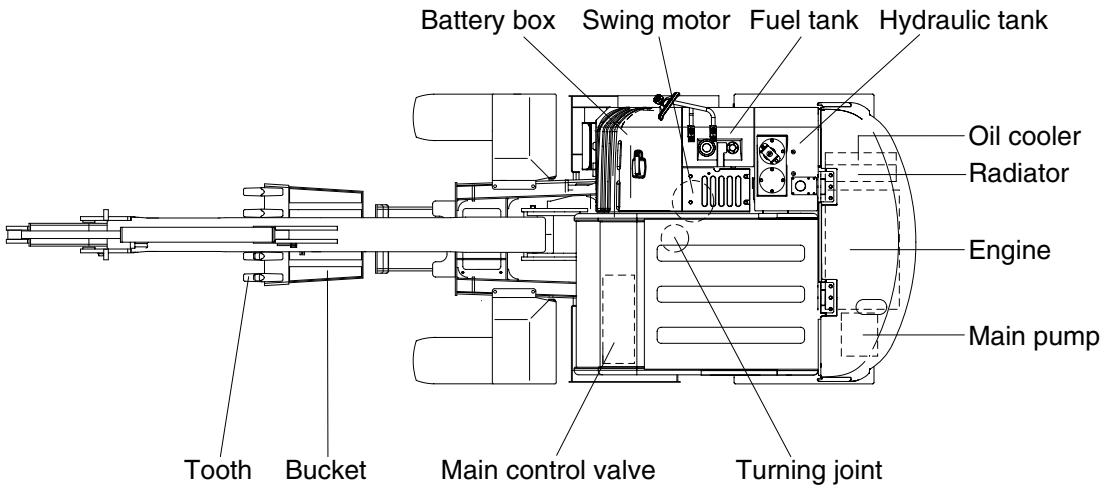
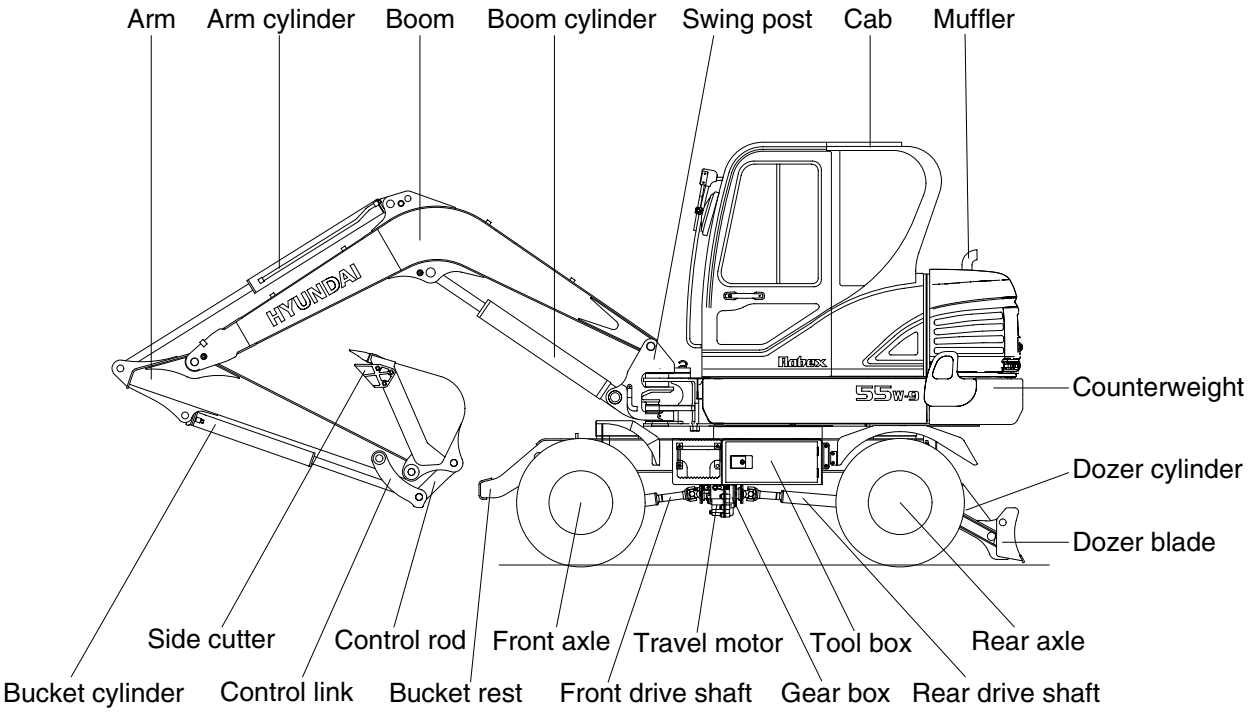
GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT

