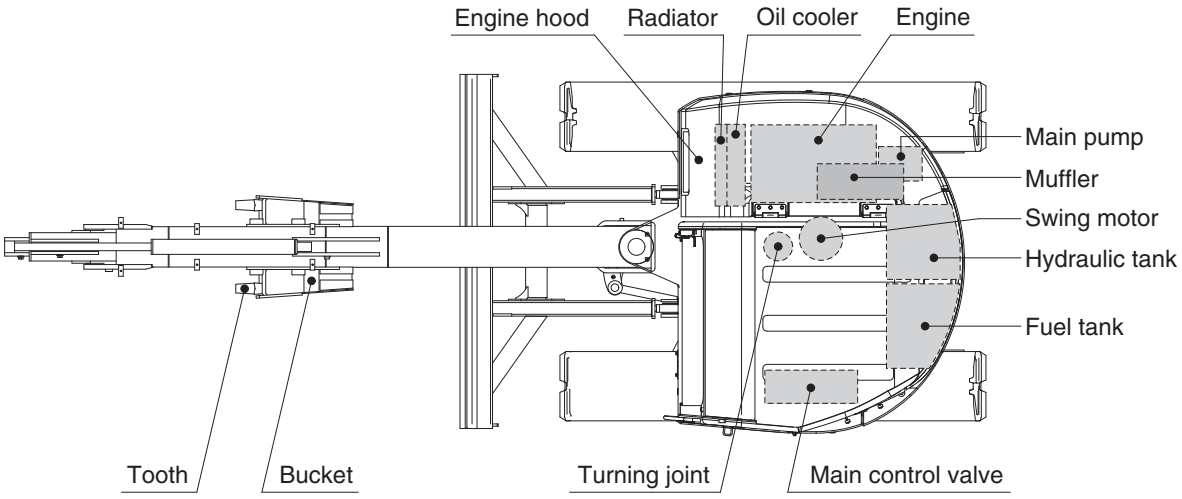
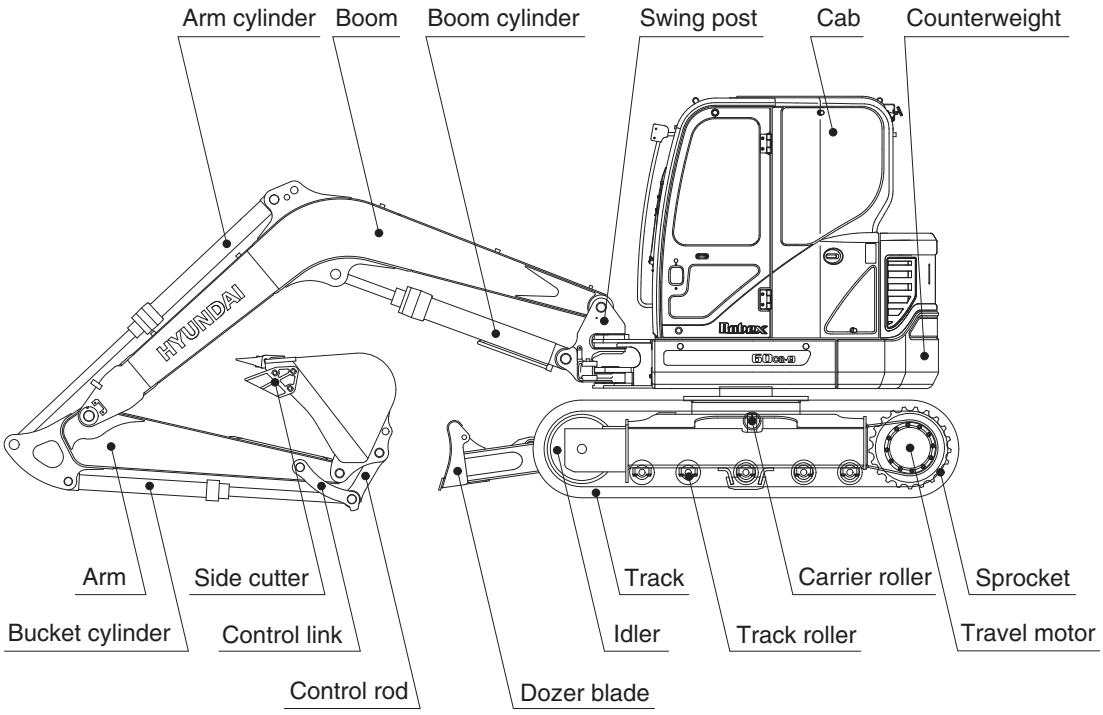
1. MAJOR COMPONENT

