

Australian/New Zealand Standard™

Water efficient products—Rating and labelling



AS/NZS 6400:2016

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Australian/New Zealand Standard™

Water efficient products—Rating and labelling

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WS-032, Water Efficient Products, to supersede AS/NZS 6400:2005.

This Standard forms a basis for the rating and labelling of a range of products under the mandatory Water Efficiency Labelling and Standards (WELS) scheme, as required by the Australian Water Efficiency Labelling and Standards Act 2005 (Cth) (the WELS Act) and, in New Zealand, the Consumer Information Standards (Water Efficiency) Regulations. This Standard has been updated to reflect changes to the WELS Act and to remove ambiguities and superseded and conflicting requirements.

The objectives of the WELS Scheme are to encourage the development and marketing of water efficient products and to enable consumers to clearly identify and purchase water efficient products.

All products specified under the WELS Act have to be registered, rated and labelled according to the requirements of this Standard. All registrations have to be made through the WELS Regulator. The specified products are washing machines, the dryer function of combination washers/dryers (where they use water to dry a load), dishwashers, flow controllers, lavatory equipment, showers, tap equipment and urinal equipment. Lavatory equipment and washing machines are also required to comply with minimum water efficiency requirements set out in this Standard.

The main changes in this edition include the following:

- (a) This Standard is organized into 10 sections. Sections 1 and 2 contain requirements that apply to all WELS products and Sections 3 to 10 contain requirements for each product type. Instructions for labelling have been streamlined and the WELS label design has been simplified.
- (b) This Standard permits the registration of 4 Star showers that meet the extra performance test requirements for low flow showers.

Statements expressed in mandatory terms in notes to figures and tables are deemed to be requirements of this Standard.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard Water efficient products—Rating and labelling

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the rating and labelling of products for water efficiency, and, where applicable, specifies minimum water efficiency standards.

NOTE: Registration requirements are defined in the WELS Determination, available at www.waterrating.gov.au.

This Standard applies to the following products, as detailed in Sections 3 to 10:

- (a) Showers.
- (b) Tap equipment.
- (c) Flow controllers.
- (d) Lavatory equipment.
- (e) Urinal equipment.
- (f) Dishwashers.
- (g) Clothes washing machines.
- (h) The dryer function of combination washer/dryers, where they use water to dry a load.

1.2 OBJECTIVE

The objective of this Standard is to provide suppliers of WELS products with the requirements for rating and labelling under the WELS Scheme.

1.3 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard.

1.3.1 Whitegoods

AS/NZS

- | | |
|--------|---|
| 2007 | Performance of household electrical appliances—Dishwashers |
| 2007.1 | Part 1: Methods for measuring performance, energy and water consumption |
| 2007.2 | Part 2: Energy efficiency labelling requirements |
| 2040 | Performance of household electrical appliances—Clothes washing machines |
| 2040.1 | Part 1: Methods for measuring performance, energy and water consumption |
| 2040.2 | Part 2: Energy efficiency labelling requirements |
| 2442 | Performance of household electrical appliances—Rotary clothes dryers |
| 2442.1 | Part 1: Energy consumption and performance |
| 2442.2 | Part 2: Energy labelling requirements |

1.3.2 Plumbing products

AS

1172 Water closets (WCs)

1172.1 Part 1: Pans

1172.2 Part 2: Flushing devices and cistern inlet and outlet valves

3662 Performance of showers for bathing

5200 Plumbing and drainage products

5200.037.2 Part 037.2: Flow controllers for use with heated or cold water systems

AS/NZS

3500 Plumbing and drainage

3500.0 Part 0: Glossary of terms

3718 Water supply—Tap ware

3982 Urinals

PCA Plumbing Code of Australia

1.4 DEFINITIONS

For the purposes of this Standard, the definitions below apply. Where a term is not defined below, the definitions in AS 1172.1, AS 1172.2, AS/NZS 2007.1, AS/NZS 2040.1, AS/NZS 2442.1, AS/NZS 3500.0, AS 3662, AS/NZS 3718 and AS/NZS 3982 shall apply.

1.4.1 Ablution trough

A fixture or basin for holding water for washing the hands or face, whether with one tap to allow a single user or a number of taps spaced to allow simultaneous users.

1.4.2 Actuator

A device responsible for actuating (putting into action) a mechanical device; for example, biomechanical (hand, foot, knee), a mechanical component or mechanism including servo motors, or an electronic circuit encompassing sensors and/or relays.

1.4.3 Flow controller (end-of-line)

A flow controller at the very end of the water flow passage through a product forming part of the outlet.

1.4.4 Flow controller (in-line)

A flow controller located within the water flow passage of a product upstream of the outlet.

1.4.5 Minimum Water Efficiency Standard (WES)

A Standard that sets the minimum water efficiency requirements for specified products.

1.4.6 Model code

The unique identifier of a particular model in the WELS database, may be used to assist in the identification of the registration status of a model. A model code shall be supplied on application for registration.

NOTE: The model code may be the same as the model name, or it may be different (e.g. a stock control code).

1.4.7 Model name

The name by which the model is identified as it is supplied; it may include alpha and/or numeric characters.

NOTE: See Clause 1.4.14 for a definition of 'supply'.

1.4.8 Obturator

Component or device that forms the closing member of a tap or valve that shuts off the flow of water.

NOTE: See Figures 4.1 and 4.2.

1.4.9 Prefabricated shower system

A device that includes one or more shower heads supplied as a unit with other water outlets such as massage, steam or spray jets. Examples include shower cubicles, towers, panels and systems supplied in kit form.

1.4.10 Pressure

1.4.10.1 Low pressure

Water pressure where both the heated water and cold water static supply pressures are below 150 kPa.

