] lbf	46080 [50270] lbf

[ ] : Power boost

4. WEIGHT

1) HX360L

Item	HX360L	
	kg	lb
Upperstructure assembly	10714.71	23621.89
Main frame weld assembly	2919.22	6435.77
Engine assembly	730	1609.37
Main pump assembly	201	443
Main control valve assembly	220	485
Swing motor assembly	370	820
Hydraulic oil tank assembly	300	661
Fuel tank assembly	350	772
Counterweight	6000	13230
Cab assembly	515	1135.38
Radiator assy	230	510
Oil cooler assy	80	180
Lower chassis assembly	8917.23	19659.12
Track frame weld assembly	4951.13	10915.37
Swing bearing	468	1031.76
Travel motor assembly	380	837.75
Turning joint	53	116.85
Tension cylinder	225	496
Idler	261	575.4
Sprocket	83	183
Carrier roller	79.50	175.26
Track roller	40	88.18
Track-chain assembly (600 ㎜ standard triple grouser shoe)	2196	4841.35
Front attachment assembly (6.45 m boom, 2.65 m arm	2879.52	6348.25
6.45 m boom assembly	272.68	601.15
2.65 m arm assembly	1219.68	2688.9
1.44 m^3 SAE heaped bucket	1230	2710
Boom cylinder assembly	314.10	692.47
Arm cylinder assembly	434.70	958.34
Bucket cylinder assembly	266.3	587.09
Bucket control linkage assembly	372.06	820.25

5. LIFTING CAPACITIES

1) 6.45m(21' 2") boom, 2.2m(7' 3") arm equipped with 2.10m³(SAE heaped) bucket and 600mm (24") triple grouser shoe.

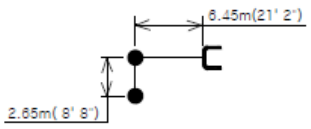
◦ : Rating over-front ◦ : Rating over-side or 360 degree

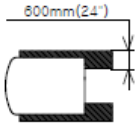
Load point height		Load radius								At max. reach		
		3.0m(10ft)		4.5m(15ft)		6.0m(20ft)		7.5m(25ft)		Capacity		Reach
												m(ft)
7.5m (25ft)	kg									*6140	4950	7.99
	lb									*13540	10910	(26.2)
6.0m (20ft)	kg					*7290	*7290	*6760	5430	*6200	3890	8.87
	lb					*16070	*16070	*14900	11970	*13670	8580	(29.1)
4.5m (15ft)	kg			*11110	*11110	*8480	7790	*7260	5230	5520	3340	9.39
	lb			*24490	*24490	*18700	17170	*16010	11530	12170	7360	(30.8)
3.0m (10ft)	kg					*9930	7200	*7980	4960	5180	3080	9.61
	lb					*21890	15870	*17590	10930	11420	6790	(31.5)
1.5m (5ft)	kg					*11150	6730	7770	4700	5140	3040	9.56
	lb					*24580	14840	17130	10360	11330	6700	(31.4)
Ground Line	kg			*16550	10200	10940	6460	7590	4530	5420	3210	9.23
	lb			*36490	22490	24120	14240	16730	9990	11950	7080	(30.3)
-1.5m (-5ft)	kg			*16000	10250	10870	6400	7540	4490	6150	3680	8.59
	lb			*35270	22600	23960	14110	16620	9900	13560	8110	(28.2)
-3.0m (-10ft)	kg	*19750	*19750	*14600	10480	*10920	6510			*7140	4750	7.54
	lb	*43540	*43540	*32190	23100	*24070	14350			*15740	10470	(24.7)
-4.5m (-15ft)	kg	*15770	*15770	*11820	10940							
	lb	*34770	*34770	*26060	24120							

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) 6.45m(21' 2") boom, 2.65m(8' 8") arm equipped and 600mm (24") triple grouser shoe.

