IN-SERVICE TESTING

The purpose of in-service testing is to regularly monitor the thermal performance of the thermostatic mixing valve. Deterioration in performance can indicate the need for service work to be carried out on the system.

If the authority concerned does not have a planned test and maintenance schedule then the suggestions below should form the basis of a new system.

At intervals of 6 - 8 weeks and 12 - 15 weeks after commissioning:-

1. Check supply parameters are still within the expected values if not check system for faults.

2. Carry out commissioning procedures a to c using the same test equipment, if the mixed water temperature has changed a significant amount (by more than 1K) check to ensure in line filters are clean, that the check valves are working and all isolating valves are fully open. If no fault can be found check and record the mixed water temperatures and readjust mixed water temperature to the values in table 2. Complete the commissioning procedure a to f if the mixed water temperature exceeds the values of the maximum recorded temperature by more than 2K the need for service work is indicated (see relevant instruction leaflet.)

Depending on the results of these two tests the following should be adopted

a) If a small change (e.g. 1K to 2K) occurs in one of these tests or there is no significant change (e.g. 1K maximum) then the next in service test should be 24 to 28 weeks after commissioning.

b) If small changes occur in both tests or a larger change occurs in one test (exceeding 2K) then the next in service test should be carried out 18 to 21 weeks after commissioning.

These results can then be used to set a service interval which tests have shown can be used with no more than a small change in mixed water temperature. This method of determining service intervals is used to take into account various in-service conditions (i.e. water condition) that the valve may experience.

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BRISTAN

TMV 3 SCHEME

INSTALLATION AND OPERATING INSTRUCTIONS FOR GUMMERS THERMOSTATIC MIXING VALVES COMPLYING WITH N.H.S. ESTATES PURCHASING SPECIFICATION D08

THE VALVES COVERED IN THIS BOOKLET HAVE ALL BEEN TESTED AND APPROVED TO N.H.S. ESTATES PURCHASING SPECIFICATION D08

THEY MAY PERFORM SATISFACTORILY OUTSIDE THE LIMITS SPECIFIED HOWEVER THEY THEN ARE NOT COVERED BY THE TMV3 SCHEME

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INTRODUCTION

It has been recognised that users of hot water in care establishments are at risk from scalding.
This risk has been reduced by the use of thermostatic mixing valves.
In order to assure the performance of thermostatic mixing valves N.H.S. Estate Model Engineering Specification D08 was written. The valves listed in the following pages have been tested and approved to this standard by a third party as part of the T.M.V.3 scheme for use within their designated applications.

The following abbreviated designation codes are used throughout this booklet. Detailed descriptions are given below:-

HP	High pressure
LP	Low pressure
S	Shower
B	Bidet
W	Washbasin
T44	Bath with fill temperature of 44°C max
T46	Bath with fill temperature of 46°C max
BE	Bidet with economy flow rate
SE	Shower with economy flow rate
WE	Washbasin with economy flow rate

Adjust the mixed water temperature in accordance with table 2, the method of adjustment is covered in the instruction manual.

Table 2: Mixed Water Temperature

Application	Abbreviated Designation	Mixed water temperature °C
Bidet	-HP-B, BE,-LP-B, BE	38 max
Shower	-HP-S,SE;-LP-S, SE	41 max
Washbasin	-HP-W,WE: -LP-W, WE	41 max
Bath (44°C fill)	-HP-T44; -LP-T44	44 max
Bath (46°C fill)	-HP-T46; -LP-T46	46 max

Note 1: For washbasins, washing under running water is assumed.

Note 2: Bath fill temperatures of more than 44°C should only be available when the bather is always under the supervision of a competent person (e.g. nurse or care assistant)

Note 3: A thermostatic mixing valve having multiple designations (i.e. it is capable of satisfying the requirements of this specification for more than one application) should be re-set on site to suit its the designation required.

The following set of tests should be carried out.

a) record the temperature of the hot and cold water supplies.

b) record the temperature of the mixed water at the largest draw-off flow rate.

c) record the temperature of the mixed water at a smaller draw-off flow rate, which shall be measured.

d) isolate the cold water supply to the mixing valve and monitor the mixed water Temperature.

e) record the maximum temperature achieved as a result of (d) and the final Temperature.

f) record the equipment, thermometer etc. used for the measurements.

INSTALLATION RECOMMENDATIONS

For specific details see instruction leaflet enclosed with each valve, however the following general recommendations should be observed.

1) Always install isolating valves to facilitate servicing (TS603 and TS803 have integral units).

2) Always flush both supply pipes fully before connecting mixing valve to ensure no pipe debris enter the inlets. Always fit filters provided.