1.4.10.2 High pressure

Water pressure where both the heated water and cold water static supply pressures are at or above 150 kPa.

1.4.10.3 Unequal pressure

Water pressure where the heated water static supply pressure is below 150 kPa and the static cold supply pressure is at or above 150 kPa.

1.4.11 Registered company name

The name that is registered in the WELS database for the licence holder.

1.4.12 Registration process

The WELS registration process will generate a WELS licence number and a rating for the product will be awarded at this stage.

1.4.13 Shall

Indicates that a statement is mandatory.

1.4.14 Supply

‘Supply’, ‘Supplied’ or the ‘Meaning of Supply’ are defined in the WELS Act. At the time of the publication of this Standard, ‘supply’ is defined as follows:

- (a) ‘A supply of a WELS product means a supply of the product in the course of trading or commercial activities, and includes—
 - (i) an offer to supply; and
 - (ii) a supply (including a re-supply) by way of sale, exchange, gift, lease, loan, hire or hire-purchase; and
 - (iii) a supply as part of the supply of another thing (including as a fitting or fixture).
- (b) For the purposes of subsection (a)—
 - (i) offer to supply includes make available, expose, display or advertise; and
 - (ii) it is irrelevant whether the supply is—
 - (A) for consideration; or
 - (B) a wholesale or retail supply.’

NOTES:

- 1 See Clause 1.5.3 for the definition of the ‘WELS Act’.
- 2 The WELS Act is available at www.waterrating.gov.au.

1.4.15 Tap body

That part of a tap or of a tap assembly that includes the inlet and outlet connections. See AS/NZS 3718.

1.4.16 Tap outlet

The portion of the tap assembly after the shut-off device where water flows for its intended use. See AS/NZS 3718.

1.4.17 Toilet suite

A combination of a water closet (WC) pan and a flushing control mechanism, intended to be supplied or installed as a set.

1.4.18 Urinal flushing control mechanism

A device that controls the release of water to flush a urinal, as listed in Clause 7.4.2.

1.4.19 Urinal suite

A combination of a water-using urinal and urinal flushing control mechanism that is intended to be supplied or installed as a set.

1.4.20 WELS Database

A list of all registered WELS products. This is available at www.waterrating.gov.au.

1.4.21 WELS label

This includes the Water Rating label/Star Rating label, Water Warning label/Zero Star Rated label, Not Star Rated label and any of these labels with the Additional Information label if required.

1.4.22 WELS product

A single product or model including any variants as specified in Section 2.

1.4.23 WELS regulator

In Australia, the person designated under the WELS Act to administer the WELS Scheme.

1.4.24 WELS Scheme

The title given to Australia's compulsory water efficiency labelling standards for water using or water saving products. The WELS Scheme is a joint initiative of the Australian, State and Territory governments.

1.5 LEGISLATION

The following legislation is referenced in this Standard:

1.5.1 Criminal Code

The Criminal Code Act 1995 (Cth).

1.5.2 GEMS Act

The Greenhouse and Energy Minimum Standards Act 2012 (Cth) (GEMS Act) came into effect on 1 October 2012 and provides a national framework for equipment and appliance energy efficiency throughout Australia. It replaces previous state and territory energy efficiency regulations.

1.5.3 WELS Act

The Water Efficiency Labelling and Standards Act 2005 (Cth) or the corresponding State and Territory Acts as amended from time to time. Further information on the legislative framework is available at www.waterrating.gov.au.

1.5.4 WELS Determination

A legislative instrument made by the Minister under Section 26 of the WELS Act which sets out the requirements of the WELS scheme, including the products covered by the scheme and the registration period.

Also, a legislative instrument made under the WELS Fees Act, known as the WELS Fees Determination, which sets fees for registration.

Both can be found at www.waterrating.gov.au.

SECTION 2 GENERAL REQUIREMENTS — REGISTRATION AND LABELLING OF WELS PRODUCTS

2.1 GENERAL

This Section sets out the requirements for registering and labelling WELS products under this Standard.

NOTES:

- 1 Registration requirements are defined in the WELS Determination, available at www.waterrating.gov.au.
- 2 The registration fees are set in the WELS Fees Determination, available at www.waterrating.gov.au.

The following products shall be registered and labelled for the purposes of supply if they are covered by this Standard. The specific requirements for each product type are detailed in the sections indicated in this list:

- (a) Showers—Section 3.
- (b) Tap equipment—Section 4.
- (c) Flow controllers—Section 5.
- (d) Lavatory equipment—Section 6.
- (e) Urinal equipment—Section 7.
- (f) Dishwashers—Section 8.
- (g) Clothes washing machines—Section 9.
- (h) The dryer function of combination washer/dryers, where they use water to dry a load—Section 10.

In order to register WELS products, an organization first has to be registered in the WELS database. On registration, the organization will receive a WELS licence number. The WELS licence number is unique to that organization and for plumbing products it shall be printed on the WELS label.

WELS products shall also comply with other relevant legislative and regulatory requirements, for example, where applicable, the requirements of the WaterMark Certification Scheme under the Plumbing Code of Australia and the requirements of the Greenhouse and Energy Minimum Standards Act.

2.2 RATING SPECIFICATIONS FOR WATER-EFFICIENT PRODUCTS

2.2.1 General

Ratings for WELS products will be awarded on registration.

2.2.2 Definition of a model

2.2.2.1 General

Every WELS product shall be registered in the form in which it is supplied (including offered for supply) according to the criteria in Sections 3 to 10.

The criteria in Clauses 2.3 and 2.4 include elements that may affect the performance and/or the appearance of a product. Each time a WELS product differs from a registered model, in terms of one or more of the criteria listed in Clauses 2.3 and 2.4, a new model shall be registered. For example, if the model name or subtype changes, it shall be registered as a separate model.

