



**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS**

**Specification of 3300/3500hp,WDM3D BG Diesel Electric  
Locomotive**

*(Applicable for manufacture at DLW, Varanasi)*

**PARTICULAR SPECIFICATION  
NO. MP- 0.0800.96 (Rev. - 00)  
JULY-2010**

**RESEARCH DESIGNS & STANDARDS ORGANISATION  
MANAK NAGAR, LUCKNOW-226 011**

Particular Specification of 3300/3500hp, WDM3D BG Diesel Electric Locomotive

Sl. No.	Item	Specification
1	<b>GA:</b> RDSO Drawing No. 53.01.01, alt-c	
2	Diesel Engine	16 cylinder DLW 251 (Upgraded)
3	Installed power	3300/3500 hp (under standard conditions)
4	Gauge	1676 mm
5	Axle-load	19.5 T
6	Axle arrangement	Co-Co
7	Minimum curve radius	174 M
8	Gear Ratio	18:65
9	Maximum starting/ Continuous tractive force	38610/25200 Kg
10	Coupler, Draft Gear	AAR approved E/F coupler
11	Buffers	High Capacity Buffers to RDSO Drg. No. SKDL-4561
12	Height of coupler center above rail level	1090 $\pm$ 5 <sup>15</sup> mm
13	Wheel diameter New/ Condemning	1092/1016 mm
14	Fuel capacity	5000 ltrs.
15	Ambient temperature & Max RH	45 <sup>0</sup> C (Occasionally 52 <sup>0</sup> C)/Up to 100%
16	Electrical Transmission	Microprocessor based AC-DC
17	Main/ Companion Alternator Model	TA 10102 CW with panel mounted BHEL make rectifier type AR 5400 B.
18	Rated Voltage/Current	2600 V DC/1250 A DC
19	Traction Motor	Six BHEL Make 4907/ 5002 model traction motors or equivalent CGL motors (Older locos fitted with light weight TMs type, a conversion scheme has been given vide Mod. Sheet No. MP.MOD.VL. 01.09.08 dated 1.12.2008)
20	Auxiliary / Exciter Generator Model	BHEL AG3101 or equivalent
21	Battery (Rated capacity)	Lead Acid battery, 64V, 500AH (8Hr) having 32 number of cells
22	Operation control and regulation	As per latest RDSO Spec. No.- MP.0.24.00.26
23	Brake equipment	IRAB1 and CCB
24	Compressor	RDSO Spec. No. MP.0.0700-13
25	Compressor drive mode	From engine shaft through coupling
26	Air Dryer	RDSO Spec. No. MP.0.0100-06
27	Sanding	Automatic sanding during wheel slip
28	Horns	RDSO Spec. No. MP.0.9900-04

29	FTTM Blower	RDSO Spec. No. MP.0.2400-11
30	RTTM Blower	RDSO Spec. No. MP.0.2400-08
31	Bogies	High adhesion HAHS/HAHS-1, some old locos are fitted with equalizer and compensating beam mechanism
32	MMD	Same as WDM3D
33	Tractive Effort Vs Speed Curve	Annexure-I
34	MU Operation	Suitable with WDM2/3A/WDG3A
35	Speed on Track maintained to C&M-I, Vol-I standard	120 kmph (Speed Certificate No.SD.WDM3D.11 dated 04.09.2006)
36	Speed on Track maintained other than C&M-I, Vol-I standard	105 kmph (Speed Certificate No.SD.WDM3D.11 dated 27.07.2007)
37*	Remote Control Equipment	As per latest RDSO Spec. No.- MP.0.04.00.02
38*	Remote Monitoring and Management of Locomotives and Trains (REMMLOT)	As per latest RDSO Spec. No.- MP.0.04.02.04
39*	Auxiliary Power Unit	As per latest RDSO Spec. No.- MP.0.24.00.62
40*	Extended DB	RDSO Mod Sheet No. MP.MOD.EC.05.26.09 Dated 16.09.2009
41	Roof Mounted DBR	DLW Spec No.-DEL/SPN/217

**Note:**

- \* These features are optional.
- This specification supersedes the earlier specifications of 3300/3500 hp WDM3D/3E locomotives numbered MP.0.08.00-78 and MP.0.08.00-45.

**PERFORMANCE OF 3300/3500 HP WDM3D BG DE LOCOMOTIVE**  
**INPUT TO TRACTION - 2950/3150 HP AT 1050 RPM**

1 - TA 10102 EV Traction Alternator

6 - TM 4907 BZ Traction Motor

Wheel Dia.(Half Worn) - 1055 mm, Gear Ratio - 18:65

Motor Combination - 2S-3P FF, 2S-3P 49%FF & 6P FF

Starting TE - 38610 Kg., Max. Speed - 120 Km/h

Cont. loco. speed - 25.4/ 26.4 Km/h, Cont. loco.TE - 26550/28320 Kg.

Transition Speed : (i) 42 Km/h (Forward), 39.5 Km/h (Backward)

(ii) 65 Km/h(Forward), 62.5 Km/h (Backward)