3) All installations must comply with current local water company regulations.

CONDITIONS FOR NORMAL USE

In order to give compliance with N.H.S. specification DO8. The table below lists the conditions for normal use, the valves may perform adequately outside these parameters but the TMV3 scheme approval does not apply. If they are required to work with other supply conditions an engineer must carry out a risk assessment and satisfy themselves that the units are still suitable for use.

Table 1: Conditions for normal use

Operating pressure range	High pressure	Low pressure
Maximum static pressure - bar	10	10
Flow pressure, hot and cold - bar	1 to 5	0.2 to 1
Hot supply temperature - °C	52 - 65	52 - 65
Cold supply temperature - °C	5 to 20	5 to 20

COMMISSIONING

Since the installed supply conditions may differ from those used in testing and setting the valves during final inspection and a valve may have several designations. It is necessary to reset the mix temperature the following procedure should be used after ensuring:-

a) The designation of the thermostatic mixing valve matches the intended application (i.e. if a bidet is to be supplied at 2 bar then the valve must have a HP-B designation).

b) The supply pressures match those for which the valve has been approved, see table 1 and valve details.

c) The supply temperatures are such that they are within the permitted range (see table 1) and comply with guidance information on the prevention of legionnella.

Note:-
If the supply conditions are not within the perimeters for normal use the valve may still be suitable, but individual engineers must carry out their own risk assessment and satisfy themselves that the units are still suitable for use.

Gummers TS503

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-B	HIGH PRESSURE	BIDET
HP-S	HIGH PRESSURE	SHOWER
HP-W	HIGH PRESSURE	WASH BASIN
LP-B	LOW PRESSURE	BIDET
LP-S	LOW PRESSURE	SHOWER
LP-W	LOW PRESSURE	WASH BASIN

TMV3 Approval Certificate Number BC396
WRAS Approval Number 709010

For full installation instructions and method of temperature adjustment see instruction booklet.

Gummers TS603 & TS603 (PLUS)

CODE	OPERATING PRESSURE	APPLICATION
HP-B	HIGH PRESSURE	BIDET
HP-S	HIGH PRESSURE	SHOWER
HP-W	HIGH PRESSURE	WASH BASIN
LP-B	LOW PRESSURE	BIDET
LP-S	LOW PRESSURE	SHOWER
LP-W	LOW PRESSURE	WASH BASIN

TMV3 Approval Certificate Number BC392
WRAS Approval Number 712093

For full installation instructions and method of temperature adjustment see instruction booklet.

Gummers SOLO-T3

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-W	HIGH PRESSURE	WASH BASIN
LP-W	LOW PRESSURE	WASH BASIN

TMV3 Approval Certificate Number BC921
WRAS Approval Number 910001

For full installation instructions and method of temperature adjustment see instruction booklet.

Gummers SOLO-T3 BATH FILLER

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-T44	HIGH PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C
LP-T44	LOW PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C

TMV3 Approval Certificate Number Bc292
WRAS Approval Number 710018

For full installation instructions and method of temperature adjustment see instruction booklet.

Gummers TS753

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-T44	HIGH PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C
LP-T44	LOW PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C

TMV3 Approval Certificate Number BC393
WRAS Approval Number 902001

For full installation instructions and method of temperature adjustment see instruction booklet.

Gummers TS803 & TS803 (PLUS)

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-T44	HIGH PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C
LP-T44	LOW PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C

TMV3 Approval Certificate Number BC395
WRAS Approval Number 902003

For full installation instructions and method of temperature adjustment see instruction booklet.

Note:-
The TS803 (PLUS) unit has integral isolating valves.

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Gummers TS 1503

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-S	HIGH PRESSURE	SHOWER
LP-S	LOW PRESSURE	SHOWER

TMV3 Approval Certificate Number BC397
WRAS Approval Number 712092

For full installation instructions and method of temperature adjustment see instruction booklet.

Gummers TS4753/TS4503

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OP PRESSURE	APPLICATION
HP-T44	HIGH PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C
LP-T44	LOW PRESSURE	BATH WITH FILL TEMPERATURE UP TO 44°C

TMV3 Approval Certificate Number BC394
WRAS Approval Number 909002

For full installation instructions and method of temperature

Gummers TS 1850 (STRATUS D08)

APPROVED FOR USE IN THE FOLLOWING DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
HP-S	HIGH PRESSURE	SHOWER
LP-S	LOW PRESSURE	SHOWER

TMV3 Approval Certificate Number BC213
WRAS Approval Number 707014

For full installation instructions and method of temperature adjustment see instruction booklet.