2.2.2.2 Model variants

Two or more products will be considered to be the same model for WELS registration purposes provided they meet the requirements of this Section (Section 2) and any relevant product type requirements set out in Sections 3 to 10.

Where two or more products meet the criteria for WELS registration as one model, one of these shall be identified as the 'parent'. All other products that meet the criteria to be registered as the same model (see Clauses 2.3 and 2.4) shall be regarded as model variants and not counted in the calculation of the registration fee.

All model variants shall be registered in the WELS registration database, in the form in which they are offered for supply. If a new product is manufactured and meets all the criteria for being a variant, it shall be registered as a variant before it is offered for supply.

Every model and variant shall be registered using a brand, a model name, a model code and an image.

NOTE: Separate test reports for each model and/or variant are not required if the performance of the model or variant is identical to the model in the test report and the application for registration is accompanied by a declaration to this effect. Making a false declaration is an offence under the WELS Act and the Criminal Code.

2.3 WHITEGOODS—DEFINITION OF MODEL

2.3.1 General

In addition to Clauses 2.3.2 to 2.3.4, the Greenhouse and Energy Minimum Standards (GEMS) Determination and Regulatory Rulings made under the GEMS Act may also affect the requirements for two or more products to be considered the same model. For more information, see www.energyrating.gov.au.

2.3.2 Dishwashers

For two or more products to be considered the same model for WELS registration purposes they shall meet the definition criterion of AS/NZS 2007.2:2005, Clause 1.5.4.

2.3.3 Clothes washing machines

For two or more products to be considered the same model for WELS registration purposes they shall meet the definition criterion of AS/NZS 2040.2:2005, Clause 1.5.4.

2.3.4 Combination washer/dryers—Dryer function

For two or more products to be considered the same model for WELS registration purposes they shall meet the definition criterion of AS/NZS 2040.2:2005, Clause 1.5.4.

2.4 PLUMBING PRODUCTS—DEFINITION OF MODEL

For a product to be considered a variant of a 'parent' model for WELS registration purposes, the following applies:

- (a) It shall be the same—
 - (i) product type (e.g. tap equipment, shower, lavatory equipment, etc.); and
 - (ii) product subtype as specified in the relevant section for that product type (Sections 3 to 7).
- (b) It shall have the same—
 - (i) model name;
 - (ii) water consumption as specified in Sections 3 to 7;
 - (iii) Star rating;

- (iv) critical specifications and components as specified in Sections 3 to 7; and
- (v) design elements or components that affect the water consumption.

2.5 LABELLING

2.5.1 General

A model shall be rated and labelled with the appropriate WELS label, as per the sample labels in Sections 3 to 10. Clause 2.5.4.2 details when a monochrome label can be used.

2.5.2 General requirements

The labelling requirements are as follows:

- (a) The WELS label shall be reproduced in full.
- (b) The WELS label shall be faithfully reproduced, and all text shall be readable with normal or corrected vision.
- (c) The WELS label may be affixed to or placed adjacent to the registered product if there is a clear and obvious connection to the product (e.g. sticker, swing tag or price ticket).
- (d) The WELS label shall be prominent and visible when the product is profiled, displayed, promoted, marketed, sold or supplied at any point in the supply chain.

2.5.3 WELS label

2.5.3.1 Size

For products other than whitegoods, the WELS label may be scaled proportionally, between 30 mm and 150 mm in height, while maintaining the correct aspect ratio, and complying with the requirements of Sections 3 to 7.

NOTES:

- 1 Scaling does not apply to labels for whitegoods; size requirements are specified in Sections 8 to 10.
- 2 The specifications on all figures depicting the WELS label in this Standard are for the maximum allowable dimensions.
- 3 All figures in this Standard that include the Additional Information label show it at the minimum permitted height; see Clause 2.5.4.3.

2.5.3.2 Font

The font used in WELS labels shall be Gill Sans, Humanist 521 or Hammersmith. The preferred font is Gill Sans as illustrated in the sample labels. Only one font shall be used on a label.

2.5.4 Colours

2.5.4.1 General

The WELS label shall be printed in the following colours (or equivalent) on a white background:

- (a) Light Blue: Pantone 290.
- (b) Dark Blue: Pantone 299.
- (c) Black: Pantone Black.
- (d) White: Pantone White.
- (e) Red: Pantone Warm Red.

2.5.4.2 *Monochrome WELS labels for plumbing products only*

Monochrome WELS labels may be used (see Sections 3 to 7 for sample labels).

2.5.4.3 *Additional information label*

If the WELS Regulator requires that extra information be provided to fully inform the consumer (e.g. prefabricated shower systems), this information shall be contained in a box attached below the WELS label. When attached to the maximum sized label (150 mm by 90 mm) the box shall be 90 mm wide and not less than 40 mm high. The box may be scaled proportionally with the label (see Clause 2.5.3.1) provided the text remains readable with normal or corrected vision.

Where text advice is used in place of the WELS label the additional required information shall also be included in the text advice.

See Figure 2.1 for a sample of the additional information label.

2.5.4.4 *Packaging requirements*

For whitegoods, there are no packaging requirements but it is a mandatory requirement that whitegoods be displayed with a water rating label (see Clauses 8.3.1, 9.4.1 and 10.3.1).

For plumbing products, the packaging requirements are as follows:

- (a) The WELS label shall be printed on or affixed to the packaging in accordance with the requirements for the product type specified in Sections 3 to 7.
- (b) The product's model name shall be printed on the packaging.
- (c) The information on the packaging shall be sufficiently detailed to provide traceability in the WELS database for the product, when it is offered for supply.
- (d) A label of between 30 mm and 50 mm in height shall only be used when the face of the packaging to which it is affixed has at least one dimension of 100 mm or less.

