

Air-Cooled Heat Exchanger Specification Sheet

| | | | | | | | | | | | |
|----|--|------------------------|----------------------|-----------------|------------------|-----------------------|--------------------------------|--------------------------|----------------------------|---------------|--|
| 1 | Company: Encana | | | | | | | | | | |
| 2 | Location: | | | | | | | | | | |
| 3 | Service of Unit: Cooling Wet Natural Gas | | | | | | | | | | |
| 4 | Item No.: 181214 | | | | | | | | | | |
| 5 | Date: 4/24/2019 | | | | | | | | | | |
| 6 | Size & Type | 22 | / | 16 | ft | Type | Forced | Number of Bays | 1 | | |
| 7 | Surf/Unit-Finned Tube | 27,330 ft ² | | | Bare area/bundle | 412 | ft ² | Ratio (Total | 16.59 | | |
| 8 | Heat exchanged | 3151569 BTU/h | | | MTD, Eff | 44.58 °F | | | | | |
| 9 | Transfer rate | 2.72 | Bare, Service | | 42.91 | Clean | 47.51 | | BTU/(h-ft ² -F) | | |
| 10 | PERFORMANCE DATA - TUBE SIDE | | | | | | | | | | |
| 11 | Fluid Circulated | Wet Natural Gas | | | | | In/Out | | | | |
| 12 | Total Fluid Entering | lb/h | 41,142 | | | Density, Liq | lb/ft ³ | 56.673 | / | 59.004 | |
| 13 | | MM SCFD | 12 | | | Density, Vap | lb/ft ³ | 0.41 | / | 0.475 | |
| 14 | Temperature | °F | 180 | / | 110 | Specific Heat, Liq | BTU/(lb-F) | 1.1547 | / | 1.1488 | |
| 15 | Liquid | lb/h | 7 | / | 1631 | Specific Heat, Vap | BTU/(lb-F) | 0.4981 | / | 0.4663 | |
| 16 | Vapor | lb/h | 1904 | / | 280 | Therm. Cond, Liq | BTU/(ft-h-F) | 0.702 | / | 0.789 | |
| 17 | Noncondensable | lb/h | 39231 | / | 39231 | Therm. Cond, Vap | BTU/(ft-h-F) | 0.019 | / | 0.016 | |
| 18 | Steam | lb/h | | | | Freeze Point | °F | | | | |
| 19 | Water | lb/h | | | | Bubble / Dew point | °F | | | | |
| 20 | Molecular wt, Vap | 29 | | | / | 29 | Latent heat | BTU/lb | | | |
| 21 | Molecular wt, NC | | | | | | | | | | |
| 22 | Viscosity, Liq | cp | 0.3452 | / | 0.6306 | Pres Drop, Allow/Calc | psi | 10 | / | 0.32 | |
| 23 | Viscosity, Vap | cp | 0.0114 | / | 0.0104 | Fouling resistance | ft ² -h-F/BTU 0.001 | | | | |
| 24 | PERFORMANCE DATA - AIR SIDE | | | | | | | | | | |
| 25 | Air Quantity, Total | 673,000 | lb/h | | | | Altitude | 2,500 | ft | | |
| 26 | Air Quantity/Fan | 172,002 | ft ³ /min | | | | Temperature In | 90 | °F | | |
| 27 | Static Pressure | 0.68 | inH2O | | | | Temperature Out | 109 | °F | | |
| 28 | Face Velocity | 11.51 | ft/s | Bundle velocity | 2,702 | lb/h/ft ² | Design Ambient | 90 | °F | | |
| 29 | DESIGN-MATERIALS-CONSTRUCTION | | | | | | | | | | |
| 30 | Design/Vac./Test Pres | 150 | / | / | psi | Design temperature | 350 | °F | | | |
| 31 | TUBE BUNDLE | | Header | | | Tube | | | | | |
| 32 | Size | 22 ft | | Type | Box | Material | Carbon Steel | | | | |
| 33 | Number/bay | 4 | | Material | Carbon Steel | Specifications | | | | | |
| 34 | Tube Rows | 4 | | Passes | 2 | OD | 1.5 | Min Thk. | 0.065 | in | |
| 35 | Arrangement | | | | Plug Mat. | No./Bun | 58 | Lng | 20 | ft | |
| 36 | Bundles | 4 par | | Gasket Mat. | | Pitch | 2.75 | / | 2.382 | 30 deg | |
| 37 | Bays | 1 par | | Corr. Allow. | in | Fin | | | | | |
| 38 | Bundle frame | | | | Inlet Nozzle | 1 | 10 in | Type | L-finned | | |
| 39 | MISCELLANEOUS | | | | | Outlet nozzle | 1 | 10 in | Material | Aluminum 1060 | |
| 40 | Struct. Mount. | | | | Special Nozzles | OD | 2.625 | Tks | 0.016 | in | |
| 41 | Surf.Preop | | | | Rating | 150 ANSI | No. | 10 | #/in | DesTemp °F | |
| 42 | Louvers | | | | TI | PI | Code | ASME Code Sec VIII Div 1 | | | |
| 43 | Vibration Switches | | | | Chem Cleaning | Stamp | Yes | Specs | | | |
| 44 | MECHANICAL EQUIPMENT | | | | | | | | | | |
| 45 | Fan,Mfr., Model | | | | Driver, Type | Program | Speed Reducer, Type | | | | |
| 46 | No./Bay | 1 | RPM | | | | Mfr. | Mfr.&Model | | | |
| 47 | Dia. | 12 | ft | Blade(s) | | | | No./Bay | No./Bay | | |
| 48 | Pitch | | | | Angle | RPM | Rating | | | | |
| 49 | Blade(s) | | | | Hub | Enclosure | Ratio | | | | |
| 50 | hp/Fan | 30 | hp | MinAmb | | | | V/Phase/Hz | Support | | |
| 51 | Control Action on Air Failure- | Louvers | | | | | | | | | |
| 52 | Degree Control of Outlet Process Temperature | | | | | | | | | | |
| 53 | Recirculation | | | | Steam Coil | No | | | | | |
| 54 | Plot Area | ft ² | Drawing No. | Wt.Bundle | 5,706 | Wt. Unit | 22,824 lb | | | | |
| 55 | Notes: | | | | | | | | | | |
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