

Water quality

Plate heat exchanger			Copper	Stainless steel
el. conductivity [$\mu\text{S}/\text{cm}$]	1.)	> 600	--	+
pH-value	1.)	< 6	0	0
		6 - 8	+	+
		> 8	--	0
Chloride [mg/l]	1.)	< 10	+	+
		10 - 100	+	+
		100 - 200	0	+
		> 200	--	--
Sulphate [mg/l]	1.)	< 50	+	+
		50 - 100	0	+
		> 100	--	0
carbon dioxide [mg/l] (free aggressive)	1.)	< 5	+	+
		5 - 20	0	+
		> 20	--	0
Oxygen [mg/l]	1.)	< 1	+	+
		1 - 8	0	+
		> 8	--	+
Ammonium [mg/l]	1.)	< 2	+	+
		2 - 20	0	+
		> 20	--	+
Iron with manganese [mg/l]	2.)	> 0,2	-	-
Manganese [mg/l]	2.)	> 0,05	-	-
Sulfide [mg/l]	1.)	< 5	+	+
Chlorine (free) [mg/l]	1.)	< 0,5	+	+

NOTES:

+ = Construction material is usually resistant
 0 = Corrosion can occur when multiple factors are give a „0“ rating
 -- = Implementation is discouraged
 Range of operation heat source temp.: +8 to +22 °C

- 1.) Take the limiting values for copper and/or stainless steel soldered heat exchangers into consideration.
- 2.) Due to probable clogging, we do not recommend installing a water/water heat pump.
- 3.) Besides iron and manganese, the chloride concentration is essentially decisive for the deployment of a stainless steel soldered heat exchanger.

Pointer:

A water analysis can only be a momentary value. These can fluctuate considerably in the course of a year. We recommend for borderline cases that the water quality testing be repeated regularly.

Water quality

Plate heat exchanger			Copper	Stainless steel
el. conductivity [$\mu\text{S}/\text{cm}$]	1.)	> 600	--	+
pH-value	1.)	< 6	0	0
		6 - 8	+	+
		> 8	--	0
Chloride [mg/l]	1.)	< 10	+	+
		10 - 100	+	+
		100 - 200	0	+
		> 200	--	--
Sulphate [mg/l]	1.)	< 50	+	+
		50 - 100	0	+
		> 100	--	0
carbon dioxide [mg/l] (free aggressive)	1.)	< 5	+	+
		5 - 20	0	+
		> 20	--	0
Oxygen [mg/l]	1.)	< 1	+	+
		1 - 8	0	+
		> 8	--	+
Ammonium [mg/l]	1.)	< 2	+	+
		2 - 20	0	+
		> 20	--	+
Iron with manganese [mg/l]	2.)	> 0,2	-	-
Manganese [mg/l]	2.)	> 0,05	-	-
Sulfide [mg/l]	1.)	< 5	+	+
Chlorine (free) [mg/l]	1.)	< 0,5	+	+

NOTES:

+ = Construction material is usually resistant
 0 = Corrosion can occur when multiple factors are give a „0“ rating
 -- = Implementation is discouraged
 Range of operation heat source temp.: +8 to +22 °C

- 1.) Take the limiting values for copper and/or stainless steel soldered heat exchangers into consideration.
- 2.) Due to probable clogging, we do not recommend installing a water/water heat pump.
- 3.) Besides iron and manganese, the chloride concentration is essentially decisive for the deployment of a stainless steel soldered heat exchanger.

Pointer:

A water analysis can only be a momentary value. These can fluctuate considerably in the course of a year. We recommend for borderline cases that the water quality testing be repeated regularly.