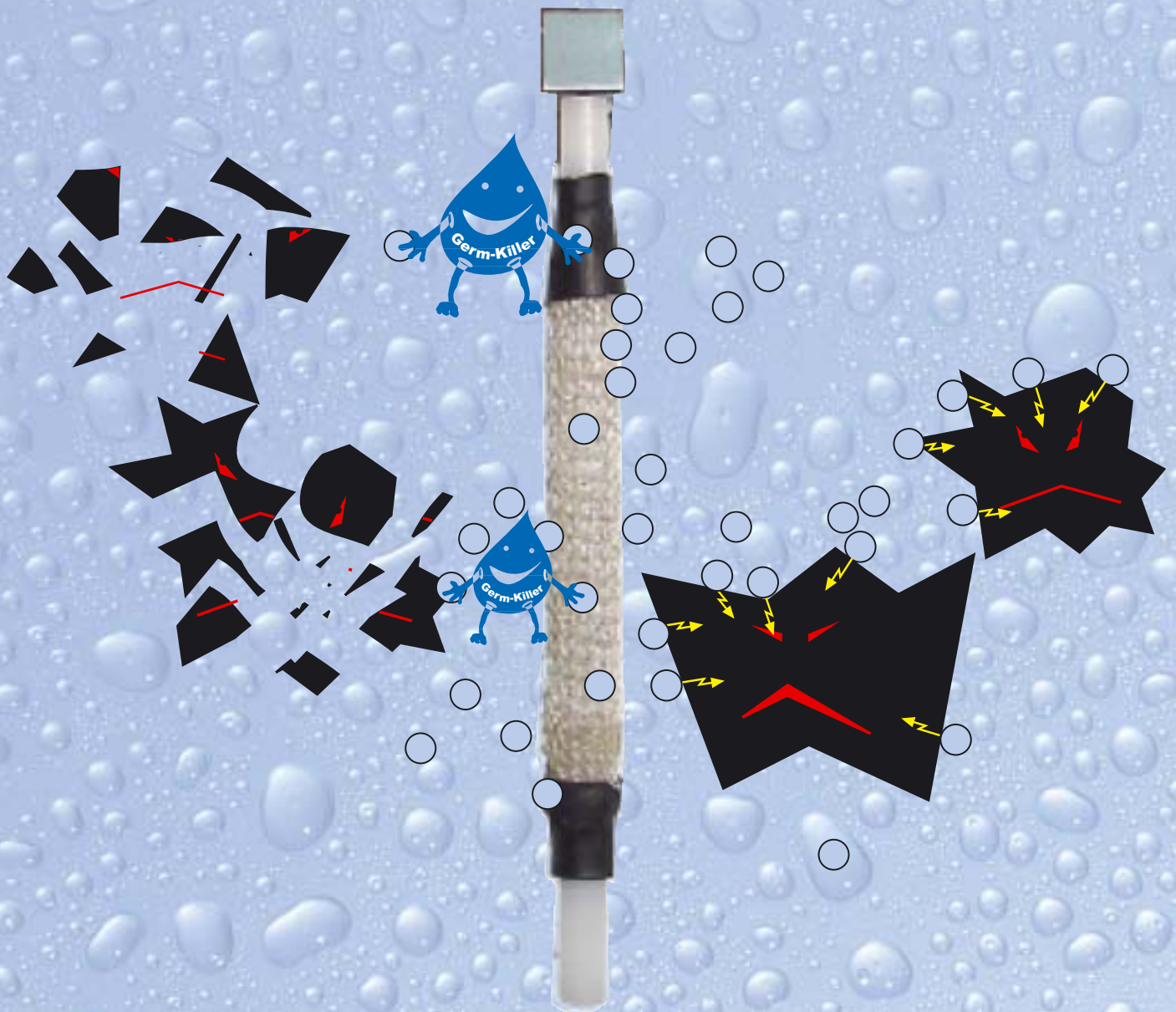
