

System Summary Report

| GT PRO 20.0 David Oehl | | | | | | |
|--|------------------------|----------------|-----------------------|-------------------------|--------------------|-------|
| 2125 07-14-2010 12:52:57 file=C:\TFLOW20\MYFILES\GTPRO.GTP | | | | | | |
| Plant Configuration: GT, HRSG, and condensing non-reheat ST | | | | | | |
| One GE LM2500+PR Engine, One Steam Turbine, GT PRO Type 6, Subtype 3 | | | | | | |
| Steam Property Formulation: Thermoflow - STQUIK | | | | | | |
| SYSTEM SUMMARY | | | | | | |
| | Power Output kW | | LHV Heat Rate BTU/kWh | | Elect. Eff. LHV% | |
| | @ gen. term. | net | @ gen. term. | net | @ gen. term. | net |
| Gas Turbine(s) | 27775 | | 9056 | | 37.68 | |
| Steam Turbine(s) | 7232 | | | | | |
| Plant Total | 35006 | 31101 | 7185 | 8087 | 47.49 | 42.19 |
| PLANT EFFICIENCIES | | | | | | |
| PURPA efficiency | CHP (Total) efficiency | | Power gen. eff. on | | Canadian Class 43 | |
| % | % | | chargeable energy, % | | Heat Rate, BTU/kWh | |
| 43.31 | 44.42 | | 43.23 | | 7598 | |
| GT fuel HHV/LHV ratio = | | | 1.107 | | | |
| DB fuel HHV/LHV ratio = | | | 1.107 | | | |
| Total plant fuel HHV heat input / LHV heat input = | | | 1.107 | | | |
| Fuel HHV chemical energy input (77F/25C) = | | | 278464 | kBTU/hr | 77351 | BTU/s |
| Fuel LHV chemical energy input (77F/25C) = | | | 251524 | kBTU/hr | 69868 | BTU/s |
| Total energy input (chemical LHV + ext. addn.) = | | | 251524 | kBTU/hr | 69868 | BTU/s |
| Energy chargeable to power (93.0% LHV alt. boiler) = | | | 245491 | kBTU/hr | 68192 | BTU/s |
| GAS TURBINE PERFORMANCE - GE LM2500+PR | | | | | | |
| | Gross power | Gross LHV | Gross LHV Heat Rate | Exh. flow | Exh. temp. | |
| | output, kW | efficiency, % | BTU/kWh | kpph | F | |
| per unit | 27775 | 37.68 | 9056 | 661 | 955 | |
| Total | 27775 | | | 661 | | |
| Number of gas turbine unit(s) = | | | 1 | | | |
| Gas turbine load [%] = | | | 100 | | % | |
| Fuel chemical HHV (77F/25C) per gas turbine = | | | 278464 | kBTU/hr | 77351 | BTU/s |
| Fuel chemical LHV (77F/25C) per gas turbine = | | | 251524 | kBTU/hr | 69868 | BTU/s |
| STEAM CYCLE PERFORMANCE | | | | | | |
| HRSG eff. | Gross power output | Internal gross | Overall | Net process heat output | | |
| % | kW | elect. eff., % | elect. eff., % | kBTU/hr | | |
| 76.00 | 7232 | 21.09 | 16.03 | 5610 | | |
| Number of steam turbine unit(s) = | | | 1 | | | |
| Fuel chemical HHV (77F/25C) to duct burners = | | | 0 | kBTU/hr | 0 | BTU/s |
| Fuel chemical LHV (77F/25C) to duct burners = | | | 0 | kBTU/hr | 0 | BTU/s |
| DB fuel chemical LHV + HRSG inlet sens. heat = | | | 153946 | kBTU/hr | 42763 | BTU/s |
| Net process heat output as % of total output = | | | 5.021 | | % | |

System Summary Report

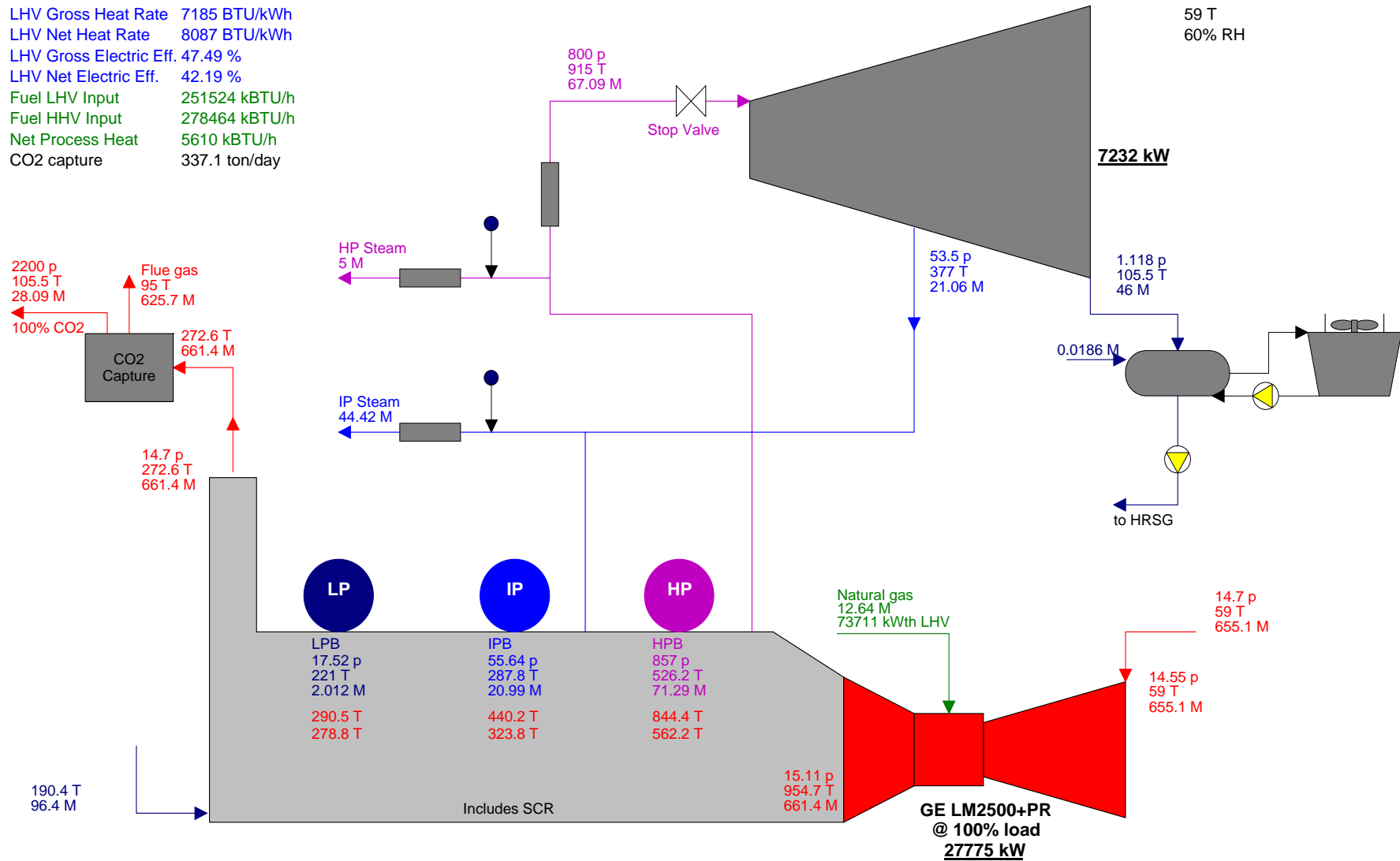
| ESTIMATED PLANT AUXILIARIES (kW) | | |
|---|-------------|-----------|
| GT fuel compressor(s)* | 470.6 | kW |
| GT supercharging fan(s)* | 0 | kW |
| GT electric chiller(s)* | 0 | kW |
| GT chiller/heater water pump(s) | 0 | kW |
| HRSG feedpump(s)* | 116 | kW |
| Condensate pump(s)* | 3.822 | kW |
| HRSG forced circulation pump(s) | 0 | kW |
| LTE recirculation pump(s) | 0 | kW |
| Cooling water pump(s) | 29.51 | kW |
| Air cooled condenser fans | 0 | kW |
| Cooling tower fans | 110.5 | kW |
| HVAC | 15 | kW |
| Lights | 23 | kW |
| Aux. from PEACE running motor/load list | 216.5 | kW |
| Miscellaneous gas turbine auxiliaries | 57.1 | kW |
| Miscellaneous steam cycle auxiliaries | 15.55 | kW |
| Miscellaneous plant auxiliaries | 17.5 | kW |
| Constant plant auxiliary load | 0 | kW |
| Gasification plant, ASU* | 0 | kW |
| Gasification plant, coal mill | 0 | kW |
| Gasification plant, AGR* | 0 | kW |
| Gasification plant, other/misc | 0 | kW |
| Desalination plant auxiliaries | 0 | kW |
| CO2 capture plant auxiliaries* | 2655.5 | kW |
| Program estimated overall plant auxiliaries | 3731 | kW |
| Actual (user input) overall plant auxiliaries | 3731 | kW |
| Transformer losses | 175 | kW |
| Total auxiliaries & transformer losses | 3906 | kW |
| * Heat balance related auxiliaries | | |

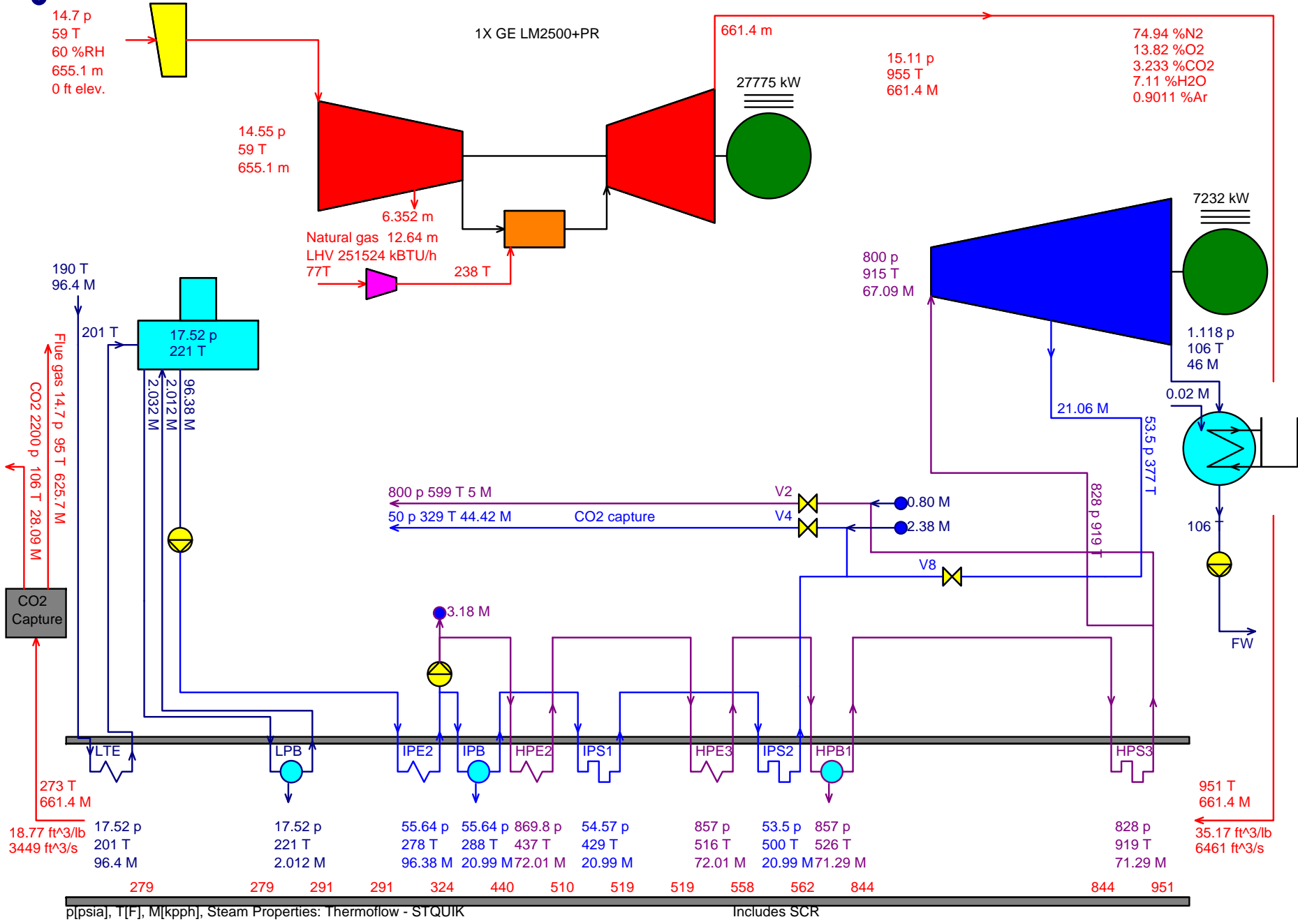
System Summary Report

| PLANT HEAT BALANCE | | | |
|--|----------------|--------------|------------------|
| Energy In | 83358 | BTU/s | |
| Ambient air sensible | 1189.4 | BTU/s | |
| Ambient air latent | 1235.1 | BTU/s | |
| Fuel enthalpy @ supply | 77632 | BTU/s | |
| External gas addition to combustor | 0 | BTU/s | |
| Steam and water | 0 | BTU/s | |
| Makeup and process return | 213 | BTU/s | |
| CO2 capture condensate return | 3089 | BTU/s | |
| Energy Out | 83358 | BTU/s | |
| Net power output | 29479 | BTU/s | |
| Stack gas sensible | 11077 | BTU/s | |
| Stack gas latent | 8887 | BTU/s | |
| GT mechanical loss | 279.3 | BTU/s | |
| GT gear box loss | 0 | BTU/s | |
| GT generator loss | 540.1 | BTU/s | |
| GT miscellaneous losses | 317 | BTU/s | |
| GT ancillary heat rejected | 83.03 | BTU/s | |
| GT process air bleed | 0 | BTU/s | |
| Fuel compressor mech/elec loss | 66.91 | BTU/s | |
| Supercharging fan mech/elec loss | 0 | BTU/s | |
| Condenser | 12147 | BTU/s | |
| Process steam | 1764.2 | BTU/s | |
| Process water | 0 | BTU/s | |
| Blowdown | 123.8 | BTU/s | |
| Heat radiated from steam cycle | 471.3 | BTU/s | |
| ST/generator mech/elec/gear loss | 187.4 | BTU/s | |
| Non-heat balance related auxiliaries | 459.4 | BTU/s | |
| Transformer loss | 165.9 | BTU/s | |
| CO2 capture auxiliary | 2517.1 | BTU/s | |
| Steam to CO2 capture | 14793 | BTU/s | |
| Energy In - Energy Out | -0.3203 | BTU/s | -0.0004 % |
| Zero enthalpy: dry gases & liquid water @ 32 F (273.15 K) | | | |
| Gas Turbine and Steam Cycle: Energy In - Energy Out = -.3249 BTU/s | | | |

GT PRO 20.0 David Oehl
 Gross Power 35006 kW
 Net Power 31101 kW
 Aux. & Losses 3906 kW
 LHV Gross Heat Rate 7185 BTU/kWh
 LHV Net Heat Rate 8087 BTU/kWh
 LHV Gross Electric Eff. 47.49 %
 LHV Net Electric Eff. 42.19 %
 Fuel LHV Input 251524 kBTU/h
 Fuel HHV Input 278464 kBTU/h
 Net Process Heat 5610 kBTU/h
 CO2 capture 337.1 ton/day

