

Specification for

Hose couplings for petrol, oil and lubricants —

Part 3: Quick-acting couplings

Co-operating organizations

The Mechanical Engineering Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

Associated Offices' Technical Committee	Institution of Heating and Ventilating Engineers
Association of Consulting Engineers	Institution of Mechanical Engineers
Association of Mining Electrical and Mechanical Engineers*	Institution of Mechanical Engineers (Automobile Division)
Board of Trade*	Institution of Production Engineers
British Chemical Plant Manufacturers' Association	Locomotive and Allied Manufacturers' Association of Great Britain
British Compressed Air Society*	London Transport Board
British Electrical and Allied Manufacturers' Association	Machine Tool Trades Association
British Gear Manufacturers' Association	Ministry of Defence
British Internal Combustion Engine Manufacturers' Association	Ministry of Defence, Army Department*
British Mechanical Engineering Federation	Ministry of Labour (H.M. Factory Inspectorate)
British Pump Manufacturers' Association	Ministry of Power*
Crown Agents for Oversea Governments and Administrations*	Ministry of Public Building and Works
Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales	Ministry of Technology (Aviation)*
Engineering Equipment Users' Association*	Ministry of Technology — National Engineering Laboratory
Gas Council	Ministry of Transport
Institute of Marine Engineers	National Coal Board*
Institution of Civil Engineers	National Physical Laboratory (Ministry of Technology)
Institution of Gas Engineers	Radio Industry Council
	Royal Institute of British Architects
	"The Steel Industry"*

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

British Hose Manufacturers Association	Association of British Railway Carriage and Wagon Manufacturers
Council of British Manufacturers of Petroleum Equipment	British Railways Board
Federation of British Rubber and Allied Manufacturers	Oil Companies Material Association
Federation of Civil Engineering Contractors	Liquefied Petroleum Gas Industry Technical Committee
Federation of Manufacturers of Construction Equipment	Ministry of Defence, Navy Department
Institution of Municipal Engineers	Individual manufacturers

This British Standard, having been approved by the Mechanical Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 29 March 1968

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Foreword

This standard makes reference to the following British Standards:

BS 218, *Leaded brass (58 per cent copper, 2 per cent lead) forging stock and forgings.*

BS 1134, *Centre-line-average height method for the assessment of surface texture.*

BS 1400, *Schedule of copper alloy ingots and copper and copper alloy castings.*

BS 1472, *Wrought aluminium and aluminium alloys for general engineering purposes. Forging stock and forgings.*

BS 1490, *Aluminium and aluminium alloy ingots and castings for general engineering purposes.*

BS 2779, *Fastening threads of B.S.P. sizes.*

This Part of BS 2464 has been prepared under the authority of the Mechanical Engineering Industry Standards Committee at the request of users who require a quick and convenient method for connecting filling and emptying hoses to rail tank wagons and road vehicles carrying petroleum products.

General requirements for design, materials and testing are given, together with leading dimensions of quick-acting couplings for 80 mm and 100 mm hose connections.

The thread in the back of the tank-half-coupling is for connection to the pipe from the tank.

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 26, 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.

1 Scope

This British Standard specifies requirements for quick-acting hose couplings for use at the following pressures:

Working pressure, maximum (including surge pressure):

10 bar 1 000 kN/m² (145 lbf/in²).

Test pressure:

20 bar 2 000 kN/m² (290 lbf/in²).

General requirements of design, materials and testing are specified.

Dimensions of a coupling suitable for 80 mm bore hose are given (Figure 1 to Figure 8).

Dimensions of three couplings suitable for 100 mm bore hose are also given as follows:

Coupling Type 1 (Figure 9 to Figure 15)

Coupling Type 2 (Figure 16 to Figure 19)

Coupling Type 3 (Figure 20 to Figure 24)

The couplings are intended for use at ambient air temperature within the range – 26 °C to + 55 °C.

2 Materials

2.1 Coupling components shall be made from one or other of the following materials as agreed between the purchaser and the manufacturer:

Aluminium alloy castings complying with Specification LM8-W of BS 1490¹⁾ or forgings to BS 1472²⁾.

Gunmetal castings complying with Specification LG2-C of BS 1400³⁾.

Brass castings complying with Specifications B2-C and B3-C of BS 1400³⁾.

Hot pressings complying with BS 218⁴⁾.

2.2 Materials used shall be compatible with the liquid for which the coupling is to be used.

2.3 In selecting a material from **2.1**, attention shall be given to the avoidance of corrosion due to the use of dissimilar metals in contact with each other giving rise to electrolytic action⁵⁾.

