

DETAILS OF 10MW POWER PLANT OF MAN-B&W

ENGINE:

1. Manufacturer: MAN B & W DIESEL AG, GERMANY
2. Type of model: 9L 58/64
3. Whether naturally aspirated/ turbocharged: Turbocharged
4. Arrangement of Cylinders: Straight
5. Number of Strokes: 4(four)
6. Firing order of cylinders: 1-3-5-7-9-8-6-4-2
7. Cylinder bore in inches/mm: 580mm
8. Stroke in inches/mm: 640mm
9. Rated B.H.P: 14246
10. Speed in RPM: 428
11. Compression ratio: 13.2
12. Type of fuel recommended: L.S.H.S/H.F.O.
13. Type of fuel filter: Duplex
14. Type of fuel oil pumps: Screw
15. No. of Fuel oil pumps: 4(four)
16. Type of fuel injector: MAN type
17. Daily fuel oil tank capacity: 10KL
18. Time required for starting from cold: 15to 20 minutes
19. Type of speed governor: Woodward
20. Method of starting: Compressor Air- 30kg/Cm²
21. Lubricating oil & the relevant standard for it,
give brief specification also : L-404 SHEEL ARGINA
22. Method of Engine cooling: water cooled.
23. Overall dimensions of D.G.: Set in MM
Length: 11,400 Width: 4,360 Height: 4,650
24. Weight of engine in KG
 - a) Approximately dry weight Completed with all units Less spares and tools: 205 M.T.
 - b) Weight of heaviest part to be lifted during erection: 5 M.T.
 - c) Weight of heaviest part for transportation: 124 M.T.
25. Type of engine alternator coupling: Fixed, Rigid
26. Efficiency of transmission: 100%
27. Efficiency of engine at full load: Operated at 90% efficiency
28.
 - a) Water circulation rate: 575 x M³
 - b) Loss: Evaporation: 2.0% Draft: 0.05% Blow down: 0.95%
Total: 3.0% per hour

I. B. Details of commissioning & operation:

Engine No. Commissioning No. of hours operated

I- ***** August, 1990 50,109

II- ***** May, 1990 42,552

III- ***** June, 1990 49,323

II. ALTERNATOR:

1. Make: name CADAMESA, SPAIN
2. Make Type and frame: W A 240/75/14
3. Rated continuous KVA to BS 2613/1970: 13,140 KVA
4. Power factor: 0.8
5. Rated KW on 0.8 PF - -
6. Governing specifications - -
7. Type of enclosure I P 23
8. Speed in RPM: 428.6
9. Frequency: 50
10. Rated Voltage: 11000V+/-5%
11. No. of phases 3 (Three)
12. Current carrying capacity at A.C. winding (Amp): 690 AMPS.
13. 10% overload capacity for: During one hour for every 12 hrs.
14. 50% overload capacity for: NIL
15. Percentage of efficiency at rated PF
 - a) Full load: 98.2%
 - b) $\frac{3}{4}$ full load: 98.1%
 - c) $\frac{1}{2}$ full load: 97.7%
16. Voltage regulation from no-load to full load: N.A.
17. Damper Windings fitted on poles: Yes
18. Radical clearance between starter and rotor (MM): 13-5 MM
19. Direction of rotation: Clockwise
20. Method of lubrication: Forced oil
21. Type and make of excitation: BRUSHLESS
22. Peripheral speed rotor (in MM/Sec): N.A.
23. Excitation at rated P.F.
 - a) Voltage (Voltage): 24 V, (b) Current (Amp): NA
24. Dimensions & weight of the heaviest part (generator):
H X W X L = 4.75x 2.83x 4.5 M, Weight: 41.5 M.T.