AS 4310—2004

Australian Standard™

DN 80 piston type vacuum interface valves for municipal sewer systems

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee WS-022, Valves for Waterworks Purposes. It was approved on behalf of the Council of Standards Australia on 9 September 2004.
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Association of Consulting Engineers Australia
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Valve Manufacturers Association
Business New Zealand
Casting Technology New Zealand
Certification Bodies (Australia)
Department of Contract and Management Services W.A.
Institution of Engineers Australia
Local Government New Zealand
Master Plumbers Australia
New Zealand Water and Waste Association
Plastics Industry Pipe Association of Australia
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PREFACE

This Standard was prepared by the Standards Australia Committee WS-022, Valves for Waterworks Purposes and was based upon Water Industry Standard WSA 116 published by the Water Services Association of Australia, which it now replaces.

The objective of this Standard is to provide performance requirements for manufacturers of DN 80 piston type vacuum interface valves for municipal vacuum sewer systems. It has been specifically developed for the urban water industry for use by water agencies. The Standard is not intended for valves used in vacuum sewage applications for general industry e.g., ships, commercial premises, industry, aircraft, etc.

The Standard draws upon the considerable experience gained by Australian water agencies in the design, construction, operation and maintenance of vacuum sewerage systems since the mid-1970s.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard specifies requirements for DN 80 piston-type vacuum interface valves for municipal sewer systems operating up to a maximum temperature of 45°C and 100% relative humidity.

This Standard is applicable to valves installed in vacuum sewage collection chambers as part of a reticulation system. The valves provide an interface between the vacuum in the sewerage reticulation system and atmospheric pressure in the collection chamber. The valve is designed to activate (fire) at a preset sewage level in the collection chamber in order to facilitate transfer of the sewage into the vacuum sewer.

Means for demonstrating compliance shall be in accordance with Appendix A.

NOTE: Purchasing guidelines are given in Appendix B.

1.2 REFERENCED DOCUMENTS

The documents referred to in this Standard are listed in Appendix C.

1.3 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.3.1 Allowable operating pressure

The allowable internal pressure, excluding surge, which a component can safely withstand in service.

1.3.2 Allowable test pressure

The maximum internal hydrostatic pressure that may be applied on site to a component in a newly installed pipeline.

1.3.3 Batch volume

The volume of sewage in the sump corresponding to a level at which the controller level sensor setting activates the vacuum interface valve.

1.3.4 Breather

A device employed by the controller to facilitate transfer of atmospheric air into the valve housing to allow closure of the vacuum interface valve.

1.3.5 Collection chamber

A collection sump and vacuum interface valve pit connected to the vacuum sewer and into which sewage gravitates from the property(s) through the sanitary drain(s).

1.3.6 Collection sump

A pit formed in the floor of the collection chamber to store flows of sewage until sufficient has been accumulated to activate the interface valve.

