603450

garden tap with anti-freeze safety device

ICECAL®

altecnic
CALEFFI group

603 garden tap with anti-freeze safety device

Introduction

The Altecnic 603450 garden tap with ball isolating valve and anti-freeze safety device prevents ice build-up in domestic water circuits thereby avoiding possible damage in pipes, tanks and irrigation systems.

The Altecnic 603450 combines the anti-freeze safety device with a ball type garden tap specifically for out door applications subject to climatic conditions.

Product Range

Ref No	Description
603450	garden tap - ½" m x ¾" m with hose connector

Construction Details

Component		Material	Grade
Body:	chrome plated	Brass	BS EN 12165 CW617N
Ball:	chrome plated	Brass	BS EN 12164 CW617N
Stem:	chrome plated	Brass	BS EN 12164 CW617N
Sealing elements:		EPDM - PTFE	
Lever:		Stainless steel	
Lever retaining nut:		Stainless steel	

Technical Specification

Medium:	water
Max. working pressure:	10 bar
Ambient temperature range:	-30 to 90˚C
Opening temperature:	3˚C
Closing temperature:	4˚C
Accuracy:	±1˚C
Hose connection for:	15mm pipe

General Installation Advice

The tap must be installed by a qualified technician in accordance with national regulations and/or relevant local requirements.

If the tap is not installed, commissioned and maintained properly, according to the instructions contained in this manual, it may not operate correctly and may endanger the user.

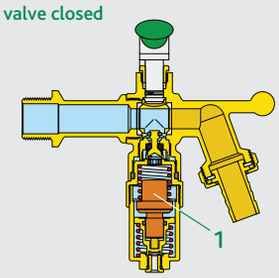
Make sure that all the connecting pipework is watertight.

When making the water connections, make sure that the tap connecting pipework is not mechanically over-stressed. Over time this could cause failure, with consequent water losses which, in turn, could cause harm to property and/or people.

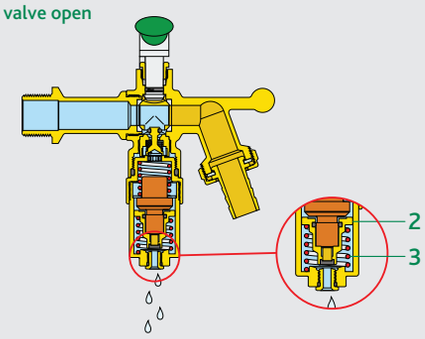
In the case of highly aggressive water, arrangements must be made to treat the water before it enters the tap, in accordance with current legislation otherwise the tap may be damaged and will not operate correctly.

Operating Principles

Anti-freeze valve closed



Anti-freeze valve open



When the temperature of the water in the supply pipe drops below 3˚C, the obturator of the antifreeze device opens and drains off the water. The obturator closes when the medium temperature returns to 4˚C.

When the water temperature is above 3˚C the force from the thermostatic element (1) is sufficient to overcome the force from the spring (3) and the obturator in the spring guide (2) remains closed.

When the water temperature falls below 3˚C the force from thermostatic element becomes less and this allows the spring (3) to force upwards the spring guide (2) and allows water to drain through the passage way at the bottom.

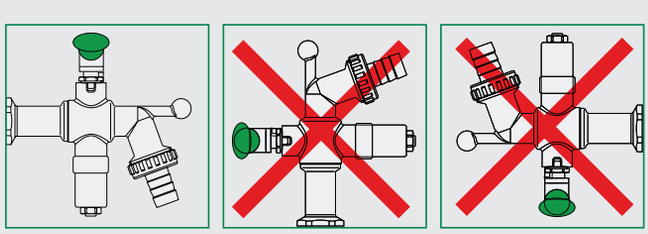
When the water from the supply network reaches the re-closure value of 4˚C, normal circuit operating conditions are restored.

The tap is equipped with a ball valve with an anti blow-out proof stem, double O-ring seal and packing gland.

The operating lever and retaining nut are made from stainless steel, for total resistance against corrosion in different climatic conditions.

For optimal system operation without the risk of freezing, it is vital that the part of the circuit in which the safety device is installed is connected to the water supply network and a suitable pressure level maintained.

Installation



Before installing the tap, make sure that the system has been flushed and cleaned to remove any traces of dirt that may have accumulated during installation.

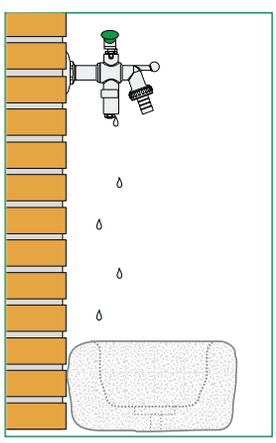
The tap must only be installed in the vertical position, as shown in the diagram, so as to permit a free and unrestricted downward flow of the water as it drains out.

603 garden tap with anti-freeze safety device

Application

P - bar	$T_{external}$ - °C	T_{water} - °C	Approx Drain Volume litres/24h
3	-5	8-9	3
	-10		4
	-20		9
	-30		13

- Never shut-off the iceCal tap upstream (the lack of pressure in the circuit would prevent the anti-freeze function from working, causing it to break).
- If the iceCal is shut-off upstream to prevent water discharge (for periods during which the temperature constantly remains below 0°C), empty the system and leave the tap in its open position.
- Avoid joining to the hose connection any pipe which could result in an obstacle for the water to flow out.
- Make sure that the tap drains into a suitable manhole, designed to prevent stagnation of water.
- To prevent continuous operation in anti-freeze mode, the tap must be fitted against the building, so that it can receive water at a temperature over 5°C once the anti-freeze device has opened.

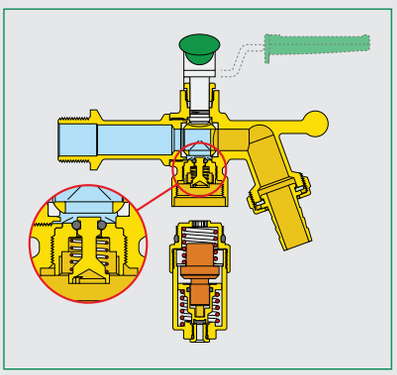


- **Caution: If the anti-freeze tap is positioned at the end of a pipe inside which the water temperature is always under 3°C, the anti-freeze function will always be active. The tap will therefore discharge continuously to prevent the pipe from bursting.**
- Water consumption due to the anti-freeze function depends on the system pressure, outdoor temperature, supply water temperature and the length of the exposed pipe.

Anti-Freeze Unit Replacement

The anti-freeze safety device is pre-assembled and can be replaced if required.

An internal valve automatically shuts the water off during the replacement operation.



Backflow Prevention

When installing the tap on a drinking water system, the garden tap must be installed in accordance with current regulations relating to anti-pollution protection, as specified by standard BS EN 1717.

The tap may be connected to a garden hose and the water contained within the hose may come into contact with hazardous substances.

A suitable backflow preventer, double check valve or vacuum breaker valve should be selected and fitted in accordance the with type of use and the corresponding hazard level.

Altecnic Ltd Mustang Drive, Stafford, Staffordshire ST16 1GW
T: +44 (0)1785 218200 E: sales@altecnic.co.uk
Registered in England No: 02095101
altecnic.co.uk

AL 492 14-08-23
E & O.E

altecnic
CALEFFI group