AS 3580.14—2011

Australian Standard®

Methods for sampling and analysis of ambient air

Part 14: Meteorological monitoring for ambient air quality monitoring applications

This Australian Standard® was prepared by Committee EV-007, Methods for Examination of Air. It was approved on behalf of the Council of Standards Australia on 28 June 2011.
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The following are represented on Committee EV-007:

- Australian Bureau of Meteorology
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Clean Air Society of Australia and New Zealand
- CSIRO Marine and Atmospheric Research
- Department of Environment, Climate Change and Water, NSW
- Department of Environment and Conservation, WA
- Environment Protection Authority, Vic.
- Environmental Protection Agency, Qld
- National Association of Testing Authorities Australia
- Ministry for the Environment, New Zealand

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Part 14: Meteorological monitoring for ambient air quality monitoring applications

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PREFACE

This Standard was prepared by the Standards Australia Committee EV-007, Methods for Examination of Air, to supersede AS 2923—1987, *Ambient air—Guide for measurement of horizontal wind for air quality applications*.

The Committee acknowledges the significant source of reference material provided by both the World Meteorological Organization and the United States Environmental Protection Agency (US EPA).

The objective of this Standard is to provide users with methods for the collection of meteorological data for ambient air quality monitoring and modelling applications.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out methods for the collection of meteorological data for use in ambient air quality monitoring and modelling applications. Requirements and guidance are provided for the *in situ* monitoring of primary meteorological variables being; wind speed, wind direction, temperature, humidity, atmospheric pressure, precipitation and solar radiation.

1.2 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

ASTM

E104 Standard Practice for Maintaining Constant Relative Humidity by Means of Aqueous Solutions

E563 Standard Practice for Preparation and Use of an Ice-Point Bath as a Reference Temperature

ISO

9060 Solar energy—Specification and classification of instruments for measuring hemispherical solar and direct solar radiation.

Guide 98 Guide to the expression of uncertainty in measurement (ISO GUM)

US Environmental Protection Agency (EPA)
Meteorological Monitoring Guidance for Regulatory Modelling Applications, EPA-454/B-08-002, March 2008

World Meteorological Organization
Guide to Meteorological Instruments and Methods of Observation, WMO-No.8, Seventh edition 2008

1.3 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.3.1 Accuracy

The degrees of closeness of measurements of a quantity to its actual (true) value.

1.3.2 Air temperature

The temperature indicated by a thermometer exposed to the air in a place sheltered from direct solar radiation.

1.3.3 Anemometer

A device for measuring wind speed or wind speed and direction.

