AS 1218—1990

Australian Standard®

Flushing cisterns

E

This Australian Standard was prepared by Committee WS/3, Sanitary Plumbing Fixtures. It was approved on behalf of the Council of Standards Australia on 1 June 1990 and published on 6 August 1990.

The following interests are represented on Committee WS/3:

Australian Consumers Association

Australian Chamber of Manufacturers

Australian Design and Technology Association

Board of Works, Melbourne

Brisbane City Council

Confederation of Australian Industry

Department of Health, N.S.W.

Engineering and Water Supply Department, S.A.

Hunter Water Board

Housing Industry Association Australia

Ministry of Housing and Construction, Vic.

Plastics Institute of Australia

Stainless Steel Products Manufacturers' Association

Water Authority of Western Australia

Water Board, Sydney

Water Resources Commission, Queensland

This Standard was issued in draft form for comment as DR 88128.

AS 1218—1990

Australian Standard®

Flushing cisterns

First published as AS B34—1934.
Revised and redesignated AS A52—1946.
Revised and redesignated AS 1218—1972.
Second edition 1990.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY NSW
ISBN 0 7262 6395 8

PREFACE

This Standard was prepared by the Standards Australia Committee on Sanitary Plumbing Fixtures to supersede AS 1218—1972.

Reduced flush cisterns have been incorporated according to the policies of the Major Urban Water Authorities of Australia (MUWAA) and Australian Water Resources Council (AWRC) as follows:

The Australian policy covering reduced WC flush volume stipulates that 6/3-litre dual flush devices with matching pans are to be mandatory in new and replacement installations connected to or intended to be connected to the authorities' sewerage systems. For installations discharging to stacks, 4.5-litre single flush devices with matching pans will be permitted if installed in accordance with the relevant provisions of the National Plumbing and Drainage Code.

In cases involving the replacement of the flushing device, 9/4.5-litre dual flush devices may be used, but only where the stipulated flushing volumes are incompatible with an existing pan. An exception to this policy will apply to the relatively small number of previously installed pans which do not flush adequately with 9/4.5 litres. In those special cases, 11/5.5-litre dual flush devices will be permitted as replacements.

This policy will take effect throughout Australia on January 1, 1993 unless any alternative timetable from the product manufacturers and importers is adopted. In the meantime the reduced WC flush volume (i.e. 9/4.5 L) policy of the Major Urban Water Authorities of Australia applies, and will continue until January 1, 1993.

Noise levels have not been included as progress on a unified method of approach have not been agreed upon and requires further research. When available it will be included in this Standard.

This Standard has allowed for reduced flush matching sets below 8 litres, either single or dual flush but methods of tests are not specified.

9L single flush cisterns are for use in applications where a 9/4.5L dual flush cistern is not appropriate for the local authority sewerage system.

Dual flush cisterns may have a capability of increasing the water discharge volumes when installed with less efficient pans manufactured prior to AS 1172—1989, *Water closet pans.*

This Standard differs from the previous edition as follows:

(a) The scope was extended from single flushing to accommodate both single and dual flushing.

(b) Urinal flushing cisterns are included.

(c) Water discharge volumes have been decreased.

(d) Methods of test to ensure compatibility with pans manufactured to AS 1172—1989 have been revised and placed in Appendices.

(e) Concealed and in-wall cisterns are included.

(f) Requirements for reduced flush capacity suites are included.

(g) Reference to AS 1910, *Copper alloy float control valves for use in water supply and hot water services*, has been deleted, and test criteria for inlet valves included in this Standard.

CONTENTS

Page

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE 4
1.2 APPLICATION 4
1.3 REFERENCED DOCUMENTS 4
1.4 DEFINITIONS 4
1.5 DESIGN 5
1.6 MATERIALS 5
1.7 PERFORMANCE REQUIREMENTS 5
1.8 MARKING 6

