Form: TMV1

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NSF THERMOSTATIC MIXING VALVE SCHEMES TMV2 & TMV3 CERTIFICATION

1. Thank you for your recent enquiry, the information below explains the Scheme's procedures and requirements. The application form TMV2 and/or TMV3, as appropriate, must be completed and returned to the Account Manager. Alternatively email: ptaylor@nsf.org.

1.1 Applicants agree to abide by the terms and conditions of the scheme, the NSF Wales terms and conditions Doc# 17875 and associated audit procedures by submitting an application forms TMV2 & TMV3. Details of the terms and conditions and the audit procedures are available from the CIAS section of the NSF website (www.nsf.org).

2. The NSF Thermostatic Mixing Valve Scheme assesses the performance requirements of thermostatic mixing valves against one of the following standards.

a) TMV2 certification, EN 1111 and or EN 1287
b) TMV3 certification, Health Technical Memorandum HTM 04-01: Supplement Performance specification D 08: thermostatic mixing valves (healthcare premises)

The Scheme's requirements are as follows:

- Initially, and after every 5 years the thermostatic valve shall meet the performance requirements detailed above in either, 2. a) or b), dependent upon TMV2 or 3 certification
- Initially and annually thereafter the Manufacturer and Secondary factors must have a suitably certified ISO 9001 quality system in place
- Primary Factors who only distribute certified products can have products certified if certain assurances/confirmations are given, see general information below and clause 3.5.1.
- The manufacturers thermostatic mixing valve satisfies the NSF performance audit requirements (audit testing within the 5 year certification period)

3. GENERAL INFORMATION

3.1 An applicant can be either a manufacturer or a factoring agent. Whichever party pays the test fee of a successful application shall own the licence. Where the same product is sold by a number of factoring agents each individual agent shall possess a licence with their own unique product reference. Factoring can be referred to as secondary or piggyback approval.

3.2 The Manufacturer and / or Secondary factor, must have in place an ISO 9001 NSF recognised quality system and can demonstrate compliance by supplying the Scheme with a copy of a valid ISO 9001 certificate and scope of accreditation.

3.3 Primary Factors/secondary approval holders do not require ISO 9001 if the appropriate confirmations are given by the manufacturer/primary approval holder.

3.4 **A 'Primary Factor'** is a company/individual who does not manufacture the valve but only distributes an already certified valve under their own trade name, the product having only cosmetic changes (ID). For primary factors, ISO 9001 **is not required** if certain confirmations are provided, see clause 3.5.1.

3.5 **A 'Secondary Factor'** is a company/individual who does not manufacture the valve, but distributes an already certified valve under their own trade name. The valve having cosmetic changes (ID) **and being fitted with additional components that may affect the valves**

performance (e.g. the addition of isolation valves, etc. not present in the original licence made by the manufacturer). Secondary factors may also mark, box and provide the installation and maintenance document. For secondary factors, ISO 9001 is **required** as well as confirmations provided, see clause 3.5.2.

3.5.1 **For Primary factors**, who only distribute products, NSF will require the following confirmations **from the manufacture** (certification holder) that they:

- Manufacture the valve for the primary factor (applicant)
- Mark the valve for the primary factor (applicant) and state id
- Provide the installation document for the primary factor (applicant)
- Package the valve for the primary factor (applicant)
- Confirm that the valves supplied to the primary factor is as that already certified by NSF with no components being added or taken away
- Agree that the primary factor can use the manufacturers existing NSF certification to progress this secondary/piggyback certification. The statement must include reference to the existing approved product name, BuildCert/NSF certification number and to the secondary products designation (model no's)
- Agree that the valve supplied to the primary factor is identical, in that it is manufactured using the same components, has identical water pathways and any difference is purely cosmetic

For Primary factors, who only distribute products, NSF will require the following confirmations **from the primary factor** (applicant) that they:

- Will not change or add to the packaged products received from the manufacture/certification holder
- Will only store and distribute the packaged products
- Will store products at a temperature above freezing
- Will undertake stock rotation

3.5.2 **For Secondary factors**, who make cosmetic changes and include additional components that may affect the valves performance, NSF will require the following confirmations **from the manufacture** (certification holder) that they:

- Agree that the primary factor can use the manufacturers existing NSF certification to progress this secondary/piggyback certification. The statement must include reference to the existing approved product name, BuildCert/NSF certification number and to the secondary products designation (model no's)
- Agree that the valve supplied to the primary factor is identical, in that it is manufactured using the same components, has identical water pathways and any difference is purely cosmetic

For Secondary factors, who make cosmetic changes and include additional components that may affect the valves performance, NSF will require the following confirmations **from the secondary factor** (applicant):

- Details of the additional components including General assembly drawings and information of the materials used as compliance with BS 6920 will be required

If all these confirmations are provided then NSF will issue a secondary/piggyback certification, NSF will however maintain the right to audit the applicant to verify all these confirmations etc. If all these confirmations cannot be provided the Primary Factor/secondary/piggyback applicant will be required to have ISO 9001 accreditation.