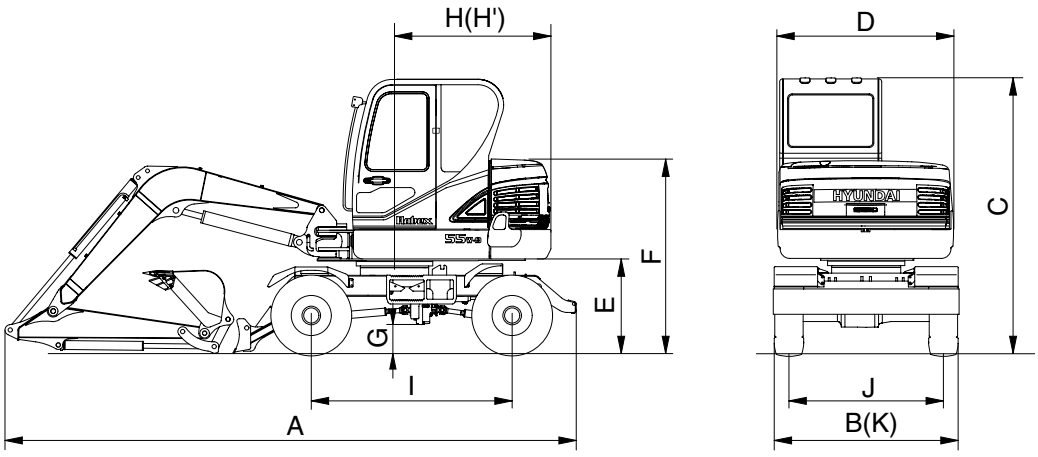




55W92SP01

2. SPECIFICATIONS

1) 3.0 m (9'10") ONE PIECE BOOM, 1.6 m (5' 3") ARM WITH BOOM SWING POST

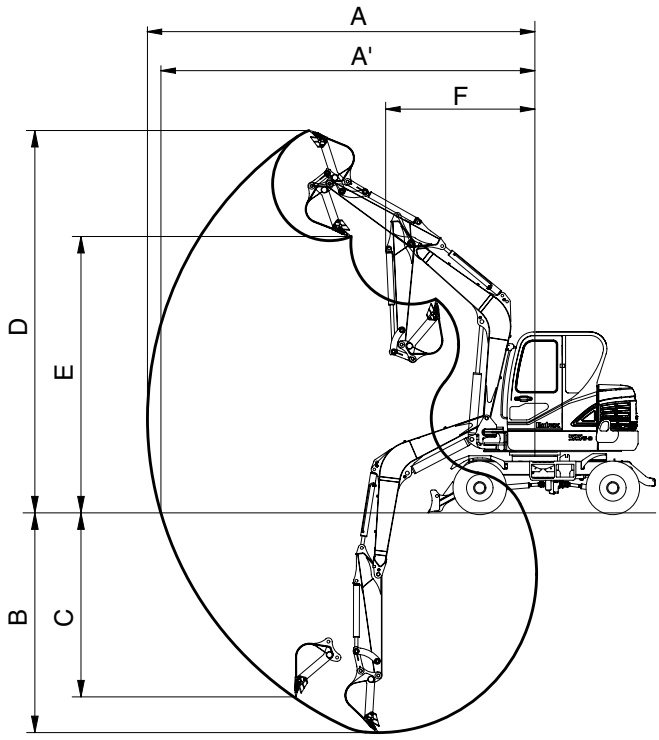


55W92SP02

Description		Unit	Specification
Operating weight		kg (lb)	5550 (12240)
Bucket capacity(SAE heaped), standard		m^3 (yd^3)	0.18 (0.24)
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)	11.3 (7.0)
	High		30 (18.6)
Swing speed		rpm	9.1
Gradeability		Degree (%)	35 (70)
Max traction force		kg (lb)	3500 (7720)

3. WORKING RANGE

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



55W92SP03

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 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	37.7 kN
		3850 kgf
		8490 lbf
	ISO	42.4 kN
		4330 kgf
		9550 lbf
Arm crowd force	SAE	28.4 kN
		2900 kgf
		6390 lbf
	ISO	31.9 kN
		3260 kgf
		7190 lbf

4. WEIGHT

Item	R55W-9	
	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	80	180
Hydraulic oil tank assembly	90	200
Fuel tank assembly	60	130
Boom swing post	110	240
Counterweight	180	400
Cab assembly	350	770
Lower chassis assembly	2080	4590
Lower frame weld assembly	550	1210
Swing bearing	90	200
Travel motor assembly	50	110
Turning joint	30	70
Gear box	63	140
Front axle assembly	280	610
Rear axle assembly	200	430
Dozer blade assembly	200	440
Front attachment assembly (3.0 m boom, 1.6 m arm, 0.18 m^3 SAE heaped bucket)	790	1740
3.0 m boom assembly	240	530
1.6 m arm assembly	130	290