2.5.4.5 *Text advice*

Text advice may be used in lieu of a WELS label at all points in the supply chain. It shall not be used on packaging (see Clause 2.5.4.4 for packaging requirements). Exemptions for flow controller packaging are specified in Clause 5.6. Text advice shall be consistent with the WELS registration and shall be as specified for the product type in Sections 3 to 10.

Where text advice is used, it shall be placed so that the description is prominent and is readable with normal or corrected vision, and there is a clear and obvious connection to the registered product(s).

2.5.4.6 *Advertising/print media/electronic display requirements*

All WELS products shall be profiled or displayed such that the required WELS information has a clear and obvious connection to the registered product (see Clause 2.5.4.5). This includes product specifications, brochures, display cards, advertising, magazines, catalogues, editorials and electronic displays.

NOTE: This requirement is optional for radio and television advertising.

A proportionally scaled image of a WELS label or text advice may be used if it is compliant with the requirements of this Standard, including requirements readability.

For online supply the registered model name or the WELS registration number shall be prominent and visible with a clear and obvious connection to the product.

The full coloured or monochrome WELS label can be used online.

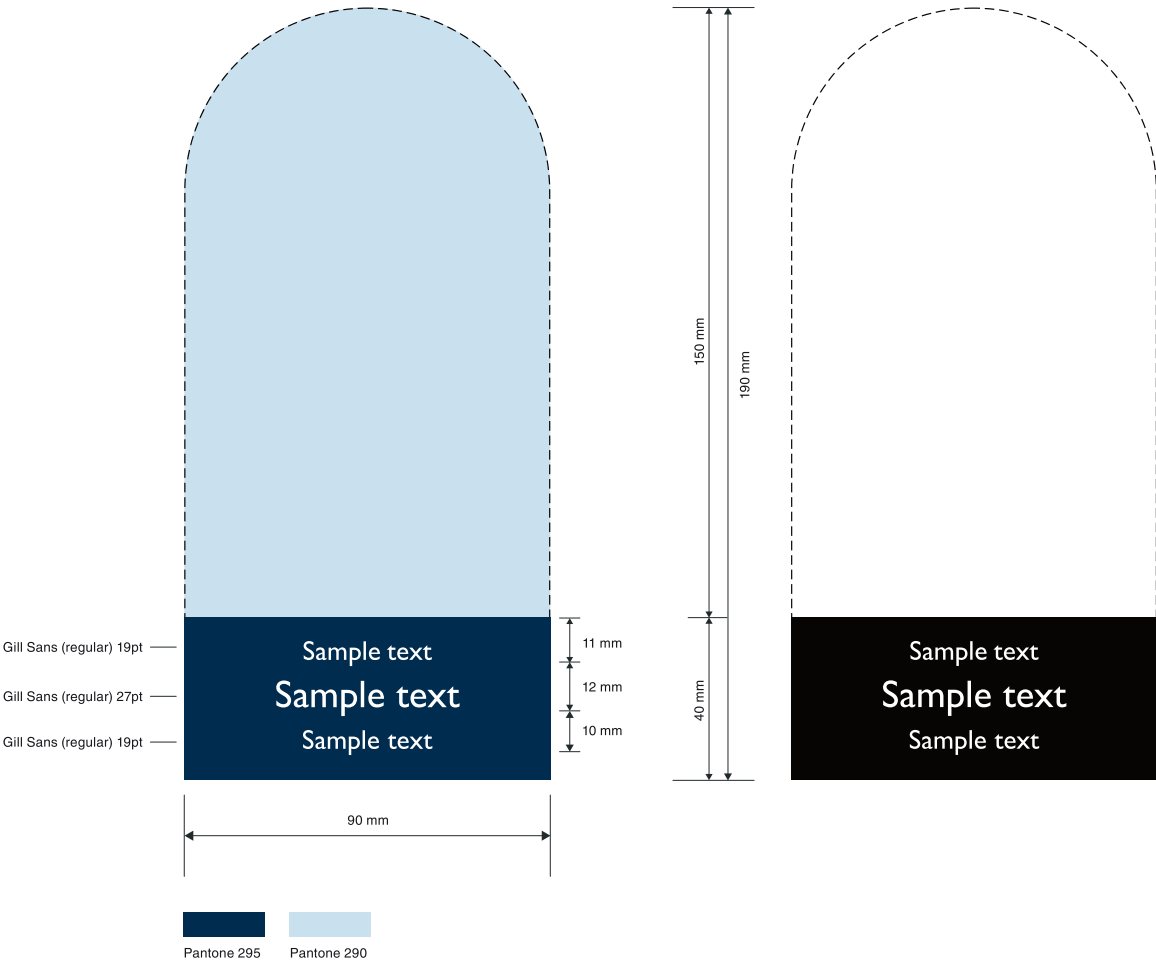


FIGURE 2.1 ADDITIONAL INFORMATION LABEL

S E C T I O N 3 S H O W E R S

3.1 GENERAL

This Standard shall apply to showers as described in the WELS Determination for inclusion in the WELS Scheme.

3.2 SUBTYPES

Shower equipment subtypes shall be the following:

- (a) Shower head only, single function—
 - (i) flow controller in shower head; or
 - (ii) flow controller not fitted.
- (b) Shower head only, multi-function—
 - (i) flow controller in shower head; or
 - (ii) flow controller not fitted.
- (c) Fixed arm, single function—
 - (i) flow controller in arm/elbow;
 - (ii) flow controller in shower head; or
 - (iii) flow controller not fitted.
- (d) Fixed arm, multi-function—
 - (i) flow controller in arm/elbow;
 - (ii) flow controller in shower head; or
 - (iii) flow controller not fitted.
- (e) Adjustable arm, single function—
 - (i) flow controller in arm/elbow;
 - (ii) flow controller in shower head; or
 - (iii) flow controller not fitted.
- (f) Adjustable arm, multi-function—
 - (i) flow controller in arm/elbow;
 - (ii) flow controller in shower head; or
 - (iii) flow controller not fitted.
- (g) Handheld shower, single function:
 - (i) With hose—
 - (A) flow controller at wall outlet;
 - (B) flow controller in hand shower;
 - (C) flow controller in hose/elbow; or
 - (D) flow controller not fitted.
 - (ii) Without hose—
 - (A) flow controller in hand shower; or
 - (B) flow controller not fitted.