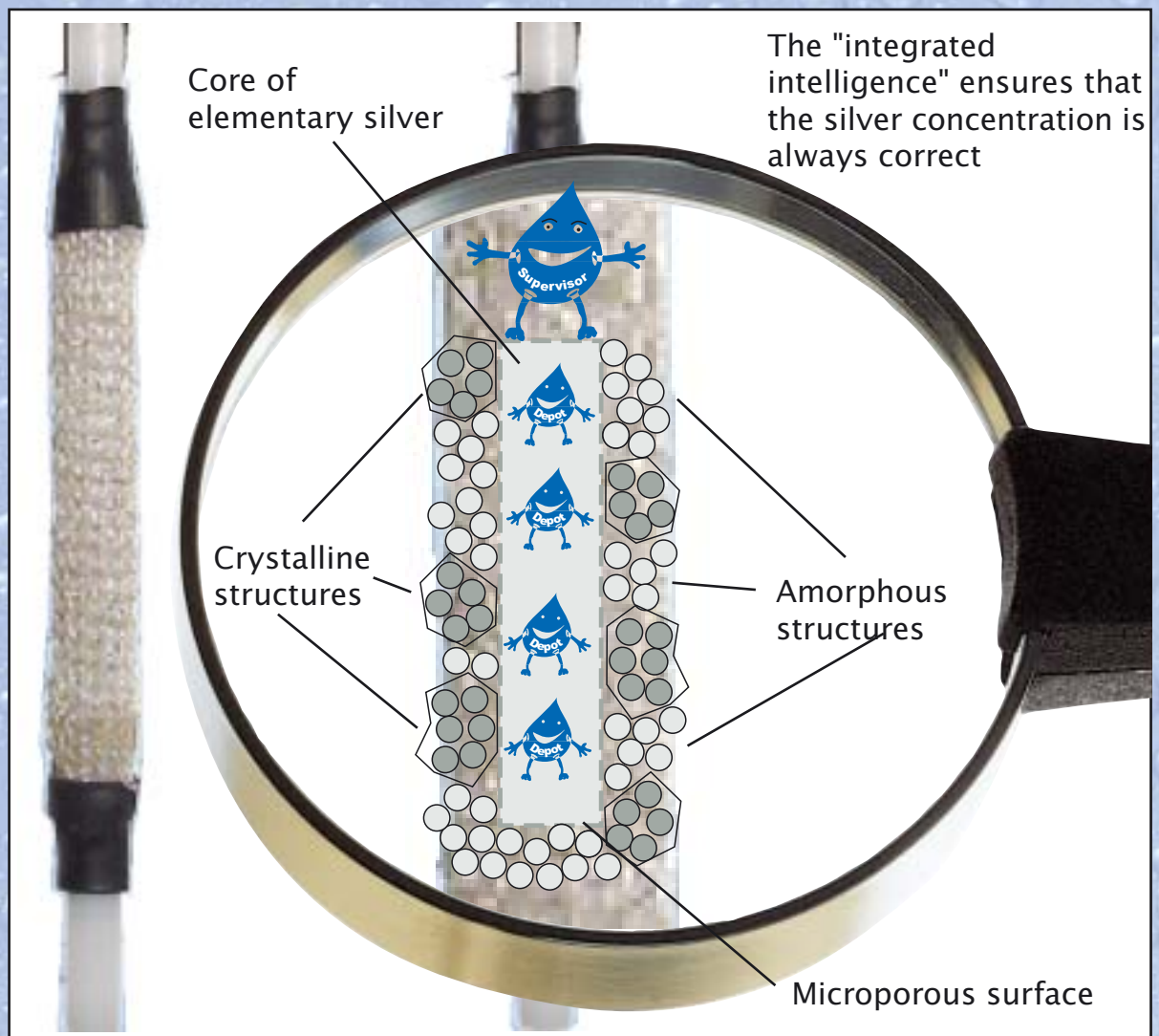