2.4 The possibility of seizure between sliding surfaces through the use of similar metals shall be taken into consideration.

2.5 Aluminium alloy may be anodized if required, i.e. to prevent pick-up by creating a dissimilar surface.

2.6 When aluminium alloy is used, due consideration shall be given to the prevention of sparking.

3 Dimensions

3.1 The dimensions of the coupling components for 80 mm bore hose shall comply with the requirements given in Figure 2 to Figure 8.

3.2 The dimensions of the coupling components for 100 mm bore hose shall comply with the requirements given in the following:

Coupling Type 1 (Figure 10 to Figure 15)

Coupling Type 2 (Figure 16 to Figure 19)

Coupling Type 3 (Figure 21 to Figure 24)

NOTE Details of tail ends are given in BS 2464-1.

¹⁾ BS 1490, "Aluminium and aluminium alloy ingots and castings for general engineering purposes".

²⁾ BS 1472, "Wrought aluminium and aluminium alloys for general engineering purposes: Forging stock and forgings".

³⁾ BS 1400, "Schedule of copper alloy ingots and copper and copper alloy castings".

⁴⁾ BS 218, "Leaded brass (58 per cent copper, 2 per cent lead) forging stock and forgings".

⁵⁾ Guidance on potentially dangerous combinations is given in the H.M.S.O. publication "Corrosion and its prevention at bimetallic contacts".

4 Workmanship

4.1 Workmanship shall be of good quality. All burrs and sharp edges shall be removed and the couplings shall have a smooth finish.

4.2 Machining symbols shown in the Figures indicate the CLA surface-texture in μm , as specified in BS 1134⁶⁾.

5 Threads

5.1 Threads used on the couplings shall be BSP (parallel) threads to BS 2779⁷⁾.

NOTE Details of the American form of hose coupling threads are given in BS 2464-1:1954, Appendix A.

5.2 The first thread on all male and female threads shall be chamfered to 45° .

6 Washers and seals

6.1 Washers and seals shall be made of synthetic rubber, rubber asbestos compound, specially selected leather or other suitable materials as specified by the purchaser. When not so specified, the purchaser shall be given prior notification by the manufacturer of the type and quality of washer and/or seal he intends to supply.

7 Bonding

Means shall be provided on the couplings for electrical bonding, but the method to be used shall be agreed between the purchaser and the manufacturer.

NOTE The method of electrical bonding to be used on the coupling will vary according to the type of hose employed, but the method adopted must comply with any legal or statutory requirements and with the relevant requirements of the petroleum industry.

8 Identification marking

8.1 Each set of couplings shall be legibly and permanently marked with the manufacturer's identification and the number of this British Standard, i.e. BS 2464-3.

8.2 In addition, the type of screw thread used for tail-end attachment purposes shall also be marked on each coupling.

NOTE The mark BS 2464-3, on or in relation to the product is a claim by the manufacturer that it complies with the requirements of the standard.

The British Standards Institution is the owner of a registered certification trade mark. This is shown below, enclosed in the words "Approved to British Standard". This mark can be used only by manufacturers licensed under the certification mark scheme operated by the BSI. The presence of this mark on or in relation to a product is an assurance that the goods have been produced to comply with the requirements of the British Standard under a system of supervision, control and testing operated during manufacture and including periodical inspection at the manufacturer's works in accordance with the certification mark scheme of the BSI.

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9 Testing

9.1 Hydrostatic test. All couplings, when assembled without hose, shall be subjected to a hydrostatic test of 20 bar $2\,000\text{ kN/m}^2$ (290 lbf/in^2). It shall be applied after all machining operations have been completed. This test is for the purpose of locating flaws in the material after machining, and also to test the merits of the joint. When blanking caps (sealing) are required, they shall be subject to a similar test, assembled to an appropriate half coupling.

