

A Guide to WELS and the Relationship with the WaterMark Certification Scheme (WMCS) 水效率標籤計畫) 指南，以及WELS和 Watermark (水標誌) 認證計畫關係的指南



BACKGROUND TO WELS

WELS的背景簡介

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.

水效率標籤計畫 (WELS) 將國家強制水效率標籤和最低性能標準應用於家用用水產品，而AS/NZS 6400 標準則概述了WELS的要求。

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.

WELS通過在零售的層面上，向消費者提供全國一致的水效率資訊，並鼓勵生產商設計更加節水的產品，來解決家用用水產品高耗水的問題。

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

當前WELS包含的用水產品包括：

- Showers 淋浴設備
- Toilet (lavatory) equipment 馬桶設備
- Faucets 水龍頭
- Urinals 尿盆
- Flow controllers 水流控制器
- Clothes washing machines and dishwashers 洗衣機和洗碗機

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.

從2006年7月1日開始，除了水流控制器的節水標籤為自願的以外，其他所列出的產品都是需要強制加貼節水標籤的。

GUIDANCE ON SPECIFIC PRODUCT TYPES

特定產品指南

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. Following is an explanation of the product groups and how WaterMark and WELS apply and interact.

WELS的要求適用於需要通過Watermark (水標誌) 認證的產品。在絕大多數情況下，通過水標誌標準試驗的產品是滿足WELS的要求的。

<http://www.waterrating.gov.au/> 然而，當產品在完成水標誌認證以後，需要另外在 www.waterrating.gov.au 的政府網站上註冊WELS。

Following is an explanation of the product groups and how WaterMark and WELS apply and interact.

下面是關於不同產品如何應用Watermark和WELS，以及兩者關係的解釋

Showers

淋浴產品



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. WELS適用於個人洗澡的淋浴產品，如果提供噴林頭裝置，則尤指噴林頭及其組件。這不適用於緊急沖洗和安全淋浴。這些要求在澳標AS 3662中定義（淋浴和洗澡設備的性能要求），同時，AS/NZS 6400規定了WELS的星級評定。

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.

不同產品的區別是基於在250kPa壓力下的流量，但是，流量的測量是在150kPa和350kPa的壓力下進行，進而確定在這個壓力範圍內的流量。噴林頭也需要符合性能要求，比如在低流量狀態下的噴灑角度和溫度下降。

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

在滿足AS 3662所規定的性能要求後，就可以在下面列出的平均流量上評定WELS星級了：

- more than 16L/min. or failing the performance requirement are nominated 0 Star
0 星級：每分鐘高於16升和沒有符合性能要求
- more than 12L/min. but not more than 16L/min. are nominated 1 Star
1 星級：每分鐘超過12升，但小於16升
- more than 9L/min. but not more than 12L/min. are nominated 2 Star
2 星級：每分鐘超過9升，但小於12升
- more than 7.5L/min. but not more than 9L/min. are nominated 3 Star
3 星級：每分鐘超過7.5升，但小於9升
- the highest star rating for Showers is 3 Star
淋浴設備的最高評級是3級

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Showers covered by WELS are to be certified under WaterMark Level 2.

WELS涵蓋的淋浴設備需要在Watermark第二級的規範下認證

Toilets



The WELS Scheme applies to the following product types:

WELS計畫適用於一下廁所產品：

- Water Closet close coupled suites
緊密結合式廁所產品
- Water Closet pans with matching sets (water closet cistern or flush valve)
廁所產品桶體與組合套件（水箱或沖水閥）
- Water Closet flushing device (water closet cistern or flush valve)
廁所產品沖水設備

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.

該計畫根據產品不同的沖水量來區分。對於雙流量沖水的星級評定，流量是根據4次半流量和1次全流量沖水的平均流量來計算。在不影響性能的前提下，星級越高，則節水性能越好。

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.

產品的技術要求是在AS 1172和ATS 5200.020/021中規定，WELS星級評定是在AS/NZS 6400中規定。AS 1172.1:2005和AS

1172.2:1999第二次修正是在2005年8月發行的，其中引用了AS/NZS 6400:2005。

將來的AS 1172.2修訂版將與所有標準保持一致。

The star ratings are allocated as follows:

WELS評定則參閱一下條目：

- 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

9/4.5升的水箱為1星級，沖水量高於4.5升但小於5.5升。

- 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

6升的桶體和與之配合的6/3升的水箱或沖水閥為3星級，平均沖水量高於4.0升但低於4.5升

- 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

4.5升的桶體和與之配合的4.5/3升水箱或沖水閥為4星級，平均沖水量高於3.5升但低於4升。

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.

