

Information for meter validators

Correctly completing a Meter Validation Certificate

The following information has been collated to assist validators in correctly completing a Meter Validation Certificate to reduce the likelihood of it being returned as incomplete or non-compliant.

Always ensure you are using the most up to date form. This form can be found on the Business Queensland website by visiting www.business.qld.gov.au and searching “water meter approval”.

Make sure you select the correct module for the meter that is being validated. Most meters will require the use of the Module A form (pictured below).

Always check the bottom left-hand corner of the form. Only forms ending in v7 or v8 are being accepted.



Water Act 2000 – Form W2F119A

ABN 51 242 471 577

Module A – Water meter validation

Purpose of the form						
<p>This form is to be completed by an Authorised Meter Validator¹ for the validation of water meter installations attached to surface water or underground water works extracting water under the authority of the <i>Water Act 2000</i>.</p> <p>Where a water meter meets the requirements of Module A of the <i>Queensland interim water meter standard for non-urban metering</i> (interim standard), the authorised meter validator must give the relevant person² a copy of this form as a validation certificate, within 20 business days of an inspection of the water meter.</p> <p>The relevant person must give a copy of the validation certificate to the Department of Regional Development, Manufacturing and Water within 20 business days of receipt of the validation certificate.</p> <p>Where a water meter does not meet the requirements of Module A of the interim standard, the authorised meter validator must provide the relevant person with a copy of this form as a validation notice explaining why, and any potential modifications that could allow the meter to become compliant. The relevant person or the authorised meter validator may provide a copy of this notice to the department.</p> <p><small>1. Authorised meter validator means a person who is accredited by Irrigation Australia Limited as a 'certified meter installer and validator'. Alternatively, this person can be appointed by the department, where they have the necessary expertise or experience to perform this function. 2. Relevant person means a water authorisation holder, or the owner of works used for taking or interfering with water, or the person nominated to represent them in departmental systems.</small></p>						
Client details (to be completed by the relevant person)						
Full name:						
If the applicant is a corporation, please supply the ACN:						
Client reference no. (if known):						
Attention (Optional) (e.g., Principal, Secretary, Managing Director, etc.)						
Street address:						
Mailing address:						
Main contact for this meter validation						
<p>The contact details provided will be used by the department for the purpose of communications under the <i>Water Act 2000</i>. The department may be required or authorised by legislation to disclose your information to other third parties.</p>						
Full name:						
Mobile phone:	Alternative phone:					
Email:						
<p>Privacy statement: Collection of information on this form is authorised by section 112 of the <i>Water Regulation 2016</i> and will be used by the department for the purpose of processing the validation certificate. The department may be required or authorised by legislation to disclose your information to other third parties. The information may be searchable, disclosed to and used by the public as allowed, authorised or required by legislation.</p>						
OFFICE USE ONLY	Client ref.					
	<table border="1"> <tr> <td>Authorisation ref.</td> <td>Registration date</td> <td>Initials</td> </tr> <tr> <td></td> <td>/ /</td> <td></td> </tr> </table>	Authorisation ref.	Registration date	Initials		/ /
Authorisation ref.	Registration date	Initials				
	/ /					
Office Stamp Only						

W2F119A-v7

Client details

1. If the client has supplied you with the certificate, ensure that the details have been completed.
2. The main contact for this meter validation should be the person associated with the entitlement. This will be the owner, farm manager etc.

Departmental systems.	
Client details (to be completed by the relevant person)	
Full name: <input type="text"/>	
If the applicant is a corporation, please supply the ACN: <input type="text"/>	
Client reference no. (if known): <input type="text"/>	
Attention (Optional) (e.g., Principal, Secretary, Managing Director, etc.) <input type="text"/>	
Street address: <input type="text"/>	
Mailing address: <input type="text"/>	
Main contact for this meter validation	
The contact details provided will be used by the department for the purpose of communications under the <i>Water Act 2000</i> . The department may be required or authorised by legislation to disclose your information to other third parties.	
Full name: <input type="text"/>	
Mobile phone: <input type="text"/>	Alternative phone: <input type="text"/>
Email: <input type="text"/>	
<small>Privacy statement: Collection of information on this form is authorised by section 112 of the Water Regulation 2016 and will be used by the department for the purpose of processing the validation certificate. The department may be required or authorised by legislation to disclose your information to other third parties. The information may be searchable, disclosed to and used by the public as allowed, authorised or required by legislation.</small>	

Authorisation and meter owner

1. Ensure the correct water authorisations are associated with this meter. The owner can provide details if required.
2. If the owner of the meter is different to the authorisation holder, then place the owner here.