# How does the **Ionic Silver Stick** work



# The structure of the Ionic Silver Stick

The Ionic Silver Stick: the antiseptic tissue of the ISS consists of a silver core and a nanostructured surface. The partly amorphous, or crystalline, microporous surface guarantees the unique and permanent effect of the Ionic Silver Stick.



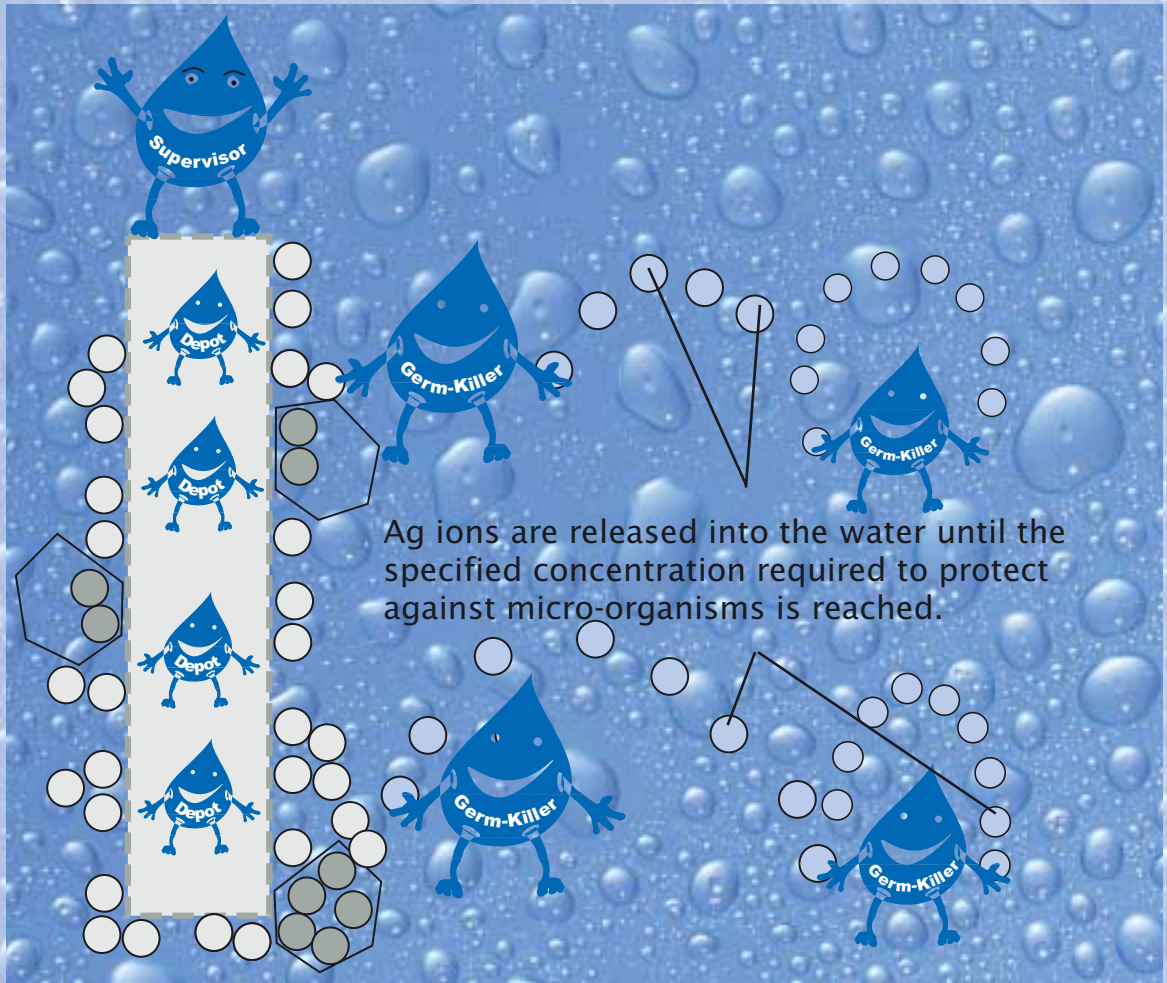
Not visible externally: the special surface of the Ionic Silver Stick can only be seen using the scanning electron microscope.

The Ionic Silver Stick does not require power to work. The ISS starts working as soon as it comes into contact with water and keeps the water germ-free – even if the equipment is switched off.



# Rapid, durable protection

When contact is made with water, the silver ions separate quickly and uniformly until the necessary concentration in the water is reached. The intelligent surface of the Ionic Silver Stick recognises the actual concentration and releases Ag ions until the specified concentration is reached. The specified concentration is defined during manufacture and is based on legal limit values.



The Ag ions in the water exert counterpressure on the surface of the Ionic Silver Stick. The higher the concentration, the higher the pressure – and the harder it is for the Ag ions on the surface of the Ionic Silver Stick to dissolve.

Above a certain concentration, no further Ag ions can dissolve. Only when dissolved Ag ions are used up does the pressure drop again, allowing the dissolution process to re-start.