HX360 L





		3.0m(9.8 ft)		4.5m(14.8 ft)		6.0m(19.7 ft)		7.5m(24.6 ft)				
												m(ft)
7.5m	kg									*8500	7230	7.09
24.6 ft	lb									*18740	15940	(23.3)
6.0m	kg					*9000	*9000	*8450	6530	*8450	5780	8.04
19.7ft	lb					*19840	*19840	*18630	14400	*18630	12740	(26.4)
4.5m	kg			*13280	*13280	*10340	8980	*8990	6350	7600	5050	8.62
14.8ft	lb			*29280	*29280	*22800	19800	*19820	14000	16760	11130	(28.3)
3.0m	kg					*11960	8490	9300	6110	7090	4680	8.92
9.8 ft	lb					*26370	18720	20500	13470	15630	10320	(29.3)
1.5m	kg					12770	8090	9060	5900	6950	4560	8.95
4.9 ft	lb					28150	17840	19970	13010	15320	10050	(29.3)
0.0m	kg			*18020	12020	12520	7870	8910	5760	7160	4670	8.71
0.0ft	lb			*39730	26500	27600	17350	19640	12700	15790	10300	(28.6)
−1.5m	kg	*12410	*12410	*18510	12060	12460	7820	8880	5730	7820	5090	8.20
−4.9ft	lb	*27360	*27360	*40810	26590	27470	17240	19580	12630	17240	11220	(26.9)
−3.0m	kg	*22440	*22440	*16900	12240	12570	7920			9290	6020	7.34
−9.8ft	lb	*49470	*49470	*37260	26980	27710	17460			20480	13270	(24.1)
−4.5m	kg			*13740	12630					*9970	8280	5.99
−14.8ft	lb			*30290	27840					*21980	18250	(19.7)

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.

Boom : 6.45m (21' 2")
Arm : 3.2 m (10' 8")
Bucket : 2.1 m^3 SAE heaped
Shoe 600mm Triple Grouser with 6.6 ton CWT

Rating over-front
Rating over-side or 360 degree

Load point height (m/ft)		Load radius												At max. reach		
		1.5m(5.0ft)		3.0m(15.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		9.0m(30.0ft)		Capacity		Reach
7.5 m	kg									*4880	*4880			*5500	1360	9.06
25.0 ft	lb									*10760	*10760			*12130	9610	(29.7)
6.0 m	kg									*6000	*6110			5730	3630	9.84
20.0 ft	lb									*13230	*13470			12630	8000	(32.3)
4.5 m	kg							*7490	*7490	*6640	5860	*5070	4150	5180	3220	10.31
15.0 ft	lb							*16510	*16510	*14640	12920	*11180	9140	11410	7100	(33.8)
3.0 m	kg					*12430	12610	*9090	7980	*7490	5540	6350	4000	4910	3010	10.52
10.0 ft	lb					*27400	27800	*20040	17600	*16510	12210	14000	8810	10820	6630	(34.5)
1.5 m	kg					*15210	11540	*10610	7440	8360	5230	6180	3840	4860	2960	10.48
5.0 ft	lb					*33530	25440	23390	16400	18440	11530	13620	8470	10710	6520	(34.4)
Ground Line	kg			*9720	*9720	*16620	11010	11630	7070	8100	5010	6050	3710	5030	3060	10.19
	lb			*21430	*21430	*36640	24270	25630	15590	17860	11040	13340	8170	11080	6740	(33.4)
-1.5 m	kg	*10800	*10800	*13710	*13710	*16830	10870	11430	6890	7970	4880			5500	3380	9.63
-5.0 ft	lb	*23810	*23810	*30230	*30230	*37100	23970	25190	15190	17570	10760			12120	7450	(31.6)
-3.0 m	kg	*14530	*14530	*18410	*18410	*16100	10940	11420	6890	7970	4890			6480	4040	8.74
-10.0 ft	lb	*32030	*32030	*40590	*40590	*35490	24120	25170	15190	17570	10780			14290	8910	(28.7)
-4.5 m	kg			*20220	*20220	*14270	11220	10560	7070					*6880	5490	7.37
-15.0 ft	lb			*44580	*44580	*31460	24730	23280	15590					*15170	12100	(24.2)
-6.0 m	kg					*10450	10450									6.58
-20.0 ft	lb					*23040	23040									(21.6)

NOTES :
1. Lifting Capacity are based on SAE J1097, 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 (standard equipment) located on the back of the bucket.
4. (*) Indicates load limited by hydraulic capacity.