SECTION 2 NOMINAL 9/4.5-LITRE DUAL FLUSH CISTERNS

2.1 GENERAL 7
2.2 METHOD OF OPERATION 7
2.3 DISCHARGE CAPACITIES 7
2.4 DISCHARGE TESTS 7

SECTION 3 CISTERNS OF OTHER CAPACITIES

3.1 GENERAL 7
3.2 METHOD OF OPERATION 7
3.3 DISCHARGE CAPACITIES 7

SECTION 4 9-LITRE SINGLE FLUSH CISTERNS

4.1 GENERAL 7
4.2 DISCHARGE CAPACITY 7

SECTION 5 URINAL CISTERNS

5.1 GENERAL 8
5.2 METHOD OF OPERATION 8

SECTION 6 RESTRICTED FLUSH CISTERNS

6.1 GENERAL 8
6.2 OVERFLOW 8
6.3 DISCHARGE CAPACITY 8

APPENDICES

A METHOD FOR FRONT THRUST TEST 9
B METHOD FOR BACK SIPHONAGE TEST 10
C METHOD FOR ENDURANCE TEST—OUTLET VALVE 10
D METHOD FOR ENDURANCE TEST—INLET VALVE 11
E METHOD FOR DISCHARGE TEST—DUAL FLUSH CISTERNS 12
F METHOD FOR DISCHARGE TEST—SINGLE FLUSH CISTERNS 13
G METHOD FOR DISCHARGE TEST—REDUCED CAPACITY CISTERNS 14
H METHOD FOR FLUSHPIPE RESTRICTOR SETTING PROCEDURE 15
I METHOD FOR FILLING RATE TEST 16

STANDARDS AUSTRALIA

Australian Standard
Flushing cisterns

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for design, materials, manufacture, finish and testing of flushing cisterns, intended for use with AS 1172—Water closet pans, and other sanitary fixtures.

Cisterns may be of two types, single flush, or dual flush with capacities as specified in this Standard. On wall, in wall and concealed cisterns shall comply with the relevant sections.

1.2 APPLICATION Flushing cisterns shall comply with Section 1 and with Sections 2 to 6 as follows:

Section 2. Norminal 9/4.5-litre dual flush cisterns
Section 3. Cisterns of other capacities
Section 4. 9-litre single flush cisterns
Section 5. Urinal cisterns
Section 6. Restricted flush cisterns

1.3 REFERENCED DOCUMENTS The following documents are referred to in this Standard.

AS	
1172	Water closet pans
1976	Vitreous china for use in sanitary appliances
2345	An accelerated laboratory test method for assessment of the susceptibility of brass to dezincification
2845	Water supply—Mechanical backflow prevention devices
3500	National plumbing and drainage code
3500.0	Part 0: Glossary of Terms
3796(Int)	Dezincification resistance

1.4 DEFINITIONS For the purpose of this Standard, the definitions given in AS 3500.0 and those below apply:

1.4.1 Close-coupled cistern—a cistern intended to operate directly coupled to the WC pan.

1.4.2 Concealed or in-wall cistern—a cistern designed for concealed installation in a wall, a duct or a cavity.

1.4.3 Discharge capacity—the quantity of water discharged from a flushing cistern.

1.4.4 Linkages—components forming part of the operating mechanism of the cistern.

1.4.5 Matching set cistern—a cistern intended to operate with one or more specific WC pans.

1.4.6 Overflow level—the level at which water in a cistern will first start to overflow (see Figure 1).

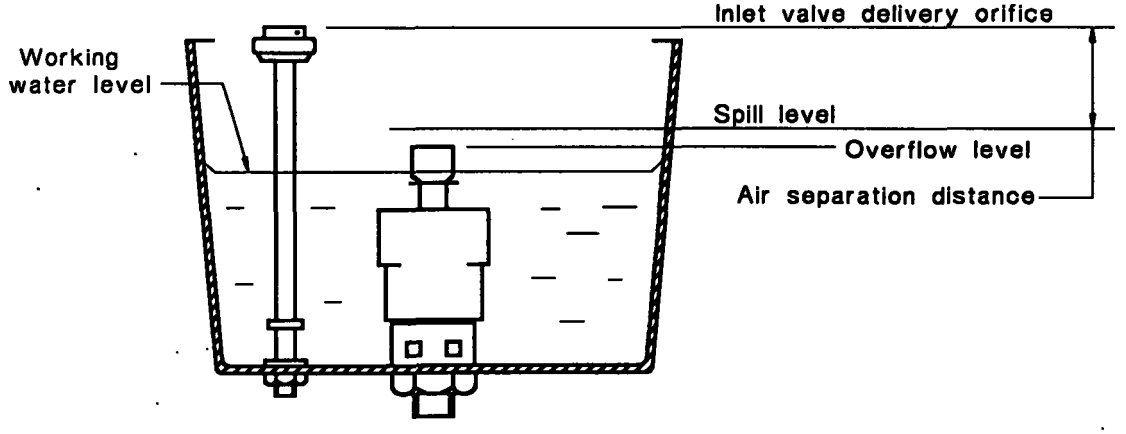

FIGURE 1 TYPICAL AIR-GAP ARRANGEMENTS