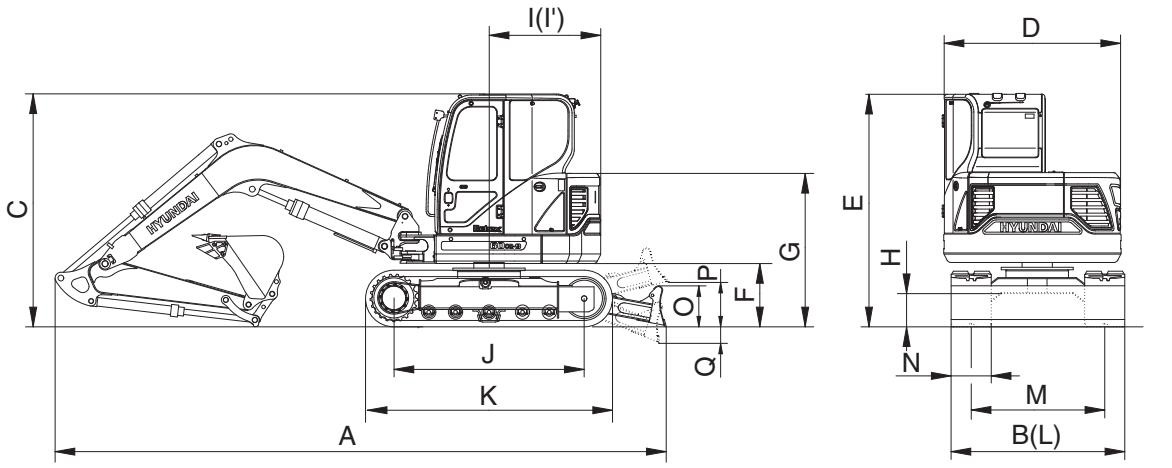




55Z9SP01A

2. SPECIFICATIONS

1) 2.9 m (9' 6") MONO BOOM, 1.48 m (4' 10") ARM, WITH BOOM SWING SYSTEM

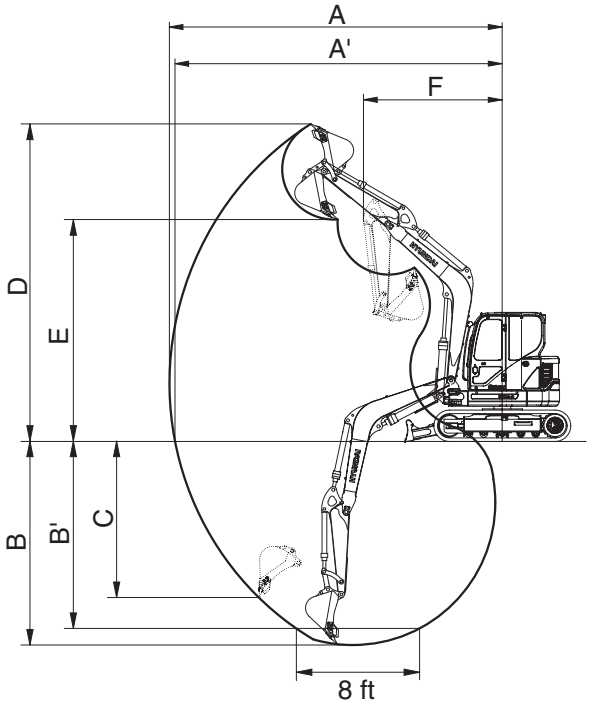


55Z9SP02

Description		Unit	Specification
Operating weight		kg (lb)	5900 (13010)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	0.18 (0.24)
Overall length	A	mm (ft-in)	5600 (18' 3")
Overall width, with 380 mm shoe	B		2000 (6' 8")
Overall height	C		2550 (8' 4")
Superstructure width	D		1950 (6' 5")
Overall height of cab	E		2550 (8' 4")
Ground clearance of counterweight	F		660 (2' 2")
Engine cover height	G		1670 (5' 6")
Minimum ground clearance	H		380 (1' 3")
Rear-end distance	I		1080 (3' 7")
Rear-end swing radius	I'		1080 (3' 7")
Distance between tumblers	J		1990 (6' 6")
Undercarriage length	K		2530 (8' 4")
Undercarriage width	L		2000 (6' 8")
Track gauge	M		1600 (5' 3")
Track shoe width, standard	N		380 (15")
Height of blade	O		350 (1' 2")
Ground clearance of blade up	P		200 (8")
Depth of blade down	Q		700 (2' 4")
Travel speed (low/high)		km/hr (mph)	2.2/4.0 (1.4/2.5)
Swing speed		rpm	9.3
Gradeability		Degree (%)	35 (70)
Ground pressure (380 mm shoe)		kgf/cm^2(psi)	0.36 (5.12)
Max traction force		kg (lb)	5300 (11680)

3. WORKING RANGE

1) 2.9 m (9' 6") MONO BOOM WITH BOOM SWING SYSTEM



60CR92SP03

Description		1.48 m (4' 10") Arm
Max digging reach	A	6150 mm (25' 5")
Max digging reach on ground	A'	6010 mm (24' 11")
Max digging depth	B	3570 mm (11' 9")
Max digging depth (8ft level)	B'	3160 mm (10' 5")
Max vertical wall digging depth	C	3040 mm (10' 0")
