BS 7357:1990

Specification for

7.5 L WC flushing cisterns

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Building Services Standards Policy Committee (SEB/-) to Technical Committee SEB/1, upon which the following bodies were represented:

British Bathroom Council
British Plastics Federation
Clay Pipe Development Association Limited
Consumer Policy Committee of BSI
Department of Health
Department of the Environment (Building Research Establishment)
Department of the Environment for Northern Ireland
Department of the Environment (Property Services Agency)
Institute of Clerks of Works of Great Britain Inc.
Institute of Plumbing
Institute of Vitreous Enamellers
Institution of Environmental Health Officers
Institution of Water and Environmental Management
Metal Sink Manufacturers' Association
Royal Institute of British Architects
Vitreous Enamel Development Council
Water Services Association of England and Wales

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The following BSI references relate to the work on this standard:
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Contents

Foreword

This British Standard has been prepared under the direction of the Building Services Standards Policy Committee and is complementary to BS 1125, which specifies requirements for flushing cisterns designed to have a 9 L flushing capacity.

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 16, 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 requirements for 7.5 L maximum single flush, exposed and concealed WC flushing cisterns with a side inlet or bottom inlet supplied with a float operated valve, a valveless siphon for high level, low level, and close coupled applications together with the necessary flush pipes.

Information to be supplied by the purchaser at the time of enquiry and/or order is listed in Appendix A.

Requirements for float operated valve assemblies and methods of fixing cisterns are not specified in this standard.

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

2 Definitions

For the purposes of this British Standard the following definitions apply.

2.1
spill-over level

the level at which water in the flushing cisterns will first spill over if the rate of inflow exceeds the rate of outflow through the warning pipe

2.2
warning pipe

an overflow pipe with its outlet, whether inside or outside a building, in a conspicuous position where the discharge of water can be readily seen

2.3
water line

a level marked inside the cistern to indicate the highest water level at which the float operated valve is adjusted to shut off

2.4
effective warning water level

the level when water reaches 10 mm above the invert of a side entry connection warning pipe or 10 mm above the overflow level of a bottom connecting warning pipe (see Figure 1)

2.5
concealed cistern

a cistern that is not normally visible after installation

3 Marking

3.1 Cisterns shall be permanently marked with the following:

a) the manufacturer's name or identification mark;

b) the number of this British Standard, i.e. BS 7357[1)].

NOTE For the purposes of this standard, marking by means of a label complying with BS 4781 is considered to be permanent.

3.2 Cisterns intended only for concealed use shall be marked:

"For concealed use only".

NOTE The purchaser should state at the time of enquiry and/or order the type of cistern required (see Appendix A).

Marking shall be capable of being seen after the installation of the cistern and before any cover is fitted.

[1)] Marking BS 7357 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is therefore solely the responsibility of the person making the claim. Such a declaration is not to be confused with third party certification of conformity, which may also be desirable.

Section 2. Materials and design

4 General corrosion resistance for components

Cistern shells, siphons and associated components shall be manufactured from materials which under the conditions of use are either:

a) non-corroding, e.g. plastics;

b) protected against the types of corrosion caused by the action on them of the water with which the cistern is to be used;

c) highly resistant to corrosion by the action of the water with which the cistern is to be used, i.e. they corrode only at a rate which is insufficient to affect adversely the durability or efficiency of the cistern.

NOTE The purchaser should state at the time of enquiry and/or order the materials of manufacture (see Appendix A).

Before dissimilar metals are used in the construction of a cistern, the manufacturer shall ensure the avoidance of possible electrolytic action.

5 Cistern shells

5.1 Ceramic ware cisterns

NOTE See also clauses **14**, **15** and **16**.

5.1.1 The shell thickness of ceramic ware cisterns shall comply with either **5.1.2**, **5.1.3** or **5.1.4** as appropriate; in addition vitreous china cisterns shall comply with BS 3402.

5.1.2 All ceramic ware cisterns, except vitreous china, shall have a minimum thickness of 12 mm.

5.1.3 Vitreous china cisterns shall have a minimum thickness of 10 mm, except as described in **5.1.4**.

5.1.4 Vitreous china cisterns with an internal width of less than 365 mm, measured at the effective warning water level, shall have a minimum thickness of 6 min.

5.2 Stainless steel cisterns

NOTE See also clauses **14**, **15** and **16**.

5.2.1 Stainless steel cisterns shall be manufactured from one of the following grades of austenitic steel: 304S11, 304S15, 304S16 or 304S31, selected from BS 1449-2, having a minimum thickness of 1.2 mm before forming.

5.2.2 Steel cisterns shall have no sharp edges.

5.2.3 Steel cisterns shall have all joints continuously welded.

5.3 Rubber compound and plastics cisterns

NOTE See also clauses **14**, **15** and **16**

5.3.1 ***General***

Plastics materials and rubber compounds shall be such that, when assembled, the cistern shall comply with **5.3.2** to **5.3.4**.

5.3.2 ***Appearance***

5.3.2.1 Cisterns shall be free from blisters and delaminations.

5.3.2.2 Exposed cisterns shall be reasonably free from flow lines, streaking or unintended colour variations on surfaces visible after installation.

5.3.3 ***Distortion resistance***

When tested in accordance with Appendix B, cisterns shall not distort outwards by more than 6 mm and the cover shall not be dislodged.

5.3.4 ***Exposed cisterns only***

5.3.4.1 *Colour fastness to light*

When tested in accordance with BS 2782:Method 540B the colour fastness to light of the cistern and cover shall be not less than No. 5.