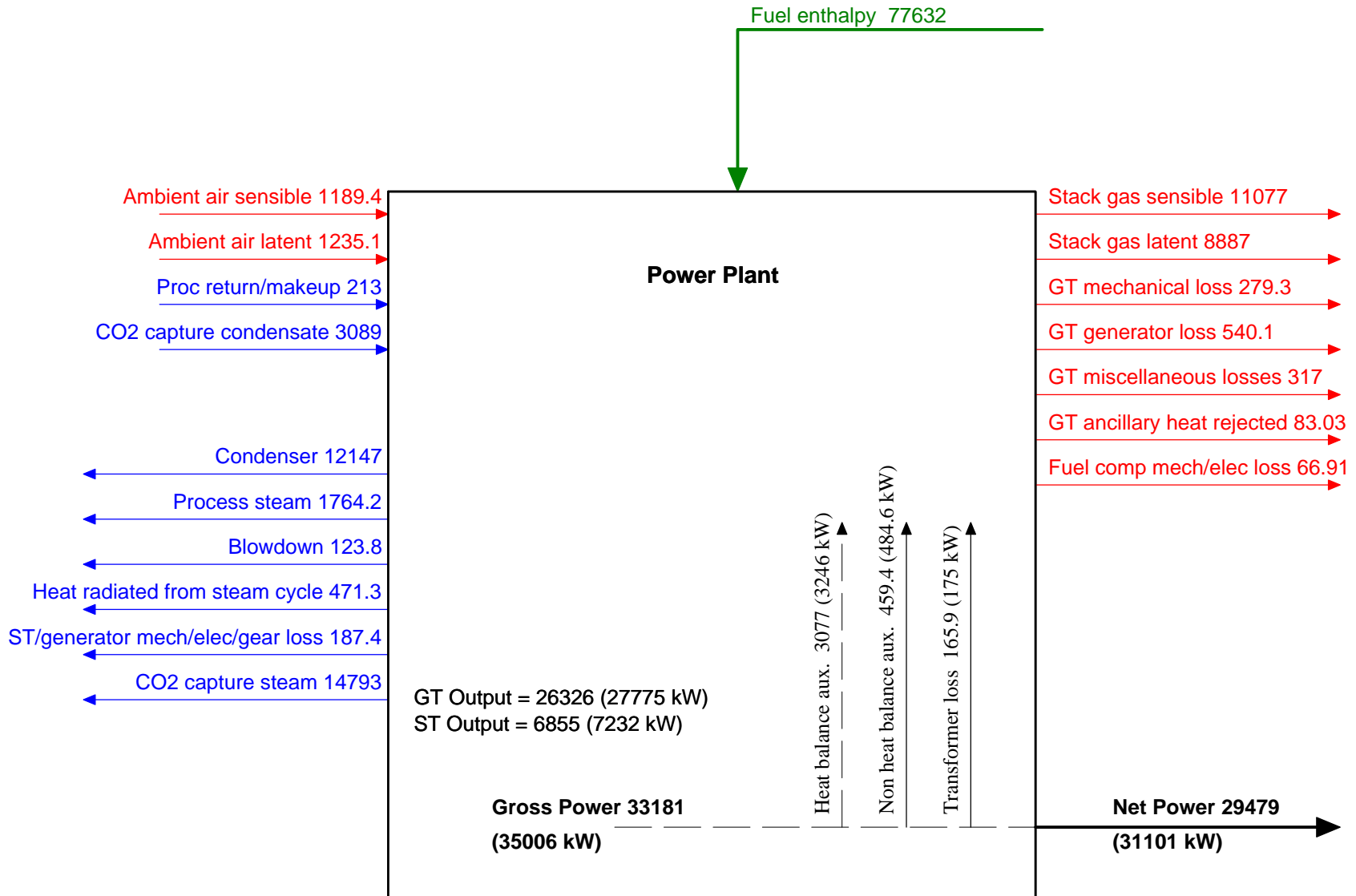
Ambient
 14.7 P
 59 T
 60% RH





Fuel chemical LHV input = 69868 BTU/s
 Fuel chemical HHV input = 77351 BTU/s

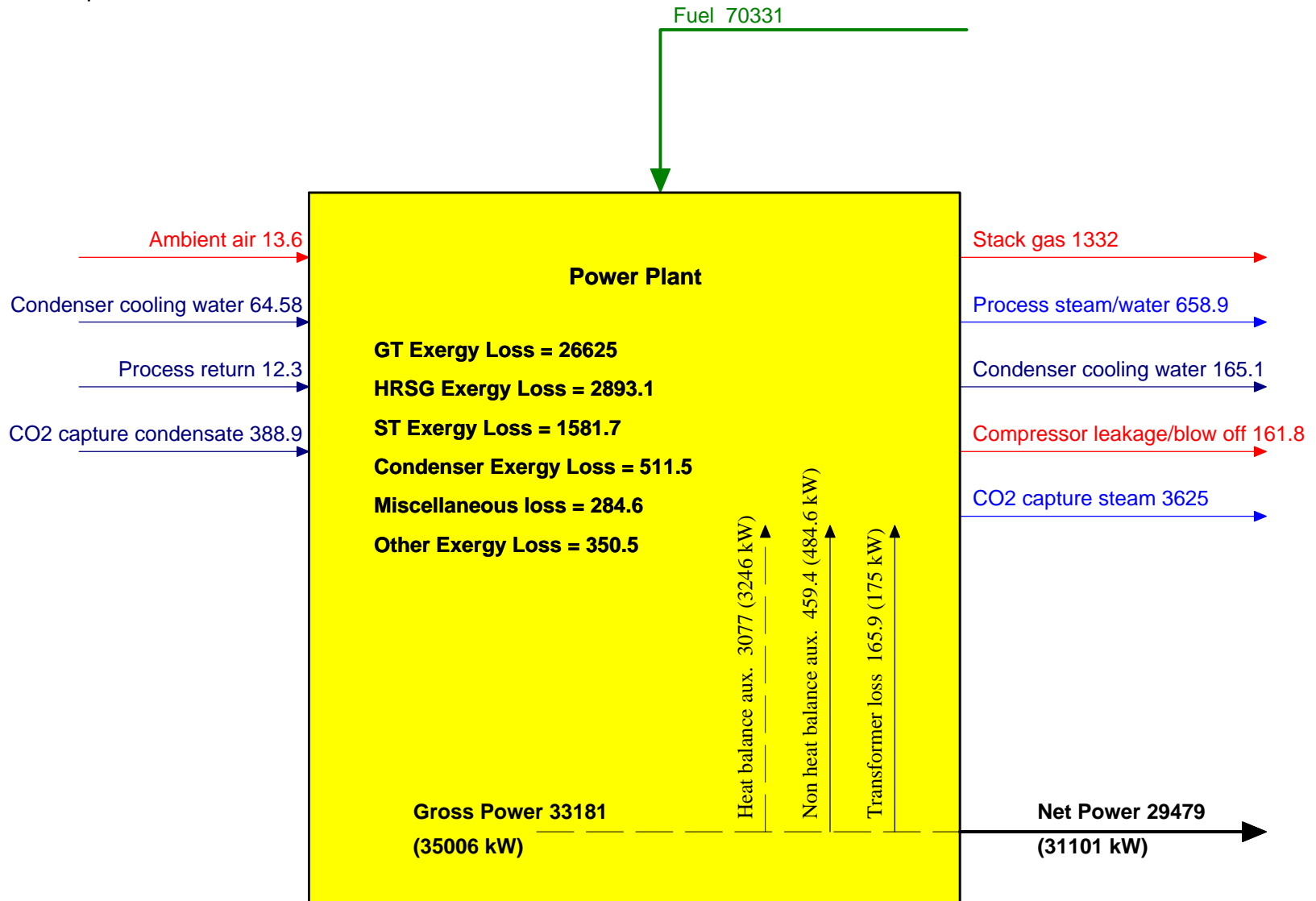
Power Plant Energy Flow Schematic [BTU/s]



Zero enthalpy: dry gases & liquid water @ 32 F (273.15 K)

Fuel exergy input = 70331 BTU/s
 Fuel chemical LHV input = 69868 BTU/s
 Fuel chemical HHV input = 77351 BTU/s

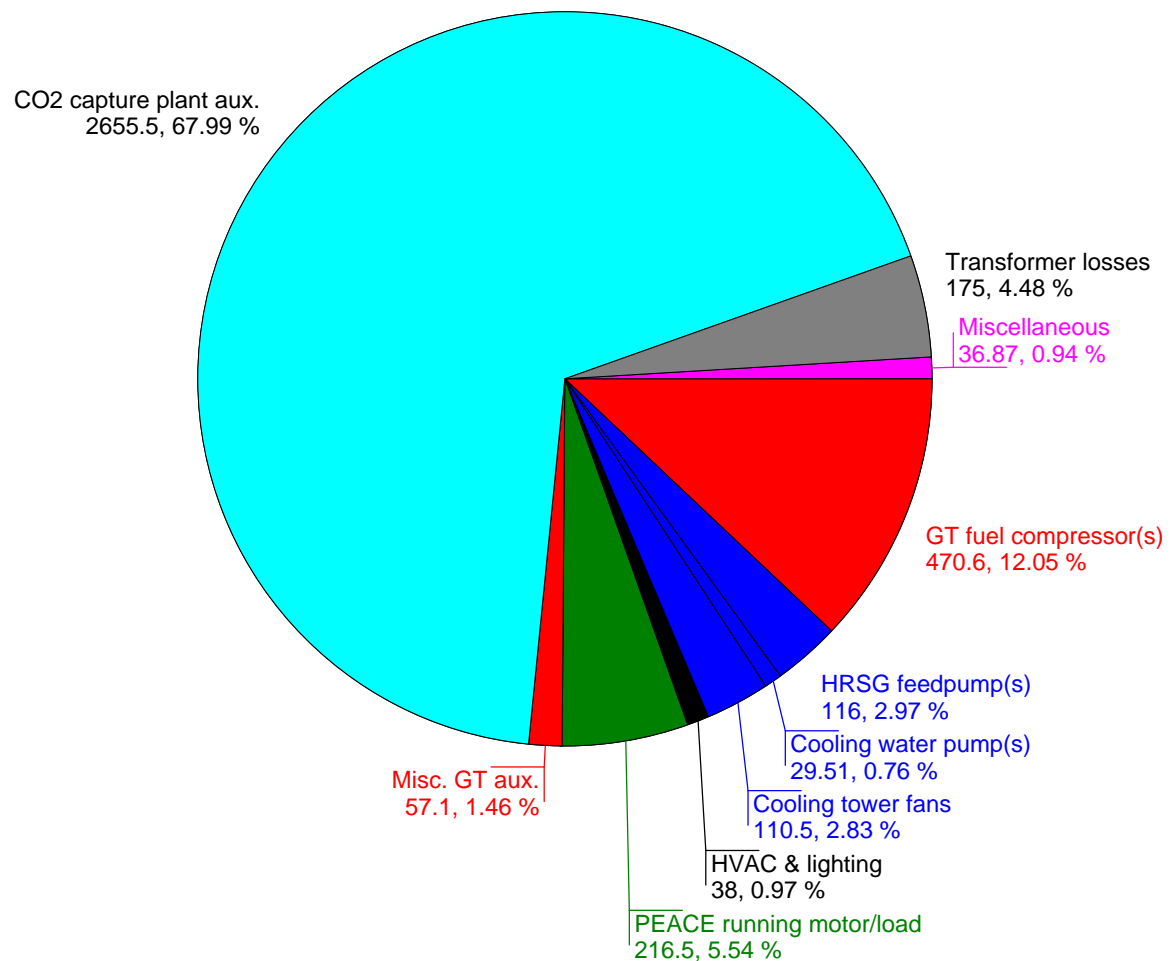
Power Plant Exergy Flow Schematic [BTU/s]



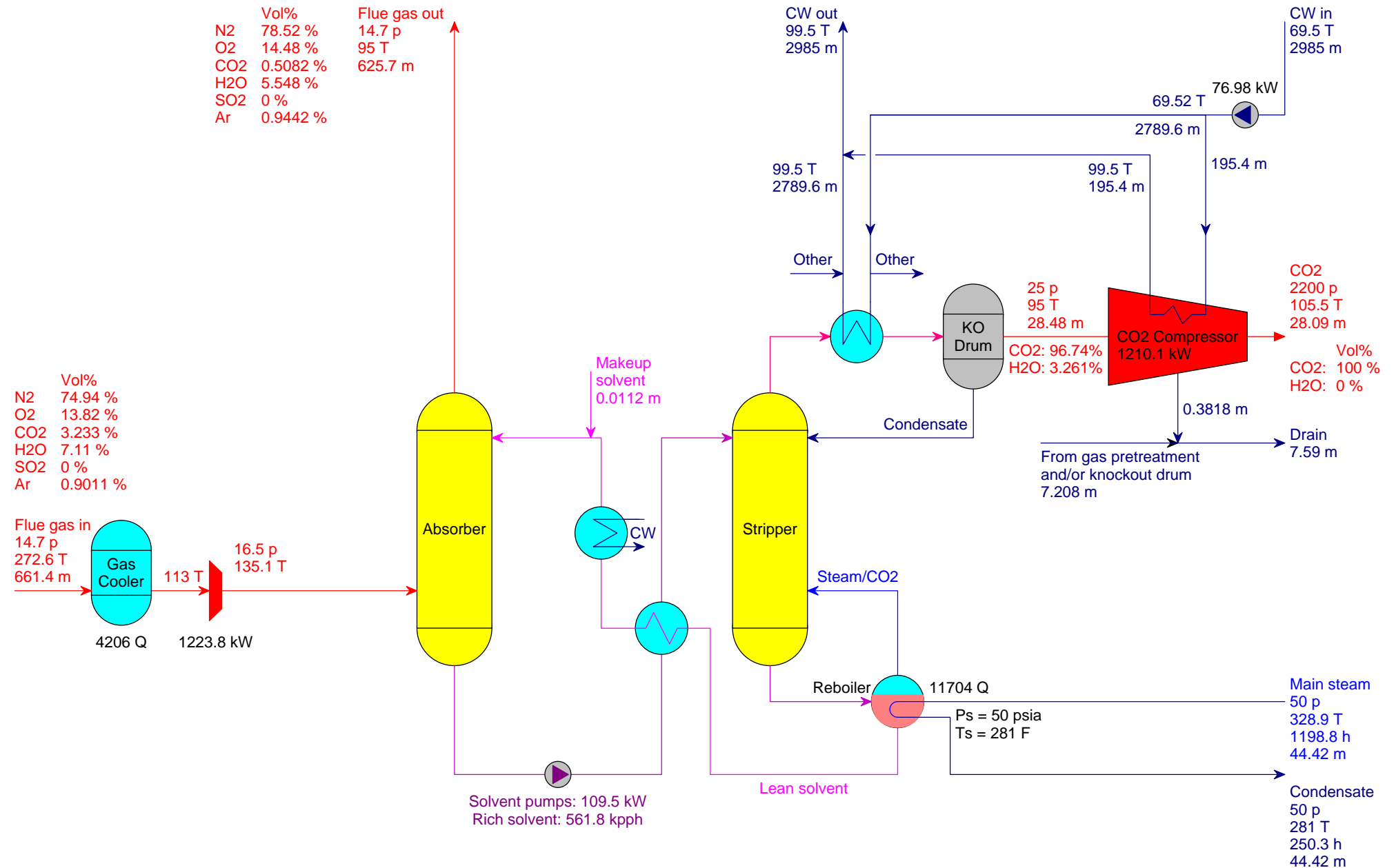
Reference: 14.696 psia, 77 F, water as vapor.

Auxiliaries & Losses [kW]