Max digging height	D	5680 mm (18' 8")
Max dumping height	E	3930 mm (12' 10")
Min swing radius	F	2420 mm (7' 11")
Boom swing radius (left/right)		70˚/50˚
Bucket digging force	SAE	36.6 kN
		3730 kgf
		8220 lbf
	ISO	40.9 kN
		4170 kgf
		9190 lbf
Arm crowd force	SAE	25.6 kN
		2610 kgf
		5750 lbf
	ISO	26.5 kN
		2700 kgf
		5950 lbf

4. WEIGHT

Item	kg	lb
Upperstructure assembly	2895	6380
Main frame weld assembly	570	1260
Engine assembly	280	620
Main pump assembly	30	65
Main control valve assembly	40	90
Swing motor assembly	50	110
Hydraulic oil tank assembly	60	130
Fuel tank assembly	55	120
Boom swing post	135	300
Counterweight	470	1040
Cab assembly	350	770
Lower chassis assembly	2275	5020
Track frame weld assembly	790	1740
Swing bearing	90	200
Travel motor assembly	80 × 2	180 × 2
Turning joint	30	65
Track recoil spring	20	45
Idler & tension body	60	130
Carrier roller	10	20
Track roller	10	20
Sprocket	20	45
Track-chain assembly (380 ㎜ standard triple grouser shoe)	320	710
Dozer blade assembly	210	460
Front attachment assembly (3.0 ㎡ boom,1.6 ㎡ arm, 0.18 m^3 SAE heaped bucket)	730	1610
2.9 ㎡ boom assembly	240	530
1.48 ㎡ arm assembly	120	260
0.18 m^3 SAE heaped bucket	170	370
Boom cylinder assembly	70	150
Arm cylinder assembly	55	120
Bucket cylinder assembly	35	80
Bucket control link assembly	40	90
Dozer cylinder assembly	35	80
Boom swing cylinder assembly	70	150

5. LIFTING CAPACITIES

1) 2.9 m (9' 6") boom, 1.48 m (4' 10") arm equipped with 0.18 m³ (SAE heaped) bucket and 380 mm (15") triple grouser shoe, the dozer blade down with 470 kg (1040 lb) counterweight.

