

Government of India
Research, Designs & Standards Organisation
Manak Nagar, Lucknow - 226 011

No.EL/3.2.61

Dated: 1-2.1991.

SPECIAL MAINTENANCE INSTRUCTION NO. RDSO/ELRS/SMI-137.

**Maintenance of Air Dryer provided in Pneumatic
Circuit of Vacuum Circuit Breaker (VCB) Type 20CB GEC-
make.**

1. OBJECT

Railways have reported a few cases of the main air pipe puncturing and malfunctioning of components, adversely affecting the functioning of the VCB. Investigations have shown that these failure are mainly due to the inflow of moisture and dust with the compressed air supplied to VCB where the air dryers were ineffective or not provided.

2. INSTRUCTIONS

- All VCBs are to be provided with air dryers supplied by M/s. GEC. All new VCBs should be ordered with the air dryers.
- At the time of initial fitment, weight of the air dryers should be taken and a record kept for future reference.
- Ensure that the air dryer is fitted vertically.
- Remove both air connections from the dryer.
- Remove air dryer assembly by unscrewing the two M12 mounting bolts.
- Check the weight of the air dryer, if it is more than 0.8 Kg from the new weight, change molecular sieve by new or regenerated. Method of regenerating is given in note 1.
- Unscrew one filter assembly from the body, empty sieve material and replenish with new/ regenerated. leaving sufficient room for the filter only. Refit and tighten the filter assembly.
- Dryer be 'blown-down' by giving compressed air from one end and keeping the other end open to remove any molecular sieve dust.
- Check for air leaks by using a soap solution around the filter assembly. For this purpose, blank off one air connection and connect the other with compressed air.
- Remount the air dryer assembly on the loco and reconnect the air supply connections.
- Check the weight of molecular sieve to be regenerated.

NOTE:

- (1) Regenerate the used sieve by heating in an oven at 200⁰ C for 8 hours. Check the weight again and compare with the earlier weight, It should be less by 15-20% . There is no visual indication of moisture contents.
- (2) Refilling should be carried out as quickly as possible by scooping pellets in to the air dryer body from the 145 Kg drum in case of replacement. After filling, ensure the drum is properly closed with the lid and stored in a dry covered area.
- (3) Molecular sieve drying agent Type 4A can be obtained by quoting reference O.P. DR50AB. Its detailed specification is as under:-

Product: Molecular sieve type 4A size and form : 3.0 mm. dia. cylindrical pellets.

Bulk density : 650 gr/lit.

Crushing strength: 9.8 kg.,

Bed crushing strength :89.0%

Loss of attrition : 0.22%,

Equilibrium water absorption capacity

at 15% RH : 18.0%

at 60% RH : 22.0%

Nominal pore dia : 4⁰A

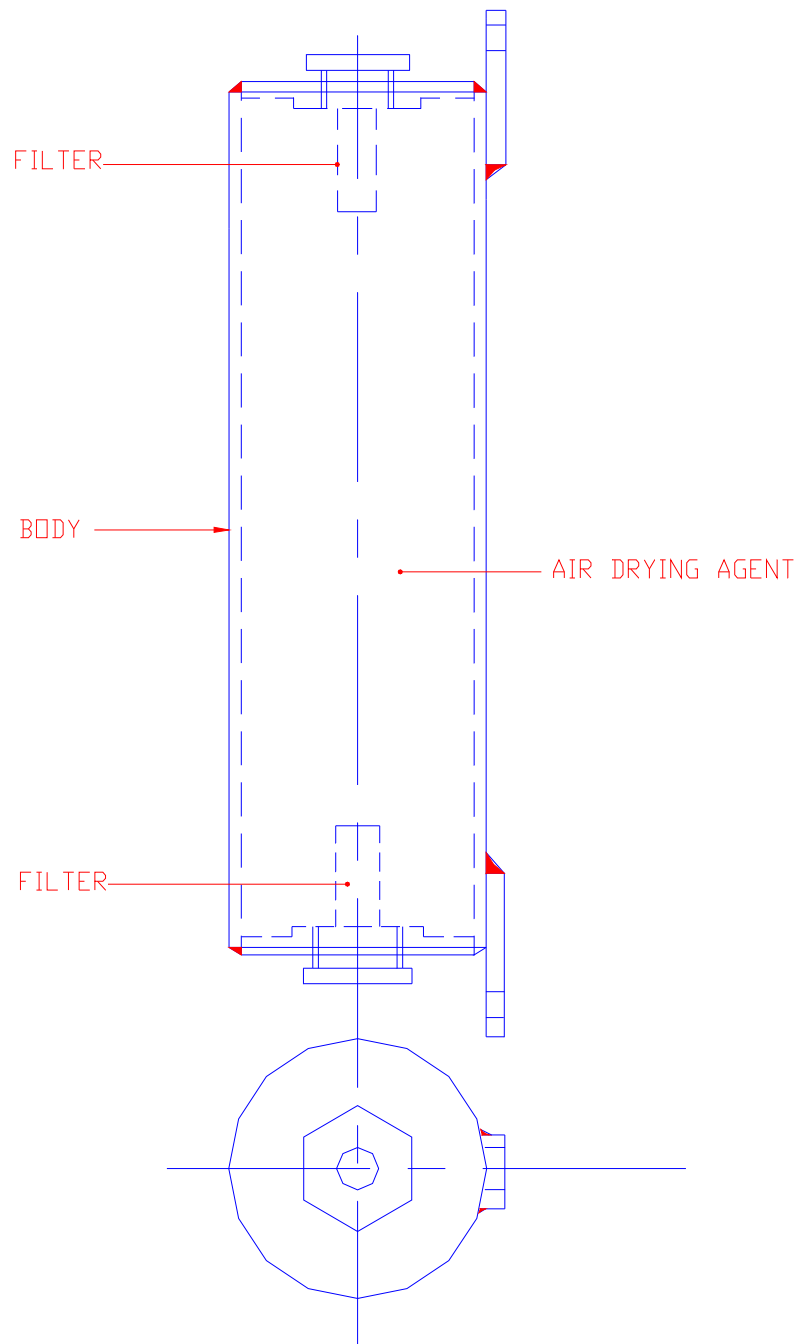
Available with : M/s G.E.C of India Ltd. Naini Works, Naini, Allahabad.

M/s. ACC Bombay

M/s. Indian Petrochemicals Corporation, Catad

Divisional, Post Box No. 99,

Thane - 400 601.



REF :-GEC INDIA DRG.NO.105	SCALE:-	APPROVED:-
AIR DRYER FOR VCB TYPE 20 CB		
RDSO.ELEC. DTE.	SKEL-3383	

Dt	28.0190
D	AJAI
T	
C	