5.3.4.2 *Opacity*

When tested in accordance with BS 2782:Method 1104A, the cistern and cover shall not transmit more than 10 % of the visible light falling on them.

5.3.4.3 *Front thrust test for low level and close coupled suite cisterns*

When tested as described in Appendix C, the complete cistern shall not distort to such an extent that any part becomes detached or inoperative.

6 Soft solder

Any soft solder used in the construction of siphons or associated components shall be of grade F or J as given in Table 1 of BS 219:1977.

7 Hard solder

Any hard solder or filler alloy used in the construction of siphons or associated components shall be of copper-silver-phosphorus or other corrosion resistant alloy, in accordance with type CP2 or CP3 of BS 1845.

8 Flushing apparatus

Cisterns shall be supplied with an efficient flushing apparatus of valveless siphonic type which prevents the waste of water. The apparatus shall be capable of flushing directly the mechanism is operated, when the water is at the water line, and shall be so constructed that water cannot flow down the flush pipe other than while a flush is being properly delivered.

Flushing apparatus shall be detachable from the shell and suitable means shall be provided for ensuring and maintaining a watertight joint.

When tested as described in Appendix D the assembly shall be capable of being dismantled and reassembled.

The underside of the bend in the siphon pipe (the siphon invert) or, in the case of the dome pattern, the top of the straight discharge pipe, shall be at such a height that no water runs down the flush pipe when the water level is raised to the spill-over level after temporarily closing the warning pipe connection.

Any servicing joint in the down leg of a siphon shall be above the effective warning water level.

9 Volume of discharge per flush

When tested as described in Appendix E, cisterns shall discharge 7.5 + 0.0, – 1.0 L.

10 Rate of flush discharge

When tested as described in Appendix F cisterns shall discharge the flush at the following rate:

a) low level or close coupled : 1.6 L/s minimum;

b) high level : 2.0 L/s minimum.

NOTE Cisterns intended for close coupled use will be tested as for low level.

11 Water line

The water level shall be marked permanently inside the cistern in such a position that it is easily visible to a person adjusting the water level.

12 Spill-over level

The spill-over level of the cistern shall be not less than 60 mm above the water line (see Figure 1).

13 Warning pipe connections

13.1 General

Each cistern shall be provided with a warning pipe connection so arranged that the invert of a side connection type or the overflowing level of a bottom connection type is not less than 25 mm or not more than 32 mm above the water line.

NOTE The purchaser should state at the time of enquiry and/or order whether the warning pipe and the inlet are to have a side or bottom connection (see Appendix A).

Each cistern shall be supplied with a warning pipe connection or a warning stand pipe of not less than 19 mm internal diameter throughout.

13.2 Bottom warning pipe connection

13.2.1 *Metal warning stand pipes*

Warning stand pipes of metal shall be of either copper, copper alloy or stainless steel. If made of copper, they shall comply with Tables X or Z of BS 2871-1:1971. If made of copper alloy, they shall have a minimum thickness of 1 mm, if made of stainless steel they shall have a minimum thickness of 0.5 mm. They shall be brazed, hard soldered or welded at the lower end to a flanged nipple of not less than 35 mm diameter, and shall be provided with a backnut and washer.

13.2.2 *Plastics warning stand pipes*

Warning stand pipes of plastics material shall be either integral with, or welded to, a flanged nipple at the lower end and shall be provided with a backnut and washer. They shall have a minimum thickness of 1.2 mm except at the counterbore at the threaded outlet end of the pipe where the thickness under the root of the thread shall be not less than 0.9 mm.

NOTE The minimum thickness of 0.9 mm is necessary because of the small difference between the outside diameter of 22 mm pipe and the root diameter of the G¾ thread as specified in BS 2779.

13.3 Side warning pipe connection

Side connection cisterns shall be supplied with a union, for the connection of a warning pipe complete with a backnut. The union shall be manufactured from copper, copper alloy, stainless steel or plastics materials.

NOTE For frost precaution recommendations see the commentary and recommendations of **10.3.4** of BS 6700:1987.

13.4 Torque testing

When tested in accordance with Appendix G, the assembly shall be capable of being dismantled and reassembled.

14 Float operated valves

14.1 Every cistern shall be supplied with a nominal size ½ float operated valve complying with BS 1212-2 or BS 1212-3[2)] fitted with a type 114S or 114NS float complying with either BS 2456 or a valve listed under the UK Water Fittings Byelaws Scheme.

14.2 The float operated valve assembly supplied shall be such that the function of any part is not impaired by the cistern shell or any internal components.

[2)] BS 1212-4 specifying compact type float operated valves is in preparation.

15 Covers

Cisterns shall be provided with a removable cover. The cover and any screws, bolts or other component parts for fixing it shall comply, whether fitted internally or externally, with the corrosion resistance specified in clause **4**.

Section 3. Construction

16 Shell

16.1 Each shell shall be provided with holes of 28 + 2, – 1 mm diameter to accommodate a warning pipe connection and a float operated valve positioned to comply with clauses **13** and **14** (see Figure 1).

a) side connections: the centre line of the holes shall be positioned between 35 mm and 42 mm above the marked water level;

b) bottom connections: positioned to comply with clauses **13** and **14**.

16.2 Any aperture in the shell for the operating lever or chain pull shall be not lower than the effective warning water level.

16.3 A means shall be provided for ensuring and maintaining a watertight joint on both the warning pipe and inlet pipe connections.

16.4 A means shall be provided for ensuring a watertight joint between the cistern and the pan in a close coupled application.

17 Operating mechanism

17.1 General

The flushing apparatus shall be operated by a lever, handle or push button operating mechanism.

