

# Specifications R17Z-9A

## ENGINE

MODEL	KUBOTA D902		
Type	4 cycle, In line, Water cooled, Diesel, Tier 4 certified		
Rated flywheel horse power			
SAE	J1995 (gross)	16.8 hp (12.5 kW) / 2,300 rpm	
	J1349 (net)	15.8 hp ( 11.8 kW) / 2,300 rpm	
DIN	6271/1 (gross)	16.5 ps ( 13.1 kW) / 2,300 rpm	
	6271/1 (net)	16.0 ps (11.8 kW) / 2,300 rpm	
Max. torque	5.46 kgf.m (39.5 lbf.ft) / 1,900 rpm		
Bore x stroke	72 mm x 73.6 mm (2.83" x 2.89")		
Piston displacement	898 cc (54.79 in³)		
Batteries	12 V - 45 Ah		
Starting motor	12 V - 1.2 kW		
Alternator	12 V - 40 A		

## HYDRAULIC SYSTEM

MAIN PUMP	
Type	Variable displacement piston pumps
Max. flow	2 x 18.8 l/min + 11.3 l/min
Sub-pump for pilot circuit	Gear pump
HYDRAULIC MOTORS	
Travel	Two speed axial piston motor with counter balance valve
Swing	Axial piston motor
RELIEF VALVE SETTING	
Implement circuits	210 kgf/cm² (2,987 psi)
Travel	210 kgf/cm² (2,987 psi)
Swing circuit	170 kgf/cm² (2,418 psi)
Pilot circuit	35 kgf/cm² (498 psi)
Service valve	Installed

## HYDRAULIC CYLINDERS

No. of cylinder- bore x stroke	
Boom	60 x 440 mm (2.3" x 17.3")
Arm	60 x 353 mm (2.3" x 13.8")
Bucket	55 x 320 mm (2.16" x 12.59")
Boom swing	55 x 355 mm (2.16" x 13.97")
Dozer blade	65 x 45 mm (2.5" x 4.5")
Extension	55 x 310 mm (2.16" x 12.2")

## OPERATOR'S CAB

Noise Levels (dynamic value)	
Outside cabin - LwA	93 dB
Inside cabin - LpA	81 dB

## COOLANT & LUBRICANT CAPACITY

(refilling)	liter	US gal	UK gal
Fuel tank	20	5.3	4.4
Engine coolant	3.5	0.9	0.7
Engine oil	3.7	1.0	0.8
Hydraulic tank	13	3.4	2.9

## TRAVEL LEVERS

Traveling and steering : Two levers with pedals.

## HYDRAULIC CONTROLS

Type	Two joysticks with one safety lever
Pilot control	(LH): Swing and arm, (RH): Boom and bucket with horn (ISO)
Engine throttle	Mechanical, cable type

## SWING SYSTEM

Swing motor	Orbit motor
Swing reduction	-
Swing circuit lubrication	Lubricated with drain oil
Swing speed	9.5 rpm

## DRIVES & BRAKES

Max. travel speed (high) / (low)	4.1 km/h / 2.2 km/h (2.5 mph) / (1.4 mph)
Maximum traction force	1.42 ton
Maximum gradeability	30°

## DIGGING FORCE (ISO)

	0.96 m Arm	1.12 m Arm
Bucket	1,580 kgf	1,580 kgf
	15.5 kN	15.5 kN
	3,490 lbf	3,490 lbf
Arm	870 kgf	780 kgf
	8.5 kN	7.6 kN
	1,920 lbf	1,720 lbf

## OPERATING WEIGHT (APPROXIMATE)

Operating weight, including 1,800 mm (5' 11") boom, 960 mm (3' 2") arm, SAE heaped 0.04 m³ (0.05 yd³) excavator bucket, lubricant, coolant, full fuel tank, full hydraulic tank, and all standard equipments.

