



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

**ILNAS-EN 14129:2004**

## **Pressure relief valves for LPG tanks**

Sicherheitsventile für Flüssiggas-Behälter

Soupapes de sécurité pour réservoirs de  
GPL

**10/2004**



## National Foreword

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EUROPEAN STANDARD <sup>ILNAS-EN 14129:2004</sup> **EN 14129**  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

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## Pressure relief valves for LPG tanks

Soupapes de sûreté pour réservoirs de GPL

Sicherheitsventile für Flüssiggas-Behälter

This European Standard was approved by CEN on 23 August 2004.

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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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# Contents

Page

Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	5
4 Operating conditions.....	8
5 Materials .....	8
5.1 General.....	8
5.2 Metallic materials .....	9
5.3 Non-metallic components .....	9
5.4 Lubricants, sealants, and adhesives .....	9
5.5 Certification .....	9
6 Design .....	10
6.1 Introduction .....	10
6.2 Design parameters.....	10
6.3 Threads .....	10
6.4 Springs.....	11
6.5 Other requirements.....	11
6.6 Pressure relief valve with parallel thread.....	11
7 Testing of the design.....	12
7.1 General.....	12
7.2 Hydraulic proof test.....	12
7.3 Overtorquing test.....	12
7.4 Operating and flow characteristics.....	13
7.4.1 General.....	13
7.4.2 Operation test.....	13
7.4.3 Flow characteristics test.....	13
7.4.4 Reseal pressure .....	13
7.4.5 Blowdown .....	13
8 Marking .....	14
8.1 Pressure relief valves.....	14
8.2 Thermal expansion valves .....	14
9 Operating instructions .....	14
Annex A (Informative) Terms used with LPG pressure relief valves .....	16
Annex B (Normative) Special low temperature requirements for valves.....	17
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 97/23/EC .....	18
Bibliography .....	19

## Foreword

This document (EN 14129:2004) has been prepared by Technical Committee CEN/TC 286 “Liquefied Petroleum Gas equipment and accessories”, the secretariat of which is held by NSAI.

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 April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

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 97/23/EC.

For relationship with EU Directive, see informative annex ZA, which is an integral part of this document.

This European Standard has been submitted for reference into the technical annexes of the European Agreement concerning the international carriage of dangerous goods by road (ADR).

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

## 1 Scope

This document specifies the requirements for the design and testing of spring loaded pressure relief valves and thermal expansion valves for use in:

— static LPG tanks,

NOTE The tanks can be situated above ground, underground or mounded.

— LPG tanks on road tankers, rail tankers, tank-containers or demountable tanks.

This document does not address production testing.

Normative annex B prescribes testing with conditioning at – 40 °C for valves for use under extreme low temperature conditions.

The requirements for pressure relief valve accessories such as isolating devices, manifolds and vent pipes are specified in prEN 14071.

prEN 14570 identifies the requirements for the pressure relief valve capacities for static tanks. See EN 12252 for road tankers.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 549, *Rubber materials for seals and diaphragms for gas appliances and gas equipment.*

EN 1092-1, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges.*

EN 1503-1, *Valves - Materials for bodies, bonnets and covers - Part 1: Steels specified in European Standards.*

EN 1503-2, *Valves - Materials for bodies, bonnets and covers - Part 2: Steels other than those specified in European Standards.*

EN 1503-3, *Valves - Materials for bodies, bonnets and covers - Part 3: Cast irons specified in European Standards.*

EN 1503-4, *Valves - Materials for bodies, bonnets and covers - Part 4: Copper alloys specified in European Standards.*

EN 1563, *Founding – Spheroidal graphite cast irons.*

EN 10088-1, *Stainless steels - Part 1: List of stainless steels*

EN 10088-3, *Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods and sections for general purposes*

EN 10204:2004, *Metallic products — Type of inspection documents.*

EN 12165, *Copper and copper alloys - Wrought and unwrought forging stock*

EN 12420, *Copper and copper alloy – Forgings.*

EN 13906 (all parts), *Cylindrical helical springs made from round wire and bar – Calculation and design*

prEN 14071, *Pressure relief valves for LPG tanks – Ancillary equipment*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads -- Part 1: Dimensions, tolerances and designation.*

ANSI/ASME B1.20.1 – 1983, *Pipe threads, general purpose (inch) issued by American National Standards Institute on 1983.*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **pressure relief valve**

self-closing valve which automatically, without the assistance of any energy other than that of the vapour concerned, discharges vapour at a predetermined pressure, and operates with a pop action

#### 3.2

##### **thermal expansion valve**

self-closing valve which automatically, without the assistance of any energy other than that of the fluid concerned, discharges fluid at a predetermined pressure

#### 3.3

##### **spring loaded pressure relief valve**

valve in which the loading due to the vapour pressure underneath the sealing element is opposed only by the force of a spring

#### 3.4

##### **external pressure relief valve**

pressure relief valve which when fitted to the LPG tank has the spring external to the pressure envelope (see figure 1)

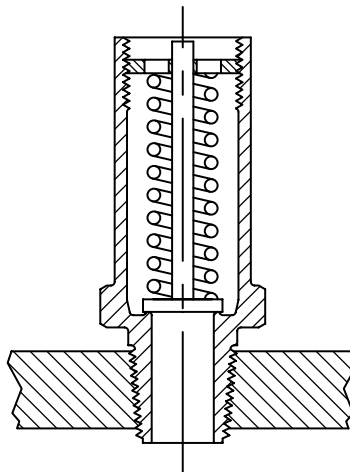


Figure 1 — External pressure relief valve

#### 3.5

##### **internal pressure relief valve**

pressure relief valve which when fitted to the LPG tank has the spring internal to the pressure envelope