2、5和6星級的評定雖然存在，但一般不適合廁所產品。

- 2 star relates to more than 4.0L but not more than 4.5L average flush volume

2星級為平均沖水量高於4.0升但低於4.5升

- 5 star relates to more than 2.5L but not more than 3.0L average flush volume

5星級為平均沖水量高於2.5升但低於3.05升

- 6 star relates to not more than 2.5L average flush volume.

6星級為平均沖水量低於2.5升

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Toilets covered by WELS are to be certified under WaterMark Level 1.

WELS涵蓋的龍頭水嘴需要在Watermark第一級的規範下認證

Faucets

龍頭水嘴



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.

不論水龍頭的操作機制如何，WELS計畫都適用於臉盆用的、沖洗用的、廚房水槽用的或洗衣系統用的龍頭水嘴。該計畫不適用於僅用作浴池的龍頭。

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.

水龍頭是按照在250kPa壓力下的名義流速來區分的。但是，流量的測量是在150kPa和350kPa的壓力下進行，進而確定在這個壓力範圍內的流量。龍頭還需要滿足基本材料、設計和性能方面的要求。

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:

以上要求，和其他的要求是在標準AS/NZS 3718 (供水 - 龍頭) 和AS/NZS 6400 (WELS的標準) 中定義。根據AS/NZS 3718的技術要求，下面列出了基於流量的WELS星級評定：

- more than 16L/min. or failing the performance requirement are nominated 0 star

0 星級：每分鐘高於16升，或沒有通過性能要求測試

- more than 12L/min. but not more than 16L/min. are nominated 1 star

1 星級：每分鐘高於12升但低於16升

- more than 9L/min. but not more than 12L/min. are nominated 2 star

2 星級：每分鐘高於9升但低於12升

- more than 7.5L/min. but not more than 9L/min. are nominated 3 star

3 星級：每分鐘高於7.5升但低於9升

- more than 6L/min. but not more than 7.5L/min. are nominated 4 star

4 星級：每分鐘高於6升但低於7.5升

- more than 4.5L/min. but not more than 6L/min. are nominated 5 star

5 星級：每分鐘高於4.5升但低於6升

- less than 4L/min. are nominated 6 star

6 星級：每分鐘低於4升

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Faucets covered by WELS are to be certified under WaterMark Level 1.

WELS涵蓋的龍頭水嘴需要在Watermark第一級的規範下認證

Urinals

尿盆



The WELS Scheme applies to the following product types:

WELS計畫適用於一下類型的尿盆：

- A combination of urinal and flushing control mechanism

尿盆和沖水控制設施的組合

- A urinal fixture

尿盆

- A urinal flushing mechanism

尿盆沖水設施

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

WELS計畫不適用於無水尿盆，以及使尿盆產品成為無水尿盆的元件和產品。

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.

尿盆是根據不同的沖水流量，不同的操作類型和精密複雜程度來區分的。這些要求是在AS/NZS 3892(尿盆)和AS/NZS 6400 (WELS) 的標準中定義的。

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:

根據AS/NZS 3892標準的技術要求以及產品的操作類型，下面列出了基於流量的WELS星級評定：

- more than 2.5L/single stall or 4L two stalls or equivalent width of continuous wall are nominated 0 star
- 0 星級：單人位的超過2.5升，雙人位的或相當於雙人位盆壁寬度的超過4升
- not more than 4L two stalls or equivalent width of continuous wall and conscious demand driven or smart demand operation are nominated 1 star
- 1 星級：具有感應驅動或智慧操作的雙人位或相當於雙人位盆壁寬度且沖水量低於4升的
- 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
- 2 星級：具有感應驅動或智慧操作的單人位或相當於單人位盆壁寬度且沖水量低於2.5升的
- not more than 2L single stall or equivalent width of continuous wall and conscious demand driven or smart driven operation are nominated 3 star
- 3 星級：具有感應驅動或智慧操作的單人位或相當於單人位盆壁寬度且沖水量低於2升的
- not more than 1.5L single stall or equivalent width of continuous wall and smart demand operation are nominated 4 star
- 4 星級：具有智慧操作的單人位或相當於單人位盆壁寬度且沖水量低於1.5升的
- not more than 1L single stall or equivalent width of continuous wall and smart demand operation are nominated 5 star
- 5 星級：具有智慧操作的單人位或相當於單人位盆壁寬度且沖水量低於1升的
- not more than 1L single stall or equivalent width of continuous wall and smart demand operation with urine sensing device are nominated 6 star.
- 6 星級：具有尿盆感測器的智慧操作裝置的單人位元或相當於單人位盆壁寬度且沖水量低於1升的

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Urinals covered by WELS are to be certified under WaterMark Level 2.

