

# Venting Atmospheric and Low-pressure Storage Tanks

ANSI/API STANDARD 2000  
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**ISO 28300:2008 (Identical), Petroleum, petrochemical  
and natural gas industries—Venting of atmospheric  
and low-pressure storage tanks**





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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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ISO 28300 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 6, *Processing equipment and systems*.

## **Introduction**

This International Standard was developed from the 5<sup>th</sup> edition of API Std 2000 and EN 14015:2005, with the intent that the 6<sup>th</sup> edition of API Std 2000 be identical to this International Standard.

This International Standard has been developed from the accumulated knowledge and experience of qualified engineers of the oil, petroleum, petrochemical, chemical and general bulk liquid storage industry.

Engineering studies of a particular tank can indicate that the appropriate venting capacity for the tank is not the venting capacity estimated in accordance with this International Standard. The many variables associated with tank-venting requirements make it impractical to set forth definite, simple rules that are applicable to all locations and conditions.

In this International Standard, where practical, US Customary (USC) units are included in parentheses or in separate tables, for information.





# Petroleum, petrochemical and natural gas industries — Venting of atmospheric and low-pressure storage tanks

## 1 Scope

This International Standard covers the normal and emergency vapour venting requirements for aboveground liquid petroleum or petroleum products storage tanks and aboveground and underground refrigerated storage tanks, designed for operation at pressures from full vacuum through 103,4 kPa (ga) [15 psig]. Discussed in this International Standard are the causes of overpressure and vacuum; determination of venting requirements; means of venting; selection, and installation of venting devices; and testing and marking of relief devices.

This International Standard is intended for tanks containing petroleum and petroleum products but it can also be applied to tanks containing other liquids; however, it is necessary to use sound engineering analysis and judgment whenever this International Standard is applied to other liquids.

This International Standard does not apply to external floating-roof tanks.

## 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.

ISO 4126-4, *Safety devices for protection against excessive pressure — Part 4: Pilot operated safety valves*

ISO 16852, *Flame arresters — Performance requirements, test methods and limits for use*

ISO 23251, *Petroleum, petrochemical and natural gas industries — Pressure-relieving and depressuring systems*

IEC 60079-10, *Electrical apparatus for explosive gas atmospheres — Part 10: Classification of hazardous areas*

DIN 4119<sup>1)</sup> (all parts), *Above-ground cylindrical flat-bottom tank structures of metallic materials*

## 3 Terms, definitions and abbreviated terms

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

### 3.1

#### **accumulation**

pressure increase over the maximum allowable working pressure or design pressure of the vessel allowed during discharge through the pressure-relief device

NOTE Accumulation is expressed in units of pressure or as a percentage of MAWP or design pressure. Maximum allowable accumulations are established by pressure-design codes for emergency operating and fire contingencies.

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2) American Petroleum Institute, 1220 L Street, N.W., Washington, D.C., 20005-4070, USA.