AS 4637—2006

Australian Standard™

Measurement of pump displacement and free air delivery of a reciprocating air compressor package

This Australian Standard was prepared by Committee ME-085, Testing of Air Compressors. It was approved on behalf of the Council of Standards Australia on 12 May 2006.
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The following are represented on Committee ME-085:

Air and Mine Equipment Institute of Australia
Compressed Air Association of Australasia
Engineers Australia
Office of Fair Trading NSW

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-085, Testing of Air Compressors.

The objective of this Standard is to provide a simplified method for determining pump displacement and free air delivery of a reciprocating air compressor package with a maximum pump displacement of 2400 litres per minute. This Standard has been drafted to provide a simplified alternative to ISO 1217, *Displacement compressors—Acceptance tests.* For practicality, some compromise in accuracy has been allowed for the calculation of free air delivery.

Acknowledgement is gratefully made to the Compressed Air Association of Australasia for permission to use their *CAAA Protocol 2000*, upon which this Standard is based.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

CONTENTS

Page

STANDARDS AUSTRALIA

Australian Standard

Measurement of pump displacement and free air delivery of a reciprocating air compressor package

SECTION 1 SCOPE

This Standard sets out a simplified method for determining pump displacement and free air delivery of a reciprocating air compressor package with a maximum pump displacement of 2400 litres per minute.

This Standard provides information for manufacturers, suppliers and users of air compressor packages to facilitate grounds for agreement by the establishment of a uniform testing method of pump displacement and free air delivery.

NOTE: The majority of packaged reciprocating air compressors are designed to operate within the pressure range of 600 kPa (gauge) to 800 kPa (gauge), and this operating range forms the basis for measurement in this Standard. It should be noted that, where a package is designed to operate at higher pressures (e.g. multistage compressors), this Standard provides a valid measure of performance only within the range 600-800 kPa (gauge).

The requirements of this Standard have been formulated on the basis that appropriate reasonable care is taken when applying the methods detailed in this Standard.

This Standard is intended to apply to reciprocating air compressor packages which—

(a) have a maximum pump displacement of 2400 litres per minute;

(b) consist of a motor, pump and air receiver tank; and

(c) use either an electrically powered motor or an internal combustion engine.

Where regulations so require, the relevant Australian, New Zealand and/or equivalent international Standards apply to the components used in the reciprocating air compressor package, such as the motor, pump and tank.

This Standard does not imply approval of or performance guarantee of the reciprocating air compressor package or the individual components. Reference should be made to the manufacturer's warranty conditions.

Users of this Standard are reminded that it has no legal authority in its own right, but may acquire legal standing when—

(i) adopted by a government or other authority having jurisdiction;

(ii) specified in a contract; or

(iii) a manufacturer or supplier states that the output of a reciprocating air compressor package has been measured in accordance with this Standard.