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Australian Standard 2037 — 1977

DIMENSIONS OF SHAFT ENDS FOR GEAR UNITS
(INCLUDING KEYWAYS AND TOLERANCES)

STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia
Australian-British Trade Association
Bureau of Steel Manufacturers of Australia
Crane Hoist and Lifting Appliances Manufacturers Association
Department of Productivity
Institution of Engineers, Australia
Metal Trades Industry Association of Australia
National Measurement Laboratory
Railways of Australia Committee
Society of Automotive Engineers — Australia
University of Melbourne

This standard, prepared by Committee ME/11, Gears and Splines, was approved on behalf of the Council of the Standards Association of Australia on 8 March 1977, and was published on 1 June 1977.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 75138.

AUSTRALIAN STANDARD SPECIFICATION

DIMENSIONS OF SHAFT ENDS FOR GEAR UNITS (INCLUDING KEYWAYS AND TOLERANCES)

AS 2037 — 1977

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PREFACE

This standard was prepared by the Association's Committee on Gears and Splines to meet an immediate need for a rational range of shaft ends for gear units. The committee has not yet been able to prepare standards on many features of gearing as the work on gear design being carried out internationally (ISO) is not yet resolved. It was thought that some guidance to designers would be desirable for selection of shafts to interface with a wide range of equipment, and this standard is limited to preferred dimensions and tolerances, and keyways, of shaft ends for gear units.

The range of sizes given was chosen from a comprehensive list of motor, pump, and gear units, as well as bright shafting, specified in various ISO documents (R775, 2858, 3069*). These sizes are arranged into first, second, and third preference, and are intended to minimize the range of bores necessary for pulleys, couplings, and the like.

Tolerances on diameter are specified according to AS 1654, Limits and Fits for Engineering, which align with ISO/R286,† with the exception of j6, which has not been included in AS 1654. As electric motor shafts are specified using j6, the deviation for this class of fit is provided from BS 4500, ISO Limits and Fits.

Keyway dimensions are specified in accordance with BS 4235, Metric Keys and Keyways, which aligns with ISO/R773.‡

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*ISO/R 775, Cylindrical and 1/10 Conical Shaft Ends.
ISO 2858, End-suction Centrifugal Pumps (rating 16 bar) — Designation, Nominal Duty Point and Dimensions.
ISO 3069, End-suction Centrifugal Pumps — Dimensions of Cavities for Mechanical Seals and for Soft Packing.
† ISO/R 286, ISO System of Limits and Fits — Part 1: General, Tolerances and Deviations.
‡ ISO/R 773, Rectangular or Square Parallel Keys and Their Corresponding Keyways.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification for DIMENSIONS OF SHAFT ENDS FOR GEAR UNITS (INCLUDING KEYWAYS AND TOLERANCES)

1 SCOPE. This specification provides a range of preferred metric sizes of shaft ends for general application to gear units. Dimensions and some linear tolerances of shafts and parallel keyways are specified for the range 10 mm to 200 mm shaft diameter.

2 SHAFT DIMENSIONS. The length and diameter of each input and output shaft shall be selected from Table 1, unless specifically agreed otherwise between purchaser and supplier. The highest suitable order of preference shown in the table should be selected.

3 KEYWAY. Any parallel keyway shall conform to the dimensions given in Table 2 for that particular shaft size.

4 TOLERANCES. The diameter tolerances shall be those given in Table 1 for the particular shaft size. Keyway tolerances shall be those given in Table 2 for the particular keyway size.