AS/NZS 60079.2:2007
IEC 60079-2, Ed.5.0 (2007)

AS/NZS 60079.2:2007

Australian/New Zealand Standard™

Explosive atmospheres

Part 2: Equipment protection by pressurized enclosure ‘p’

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Equipment for Explosive Atmospheres. It was approved on behalf of the Council of Standards Australia on 27 March 2007 and on behalf of the Council of Standards New Zealand on 13 April 2007.
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The following are represented on Committee EL-014:

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Australian/New Zealand Standard™

Explosive atmospheres

Part 2: Equipment protection by pressurized enclosure ‘p’

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Equipment for Explosive Atmospheres, to supersede AS/NZS 60079.2:2002.

The objective of this Standard is to set out the requirements for the construction and testing of electrical apparatus with pressurized enclosures, of protection type 'p', intended for use in explosive gas atmospheres.

This Standard is identical with, and has been reproduced from IEC 60079-2, Ed.5.0 (2007), *Explosive atmospheres – Part 2: Equipment protection by pressurized enclosure 'p'*.

This Standard is to be read in conjunction with AS/NZS 60079.0, *Electrical apparatus for explosive gas atmospheres,* Part 0: *General requirements*.

The significant changes with respect to the previous edition are listed below:

(a) Introduction of the 'Equipment protection level concept' – See Annex H.

(b) 3.13 Eliminate reference to 'room' in the definition of pressurization.

(c) 5.3.3 Restrict to type px.

(d) 5.3.3 Add warning for type pz and type py for any cover removable without the use of a tool.

(e) 7.6 Move wording 'For type px' to beginning of subclause to clarify 7.6 only applies to type px.

(f) 7.7 c) Clarify that the instruction label should specify purge time and pressure/flow.

(g) 18.7 Collect marking requirements throughout the document in the 'Marking' clause.

As this Standard is reproduced from an International Standard, the following applies:

(i) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(ii) In the source text 'IEC 60079-2' should read 'AS/NZS 60079.2'.

(iii) A full point should be substituted for a comma when referring to a decimal marker.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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INTRODUCTION

This part of IEC 60079 gives requirements for the design, construction, testing and marking of electrical apparatus for use in potentially explosive atmospheres in which

a) a protective gas maintained at a pressure above that of the external atmosphere is used to guard against the formation of an explosive gas atmosphere within enclosures which do not contain an internal source of release of flammable gas or vapour and, where necessary;

b) a protective gas is provided in sufficient quantity to ensure that the resultant mixture concentration around the electrical parts is maintained at a value outside the explosive limit appropriate to the particular conditions of use. The protective gas is supplied to an enclosure containing one or more internal sources of release in order to guard against the formation of an explosive gas atmosphere.

This standard includes requirements for the apparatus and its associated equipment including the inlet and exhaust ducts, and also for the auxiliary control apparatus necessary to ensure that pressurization and/or dilution is established and maintained.

NOTES

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Australian/New Zealand Standard

Explosive atmospheres
Part 2: Equipment protection by pressurized enclosure ‘p’

1 Scope

This part of IEC 60079 contains the specific requirements for the construction and testing of electrical apparatus with pressurized enclosures, of type of protection “p”, intended for use in explosive gas atmospheres. It specifies requirements for pressurized enclosures containing a limited release of a flammable substance.

This standard supplements and modifies the general requirements of IEC 60079-0. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirements of this standard takes precedence.

This standard does not contain the requirements for:

- pressurized enclosures where the containment system may release
  a) air with an oxygen content greater than normal, or
  b) oxygen in combination with inert gas in a proportion greater than 21 %;
- pressurized rooms or analyser houses; see IEC 60079-13 and IEC 60079-16.

NOTE 1 Due to the safety factors incorporated in the type of protection, the uncertainty of measurement inherent in good quality, regularly calibrated measurement equipment is considered to have no significant detrimental effect and need not be taken into account when making the measurements necessary to verify compliance of the equipment with the requirements of this standard.

NOTE 2 When the user acts in the role of the manufacturer, it is typically the user’s responsibility to ensure that all relevant parts of this standard are applied to the manufacturing and testing of the equipment.

NOTE 3 Types of protection “px” and “py”provide Equipment Protection Levels (EPL) Mb or Gb. Type of protection “pz” provides Equipment Protection Level (EPL) Gc. For further information, see Annex H.

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.

References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

IEC 60034-5, *Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP Code) - Classification*

IEC 60050(151), *International Electrotechnical Vocabulary – Chapter 151: Electrical and magnetic devices*

IEC 60050(426), *International Electrotechnical Vocabulary – Chapter 426: Electrical apparatus for explosive atmospheres*