Total auxiliaries & transformer losses = 3906 kW

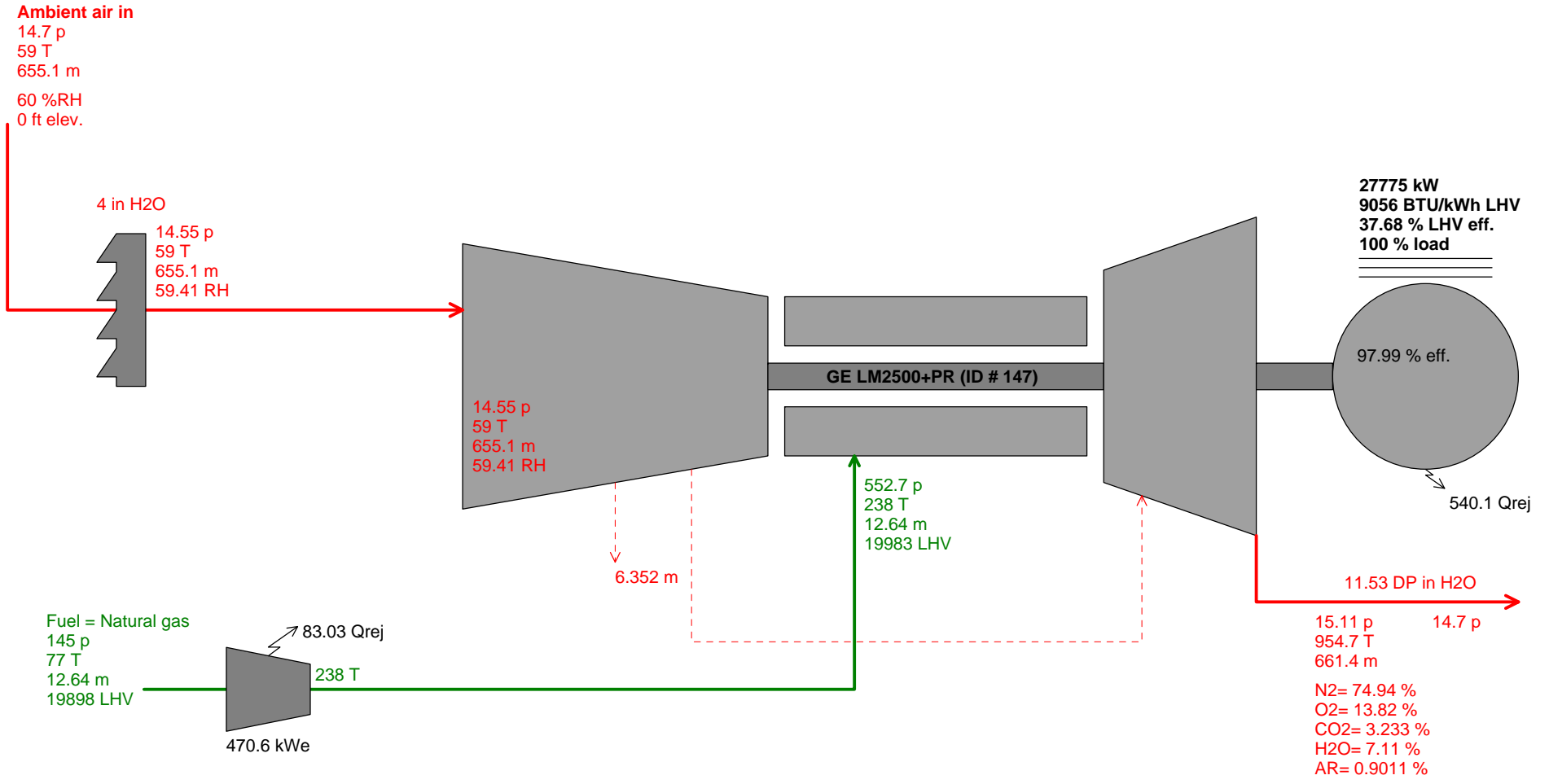


CO2 Capture Plant Flow Diagram

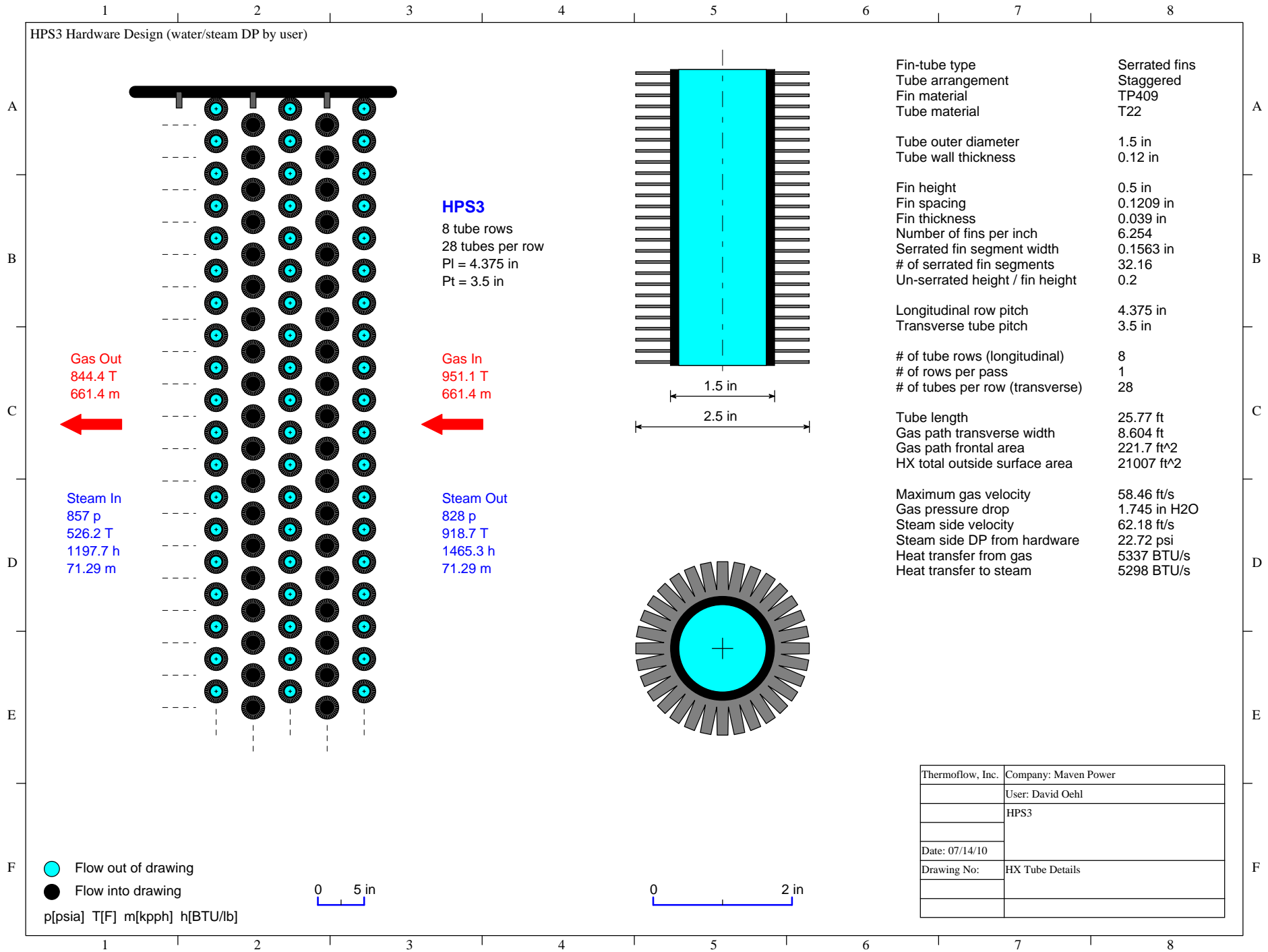


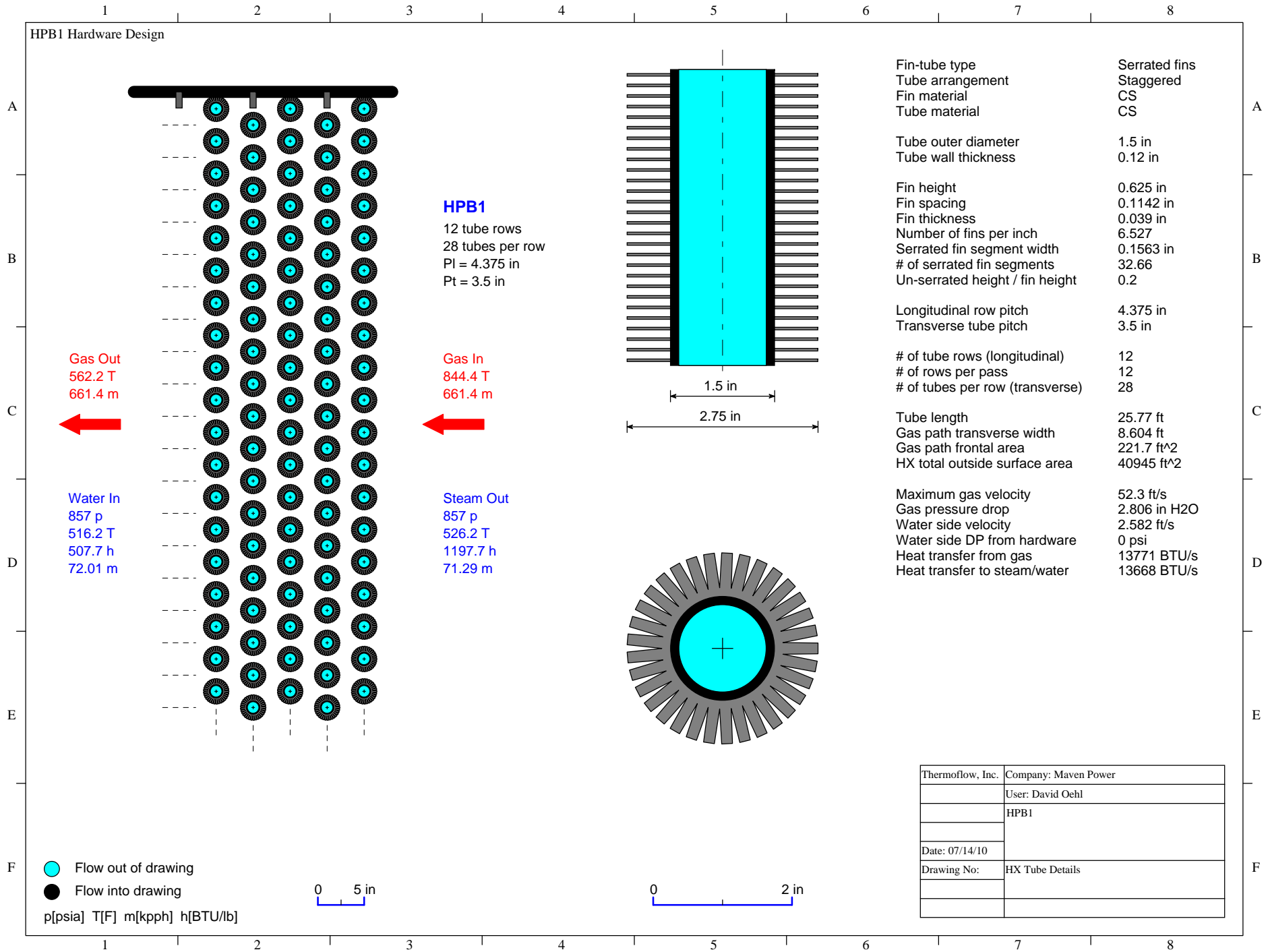
Process: Amine-based
 CO2 capture: 28.09 kpph, 337.1 ton/day
 CO2 capture efficiency: 85 %
 Heat input: 11704 BTU/s, 42.14 MMBTU/hr, 1500 BTU/lb CO2
 Total electrical power consumption: 2655.5 kW
 Solvent consumption: 0.1348 ton/day

GT generator power = 27775 kW
 GT Heat Rate @ gen term = 9056 BTU/kWh
 GT efficiency @ gen term = 34.03% HHV = 37.68% LHV
 GT @ 100 % rating, data-defined engine model

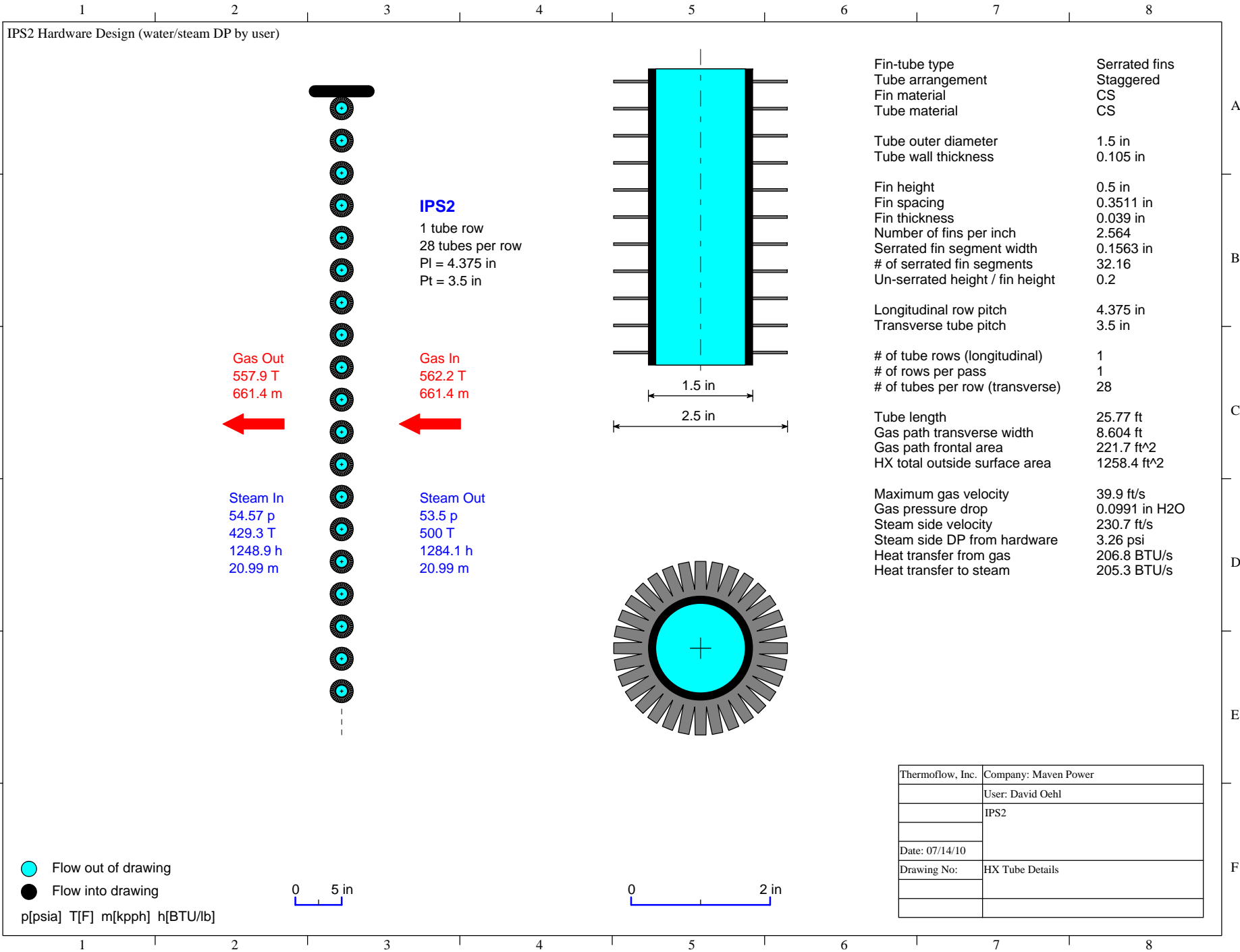


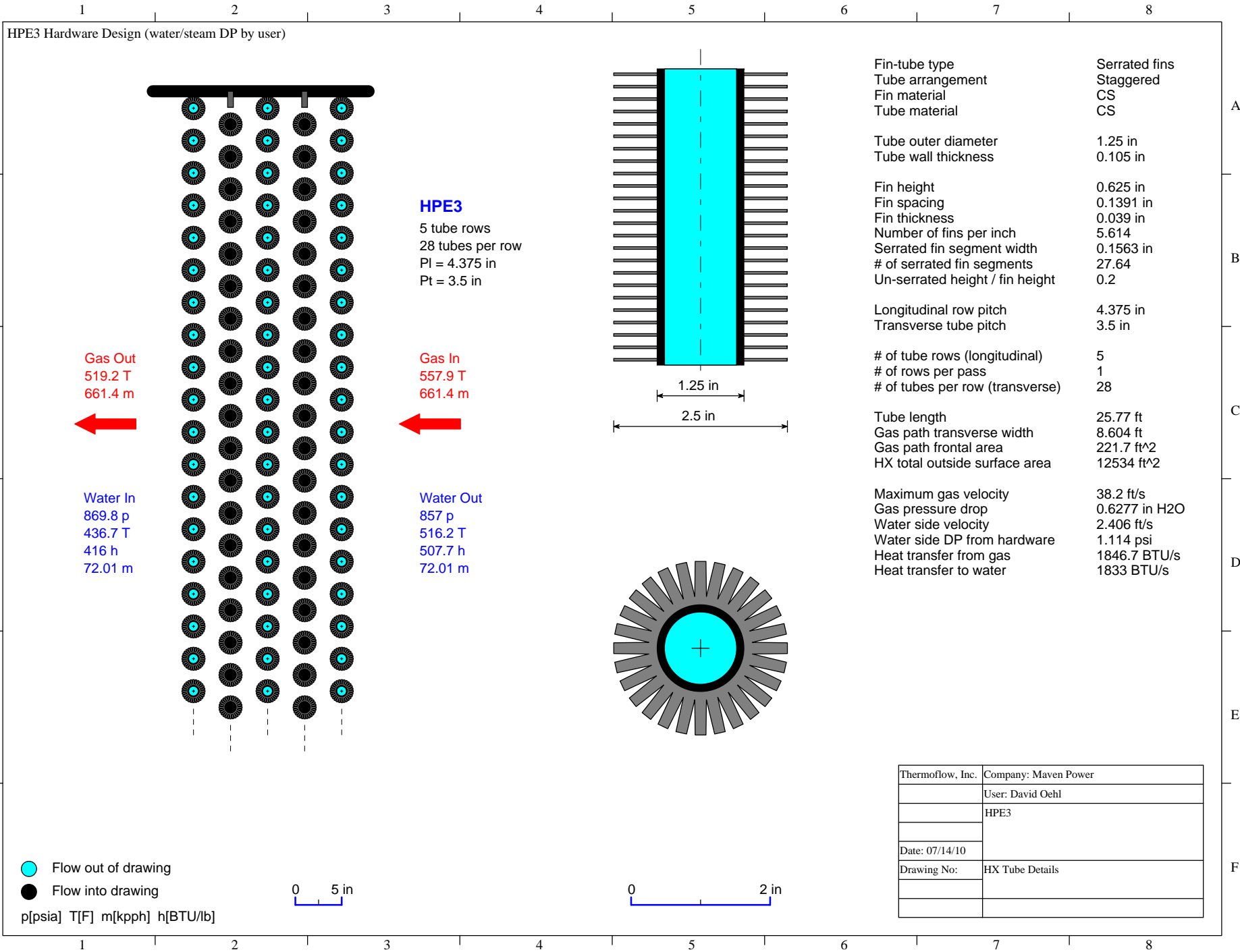
p[psia], T[F], M[kpph], Q[BTU/s], Steam Properties: Thermoflow - STQUIK



