

HL2024 Constant Flow Solutions

Optimal flow regulation for (drinking) water systems



HL2024 reduces temperature fluctuations in mixer taps

Temperature fluctuations in (thermostatic and regular) mixer taps are a nuisance, or sometimes even dangerous. This is a common complaint. These temperature fluctuations are mostly caused by pressure fluctuations in the system, whereby mixer taps are unable to keep the temperature of the outgoing flow constant. HL2024 pressure independent flow regulators on the inlets to the mixer tap keep the outgoing flow temperature much steadier.



*HL2024 Mixer Regulator 3/4" with integrated
HL2024 Constant Flow Regulator, installed*



How does it work?

The heart of HL2024 flow regulators is the patented HL2024 technology. HL2024 ensures a genuinely constant flow despite pressure fluctuations. Having an HL2024 on the intakes of the mixer tap (hot and cold) means that pressure fluctuations in the system have much less effect on the mixer tap. This optimises how the thermostatic mixer tap functions, making the outgoing flow temperature much more constant. In addition, the outgoing flow from normal mixer taps can be kept at a much steadier temperature too. HL2024 has two applications for this:

HL2024 S-Connection (replaces an S-connector)
HL2024 Mixer Regulator (see image)

HL2024 characteristics

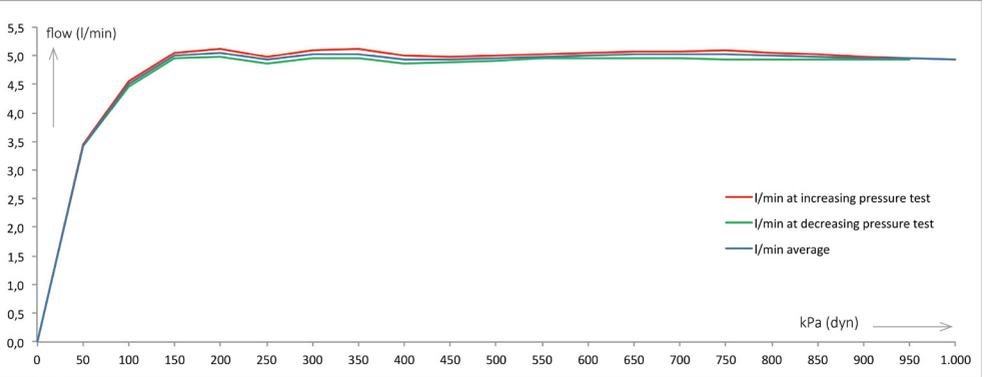
- Pressure independent (2% from 200-1000 kPa/dyn.)
- Only flow regulator KIWA-certified for pressure independence (BRL K635/03)
- Always constant flow rate regardless of upward or downward pressure fluctuations
- Responds quickly and accurately; this is important for a constant outflow temperature
- Meets legal requirements for Kiwa Watermark (use of materials)
- Meets primary European drinking water certifications
- Wide temperature range
- Maximises draw-off at draw-off points
- Works immediately; no fine-tuning required

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HL2024: pressure independent flow regulation



Graph: operation of the HL2024 pressure-independent flow regulator (version: 5.0 l/min)

HL2024 is unique because it really keeps the flow rate constant at both increasing and decreasing dynamic pressure. In this way, HL2024 meets a primary KIWA requirement for pressure independence. HL2024 barely limits the flow before the flow rate reaches the effective pressure. This is important to comfort at low pressure (first part of the graph).

Even at small pressure changes

The ST-35 study by TVVL / UNETO-VNI (both Dutch organisations) has demonstrated that even small pressure fluctuations in the system lead to noticeable temperature variations at thermostatic mixers. The study shows that also in case of these small pressure changes, pressure independent flow regulation at the inlets of thermostatic mixers leads to significantly reduced temperature variations, which leads to a more comfortable and safer shower.

This is because pressure independent flow regulators (HL2024) significantly reduce the effects of pressure fluctuations in the system, so the thermostatic valve can operate optimally.



HL2024 Constant Flow Regulator (skeleton-view)

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