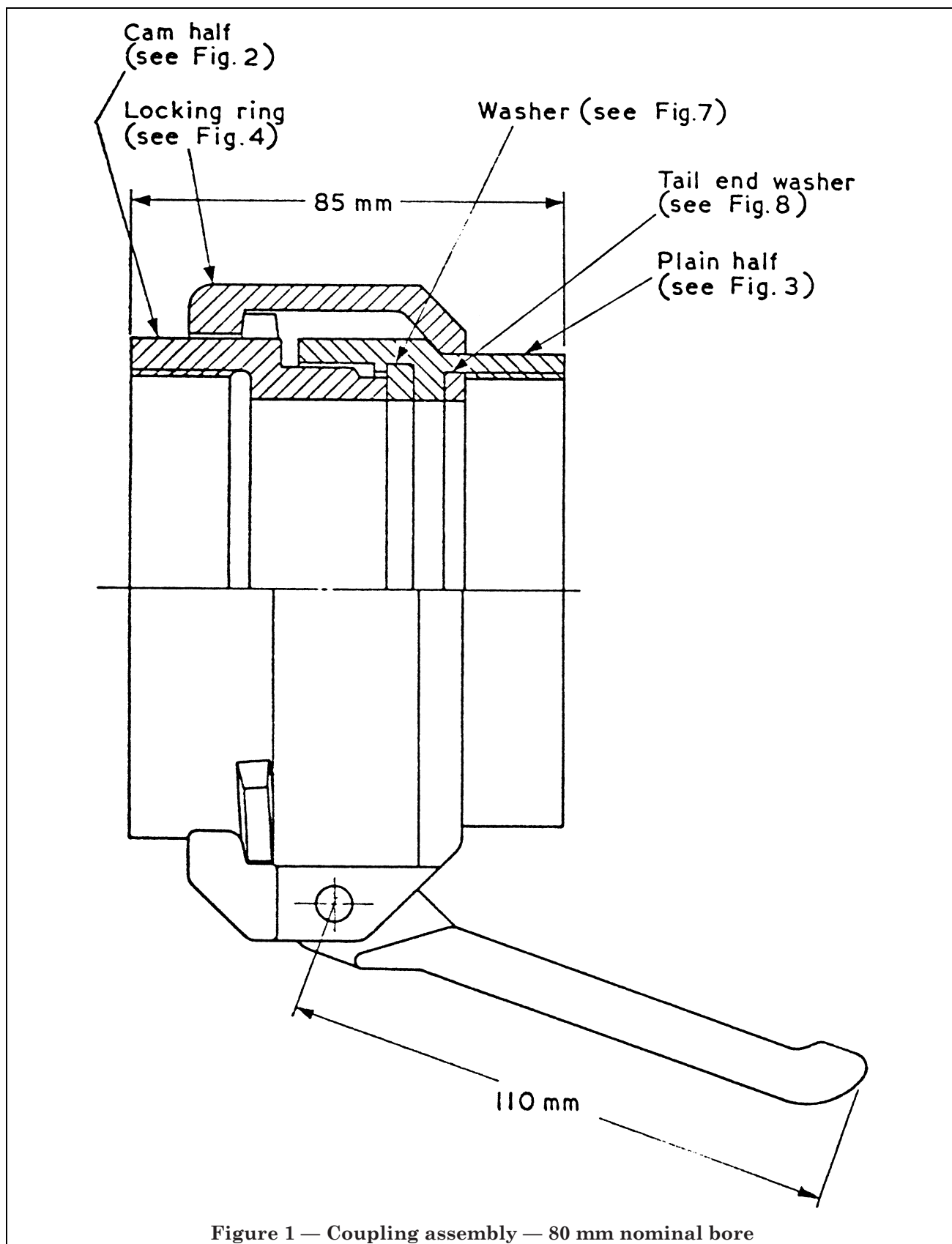
No restraint of any sort in addition to that normally applied to the coupling shall be imposed.

Couplings which show signs of leakage during this test by reason either of defective joints or of other defects, shall be deemed not to comply with this standard.