WELS涵蓋的尿盆產品需要在Watermark第二級規範下認證。

Flow Controllers 水流控制器



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.

WELS計畫適用於管線末端和管線中的水流控制器。通常來說，這些控制器是控制單個用水設備的。但是，如果是直接用於淋浴設備的，則不能做WELS星級評定。

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.

水流控制器是按照在250kPa壓力下的名義流速來區分的。但是，流量的測量是在150kPa和350kPa的壓力下進行，進而確定在這個壓力範圍內的流量。水流控制器還需要滿足基本材料、設計和性能方面的要求。

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

根據ATS 5200.037.2的技術要求，下面列出了基於平均流量的WELS星級評定：

- more than 16L/min. or failing the performance requirement are nominated 0 star
0 星級：超過每分鐘16升的，或沒有通過性能測試的
- more than 12L/min. but not more than 16L/min. are nominated 1 star
1 星級：超過每分鐘12升，單低於每分鐘16升的
- more than 9L/min. but not more than 12L/min. are nominated 2 star
2 星級：超過每分鐘9升，單低於每分鐘12升的
- more than 7.5L/min. but not more than 9L/min. are nominated 3 star
3 星級：超過每分鐘7.5升，單低於每分鐘9升的
- more than 6L/min. but not more than 7.5L/min. are nominated 4 star
4 星級：超過每分鐘6升，單低於每分鐘7.5升的
- more than 4.5L/min. but not more than 6L/min. are nominated 5 star
5 星級：超過每分鐘4.5升，單低於每分鐘6升的
- less than 4L/min. are nominated 6 star
6 星級：低於每分鐘4升的

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Flow controllers covered by WELS are to be certified under WaterMark Level 1.

WELS涵蓋的水流控制器需要在Watermark第一級規範下認證。

Clothes Washing Machines 洗衣機



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

WELS計畫適用於在標準AS 2040.2中定義的家用洗衣機或類似用途的產品。

Some examples of the washing machines are:

幾個洗衣機的例子：

- Top loading non drum (impeller or agitator)
立式無滾筒（波輪或攪動器）
- Front and top loading drum type
臥式和立式的滾筒洗衣機
- Washer function of combination washer/dryer
洗衣幹衣機的洗衣功能部分

The Star rating index is determined and marked to the nearest ½ star. A star rating index of less than 1 receives a 0 star.

星級評定將被標定在最接近的½星級處。當評級小於1時，則將被定位0星級。

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. 洗衣機是根據它們用水量的不同來區分的，而用水量是根據標準AS 2040.2在冷水或熱水測試時聲明的用水量中的較高者來計算的。

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Clothes washing machines covered by WELS are to be certified under WaterMark Level 2.

WELS涵蓋的洗衣機需要在Watermark第二級規範下認證。

Dishwashers 洗碗機



The WELS Scheme applies to dishwashers utilised for household use as specified in AS 2007.2. WELS計畫適用於標準AS 2007.2中定義的家用洗碗機。

The Star rating index is determined and marked to the nearest ½ star. A star rating index of less than 1 receives a 0 star.

星級評定將被標定在最接近的½星級處。當評級小於1時，則將被定位0星級。

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

洗碗機是根據相應類型產品（使用環境）的用水量來區分的。

WaterMark Relationship with WELS Ratings

Watermark和WELS星級評定的關係

Dishwashers covered by WELS are to be certified under WaterMark Level 2.

WELS涵蓋的洗衣機需要在Watermark第二級規範下認證。

Further Information 更多資訊

Further Information 更多資訊

If you would like further information on the WaterMark Certification Scheme, you are invited to contact us via email on product@saiglobal.com

如果您需要更多的關於水標誌（Watermark）認證的資訊，請發郵件到 product@saiglobal.com