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

Load point height		Load radius								At max. reach		
		2.0 m (7 ft)		3.0 m (10 ft)		4.0 m (13 ft)		5.0 m (16 ft)		Capacity		Reach
												m (ft)
4.0 m (13 ft)	kg					*1120	*1120			*1050	790	4.99
	lb					*2470	*2470			*2310	1740	(16.4)
3.0 m (10 ft)	kg					*1180	*1130			*1080	640	5.56
	lb					*2600	*2490			*2380	1410	(18.2)
2.0 m (7 ft)	kg			*1890	*1710	*1430	1080	*1250	740	*1120	580	5.82
	lb			*4170	*3770	*3150	2380	*2760	1630	*2470	1280	(19.1)
1.0 m (3 ft)	kg			*2670	1580	*1740	1020	*1360	720	*1160	560	5.84
	lb			*5890	3480	*3840	2250	*3000	1590	*2560	1230	(19.2)
Ground Line	kg	*1980	*1980	*3000	1520	*1930	980	*1430	700	*1190	590	5.61
	lb	*4370	*4370	*6610	3350	*4250	2160	*3150	1540	*2620	1300	(18.4)
-1.0 m (-3 ft)	kg	*3230	3030	*2890	1500	*1910	970			*1210	690	5.09
	lb	*7120	6680	*6370	3310	*4210	2140			*2670	1520	(16.7)
-2.0 m (-7 ft)	kg	*3960	3080	*2370	1530					*1110	990	4.12
	lb	*8730	6790	*5220	3370					*2450	2180	(13.5)

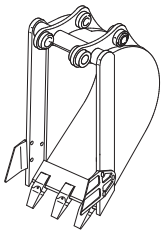
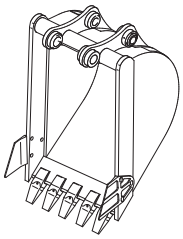
Note
1. Lifting capacity are based on SAE J1097 and ISO 10567.
2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The load point is a hook located on the back of the bucket.
4. *indicates load limited by hydraulic capacity.

2) 2.9 m (9' 6") boom, 1.48 m (4' 10") arm equipped with 0.18 m³ (SAE heaped) bucket and 380 mm (15") triple grouser shoe, the dozer blade up with 470 kg (1040 lb) counterweight.

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

Load point height		Load radius								At max. reach		
		2.0 m (7.0 ft)		3.0 m (10.0 ft)		4.0 m (13.0 ft)		5.0 m (16.0 ft)		Capacity		Reach
												m (ft)
4.0 m	kg					*1120	1070			1040	740	4.99
(13.0 ft)	lb					*2470	2360			2290	1630	(16.4)
3.0 m	kg					*1180	1060			860	600	5.56
(10.0 ft)	lb					*2600	2340			1900	1320	(18.2)
2.0 m	kg			*1890	1600	1430	1010	990	690	780	540	5.82
(7.0 ft)	lb			*4170	3530	3150	2230	2180	1520	1720	1190	(19.1)
1.0 m	kg			2150	1470	1370	960	970	670	770	520	5.84
(3.0 ft)	lb			4740	3240	3020	2120	2140	1480	1700	1150	(19.2)
Ground	kg	*1980	*1980	2080	1410	1330	920	950	650	810	550	5.61
Line	lb	*4370	*4370	4590	3110	2930	2030	2090	1430	1790	1210	(18.4)
-1.0 m	kg	*3230	2770	2070	1400	1320	900			940	650	5.09
(-3.0 ft)	lb	*7120	6110	4560	3090	2910	1980			2070	1430	(16.7)
-2.0 m	kg	*3960	2820	2090	1420					*1110	920	4.12
(-7.0 ft)	lb	*8730	6220	4610	3130					*2450	2030	(13.5)

6. BUCKET SELECTION GUIDE

	
0.07m³ SAE heaped bucket	0.18 m³ SAE heaped bucket

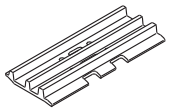
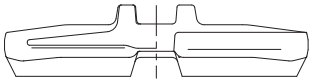
Capacity		Width		Weight	Recommendation
					2.9 m (9' 6") boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.48 m (4' 10") arm
0.07 m³ (0.09 yd³)	0.06 m³ (0.08 yd³)	315 mm (12.4")	360 mm (14.2")	115 kg (255 lb)	Applicable for materials with density of 1600 kgf/m³ (2700 lb/yd³) or less
0.18 m³ (0.24 yd³)	0.15 m³ (0.20 yd³)	670 mm (26.4")	740 mm (29.1")	170 kg (375 lb)	
0.18 m³ (0.24 yd³)	0.15 m³ (0.20 yd³)	610 mm (24.0")	665 mm (26.2")	170 kg (375 lb)	