NOTE The purchaser should state at the time of enquiry and/or order the type of flushing mechanism (see Appendix A).

When the lever or the handle for operating the flushing apparatus projects from the side of the cistern it shall not extend more than 380 mm from the centre of the cistern.

The length of any lever arm between the fulcrum and the siphon piston rod shall be such that there is no permanent distortion of the flushing apparatus when the lever is operated.

17.2 Dead load test for high level exposed cisterns with a chain pull

The pull, chain and fixing links when assembled, and tested as described in **H.1**, shall not distort such that any part becomes detached or inoperative.

17.3 Dead load test for low level, close coupled exposed cisterns and all concealed cisterns with lever or handle operating mechanism

The complete cistern, when installed, filled and tested as described in **H.2** shall not distort to such an extent that any part becomes detached or inoperative.

17.4 Dead load test for push button operated cisterns

The complete cistern, when installed, filled and tested as described in **H.3** shall not distort to such an extent that any part becomes detached or inoperative.

18 Flush pipe connection

18.1 Cisterns intended for use at high or low level shall be supplied with a connection for the attachment of the flush pipe which shall be thread size designation G1½ as specified in BS 2779.

18.2 For cisterns intended for use at high or low level the centre of the outlet shall be centred in the width within a tolerance of ± 10 mm and either:

a) 120 + 4, – 0 mm from the extreme back edge of the cistern;

b) any other dimension, provided that the cistern manufacturer supplies a suitable off-set flush pipe assembly (see Figure 2).

Section 4. Flush pipes

19 Materials, construction and ends

19.1 General

Flush pipes shall be constructed in accordance with **19.2**, **19.3** and **19.4** and also in accordance with either clause **20** or **21**

NOTE Flush pipes supplied with high and low level cisterns will be of unplasticized polyvinyl chloride (unplasticized PVC) unless otherwise specified in accordance with Appendix A.

19.2 Materials

Flush pipes shall be made of one of the following materials:

a) unplasticized PVC;

b) stainless steel;

c) polypropylene;

d) copper and copper alloy;

e) steel.

NOTE The purchaser should state at the time of enquiry and/or order the material of construction of the flush pipe (see Appendix A).

19.3 Construction

19.3.1 *Unplasticized PVC flush pipes*

Unplasticized PVC flush pipes shall have a wall thickness before forming of not less than 1.5 mm.

19.3.2 *Stainless steel flush pipes*

Stainless steel flush pipes shall be manufactured from stainless steel tube complying with either BS 6323-8 or BS 4127-2.

19.3.3 *Polypropylene flush pipes*

Polypropylene flush pipes shall be manufactured from polypropylene complying with BS 5139 and shall have a wall thickness before forming of not less than 1.5 mm.

19.3.4 *Copper or copper alloy flush pipes*

Copper flush pipes shall be manufactured from copper tube complying with Table X of BS 2871-1:1971. Copper alloy flush pipes shall be manufactured from tube not less than 1 mm thick.

19.3.5 *Steel flush pipes*

Steel flush pipes shall be manufactured from seamless or welded tube of a minimum thickness of 1 mm and shall be completely protected inside and outside by either vitreous enamelling complying with BS 3830 or hot dip galvanizing complying with BS 729.

NOTE The purchaser should state at the time of enquiry and/or order the type of protection (see Appendix A).

19.4 Ends

The upper end of the flush pipe shall be provided with a means for making a detachable, watertight and airtight joint to the flushing cistern. The lower end of the flush pipe shall be finished with a plain end.

20 Flush pipes for use with cisterns at high level

Flush pipes for use with cisterns at high level shall have an internal diameter of not less than 32 mm before forming and before the application of any finish. Other dimensions shall be as shown in Figure 2. They shall be either of one-piece construction or made of sections.

21 Flush pipes for use with cisterns at low level

Flush pipes for use with cisterns at low level shall have an internal diameter of not less than 35 mm before forming and before the application of any finish.

Appendix A Options: information to be supplied by the purchaser

When ordering WC flushing cisterns complying with BS 7357, the purchaser should state the following information at the time of enquiry and/or order:

a) the type of cistern; low level, high level, concealed or close coupled (see **3.2**)

b) the required materials of manufacture (see clause **4**);

c) whether the warning pipe and the inlet are to have a side or bottom connection (see clause **13**);

d) the type of flushing mechanism, i.e. chain pull, handle, or push button (see **17.1**);

e) flush pipe material of construction (see **19.2**);

f) the type of protection required for steel flush pipes (see **19.3.5**).

Appendix B Distortion test

B.1 Procedure

Install the cistern, complete with its fitments and cover, by its normal fixing devices to a solid background. Fill the cistern with water at a temperature of between 7 °C and 20 °C, to the water line.

B.2 Result

Record in millimetres any outward distortion in the cistern or dislodgement of the cover.

Appendix C Front thrust test

C.1 Procedure

Install and fill the complete cistern as described in Appendix B. Apply horizontally a front thrust of 110 ± 5 N by adjusting an applied weight.

NOTE A convenient method of applying this thrust is shown in Figure 3. It can be determined initially by a spring balance at X.

Apply this thrust through a 150 ± 2 mm diameter disc as high up as possible to the front of the cistern on its centre line. Face the disc with a soft material such that the face will conform to the contour of the cistern shell. Ensure that the cistern cover is in position during the test.

C.2 Result

Record any distortion causing any part of the cistern to become detached or inoperative.