- (h) Handheld shower, multi-function:
 - (i) With hose—
 - (A) flow controller at wall outlet;
 - (B) flow controller in hand shower;
 - (C) flow controller in hose/elbow; or
 - (D) flow controller not fitted.
 - (ii) Without hose—
 - (A) flow controller in hand shower; or
 - (B) flow controller not fitted.
- (i) Combination shower, multiple shower heads:
 - (i) With a diverter—
 - (A) flow controller fixed in shower head or hand shower;
 - (B) flow controller fitted in arm/hose;
 - (C) flow controller at wall outlet; or
 - (D) flow controller not fitted.
 - (ii) Without a diverter—
 - (A) flow controller fixed in shower head or hand shower;
 - (B) flow controller fitted in arm/hose;
 - (C) flow controller at wall outlet; or
 - (D) flow controller not fitted.

3.3 CRITICAL SPECIFICATIONS AND COMPONENTS

3.3.1 General

Where there is a change to one or more of the critical specifications or components for showers, as given in Clause 3.3.2 to Clause 3.3.5, the product shall be deemed to be a new model for WELS registration purposes.

3.3.2 Fixed shower

The critical specifications and components for fixed showers shall be as follows:

- (a) Showerhead, including spray hole number, layout and size.
- (b) Flow controller, including location, brand, type and size.

NOTE: See Figure 3.1 for a typical fixed shower assembly.

3.3.3 Adjustable shower

The critical specifications and components for adjustable showers shall be as follows:

- (a) Showerhead, including spray hole number, layout and size.
- (b) Flow controller, including location, brand, type and size.

NOTE: See Figure 3.2 for a typical adjustable shower assembly.

3.3.4 Hand shower

The critical specifications and components for hand showers shall be as follows:

- (a) Hand shower, including spray hole number, layout and size.
- (b) Flow controller, including location, brand, type and size.
- (c) Check valves, including location, brand, type and size.

NOTE: See Figure 3.3 for a typical hand shower assembly.

3.3.5 Combination shower

The critical specifications and components for combination showers shall be as follows:

- (a) Shower heads, including spray hole number, layout and size.
- (b) Flow controller, including location, brand, type and size.
- (c) Check valves, including location, brand, type and size.
- (d) Diverter valve, including location, brand, type and size.

NOTE: See Figure 3.4 for a typical combination shower assembly.

