Product Support

Guarantee

This product is guaranteed against faulty materials and workmanship for 1 year from date of purchase. For the guarantee to be valid, the unit must be installed by a competent person, in accordance with the instruction booklet.

Any part found to be defective during the guarantee period, will (at our option) be repaired or replaced, free of charge, provided the unit has been installed, and properly used in accordance with the instruction booklet.

This guarantee does not affect your statutory rights.

Service Policy (Available in UK and ROI only)

In the event of a product or component fault, firstly follow the fault finding procedure to ensure the difficulty can be resolved.

If the fault can not be identifed using the procedure, call the installer to check installation is correct.

Failing this, please contact the Customer Service Department on telephone number below.

Have following information prepared, to help identify the product:
Model type, Date of purchase, unit serial number (if available).

The Customer Service Department will attempt to diagnose the cause of the fault and advise the necessary action to resolve the problem over the phone.

If the fault can not be resolved and a service call is required, a Site Visit Request form will be sent to you to complete and return.

Where applicable a fixed fee payment for parts and/or labour will be levied. The cost incurred and payment methods will be advised over the phone and on the Site Visit Request form.

A completed form, along with payment (if applicable) must be received before the Service Callout can be arranged.

If the problem is not product related or is a component not of our manufacture, a fixed fee will be made to cover Site Visit costs. Additional costs for parts used to rectify the non-product related problem may be imposed.

During the visit, yourself or a responsible person should be present at all times. Charges will be made if the Service Engineer or Agent can not gain site access at the prearranged time.

Ensure water and/or electricity supplies have adequate isolation to the unit. If the unit is concealed, serviceable access should be provided. If servicing difficulties arise from not making the provisions detailed, additional time related costs or a recall charge will be imposed.

Customer Care 0844 7016273

Agent:

The company reserve the right to alter product specifications without prior notice.

BRISTAN

TMV 2 SCHEME TMV 3 SCHEME

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

THE VALVE COVERED IN THIS BOOKLET HAS BEEN TESTED AND APPROVED TO N.H.S. ESTATES MODEL ENGINEERING SPECIFICATION DO8

IT MAY PERFORM SATISFACTORILY OUTSIDE THE LIMITS SPECIFIED HOWEVER IT WILL NOT BE COVERED BY THE TMV2 AND TMV3 SCHEME

MT753CP
MT753CP-ISO

TMV3 Designations Of Use :-

LP-T44	Low Pressure Bath Fill With Temperature Up To 44°C
HP-T44	High Pressure Bath Fill With Temperature Up To 44°C
LP-S/W	Low Pressure Shower / Wash Basin

TMV2 Designations Of Use :-

LP-B / LP-S / LP-W /LP-T
HP-B / HP-S / HP-W /HP-T

TMV2 Approval Certificate No. BC565/0210
TMV3 Approval Certificate No. BC566/1209
WRAS Approval Certificate No. 1001014

TEMPERATURE STABILISED THERMOSTATIC MIXING VALVE

Bristan Group Ltd
Birch Coppice Business Park
Dordon
Tamworth
Staffordshire
B78 1SG
T: 0844 7016274
E: customercare@bristan.com

Form No. 800486/C

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. Estates Model
Engineering Specification DO8 was written. The valve listed in the following pages has been tested and approved to this standard by a third party as part of the BUILDCERT scheme for use within their designated applications.
This Thermostatic mixing valve has also been tested to the TMV2 scheme and has been found to comply with the requirements of BS EN 1287 (LP) and BS EN 1111 (HP)
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

Mt753 APPROVED FOR USE IN THE FOLLOWING TMV3 DESIGNATIONS

CODE	OPERATING PRESSURE	APPLICATION
LP-S/W	LOW PRESSURE	SHOWER/WASH BASIN
LP-T44	LOW PRESSURE	BATH FILL WITH TEMPERATURE UP TO 44°C
HP-T44	HIGH PRESSURE	BATH FILL WITH TEMPERATURE UP TO 44°C

For full installation instructions and method of temperature adjustment see General Assembly and Servicing Guide.

INSTALLATION RECOMMENDATIONS

The following general recommendations should be observed.