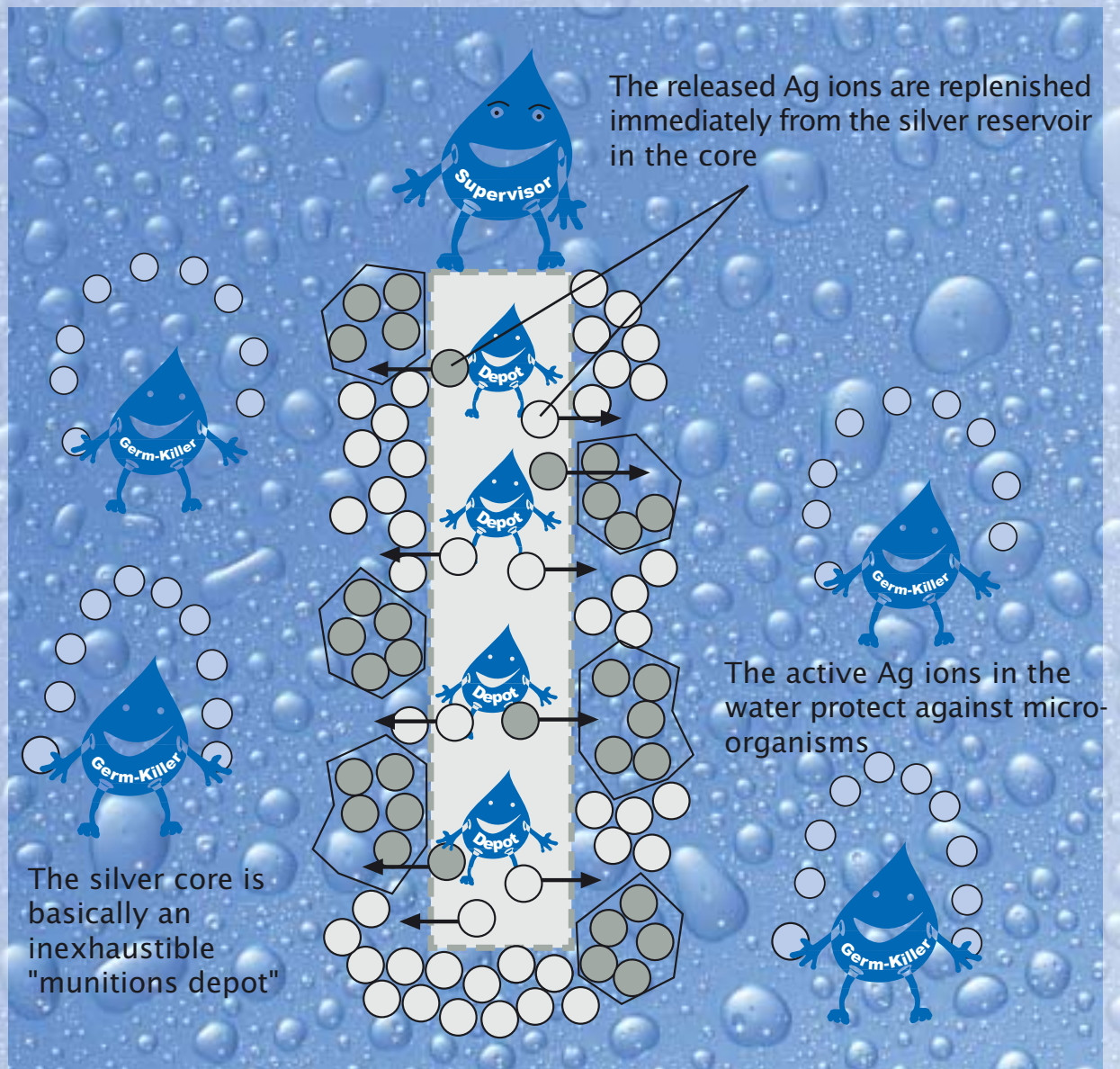
The absolute value of this "pressure" is stipulated during the Ionic Silver Stick manufacture and defined on the basis of the chemical composition and the amorphous/crystalline ratio.