0.18 m^3 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 0.18m³ (SAE heaped) bucket and the dozer blade down with 180 kg (400 lb) counterweight.

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

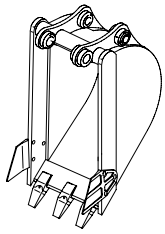
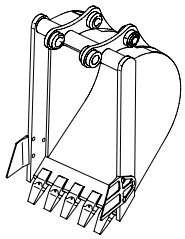
Load point height		Load radius								At max. reach		
		2.0 m (6.5 ft)		3.0 m (10.0 ft)		4.0 m (13.0 ft)		5.0 m (16.5 ft)		Capacity		Reach
												m (ft)
5.0 m (16.5 ft)	kg									*960	*960	4.47
	lb									*2120	*2120	(14.7)
4.0 m (13.0 ft)	kg					*1020	*1020			*990	710	5.26
	lb					*2250	*2250			*2180	1570	(17.3)
3.0 m (10.0 ft)	kg					*1150	1110	*990	750	*1020	610	5.69
	lb					*2540	2450	*2180	1650	*2250	1340	(18.7)
2.0 m (6.5 ft)	kg			*1900	1660	*1400	1060	*1200	730	*1070	560	5.86
	lb			*4190	3660	*3090	2340	*2650	1610	*2360	1230	(19.2)
1.0 m (3.0 ft)	kg			*2500	1550	*1670	1000	*1310	710	*1110	560	5.81
	lb			*5510	3420	*3680	2200	*2890	1570	*2450	1230	(19.1)
Ground Line	kg	*2690	*2690	*2720	1500	*1820	970	*1350	690	*1160	610	5.51
	lb	*5930	*5930	*6000	3310	*4010	2140	*2980	1520	*2560	1340	(18.1)
-1.0 m (-3.0 ft)	kg	*4040	3000	*2610	1490	*1760	960			*1180	730	4.92
	lb	*8910	6610	*5750	3280	*3880	2120			*2600	1610	(16.1)
-2.0 m (-6.5 ft)	kg	*3400	3060	*2090	1520							
	lb	*7500	6750	*4610	3350							

2) 3.0 m (9'10") boom, 1.6 m (5' 3") arm equipped with 0.18m³ (SAE heaped) bucket and the dozer blade up with 180 kg (400 lb) counterweight.

