

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Yanmar 3TNV88-BSHYB
Type	4-cycle diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	3 cylinders, in-line
Firing order	1-3-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	88 × 90 mm (3.46" × 3.54")
Piston displacement	1642 cc (100.2 cu in)
Compression ratio	19.1 : 1
Rated gross horse power (SAE J1995)	27.3 Hp at 2200 rpm (20.4 kW at 2200 rpm)
Maximum torque at 1200 rpm	10.8 kgf · m (78 lbf · ft)
Engine oil quantity	6.7 l (1.8 U.S. gal)
Dry weight	155 kg (340 lb)
High idling speed	2400+30 rpm
Low idling speed	1100±30 rpm
Rated fuel consumption	182 g/Hp · hr at 2200 rpm
Starting motor	12V-2.3 kW
Alternator	12V-55 A
Battery	1 × 12 V × 80 Ah (5h rating)

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 17.5 cc/rev
Maximum pressure	230 kgf/cm ² (3270 psi)
Rated oil flow	2 × 38.5 l/min (10.2 U.S. gpm / 8.5 U.K. gpm)
Rated speed	2200 rpm

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	10.7/5.1 cc/rev
Maximum pressure	230/30 kgf/cm ² (3270/430 psi)
Rated oil flow	23.5/11.2 l /min (6.2/3.0 U.S. gpm / 5.2/2.5 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	Sectional, 10 spools (11 Blocks)
Operating method	Hydraulic pilot system
Main relief valve pressure	230 kgf/cm ² (3270 psi)
Overload relief valve pressure	250 kgf/cm ² (3560 psi)

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	22 cc/rev
Relief pressure	200 kgf/cm ² (2845 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	9.2 kgf · m (66.5 lbf · ft)
Brake release pressure	20~65 kgf/cm ² (284~925 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	230 kgf/cm ² (3270 psi)
Reduction gear type	2-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	12 kgf/cm ² (170 psi)
Braking torque	4.2 kgf · m (30 lbf · ft)

7) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	5 kgf/cm ² (71 psi)
	Maximum	20 kgf/cm ² (284 psi)
Single operation stroke	Lever	6.5/8.5 mm (0.26/0.33 in)

8) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø85 × Ø45 × 540 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø80 × Ø45 × 585 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø70 × Ø45 × 510 mm
	Cushion	-
Boom swing cylinder	Bore dia × Rod dia × Stroke	Ø80 × Ø45 × 400 mm
	Cushion	-
Dozer cylinder	Bore dia × Rod dia × Stroke	Ø95 × Ø50 × 152 mm
	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) SHOE (Steel track)

Item	Width	Ground pressure	Link quantity	Overall width
R35Z-9	300 mm (12")	0.34 kgf/cm ² (4.83 psi)	44	1740 mm (5' 9")

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R35Z-9	STD	0.11 m ³ (0.14 yd ³)	0.09 m ³ (0.12 yd ³)	4	550 mm (21.7")	610 mm (24.0")