

**Vedelikupumbad. Ohutusnõuded. Hüdrostaatilise  
katsetamise protseduur KONSOLIDEERITUD TEKST**

Liquid pumps - Safety requirements - Procedure for  
hydrostatic testing CONSOLIDATED TEXT

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12162:2001+A1:2009 sisaldab Euroopa standardi EN 12162:2001+A1:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.07.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 27.05.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 12162:2001+A1:2009 consists of the English text of the European standard EN 12162:2001+A1:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.07.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 27.05.2009.

The standard is available from Estonian standardisation organisation.

ICS 23.080

**Võtmesõnad:** circulation pumps, components, definitions, fluid mechanics, hydrostatics, liquid pumps, mechanical engineering, pressure tests, pumps, safety, safety requirements, testing

### Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:  
Aru 10 Tallinn 10317 Eesti; [www.evs.ee](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

### Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:  
Aru str 10 Tallinn 10317 Estonia; [www.evs.ee](http://www.evs.ee); Phone: +372 605 5050; E-mail: [info@evs.ee](mailto:info@evs.ee)

English Version

## Liquid pumps - Safety requirements - Procedure for hydrostatic testing

Pompes pour liquides - Exigences de sécurité - Procédure d'essai hydrostatique

Flüssigkeitspumpen - Sicherheitstechnische Anforderungen - Prozessverfahren für hydrostatische Druckprüfung

This European Standard was approved by CEN on 18 January 2001 and includes Amendment 1 approved by CEN on 19 April 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

## Contents

Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions .....	6
4 General.....	6
5 Timing of the test .....	6
6 Preparation for testing .....	7
7 Test equipment .....	7
8 Test liquid .....	7
9 Test pressure .....	7
10 Test procedure .....	8
11 Acceptance criteria.....	9
12 Repairs .....	9
13 Test Records .....	9
Annex A (informative) Random sample schedule.....	11
Annex ZA (informative) <b>Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/CE</b> .....	13
Annex ZB (informative) <b>Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC</b> .....	14
Bibliography .....	15

## Foreword

This document (EN 12162:2001+A1:2009) has been prepared by Technical Committee CEN /TC 197, "Pumps", 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 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2009-04-19.

This document supersedes EN 12162:2001.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

This European Standard 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).

**A1** For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

Annex A is informative.

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

## Introduction

CEN have prepared a series of related machinery safety standards, some of which are to be harmonised European Standards, in order to implement the essential requirements for health and safety set down in the Supply of Machinery (Safety) Directive. This European Standard is one of this series and provides the procedure to be used for a specific verification requirement of EN 809.

The subject of this European Standard is the proving of the integrity of pump parts intended to withstand internal pressure. It refers, therefore, to the in-process testing of pump parts so that each item may be considered to have been examined.

This European standard is a type C standard as stated in EN 1070.

## 1 Scope

This standard specifies the hydrostatic test procedure to be applied to pressure containing parts of all types of liquid pumps including any auxiliary equipment making up a pump unit as described in the scope of EN 809:1998, except :

- domestic water pumps within the scope of EN 60335-2-41:1996 or EN 60335-2-51:1997 ;
- domestic circulation pumps within the scope of EN 1151:1999 ;

**A1** deleted text **A1**

- **A1** fire-fighting pumps with primers within the scope of EN 1028-1:2002+A1:2008 and EN 1028-2:2002+A1:2008; **A1**
- pump parts with a maximum allowable working pressure below 0.1 bar.

Requirements are included for applying a hydrostatic test at different pressures to separate zones within a pump which are subject to different allowable maximum working pressures.

This standard is for pumps and pump units which are placed upon the market after the publication date of the standard.

## 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 (including amendments).

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

**A1** EN 1028-1:2002+A1:2008, *Fire fighting pumps - Fire fighting centrifugal pumps with primer - Part 1 : Classification - General and safety requirements* **A1**

**A1** EN 1028-2:2002+A1:2008, *Fire fighting pumps - Fire fighting centrifugal pumps with primer - Part 2 : - Verification of general and safety requirements* **A1**

EN 1151:1999, *Rotodynamic pumps - Circulation pumps having an electrical effect not exceeding 200 W for heating installations and domestic hot water installations - Requirements, testing, marking*.

EN 12723:2000, *Liquid pumps - General terms for pumps and installations - Definitions, quantities, letter symbols and units*.

**A1** deleted text **A1**

EN 60335-2-41:1996, *Safety of household and similar electrical appliances - Part 2: Particular requirements for electric pumps for liquids having a temperature not exceeding 35 °C*.

EN 60335-2-51: 1997, *Safety of household and similar electrical appliances - Part 2: Particular requirements for stationary circulation pumps of heating and service water installations*.