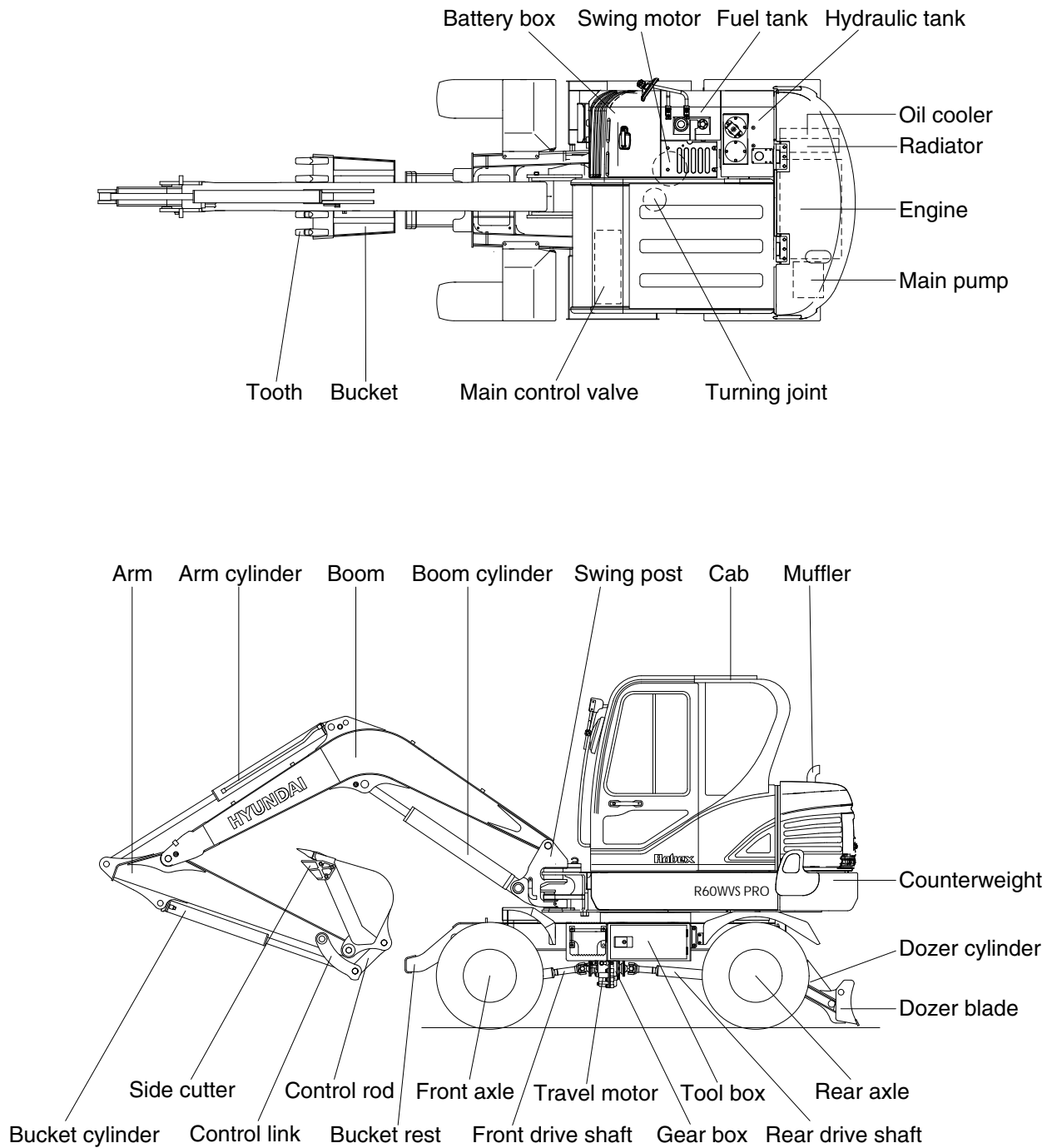


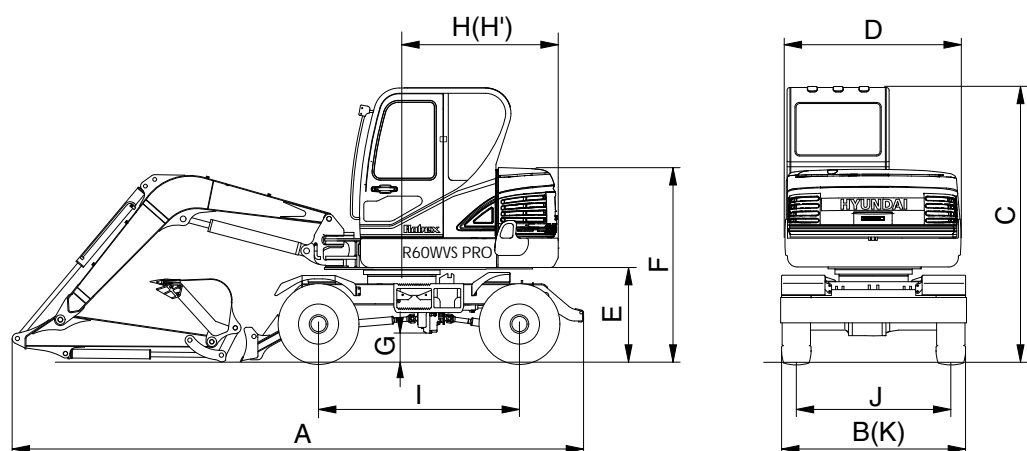
# SPECIFICATIONS

## 1. MAJOR COMPONENTS



## 