

Specification for

Horizontal end-suction centrifugal pumps (16 bar)

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	Thames Water Authority — Metropolitan Water Division
	Individual experts

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Foreword

This British Standard was prepared under the authority of the Mechanical Engineering Industry Standards Committee of BSI. It is based upon and includes the technical contents of the following publications prepared by the International Organization for Standardization.

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/DIS 3661, *“End suction centrifugal pumps — Baseplate and installation dimensions”*.

However, the opportunity has been taken to include additional information and requirements concerning suitable pump casing materials, tolerances and surface finishes on shafts and sleeves within the seal cavities, a preferred range of shaft diameters and a “grid” giving guidance on the selection of suitable pumps for particular duties.

NOTE This standard supersedes BS 4519 *“External dimensions for horizontal end-suction pumps”*, which is withdrawn.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

1 Scope

This British Standard specifies the principal dimensions and nominal duty point of horizontal end-suction centrifugal pumps having a maximum discharge pressure of 16 bar¹⁾. Also included are dimensions for seal cavities and baseplate installations.

The manufacturer shall be consulted about temperature limitations in respect of materials, seals and joints.

2 References

The titles of the British Standards referred to in this standard are listed on the inside back cover.

Section 2. Pump designation and dimensions

3 Designation

The pump designation comprises three numbers. The first corresponds to the inlet diameter, the second to the outlet diameter and the third to the nominal diameter of the impeller. (See Table 1.)

Example of designation. A centrifugal pump with an inlet diameter of 80 mm, an outlet diameter of 50 mm and a nominal impeller diameter of 250 mm is designated 80–50–250.

4 Pump dimensions and nominal duty point

The dimensions and the nominal duty point appropriate to the relevant pump designation shall be as given in Figure 1 and Table 1. Information on pump selection grids is given in Appendix A and Figure 6 and Figure 7.

The threaded holes for pipe connections A and B in Figure 1 shall comply with the requirements of BS 2779. Connection A for cooling or heating supply shall be G 3/8. Stuffing box tapping points B shall be as large as possible but shall not exceed G 1/2.

5 Cast materials

Cast materials as recommended in DD 38 are suitable for manufacturing pumps to this standard. Other suitable materials may be used.

6 Static test pressure

The pressure casing of the pump shall be tested to 24 bar (gauge pressure).

The relation between cold test pressure and hot operating pressure shall be the subject of agreement between the purchaser and the manufacturer.

7 Flanges

Flanges for use with the pump sizes given in Table 1 shall preferably be selected from BS 4504, class 16. Flanges selected from other standards may be used by agreement between the purchaser and the manufacturer.

¹⁾ 1 bar = 10⁵ N/m² = 100 kPa.