



Pegler Yorkshire

SAFE, EFFICIENT WATER SYSTEMS



OF THE BUILDING REGULATIONS

INTRODUCTION TO PART G

Part G of the Building Regulations covers sanitation, hot water safety and efficiency in new build properties and major changes of use of an existing building in England and Wales. Pegler Yorkshire can help to meet the requirements of the regulations by providing products for sections G2 Water efficiency and G3 Hot water supply and systems.

With effect from the 6th April 2010 sections G2 and G3 have been updated to incorporate more stringent requirements for efficient use of water (G2, dwellings only) and hot water safety (G3).

IMPROVING WATER EFFICIENCY

Section G2 of Approved Document G 2010 states that ‘reasonable provision must be made for the installation of fittings and fixed appliances that use water efficiently for the prevention of undue consumption of water’.

To achieve this, the potential consumption of ‘wholesome’ water must not exceed 125 litres per person per day. This includes a fixed amount for outdoor use of 5 litres per person per day, which is calculated in accordance with the methodology set out in the Water Efficiency Calculator for New Dwellings, which can be downloaded free of charge from the Communities & Local Government website (see back page – Sources of further information).

The target can be met in any way the system designer feels is most appropriate for the individual project. In practice, achieving this requirement will rely heavily on the water efficiency of the appliances used in the system.

KEY FACTS EFFICIENCY

- ◆ The South East of England has less available water per person than the Sudan, and less than most other European countries.
- ◆ The UK population has nearly doubled in the last century which, combined with increased industrial use of water, is putting a significant strain on our water resources.
- ◆ The average Briton drinks 2 to 5 litres of water a day and uses another 145 litres for cooking, cleaning, washing and flushing. However, because of the water used to manufacture products and cultivate food, our lifestyle means that the average Briton really consumes around 3,400 litres every day.
- ◆ Around 140 litres of water is used to grow a cup of coffee, 11,000 litres to produce a pair of jeans and 400,000 litres to build a car.
- ◆ The water we use in our homes also has a carbon footprint from the distribution, treatment and heating that is done to it.
- ◆ Pegler Yorkshire products can also help to meet the performance targets of the Code for Sustainable Homes in relation to potable water usage.

Maximum consumption of potable water	Litres per person per day
Part G	125
Code for Sustainable Homes (Levels 1/2)	120
Code for Sustainable Homes (Levels 3/4)	105
Code for Sustainable Homes (Levels 5/6)	80



PERFORMA

Pegler Yorkshire offers an extensive choice of water-saving, flow-regulated basin taps in the Performa Eco range.

All Performa Eco basin taps are fitted with a flow regulator to reduce water wastage to a maximum of 4 litres per min (+/- 15%), achieving significant reductions in water usage. This is the ideal level to ensure best water saving while still being supportive of flow to combi boiler, if being used.

PERFORMA ECO BASIN TAPS



2159 QT quarter turn
1/2" basin taps.
CODE: 308048



2159 QTEL quarter turn
extended lever 1/2" basin taps.
CODE: 330030



Polo 1/2"
basin taps.
CODE: 434005



2159 QTSL quarter turn
snub lever 1/2" basin taps.
CODE: 324068



Souvenir 1/2" basin taps.
CODE: 4W9040



159 1/2" basin taps.
CODE: 304018



2159 1/2" basin taps.
CODE: 301028



Leger 1/2" basin taps.
CODE: 4B7040



Danum 1/2" and
1/2" DCD basin taps.
CODE: 404011/404069

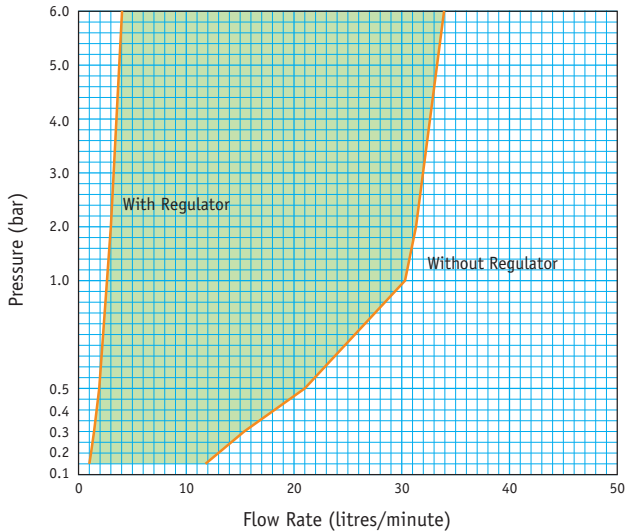


These are ideal for situations where the restriction does not impact on daily activities such as cleaning teeth

or washing hands and makes an immediate impact on water conservation, specifically when water is openly flowing.

All products are supported and approved by the Bathroom Manufacturers' Association and are listed on the water efficient product labelling scheme.

Performa Eco taps flow chart



A recent addition to the Pegler Yorkshire range is the Shower Regulator (*left*), which limits flow

rates to 6 litres per minute. Easy to fit to any product with a 1/2" BSP male thread, the Shower Regulator provides effective control from water pressures of 1.0bar and above.