2. SPECIFICATIONS

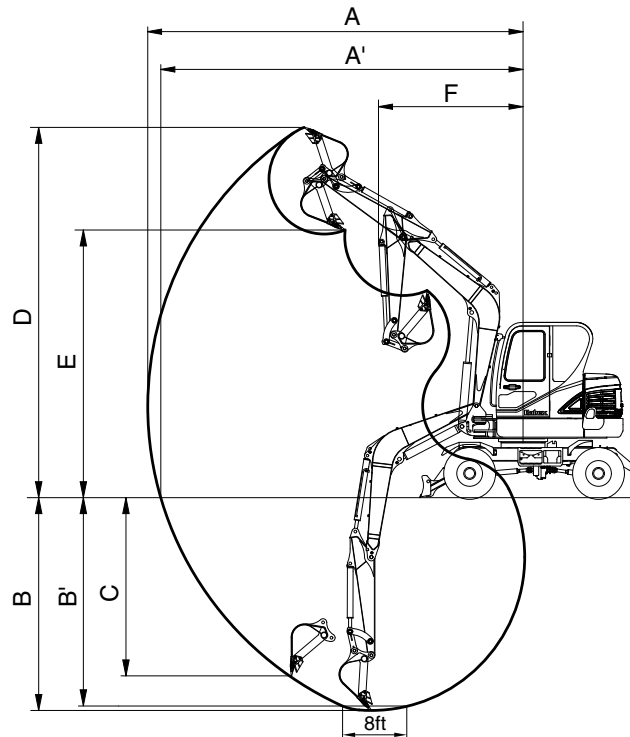
### 1) 3.0 m (9'10") MONO BOOM, 1.6 m (5' 3") ARM WITH BOOM SWING SYSTEM