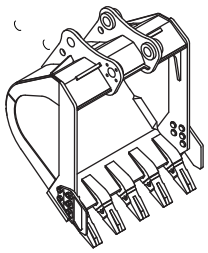
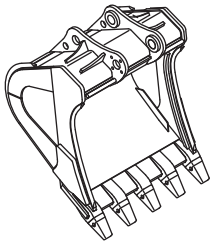
Boom : 6.45m (21' 2")
Arm : 3.2 m (10' 8")
Bucket : 1.44 m^3 SAE heaped
Shoe 600mm Triple Grouser with 6.6 ton CWT

Rating over-front
Rating over-side or 360 degree

Load point height (m/ft)		Load radius												At max. reach		
		1.5m(5.0ft)		3.0m(15.0ft)		4.5m(15.0ft)		6.0m(20.0ft)		7.5m(25.0ft)		9.0m(30.0ft)		Capacity		Reach
7.5 m	kg									*4880	*4880			*5500	1360	9.06
25.0 ft	lb									*10760	*10760			*12130	9610	(29.7)
6.0 m	kg									*6000	*6110			5730	3630	9.84
20.0 ft	lb									*13230	*13470			12630	8000	(32.3)
4.5 m	kg							*7490	*7490	*6640	5860	*5070	4150	5180	3220	10.31
15.0 ft	lb							*16510	*16510	*14640	12920	*11180	9140	11410	7100	(33.8)
3.0 m	kg					*12430	12610	*9090	7980	*7490	5540	6350	4000	4910	3010	10.52
10.0 ft	lb					*27400	27800	*20040	17600	*16510	12210	14000	8810	10820	6630	(34.5)
1.5 m	kg					*15210	11540	*10610	7440	8360	5230	6180	3840	4860	2960	10.48
5.0 ft	lb					*33530	25440	23390	16400	18440	11530	13620	8470	10710	6520	(34.4)
Ground Line	kg			*9720	*9720	*16620	11010	11630	7070	8100	5010	6050	3710	5030	3060	10.19
	lb			*21430	*21430	*36640	24270	25630	15590	17860	11040	13340	8170	11080	6740	(33.4)
-1.5 m	kg	*10800	*10800	*13710	*13710	*16830	10870	11430	6890	7970	4880			5500	3380	9.63
-5.0 ft	lb	*23810	*23810	*30230	*30230	*37100	23970	25190	15190	17570	10760			12120	7450	(31.6)
-3.0 m	kg	*14530	*14530	*18410	*18410	*16100	10940	11420	6890	7970	4890			6480	4040	8.74
-10.0 ft	lb	*32030	*32030	*40590	*40590	*35490	24120	25170	15190	17570	10780			14290	8910	(28.7)
-4.5 m	kg			*20220	*20220	*14270	11220	10560	7070					*6880	5490	7.37
-15.0 ft	lb			*44580	*44580	*31460	24730	23280	15590					*15170	12100	(24.2)
-6.0 m	kg					*10450	10450									6.58
-20.0 ft	lb					*23040	23040									(21.6)

NOTES :
1. Lifting Capacity are based on SAE J1097, 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 (standard equipment) located on the back of the bucket.
4. (*) Indicates load limited by hydraulic capacity.

6. BUCKET SELECTION GUIDE

Â **General bucket**	Â **Rock-heavy duty bucket**
	
2.10m³ SAE heaped bucket	L' 1.44m³ SAE L' 1.62m³ SAE heaped bucket

Capacity		Width		Weight	6.45m (21' 2") boom		
SAE heaped	CECE heaped	Without side cutter	With side cutter		2.2m (7' 3") arm	2.65m (8' 8") arm	3.2m(10' 6") arm
2.10m³ (2.75yd³)	1.90m³ (2.49yd³)	1710mm (67.3")	1830mm (72.0")	1505kg (3320lb)			
L' 1.44m³ (1.88yd³)	1.25m³ (1.64yd³)	1290mm (50.8")	-	1510kg (3330lb)			
L' 1.62m³ (2.12yd³)	1.43m³ (1.87yd³)	1590mm (62.6")	-	1540kg (3400lb)			

L' : Rock - Heavy duty 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

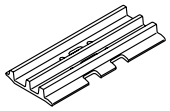
Applicable for materials with density of 1100kgf/m³ (1850lbf/yd³) or less