Water Authorisations (to be completed by the relevant person)	
All water extracted through this water meter is to be attributed to these water authorisation(s):	<input type="text"/>
Does the relevant person own this water meter?	<input type="checkbox"/> Yes <input type="checkbox"/> No Who is the meter owned by <input type="text"/>
Office use only	
Meter ID: <input type="text"/>	Dial type: <input type="text"/>

Location details

1. Ensure either the property name or road address is entered here.
2. Make sure the lot/plan is correctly entered here. To obtain the correct lot/plan details, open Queensland Globe and add the land parcel and land parcel name layers. These layers can be located under planning cadastre.

Location Details (to be completed by the Authorised meter validator)	
Property name / road address (where the meter is located)	<input type="text"/>
Lot / Plan (where the meter is located)	<input type="text"/>

Works details

1. Complete this field if water is extracted from a dam or stream.
2. Complete this field if water is extracted from a bore or well.
3. Multiple works – Select 'Yes' where an example of this would include two pumps pumping into a mainline. Instead of metering both pumps, a single meter is used to measure the take from both pumps. When this occurs, the validator must ensure that the operating pump rate for a single pump falls within the measurement threshold of the water meter.

Works Details (to be completed by the Authorised meter validator – works numbers to be completed by the relevant person, if known)	
Source and location of extraction of water (if applicable) Specify the source(s) – either 'water in a watercourse, lake or spring' or 'underground water'	
Water in a watercourse, lake, or spring	Name: <input type="text"/>
Underground water	Name (if known): <input type="text"/>
Is the meter measuring from multiple works? <input type="checkbox"/> Yes <input type="checkbox"/> No	

Works

Type – use the legend below to describe the method of extracting water.

Size – This is the size of the pump, pipe of channel. This is **not** the meter size.

Flow rate – where possible, insert the flow rate of the pump etc here. This is important where multiple works are measured by the same water meter.

Fixed works are pump, pipes etc that are immovable objects.

Portable works may include a pump on a mobile skid or trailer.

Works number – is the reference number used by the department. It is not the authorisation number.

Works Type#	Works Size <input type="checkbox"/> mm <input type="checkbox"/> metres	Estimated works extraction flow rate <input type="checkbox"/> l/s <input type="checkbox"/> ML/day	Works are	Works number (if known)
<input type="text"/>	<input type="text"/>	min→ <input type="text"/> max→ <input type="text"/>	<input type="checkbox"/> fixed <input type="checkbox"/> portable	<input type="text"/>
<input type="text"/>	<input type="text"/>	min→ <input type="text"/> max→ <input type="text"/>	<input type="checkbox"/> fixed <input type="checkbox"/> portable	<input type="text"/>

Provide a separate attachment if more space is required.
e.g., surface water (sw) gravity – pipe; sw gravity – channel; sw pump - (specify type); underground water (ugw) - pumped; ugw – artesian; other - (please specify).

