

Installation guide

BPHE-MPHE Corrosion guide

Brazed Plate Heat Exchanger; Corrosion guide

Valid for water at 20°C

Content		Concentration mg/l or ppm	Material	
			AISI 316L	Copper
pH		<6		
		6-7,5		
		7,5 - 9		
		>9		
Alcalinity	HCO_3^-	<70		
		70 - 300		
		>300		
Sulphate	SO_4^{2-}	<70		
		70 - 300		
		>300		
Alcalinity/Sulphate	$\text{HCO}_3^-/\text{SO}_4^{2-}$	>1		
		<1		
Electrical conductivity	$\mu\text{S}/\text{cm}$	<10		
		10 - 500		
		>500		
Ammonium	NH_4	<2		
		2 - 20		
		>20		
Free chlorine	Cl_2	<1		
		1-5		
		>5		
Hydrogen sulfide	H_2S	<0,05		
		>0,05		
Free carbon dioxide (aggressive)	CO_2	<5		
		5 - 20		
		>20		
Nitrate	NO_3^-	<100		
		>100		
Iron	Fe	<0,2		
		>0,2		
Aluminium	Al	<0,2		
		>0,2		
Manganese	Mn	<0,1		
		>0,1		

Chloride content (Cl ⁻)	Maximum temperature			
	60°C	80°C	120°C	130°C
≤ 10 ppm	AISI 304L	AISI 304L	AISI 304L	AISI 316L
≤ 25 ppm	AISI 304L	AISI 304L	AISI 316L	AISI 316L
≤ 50 ppm	AISI 304L	AISI 316L	AISI 316L	Ti/SMO 254
≤ 80 ppm	AISI 316L	AISI 316L	AISI 316L	Ti/SMO 254
≤ 150 ppm	AISI 316L	AISI 316L	Ti/SMO 254	Ti/SMO 254
≤ 300 ppm	AISI 316L	Ti/SMO 254	Ti/SMO 254	Ti/SMO 254
> 300 ppm	Ti/SMO 254	Ti/SMO 254	Ti/SMO 254	Ti/SMO 254

	Good resistance
	Corrosion may occur when more factors are yellow
	Not recommended to use BPHE/MPHE

 **Note:** It is important to point out that this water specification is not a guarantee against corrosion, but must be considered as a tool to avoid the most critical water applications.