

Specification sheet

Project: HEX 13 - BOILER & POOL

Date: 20/05/2020

Contact:

Direct Line:

Plate & Frame Heat Exchanger

Version: 1.08.6.9

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|--------------|--------------------------|
| Item: | Unit: K042-13-1-N |
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| <u>Technical data per HX</u> | | Hot side | | Cold side | |
|------------------------------|---------|--------------|--|--------------|--------|
| Fluid | | Water | | Water | |
| Mass flow rate | [kg/s] | 0.60 | | [kg/s] | 0.80 |
| Volume flow rate | [l/min] | 36.820 | | [l/min] | 48.241 |
| Inlet temperature | [°C] | 80.00 | | [°C] | 28.00 |
| Outlet temperature | [°C] | 60.00 | | [°C] | 43.00 |
| Operating pressure | [barg] | 0.00 | | [barg] | 0.00 |

| Physical properties | | In | Out | In | Out |
|----------------------------|----------|-------|-------|-------|-------|
| Dynamic viscosity | [cP] | 0.354 | 0.468 | 0.830 | 0.620 |
| Density | [kg/m³] | 970.8 | 981.4 | 994.7 | 989.0 |
| Specific heat capacity | [kJ/kgK] | 4.178 | 4.173 | 4.184 | 4.176 |
| Thermal conductivity | [W/mK] | 0.653 | 0.645 | 0.628 | 0.637 |

P.H.E characteristic values

| | | | | | |
|---------------------------------------|---------|---------------|------|-------|-------------|
| Heat duty | [kW] | 50.00 | | | |
| Eff. heat transfer area | [m²] | 0.45 | | | |
| Log./Effective temperature difference | [K] | 34.44 / 34.44 | | | |
| Heat transfer coefficient reqd./act. | [W/m²K] | 3198 / 6855 | | | |
| Fouling factor | [m²K/W] | 0.0001668 | | | |
| Overdesign | [%] | 114.35 | | | |
| Pressure loss | [kPa] | 15.373 | | [kPa] | 27.471 |
| Channel Velocity | [m/s] | 0.39 / 0.39 | | [m/s] | 0.52 / 0.52 |
| Connection Velocity | [m/s] | 0.68 | | [m/s] | 0.89 |
| No. of passes in series | | 1 | | | 1 |
| Mix of Channeltype | | | 13 | | |
| Mix of Channeltyp | | | 6*HH | | |

Construction

| | | | | | |
|--------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|--|--|-------|
| Weight Dry/Wet | [kg] | approx. 31/32 | | | |
| Volume | [dm³] | 0.594 | | | 0.594 |
| Design pressure | [barg] | 10.0 | | | |
| Max. working temperature | [°C] | 110.00 | | | |
| Material | DIN | | | | |
| Plates | 1.4404 (0.50 mm) | | | | |
| Gaskets | NBR | | | | |
| Frame | S 355 J2+N (Pressure Plates), max. no. of plates: 14, Extensibility 8% | | | | |
| Painting | C2, RAL 5002 Standard, <= 150°C, | | | | |
| Connection | Hot side | F1 => F4 : Threaded pipe, male, DN 32, Stainless steel, G 1 1/4" | | | |
| | Cold side | F3 => F2 : Threaded pipe, male, DN 32, Stainless steel, G 1 1/4" | | | |
| Design Code: | AD-2000 | | | | |
| Inspection Code: | PED 97/23/EC | | | | |

Remark

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