



THE ROAD TO WATERMARK

A MANUFACTURER'S PERSPECTIVE – BY ALL VALVE INDUSTRIES

STEPS TO DEVELOP A NEW PRODUCT

- Identify a need
- Market research; market size, competitors, target prices, product features required
- Find a suitable product / supplier
- Analyse ROI
- Obtain approvals
- Commit to stock and import
- Marketing, Sales & Education..

BRINGING THE HOT WATER METER TO THE AUSTRALIAN MARKET

Itron are getting an ultrasonic HW meter approved and All Valve will distribute this product



Biggest users of HW meters (embedded network companies) are requesting a basic meter with pulse output.



PROCESS TO OBTAIN WATERMARK

- Approach *Certified Accreditation Body* (CAB) with desired product
- Confirm the correct Standard to have product approved to (assuming product is listed in the WMCS Schedule of Products)
- CAB issues a **test schedule** with a list of requirements to show how compliance to standard will be met.
- Product samples are submitted to 3rd party testing labs who are certified to perform the tests required.
- CAB performs audit of manufacturing facility and QMS
- Once all tests have passed, test reports are submitted to CAB for review
- CAB issues Watermark License and Certificate & notifies the ABCB
- Manufacturer applies Watermark to the product for sale

Roughly same process as other countries

EXAMPLE TEST REQUIREMENTS to AS3565.1 (Water Meters)

Can be done simultaneously if you're confident it will all pass, otherwise they are often done in series to ensure tests do not need to be repeated.

MINIMUM SAMPLING AND TESTING FREQUENCY PLAN—METERS

Characteristics	Clause	Requirement	Test method	Frequency
Type tests				
Material properties	2.7(a)	Materials	Review materials parts lists and compliance certificates	At any change in materials
	2.7(b)	Dezincification resistance of copper alloys	AS 2345	
	2.8	Material durability tests	Appendix C Appendix D (optional)	
	2.7(c)	Contamination of water	AS/NZS 4020	At change in materials or every 5 years whichever occurs first
Design	2.1	General	NMI R 49-1	At any change in design
	2.2	Dimensions of in-line meters	Table 2.1	
	2.3	Preferred end connections	Table 2.2	
	2.4	Threaded end connections	AS 1722.2	
	2.5	Round flange connections	AS 4087 and Table 2.2	
	2.6	Oval flange connections	Figure 2.1	
	2.10	Torque resistance of threaded end connections	Appendix E	
	3.1	General		
	3.2	Reverse flow restrictors	Appendix F	
	3.3	Two single check valves	AS/NZS 2845.1	
3.4	Dual check valves	AS/NZS 2845.1		
3.5	Pressure loss	Table 3.1, NMI R 49-1 and NMI R 49-2		
Batch release tests				
Design	2.4	Threaded end connections	Measure	One meter per production batch
	2.5	Round flange connections	Visual examination	
	2.6	Oval flange connections	Visual examination	
Performance	2.11	Watertightness		100%
		Initial verification (error of indication)	NMI R 49-2 or as required by pattern approval	

WATERMARK COSTS – WATER METER EXAMPLE



→
Every 5 years

Materials

AS4020 Contamination of Water	\$ 4,000	12 weeks
AS2345 DR Brass Test	\$ 500	1 week

Design

Dimensions, Connections, etc
Reverse Flow Test (AS2845.1)
Hydraulic Pressure Tests, Torque Tests, etc

\$ 12,000 - 20,000 4 weeks

NMI Approval

If previous R49-1 not performed, budget for	\$ 15,000	12 weeks
NMI R49-1 Metrological Appraisal Report	\$ 6,000	4-8 weeks

→
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Every year

Certification Fees

CAB Fees	\$ 6,000	2 weeks
ABCB Fees	\$ 500	

Total Cost (first year, new licence)

\$ 30,000 - \$50,000

20 - 48 weeks

ADDITION TO WATERMARK – WATER METER



Materials

AS4020 Contamination of Water
AS2345 DR Brass Test

NIL COST - assuming a product with a greater wetted surface area to volume ratio has already been tested with same materials