Description		Unit	Specification
Operating weight		kg	5520
Bucket capacity(SAE heaped), standard		m <sup>3</sup>	0.21
Overall length	A	mm (ft-in)	5970 (19' 6")
Overall width	B		1925 ( 6' 4")
Overall height	C		2850 ( 9' 4")
Upperstructure width	D		1850 ( 6' 1")
Ground clearance of counterweight	E		986 ( 3' 3")
Engine cover height	F		1970 ( 6' 6")
Minimum ground clearance	G		290 (11.4")
Rear-end distance	H		1650 ( 5' 5")
Rear-end swing radius	H'		1650 ( 5' 5")
Wheel base	I		2100 ( 6'11")
Tread	J		1600 ( 5' 3")
Dozer blade width	K		1925 ( 6' 4")
Travel speed	Low	km/hr (mph)	11.6 (7.2)
	High		30 (18.7)
Swing speed		rpm	7.8
Gradeability		Degree (%)	35 (70)
Max traction force		kg (lb)	3400 (7500)

### 3. WORKING RANGE

#### 1) 3.0 m (9'10") MONO BOOM WITH BOOM SWING SYSTEM



Description		1.6 m (5' 3") Arm
Max digging reach	A	6150 mm (20' 2")
Max digging reach on ground	A'	5980 mm (19' 7")
Max digging depth	B	3500 mm (11' 6")
Max digging depth (8 ft level)	B'	3100 mm (10' 2")
Max vertical wall digging depth	C	2960 mm ( 9' 9")
Max digging height	D	6070 mm (19' 11")
Max dumping height	E	4340 mm (14' 3")
Min swing radius	F	2350 mm ( 7' 9")
Boom swing radius (left/right)		80°/50°
Bucket digging force	SAE	46.7 kN
		4762 kgf
		10499 lbf
	ISO	52.5 kN
		5356 kgf
		11810 lbf
Arm crowd force	SAE	27.5 kN
		2808 kgf
		6186 lbf
	ISO	30.89kN
		3154 kgf
		6948 lbf











## 4. WEIGHT

Item	R60WVSPRO	
	kg	lb
Upperstructure assembly	2680	5910
Main frame weld assembly	600	1320
Engine assembly	280	620
Main pump assembly	30	70
Main control valve assembly	40	90
Swing motor assembly	75	165
Hydraulic oil tank assembly	90	200
Fuel tank assembly	60	130
Boom swing post	110	240
Counterweight	210	460
Cab assembly	350	770
Lower chassis assembly	2080	4590
Lower frame weld assembly	550	1210
Swing bearing	90	200
Travel motor assembly	40	90
Turning joint	30	70
Gear box	94	207
Front axle assembly	280	617
Rear axle assembly	200	440
Dozer blade assembly	200	440
Front attachment assembly (3.0 m boom, 1.6 m arm, 0.21 m <sup>3</sup> SAE heaped bucket)	790	1740
3.0 m boom assembly	240	530
1.6 m arm assembly	130	290
0.21 m <sup>3</sup> SAE heaped bucket assembly	170	370
Boom cylinder assembly	70	155
Arm cylinder assembly	60	130
Bucket cylinder assembly	35	80
Bucket control link assembly	40	90
Boom swing cylinder assembly	40	90
Blade cylinder assembly	30	70











## 5. LIFTING CAPACITIES

1) 3.0 m ( 9'10") boom, 1.6 m ( 5' 3") arm equipped with 0.21m³ (SAE heaped) bucket and the dozer blade down.

