

# A Guide to WELS and the Relationship with the WaterMark Certification Scheme (WMCS)



## BACKGROUND TO WELS

The Australian Government, in collaboration with State and Territory governments, has introduced a Water Efficiency Labelling and Standards (WELS) Scheme, which applies national mandatory water efficiency labelling and minimum performance standards to household water-using products. AS/NZS 6400 is the Standard that outlines the WELS requirements.

The WELS Scheme will help to address the issue of high domestic water consumption by providing nationally consistent water efficiency information to consumers at point of purchase and by encouraging manufacturers to design more water-efficient products. The aim of the WELS Scheme is to encourage the uptake of water-efficient products and appliances in domestic and commercial areas while maintaining individual choice and accounting for regional variations in water supply in urban Australia.

The water-using products covered by the WELS Scheme currently include:

- Showers
- Toilet (lavatory) equipment
- Tap equipment (intended for use over a kitchen sink, bathroom basin, laundry tub or ablution trough)
- Urinal equipment
- Flow controllers
- Clothes washing machines and dishwashers

From 1 July 2006, mandatory registration and labelling will apply to all of these products apart from flow controllers, for which this will be optional. Full details of the implementation dates are available from [www.waterrating.gov.au](http://www.waterrating.gov.au)

## RELATIONSHIP WITH THE WATERMARK CERTIFICATION SCHEME (WMCS)

The WELS requirements are applied to products that are required to be certified under the WaterMark Certification Scheme (WMCS). In most cases testing to the relevant WaterMark standard will satisfy WELS requirements. However, separate registration is required through the Australian Government website [www.waterrating.gov.au](http://www.waterrating.gov.au). Following is an explanation of the product groups and how WaterMark and WELS apply and interact.

### Showers



The WELS Scheme applies to showers utilised for personal bathing, specifically the shower head and other components, if supplied with the head. It does not apply to emergency deluge or safety showers. These requirements are identified in AS 3662 (Performance requirements for showers for bathing) and the Standard that outlines the WELS requirements in terms of the star ratings, AS/NZS 6400.

Differentiation between products is based on the nominal flow rate @ 250kPa. However, flow rate measurements are made at 150kPa and 350kPa to determine the flow rate regulation across this pressure range. The shower heads also have to satisfy performance criteria, such as mean spray spread angle and temperature drop, while operating at lower flow rates.

Satisfying the technical requirements of AS 3662 enables the establishment of a rating based on the 'the average flow rate' as follows:

- more than 16L/min. or failing the performance requirement are nominated 0 star
- more than 12L/min. but not more than 16L/min. are nominated 1 star
- more than 9L/min. but not more than 12L/min. are nominated 2 star
- more than 7.5L/min. but not more than 9L/min. are nominated 3 star
- more than 6.0L/min. but not more than 7.5L/min. are nominated 3 star (including compliance with force of spray requirements) – to be 4 star but currently only 3 star available
- more than 4.5L/min. but not more than 6.0L/min. are nominated 3 star (including compliance with force of spray requirements) – to be 5 star but currently only 3 star available
- more than 4.5L/min. but not more than 6.0L/min. are nominated 3 star (including compliance with force of spray requirements and having bonus water saving features (e.g., a sensor with auto shut-off) – to be 6 star but currently only 3 star available

## A Guide to WELS and the Relationship with the WaterMark Certification Scheme (WMCS)

### Showers (continued)

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 2 certification applies to these types of products. This generally satisfies the technical requirements of AS/NZS 6400 and enables the establishment of the ratings based on the average flow rate.

### Toilet (Lavatory) Equipment



The WELS Scheme applies to the following product types:

- Water Closet close coupled suites
- Water Closet pans with matching sets (water closet cistern or flush valve)
- Water Closet flushing device (water closet cistern or flush valve)

The scheme differentiates products based on the discharge flush volume. For dual flush the star rating is calculated from the average of 4 half flushes and one full flush. The greater number of stars the more water efficient the product is without compromising performance.

The technical requirements are identified in AS 1172 and ATS5200.020/021 and the Standard that outlines the WELS requirements in terms of the star ratings, AS/NZS 6400. AS 1172.1:2005 and AS 1172.2:1999 Amendment 2 were issued in August 2005 to include the reference to AS/NZS 6400:2005. The future revision of AS 1172.2 will fully align the Standards.

The star ratings are allocated as follows:

- 9/4.5 Water Closet Cisterns are nominated 1 star and align to more than 4.5L but not more than 5.5L average flush volume
- 6L Water Closet Pans with matching 6/3L cisterns or flush valves are nominated 3 star and align to more than 4.5L but not more than 4.0L average flush volume
- 4.5L Water Closet Pans with matching 4.5/3L cisterns or flush valves are nominated 4 star and align to more than 4.0L but not more than 3.5L average flush volume

2 star, 5 star and 6 star ratings do not generally align with water closet types and therefore would not be available with the exception of a 5 star as a 4.5/3 Water Closet with integral washbasin.

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 1 certification applies to these types of products. This generally satisfies the technical requirements of AS/NZS 6400 and enables the establishment of the ratings based on the flush or average flush volume.

### Tap Equipment



The WELS Scheme applies to tap ware (equipment) that includes any tap or tap outlet that is for use over a basin, ablution trough, kitchen sink or laundry trough regardless of the operating mechanism. It does not apply to a tap that is used solely over a bath.

Taps are differentiated based on the nominal flow rate @ 250kPa. However, flow rate measurements are made at 150kPa and 350kPa to determine flow rate regulation across this pressure range. Tap ware is also required to satisfy basic material, design and performance requirements.