Meter ID

There are three options available for selection. The validator must select the correct box that relates to the job. The choices in simple terms are:

1. Validation of a new meter.
2. Revalidation of an existing meter.
3. Validation of a faulty meter.

1	Meter ID (to be completed by the Authorised meter validator)	
2	<input type="checkbox"/> This is post-installation validation, of a new meter installation or a new meter installed as a replacement for the meter listed in 'Replaced meter information' (Measurement assurance requirement F)	
3	<input type="checkbox"/> This is ongoing validation (revalidation) under s111 of the Water Regulation 2016 (Measurement assurance requirement G)	
	<input type="checkbox"/> This validation inspection was triggered by the meter becoming faulty under s110AA or s110A of the Water Regulation 2016	
Meter information for meter undergoing validation		
Location details	Latitude: <input type="text"/>	Longitude: <input type="text"/>
	Datum: <input type="checkbox"/> GDA2020 <input type="checkbox"/> GDA94 <input type="checkbox"/> WGS84 <input type="checkbox"/> Other: <input type="text"/>	
Make	<input type="text"/>	
Model	<input type="text"/>	
Serial no.	<input type="text"/>	

4. Ensure the correct GPS co-ordinates are recorded. Always take a photo of this and submit with your paperwork.
5. Enter the correct make and model and serial number of the water meter.

Self-contained water meters

A self-contained water meter in general terms is a flanged or bodied meter. The installer does not modify any internal settings that calculate flow.

1. Where the meter has a remote register or display, ensure you record the sensor or flow tube serial number along with the data cable length. This will assist meter installers in the future if a repair is needed.

Meter type (select one – 'self-contained' or 'modular metering system')		
<input type="checkbox"/> Self-contained water meter		
Size (mm)	<input type="text"/>	
Remote register	<input type="checkbox"/> Yes <input type="checkbox"/> No	
If meter has a remote register, record the flow tube serial number	1	<input type="checkbox"/> Unable to access flow tube
If meter has a remote register, record the cable length, remote register to flow tube (metres)		<input type="checkbox"/> Unable to confirm cable length

Modular metering systems

A modular system is normally made up of several components. This may include a single logger unit, multiple sensors and may also record different parameters such as flow and level.

1. Select the pipe or channel type accurately record dimensions. This is used to check meter settings.
2. Record the number of sensors and the configuration of those sensors. You may have several sensors attached to the one meter with different configurations.
3. Accurately record the sensor serial number. This will be used to create a unique serial number ID.

<input type="checkbox"/> Modular metering system			
System type – select one	<input type="checkbox"/> Full Pipe	Size (mm)	
	<input type="checkbox"/> Partially filled pipe	Size (mm)	1
	<input type="checkbox"/> Open channel	Maximum width	<input type="checkbox"/> mm <input type="checkbox"/> metres
System sensors	<input type="checkbox"/> Velocity with depth/height	Number of	
	<input type="checkbox"/> Velocity only	Number of	2
	<input type="checkbox"/> Depth/Height only	Number of	
Sensor serial numbers	e.g., Velocity with depth/height	Serial no.	e.g., s/no abcde1234
		Serial no.	3 <input type="checkbox"/> unable to access sensor
		Serial no.	<input type="checkbox"/> unable to access sensor
		Serial no.	<input type="checkbox"/> unable to access sensor

Where possible always take photos of sensors and pipe measurements. For trapezoidal channels please provide a survey book /plan detailing the dimensions

Power source

Please record the correct voltage of the power source. Mains should be 220v or 415v and battery voltage should reflect the size of the battery pack, not the solar panel value.

Power source (select one – 'mains powered' or 'battery powered' or 'no power source')			
<input type="checkbox"/> No power source			
<input type="checkbox"/> Mains powered			
<input type="checkbox"/> Battery powered	Voltage:		<input type="checkbox"/> With mains electricity trickle charging
			<input type="checkbox"/> With solar panel charging

Replaced meter information

Ensure that all information is completed in this section when a meter has been removed. If a digital meter is damaged and cannot be read, please provide the comment "damaged beyond repair".

Replaced Meter Information (to be completed by the Authorised meter validator)			
Has the meter been removed from service?			
<input type="checkbox"/> No			
<input type="checkbox"/> Yes → Removal date:			
Serial no.		Final reading	

Validation actions

1. Record the date of inspection.
2. Where a logger or telemetry is connected to a meter, record make, model and serial number in the fields provided. Modular meters are generally a logger and meter all in one. Where data is recorded on the device, record it as a logger in this section.
3. Record the meter reading upon arrival at the site.