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

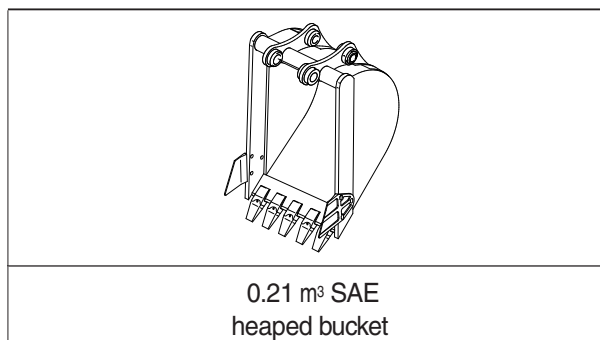
Load point height		Load radius								At max. reach		
		2.0m (6.6ft)		3.0m (9.8ft)		4.0m (13.1ft)		5.0m (16.4ft)		Capacity		Reach
												m(ft)
5.0m 16.4ft	kg lb											
4.0m 13.1ft	kg lb					*1110 *2450	1090 2400			*1100 *2430	870 1920	4.54 (14.9)
3.0m 9.8ft	kg lb					*1250 *2760	1060 2340	*1220 *2690	720 1590	*1090 *2400	700 1540	5.05 (16.6)
2.0m 6.6ft	kg lb			*2100 *4630	1580 3480	*1550 *3420	1000 2200	1260 2780	700 1540	1150 2540	630 1390	5.28 (17.3)
1.0m 3.3ft	kg lb			*2770 *6110	1460 3220	1760 3880	950 2090	1240 2730	670 1480	1130 2490	610 1340	5.28 (17.3)
0.0m 0.0ft	kg lb	*2490 *5490	*2490 *5490	2790 6150	1400 3090	1720 3790	910 2010	1220 2690	650 1430	1200 2650	640 1410	5.05 (16.6)
-1.0m -3.3ft	kg lb	*3950 *8710	2740 6040	2780 6130	1400 3090	1710 3770	910 2010			1400 3090	750 1650	4.55 (14.9)
-2.0m -6.6ft	kg lb	*3830 *8440	2810 6190	*2350 *5180	1430 3150					*1760 *3880	1070 2360	3.65 (12.0)

2) 3.0 m ( 9'10") boom, 1.6 m ( 5' 3") arm equipped with 0.21m³ (SAE heaped) bucket and the dozer blade up.

Load point height		Load radius								At max. reach		
		2.0m (6.6ft)		3.0m (9.8ft)		4.0m (13.1ft)		5.0m (16.4ft)		Capacity		Reach
												m(ft)
5.0m 16.4ft	kg lb									*1460 *3220	1410 3110	3.54 (11.6)
4.0m 13.1ft	kg lb					*1350 *2980	1180 2600			*1410 *3110	980 2160	4.48 (14.7)
3.0m 9.8ft	kg lb			*1670 *3680	*1670 *3680	*1480 *3260	1160 2560			*1360 *3000	820 1810	4.99 (16.4)
2.0m 6.6ft	kg lb			*2430 *5360	1680 3700	*1770 *3900	1110 2450	1370 3020	800 1760	1280 2820	750 1650	5.22 (17.1)
1.0m 3.3ft	kg lb			2980 6570	1580 3480	1880 4140	1070 2360	1340 2950	780 1720	1260 2780	730 1610	5.22 (17.1)
0.0m 0.0ft	kg lb	*2070 *4560	*2070 *4560	2930 6460	1540 3400	1850 4080	1040 2290			1340 2950	770 1700	4.99 (16.4)
-1.0m -3.3ft	kg lb	*4030 *8880	2940 6480	2930 6460	1550 3420	1840 4060	1040 2290			1560 3440	890 1960	4.49 (14.7)
-2.0m -6.6ft	kg lb	*3590 *7910	3010 6640	*2280 *5030	1580 3480					*1720 *3790	1250 2760	3.56 (11.7)

- 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.

## 6. BUCKET SELECTION GUIDE



Capacity		Width		Weight	Recommendation
					3.0 m (9' 10") boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.6 m (5' 3") arm
0.21 m³	0.15 m³	705 mm	770 mm	170 kg	Applicable for materials with density of 1600 kgf/m³ (2700 lb/yd³) or less

## 7. 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)	58.2 Hp at 2400 rpm (42.5 kW at 2400 rpm)
Maximum torque at 1550rpm	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	176 g/Hp · hr at 2400 rpm
Starting motor	12V-3.0 kW
Alternator	12V-100 A
Battery	1 × 12V × 100Ah