Shoe Width	Rubber shoe 230 mm (9")
Operating Weight	Canopy 1,700 kg (3,747 lb)
Ground Pressure	Canopy 0.25 kg/cm² (3.98 psi)

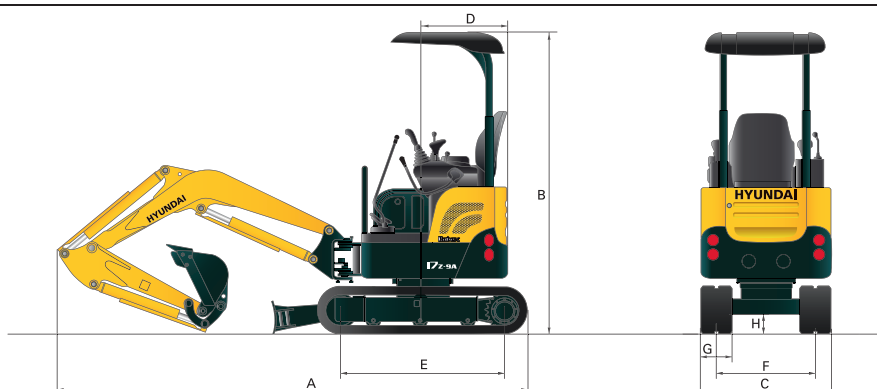
## UNDERCARRIAGE

X-leg type center frame is integrally welded with reinforced box-section track frames. The undercarriage includes lubricated rollers, track adjusters with shock absorbing springs and sprockets and rubber shoes.

Track frame	Variable undercarriage
No. of track roller on each side	3 EA

# Dimensions & Working Ranges

## DIMENSIONS R17Z-9A

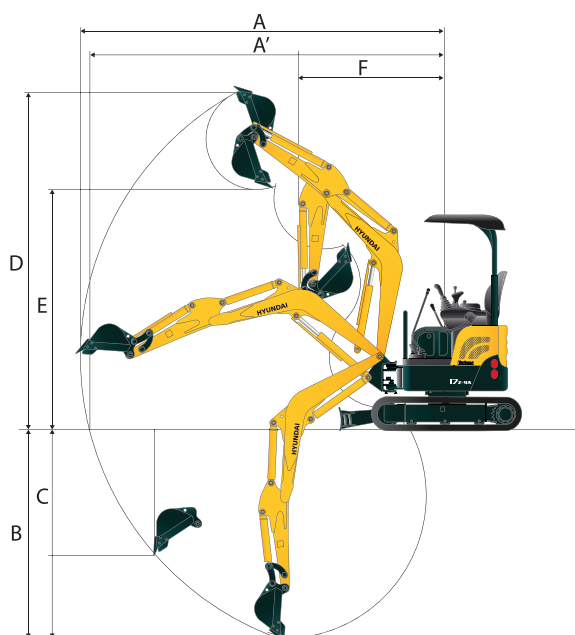


mm (ft · in)

<b>A</b> Overall length - Standard Arm	3,480 (11'4")	<b>D</b> Tail swing radius - additional counterweight	720 (2'3")
Overall length - Long Arm	3,510	<b>E</b> Tumbler distance	1,230 (4'0")
<b>B</b> Overall height	2,320 (7'7")	<b>F</b> Track gauge	760 ~ 1,070 (2'6" ~ 3'5")
<b>C</b> Overall width	990 ~ 1,300 (3'2" ~ 4'2")	<b>G</b> Track shoe width	230 (0'9")
<b>D</b> Tail swing radius - standard counterweight	645 (2'11")	<b>H</b> Ground clearance	170 (0'5")

## WORKING RANGES R17Z-9A

mm (ft · in)











Boom length	1,800 (5'11")	
Arm length	960 (3'2")	1,120 (3'8")
<b>A</b> Max. digging reach	3,900 (12'7")	4,030 (13'2")
<b>A'</b> Max. digging reach on ground	3,800 (12'4")	3,940 (12'9")
<b>B</b> Max. digging depth	2,200 (7'2")	2,350 (7'7")
<b>C</b> Max. vertical wall digging depth	1,320 (4'3")	1,460 (6'3")
<b>D</b> Max. digging height	3,580 (11'7")	3,680 (12'0")
<b>E</b> Max. dumping height	2,570 (8'4")	2,670 (8'7")
<b>F</b> Min. front swing radius	1,570 (5'1")	1,600 (5'2")