Appendix D Flushing apparatus torque test

D.1 Apparatus

D.1.1 *A stainless steel test spacer*, manufactured from materials complying with grade 416521 of BS 970-4 having the dimensions shown in Figure 4, with both flat surfaces prepared to an R_a value of 0.8 μm to 1.0 μm (see BS 1134) when measured in all directions, and that has been hardened in oil or air at 950 °C to 1 020 °C and tempered at 150 °C to 250 °C.

D.2 Preparation

Fasten the valveless siphonic flushing apparatus to the stainless steel test spacer with its backnut.

Omit all sealing washers.

D.3 Procedure

Tighten the backnut against the stainless steel test spacer to a torque of 15 + 1, – 0 N·m. Dismantle and reassemble to a torque of 15 + 1, – 0 N·m.

D.4 Result

Record any failure to dismantle or reassemble the test assembly.

Appendix E Volume of discharge test

E.1 Preparation

E.1.1 *High level/low level cistern*

Assemble the cistern with its fitments supplied by the manufacturer, as described in the manufacturer's instructions. Fasten the cistern by its normal fixing devices to a solid background.

For high level cisterns, connect a back wall flush pipe having a minimum internal diameter of 32 mm and other dimensions as shown in Figure 2 in accordance with **18.2**.

For low level cisterns, connect a flush pipe into the siphon having a minimum internal diameter of 35 mm, an engagement length of 50 mm maximum, and other dimensions as shown in Figure 5.

Connect a water supply that is controlled by a stop valve and fitted, if necessary, with a pressure regulating valve to give a static pressure of 3 ± 0.5 bar[3)] at the inlet to the cistern float operated valve. Adjust the float operated valve so that the valve closes when the water level reaches the water line of the cistern. Fit the cistern cover with its fastening screws, if provided.

Place a vessel under the open end of the flush pipe.

[3)] 1 bar = 1×10^5 N/m^2 = 1×10^5 Pa.

E.1.2 ***Close coupled cistern***

Assemble the cistern with its fitments supplied by the manufacturer, as described in the manufacturer's instructions. Fit the cistern to a WC pan that is designed to accommodate it to form a close coupled suite.

Place the suite on a firm flat horizontal surface with its outlet discharging freely into the air. Allow no obstruction within a distance of 150 mm of the pan outlet measured in the direction of the axis of the outlet.

Connect a water supply that is controlled by a stop valve, and fitted, if necessary, with a pressure regulating valve to give a static pressure of 3 ± 0.5 bar at the inlet to the cistern float operated valve. Adjust the float operated valve so that the valve closes when the water level reaches the marked water line of the cistern. Fit the cistern cover with its fastening screws, if provided. Operate the flushing mechanism so that the WC pan sump is left primed at its normal working level. Allow the cistern to refill to the marked water level.

Place a vessel under the open end of the outlet of the pan.

E.2 Procedure

Ensure that the water supply stop valve is closed. Allow no water to enter the cistern during the test. Operate the flushing mechanism.

E.3 Result

On completion of the flush determine, either by measuring or weighing, the volume of water discharged.

Appendix F Rate of discharge test

F.1 Preparation

Assemble the cistern with its fitments supplied by the manufacturer, as described in the manufacturer's instructions. Fasten the cistern by its normal fixing devices to a solid background.

For high level cisterns, connect a back wall flush pipe having a minimum internal diameter of 32 mm and overall length of 1 525 mm, in accordance with **18.2**.

For low level and close coupled cisterns connect a flush pipe into the siphon having a minimum internal diameter of 35 mm, an engagement length of 50 mm maximum and other dimensions as shown in Figure 5.

Connect a water supply that is controlled by a stop valve and fitted, if necessary, with a pressure regulating valve to give a static pressure of 3 ± 0.5 bar at the inlet to the cistern float operated valve. Adjust the float operated valve so that the valve closes when the water level reaches the marked water line of the cistern. Fit the cistern cover with its fastening screws, if provided.

Ensure that the water supply stop valve is closed to prevent any further water entering the cistern; operate the flushing mechanism.

On completion of the flush using a calibrated measuring container add 1 L of water to the cistern.

Locate and position a fluid level sensing device at the water level in the cistern as shown in Figure 6.

Using a calibrated measuring container add further water to the cistern equivalent to the volume of discharge for flush obtained in accordance with Appendix E, less 2 L.

Locate and position a fluid level sensing device at this water level as shown in Figure 6.

Add water to the cistern to the water level.

Connect the two fluid level sensing devices to an electronic timer as shown in Figure 6 and switch on the circuit.

F.2 Procedure

Operate the flushing mechanism and on completion of the flush note the time taken to discharge the volume of water between the fluid level sensing devices as displayed on the timer.

Record the time displayed.

Repeat the test a further four times and determine the average time taken.

F.3 Result

Calculate the mean rate of discharge using the following formula.

$$\text{Mean rate of discharge} = \frac{\text{Volume of discharge per flush in litres (as obtained in } \mathbf{E.3}) - 2 \text{ L}}{\text{average time in seconds (as obtained in } \mathbf{F.2})}$$

Appendix G Warning pipe connection test

G.1 Apparatus

G.1.1 *Stainless steel test spacer,* manufactured from materials which comply with grade 416521 of BS 970-4 having the dimensions shown in Figure 7, with both flat surfaces prepared to an R_a value of 0.8 μm to 1.0 μm (see BS 1134) when measured in all directions, and that has been hardened in oil or air at 950 °C to 1 020 °C and tempered at 150 °C to 250 °C.

G.2 Preparation

Fasten the warning pipe to the stainless steel test spacer with its backnut.

Omit all sealing washers.