These requirements are identified in AS/NZS 3718 (Water Supply – Tap ware) and the Standard that outlines the WELS requirements in terms of the star ratings, AS/NZS 6400. The technical requirements of AS/NZS 3718 enable the establishment of a rating based on 'the average flow rate' as follows:

- more than 16L/min. or failing the performance requirement are nominated 0 star
- more than 12L/min. but not more than 16L/min. are nominated 1 star
- more than 9L/min. but not more than 12L/min. are nominated 2 star
- more than 7.5L/min. but not more than 9L/min. are nominated 3 star
- more than 6L/min. but not more than 7.5L/min. are nominated 4 star
- more than 4.5L/min. but not more than 6L/min. are nominated 5 star
- less than 4L/min. are nominated 6 star

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 1 certification applies to these types of products. This generally satisfies the technical requirements of AS/NZS 6400 and enables the establishment of the ratings based on the flush or average flow rate.

## A Guide to WELS and the Relationship with the WaterMark Certification Scheme (WMCS)

### Urinal Equipment



The WELS Scheme applies to the following product types:

- A combination of urinal and flushing control mechanism.
- A urinal fixture
- A urinal flushing mechanism

The WELS Scheme does not apply to waterless urinals or to those products utilised and promoted as enabling waterless urinals.

The products are differentiated based on the flush volume, type and sophistication of the operating mechanism. These requirements are identified in AS/NZS 3892 (Urinals) and the Standard that outlines the WELS requirements in terms of the star ratings, AS/NZS 6400.

The technical requirements of AS/NZS 3892 enable the establishment of a rating based on the flushing performance. Coupled with the type of operation, the products can be rated as follows:

- more than 2.5L/single stall or 4L two stalls or equivalent width of continuous wall are nominated 0 star
- not more than 4L two stalls or equivalent width of continuous wall and conscious demand driven or smart demand operation are nominated 1 star
- not more than 2.5L single stall or equivalent width of continuous wall and conscious demand driven or smart demand operation are nominated 2 star
- not more than 2L single stall or equivalent width of continuous wall and conscious demand driven or smart driven operation are nominated 3 star
- not more than 1.5L single stall or equivalent width of continuous wall and smart demand operation are nominated 4 star
- not more than 1L single stall or equivalent width of continuous wall and smart demand operation are nominated 5 star
- not more than 1L single stall or equivalent width of continuous wall and smart demand operation with urine sensing device are nominated 6 star.

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 2 certification applies to urinal fixtures. This generally satisfies the technical requirements of AS/NZS 6400 and enables the establishment of the ratings based on the flush volume and operation type.

### Flow Controllers



The WELS Scheme applies to flow controllers that are installed either end of line or in line, generally in terms of supporting single fixtures or appliances. However, flow controllers cannot be rated in terms of direct use with a shower.

Flow controllers are differentiated based on the nominal flow rate @ 250kPa. However, flow rate measurements are made at 150kPa and 350kPa to determine flow rate regulation across this pressure range. Flow controllers are required to satisfy basic material and design requirements.

These requirements are identified in ATS 5200.037.2 (Flow Controllers) and the Standard that outlines the WELS requirements in terms of the star ratings, AS/NZS 6400.

The technical requirements of ATS5200.037.2 enable the establishment of a rating based on 'the average flow rate' as follows:

- more than 16L/min. or failing the performance requirement are nominated 0 star
- more than 12L/min. but not more than 16L/min. are nominated 1 star
- more than 9L/min. but not more than 12L/min. are nominated 2 star
- more than 7.5L/min. but not more than 9L/min. are nominated 3 star
- more than 6L/min. but not more than 7.5L/min. are nominated 4 star
- more than 4.5L/min. but not more than 6L/min. are nominated 5 star
- less than 4L/min. are nominated 6 star

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 1 certification applies to flow controllers. This satisfies the technical requirements of AS/NZS 6400 and enables the establishment of the ratings based on the average flow rate.

## A Guide to WELS and the Relationship with the WaterMark Certification Scheme (WMCS)

### Clothes Washing Machines



The WELS Scheme applies to washing machines for household or similar use as identified in AS 2040.2.

Some examples of the washing machines are:

- Top loading non drum (impeller or agitator)
- Front and top loading drum type
- Washer function of combination washer/dryer

The calculation of a star rating index allows the determination of a Star Rating to the nearest ½ star, a star rating index of less than 1 receives a 0 star. Clothes washing machines are differentiated by their water consumption. This is calculated based on testing to AS 2040.2 on the higher claimed total water consumption for warm or cold wash.

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 2 (ATS 5200.101) certification applies to Clothes Washing Machines. There is no technical relationship between WELS and the WaterMark schemes.

### Dishwashers



The WELS Scheme applies to dishwashers utilised for household use as specified in AS 2007.2. Water efficiency is evaluated under the same testing requirements that are required to establish the energy efficiency. The calculation of a star rating index allows the determination of a Star Rating to the nearest ½ star, a star rating index of less than 1 receives a 0 star.

Dishwashers are differentiated based on water consumption per equivalent types (utilising place settings).

#### WaterMark Relationship with WELS Ratings

To satisfy the Plumbing approval requirements of the WaterMark Certification Scheme (WMCS) WaterMark Level 2 (ATS 5200.101) certification applies to Washing Machines. There is no technical relationship between WELS and the WaterMark schemes.

### Further Information

#### Further Information

If you would like further information on the WaterMark Certification Scheme please visit our website under 'Assurance Services' at <http://www.saiglobal.com>

You are invited to contact us via email on [product@saiglobal.com](mailto:product@saiglobal.com) or via phone

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