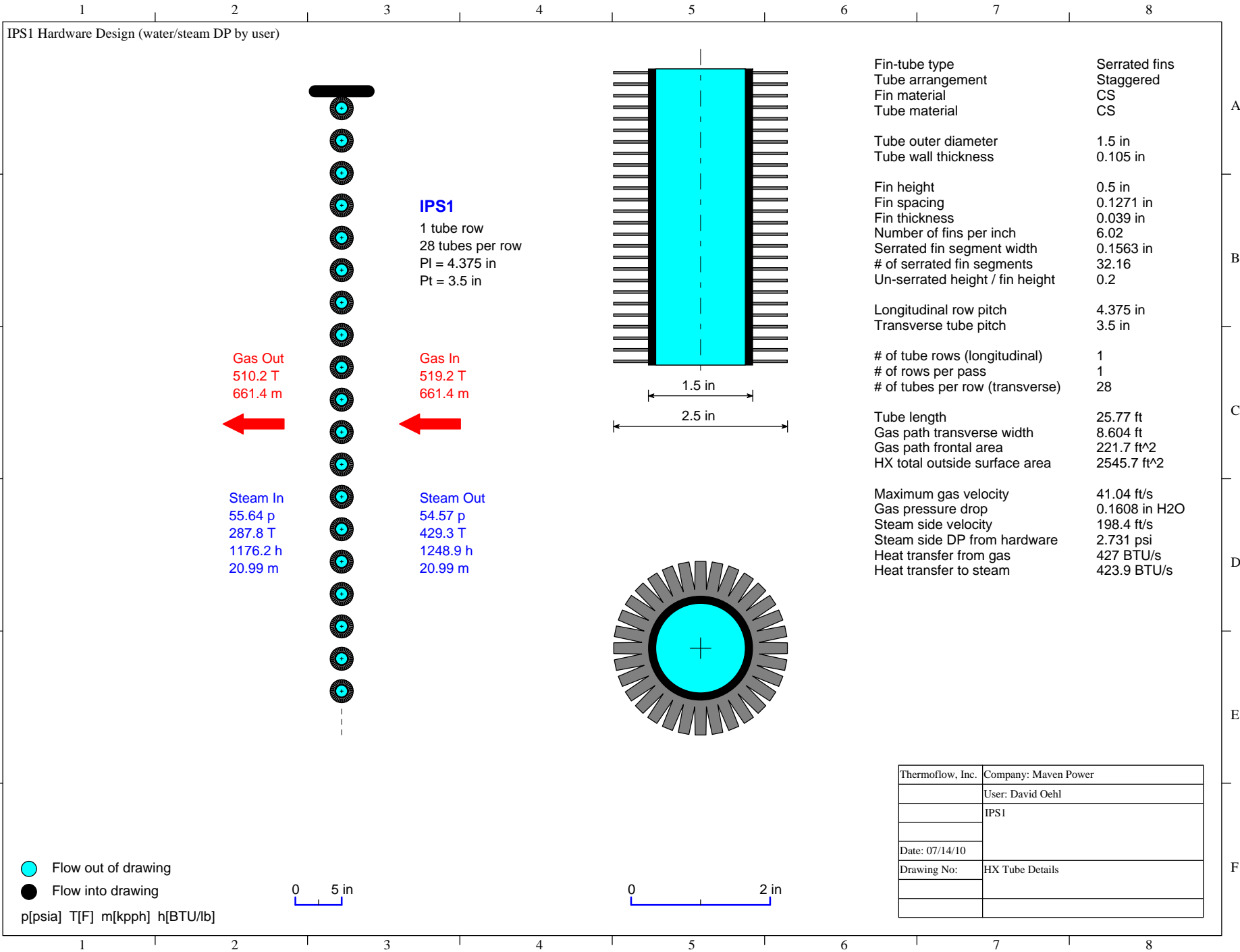


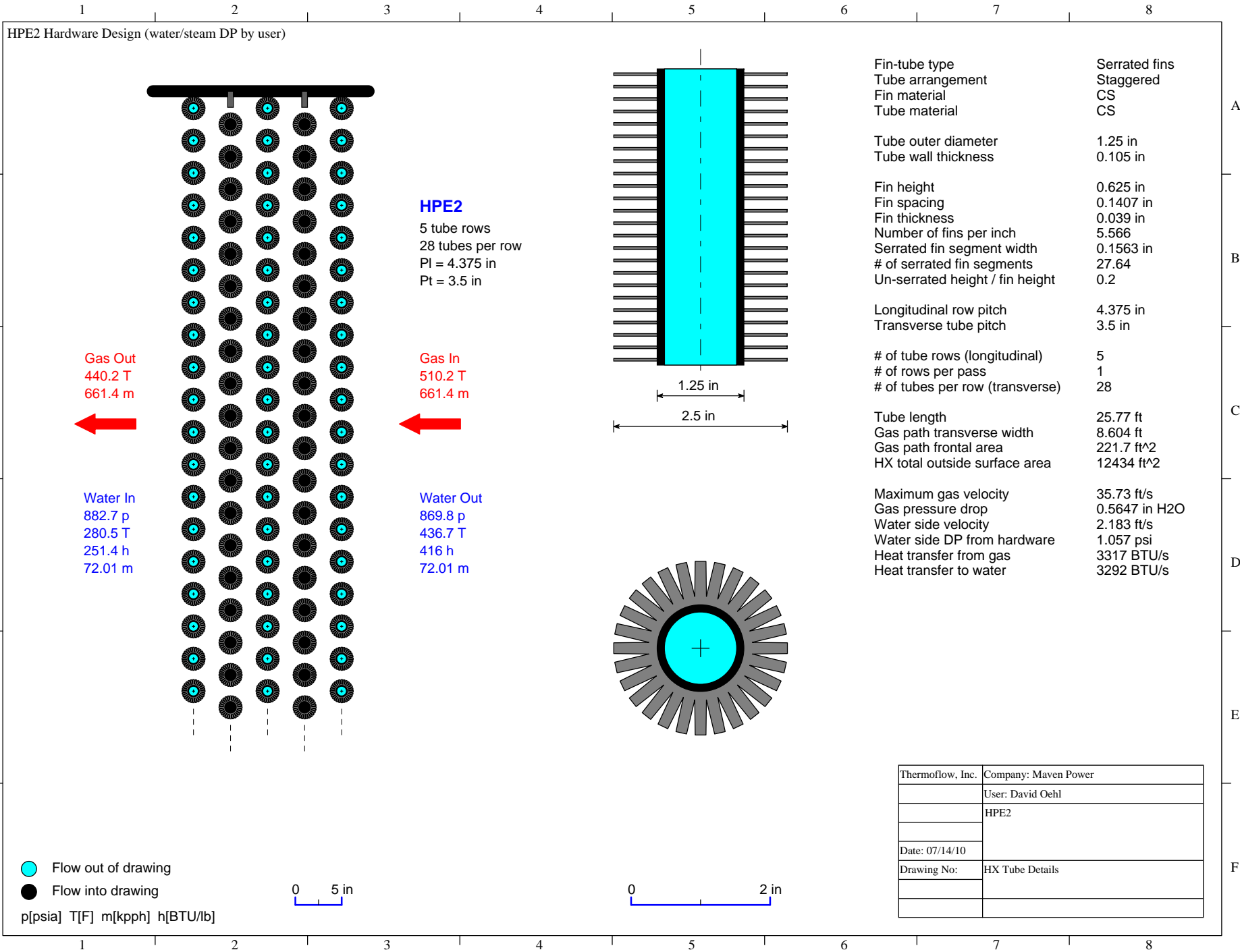
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|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | HPB1 |
| | |
| Date: 07/14/10 | |
| Drawing No: | HX Tube Details |
| | |
| | |

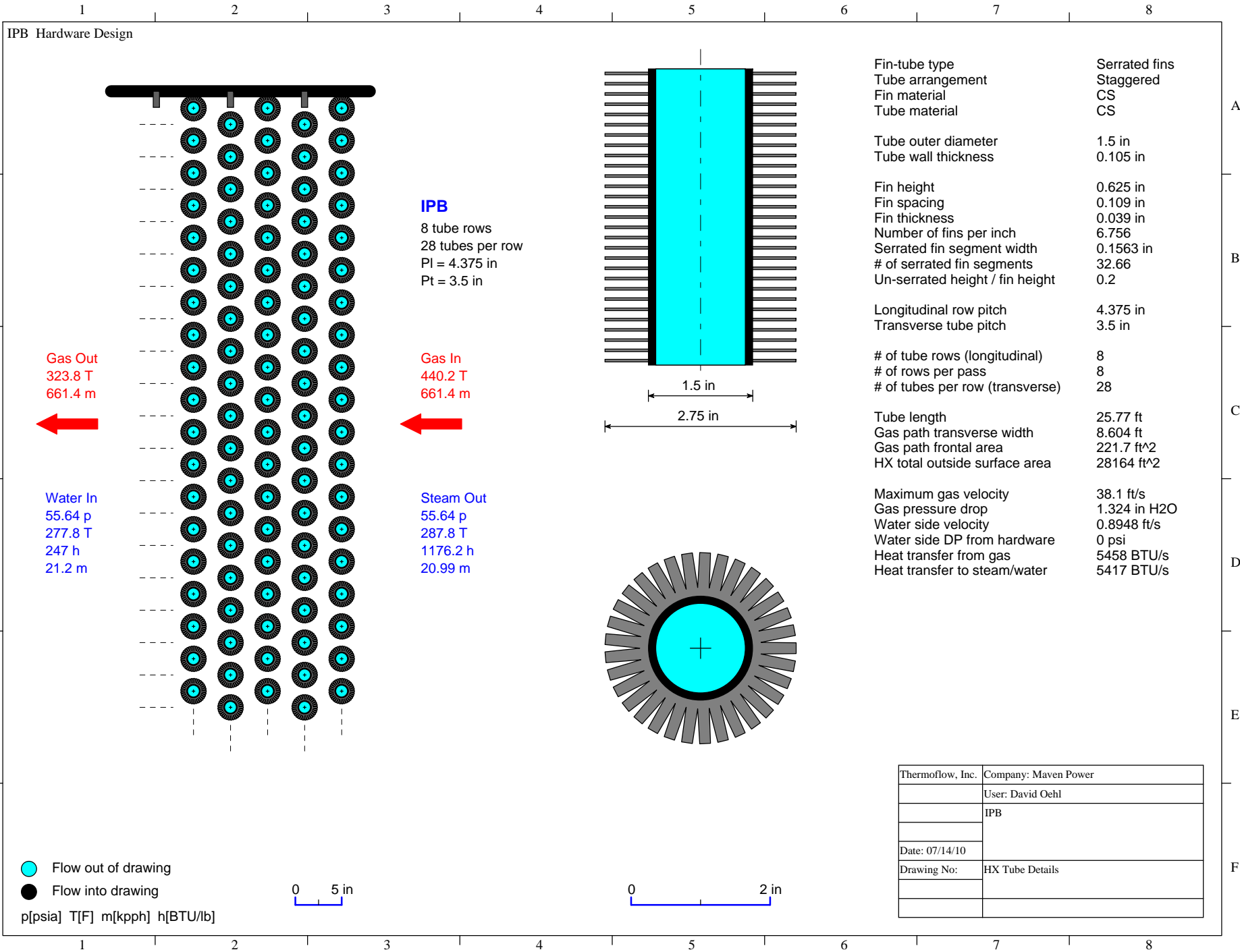


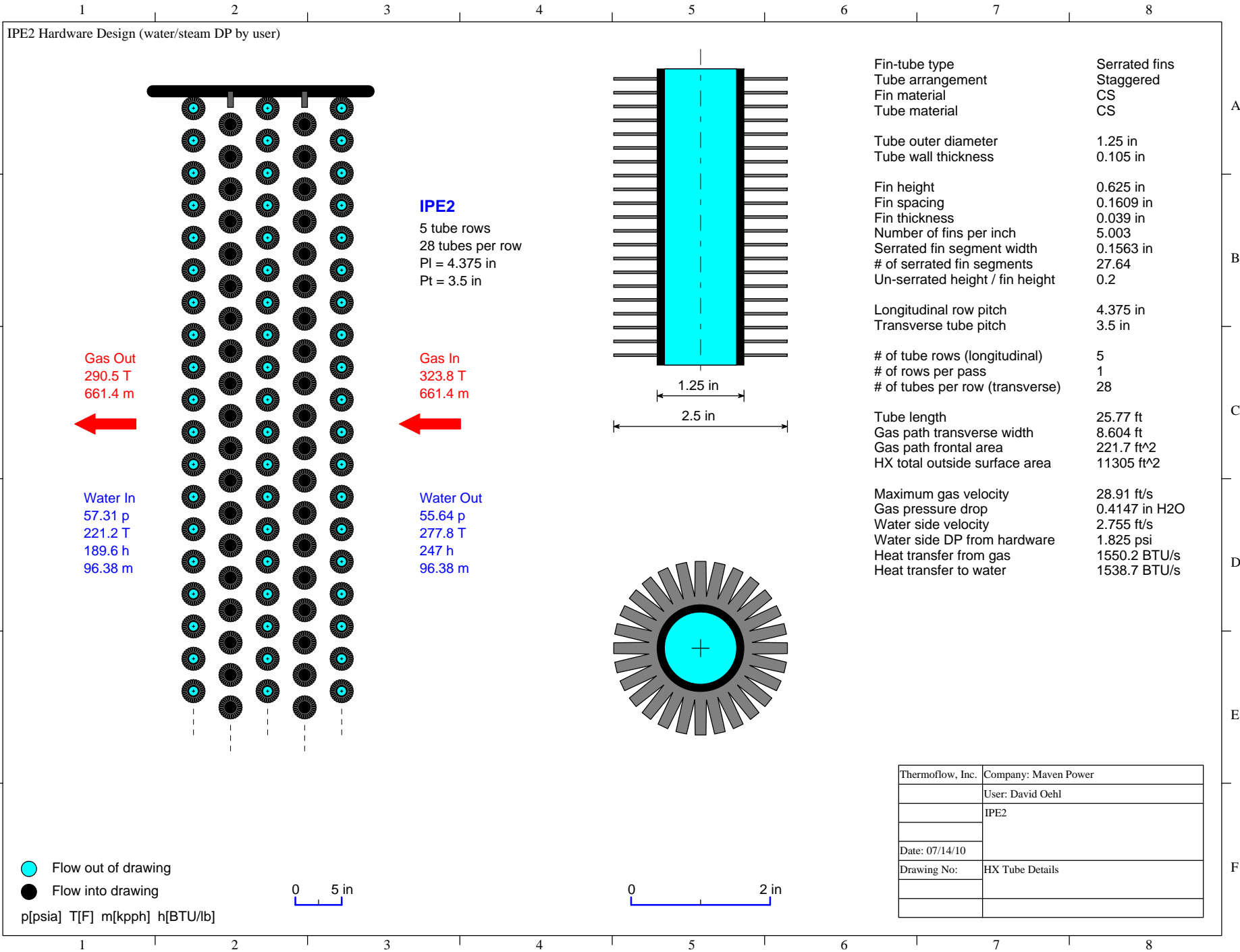


| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | HPE3 |
| Date: 07/14/10 | |
| Drawing No: | HX Tube Details |
| | |
| | |







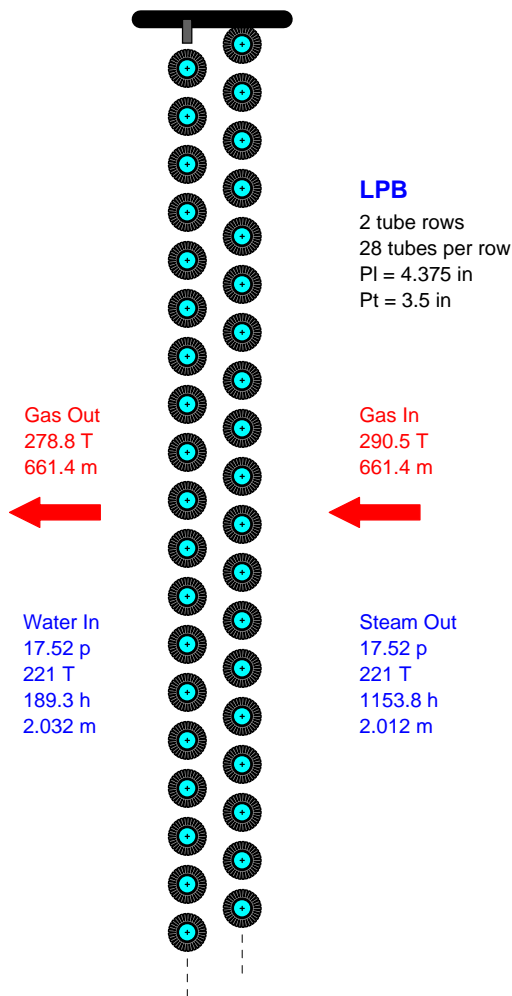


| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | IPE2 |
| | |
| Date: 07/14/10 | |
| Drawing No: | HX Tube Details |
| | |
| | |

LPB Hardware Design

A
B
C
D
E
F

1 2 3 4 5 6 7 8



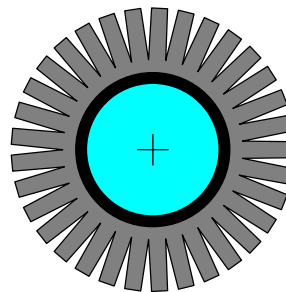
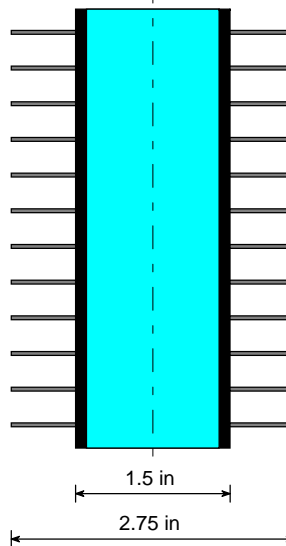
LPB
2 tube rows
28 tubes per row
PI = 4.375 in
Pt = 3.5 in

Gas Out
278.8 T
661.4 m

Gas In
290.5 T
661.4 m

Water In
17.52 p
221 T
189.3 h
2.032 m

Steam Out
17.52 p
221 T
1153.8 h
2.012 m



| | |
|---------------------------------|----------------------------|
| Fin-tube type | Serrated fins |
| Tube arrangement | Staggered |
| Fin material | CS |
| Tube material | CS |
| Tube outer diameter | 1.5 in |
| Tube wall thickness | 0.105 in |
| Fin height | 0.625 in |
| Fin spacing | 0.3083 in |
| Fin thickness | 0.039 in |
| Number of fins per inch | 2.88 |
| Serrated fin segment width | 0.1563 in |
| # of serrated fin segments | 32.66 |
| Un-serrated height / fin height | 0.2 |
| Longitudinal row pitch | 4.375 in |
| Transverse tube pitch | 3.5 in |
| # of tube rows (longitudinal) | 2 |
| # of rows per pass | 2 |
| # of tubes per row (transverse) | 28 |
| Tube length | 25.77 ft |
| Gas path transverse width | 8.604 ft |
| Gas path frontal area | 221.7 ft ² |
| HX total outside surface area | 3333 ft ² |
| Maximum gas velocity | 30.27 ft/s |
| Gas pressure drop | 0.1657 in H ₂ O |
| Water side velocity | 0.3328 ft/s |
| Water side DP from hardware | 0 psi |
| Heat transfer from gas | 543.1 BTU/s |
| Heat transfer to steam/water | 539.1 BTU/s |