1) The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.
2) Always flush both supply pipes fully before connecting mixing valve to ensure no pipe debris Enters 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 and TMV2 scheme. The tables below list the conditions for normal use, the valves may perform adequately outside these parameters but the TMV2 and 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	Low pressure	High pressure
Maximum static pressure - bar	10	10
Flow pressure, hot and cold - bar	0.2 to 1	1 to 5
Hot supply temperature - °C	52 - 65	52 - 65
Cold supply temperature - °C	5 to 20	5 to 20
Minimum Temperature Differential Between Mixed Temperature & Either Supply	10°C	10°C

Conditions of use for TMV2 Type 2 valves

	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Flow Pressure , Hot & Cold (bar)	0.5 - 5	0.1 - 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	Equal Or Less Than 25°	Equal Or Less Than 25°

NOTE: Valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 valves.

TMV2 Designations Of Use :-

LP-B / LP-S / LP-W /LP-T
HP-B / HP-S / HP-W /HP-T

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:-

NOTES :-

GENERAL ASSEMBLY AND SERVICING GUIDE

1. Isolate hot and cold supplies. Remove Head Cover (17)
2. Unscrew Head (19) from Body (1).
3. Remove Adjusting screw from Head (16) (N.B. Note approximate position of Adjusting screw in Head (16) before removing. Replacement of Adjusting screw in same position upon re-assembly ensures virtual restoration of original temperature).
4. Remove Thermostat (18), Piston assembly/Thermostat housing, Return spring (14).

TO CLEAN

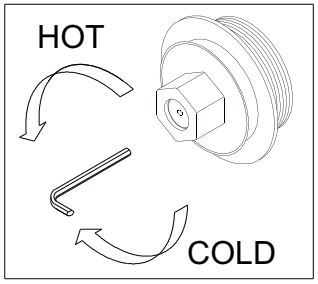
1. Soak all metal parts in de-scalent, wash off in clean water.
2. Lightly grease all metal parts with silicone grease.
3. Replace worn and damaged 'O'rings.

RE-ASSEMBLY

1. Replace Return spring (14) and Piston assembly/Thermostat housing and Thermostat (18).
2. Re-assemble Adjusting screw to Head (19) to original setting.
3. Screw Head (19) into Body (1). Continue until it reaches a dead stop
4. Slight temperature adjustment may be necessary upon re-introduction of supply.

TEMPERATURE SETTING

1. Turn Adjustment screw clockwise for cooler temperature, anti-clockwise for warmer temperature. Replace Head Cover (17).



NOTE :- ALL INSTALLATION AND MAINTENANCE PROCEDURES SHOULD BE CARRIED OUT IN ACCORDANCE WITH THESE GUIDELINES. PLEASE READ THESE GUIDELINES BEFORE COMMENCING ANY NEW INSTALLATION OR SERVICING OF EXISTING UNITS.

a) The designation of the thermostatic mixing valve matches the intended application (i.e. if a shower is to be supplied at 2 bar then the valve must have a HP-S designation).
b) The supply pressures match those for which the valve has been approved, see table1 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 parameters 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.
Adjust the mixed water temperature in accordance with table 2, the method of adjustment is covered in the section temperature Setting.

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 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.

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 re-adjust 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 test 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.

NOTE: Valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 valves.

Recommended outlet temperatures

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

44°C for bath fill but see notes below;

41°C for showers;

41°C for washbasins;

38°C for bidets.

The mixed water temperatures must never exceed 46°C.

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

Note:

46°C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

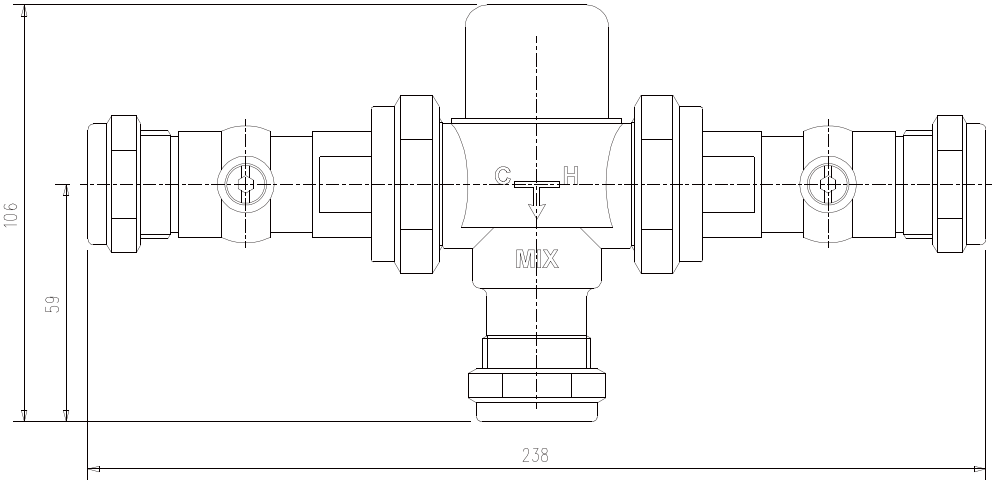
It is not a safe bathing temperature for adults or children.

