



**EVAPTON**  
HEAT EXCHANGER

Customer -  
Attention -  
Project Nbr. -  
Date 24.04.2024  
Description

### Exchanger data

Capacity	584,76	kW
Exchanging Surface	25,98	m <sup>2</sup>
Global heat transfer coefficient	3576	W/(m <sup>2</sup> K)
DTML	6,29	°C

### Inside Tubes Evaporator

#### TUBE SIDE

Refrigerant	R407C	
Fluid mass flow rate / Fluid Velocity	13276,7 / 19,48	kg/h / m/s
Evap. / Cond. temperature	2,00 - [Middle] / 45,00 - [Bubble]	°C / °C
Pressure drop	37,78	kPa
Evaporating latent heat	151661	J / kg
Partial heat transfert coefficient	11086	W/(m <sup>2</sup> K)
Fouling Factor	0,0000000	(m <sup>2</sup> K)/W
Thermophysical properties	LIQUID	GAS
Density	1229 kg/m <sup>3</sup>	21,076 kg/m <sup>3</sup>
Specific Heat	1423,5 J/(kg K)	968,3 J/(kg K)
Thermal Conductivity	0,09526 W/(m K)	0,012218 W/(m K)
Viscosity	0,00020554 kg/(m s)	0,000011343 kg/(m s)

#### SHELL SIDE

Fluid	WATER (1,000 bar A/Liquid) - P8	
Fluid Flow / Fluid Velocity	96,0 / 0,00	m <sup>3</sup> /h / m/s
Inlet / Outlet temperature	12,00 / 6,77	°C / °C
Pressure drop	77,21	kPa
Partial heat transfert coefficient	8203	W/(m <sup>2</sup> K)
Fouling Factor	0,0000430	(m <sup>2</sup> K)/W
Thermophysical properties at the average temperature	9,39	°C
Density	999,7	kg/m <sup>3</sup>
Specific Heat	4196	J/(kg K)
Thermal Conductivity	0,5777	W/(m K)
Viscosity	0,001325	kg/(m s)

### Exchanger data

Nr of exchangers	1	
Tubes Length	2480	mm
Shell diameter	314	mm
Shell inlet/outlet nozzle	1 x 5" (141,2 mm th. 6,45 mm) / 5" (141,2 mm th. 6,45 mm)	
Tubes inlet/outlet nozzle	2 x 1,25" (42,2 mm th. 3,55 mm) / 5" (141,2 mm th. 6,45 mm)	

UNILAB SHELL - 220420