A
B
C
D
E
F

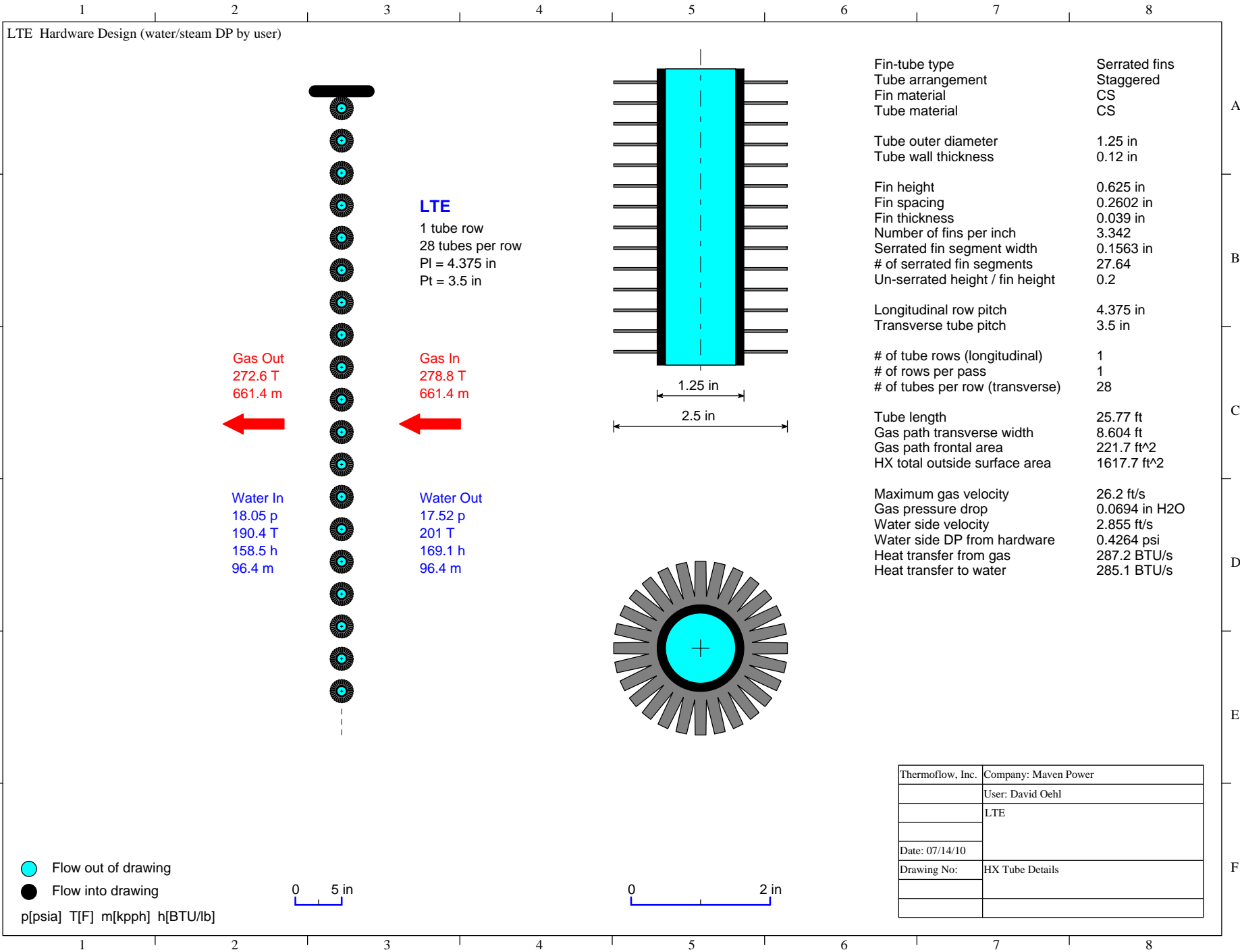
● Flow out of drawing

● Flow into drawing

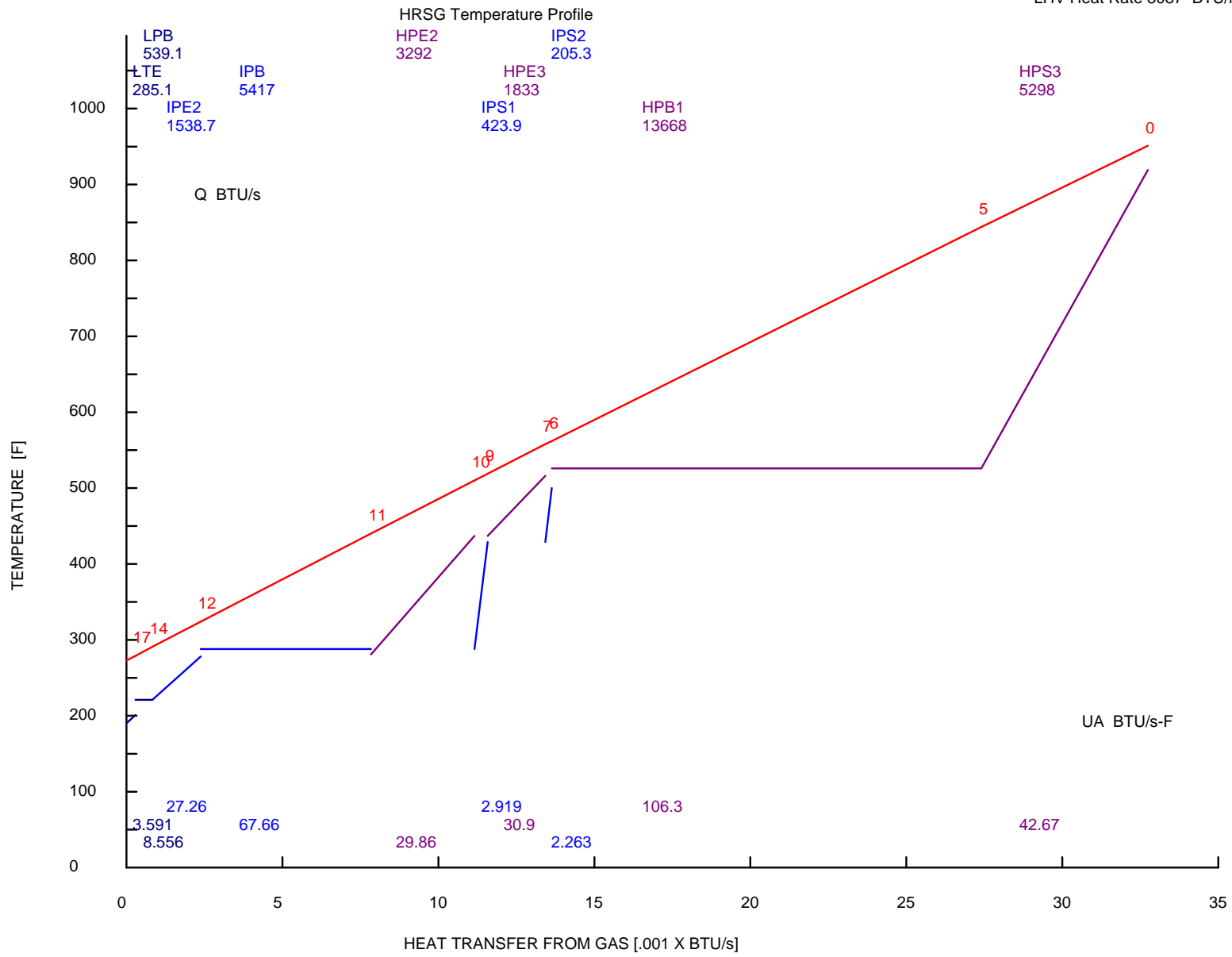
p[psia] T[F] m[kpph] h[BTU/lb]



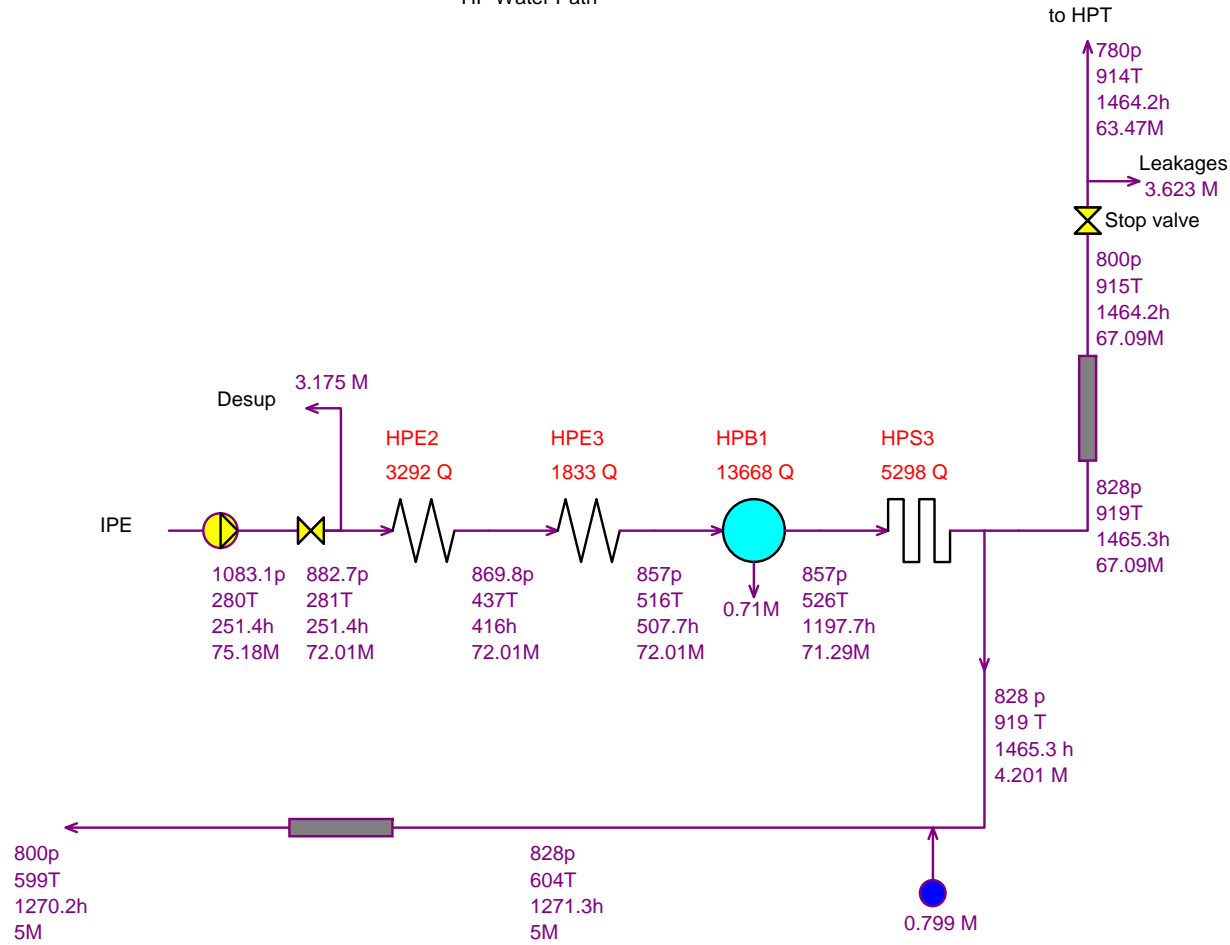
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|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | LPB |
| Date: 07/14/10 | |
| Drawing No: | HX Tube Details |
| | |
| | |



| | |
|------------------|----------------------|
| Thermsflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | LTE |
| | |
| Date: 07/14/10 | |
| Drawing No: | HX Tube Details |
| | |
| | |

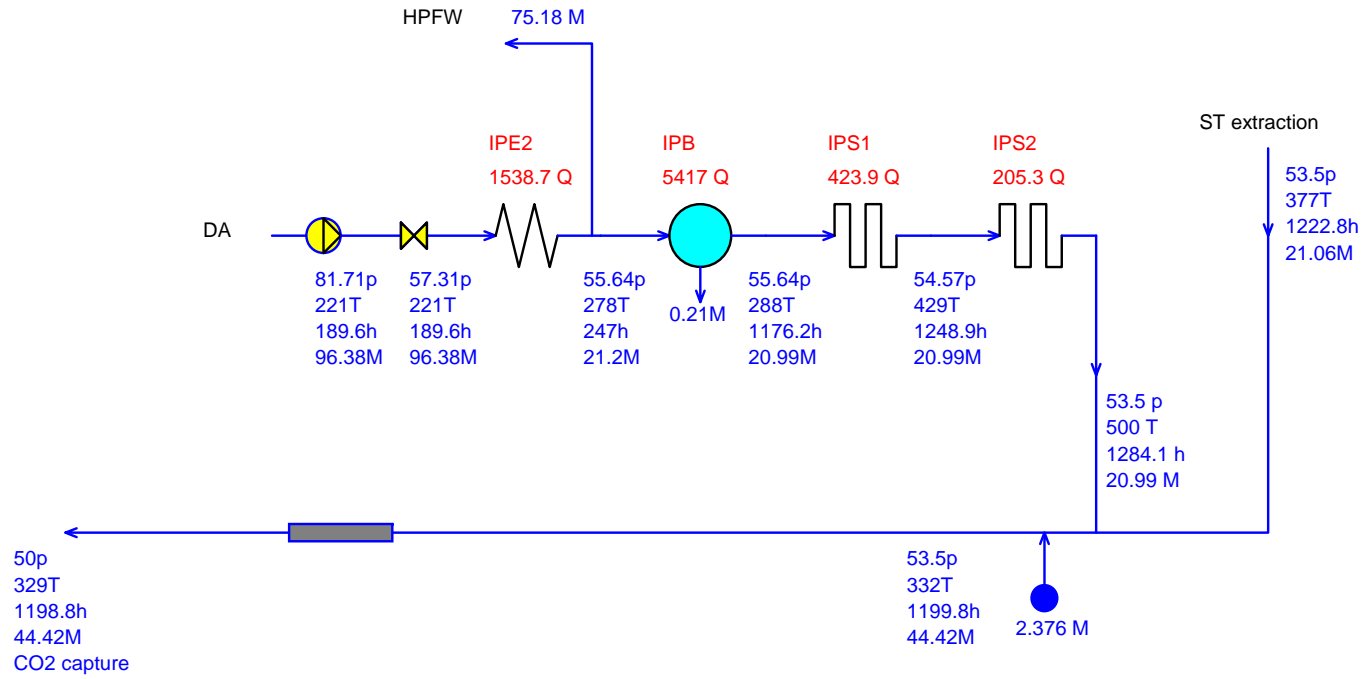


HP Water Path



p[psia], T[F], h[BTU/lb], M[kpph], Q[BTU/s], Steam Properties: Thermoflow - STQUIK

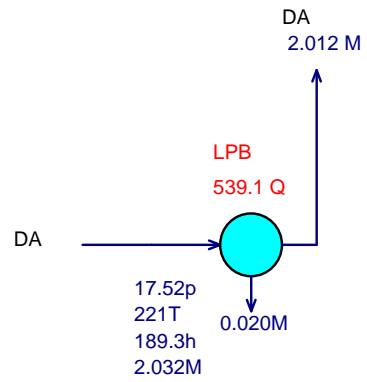
IP Water Path



p[psia], T[F], h[BTU/lb], M[kpph], Q[BTU/s], Steam Properties: Thermoflow - STQUIK

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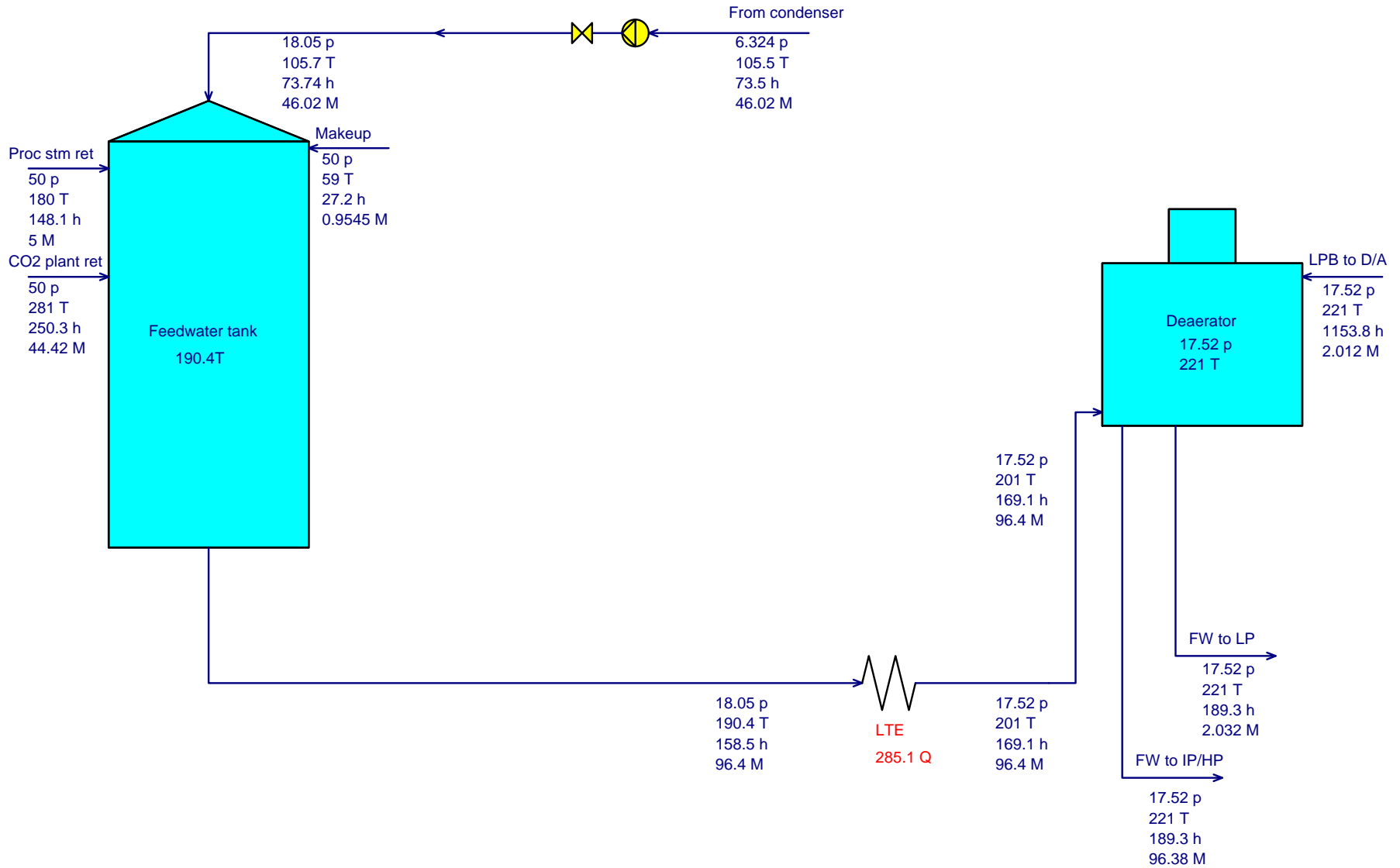
LP Water Path



p[psia], T[F], h[BTU/lb], M[kpph], Q[BTU/s], Steam Properties: Thermoflow - STQUIK

