

Table 1.10 Comments and action levels in response to legionella analysis results

Legionella cfu/litre	Comments and action required
Not detected or up to 100	'Not detected' does not mean 'not present' or that there is no risk. Focus on maintaining control measures, particularly keeping the general aerobic count (Table 1.9) less than 1×10^4 cfu/ml
>100 and up to 1000	Low-level legionella count detected. This may be a sporadic result or could indicate a persistent problem (Table 1.2). Reassess the control programme and the general aerobic count (Table 1.9). Ensure the water treatment system is operating correctly. Adjust the biocide dosage if the general aerobic count does not indicate good control (less than 1×10^4 cfu/ml). Resample to verify the initial result and then again to check that remedial actions are effective
>1000 or persistent low-level results	Immediate action required. Resample and as a precautionary measure shut down the water system with an appropriate biocide or increase the level of continuous dosage of biocide. Reassess the entire control programme and take any corrective actions. Resample the system to verify the count and to determine the effectiveness of the corrective action, resample again within 48 hours. If the high legionella counts persist, review the risk assessment to identify further remedial actions
Once the water system is colonised with legionella, it may prove extremely difficult to reduce numbers to undetectable levels and periodic positive legionella results may recur. Under such circumstances steps should be taken to make sure the risk assessment reflects this and control measures should be devised to ensure that, although likely to be present at low levels, legionella cannot multiply to dangerous levels	

Info box 1.6: Key terms used in a water treatment service report

It is convention to express hardness and alkalinity results as 'mg/l CaCO₃' (calcium carbonate) to simplify comparison and conversion between the parameters. Other component parameters of the water are expressed simply as mg/l or ppm (parts per million).

Total hardness is the sum of calcium and magnesium hardness, which if inadequately controlled will lead to scale formation.

Calcium hardness strongly influences the scaling and corrosive tendencies of the water.

M alkalinity (sometimes called total alkalinity) influences the scaling and corrosive tendencies of the water.

pH influences scaling and corrosive tendencies and the performance of both biocides and inhibitors.

Conductivity is an indicator of the overall mineral content of the water and its value is often used to set the cooling system bleed level.