# Lifting Capacities









## R17Z-9A

 Rating over-front  Rating over-side or 360 degrees

Boom : 1.80 m (5' 11") / Arm : 0.96 m (3' 2") / Bucket : 0.04 m<sup>3</sup> SAE heaped / Dozer up, Track extended, 230 mm (9") Rubber track, without additional counterweight

Load point height m (ft)		Load radius						At max. reach		
		2.0 m (7.0 ft)		2.5 m (8.0 ft)		3.0 m (10.0 ft)		Capacity		Reach m (ft)
										
3.0 m (10.0 ft)	kg lb							280 620	*290 *640	2.63 (8.6)
2.5 m (8.0 ft)	kg lb			310 680	*310 *680			200 440	210 460	3.13 (10.3)
2.0 m (7.0 ft)	kg lb			300 660	310 680	210 460	220 490	170 370	180 400	3.43 (11.3)
1.5 m (5.0 ft)	kg lb	430 950	440 970	290 640	300 660	210 460	220 490	150 330	160 350	3.60 (11.8)
1.0 m (3.0 ft)	kg lb	400 880	410 900	270 600	290 640	200 440	210 460	140 310	150 330	3.67 (12.0)
0.5 m (2.0 ft)	kg lb	370 820	390 860	260 570	270 600	190 420	200 440	140 310	150 330	3.64 (11.9)
Ground Line	kg lb	360 790	370 820	250 550	270 600	190 420	200 440	150 330	160 350	3.51 (11.5)
-0.5 m (-2.0 ft)	kg lb	360 790	370 820	250 550	260 570	190 420	200 440	170 370	180 400	3.27 (10.7)
-1.0 m (-3.0 ft)	kg lb	360 790	380 840	250 550	270 600			210 460	220 490	2.87 (9.4)
-1.5 m (-5.0 ft)	kg lb	380 840	390 860							

Boom : 1.80 m (5' 11") / Arm : 0.96 m (3' 2") / Bucket : 0.04 m<sup>3</sup> SAE heaped / Dozer down, Track extended, 230 mm (9") Rubber track, without additional counterweight

Load point height m (ft)		Load radius						At max. reach		
		2.0 m (7 ft)		2.5 m (8 ft)		3.0 m (10 ft)		Capacity		Reach m (ft)
										
3.0 m (10.0 ft)	kg lb							*290 *640	*290 *640	2.63 (8.6)
2.5 m (8.0 ft)	kg lb			*310 *680	*310 *680			*290 *640	220 490	3.13 (10.3)
2.0 m (7.0 ft)	kg lb			*320 *710	*320 *710	*320 *710	230 510	*300 *660	180 400	3.43 (11.3)
1.5 m (5.0 ft)	kg lb	*450 *990	*450 *990	*380 *840	310 680	*340 *750	230 510	*300 *660	160 350	3.60 (11.8)
1.0 m (3.0 ft)	kg lb	*620 *1370	430 950	*450 *990	300 660	*380 *840	220 490	*310 *680	150 330	3.67 (12.0)
0.5 m (2.0 ft)	kg lb	*740 *1630	400 880	*520 *1150	280 620	*410 *900	210 460	*320 *710	150 330	3.64 (11.9)
Ground Line	kg lb	*790 *1740	390 860	*550 *1210	270 600	*420 *930	210 460	*330 *730	160 350	3.51 (11.5)
-0.5 m (-2.0 ft)	kg lb	*760 *1680	390 860	*540 *1190	270 600	*400 *880	210 460	*330 *730	180 400	3.27 (10.7)
-1.0 m (-3.0 ft)	kg lb	*660 *1460	390 860	*470 *1040	270 600			*320 *710	230 510	2.87 (9.4)
-1.5 m (-5.0 ft)	kg lb	*450 *990	400 880							











- Lifting capacity is based on SAE J1097, ISO 10567.
- Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
- The load point is a hook located on the back of the bucket.
- (\*) indicates the load limited by hydraulic capacity.