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		
					
HX360L	Shoe width	mm (in)	600 (24)	700 (28)	800 (32)
	Operating weight	kg (lb)	36070 (79521)	42081 (92774)	48093 (106027)
	Ground pressure	kgf/cm^2 (psi)	0.64 (9.03)	0.55 (7.88)	0.49 (6.97)
	Overall width	mm (ft-in)	3280 (10' 9")	3380 (11' 1")	3480 (11' 5")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	2EA
Track rollers	8EA
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
600 mm triple grouser	Standard	A
700 mm triple grouser	Option	B
800 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 or a wide range of general civil engineering work
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	Hyundai HM8.3
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 × 134.9 mm (4.49" × 5.31")
Piston displacement	8290 cc (506 cu in)
Compression ratio	18 : 1
Rated net horse power (SAE J1349)	245 Hp (183 kW) at 2200 rpm
Rated gross horse power (SAE J1995)	250 Hp (186 kW) at 2200 rpm
Maximum torque	124 kgf · m (899 lbf · ft) at 1300 rpm
Engine oil quantity	26.5 ℓ (7.0 U.S. gal)
Wet weight	617 kg (1360 lb)
High idling speed	2457+50 rpm
Low idling speed	850±100 rpm
Rated fuel consumption	151 g/Hp · hr at 1400 rpm
Starting motor	24V-7.2 kW
Alternator	24V 90A
Battery	2 × 12V × 160Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 175 cc/rev
Rated oil flow	2 × 306 ℓ/min (80.8 U.S. gpm / 67.3 U.K. gpm)
Rated speed	1750 rpm

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	26.3 ℓ /min (6.9 U.S. gpm/5.8 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	10 spools
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	Axial piston motor
Capacity	156.9 cc/rev
Relief pressure	300 kgf/cm^2 (4270 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	84.4 kgf · m (610 lbf · ft)
Brake release pressure	36.5 kgf/cm^2 (519 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	350 kgf/cm^2 (4980 psi)
Capacity (max / min)	282.6/156.9 cc/rev
Reduction gear type	2-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	17 kgf/cm^2 (242 psi)
Braking torque	134 kgf · m (969 lbf · ft)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø150 × Ø105 × 1480 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø160 × Ø110 × 1685 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø140 × Ø100 × 1285 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
HX360L	Standard	☆ 600 mm (24")	0.64 kgf/cm^2 (9.03 psi)	48	3280 mm (10' 9")
	Option	☆ 700 mm (28")	0.55 kgf/cm^2 (7.88 psi)	48	3380 mm (11' 1")
		☆ 800 mm (32")	0.49 kgf/cm^2 (6.97 psi)	48	3480 mm (11' 5")

☆ : Triple grouser

9. RECOMMENDED OILS

HYUNDAI genuine lubricating oils have been developed to offer the best performance and service life for your equipment. These oils have been tested according to the specifications of HYUNDAI and, therefore, will meet the highest safety and quality requirements.

We recommend that you use only HYUNDAI genuine lubricating oils and grease officially approved by HYUNDAI.

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★1	26.5 (7.0)	★SAE 0W-40 ★SAE 0W-30 SAE 5W-30 SAE 10W-30 SAE 15W-40
Swing drive	Gear oil	11 (2.91)	★SAE 75W-90
Final drive		7.8×2 (2.1×2)	SAE 80W-90
Hydraulic tank	Hydraulic oil	Tank : 210 (55.5) System : 414 (109.4)	★ISO VG 15 ISO VG 32 ISO VG 46, HBHO VG 46★3 ISO VG 68
Fuel tank	Diesel fuel	600 (158.5)	★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★2	27 (7.1)	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

★ : Cold region
Russia, CIS, Mongolia
★1 : Meet or exceeds API CH-4 grade
★2 : Soft water
City water or distilled water
★3 : Hyundai Bio Hydraulic Oil

※ Using any lubricating oils other than HYUNDAI genuine products may lead to a deterioration of performance and cause damage to major components.

※ Do not mix HYUNDAI genuine oil with any other lubricating oil as it may result in damage to the systems of major components.

※ Do not use any engine oil other than that specified above.

※ For HYUNDAI genuine lubricating oils and grease for use in regions with extremely low temperatures, please contact HYUNDAI dealers.