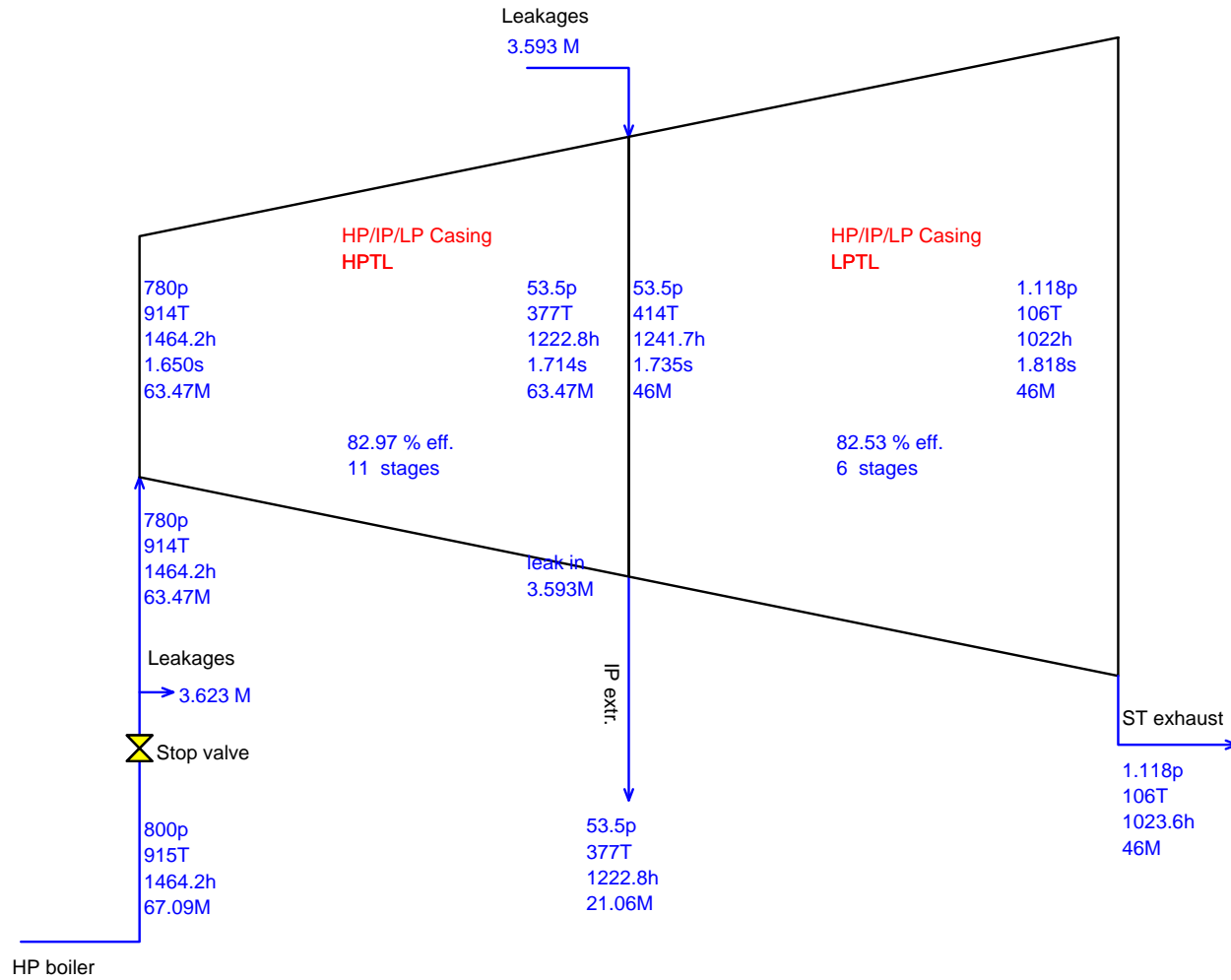
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Feedwater Path



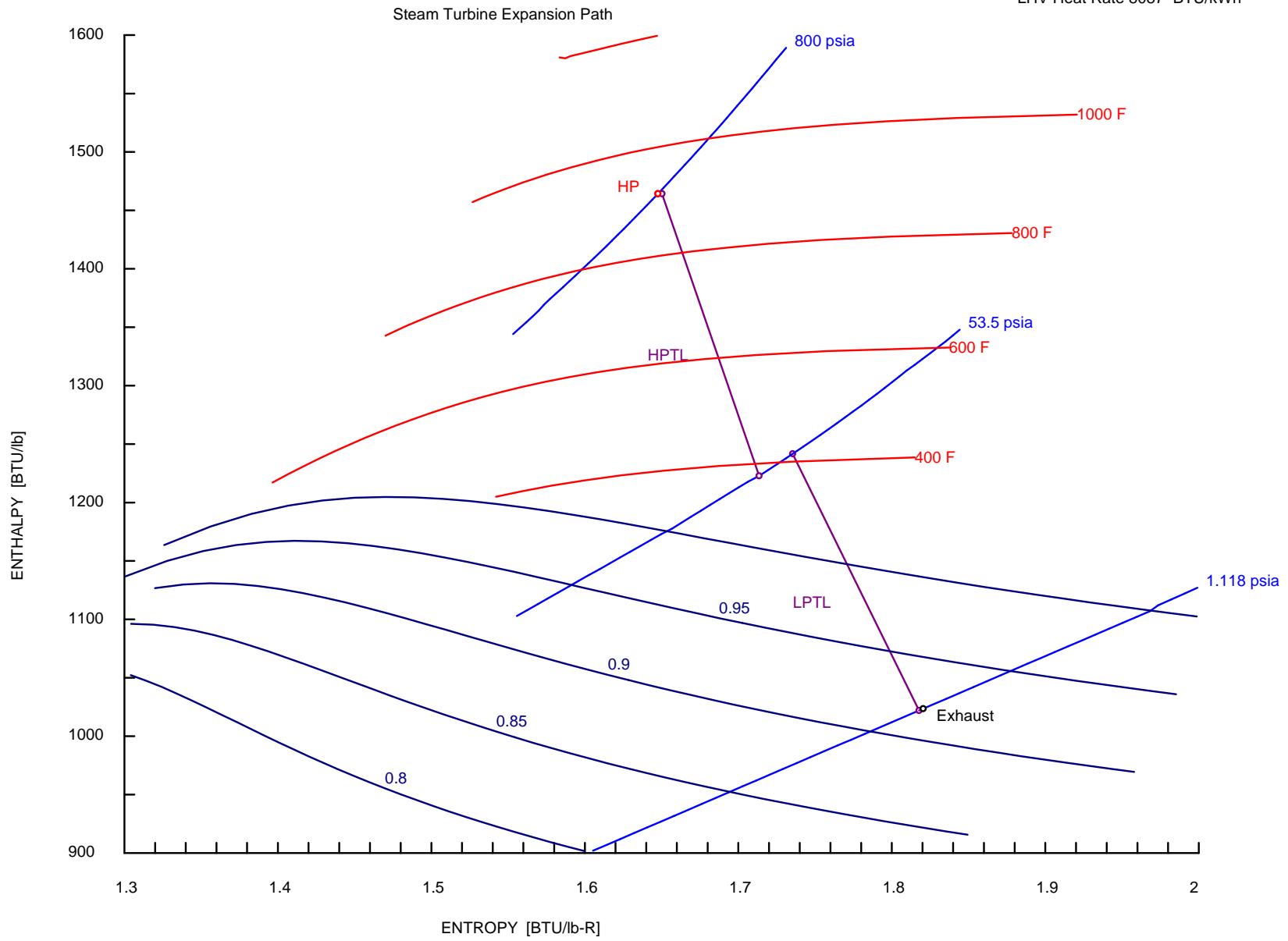
p[psia], T[F], h[BTU/lb], M[kpph], Q[BTU/s], Steam Properties: Thermoflow - STQUIK

Steam Turbine Group Data

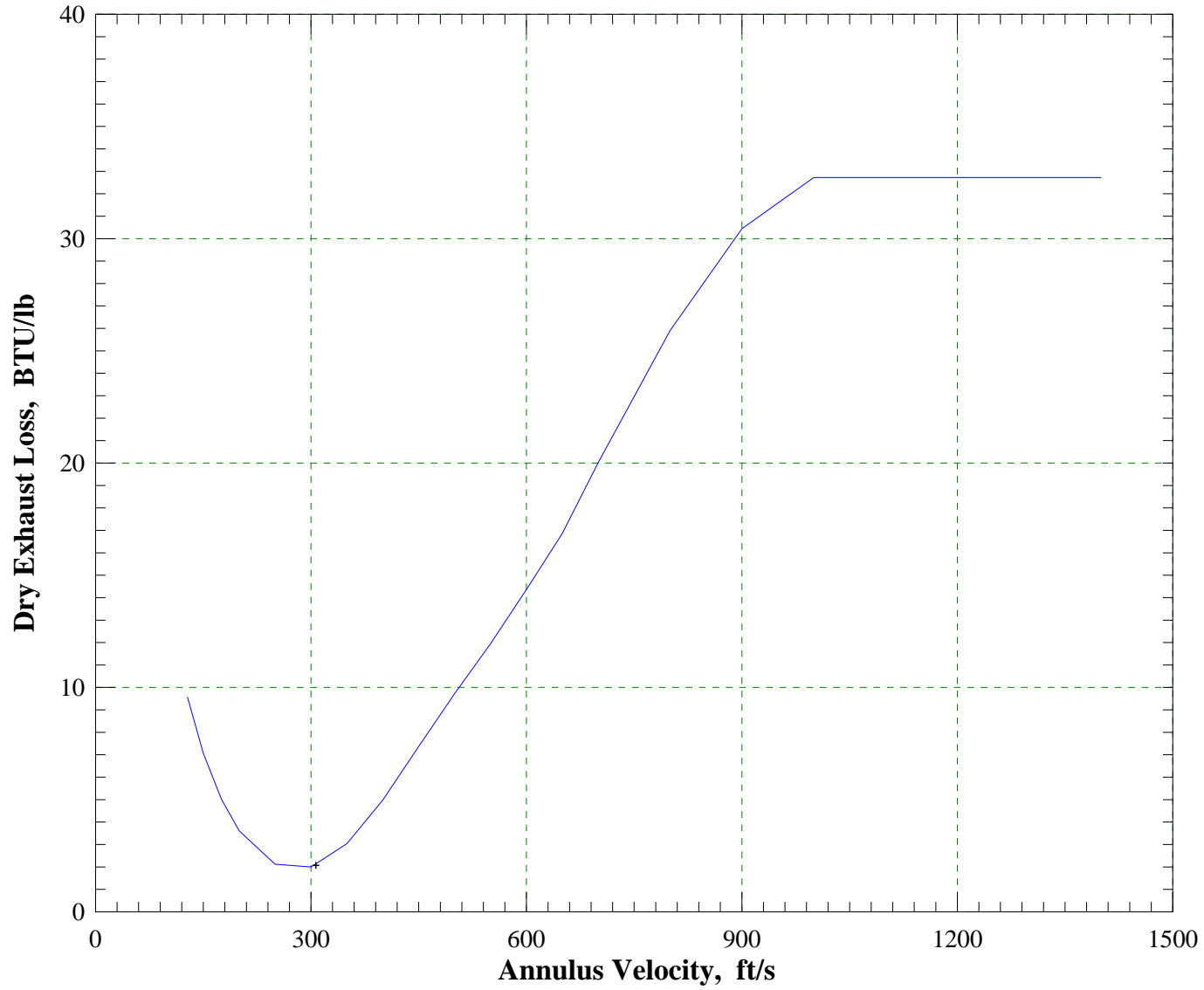


p[psia], T[F], h[BTU/lb], s[BTU/lb-R], M[kpph], Steam Properties: Thermoflow - STQUIK

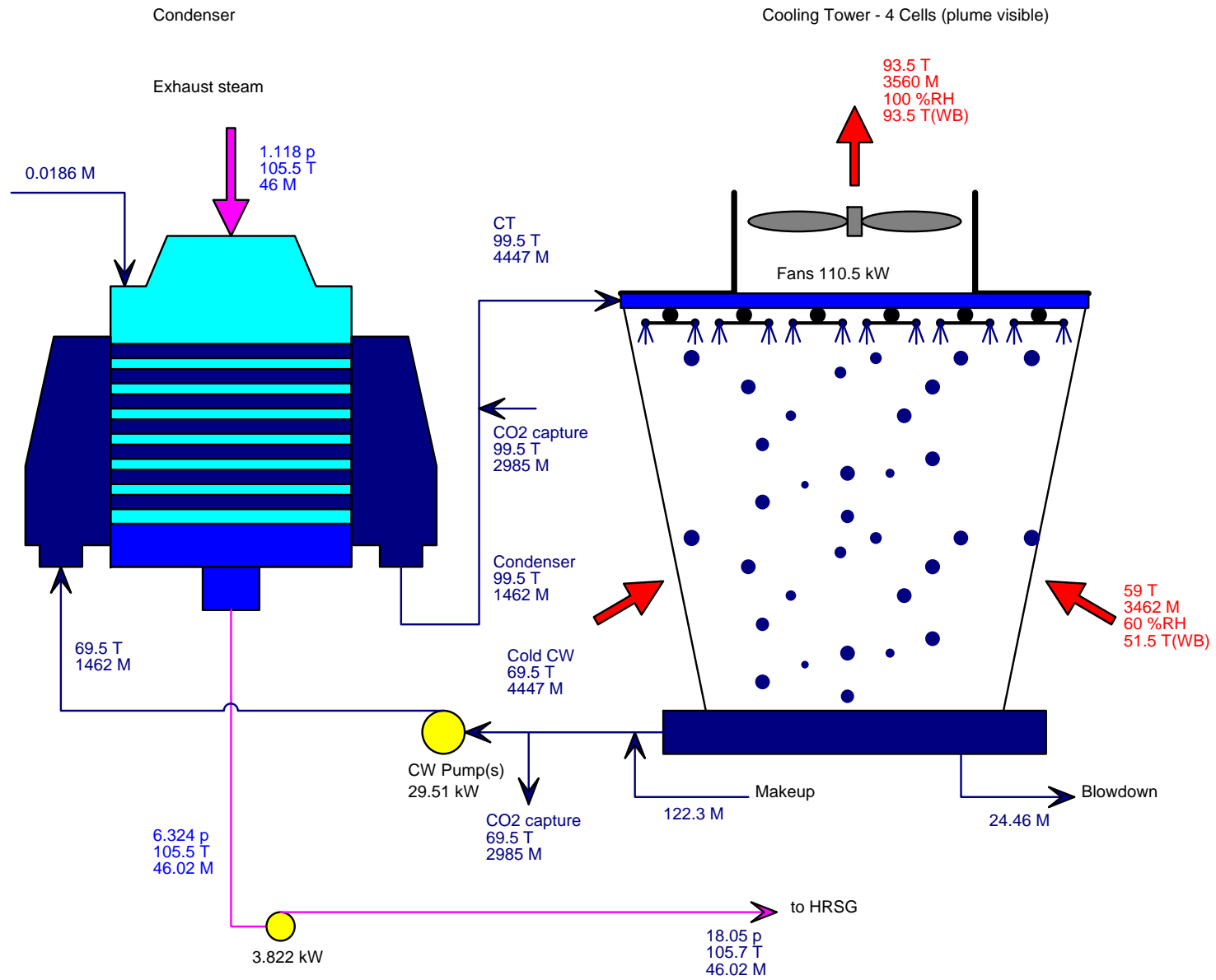
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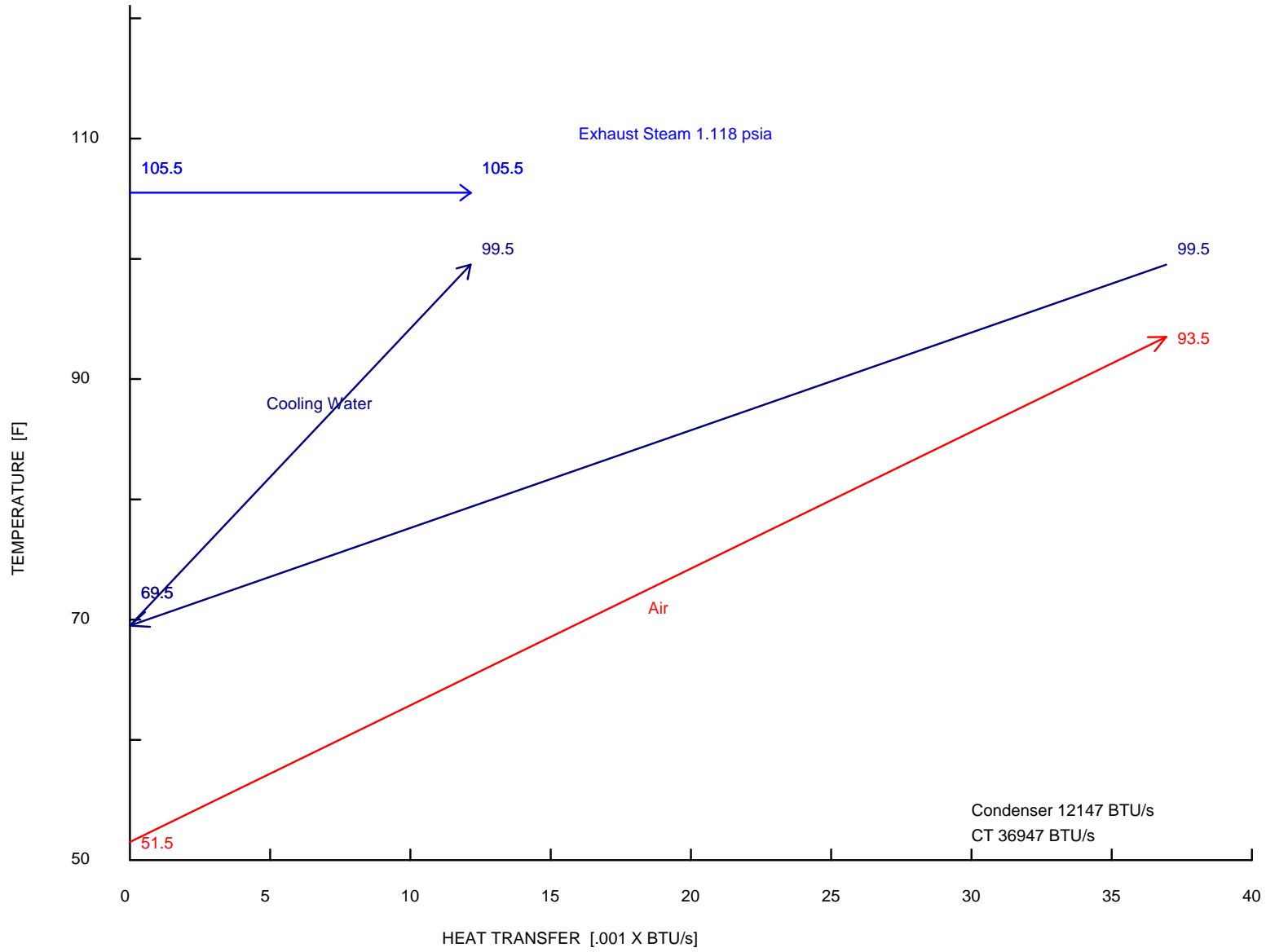
Steam Turbine Exhaust Loss

