



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 12569:1999

Industrial valves - Valves for chemical and petrochemical process industry - Requirements and tests

Robinetterie industrielle - Appareils de
robinetterie destinés aux procédés de
l'industrie chimique et pétrochimique -
Prescriptions et essais

Industriearmaturen - Armaturen für die
chemische und petrochemische
Verfahrensindustrie - Anforderungen und
Prüfungen

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National Foreword

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EUROPEAN STANDARD ILNAS-EN 12569:1999 **EN 12569**
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petrochemische Verfahrenindustrie - Anforderungen und
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This European Standard was approved by CEN on 16 August 1999.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 69 "Industrial valves", 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of an identical text or by endorsement, at the latest by March 2000, and conflicting national standards shall be withdrawn at the latest by March 2000.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.

Introduction

This European Standard is based on the experience of the chemical and petrochemical industry and provides requirements additional to those found in valve product standards.

The user of the standard is free to decide to which valves it applies.

1 Scope

This European Standard applies to valves of DN15 and greater, made of metallic materials for chemical and petrochemical plants. It contains additional requirements to those contained in the relevant European product standards.

Two levels of quality are included. All valves shall meet the requirements of level I. Valves shall meet the requirements of level II only when required by the order.

NOTE: It is assumed that the essential safety requirements of the PED (satisfied by European product standards) and safety requirements from other standards are satisfied.

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 19	<i>Marking of general purpose industrial valves</i>
EN 287-1	<i>Approval testing of welders - Fusion welding - Part 1: Steels</i>
EN 288-1	<i>Specification and qualification of welding procedures for metallic materials - Part 1: General rules for fusion welding</i>
EN 736-3	<i>Valves - Terminology - Part 3: Definition of terms</i>
prEN 1092 –1:1997	<i>Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated- Part 1: Steel flanges</i>
EN 1092 –2:1997	<i>Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated – Part 2: Cast iron flanges</i>
EN 1333	<i>Pipework components – Definition and selection of PN</i>
prEN 1349:1999	<i>Industrial process control valves</i>
prEN 1503-1:1995	<i>Valves - Shell materials - Part 1: Steels</i>
prEN 1503-2:1995	<i>Valves - Shell materials - Part 2: ISO-steels</i>
prEN 1503-3:1995	<i>Valves - Shell materials - Part 3: Cast irons</i>
EN 1563	<i>Founding - Spheroidal graphite cast irons</i>
prEN 12116:1996	<i>Industrial valves – Part-turn valve actuator attachment</i>
prEN 12266-1:1999	<i>Industrial valves – Technical conditions of delivery - Part 1: Requirements to be fulfilled by every valve</i>
prEN 12266-2:1999	<i>Industrial valves - Technical conditions of delivery - Part 2: Further requirements</i>
EN 12351	<i>Industrial valves - Protective caps for valves with flanged connections</i>

EN 12454	<i>Founding - Visual examination of surface discontinuities - Steel sand castings</i>
prEN 12516-3:1999	<i>Valves - Shell design strength - Part 3: Experimental method</i>
prEN 12570:1998	<i>Valves - Permissible manual forces for operation of valves</i>
EN ISO 5210	<i>Industrial valves - Multi-turn valve actuator attachments (ISO 5210:1991)</i>
EN ISO 6708	<i>Pipework components - Definition and selection of DN (nominal size) (ISO 6708:1995)</i>
EN ISO 9001	<i>Quality systems - Model for quality assurance in design/development, production, installation and servicing (ISO 9001:1994)</i>
EN ISO 9002	<i>Quality systems - Model for quality assurance in production, installation and servicing (ISO 9002:1994)</i>
EN ISO 9003	<i>Quality systems - Model for quality assurance in final inspection and test (ISO 9003:1994)</i>
prEN ISO 10497:1996	<i>Testing of valves - Fire type-testing requirements (ISO 10497:1992)</i>

3 Definitions

For the purposes of this standard, the definitions contained in any standard referred to above, apply.

4 Requirements

Paragraphs marked with a dot [•] indicate requirements to be specified by the purchaser.

4.1 General

The design of the shell shall meet the requirements of prEN 12516-3:1999 or other accepted calculation methods. The following additional force shall allow for the undefined external moments and forces that are produced by the adjoining piping of the vessel:

The additional force, F_{ADD} , shall be calculated from:

$$F_{ADD} = p_s \times A$$

where:

p_s is the allowable pressure, in newtons per square millimetre ;

A is the cross-sectional area ($D^2 \cdot \pi/4$), in square millimetres ;

D is the value of DN, in millimetres.