The British Burns Association recommends 37 to 37.5°C as a comfortable bathing temperature for children. In premises covered by the Care Standards Act 2000, the maximum mixed water outlet temperature is 43°C.

The fitting of isolation valves is required as close as is practicable to the water supply inlets of the thermostatic mixing valve.

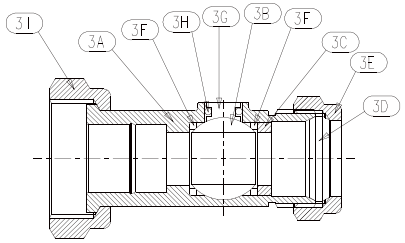
The fitting of strainers is recommended as close as is practicable to the water supply inlets of the thermostatic mixing valve.

MT753CP-ISO



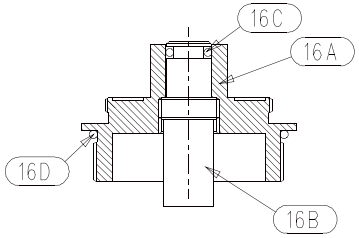
CONNECTIONS SPECIFICATION

INLETS	22mm Compression
OUTLET	22mm Compression



ISOLATING INLET ADAPTOR ASSEMBLY		
No	DESCRIPTION	NO OFF
3A	22MM BODY	1
3B	PLATED BRASS BALL	1
3C	BRASS NUT	1
3D	22MM ANNEALED COPPER OLIVE	1
3E	22MM COMPRESSION NUT	1
3F	PTFE SEAT	2
3G	BRASS ACTUATING STEM	1
3H	70 SHORE EPDM O RING	1
3I	CONNECTING NUT	1

TEE VALVE HEAD ASSEMBLY		
ITEM	DESCRIPTION	NO OFF
16A	22MM TEE VALVE HEAD	1
16B	TEE VALVE TEMPERATURE ADJUSTING SCREW	1
16C	O RING BS010 70 Shore EPDM WRC APPROVED	1
16D	O RING BS029 70 Shore Nitrile WRC APPROVED	1



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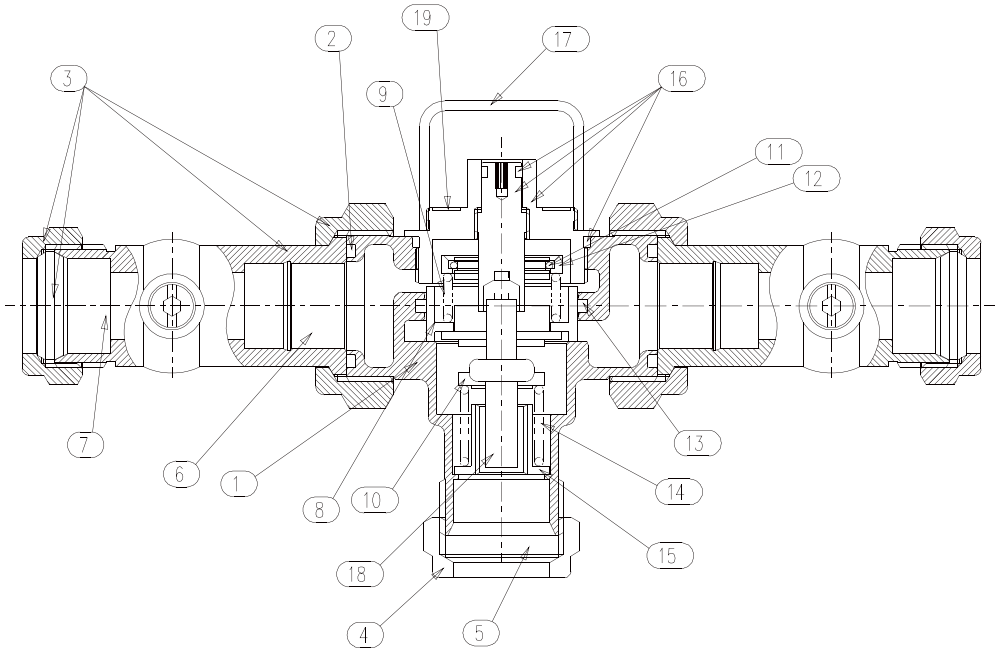