Validation actions (to be completed by the Authorised meter validator)						
Date of inspection		1				
Other devices connected to the water meter (select no other devices connected, data logger, or transmission device):						
<input type="checkbox"/> No other devices connected						
<input type="checkbox"/> Data logger	Make	2		Model	Serial no.	
<input type="checkbox"/> Transmission device	Make		Model		Serial no.	
Meter reading at start of inspection		3			<input type="checkbox"/> Litres <input type="checkbox"/> kilolitres <input type="checkbox"/> megalitres <input type="checkbox"/> cubic meters	

Item a) Pulse output

Record if the meter has a pulse output capability. Where a meter is not fitted with a pulse output cable or reed switch, it is no longer compliant.

a) As a minimum the water meter generates an electronic pulse output each time a set volume of water passes through the meter. <input type="checkbox"/> Yes → Go to b) <input type="checkbox"/> No → Water meter not compliant with the interim standard
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Item b) Water extraction prior to validation

If the meter is being revalidated, check all tamper proof seals. Take photographs of any new seals and provide a drawing or indicate with arrows on a photo to show the locations.

b) Has water been extracted through the water meter prior to this inspection? <input type="checkbox"/> No → Go to c) <input type="checkbox"/> Yes → Inspect all mechanical tamper-evident seals. Were any seals found to be broken or missing? <input type="checkbox"/> Yes → Date department notified: _____ → go to d) <input type="checkbox"/> No → Go to d)

Item c) Installation

If known, please record the CMI number of the meter installer. If you are not the installer of the meter, you must disassemble the meter and check for correct operation. You must also check the internal pipe work to ensure there is no scale or build-up of foreign matter that may affect the meter accuracy.

c) Was the water meter installed by an authorised meter validator? <input type="checkbox"/> Yes → Certified meter installer and validator (CMI) number: _____ → Go to d) <input type="checkbox"/> No → Is this a self-contained meter? <input type="checkbox"/> Yes → Conduct an internal check via meter and lead in/out pipework disassembly → <input type="checkbox"/> Complete → Go to d) <input type="checkbox"/> No → Go to d)
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Item d) Meter compliance

For existing meters to remain compliant, the meter must feature in Table 1 (Pages 6 and 7 of the form) of the Queensland Metering Standard. If the meter, make and model is not mentioned in this table, the meter must be removed and replaced with a pattern approved meter.

1. Where a pattern approved meter is installed, provide the certificate number.

<p>d) Which sub-section of '3.1 Which water meter can be used' of Module A in the interim standard, does the water meter comply with (Measurement assurance requirement A):</p> <p><input type="checkbox"/> 3.1.1 → Existing meter (Table 1) → Go to e)</p> <p><input type="checkbox"/> 3.1.2 → Modular metering system (Table 2) → Go to e)</p> <p><input type="checkbox"/> 3.1.3 → Pattern-approved meter, certificate number: 1 → Go to e)</p> <p><input type="checkbox"/> None of the above confirmed → Water meter not compliant with the interim standard</p>
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Item e) New meter equipment calibration check

Where a new bodied meter or sensor has been installed, ensure a certificate is provided by the manufacturer. If the calibration certificate is not provided, the manufacturer should be able to provide this for you.

<p>e) Is this a new self-contained water meter, or has a new sensor/s been installed for a modular metering system?</p> <p><input type="checkbox"/> No → Go to f)</p> <p><input type="checkbox"/> Yes → Confirm the device/s has a conforming calibration/test certificate (Measurement assurance requirement B)</p> <p><input type="checkbox"/> Confirmed → Certificates attached → Go to f)</p> <p><input type="checkbox"/> Not confirmed → Water meter not compliant with the interim standard</p>

Item f) Fit for purpose

Is the meter fit for purpose for the intended application? A turbine meter may not be suitable where there is debris in the water column. This may block the meter and render it inoperable. A trash screen may be installed before the meter to remove this risk.