3.6 Information about the valve's Installation and Maintenance (I&M) must be provided with the valve. This can be full information provided on paper, or partial information being provided on paper and the remaining information being provided electronically. Electronic versions of the I&M

documents must be made available on the manufacturer's website and a link will be provided in the installation and maintenance document provided with the valve.

For electronic I&M's the following installation requirements must be supplied with the valve.

- Operating conditions of the valve temperatures and pressures
- For TMV2 only, a note that Valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 valves
- The valves designation(s) of use
- Statement that further details and a full Installation document can be obtained from a designated website, and a link be provided

For full details upon the information that **must** be included within the complete I&M document contact the Scheme Account Manager or Certification Director.

3.7 TMV3 valves must be identified by a unique identification mark that is permanent and legible. If the marking if applied to a detachable part of the valve e.g. a cap or indice, this detachable part shall be attached to the valve by means of a fixing that requires a tool other than a standard screwdriver to remove it.

Note: the unique identification cannot be:

- Located where disconnection of the hot and cold pipework is required to verify the product by its unique identification mark
- Located on the water supply pipe
- Located in such a position that it requires isolation of the water supply and disassembly to verify the product by its unique identification mark

3.8 The Technical Assessment Panel (TAP) comprises independent experts who, if necessary, confirm the test and audit test requirements and review the test reports and any additional requirements of the scheme in accordance with NSF policies.

3.9 The laboratory undertaking the testing must be registered with NSF. Laboratories shall comply with the NSF Guidance Document BGD01 and be ISO/IEC 17025:2017 accredited by UKAS (or equivalent) with a scope of accreditation that includes D 08 (TMV3) and/or EN 1111 and EN 1287 (TMV2). NSF will require inter-laboratory trials and details of the laboratory procedures (in English) for testing to D 08 and reserve the right to carry out site inspections as necessary. For testing to EN 1111 and EN 1287, NSF reserve the right to require inter-laboratory trials and to carry out site inspections, as necessary. The list of approved test laboratories can be found in Appendix A.

3.10 Conditions of use for Type 2 and Type 3 valves

	Low Pressure TMV2 EN 1287	High Pressure TMV2 EN 1111	Low Pressure TMV3 DH Spec D 08	High Pressure TMV3 DH Spec D 08
Maximum Static Pressure (bar)	10	10	10	10
Flow Pressure, Hot & Cold (bar)	0.1 to 1	0.5 to 5	0.2 to 1	1 to 5
Hot Supply Temperature (°C)	55 to 65	55 to 65	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤ 25	≤ 25	5 to 20	5 to 20

NOTE: Valves will not be approved for any conditions of use (see appropriate Table) for which testing has not been undertaken. Therefore licenced valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 or 3 valves.

4. SUBMISSION OF APPLICATION

4.1 An applicant wishing to submit a Thermostatic Mixing Valve for NSF certification must complete the appropriate Application Form TMV2 or TMV3, and return this to the Account Manager at: NSF Wales Ltd, 30 Fern Close, Pen-y-Fan Industrial Estate, Oakdale, Gwent, NP11 3EH, UK Alternatively email ptaylor@nsf.org

4.2 A copy of the applicant's ISO 9001 quality assurance certificate, with accompanying scope of certification must be supplied if applicable.

4.3 Only production valves will be considered for certification by the scheme.

5. TEST REQUIREMENTS

5.1 Type 2 Valves (TMV2) will be tested in accordance with the standards EN 1111 "Sanitary tapware Thermostatic mixing valves (PN 10). General technical specification" and/or EN 1287 "Sanitary tapware Low pressure thermostatic mixing valves General technical specifications ". (Acoustic testing is excluded unless otherwise requested by the client).

5.2 Type 3 Valves (TMV3) will be tested in accordance with the Department of Health HTM 04-01 Performance Specification D 08: Thermostatic mixing valves (healthcare premises).