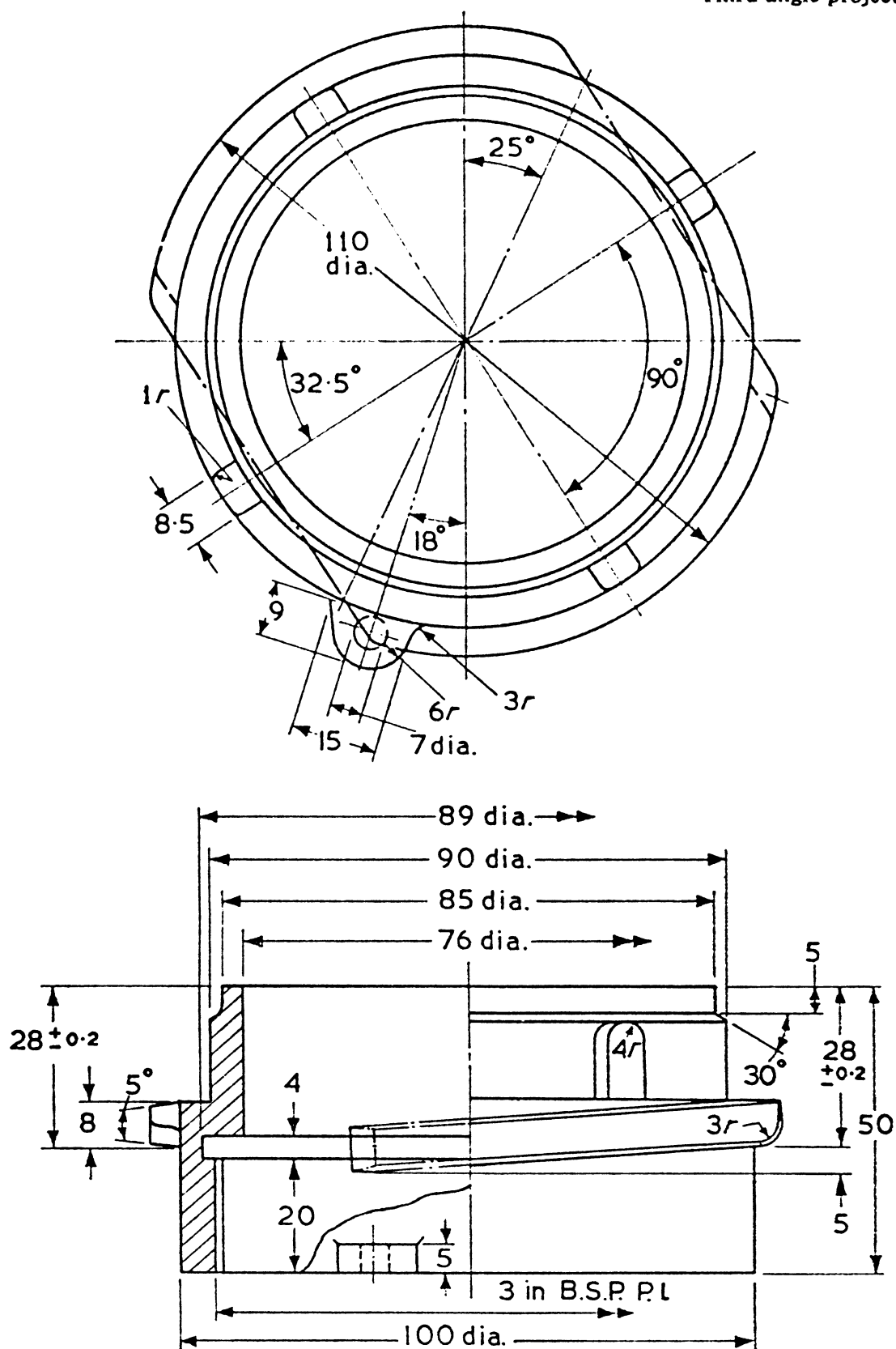
⁶⁾ BS 1134, "Centre-line-average height method for the assessment of surface texture".

⁷⁾ BS 2779, "Fastening threads of BSP sizes".

9.2 Vacuum test. Couplings shall be subjected to a vacuum test on suitable apparatus to 95 kN/m^2 (28 inHg) and held for 1 min without leakage.