G.3 Method

Tighten the backnut against the stainless steel test spacer to a torque of 10 + 1, – 0 N m. Dismantle and reassemble to a torque of 10 + 1, – 0 N m.

G.4 Result

Record any failure to dismantle or reassemble the test assembly.

Appendix H Dead load test on operating mechanism

H.1 Chain pull

H.1.1 *Procedure*

Fasten the cistern, complete with its fitments supplied by the manufacturer and cover, by its normal fixing devices to a solid background. Fill the cistern with water to the water line. Apply a dead load of 23 ± 0.1 kg to the end of the chain pull, for a period of 30 ± 1 s.

H.1.2 *Result*

Record any distortion which renders any part to become detached or inoperative.

H.2 Lever

H.2.1 *Procedure*

Fasten the cistern, complete with its fitments supplied by the manufacturer, and cover, by its normal fixing devices to a solid background. Fill the cistern with water to the water line. Apply a dead load of 23 ± 0.1 kg, 6 mm from the end of the operating lever arm for a period of 30 ± 1 s.

H.2.2 *Result*

Record any distortion which renders any part to become detached or inoperative.

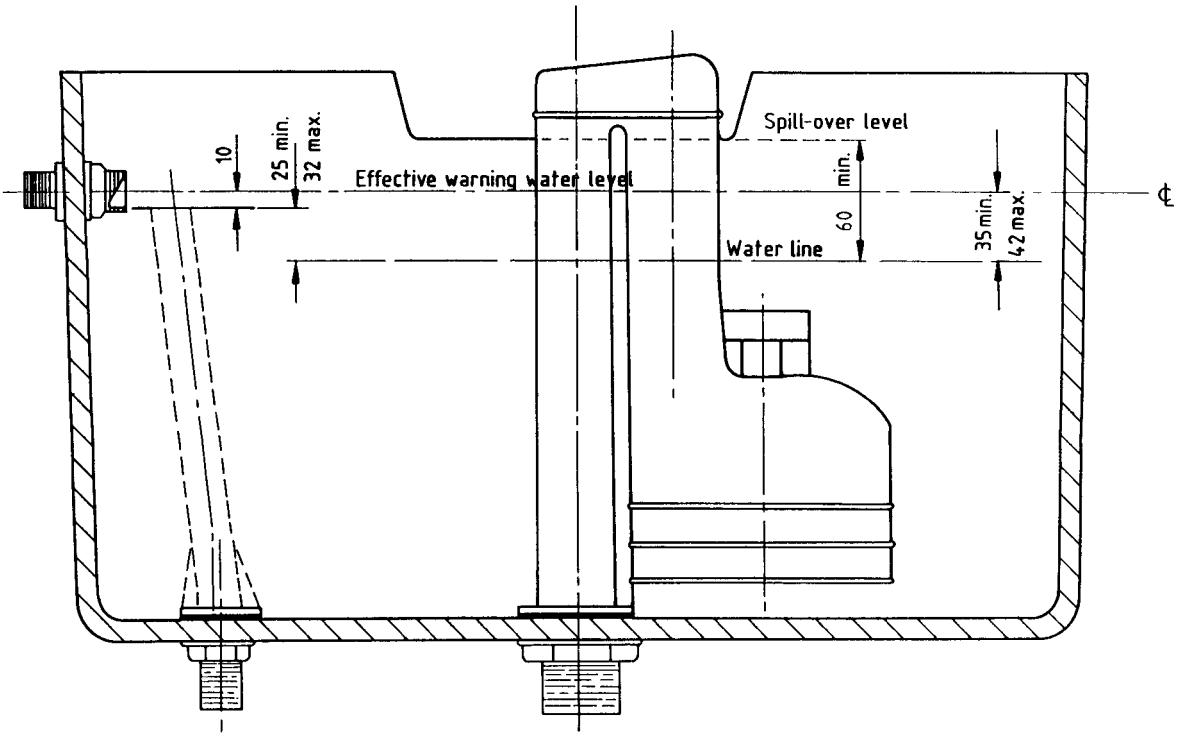
H.3 Push button

H.3.1 *Procedure*

Fasten the cistern, complete with its fitments supplied by the manufacturer, and cover, by its normal fixing devices to a solid background. Assemble in accordance with the manufacturer's instructions. Fill the cistern with water to the marked water line. Apply a dead load of 23 ± 0.1 kg vertically to the end of a vertically operated push button or transmitted horizontally to the exposed end of a horizontally operated push button, for a period of 30 ± 1 s.

