

**L'UTILISATION DU DICTIONNAIRE,  
UNILINGUE OU BILINGUE, EST AUTORISÉE**

**Travail à faire par le candidat**

**A** Répondez en français à la question suivante :

Quel matériel faut-il pour calibrer ce type d'appareil ?

**B** Résumez en français les cinq précautions à prendre pour le nettoyage de l'appareil.

- Numérotez vos réponses de 1 à 5 comme dans le texte.
- Utilisez uniquement les informations fournies par le texte.

**C** Traduisez en français le premier paragraphe du texte.

(Paragraphe 'Calibration', du début "In normal operation....." à "... and first year of service.")

**D** Faites **UNE SEULE** des deux rédactions en anglais suivantes :

Write 5 to 6 lines **IN ENGLISH** about the measurement equipment used in **YOUR** job.

Write 5 to 6 lines **IN ENGLISH** about the main safety measures recommended in **YOUR** job.

<b>ACADÉMIES DU GROUPEMENT NORD</b>	
<b>B.E.P. Maintenance des équipements de commande des systèmes industriels</b>	
<b>Épreuve : ANGLAIS</b>	
<b>ANNÉE 2005</b>	
N° de sujet :	Temps maximum : 1 H 30

# ABSOLUTE PRESSURE TRANSMITTERS

## CALIBRATION

In normal operation calibration checks should be made on a regular basis to ensure the accuracy of the transmitter system.

Periodic re-calibration at 2 yearly intervals is appropriate for applications requiring approximately 2% system accuracy under normal operating conditions.

For other operating conditions and for the highest system accuracy it is prudent to undertake checks at three month intervals during the first year of service, and full re-calibration after the first six months and first year of service.

### Equipment Required for Calibration and Calibration Checks

In order to calibrate the transmitter to the accuracy limits obtained during factory calibration the following equipment is required:

- A pressure source to cover the required instrument range with an uncertainty of better than  $\pm 0.03\%$ .
- Current measurement device with a resolution of at least 0.01mA and an absolute accuracy of better than  $\pm 0.005\text{mA}$  over the measurement range of 4.00mA to 20.00mA.
- A 24Vdc nominal, power supply.

If the measurement equipment used is of lower accuracy than the limits stated above differences between the factory calibration data and the subsequent re-calibration data may be noted.

## CLEANING

Cleaning should only be undertaken if it is felt that the process ports have become blocked or, for submersible transducers, if there has been a build up over the measurement diaphragm that prevents proper operation.

- 1 Do not attempt to dismantle any transducer for cleaning as this can result in irreparable damage.
- 2 Limit cleaning on transducers which do not have an exposed measurement diaphragm by flushing through with water or some other liquid which is compatible with the wetted parts of the transducer and with the process fluid being measured.
- 3 On transducers with an exposed measurement diaphragm extreme care should be exercised when attempting to clean the measurement diaphragm. This diaphragm is a thin, delicate element and can be damaged beyond repair by misuse.
- 4 No attempt to remove any product build-up on the surface should be made by the use of a wire brush or any abrasive metal mesh cleaner as this may cause mechanical damage that will render the diaphragm Inoperable. Never attempt to remove surface material by use of a screw driver or similar tool.
- 5 The suitability of any chemical cleaning agent must be assessed with regard to its compatibility with the measuring diaphragm material. Don't forget that some cleaning mediums may be extremely aggressive. When used in contact with a thin diaphragm they may very rapidly damage the surface causing hole which destroys its integrity.

Source: ASHDOWN PROCESS CONTROL LTD (adapted)

Vocabulaire:

Calibration checks : vérifications du calibrage

accuracy : précision, exactitude