We have also introduced a range of water saving regulators under the Performa brand, which can be used in conjunction with any 1/2" tap. These enable flow rates to be restricted to 2, 4 or 6 litres per minute on high and low pressure systems.



**1/2" Water Saving Regulators
maximum 4 L/M (+/-15%) (pair)**

FINISH
Pink

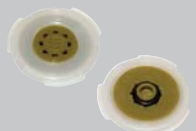
CODE
343201



Water Saving Regulators (pair)

FINISH

FINISH	Pressure	Flow Rate (L/M)	CODE
Olive	(low pressure)	2	467030
Grey	(low pressure)	4	467031
Black	(low pressure)	6	467032
Olive	(high pressure)	2	467033
Grey	(high pressure)	4	467034
Black	(high pressure)	6	467035



**Water Saving Flexi Hose
Regulators (pair)**

FINISH

FINISH	Pressure	Flow Rate (L/M)	CODE
Olive	(high pressure)	2	467036
Grey	(high pressure)	4	467037
Black	(high pressure)	6	467038

SECTION G2

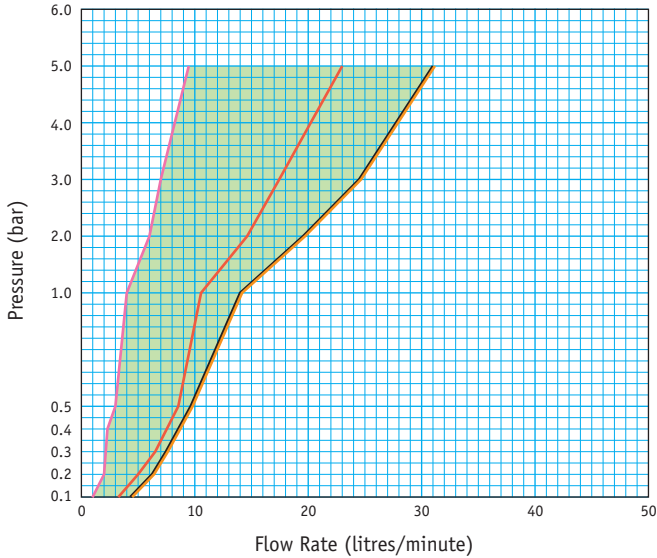
francis
pegler

Water conserving Francis Pegler designer taps, mixers and showers are also available, including the Rossi Eco, the Haze Eco, the Loko Eco and the Pulsar Eco – which incorporate Triple Action Click Cartridges which can reduce mixed flow rates by up to 70%.

More luxurious products, such as the new Mikura, offer a Double Action Click Cartridge which can save up to 50% of water usage.



Standard cartridge against triple action cartridge comparison flow chart



— Standard fully open mixed flow

— 1 click mixed flow

— 2 click mixed flow

— 3 click fully open mixed flow



Pulsar Eco monobloc basin mixer.
CODE: 4G4143

Francis Pegler ECO Mixers and Showers

PRODUCT

Rossi Eco Monobloc Basin Mixer
Pulsar Eco Monobloc Basin Mixer
Loko Eco Monobloc Basin Mixer
Haze Eco Monobloc Basin Mixer

CODE

4G4041
4G4143
4G4067
4G4012

SAFE WATER

Section G3 of Approved Document G 2010 is designed to eliminate the risk of scalding by imposing a maximum water temperature of 48°C on water delivered to the bath. The Scottish Building Regulations also specify a maximum outlet temperature of 48°C for baths.

To achieve this the system design has to take account of the type of hot water generation. For example, hot water cylinders store water at 60°C+ to prevent Legionella, while combination boilers may generate outlet temperatures of between 50°C and 60°C.

In addition, systems should be designed to minimise the length of the supply pipe to the taps or other outlets, again to minimise the risk of Legionella.

For all of these reasons, the recommended solution is to use an in-line Thermostatic Mixing Valve (TMV) that complies with BS EN 1111 and BS EN 1287, or other appropriate device, that cannot be easily altered by the user.

Using TMVs that have been verified by the BuildCert TMV2 Approval Scheme ensures that valves comply with BS EN 1111 and BS EN 1287, and that an additional cold water isolation function has been carried out at 46°C.

Part G also states that the length of the supply pipe between thermostat and outlet should be kept to a minimum (maximum 2 metres) in order to prevent colonisation of waterborne pathogens. If intermittent use of the bath is anticipated, provisions should be made for high temperature flushing to allow for pasteurisation of the pipes and outlet fitting.

KEY FACTS SAFETY

- ◆ A temperature of just 55°C will scald the average adult in 2–6 minutes.
- ◆ The average preferred temperature of bath water is 41.6°C.
- ◆ Around 20 people in the UK die every year from scalds caused by bath water.
- ◆ 75% of fatalities are people aged over 65.
- ◆ Serious bath scald injuries are approximately 700 a year in England and Wales.
- ◆ The Department of Health recommends a maximum bath water temperature of 43°C.