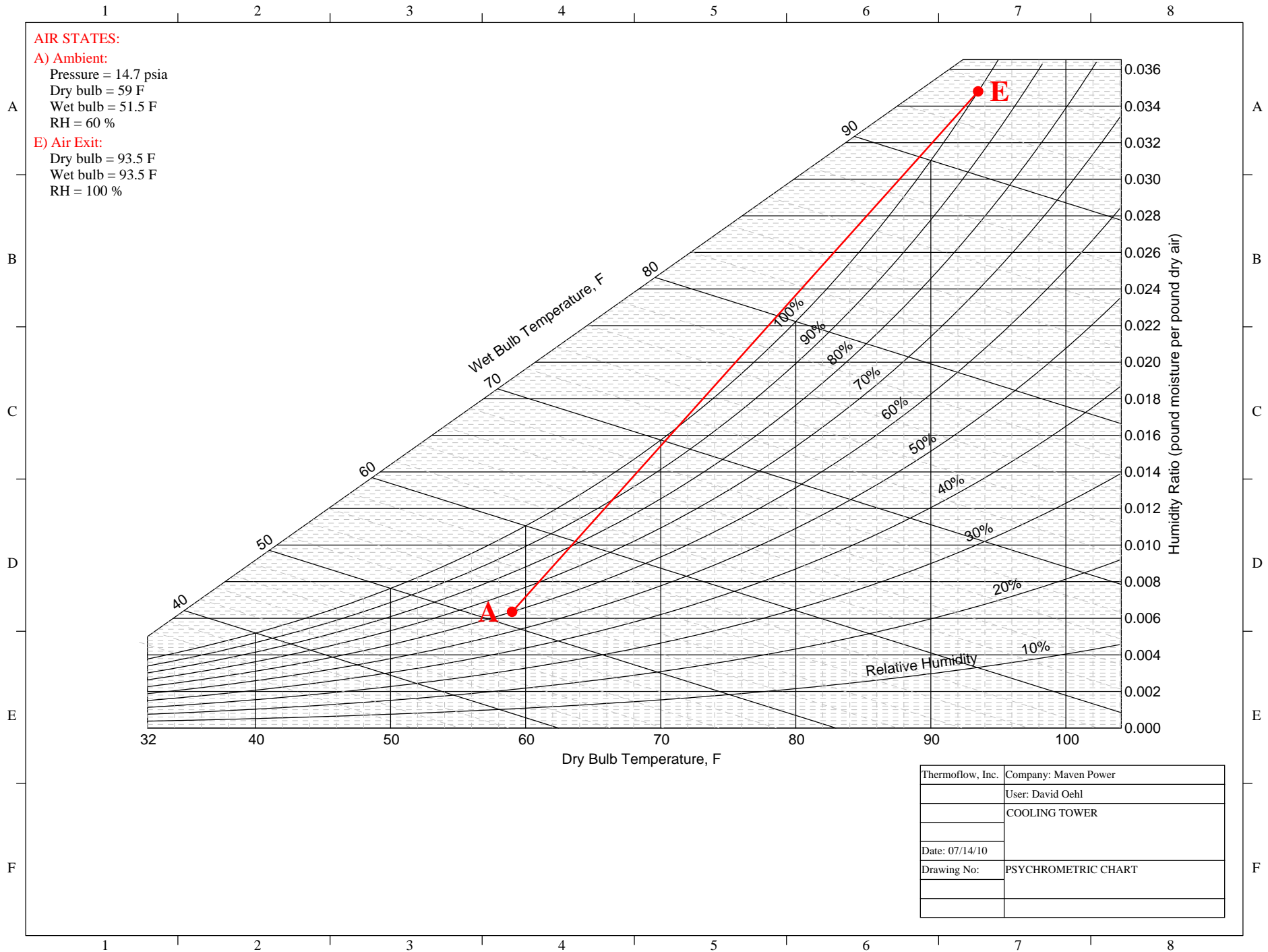


Cooling System



Water Cooled Condenser and Cooling Tower T-Q Diagram





| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | COOLING TOWER |
| Date: 07/14/10 | |
| Drawing No: | PSYCHROMETRIC CHART |
| | |

Plant Energy In [BTU/s]

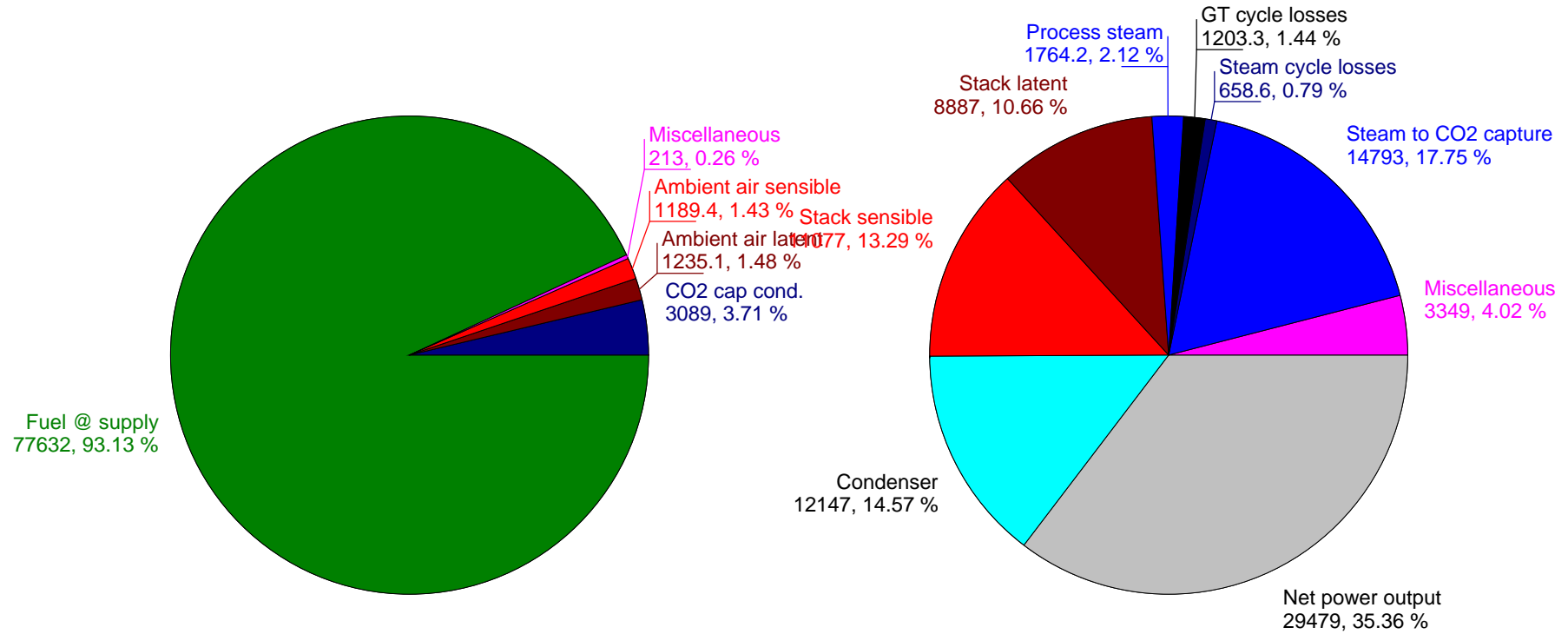
Plant energy in = 83358 BTU/s

Plant fuel chemical LHV input = 69868 BTU/s, HHV = 77351 BTU/s

Plant net LHV elec. eff. = 42.19 % (100% * 29479 / 69868), Net HHV elec. eff. = 38.11 %

Plant Energy Out [BTU/s]

Plant energy out = 83358 BTU/s



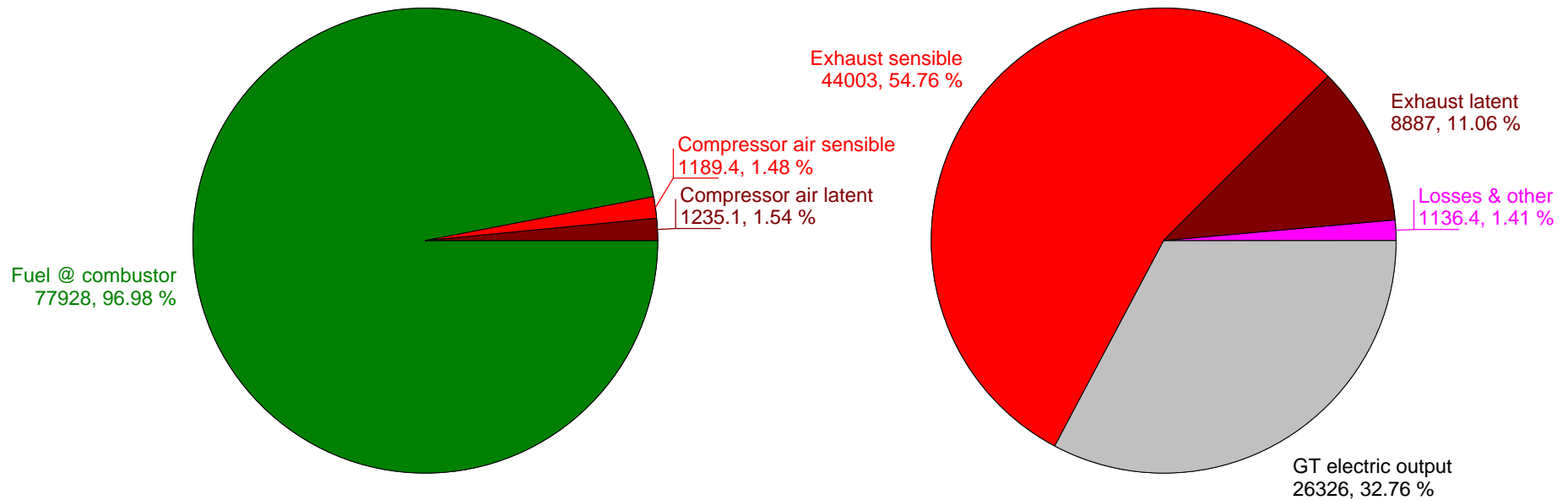
Zero enthalpy: dry gases & liquid water @ 32 F (273.15 K)

GT Cycle Energy In [BTU/s]

GT cycle energy in = 80352 BTU/s
GT fuel chemical LHV input = 69868 BTU/s, HHV = 77351 BTU/s

GT Cycle Energy Out [BTU/s]

GT cycle energy out = 80352 BTU/s



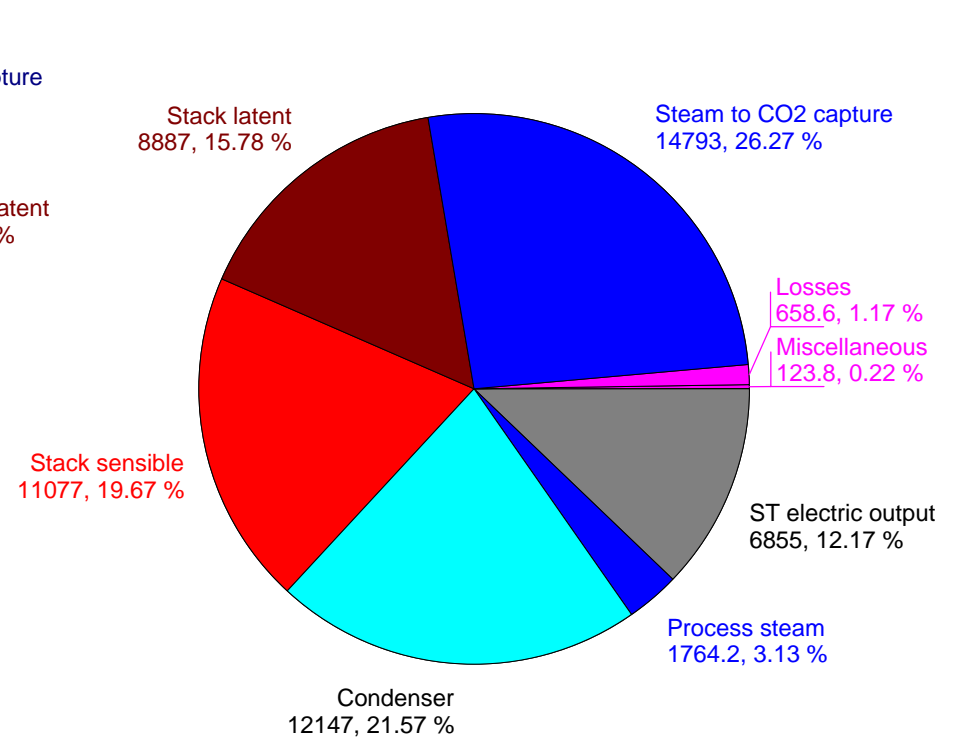
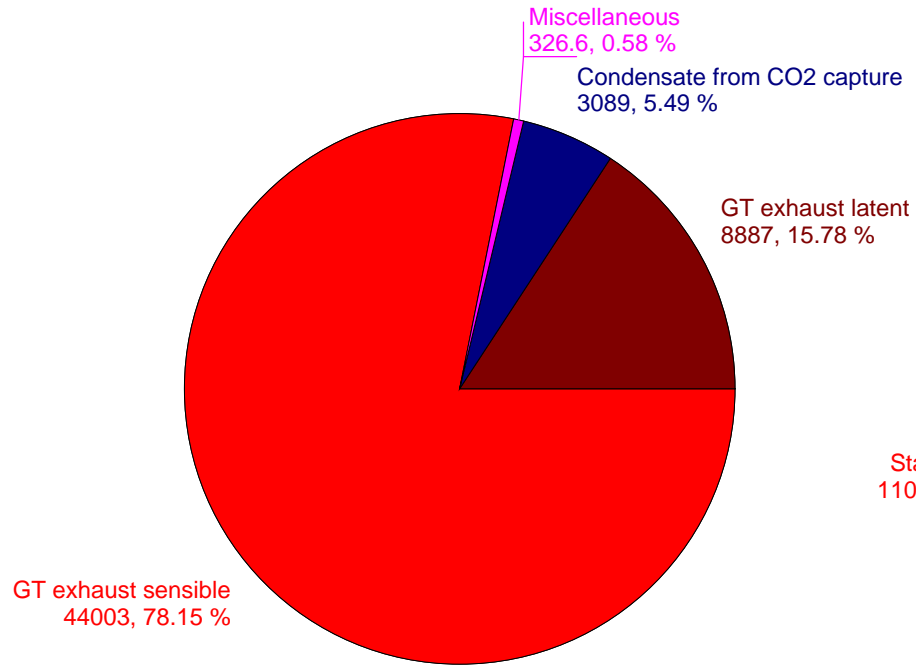
Zero enthalpy: dry gases & liquid water @ 32 F (273.15 K)

Steam Cycle Energy In [BTU/s]

Steam cycle energy in = 56305 BTU/s

Steam Cycle Energy Out [BTU/s]

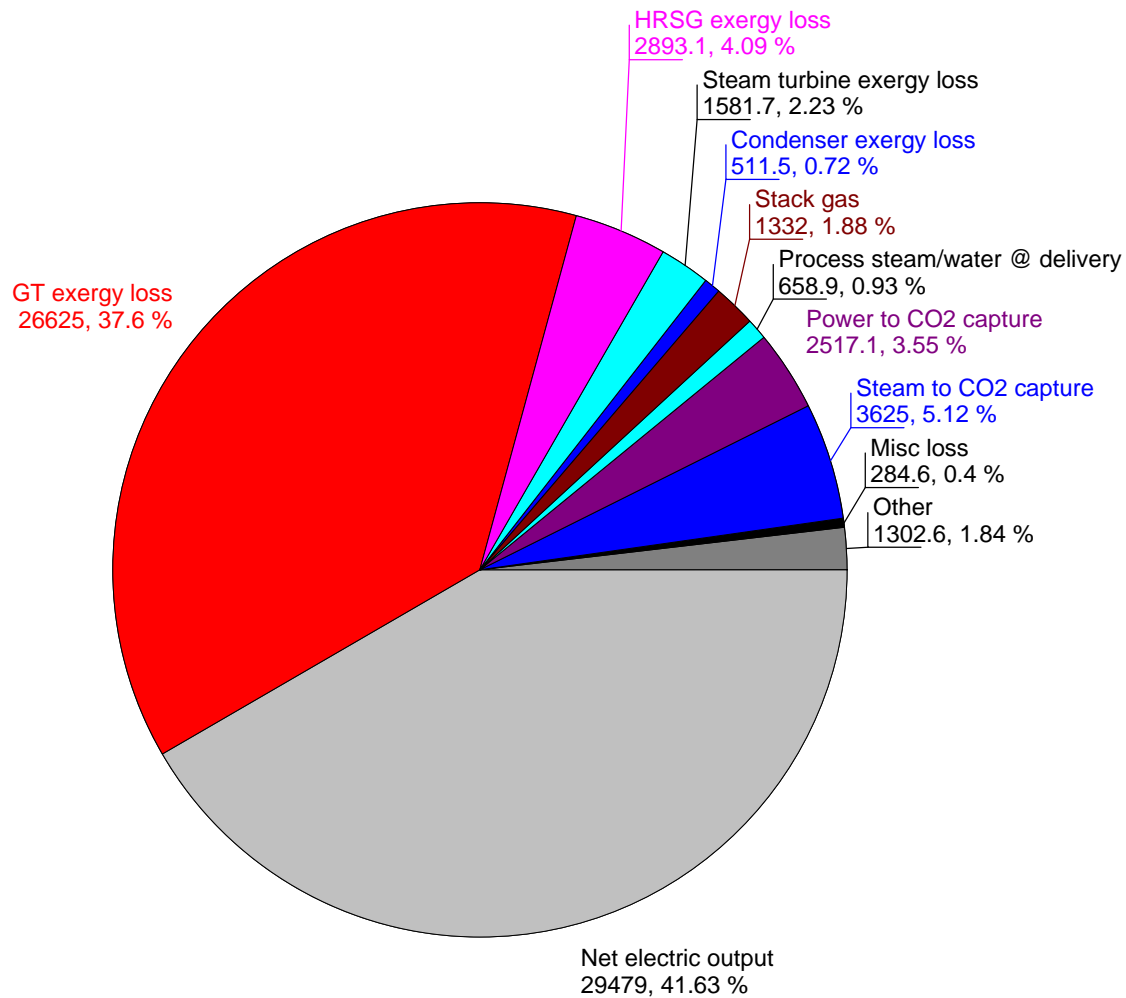
Steam cycle energy out = 56305 BTU/s



Zero enthalpy: dry gases & liquid water @ 32 F (273.15 K)

Plant Exergy Analysis [BTU/s]

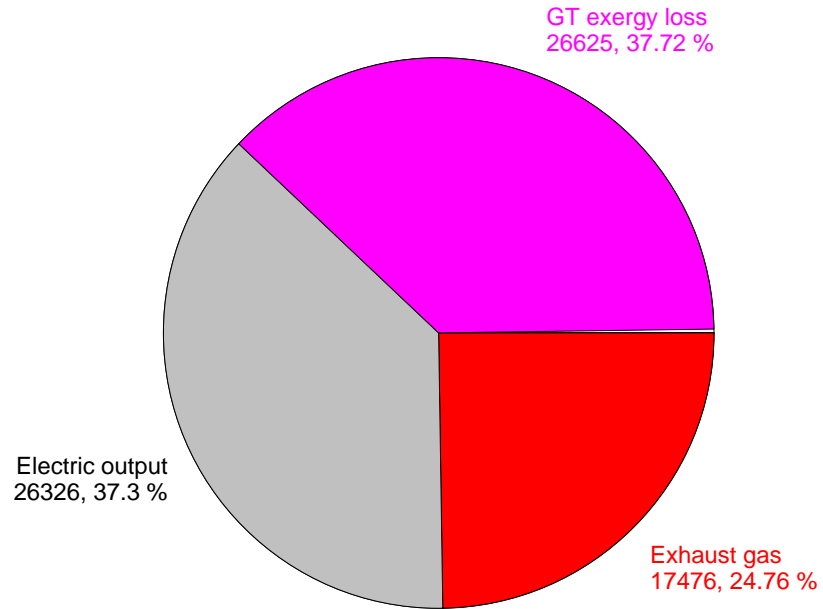
Plant exergy input = 70811 BTU/s
Fuel exergy input = 70331 BTU/s
Plant fuel chemical LHV input = 69868 BTU/s, HHV = 77351 BTU/s



Reference: 14.696 psia, 77 F, water as vapor.

