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**CRYOGENIC VESSELS – PUMPS FOR  
CRYOGENIC SERVICE**

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English version

## Cryogenic vessels - Pumps for cryogenic service

Réceptifs cryogéniques - Pompes pour service  
cryogénique

Kryo-Behälter - Pumpen für kryo-Betrieb

This European Standard was approved by CEN on 9 April 2000

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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 268 "Cryogenic vessels", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by November 2000, and conflicting national standards shall be withdrawn at the latest November 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This standard specifies the minimum requirements for the design, manufacture and testing of pumps for cryogenic service (i.e. for cryogenic fluids, see EN 1251-1).

This standard covers centrifugal pumps. However the principles may be applied to other types of pumps (e.g. reciprocating).

This standard also gives guidance on the design of installations (see annex A).

It does not specify requirements on operation or maintenance.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 809:1998, *Pumps and pump units for liquids – Common safety requirements.*

EN 1251-1:2000, *Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – Part 1 : Fundamental requirements*

EN 1252-1:1998, *Cryogenic vessels - Materials - Part 1: Toughness requirements for temperatures below -80 °C.*

prEN 1252-2, *Cryogenic vessels - Materials - Part 2: Toughness requirements for temperatures between -80 °C and -20 °C.*

EN 1333:1996, *Pipework components - Definition and selection of PN.*

EN 1797:2000, *Cryogenic vessels - Gas/material compatibility.*

EN 12300:1998, *Cryogenic vessels - Cleanliness.*

EN ISO 5198:1998, *Centrifugal, mixed flow and axial pumps - Code for hydraulic performance test – Precision class (ISO 5198:1987).*

EN ISO 6708:1995, *Pipework components - Definition and selection of DN (nominal size) (ISO 6708:1995).*

EN ISO 9908:1997, *Technical specification for centrifugal pumps - Class III (ISO 9908:1993).*

ISO 5199:1986, *Technical specification for centrifugal pumps - Class II.*

ISO 9906:1999, *Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1 and 2.*

## 3 Terms and definitions

For the purposes of this European Standard, the following definitions apply :

### 3.1

#### **nominal size (DN)**

[EN ISO 6708:1995]

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