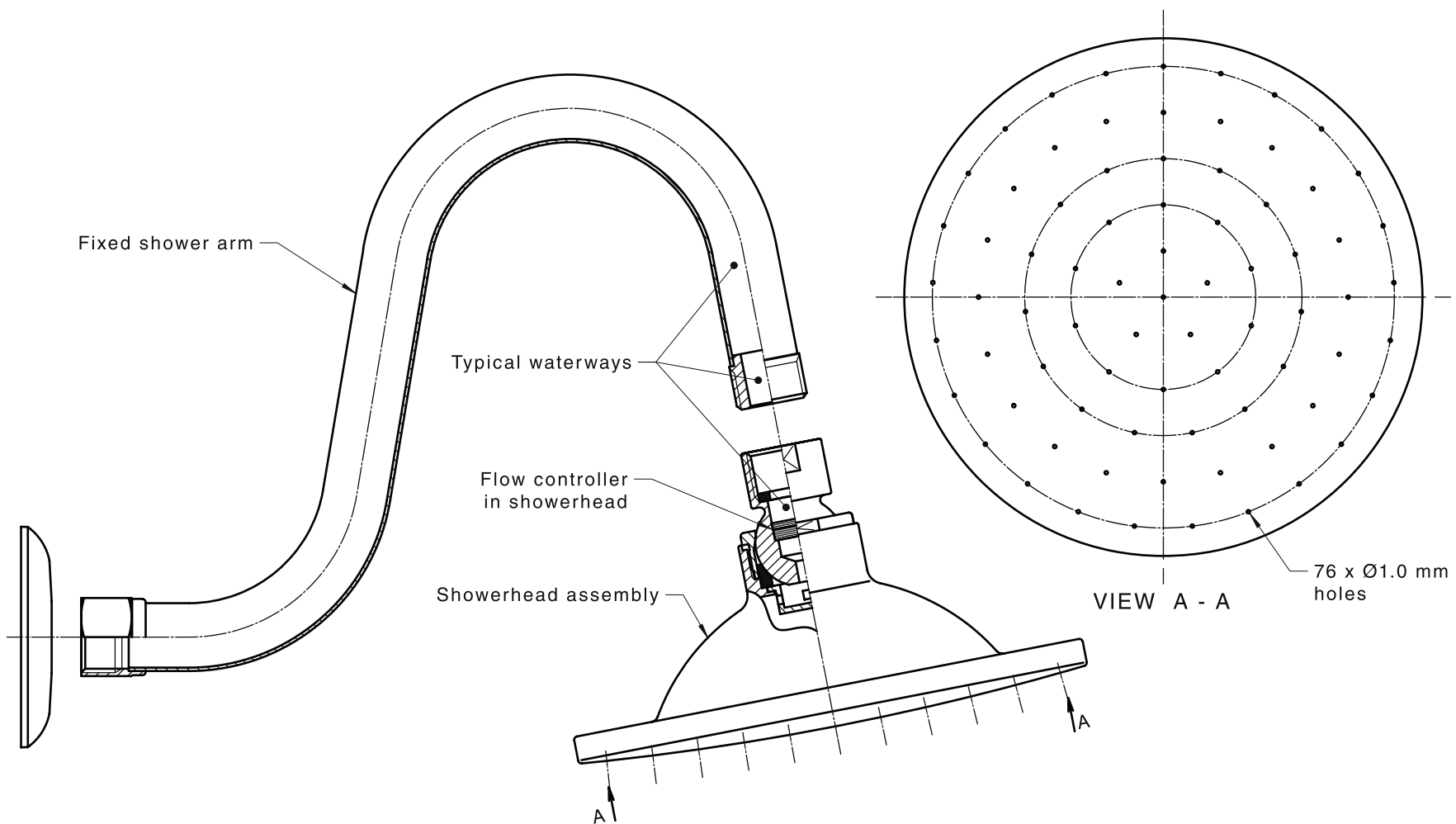


FIGURE 3.1 TYPICAL FIXED SHOWER ASSEMBLY

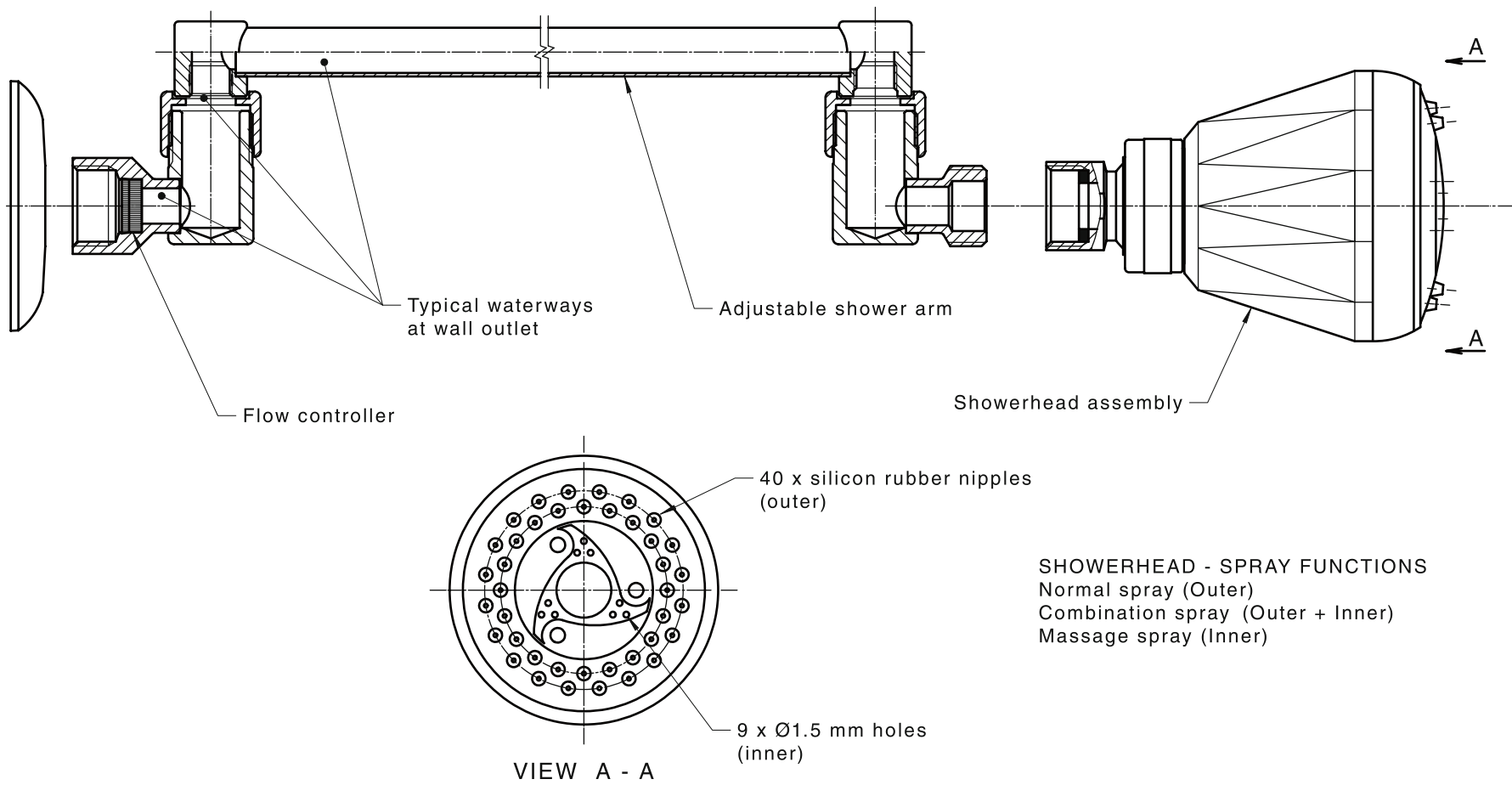


FIGURE 3.2 TYPICAL ADJUSTABLE SHOWER ASSEMBLY

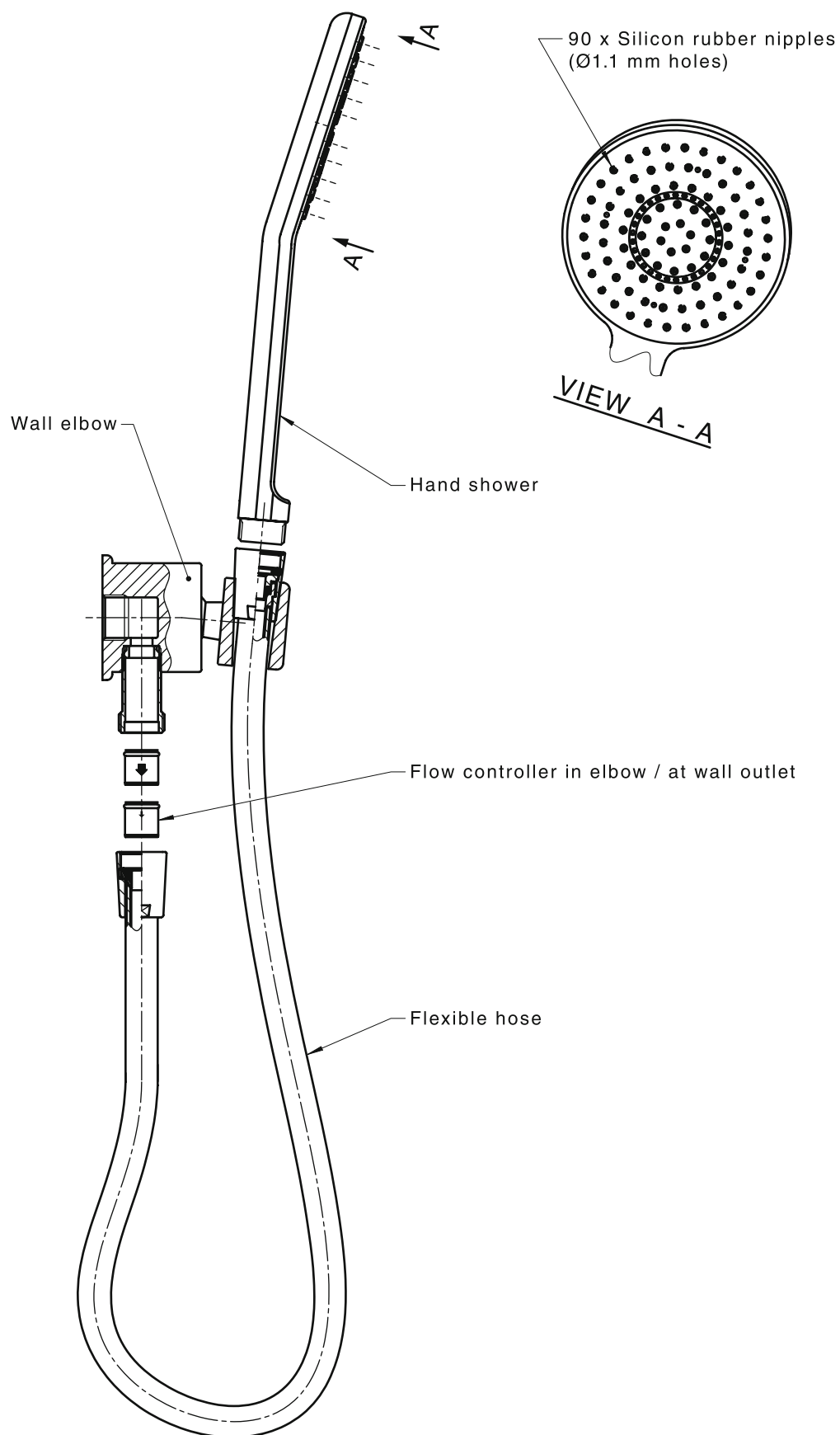


FIGURE 3.3 TYPICAL HAND SHOWER ASSEMBLY

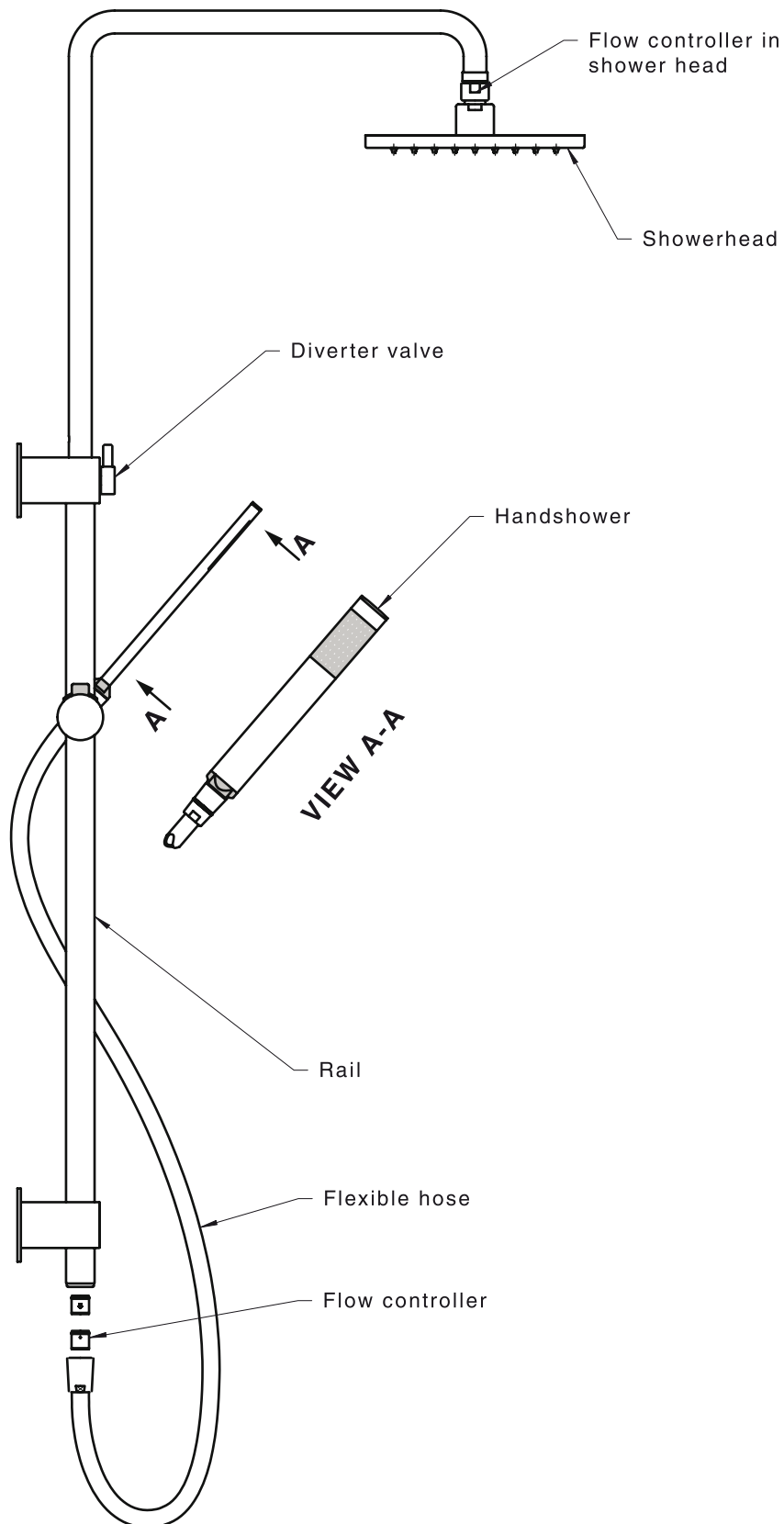


FIGURE 3.4 TYPICAL COMBINATION SHOWER ASSEMBLY
(RAIL HAND SHOWER WITH SHOWERHEAD)

3.4 WATER CONSUMPTION AND RATING

3.4.1 General

4 Star is the maximum rating available for showers.

3.4.2 Water consumption number

The water consumption of a shower is taken to be the nominal flow rate determined in accordance with AS 3662.

For combination showers, the highest possible flow rate shall be used when the nominal flow rate is determined, e.g. if more than one shower head can operate at once, the combined flow rate shall be used to determine the nominal flow rate.

3.4.3 Rating—High pressure

The water efficiency rating of a high pressure shower shall be determined in accordance with Table 3.1 for the nominal flow rate determined in accordance with Clause 3.4.2.

3.4.4 Rating—Low pressure

The water efficiency rating of a low pressure shower shall be determined in accordance with Table 3.2 for the nominal flow rate determined in accordance with Clause 3.4.2.

NOTE: At the time of publication of this Standard, test methods for low pressure showers do not exist for Star ratings of more than 3 Star. If such test methods become available, they will replace the rating test methods currently mentioned in Table 3.2 (Range E and Range F).