H.3.2 *Result*

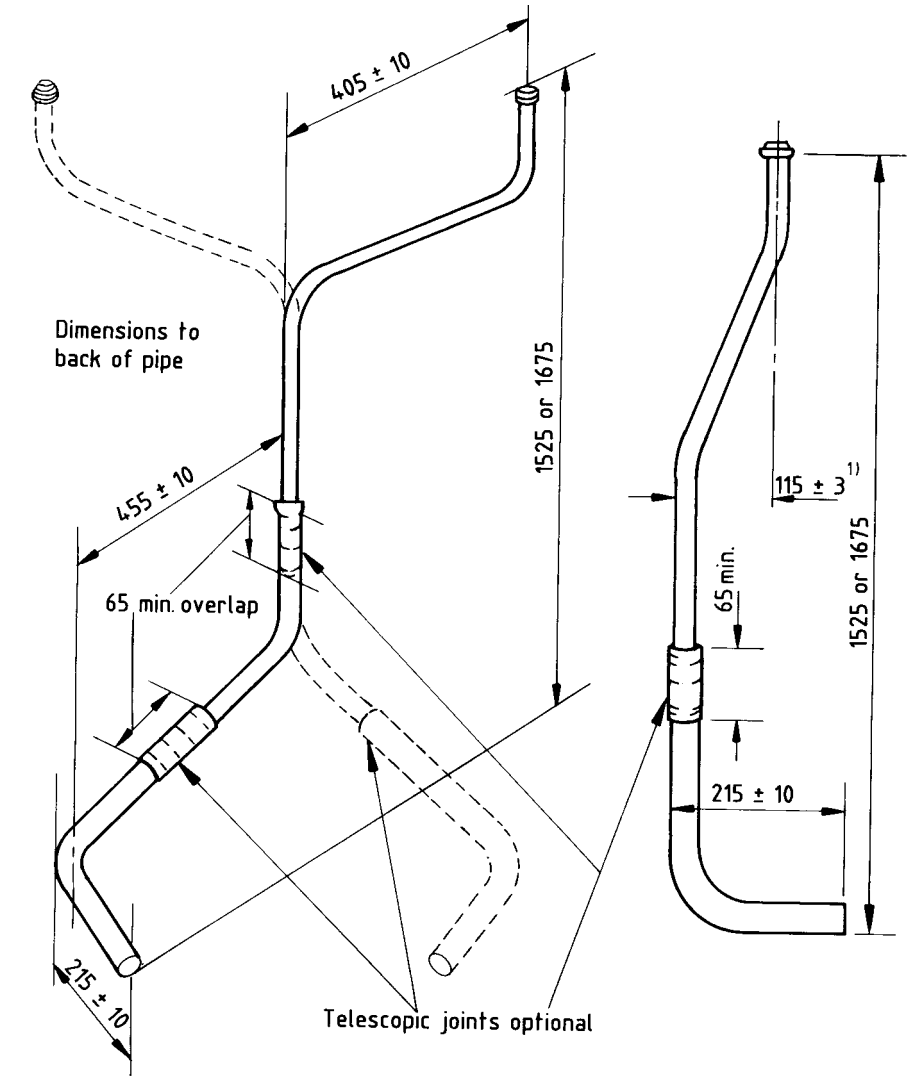
Record any distortion which renders any part to become detached or inoperative.



All dimensions are in millimetres.

NOTE The siphon invert is above the spill-over level.

Figure 1 — Illustration of effective warning water level



Side wall

Back wall

All dimensions are in millimetres.

1) For dimensions other than 115 mm, see **18.2**(b).