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	Rubber track
				
R60CR-9	Shoe width	mm (in)	380 (15)	400 (16)
	Operating weight	kg (lb)	5900 (13010)	5800 (12790)
	Ground pressure	kgf/cm^2 (psi)	0.36 (5.12)	0.34 (4.83)
	Overall width	mm (ft-in)	2000 (6' 7")	2000 (6' 7")

3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

Item	Quantity
Carrier rollers	1 EA
Track rollers	5 EA
Track shoes	40 EA

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Yanmar 4TNV98-EPHYBU
Type	4-cycle diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore×stroke	98 × 110 mm (3.85" × 4.33")
Piston displacement	3319 cc (203 cu in)
Compression ratio	18.5 : 1
Rated gross horse power (SAE J1995)	57.0 Hp at 2400 rpm (42.5 kW at 2400 rpm)
Maximum torque at 1550 rpm	20.5 kgf · m (148 lbf · ft)
Engine oil quantity	11.6 ℓ (3.1 U.S. gal)
Dry weight	270 kg (595 lb)
High idling speed	2200+50 rpm
Low idling speed	1050 ± 100 rpm
Rated fuel consumption	175.6 g/Hp · hr at 2400 rpm
Starting motor	12 V-3.0 kW
Alternator	12 V-80 A
Battery	1 × 12 V × 100 Ah

2) MAIN PUMP (P1, P2)

Item	Specification
Type	Variable displacement axis piston pumps
Capacity	2 × 27.5 cc/rev
Maximum pressure	220 kgf/cm^2 (3130 psi)
Rated oil flow	2 × 57.8 ℓ /min (15.3 U.S. gpm / 12.7 U.K. gpm)
Rated speed	2100 rpm

3) GEAR PUMP (P3, P4)

Item	Specification
Type	Fixed displacement gear pump double stage
Capacity	18.3/4.5 cc/rev
Maximum pressure	220/30 kgf/cm^2 (3130/430 psi)
Rated oil flow	38.4/9.5 ℓ /min (10.2/2.5 U.S. gpm / 8.4/2.1 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	Sectional, 9 spools+1 option
Operating method	Hydraulic pilot system+Mechanical control system
Main relief valve pressure	220 kgf/cm^2 (3130 psi)
Overload relief valve pressure	240 kgf/cm^2 (3410 psi)

[ ]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	31.5 cc/rev
Relief pressure	220 kgf/cm^2 (3130 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	14.5 kgf · m (105 lbf · ft)
Brake release pressure	12~20 kgf/cm^2 (171~284 psi)
Reduction gear type	2 - stage planetary (unseat ~ end piston)

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	220 kgf/cm^2 (3130 psi)
Reduction gear type	2-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	9 kgf/cm^2 (128 psi)
Braking torque	8.4 kgf · m (61 lbf · ft)

7) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 110 × ø 65 × 715 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 85 × ø 55 × 840 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 80 × ø 50 × 660 mm
	Cushion	Extend only
Dozer blade	Bore dia × Rod dia × Stroke	ø 110 × ø 60 × 224 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
R60CR-9	380 mm (15")	0.36 kgf/cm^2 (5.12 psi)	40	2000 mm (6' 7")

9) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R60CR-9	STD	0.18 m^3 (0.24 yd^3)	0.15 m^3 (0.20 yd^3)	5	610 mm (24")	665 mm (26.2")
	OPT	0.07 m^3 (0.09 yd^3)	0.06 m^3 (0.08 yd^3)	3	315 mm (12.4")	360 mm (14.2")

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) -20 (-4) / -10 (14) / 0 (32) / 10 (50) / 20 (68) / 30 (86) / 40 (104)
Engine oil pan	Engine oil	11.6 (3.1)	SAE 30 SAE 10W SAE 10W-30 SAE 15W-40
Final drive	Gear oil	1.2×2 (0.3×2)	SAE 80W-90
Hydraulic tank	Hydraulic oil	Tank: 60 (15.9) System: 110 (29.1)	ISO VG 32 ISO VG 46, HBHO VG 46★2 ISO VG 68
Fuel tank	Diesel fuel	82 (21.7)	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★1	9.5 (2.5)	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

★1 : Soft water
- City water or distilled water

★2 : 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, as it may clog the diesel particulate filter(DPF).**
※ **For HYUNDAI genuine lubricating oils and grease for use in regions with extremely low temperatures, please contact HYUNDAI dealers.**