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English Version

Closed expansion vessels with built in diaphragm for installation in water

Vases d'expansion fermés avec membrane incorporée pour installation dans des systèmes à eau

Ausdehnungsgefäße mit eingebauter Membrane für den Einbau in Wassersystemen

This European Standard was approved by CEN on 26 July 2007.

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Foreword

This document (EN 13831:2007) has been prepared by Technical Committee CEN/TC 54 "Unfired pressure vessels", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

Introduction

Closed expansion vessels with built in diaphragm made their commercial début in the early 1950s. They were employed in heating systems, or for fresh water supply systems.

When used in heating systems they take up the increase of the water volume due to the heating up. The gas pressure (on the other side of the diaphragm) pushes the water back into the system when due to cooling down the water volume in the heating system is decreasing. Expansions vessels with built in diaphragm are an undisputed standard in European heating engineering. When used in fresh water circuits, vessels with built in diaphragm serve to accommodate the extra volume caused by water heaters warming up,, thus saving valuable drinking water from flowing down the drain. The other main application is to store water under pressure in connection with booster systems allowing an energy efficient pump operation.

Though the development of the closed expansion vessel with built in diaphragm constituted a real revolution in the domains of heating and drinking water, industry in general took only limited note of it. Nevertheless this has not prevented the manufacturers from refining the product and the manufacturing technique over the last 40 years, often charting entirely new paths. As a consequence, the production of closed expansion vessels can differ considerably from conventional pressure vessel production. This is especially true in respect to the highly developed deep drawing technology.