MT753-ISO PARTS		
No	DESCRIPTION	NO OFF
1	MT753 22MM TEE BODY	1
2	BS119 O RING	2
3	22 MM INLET ISOLATING ADAPTOR ASSEMBLY	2
4	1 1/8"14TPI COMPRESSION NUT	1
5	22MM COPPER OLIVE	1
6	CHECK VALVE	2
7	22MM TOP HAT FILTER	2
8	PLASTIC PISTON LAPPED	1
9	OVERTRAVEL SPRING	1
10	THERMOSTAT HOUSING	1
11	PLAIN RING	1
12	CLAMP RING	1
13	BS 126 SPECIAL O RING 80sh	1
14	RETURN SPRING	1
15	OUTLET SPACER	1
16	22MM TEE VALVE HEAD ASSEMBLY	1
17	CAP	1
18	THERMOTAT ELEMENT (0370)	1
19	WASHER TYPE LABEL	1

Commissioning notes for Thermostatic Mixing Valves.

The first step in commissioning a thermostatic mixing valve is to check the following:

The designation of the thermostatic mixing valve matches the application.

The supply pressures are within the valves operating range.

The supply temperatures are within the valves operating range.

Isolating valves (and strainers preferred) are provided.

If all these conditions are met, proceed to set the valve out temperature as stipulated in the manufacturer installation instructions.

The mixed water temperature at the terminal fitting must never exceed 46°C.

It is a requirement that all TMV2 approved valves shall be verified against the original set temperature results once a year. When commissioning/testing is due the following performance checks shall be carried out.

Measure the mixed water temperature at the outlet.

Carry out the cold water supply isolation test by isolating the cold water supply to the TMV, wait for five seconds if water is still flowing check that the temperature is below 46°C.

If there is no significant change to the set outlet temperature (±2°C or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

Notes

If there is a residual flow during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more than 2°C above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise.

The sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the manufacturers' instructions.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

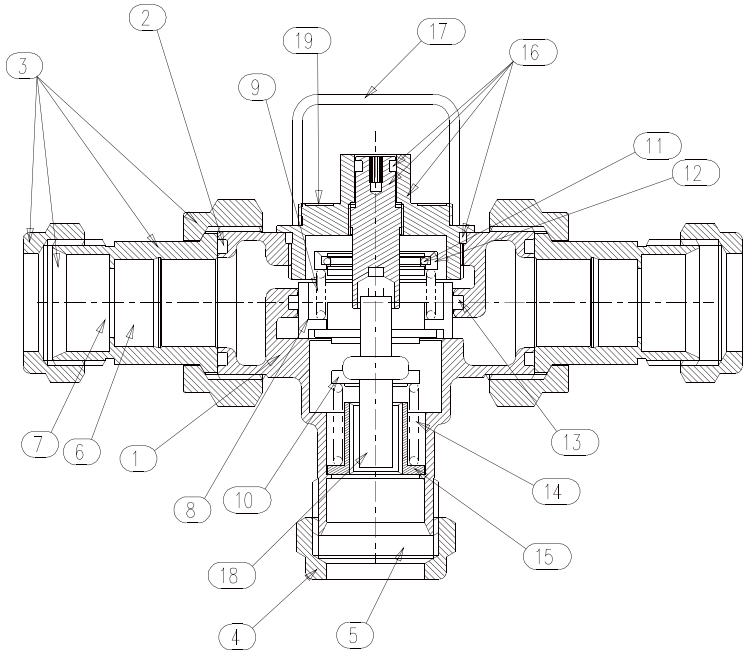
SPECIFICATIONS

Minimum pressure drop through fitting for correct mixing	0.1 bar (1 Metre head)
Maximum pressure drop through fitting for correct mixing	5.0 bar (50 Metre head)
Maximum static pressure to be applied to fitting	10.0 bar (100 Metre head)
Maximum pressure loss ratio	20:1 either supply
Temperature stability with normal variation of supply temperatures and pressures	± 2°C from set temperature
Factory set standard blend temperature	43°C
Maximum hot supply temperature	80°C