TABLE 3.1
HIGH PRESSURE SHOWER RATING TABLE

Water consumption unit	0 Star (warning)	1 Star	2 Star	3 Star	4 Star—Compliant with spray force and coverage tests		Not Star rated		
	Range A	Range B	Range C	Range D	Range E	Range F	Range E	Range F	Range G
L/min	More than 16.0	More than 12.0 but not more than 16.0	More than 9.0 but not more than 12.0	More than 7.5 but not more than 9.0	More than 6.0 but not more than 7.5	More than 4.5 but not more than 6.0	More than 6.0 but not more than 7.5. Fails spray force and/or coverage tests	More than 4.5 but not more than 6.0. Fails spray force and/or coverage tests	4.5 or less

NOTES:

- 1 All high pressure showers in flow rate Ranges E and F shall—
 - (a) be registered at 4 Star if compliant with these approved tests; and
 - (b) be registered as Not Star rated if not compliant with these tests.
- 2 Showers in flow rate Range G shall be rated as Not Star rated as they are below the recommended minimum flow rate for an effective shower (see Figure 3.7 for sample label).

TABLE 3.2
LOW PRESSURE SHOWER RATING TABLE

Water consumption unit	0 Star (warning)	1 Star	2 Star	3 Star			4 Star (for use after approved 4 Star spray force and coverage tests become available)		Not star rated		
	Range A	Range B	Range C	Range D	Range E	Range F	Range E	Range F	Range E	Range F	Range G