# Intelligent self-renewal

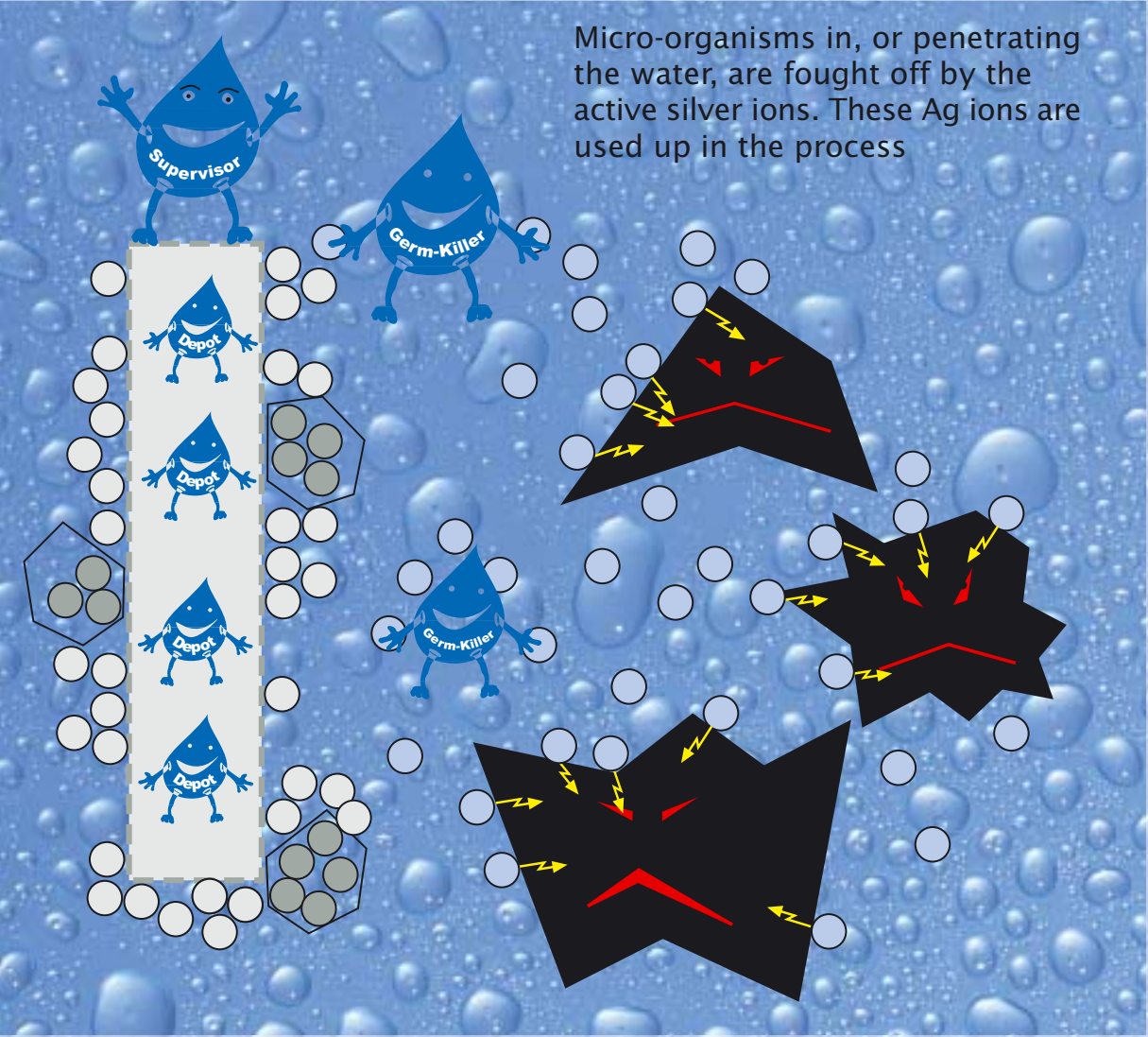
The silver ions released from the surface are replenished from the depot in the interior. The surface is therefore always 'new'. The long-lasting, safe effect of the Ionic Silver Stick is achieved by means of this – almost inexhaustible – reservoir.

The nanostructure of the Ionic Silver Stick surface ensures that the 'renewal' is limited to the surface and does not creep into the core. If this were to happen, the entire self-control and renewal mechanism would fail.



# Defence against micro-organisms

Bacteria, viruses and fungi in the water are destroyed by the silver ions. This process uses up silver ions.



This consumption causes the Ag ion concentration to fall, "pressure" drops and Ag ions can now be released into the water from the Ionic Silver Stick surface.



# Defence against micro-organisms

To guarantee a sufficient supply of silver ions to fight the micro-organisms, a constant supply of ions is provided by the core. The surface is therefore always as active as it was when new.