# Lifting Capacities











## R17Z-9A

 Rating over-front  Rating over-side or 360 degrees

Boom : 1.80 m (5' 11") / Arm : 1.12 m (3' 8") / Bucket : 0.04 m<sup>3</sup> SAE heaped / Dozer up, Track extended, 230 mm (9") Rubber track, without additional counterweight

Load point height m (ft)		Load radius								At max. reach		
		2.0 m (7.0 ft)		2.5 m (8.0 ft)		3.0 m (10.0 ft)		3.5 m (12.0 ft)		Capacity		Reach
												m (ft)
3.0 m (10.0 ft)	kg lb									240 530	250 550	2.87 (9.4)
2.5 m (8.0 ft)	kg lb			*260 *570	*260 *570					180 400	190 420	3.31 (10.9)
2.0 m (7.0 ft)	kg lb			*280 *620	*280 *620	210 460	220 490			150 330	160 350	3.59 (11.8)
1.5 m (5.0 ft)	kg lb	*380 *840	*380 *840	290 640	300 660	210 460	220 490			140 310	140 310	3.75 (12.3)
1.0 m (3.0 ft)	kg lb	400 880	420 930	280 620	290 640	200 440	210 460	150 330	160 350	130 290	140 310	3.82 (12.5)
0.5 m (2.0 ft)	kg lb	370 820	390 860	260 570	270 600	190 420	200 440	150 330	150 330	130 290	140 310	3.79 (12.4)
Ground Line	kg lb	360 790	370 820	250 550	260 570	190 420	200 440			130 290	140 310	3.67 (12.0)
-0.5 m (-2.0 ft)	kg lb	350 770	370 820	240 530	260 570	180 400	190 420			150 330	160 350	3.45 (11.3)
-1.0 m (-3.0 ft)	kg lb	350 770	370 820	250 550	260 570					180 400	190 420	3.08 (10.1)
-1.5 m (-5.0 ft)	kg lb	360 790	380 840							270 600	*280 *620	2.47 (8.1)

Boom : 1.80 m (5' 11") / Arm : 1.12 m (3' 8") / Bucket : 0.04 m<sup>3</sup> SAE heaped / Dozer down, Track extended, 230 mm (9") Rubber track, without additional counterweight

Load point height m (ft)		Load radius								At max. reach		
		2.0 m (7.0 ft)		2.5 m (8.0 ft)		3.0 m (10.0 ft)		3.5 m (11.0 ft)		Capacity		Reach
												m (ft)
3.0 m (10.0 ft)	kg lb									*270 *600	260 570	2.87 (9.4)
2.5 m (8.0 ft)	kg lb			*260 *570	*260 *570					*270 *600	200 440	3.31 (10.9)
2.0 m (7.0 ft)	kg lb			*280 *620	*280 *620	*290 *640	230 510			*270 *600	170 370	3.59 (11.8)
1.5 m (5.0 ft)	kg lb	*380 *840	*380 *840	*340 *750	310 680	*320 *710	230 510			*280 *620	150 330	3.75 (12.3)
1.0 m (3.0 ft)	kg lb	*550 *1210	430 950	*420 *930	300 660	*350 *770	220 490	*250 *550	160 350	*290 *640	140 310	3.82 (12.5)
0.5 m (2.0 ft)	kg lb	*700 *1540	400 880	*490 *1080	280 620	*390 *860	210 460	*270 *600	160 350	*300 *660	140 310	3.79 (12.4)
Ground Line	kg lb	*770 *1700	390 860	*540 *1190	270 600	*410 *900	200 440			*310 *680	150 330	3.67 (12.0)
-0.5 m (-2.0 ft)	kg lb	*770 *1700	380 840	*540 *1190	270 600	*410 *900	200 440			*310 *680	160 350	3.45 (11.3)
-1.0 m (-3.0 ft)	kg lb	*700 *1540	380 840	*500 *1100	270 600					*310 *680	200 440	3.08 (10.1)
-1.5 m (-5.0 ft)	kg lb	*530 *1170	390 860							*280 *620	*280 *620	2.47 (8.1)

- Lifting capacity is based on SAE J1097, ISO 10567.
- Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
- The load point is a hook located on the back of the bucket.
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