Load point height		Load radius								At max. reach		
		2.0 m (6.5 ft)		3.0 m (10.0 ft)		4.0 m (13.0 ft)		5.0 m (16.5 ft)		Capacity		Reach
												m (ft)
5.0 m (16.5 ft)	kg									*960	870	4.47
	lb									*2120	1920	(14.7)
4.0 m (13.0 ft)	kg					*1020	*1020			750	640	5.26
	lb					*2250	*2250			1650	1410	(17.3)
3.0 m (10.0 ft)	kg					*1150	1000	790	670	640	540	5.69
	lb					*2540	2200	1740	1480	1410	1190	(18.7)
2.0 m (6.5 ft)	kg			1750	1490	1110	950	770	650	600	500	5.86
	lb			3860	3280	2450	2090	1700	1430	1320	1100	(19.2)
1.0 m (3.0 ft)	kg			1640	1380	1060	900	750	630	600	500	5.81
	lb			3620	3040	2340	1980	1650	1390	1320	1100	(19.1)
Ground Line	kg	*2690	2590	1590	1330	1030	870	740	620	640	540	5.51
	lb	*5930	5710	3510	2930	2270	1920	1630	1370	1410	1190	(18.1)
-1.0 m (-3.0 ft)	kg	3160	2600	1580	1330	1020	860			770	650	4.92
	lb	6970	5730	3480	2930	2250	1900			1700	1430	(16.1)
-2.0 m (-6.5 ft)	kg	3220	2660	1610	1350							
	lb	7100	5860	3550	2980							

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

	
0.07m³ SAE heaped bucket	0.18 m³ SAE heaped bucket

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
0.07 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)	

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)	57 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	175.6 g/Hp · hr at 2400 rpm
Starting motor	12V-3.0 kW
Alternator	12V-80A
Battery	1 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 25 cc/rev
Maximum pressure	220 kgf/cm^2 (3130 psi)
Rated oil flow	2 × 60 ℓ /min (15.9 U.S. gpm/ 13.2 U.K. gpm)
Rated speed	2400 rpm

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	16.2/6.5 cc/rev
Maximum pressure	220/30 kgf/cm^2 (3130/430 psi)
Rated oil flow	38.9/15.6 ℓ /min (10.3/4.1 U.S. gpm/8.6/3.4 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	10 spools sectional block (+1 optional block)
Operating method	Hydraulic pilot 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	Two fixed displacement axial piston motor
Capacity	32.3 cc/rev
Relief pressure	220 kgf/cm^2 (3130 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	14 kgf · m (101 lbf · ft)
Brake release pressure	20~40 kgf/cm^2 (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^2 (3130 psi)
Counterbalance valve	Applied
Capacity	80 cc

7) POWER TRAIN

Item	Description		Specification
Gear box	Type		2 speed hydrostatic
	Gear ratio	1st	6.357
		2nd	1.961
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

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
R55W-9	STD	0.18 m^3 (0.24 yd^3)	0.15 m^3 (0.20 yd^3)	5	670 mm (26.4")	740 mm (29.1")
	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")

8. RECOMMENDED OILS

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

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
Swing drive	Gear oil	1.5(0.4)	SAE 85W-140
	Grease	0.35 (0.09)	NLGI NO.1 NLGI NO.2
Gear box case	Gear oil	1.8 (0.5)	SAE 85W-90
Front axle		Center : 4.5 (1.19) Hub : 0.4×2 (0.11×2)	
Rear axle		Center : 4.5 (1.19) Hub : 0.4×2 (0.11×2)	
Hydraulic tank	Hydraulic oil	Tank: 70(18.5)	ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	120 (31.7)	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	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