L/min	More than 16.0	More than 12.0 but not more than 16.0	More than 9.0 but not more than 12.0	More than 7.5 but not more than 9.0	More than 6.0 but not more than 7.5 (for use only until approved 4 Star spray force and coverage tests become available)	More than 4.5 but not more than 6.0 (for use only until approved 4 Star spray force and coverage tests become available)	More than 6.0 but not more than 7.5 (including compliance with spray force and coverage tests)	More than 4.5 but not more than 6.0 (including compliance with spray force and coverage tests)	More than 6.0 but not more than 7.5 (fails spray force and/or coverage tests). For use only once approved 4 Star spray force and coverage tests become available.	More than 4.5 but not more than 6.0 (fails spray force and/or coverage tests). For use only once approved 4 Star spray force and coverage tests become available.	4.5 or less

NOTES:

- 1 At the time of publication of this Standard showers in flow rate Ranges E and F shall be 3 Star rated.
- 2 If suitable spray force and coverage tests for low pressure applications are approved by WS-032 and published, showers in flow rate Ranges E and F shall—
 - (a) no longer be registered at 3 Star;
 - (b) be registered at 4 Star if compliant with these approved tests; and
 - (c) be registered as Not Star rated if not compliant with these tests.
- 3 Showers in flow rate Range G shall be rated as Not Star rated as they are below the recommended minimum flow rate for an effective shower (see Figure 3.8 for sample label).
- 4 Where showers are to be used in unequal pressure situations, they shall be tested and rated according to the requirements for low pressure applications.