



## Calculation sheet of wide gap welded plate heat exchanger

Technical calculation		Cold side(Tube side)		Hot side(Plate side)	
Material name		Cooling Water		Hydrate Slurry	
Mass flow	m <sup>3</sup> /h	250.0		250.0	
Heat load		KW		2807	
Temperature	in → out	°C		35.0 → 44.76	
media type		liquid	liquid	liquid	liquid
density	kg /m <sup>3</sup>	993.0		1720.0	
specific heat	KJ/kg.K	4.1868		2.35	
thermal conductivity	W/m.K	0.64		0.75	
dynamic viscosity	Cp	0.7		7.0	
K-value	W/m <sup>2</sup> .K	1136			
Excess surface	%	34.3			
Pressure drop	MPa	0.045		0.10	
Design result					
Product type		LHKD1.0/105-252-W			
Design pressure	MPa	1.0			
Test pressure	MPa	1.3			
Design temperature	min/max	°C			
surface	m <sup>2</sup>	-10.0/105.0			
Channel gap	mm	252			
Shell material (wet part)		8.0		12.0	
Plate material/plate thickness	mm	304		304	
Connection normal diameter /pressure class		Duplex steel / 2.0			
Flange standard		10□/150#		10□/150#	
		ASME B16.5		ASME B16.5	

**European rep. office of SHPHE:**

GP SERVICES - Equipment & solutions for mining & minerals  
 French Head Office : 455 rue du colonel de Casteljaou. 39000 LONS LE SAUNIER. FRANCE  
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Material name		Cooling Water		Hydrate Slurry	
Mass flow	m <sup>3</sup> /h	250.0		250.0	
Heat load		KW		2807	
Temperature	in → out	°C	35.0 → 44.76	56.0 → 46.0	
media type		liquid	liquid	liquid	liquid
density	kg /m <sup>3</sup>	993.0		1720.0	
specific heat	KJ/kg.K	4.1868		2.35	
thermal conductivity	W/m.K	0.64		0.75	
dynamic viscosity	Cp	0.7		7.0	
K-value	W/m <sup>2</sup> .K	1136			
Excess surface	%	15.6			
Pressure drop	MPa	0.045		0.100	
Design result					
Product type		LHKD1.0/90-252-W			
Design pressure	MPa	1.0			
Test pressure	MPa	1.3			
Design temperature	min/max	°C -10.0/105.0			
surface	m <sup>2</sup>	252			
Channel gap	mm	8.0		12.0	
Shell material (wet part)		304		304	
Plate material/plate thickness	mm	Duplex steel / 2.0			
Connection normal diameter /pressure class		10□/150#		10□/150#	
Flange standard		ASME B16.5		ASME B16.5	

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