Figure 2 — High level flush pipes

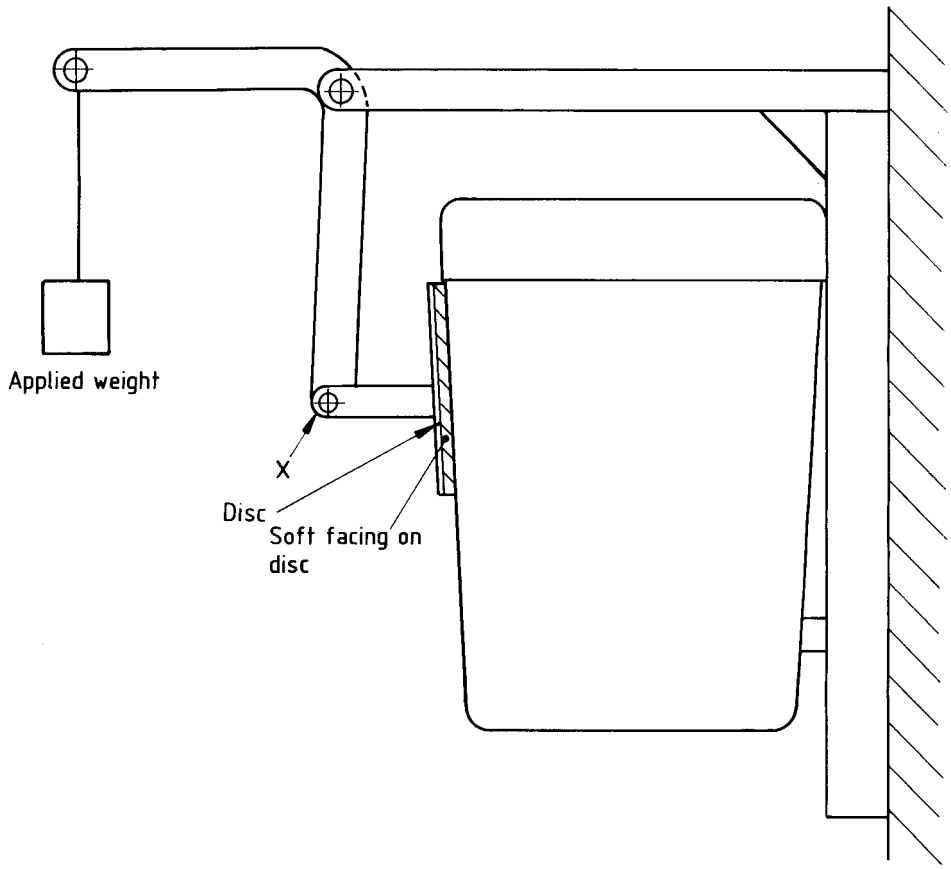
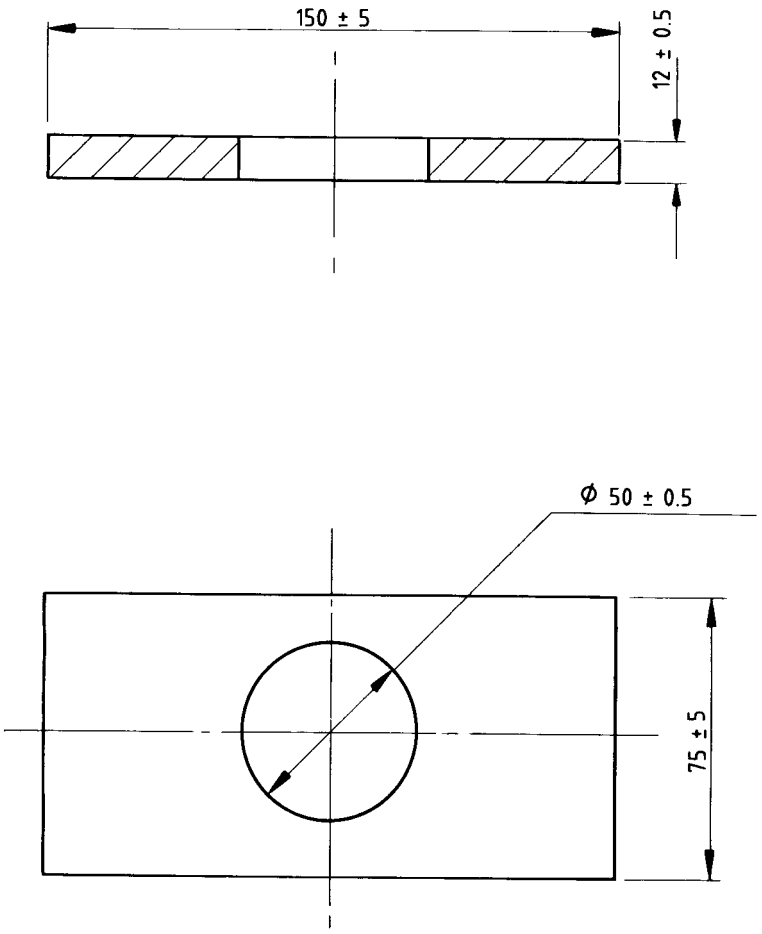
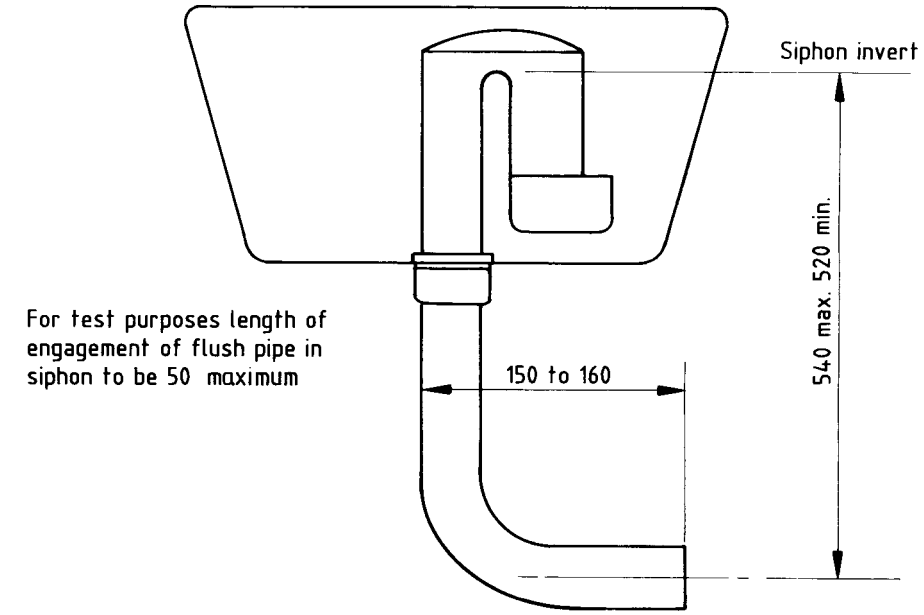


Figure 3 — Front thrust test apparatus



All dimensions are in millimetres.

Figure 4 — Flushing apparatus stainless steel test spacer



All dimensions are in millimetres.