5.3 Economy flow rate (water saving) certifications are available for TMV's having the designations of use bidet, shower and washbasin only.

- For TMV3 certification, the mixed water flowrate must be less than 8 litre/minute
- For TMV2 certification, economy certification is only applicable to HP valves approved to EN 1111 (excluding bath use), and the mixed water flowrate must be between 4 and 9 or 12 (for shower) litre/minute

5.4 For sample selection for testing, three valves must be selected from a minimum sample batch size of 30 valves. An independent representative (as agreed by NSF), a NSF auditor, a TAP committee member, or an independent third party approved by the NSF shall select the valves for test. Test samples selected shall be kept under the possession and control of the person making the selection and packaged and sealed in their presence. A letter documenting the person(s) making the selection and verifying the chain of custody of the samples must be forwarded to NSF for inclusion within the application file.

Note: It is not permissible to transport valves by air without adequate protection against damage e.g. by freezing or depressurisation, as the performance of the valve may be affected.
NSF will retain one sample for comparison with future production batches as required.

5.5 Valves will be required to undergo/comply with the following:

a) Mechanical testing. Tests will not commence until the test laboratory has received the testing requirements designated by NSF. Applicants are notified that it may be necessary to destroy or mutilate a fitting for the purpose of examination or test.
b) Have a current WRAS approval, or the non-metallic materials in contact with water are verified by NSF as complying with BS 6920 and the Guidance on the Requirements for Approval of Non-Metallic Materials in Fittings, Appendix A.

5.6 Communication with the designated test laboratory and the payment of the laboratory's testing fee are the responsibility of the applicant, who shall arrange for the Scheme to be provided with a copy of the test report.

5.7 Any applicant who submits a valve to the Scheme, which is advertised as having TMV3 certification without possessing a current certificate, must understand that a new unique product identity will be required before certification will be granted. Similarly, TMV2 certification cannot be claimed until the certificate has been issued. The Schemes use of the NSF logos (NSF Guidance Document - BGD 03) is available upon request.

6. SCHEMES PROCEDURES

6.1 **TMV3 Certification,** each application for a product type must be made on a separate TMV3 form and must include all the designations of use and the pressure application required i.e. HP & LP or HP only.

6.2 **TMV2 Certification,** each application for a product type must be made on a separate TMV2 form and must include all the designations of use and the pressure application required i.e. HP & LP or HP only.

6.3 When a completed Application Form has been received the Scheme Account Manager will review the information supplied and agree with the TAP (if appropriate) the testing schedule, verify the applicants Quality System (ISO 9001) is appropriate. The applicant will then be issued with a letter detailing the NSF sample number, issues to be resolved, testing to be undertaken and an administration invoice.

6.4 Applications will be cancelled if they have been on the Scheme's files for more than twelve months.

6.5 It is a pre-requisite of the NSF/TMV Scheme that the valve(s) must be either WRAS approved or the non-metallic materials in contact with water are verified by NSF as being compliant with BS 6920 and Water Industry Guidance before TMV2 or TMV3 certification can be granted. Factored valves may rely upon the primary products WRAS approval or NSF verification if confirmations are provided, see clause 3.

6.6 When the tests have been completed the test laboratory will forward the test results and a report to NSF along with one test sample (B), which is to be retained by the Scheme (see 5.4). The TAP will then decide as to whether the product passes or fails to meet the requirements of the product standard (EN 1111 and or EN 1287 or D 08) and the additional requirements of the Scheme. Any certification certificate will be based upon the submission date to the TAP Committee. The NSF Certification Director will notify the applicant of the Scheme's decision and if appropriate request further information or, if successful, a letter and certificate will be issued along with the Scheme's invoice for certification; an additional invoice for professional fees will be attached for additional work above that normally expected for an application, or as and when necessary.

6.7 If the fitting satisfies all the Scheme's requirements then a Licence for TMV2 or TMV3 certification will be granted and a description of the product will be entered on the NSF/TMV Schemes web site.

6.8 Certification will relate solely to the valve(s) referred to in the NSF approval letter. Statements by applicants in sales literature must refer only to the specifically certified product (s) as designated by the manufacturer's unique model reference.

6.9 Annually NSF will verify that the licence holder (as appropriate see clause 3.) continues to have a recognised quality system in place as appropriate.

6.10 Primary and secondary factor(s) of the certified product(s) will require performance audit testing within the 5-year certification period (TMV3 twice, TMV2 once). The primary and secondary factor licence holder will be notified when audit testing is required and be issued with a sample number and details of the valves and tests needed for auditing. Primary licence holders will be responsible for all primary factors audits with only identification and installation documentation required to be verified as performance testing will be undertaken on the primary valve. The licence holder must then liaise with the test laboratory to undertake the audit testing.