<p>f) Confirm the water meter meets all requirements of '3.2 Fit for purpose' of Module A in the interim standard (Measurement assurance requirement C):</p> <p><input type="checkbox"/> Confirmed → Go to g)</p> <p><input type="checkbox"/> Not confirmed → Water meter not compliant with the interim standard</p>

Item g) Overall site compliance checks

1. Ensure that there are no offtakes installed before the meter. Often there may be an offtake that leads to a house tank or other infrastructure that does not require a meter. Ensure these offtakes are disabled and installed downstream of the meter.
2. Identify if the meter can read partially full pipes. If the meter can only read accurately when full, ensure the meter is installed in a position that will ensure this occurs. In some cases, air release valves may be required to purge air from pipes.
3. It is rare that a self-contained meter is able to be configured to different pipe sizes. Where this occurs, always ensure you attach a copy or screenshot of the parameters loaded into the device.
4. Where an electronic meter is pattern approved, the validator must ensure that the approved software/firmware is installed on the device. If this is not the case, the device must be updated to utilise the correct version to be compliant.

- g) 1. There is no water use offtakes (see the interim standard for requirements) prior to the water meter and extracted water does not bypass the meter?
- Confirmed
 Not confirmed → Water meter not compliant with the interim standard
 → Describe why:
- g) 2. Is this a full pipe meter?
- No
 Yes → Confirm the water meter will always run full while measuring?
 Confirmed
 Not confirmed → Water meter not compliant with the interim standard
- g) 3. Is this a self-contained water meter that has configurable calibration parameters?
- No
 Yes → Confirm that these parameters are consistent with the meter's factory calibration:
 Confirmed → A list of configurable parameters is attached
 Not confirmed → Water meter not compliant with the interim standard
- g) 4. Does the water meter have both, a pattern approval certificate and software?
- No
 Yes → Confirm that the software versions comply with the certificate:
 Confirmed
 Not confirmed → Water meter not compliant with the interim standard

- g) 5. Does the water meter have a flow computer which allows notification of error conditions?
- No
 Yes → Confirm that no such conditions are active:
 Confirmed
 Not confirmed → water meter not compliant with the interim standard
 New meter installation → Water has been passed through the meter Water not available
- g) 6. Can the water meter perform system diagnostics?
- No
 Yes → Perform diagnostics, record and attach results → Is this ongoing validation (revalidation)?
 No
 Yes → Are post-installation diagnostics available?
 No
 Yes → Analyse changes and refer meter for maintenance where changes will impact meter performance
 Complete
 Not complete → Water meter not compliant with the interim standard
- g) 7. Does the water meter have a battery?
- No
 Yes → Record the date the battery must be replaced → Replace battery by date: _____
 Tag on meter
 Label inside meter cover or door
 Not recorded at meter → Water meter not compliant with the interim standard
- g) 8. For a water meter with water extraction using a pump, have you completed an operational check on the performance of the meter installation?
- Yes → Using another water meter
 Yes → Using the pump curve
 No → Water not available at the site
- g) 9. Confirm the water meter meets all other requirements of '3.3 Installation' of Module A of the interim standard (Measurement assurance requirement D):
- Confirmed → Go to h)
 Not confirmed → Water meter not compliant with the interim standard

5. Where the meter records errors, faults, or other notifications, ensure these are not active at the time of validation. Where water is available, this should be done to ensure sensors are operating correctly.
6. If the meter can perform diagnostic functions, evidence of this should be recorded and supplied with the validation certificate. Where a meter does not pass diagnostic tests, it is no longer compliant and should be repaired.
7. Where a meter has an internal battery, the replacement date should be noted on the device.

8. The water must be tested when water is available at the site. This is generally performed by a bucket test, reference meter or using a pump curve. Where a meter is not calculating flow accurately, the meter must be repaired or replaced prior to completing the validation.
9. Refer to part 3.3 in the Queensland meter standard (Pages 8-11) to ensure the meter meets all requirements.

Item h) Existing meter operation

A maintenance report must be prepared for any existing meter validation. All work performed at the site must be recorded on the maintenance report, particularly if replacement parts are installed.