Figure 5 — Test flush pipe for low level cistern

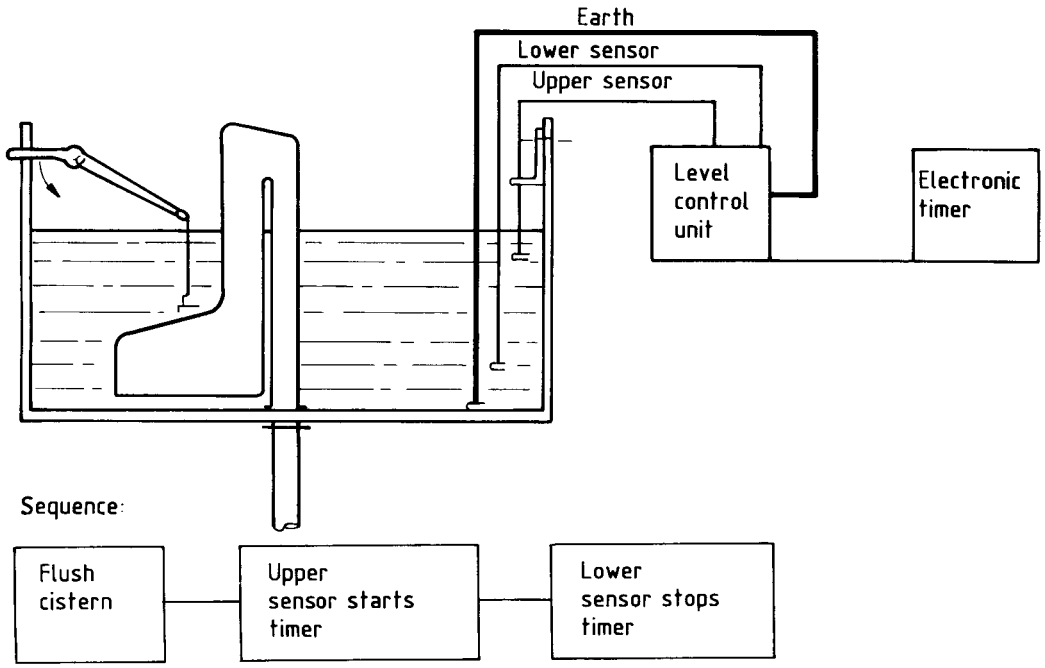
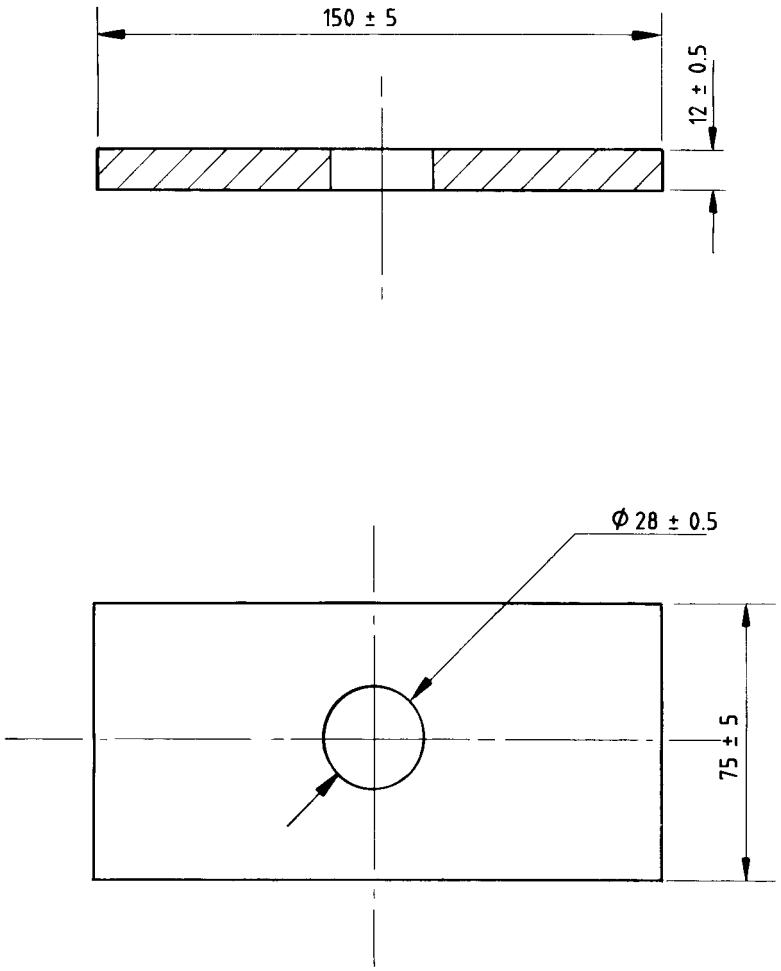


Figure 6 — Fluid level sensing device



All dimensions are in millimetres.

Figure 7 — Warning pipe stainless steel test spacer

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Publications referred to

BS 219, *Specification for soft solders.*

BS 729, *Specification for hot dip galvanized coatings on iron and steel articles.*

BS 970, *Specification for wrought steels for mechanical and allied engineering purposes.*

BS 970-4, *Valve steels.*

BS 1125, *Specification for WC flushing cisterns (including dual flush cisterns and flush pipes)*[4)].

BS 1134, *Assessment of surface texture.*

BS 1212, *Specification for float operated valves (excluding floats).*

BS 1212-2, *Diaphragm type (brass body).*

BS 1212-3, *Diaphragm type (plastics body) for cold water services.*

BS 1449, *Steel plate, sheet and strip.*

BS 1449-2, *Specification for stainless and heat-resisting steel plate, sheet and strip.*

BS 1845, *Specification for filler metals for brazing.*

BS 2456, *Specification for floats (plastics) for ball valves for hot and cold water.*

BS 2779, *Specification for pipe threads for tubes and fittings where pressure-tight joints are not made on the threads (metric dimensions).*

BS 2782, *Methods of testing plastics.*

BS 2782:Methods 540B, *Methods of exposure to laboratory light sources, (xenon arc lamp, enclosed carbon arc lamp, open-flame carbon arc lamp, flourescent tube lamps).*

BS 2782:Method 1104A, *Measurement of opacity of thermoplastics pipes and fittings.*

BS 2871, *Specification for copper and copper alloys. Tubes.*

BS 2871-1, *Copper tubes for water, gas and sanitation.*

BS 3402, *Specification for quality of vitreous china sanitary appliances.*

BS 3830, *Specification for vitreous enamelled steel building components.*

BS 4127, *Specification for light gauge stainless steel tubes.*

BS 4127-2, *Metric units.*

BS 4781, *Specification for pressure-sensitive adhesive plastics labels for permanent use.*

BS 5139, *Classification for polypropylene plastics materials for moulding and extrustion.*

BS 6323, *Specification for seamless and welded steel tubes for automobile, mechanical and general engineering purposes.*

BS 6323-8, *Specific requirements for longitudinally welded stainless steel tubes.*

BS 6700, *Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.*

[4)] Referred to in the foreword only.

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