6.11 Certification may be withdrawn for the following reasons: -

- Expiration of licence
- Failure of a test audit
- Failure to maintain ISO 9001 certification (as required)
- Reported product failure in service
- Licence holder's request
- Accumulation of penalty points for misuse issues
- Breach of terms and conditions
- Non-payment of fees

6.12 In the event that the certification is suspended or withdrawn, the licence holder shall discontinue reference to the valve(s) being certified in promotional and advertising literature.

7.0 ACCESS FOR AUDITS (IF REQUIRED)

7.1 NSF shall be granted access to all facilities and production locations of the Company, except where precluded from doing so by restrictions included in agreements between the Company and NSF or by government regulations, and where NSF has been notified in advance and is satisfied as to the validity of these restrictions. Refused or delayed access may result in withdrawal of Certification.

8.0 CO-OPERATION WITH NSF

8.1 Audits and sampling of Products by NSF is for the benefit of the Company as well as in the public interest. While engaged in the performance of these duties, NSF shall be given every assistance necessary, and shall have the right to examine all records, equipment, areas, personnel and Company's subcontractors; and investigation of complaints; bearing upon the duties and responsibilities of NSF or the Company with respect to compliance with NSF requirements. No NSF representative shall be required, nor authorized to make any agreements, waive any rights or privileges, or enter into any compromises as a condition of audit.

8.2 While in a Company's facility, NSF representatives shall comply with all applicable health and safety rules and be accompanied by authorised Company personnel. The Company shall notify NSF in advance of any health and safety equipment necessary for access to the Company's facility, or shall provide the necessary health and safety equipment for the NSF auditor's use during the audit, along with instructions for proper use.

8.3 NSF auditors may discontinue an audit at a site where their health and safety may be at risk, if they are subject to sexual harassment or discrimination, or the conduct of the Company staff hampers the completion of a valid audit. The Company may, at any time for any reason, require that an auditor of NSF leave the facilities of the Company. An auditor shall immediately notify executive management of the Company and NSF if an audit is to be discontinued. If an audit is terminated its status is "attempted".

9.0 COMPANY RECORDS OF COMPLAINTS ABOUT ITS CERTIFIED PRODUCTS

9.1 The Company shall retain a record of complaints and remedial actions taken by the Company, and shall make the record available to NSF upon request.

9.2 All complaints received by the Company, the subject of which is under the Company's control, and referring to Certified Products or services covered by the scope of the Certification provided by NSF, are included in this policy. At a minimum, the record shall include:

- The nature of the complaint
- Identification of the Product and/or services pertinent to the complaint
- Confirmation that remedial action(s) have been taken
- The status (open or closed) of the complaint, as known to the Company

9.3 All records and other information provided to NSF (upon request) shall remain the property of the Company and be handled by NSF as confidential information.

10. MODIFICATION TO CERTIFIED PRODUCT(S)

10.1 A modification to an certified valve(s) must be made using Application Form TMV2 or TMV3. The exact details of the modification should be stated and highlighted in a general assembly drawing.

10.2 The Certification Director and if appropriate the TAP will then determine the test requirements for the modified valve(s).

10.3 If appropriate, test reports from the NSF approved test laboratory will then be required as well as a sample modified valve, which is to be retained by the Scheme. The TAP will then agree if the modification can be accepted as having no detrimental effect upon the valves performance.

