



Water Quality – Steam Boilers (0.5 – 20 bar)

To maintain the installation in good condition, it is important that the water used is of high quality. The standard is the use of tap water in accordance with the EU drinking water directive. Below are the guidelines for feedwater and boiler water.

Feed water

- ▶ Total hardness: < 0.1 dH
- ▶ pH value: > 9.2
- ▶ Oil/fat content: < 1 mg/l
- ▶ Bound CO₂: < 25 mg/l
- ▶ Free CO₂: almost none
- ▶ Iron (Fe): < 0.05 mg/l
- ▶ Copper (Cu): < 0.05 mg/l
- ▶ Oxygen (O₂): < 0.1 mg/l
- ▶ Sillica content SiO₂
 - Alkalinity 0.5 mmol/l → SiO₂ < 80 mg/l
 - Alkalinity 5 mmol/l → SiO₂ < 105 mg/l
 - Alkalinity 10 mmol/l → SiO₂ < 135 mg/l
 - Alkalinity 15 mmol/l → SiO₂ < 160 mg/l
- ▶ Appearance: clear, colourless, odourless, free of solid particles
- ▶ Oil: < 1 mg/l
- ▶ KMnO₄ consumption: < 10

Boiler Water

- ▶ Total hardness: < 0.1 dH
- ▶ Alkalinity: 1 – 15 mmol/l
- ▶ Conductivity at 25°C: < 6000 µS/cm
- ▶ pH at 25°C: 10.5 – 12
- ▶ Phosphate (PO₄): 10 – 30 mg/l
- ▶ Sillica content SiO₂
 - Alkalinity 0.5 mmol/l → SiO₂ < 80 mg/l
 - Alkalinity 5 mmol/l → SiO₂ < 105 mg/l
 - Alkalinity 10 mmol/l → SiO₂ < 135 mg/l
 - Alkalinity 15 mmol/l → SiO₂ < 160 mg/l
- ▶ Appearance: free of sludge, colourless, odourless, little or no tendency to foam
- ▶ Oxygen binding: Sulfite: 30–60 mg SO₃/l, or alternative organic oxygen binders – reference values to be provided by the water treatment company