### 2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	63 cc/rev
Maximum pressure	240 kgf/cm <sup>2</sup> (3480 psi)
Rated oil flow	151.2 l /min
Rated speed	2400 rpm

### 3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	8cc/rev
Maximum pressure	204 kgf/cm <sup>2</sup> (2958 psi)
Rated oil flow	19.2 ℓ/min

### 4) MAIN CONTROL VALVE

Item	Specification
Type	8 spools sectional block
Operating method	Hydraulic pilot system
Main relief valve pressure	240 kgf/cm <sup>2</sup> (3480 psi)
Overload relief valve pressure	265 kgf/cm <sup>2</sup> (3842 psi)

### 5) SWING MOTOR

Item	Specification
Type	Two fixed displacement axial piston motor
Capacity	28.87cc/rev
Relief pressure	220 kgf/cm <sup>2</sup> (3130 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	14 kgf·m (101 lbf·ft)
Brake release pressure	20~40 kgf/cm <sup>2</sup> (284~570 psi)
Reduction gear type	2 - stage planetary

### 6) TRAVEL MOTOR

Item	Specification
Type	Bent axis design variable displacement axial piston motor
Relief pressure	220 kgf/cm <sup>2</sup> (3130 psi)
Counterbalance valve	Applied
Capacity	80 cc



## 7) POWER TRAIN

Item	Description		Specification
Gear box	Type		2 speed hydrostatic
	Gear ratio	1st	4.06
		2nd	1.31
	Clutch pressure		26~32 kgf/cm <sup>2</sup> (370~455 psi)
Parking brake	Type		Multi disc brake integrated in rear axle
	Maximum braking power		945 kgf · m (6835 lbf · ft)
Axle	Type		4 wheel drive with differential
	Gear ratio		8.67
	Brake		Multi disc brake
	Brake pressure		52 kgf/cm <sup>2</sup> (740 psi)
	Steering pressure		140 kgf/cm <sup>2</sup> (1990 psi)

## 8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	ø 110 × ø 65 × 715mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	ø 90 × ø 55 × 850mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	ø 80 × ø 50 × 660mm
	Cushion	Extend only
Dozer cylinder	Bore dia × Rod dia × Stroke	ø 110 × ø 60 × 219mm
	Cushion	-
Boom swing cylinder	Bore dia × Rod dia × Stroke	ø 95 × ø 50 × 535mm
	Cushion	-

※ 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) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R60WVS PRO	STD	0.21 m <sup>3</sup> (0.28 yd <sup>3</sup> )	0.15 m <sup>3</sup> (0.20 yd <sup>3</sup> )	5	705 mm (27.5")	770mm (30.1")

## 8. 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	11.6 (3.1)	★SAE 5W-40									
								SAE 30				
				SAE 10W								
				SAE 10W-30								
				SAE 15W-40								
Swing drive	Grease	0.2 (0.1)	★NLGI NO.1									
							NLGI NO.2					
	Gear oil	1.5 (0.4)	★SAE 75W-90									
					SAE 85W-140							
Gear box case	Gear oil	1.8 (0.5)										
Front axle		Center: 4.5 (1.19) Hub: 0.4×2 (0.11×2)				SAE 85W-90 LSD(GL-5)						
Rear axle		Center:4.5 (1.19) Hub: 0.4×2 (0.11×2)										
Hydraulic tank	Hydraulic oil	Tank; 70 (18.5)  System; 120 (31.7)	★ISO VG 15									
				ISO VG 32								
					ISO VG 46, HBHO VG 46★ <sup>3</sup>							
				ISO VG 68								
Fuel tank	Diesel fuel★ <sup>1</sup>	117 (30.9)	★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★ <sup>2</sup>	9.5 (2.5)				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)

★<sup>1</sup> : Ultra low sulfur diesel

- sulfur content ≤ 15 ppm

★<sup>2</sup> : Soft water

City water or distilled water

★<sup>3</sup> : 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.

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