Pegler Yorkshire's water safety products include TMV2 and TMV3 certified In-Line Thermostatic Controllers and the innovative TMV2 Performa T555 Dual Control Thermostatic Bath and Shower Mixer.

PRESTEX

Prestex In-Line Thermostatic Controllers are WRAS approved for sinks, wash basins, baths, bidets, single point showers and hair wash sprays in domestic, public, healthcare, social and commercial hot water systems. Available in 15mm and 22mm sizes, they are supplied at a pre-set temperature of 43°C, and can be adjusted by the installer to a safe and comfortable setting.

Recommended Temperatures

APPLICATION	TEMPERATURE °C
Shower	41°C
Wash Basin	41°C
Bidet	38°C
Bath/Tub	44°C

Detailed instructions for installation, commissioning and maintenance are provided with each product.

Approvals



These products have been certified by WRAS and are audited periodically.



Thermostatic Mixing Valve Manufacturers Association

Who are the TMVA

The Thermostatic Mixing Valve Manufacturers' Association (TMVA) addresses the issues concerned with thermostatic mixing and shower valves. Its aim is to concentrate attention on the safe provision of hot water at the point of use through:

- ◆ Raising awareness of the dangers of scalding.

- ◆ Promoting awareness of TMV benefits in preventing potential scalding.

- ◆ A forum for leading manufacturers to engender continuous product/application development to improve safety.

BuildCert TMV2 Scheme



Certifies Type 2 Thermostatic Mixing Valves for the domestic market. For use in hot water systems in domestic premises and non Healthcare/NHS environments.

- ◆ Complies with EN 1111 : 1999 and EN 1287 : 1999.

BuildCert TMV3 Scheme



Certifies Type 3 Thermostatic Mixing Valves manufactured to meet the highest specification required by the NHS Estates D08 standard for Mixing Valves within healthcare premises in the United Kingdom.

- ◆ Complies with BS 7942.

BuildCert Scheme



Independent third party testing and approval scheme.

PRESTEX



P404UA (with angle valves)
In-Line Thermostatic
Controller.



P402 In-Line Thermostatic Controller.

Prestex Thermostatic Mixing Valves

TMV2	CODE	TMV3	CODE
P404 15mm	5A1105	P402 15mm	5A1101
P404 22mm	5A1106	P402 22mm	5A1102
P404UA 15mm	5A1107	P402UA 15mm	5A1103
P404UA 22mm	5A1108	P402UA 22mm	5A1104
		P402HF3 22mm	5A1007



SOLAR HEATING SYSTEMS

Part G3 also makes special reference to solar thermal systems used in hot water systems, noting that the operating temperature of domestic hot water can exceed 80°C when connected to solar heat collectors. In such cases, provision needs to be made to ensure that the domestic hot water distribution does not exceed 60°C.

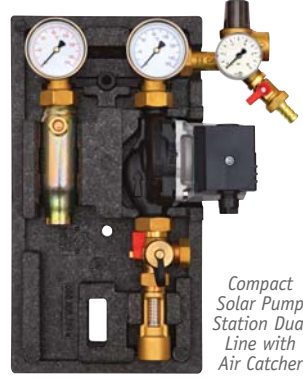
- ◆ Combined collectors and storage systems must comply to BS EN 12976-1:2006.
- ◆ Customising solar thermal systems must comply with performance calculations EN 12977-1:2008.
- ◆ Solar water heating must be used in addition to a further heat source.
- ◆ Components must be temperature rated in accordance to the system requirement.
- ◆ A mixing valve must be installed to ensure that the cylinder does not exceed 80°C.



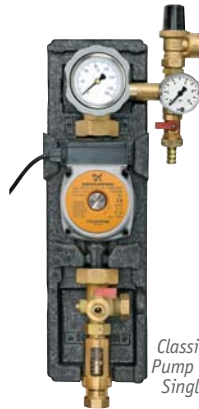
Pegler Yorkshire's Meibes solar pump stations are specifically designed to control the temperature of stored hot water with solar thermal systems. The pump within the unit is activated by a signal from the collector or cylinder to the controller which monitors the differential temperatures.



Compact Solar Pump Station Single Line



Compact Solar Pump Station Dual Line with Air Catcher



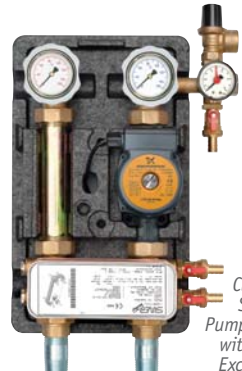
Classic Solar Pump Station Single Line



Classic Solar Pump Station Dual Line with Air Catcher



Classic Solar Pump Station East West




Classic Solar Pump Station with Heat Exchanger



Pegler Yorkshire

SOURCES OF **FURTHER INFORMATION**

 General:

www.pegleryorkshire.co.uk

 Part G2:

www.communities.gov.uk/publications/planningandbuilding/watercalculator

 Part G3:

www.buildcert.com

www.tmva.org.uk

www.hotwaterburnslikefire.org.uk

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