

4751067/2026/O/o WM/Design/DMW/PTA

DESIGN SPECIFICATION  
NO. CLW/ES/3/0431

Alt.						
Sheet						

DRG.Nos: CLW/ES/3/0431

TOTAL NO. OF SHEETS - 07

**SPECIFICATION****FOR****FERRITECORE FOR AUXILIARY CONVERTER**

(WAG-9&amp; WAP-5) 3-PHASE ELECTRIC LOCOMOTIVES)

**ISSUED BY:**

**DY.CHIEF ELECTRICAL ENGINEER/CON-TU-II**  
**CENTRE FOR DESIGN AND DEVELOPMENT**  
**CHITTARANJAN LOCOMOTIVE WORKS**

SPECIFICATION FOR  FERRITECORE FOR AUXILIARY CONVERTER	DRN.	CHKD/REV	D & D CENTRE CHITTARANJAN LOCOMOTIVE WORKS WEST BENGAL, INDIA				
	<i>Boman</i>	<i>Dhosh</i> 20/1/2000	DATE: 20 January, 2000 NO: CLW/ES/3/0431				
	SDA / E -II	SEE/CON/TU-I					
	APPROVED BY <i>hnd</i> 20/1/2000 DY.CEE/CON/TU - II		ALT				

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SPECIFICATION FOR FERRIT CORE FOR AUXILIARY CONVERTER  
OF  
WAG-9 & WAP-5, 6000 HP, 3-PHASE, 25 kV, 50 Hz AC LOCOMOTIVE

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**1 Scope**

This specification covers the supply of FERRITE CORE FOR AUXILIARY CONVERTER of WAG-9 & WAP-5, 6000 HP, 3-phase, 25 Hz, AC locomotive.

**2 SERVICE CONDITION**

Climatic and Environmental Condition:

Maximum Atmospheric Temperature :  $+ 50^{\circ}\text{C}$  (in Sun) &  $+ 50^{\circ}\text{C}$  (in shade)

Ambient Temperature (operating) :  $+ 20^{\circ}\text{C}$  to  $+ 70^{\circ}\text{C}$

Ambient Temperature (Storage) :  $+ 30^{\circ}\text{C}$  to  $+ 80^{\circ}\text{C}$

Normal Humidity : 60%

Maximum Humidity : 100% saturation during rainy season.

Altitude : 160 m. above sea level

Rain Fall : Very heavy in certain areas

Atmosphere During Hot Weather : Extremely dusty and desert terrain in certain Areas.

Coastal Areas : The Locomotive and the equipment will be designed to work in humid and salt atmosphere.

Vibration : The equipment sub-system and their arrangement will be designed to withstand vibration and shock.

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**3 TECHNICAL DATA**

Electrical datas:-

SL.NO	Description	Values
1	INDUCTANCE <del>TOROIDAL MAGNETIC STRIP WOUND CORE</del>	100 $\mu$ H
2	INDUCTANCE TOLARANCE	+/- 10%
3	PEAK CURRENT (Ipeak)	120 A / t $\leq$ 50 $\mu$ S
4	WORKING FREQUENCY	6 $\times$ 50 = 300 Hz
5	PEAK VOLTAGE	3000 V peak

**Mechanical Characteristic**

SL.NO	Description	Values
1	TEST VOLTAGE	4.25 KV / 50 Hz 60 Sec.
2	COOLING METHOD OPERATING AMBIENT TEMPERATURE	AIR ( NATURAL ) 0.....+80°C
3	PROTECTION CLASS	IP 04 WITH VARNISH COATING (LACQUER )
4	WEIGHT	0.2 Kg

- 1) The Toroidal Magnetic Strip Wound Core should have high saturation flux and high permeability.  
 2) Ferrite core should be Varnish coated with lacquer

**4 SUBMISSION OF TENDER QUOTATION**

- 4.1 All tender documents including the quotation shall be submitted in duplicate including any

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correspondence till the contract is finalised.

4.2 The Ferrite Core for Auxiliary Converter shall be supplied by the Supplier. The Supplier shall ensure that the ferrite core meets the technical requirements of the specification and quality of materials and workmanship.

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4.3 Quotation shall not be considered complete unless all information is furnished.

4.4 Detailed drawings of the ferrite core should be submitted for approval of purchaser.

4.5 Full Technical documents and drawings to be furnished by the Supplier as part of the contract.

5 **APPROVAL OF SAMPLE :**

5.1 The supplier shall make available at least two prototypes of the equipment proposed to be supplied by him for inspection and tests at his works and advice the Dy.Chief Electrical Engineer, (D & D), Chittaranjan and Controller of Stores, Calcutta as and when he is ready with the prototype and necessary testing and measuring apparatus and facilities for carrying out the tests.

5.2 After the above tests if it is considered necessary by the Dy.CEE/CON/TU's authorised representative to carry out any further tests or trials of the prototype at Chittaranjan, the supplier will arrange for the same by the quickest means.

5.3 The supplier shall not offer equipments of series production to the inspector authorized under the contract until the prototype has been finally approved. The supplier shall provide all facilities to the inspecting officer at his works, to inspect and test the equipment.

6 **TESTS :**

Type test and routine test shall be carried out according to Relevant Internationals/Indian Standards to be specified to the successful tenderer.

7 **TECHNICAL DOCUMENTS TO BE SUPPLIED BY THE SUPPLIER :**

- i) Type Test Reports : 04 Copies
- ii) Routine Test Reports along with each set : 4 Copies
- iv) Detailed drawings : 4 copies

8 **QUANTITY/LOCO :**

Quantity/Loco : 12

SPECIFICATION FOR FERRITE CORE FOR AUXILIARY CONVERTER	DRN <i>[Signature]</i>	CHKD/REV <i>[Signature]</i> 24/1/2000	D & D CENTRE CHITTARANJAN LOCOMOTIVE WORKS WEST BENGAL, INDIA			
	SDA / E - II	SEE/CON/TU-I	DATE: 20 January, 2000 NO: CLW/ES/3/0431			
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9 QUALITY ASSURANCE AS PER ISO 9000

The tenderer shall confirm that the equipment's are as either used in 3-phase AC Locomotive manufactured by ABB. for INDIAN RAILWAYS or similar.




10 TYPE:


ABB Ident-No- HIES419087 P0001  
Schema Pos. No:- 49.1 In BUK

11 REFERENCE

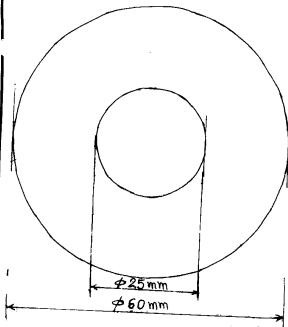
This specification has the reference to the original manufacturer as follows :

M/S VACUUMSCHMELZE GMBH  
NAME:- KLAUS REICHERT  
DEPARTMENT:- KB-PMK  
TELEPHONE:- 0049-6181-38-2502  
FAX:- 0049-6181-38-82502

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