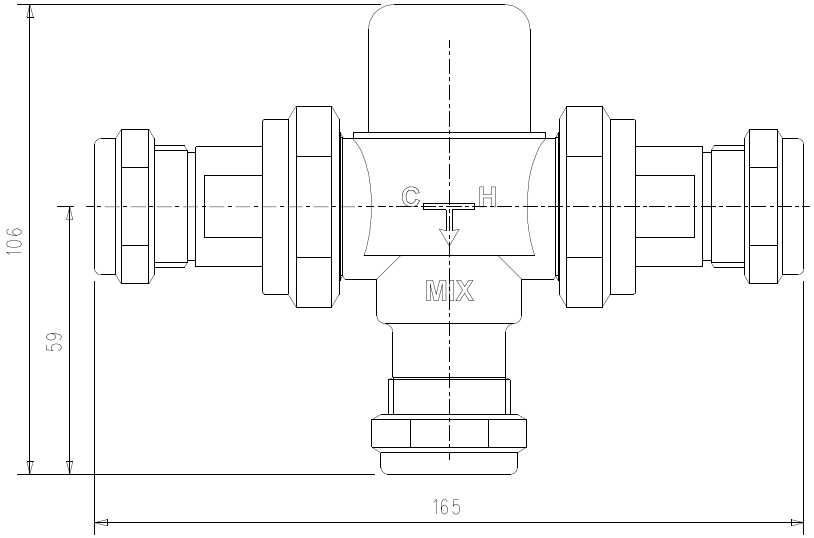
The sensitive wax capsule will shut down the operation of the valve if either the hot or cold water supply fails, provided a minimum differential of 10°C exists between the mixed water temperature and the remaining supply.

Pressure Drop (bar)	0.1	0.2	0.4	0.6	0.8	1	1.5	2	3	4	5
Flow Rate (Litres/Min)	10	17	26	32	38	42	51	59	73	85	95
Temperature °C	44	44	44	44	44	44	44	44	44	44	44

Flow rates are open outlet with equal pressure drops, fitted with Check valves and Filters as supplied.

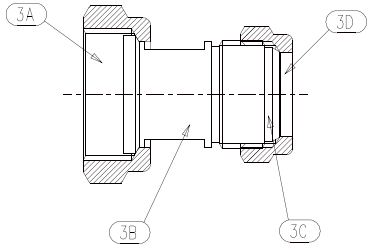


MT753 PARTS		
No	DESCRIPTION	NO OFF
1	MT753 22MM TEE BODY	1
2	BS119 O RING	2
3	22 MM INLET ADAPTOR ASSEMBLY	2
4	1 1/8"14TPI COMPRESSION NUT	1
5	22MM COPPER OLIVE	1
6	CHECK VALVE	2
7	22MM TOP HAT FILTER	2
8	PLASTIC PISTON LAPPED	1
9	OVERTRAVEL SPRING	1
10	THERMOSTAT HOUSING	1
11	PLAIN RING	1
12	CLAMP RING	1
13	BS 126 SPECIAL O RING 80sh	1
14	RETURN SPRING	1
15	OUTLET SPACER	1
16	22MM TEE VALVE HEAD ASSEMBLY	1
17	CAP	1
18	THERMOTAT ELEMENT (0370)	1
19	WASHER TYPE LABEL	1



CONNECTIONS SPECIFICATION

INLETS	22mm Compression
OUTLET	22mm Compression



INLET ADAPTOR ASSEMBLY		
ITEM	DESCRIPTION	NO OFF
3A	28MM COMPRESSION NUT	1
3B	CHECK VALVE ADAPTOR	1
3C	SOFT COPPER 22MM COMPRESSION RING	1
3D	22MM COMPRESSION NUT	1

TEE VALVE HEAD ASSEMBLY		
ITEM	DESCRIPTION	NO OFF
16A	22MM TEE VALVE HEAD	1
16B	TEE VALVE TEMPERATURE ADJUSTING SCREW	1
16C	O RING BS010 70 Shore EPDM WRC APPROVED	1
16D	O RING BS029 70 Shore Nitrile WRC APPROVED	1