- h) Is this ongoing validation (revalidation) or validation due to a meter becoming faulty?
- No → Go to i)
 - Yes → Confirm maintenance of the meter meets all requirements of '3.4 Maintenance' of Module A of the interim standard (Measurement assurance requirement E):
 - Confirmed → Maintenance report has been prepared and provided → go to i)
 - Not confirmed → Water meter not compliant with the interim standard

Item i) Security

1. If the meter can be protected with a unique password, please provide it to the department. Do not provide any password to the water user or entitlement holder.
2. Ensure the tamper seals are installed as indicated on the pattern approval.
3. Ensure that there is no possibility for the meter or sensor to be removed from the pipework or channel without breaking a tamper seal.

- i) 1. Does the water meter or attached devices have electronic sealing (password/s)?
- No
 - Yes → Confirm you have applied the seal/s so the relevant person can access the device/s to read only, and so they cannot edit configuration parameters or write/delete data:
 - Confirmed → Record relevant person level password: _____
 - Not confirmed → Water meter not compliant with the interim standard
- i) 2. Does the water meter have a pattern approval certificate?
- No
 - Yes → Confirm that mechanical tamper-evident seals referenced in the certificate are in place:
 - Confirmed
 - Not confirmed → water meter not compliant with the interim standard

- i) 3. Is this a self-contained water meter?
- Yes → Confirm that mechanical tamper-evident seals have been applied to: lead-in pipework back to the point of extraction; the meter; and lead-out pipework:
 - Confirmed
 - Not confirmed → Water meter not compliant with the interim standard
 - No → Modular metering system → Confirm that mechanical tamper-evident seals have been applied to the controller mounting and any access door and sensor mountings
 - Confirmed
 - Not confirmed → water meter not compliant with the interim standard

Meter reading and supporting documentation

Record the meter reading once completed. You must include all documentation as required.

Meter reading at completion of inspection	<input type="checkbox"/> Litres <input type="checkbox"/> kilolitres <input type="checkbox"/> megalitres <input type="checkbox"/> cubic meters
Supporting documentation	
<input type="checkbox"/> Photos	<ul style="list-style-type: none"> - of serial number/s - of meter reading, showing dial or display - of a tamper evident seal, showing type and approach used - of upstream extent showing the water meter or sensor - of downstream extent showing the water meter or sensor - of the overall metering site
<input type="checkbox"/> Calibration/test certificate/s	- required for a new self-contained water meter, or where new sensor/s have been installed for a modular metering system
<input type="checkbox"/> Mechanical tamper-evident seals list	- with each unique seal number and its location on the metering installation
<input type="checkbox"/> Diagnostics record, included analysis where post installation record available	- required where the water meter can complete system diagnostics
<input type="checkbox"/> Configuration settings	- required where the water meter has configurable parameters – this is a record of these settings
<input type="checkbox"/> Maintenance report	- required where this is ongoing validation (revalidation) of an existing water meter
<input type="checkbox"/> Open channel calibration report	<ul style="list-style-type: none"> - required for large or highly variable installations: <ul style="list-style-type: none"> → cross-section survey, including date/s → calibration method and measurements → discharge relationship

Declaration

As the validator you must confirm if the meter has passed validation by selecting either of the two options.

1. The meter has passed inspection.
2. The meter has not passed inspection and the certificate is provided as a notice to the landholder to rectify the installation.
3. You must provide your contact details for future correspondence regarding the validation.
4. You must also provide the details of the water user whom you have provided a copy of the certificate/notice.

Authorised meter validator Declaration	
I declare that I have undertaken the validation actions described above and the responses provided are true and correct. This is a (select one):	
<input type="checkbox"/>	Validation certificate confirming the water meter installation complies with the requirements of Module A of the interim standard.
<input type="checkbox"/>	Notice the water meter installation does not comply with the requirements of Module A of the interim standard, and a copy of the notice has been provided to the department. Review 'Validation actions' to see why the meter installation does not comply.
Name:	CMI No.:
Business name:	
Email:	Phone:
Signature:	Date:
A copy of this form and supporting documentation was provided to the relevant person (record relevant person name and the date it was provided):	
Name:	Date: