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| Coolselector2 | | | | | | |  | | | | | | | | | | | | | | | | | | | | |  | | | | | |
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| Project information | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | Project name: | | | | | | |  | Evaporator 4 | | | | | | | | | | | | | | | | | | | | | | | |  |
| Comments: | | | | | | |  |  | | | | | | | | | | | | | | | | | | | | | | | |  |
| Created by: | | | | | | |  |  | | | | | | | | | | | | | | | | | | | | | | | |  |
| Coolselector2 version: | | | | | | |  | 3.7.1. Database: 52.52.2.23.8.33 | | | | | | | | | | | | | | | | | | | | | | | |  |
| Printed: | | | | | | |  | Tuesday, February 4, 2020 | | | | | | | | | | | | | | | | | | | | | | | |  |
| Preferences used: | | | | | | |  | All applications | | | | | | | | | | | | | | | | | | | | | | | |  |
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| Evap. 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating conditions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | Refrigerant: | | | | | | | | | |  | R134a | | |  | |  | | |  | | Cooling capacity: | | | | | | |  | 14.60 |  | kW |  |
| Mass flow in line: | | | | | | | | | |  | 0.1113 | | |  | | kg/s | | |  | | Heating capacity: | | | | | | |  | 20.03 |  | kW |  |
| Evaporating temperature: | | | | | | | | | |  | -4.0 | | |  | | °C | | |  | | Condensing temperature: | | | | | | |  | 50.0 |  | °C |  |
| Evaporating pressure: | | | | | | | | | |  | 2.527 | | |  | | bar | | |  | | Condensing pressure: | | | | | | |  | 13.17 |  | bar |  |
| Useful superheat: | | | | | | | | | |  | 5.0 | | |  | | K | | |  | | Subcooling: | | | | | | |  | 2.0 |  | K |  |
| Additional superheat: | | | | | | | | | |  | 0 | | |  | | K | | |  | | Additional subcooling: | | | | | | |  | 0 |  | K |  |
| Discharge temperature: | | | | | | | | | |  | 71.3 | | |  | | °C | | |  | | | | | | | | | | | | | |
| System and line: | | | |  | Dry - Suction line | | | | | | | | | | | | | | | | | | | | | | | | | | |  |
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| Line total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | Pressure drop | | | | | | | | | | | |  | 0.382 | |  | | bar | |  | | | | | | | | | | | | | |
| Saturation temperature drop | | | | | | | | | | | |  | 4.3 | |  | | K | |  | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Position 1. Piping: Copper pipe DIN-EN 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | Length | | | | | | | | | | | | | | |  | | 0.10 | |  | m |  | | | | | | | | |
|  | |  |  | |  |  | | | | | | | | |
|  | Angle | | | | | | | | | | | | | | |  | | 0 | |  | deg |  | | | | | | | | |
|  | Pressure drop | | | | | | | | | | | | | | |  | | 0.000 | |  | bar |  | | | | | | | | |
|  |  | |  | |  |  | | | | | | | | |
|  | | | Saturation temperature drop | | | | | | | | | | | | | | |  | | 0.0 | |  | K |  | | | | | | | | |
|  | | | Velocity, in | | | | | | | | | | | | | | |  | | 11.32 | |  | m/s |  | | | | | | | | |
|  | | | Connection | | | | | | | | | | | | | | |  | | OK | |  |  |  | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Coolselector2 | | | | |  | | | | | | |  |
|  | | | | | | | | | | | | |
| Position 2. Control valve: KVP 35 | | | | | | | | | | | | |
|  |  | | | Offset | |  | 1.456 |  | bar |  | | |
|  | |  |  |  |  | | |
|  | Pressure drop | |  | 0.357 |  | bar |  | | |
|  | Saturation temperature drop | |  | 4.0 |  | K |  | | |
|  |  | |  |  |  | | |
|  | | | Velocity, in | |  | 11.32 |  | m/s |  | | |
|  | | | Valve state | |  | Open |  |  |  | | |
|  | | | Connection | |  | OK |  |  |  | | |
|  |  | | | | | | | | | | |
|  | | | | | | | | | | | | |
| Position 3. Piping: Copper pipe DIN-EN 35 | | | | | | | | | | | | |
|  |  | | | Length | |  | 0.17 |  | m |  | | |
|  | |  |  |  |  | | |
|  | Angle | |  | 0 |  | deg |  | | |
|  | Pressure drop | |  | 0.001 |  | bar |  | | |
|  |  | |  |  |  | | |
|  | | | Saturation temperature drop | |  | 0.0 |  | K |  | | |
|  | | | Velocity, in | |  | 13.28 |  | m/s |  | | |
|  | | | Connection | |  | OK |  |  |  | | |
|  |  | | | | | | | | | | |
|  | | | | | | | | | | | | |
| Position 4. Piping: Copper bend 90 DIN-EN 35 | | | | | | | | | | | | |
|  |  | | | Number | |  | 1 |  |  |  | | |
|  | |  |  |  |  | | |
|  | Pressure drop | |  | 0.002 |  | bar |  | | |
|  | Saturation temperature drop | |  | 0.0 |  | K |  | | |
|  |  | |  |  |  | | |
|  | | | Velocity, in | |  | 12.49 |  | m/s |  | | |
|  | | | Connection | |  | OK |  |  |  | | |
|  |  | | | | | | | | | | |
|  | | | | | | | | | | | | |
| Position 5. Piping: Copper pipe DIN-EN 35 | | | | | | | | | | | | |
|  |  | | | Length | |  | 1.80 |  | m |  | | |
|  | |  |  |  |  | | |
|  | Angle | |  | 0 |  | deg |  | | |
|  | Pressure drop | |  | 0.007 |  | bar |  | | |
|  |  | |  |  |  | | |
|  | | | Saturation temperature drop | |  | 0.1 |  | K |  | | |
|  | | | Velocity, in | |  | 13.30 |  | m/s |  | | |
|  | | | Connection | |  | OK |  |  |  | | |
|  |  | | | | | | | | | | |
|  | | | | | | | | | | | | |
| Position 6. Piping: Copper bend 90 DIN-EN 35 | | | | | | | | | | | | |
|  |  | | | Number | |  | 1 |  |  |  | | |
|  | |  |  |  |  | | |
|  | Pressure drop | |  | 0.002 |  | bar |  | | |
|  | Saturation temperature drop | |  | 0.0 |  | K |  | | |
|  |  | |  |  |  | | |
|  | | | Velocity, in | |  | 12.55 |  | m/s |  | | |
|  | | | Connection | |  | OK |  |  |  | | |
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| Coolselector2 | | | | |  | | | | | | |  |
|  | | | | | | | | | | | | |
| Position 7. Piping: Copper pipe DIN-EN 35 | | | | | | | | | | | | |
|  |  | | | Length | |  | 3.17 |  | m |  | | |
|  | |  |  |  |  | | |
|  | Angle | |  | 0 |  | deg |  | | |
|  | Pressure drop | |  | 0.013 |  | bar |  | | |
|  |  | |  |  |  | | |
|  | | | Saturation temperature drop | |  | 0.2 |  | K |  | | |
|  | | | Velocity, in | |  | 13.35 |  | m/s |  | | |
|  | | | Connection | |  | OK |  |  |  | | |
|  |  | | | | | | | | | | |
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