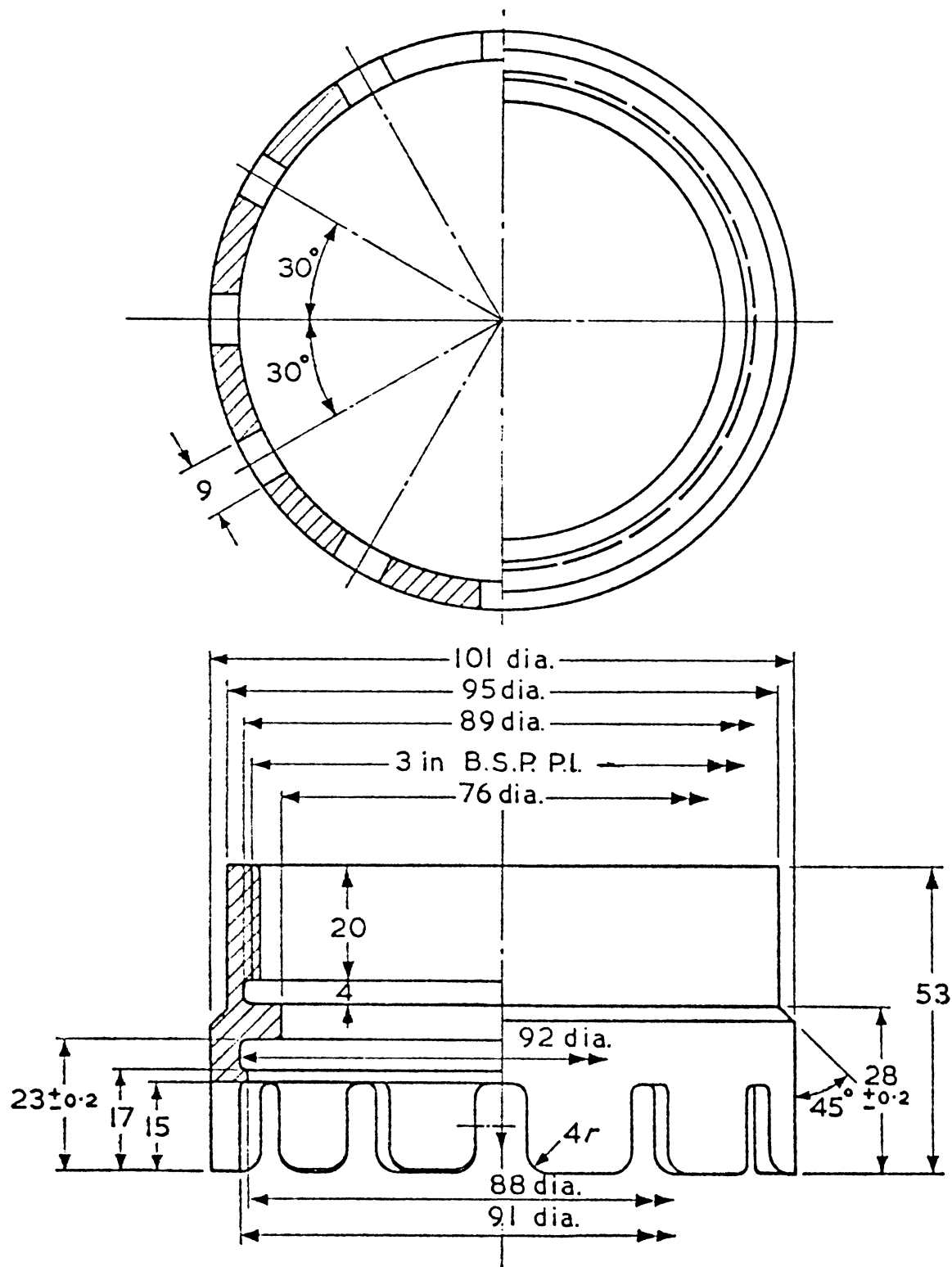
Third angle projection



Dimensions are in millimetres unless otherwise stated

Figure 2 — Cam half coupling — 80 mm nominal bore

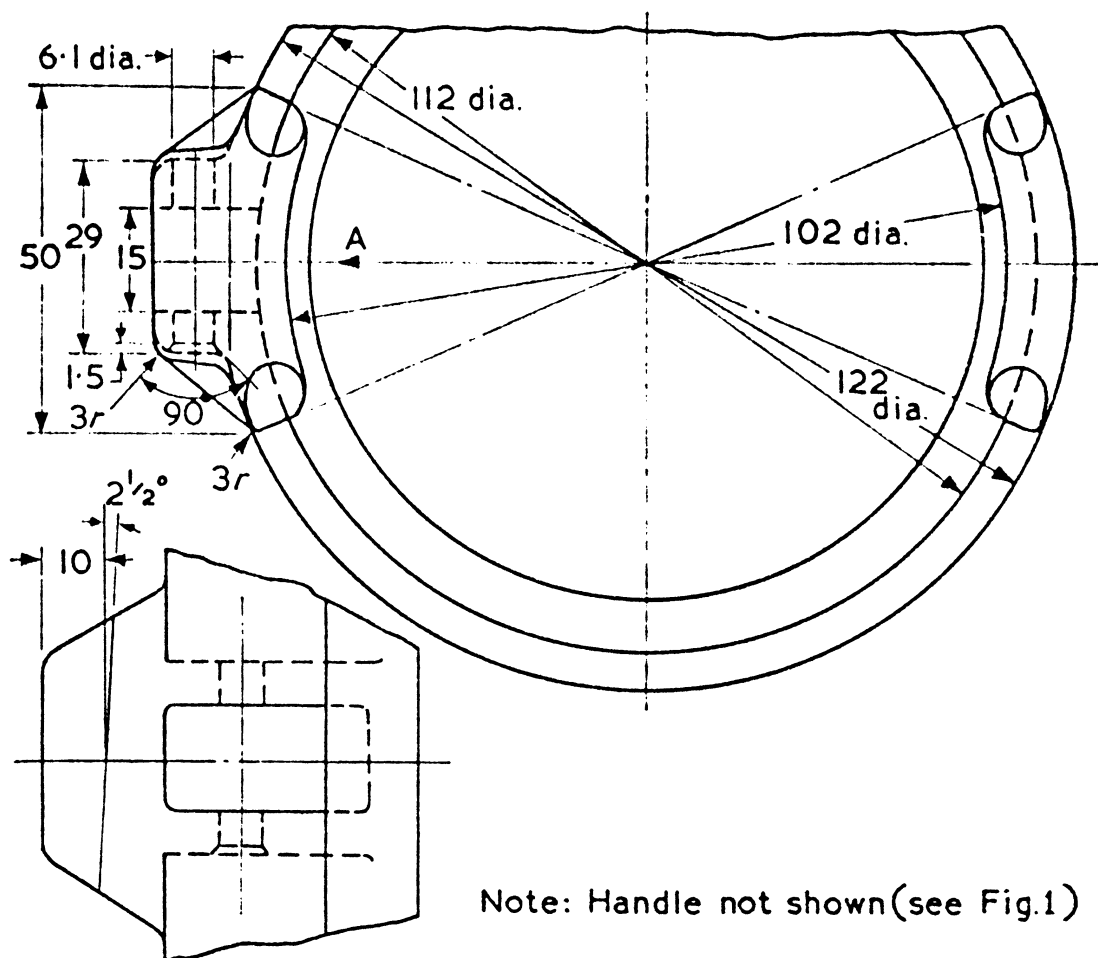
Third angle projection



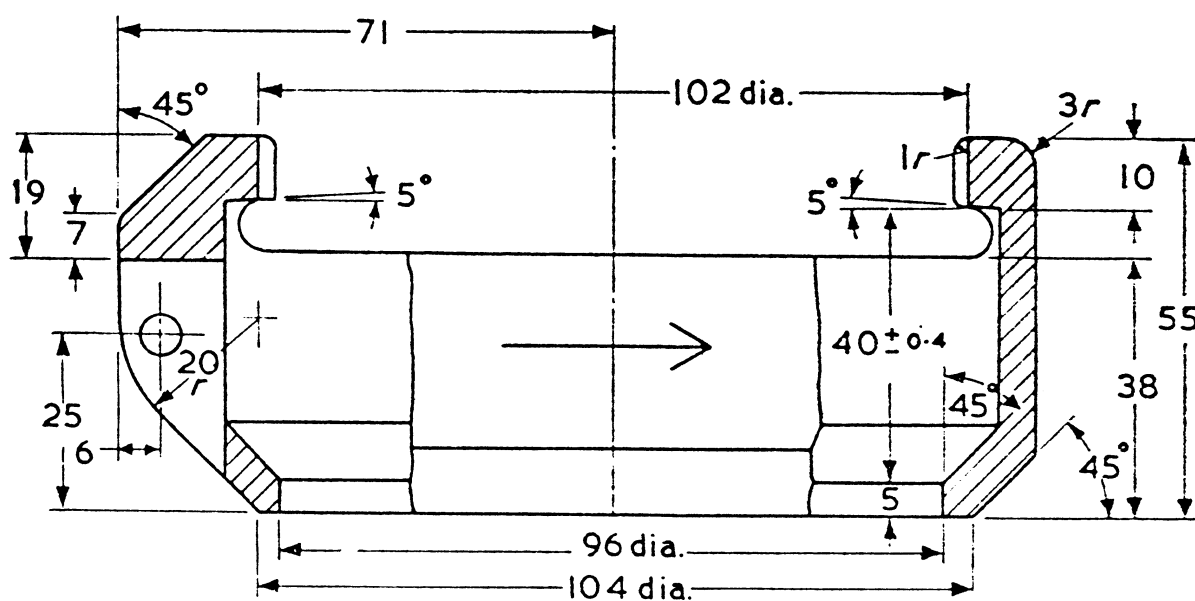
Dimensions are in millimetres unless otherwise stated

Figure 3 — Plain half coupling — 80 mm nominal bore

Third angle projection



View in direction of arrow A



Dimensions are in millimetres unless otherwise stated

Figure 4 — Locking ring — 80 mm nominal bore coupling