

GENERAL SPECIFICATION SHEET.

Subject: **TRANSEC CL3 On-line Transformer Dryout System Installations.**

Issue No: 2

Date: **JANUARY 2006** Page 1 of 2 pages

Section 1: General.

Except where amended in site-specific Installation Specifications and/or Method Statements, usually to add equipment specific to the site/transformer to which the TRANSEC system is to be connected, this Specification sets out the basic mechanical and electrical data and scope of proposed supply.

This is based on usual requirements, based on experience and good engineering practice, but may well be amended by notes made during site surveys.

Section 2: Mechanical.

The TRANSEC CL3 is delivered to site complete with a rigid frame, fabricated from 50 x 50 x 5 R.S, Angle, in Stainless Steel, to which the cylinders are secured with quick-release clamps and the other devices, e.g., pump, sight glass, interconnecting pipework, etc., are securely fixed. The frame is designed for fixing to a vertical surface, with Rawlbolts, etc.

Also recommended as standard equipment is a 1/2" N.B. Non – return Valve [in upper outlet pipe run], as close as practical to the take – off points from the existing transformer cooling oil circulation pipework, but the term ‘practical’ also includes being accessible from ground level if to access it otherwise, i.e., by working from a ladder, would require an outage. (see iii), below.) and a bleed valve, usually connected in the highest point of the return pipework. The valve is brass body, 1/2" BSP female connections, needle type and the bleed arrangement is a 1/4" BSP.1/4 turn valve, accessible from ground level, with 6 mm soft copper capillary tube connecting it to a 1/2" x 1/4" stainless steel reducing tee.

Refer to Typical Installation Drawing.

The connecting pipe is 15 mm O.D.,1 mm W.T. **Seamless** Stainless Steel, to BS 6323 Part 3, with compression fittings used. After fabrication and fixing in position, with adequate supports, it can be finished by the application of one top coat to match the specified colour, if required, for client preference, but, being stainless, dose not require corrosion protection.

Care is given to the design of pipe runs for three principle reasons:

- i) firstly, especially relevant to return pipework, being at high level, to keep as far away as possible from H.V. bushings or busbars.
- ii) Secondly, when pipe runs are on or close to the ground, that means of protection from either causing a trip hazard or the pipe itself being walked on, are provided.
- iii) In addition, where to obtain access to the pipe air bleed valve would require a transformer shut-down because of proximity of bushings or conductors, the air bleed nipple is extended by means of copper capillary pipework to a bleed valve in a safe working position, so that access to this valve can be gained safely without the need to shut-down. This is fitted, because it may be necessary to bleed this pipe after a cylinder change, or filter change, as well as during commissioning.

Section 3: Electrical.

The TRANSEC includes a single phase 3 speed motor pump unit, which is the only device

Contd p 2 of 2

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Date: **JANUARY 2006** Page 2 of 2 pages

Section 3. Electrical, contd

requiring electrical supply. See **Note 1.**

A single phase supply, typically derived from a spare way in the feeder pillar (for the Transformer auxiliaries), is run via 3 core 2,5 mm² XLPE/SWA/LSF cable, or similar, cleated to building work, or to tray and terminated via a weatherproof gland in the lockable Safety Isolator fitted to the frame of the Unit. Where the supply cable run unavoidably crosses an area that can be walked on, at ground level, especially if it is a recognised access or means of escape, this cable will be run as close to the ground as practical and protected, e.g., by inverted cable tray over it.

Protection of this supply is recommended to be not more than 6 Amps, by either an HRC fuse (typically, B.S.88), or a SP Type B MCB. Where the circuit used is **not** dedicated to this pump, it is suggested that an intermediate means of closer protection be provided, between the supply source and the pump Safety isolator. Refer to Standard Schematic Wiring Diagram Dwg.No:TR/MD/05

Earthing of the TRANSEC frame will be by means of either 6mm² 1 core PVC/PVC Gn/Yellow cable or, e.g., 25 x 3 mm bare copper tape, securely bonded to the frame at one end and to the transformer compound earth bar at the other. If copper tape is used, the ends will be tinned.

Notes:

1. On some installations, moisture monitoring units, e.g., Vaisala HMP 228 and/ or gas monitoring units, e.g., Hydran M2, each requiring single phase mains supply, are to be installed. Distribution boxes can be designed and supplied to clients' specifications, to energise such devices along with the TRANSEC Unit and arrange suitable protection for each such device from a single incoming supply

2. As an additional option, a LEM Current Monitor unit is available, which is suitable for installation either as a backplate version in, e.g., a Feeder Pillar, or Temperature Control Cabinet, i.e., a source of a single phase L V supply, or within its own W/P enclosure. In this latter case, the supply cable is terminated within this Monitor enclosure and a second short length of armoured cable is then run from this to the Unit's Safety Isolator.

Such a Monitor also gives the opportunity for installing closer protection, if required, for example if the source supply is protected by a 16 amp fuse, also supplying local lighting, or similar.

Details are available on request.