11. FEES

11.1 The following fees apply:-

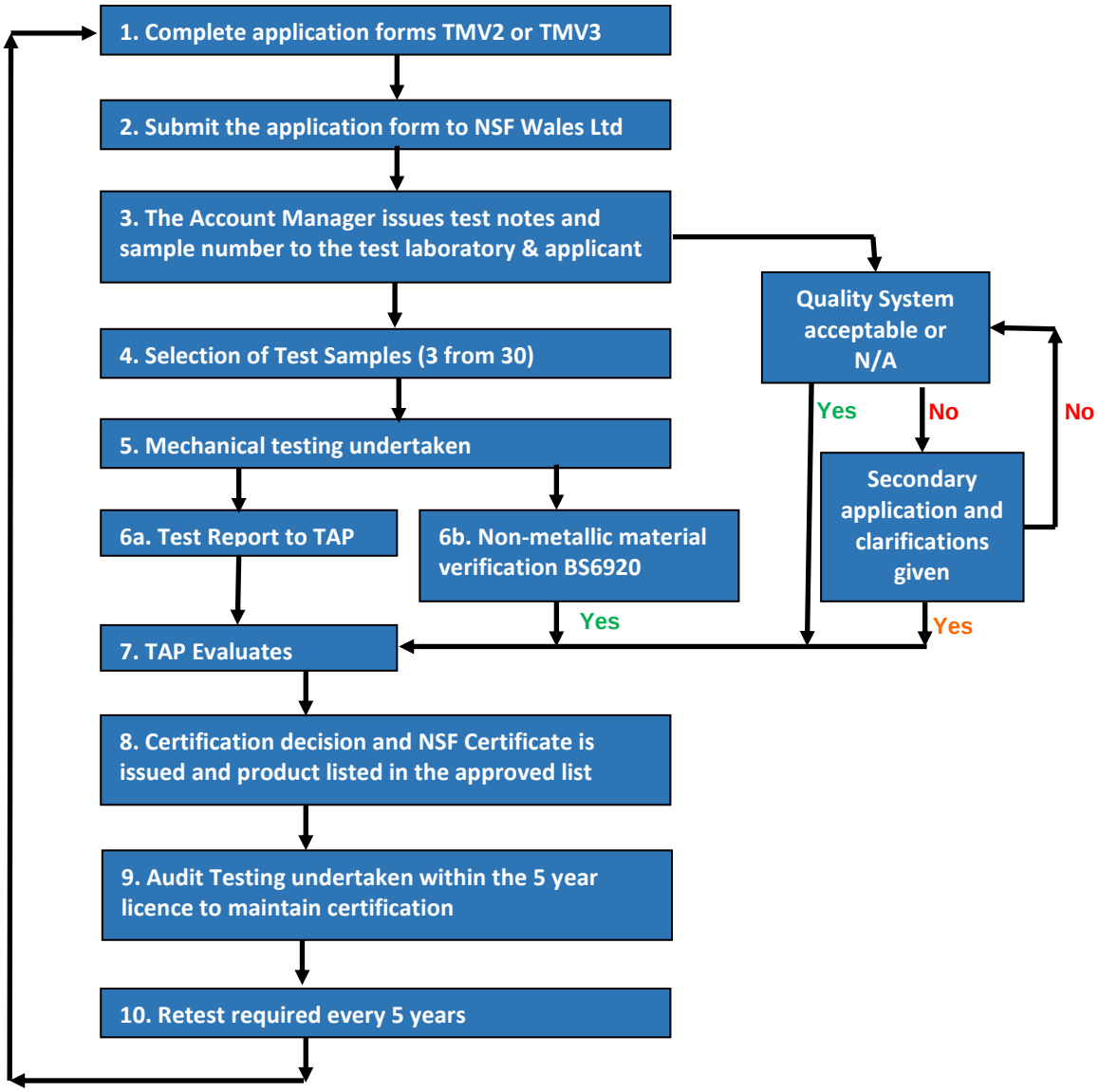
- An administration fee invoiced upon receipt of an application
- A certification fee invoiced upon final approval
- A initial listing fee
- Professional fees for additional work above that expected for a TMV application
- An annual NSF membership fee
- An annual listing fee per product
- Amendments to certifications and / or certification issues chargeable at the Scheme's agreed professional rate

12. COMPLAINTS & APPEALS

12.1 Complaints and appeals regarding NSF should be addressed to the NSF Wales Certification Director ptaylor@nsf.org in the first instance. These are reviewed with the TAP committee as necessary.

12.2 In the event of there being irreconcilable differences between and applicant and the TAP regarding appeals, these will be forwarded to the Chairman of the NSF Advisory Committee for review.

TMV2 & TMV3 Certification Process



TAP – Technical Assessment Panel

Appendix A

NSF Approved test laboratories for TMV3 Testing:

NSF Wales Ltd 30 Fern Close Pen-y-Fan Industrial Estate Oakdale Gwent NP11 3EH, UK Tel: 00 44 (0)1495 236260 Email: swarburton@nsf.org All Designations of use	Kiwa N.V Sir W. Churchill-laan 273 Postbus 70 2280 AB Rijswijk The Netherlands Tel 00 31 704144510 Email rob.van.deursen@kiwa.nl All Designations excluding LP-T44 and T46

NSF TMV2 and TMV3 is an independent third party certification scheme administered by NSF International under the remit of the NSF Certification Scheme