Design

Dimensions, Connections, etc
Reverse Flow Test (AS2845.1)
Hydraulic Pressure Tests, Torque Tests, etc

\$ 12,000 - 20,000

4 weeks

NMI Approval

If previous R49-1 not performed, budget for

\$ 25,000

12 weeks

NMI R49-1 Metrological Appraisal Report

\$ 6,000

4-8 weeks

Certification Fees

CAB Fees
ABCB Fees

\$ 1,000

2 weeks

Total Cost (first year, addition to licence)

\$ 19,000 - \$52,000

10 - 26 weeks

WATERMARK COSTS – TMV EXAMPLE

▪ Materials	
▪ AS4020 Contamination of water	\$4,000
▪ AS2345 DR Test	\$500
▪ Design	
▪ Dimensions, connections	\$1,000
▪ Hydraulic pressure tests, torque tests	\$2,000
▪ Endurance Test	\$4,000
▪ NSW Health	
▪ Testing Requirements	\$3,000
▪ Certification Fees	
▪ CAB Fees	\$6,000
▪ ABCB Fees	\$500
TOTAL FIRST YEAR UPFRONT COSTS (TMV)	\$20,000



WATERMARK COSTS – BALL VALVE EXAMPLE

▪ Materials	
▪ AS4020 Contamination of water	\$4,000
▪ AS2345 DR Test	\$500
▪ Design	
▪ Dimensions, connections	\$1,000 – 3,000
▪ Hydraulic pressure tests, torque, impact tests, etc	
▪ CAB Fees	\$6,000
▪ ABCB Fees	\$500
TOTAL FIRST YEAR UPFRONT COSTS (BALL VALVE)	\$12,000 – 14,000



ADDITION TO WATERMARK – BALL VALVE

- Materials
 - AS4020 Contamination of water & AS2345
NIL COST (providing a smaller valve with a greater wetted surface area to volume ratio has already tested with exactly the same materials)
 - Design
 - Dimensions, connections \$500 – 2,000
 - Hydraulic pressure tests, torque, impact tests, etc
 - CAB Fees \$250 – 1,000
- TOTAL COSTS FOR BALL VALVE ADDITION \$750 – 3,000



COMMENTS FROM CALEFFI

- Caleffi says that 'Watermark AUS is very similar to what we have to do here in Europe'
- Germany DVGW, Netherland KIWA, France NF have similar schemes for certification of products
- UK is a little different, more on materials with some performance tests, depending on the type of valves
- USA have the same, approvals based on specific product standards, plus legislation for materials, like low lead NSF 372 and leachate like NSF 61.
- On average, Caleffi spends between € 400,000 and € 600,000 for all certification activities globally, every year.

OTHER REQUIREMENTS FOR WATERMARK

Sometimes products requires additional approvals;

- NMI approval (metrological devices)
- WSAA approval (water authorities)
- GasMark
- Electrical standards (RCM)
- RF frequency compliance (can't use many common European frequencies like 868Mhz for IOT devices)
- ISO Type 5 Product Certification
- Etc..



Australian Government
Department of Industry, Science,
Energy and Resources

**National
Measurement
Institute**



CONSIDERING ROI

- Size of market – Australia is small!
- Special production runs
 - DR brass
 - Special features
- Stock Commitment
 - Usually worth \$100s of thousands..

MARKET EDUCATION

- Even though a WMK product exists, doesn't guarantee a large market share!
- Commodity items generally not specified by hydraulic engineers, so plumbers buy whatever is available at the plumbing merchant outlets.



Cimberio was first in Australia with WMK approved Y-strainer (2008).
Next brand followed in 2012.



Cimberio 747 series balancing valve was first approved in the market nearly 10 years ago. Made almost no difference in specifications. Most still chose TA STAD from habit even though it wasn't approved at the time.



THANK YOU!

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