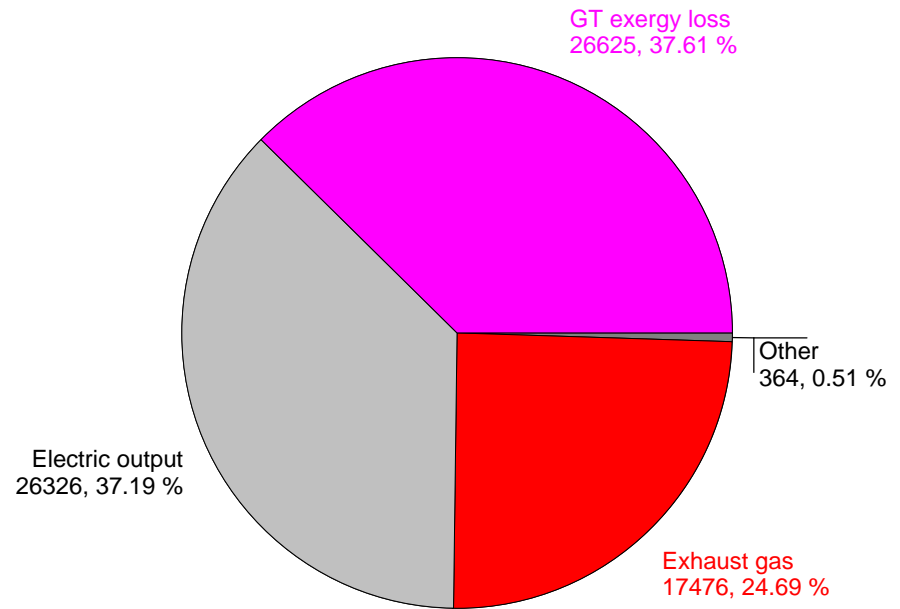
GT Exergy Analysis [BTU/s]

GT exergy in = 70589 BTU/s



GT & Peripheral Exergy Analysis [BTU/s]

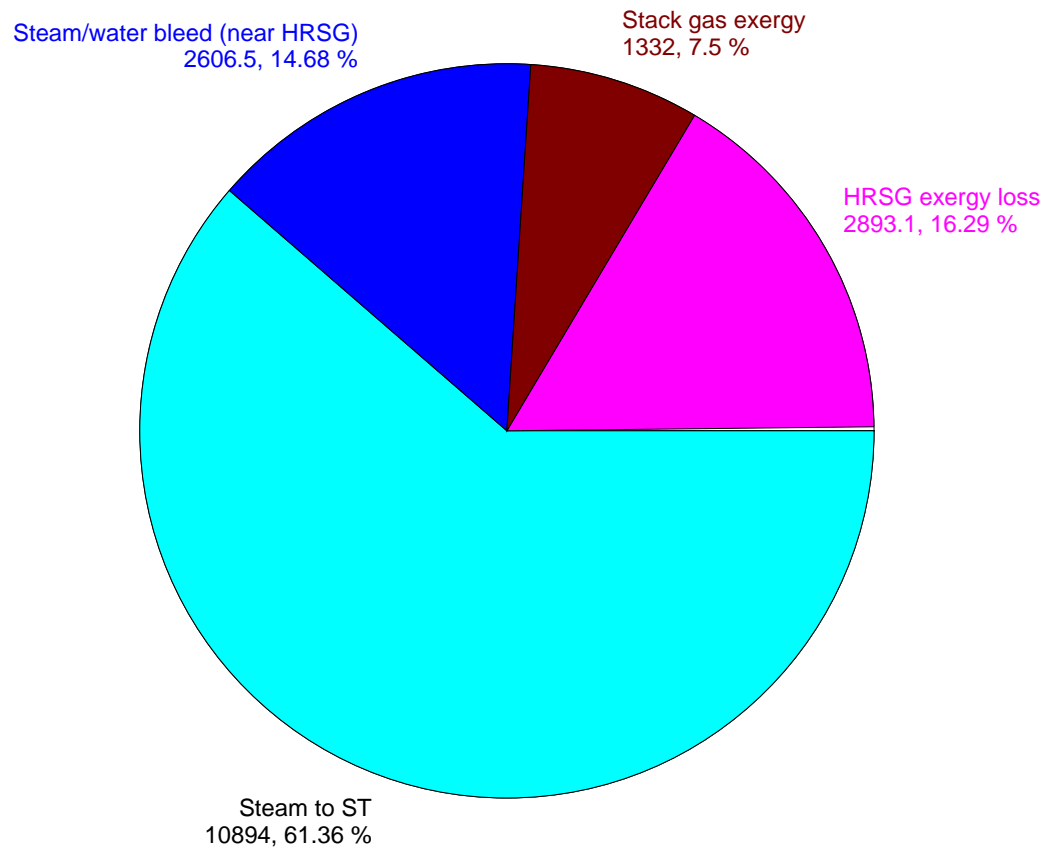
GT & peripheral exergy in = 70791 BTU/s



Reference: 14.696 psia, 77 F, water as vapor.

HRSG Exergy Analysis [BTU/s]

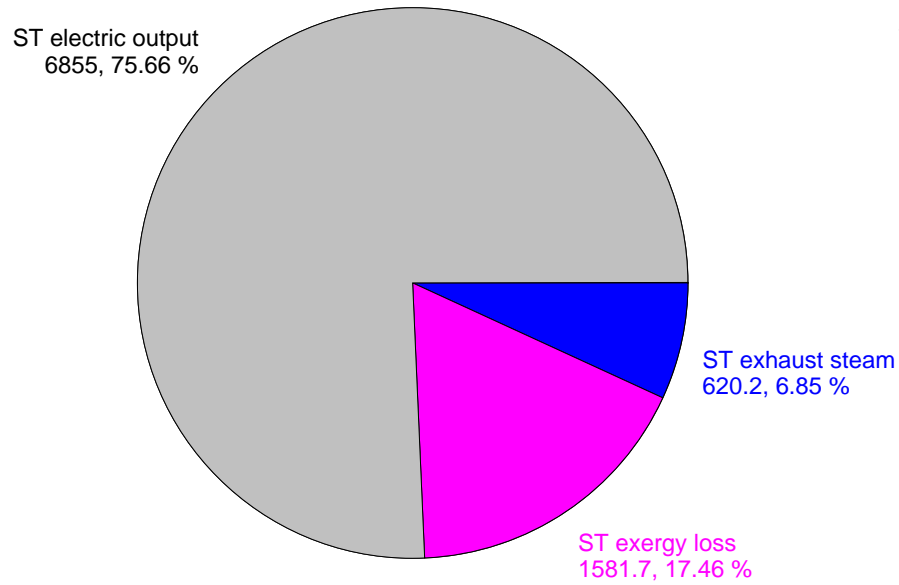
HRSG exergy in = 17755 BTU/s



Reference: 14.696 psia, 77 F, water as vapor.

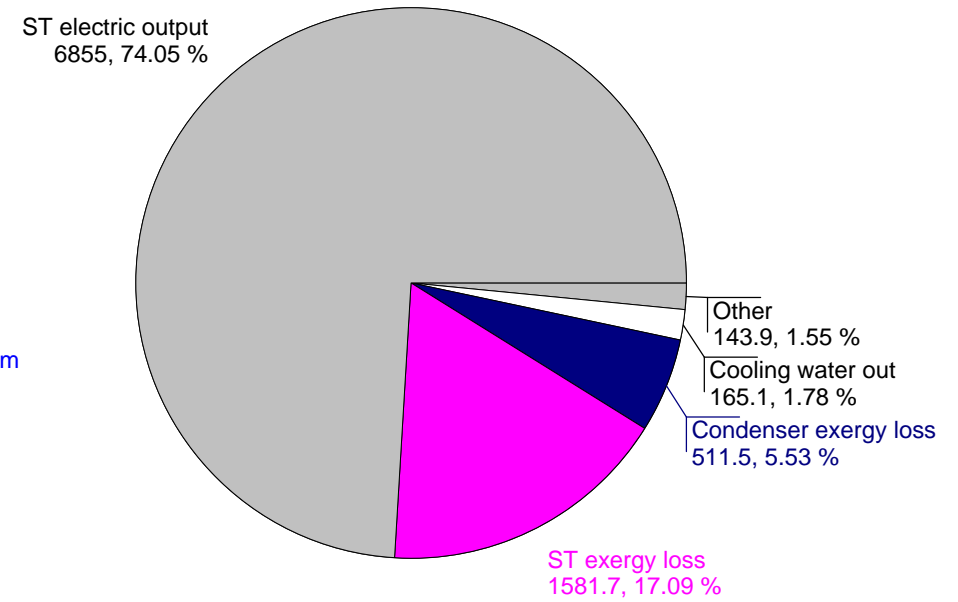
ST Exergy Analysis [BTU/s]

ST exergy in = 9060 BTU/s

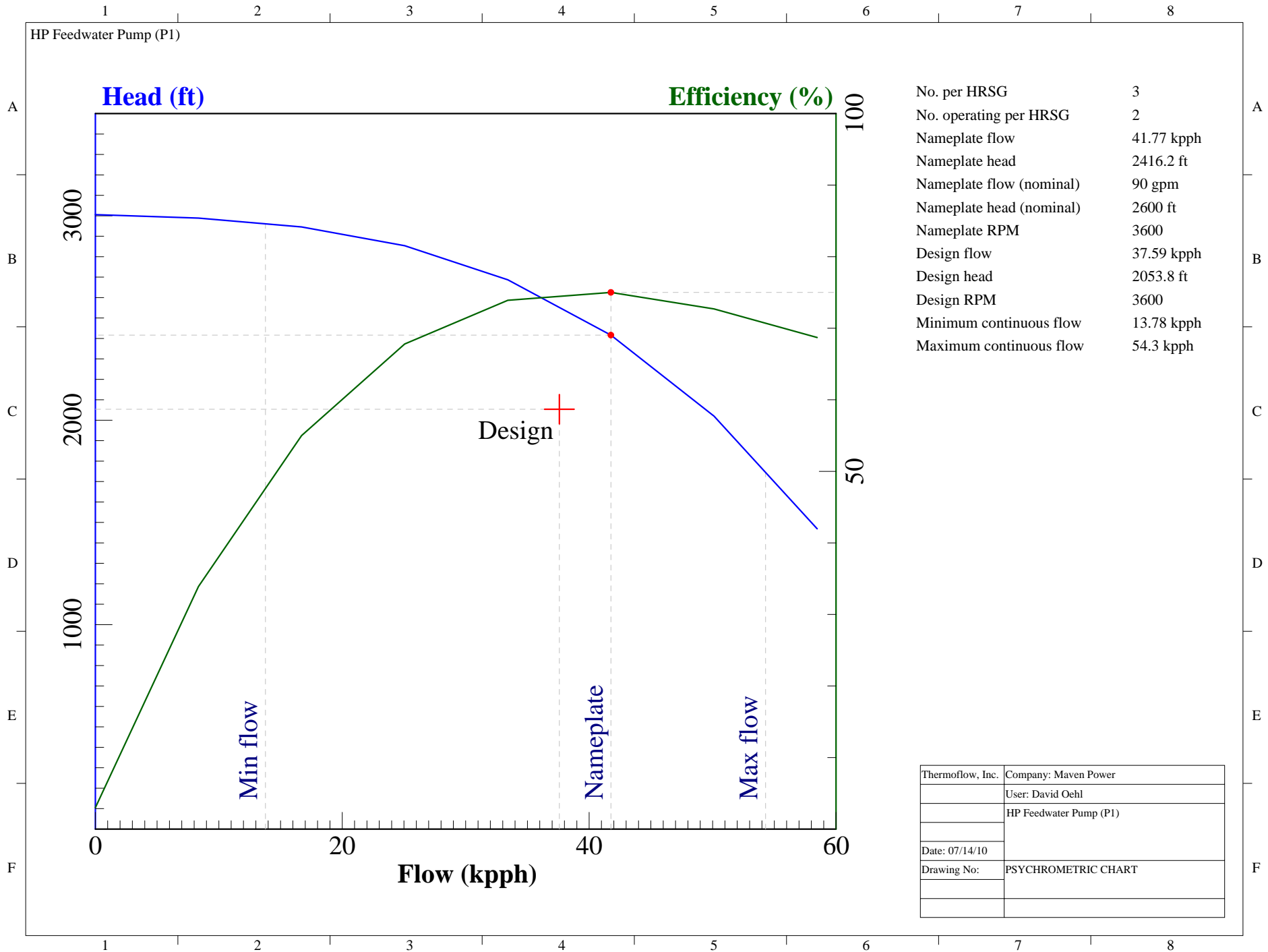


ST & Condenser Exergy Analysis [BTU/s]

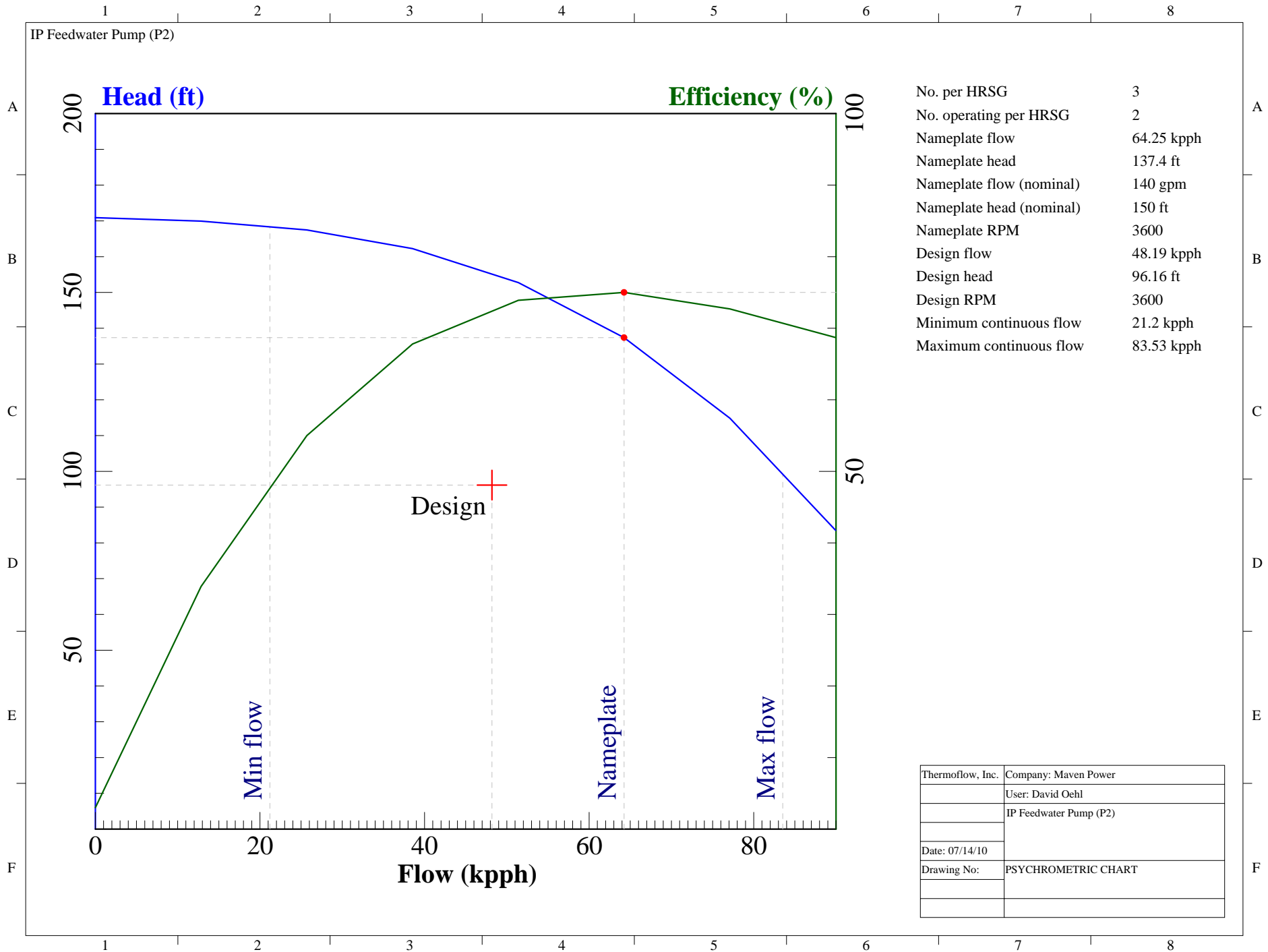
ST & condenser exergy in = 9257 BTU/s



Reference: 14.696 psia, 77 F, water as vapor.

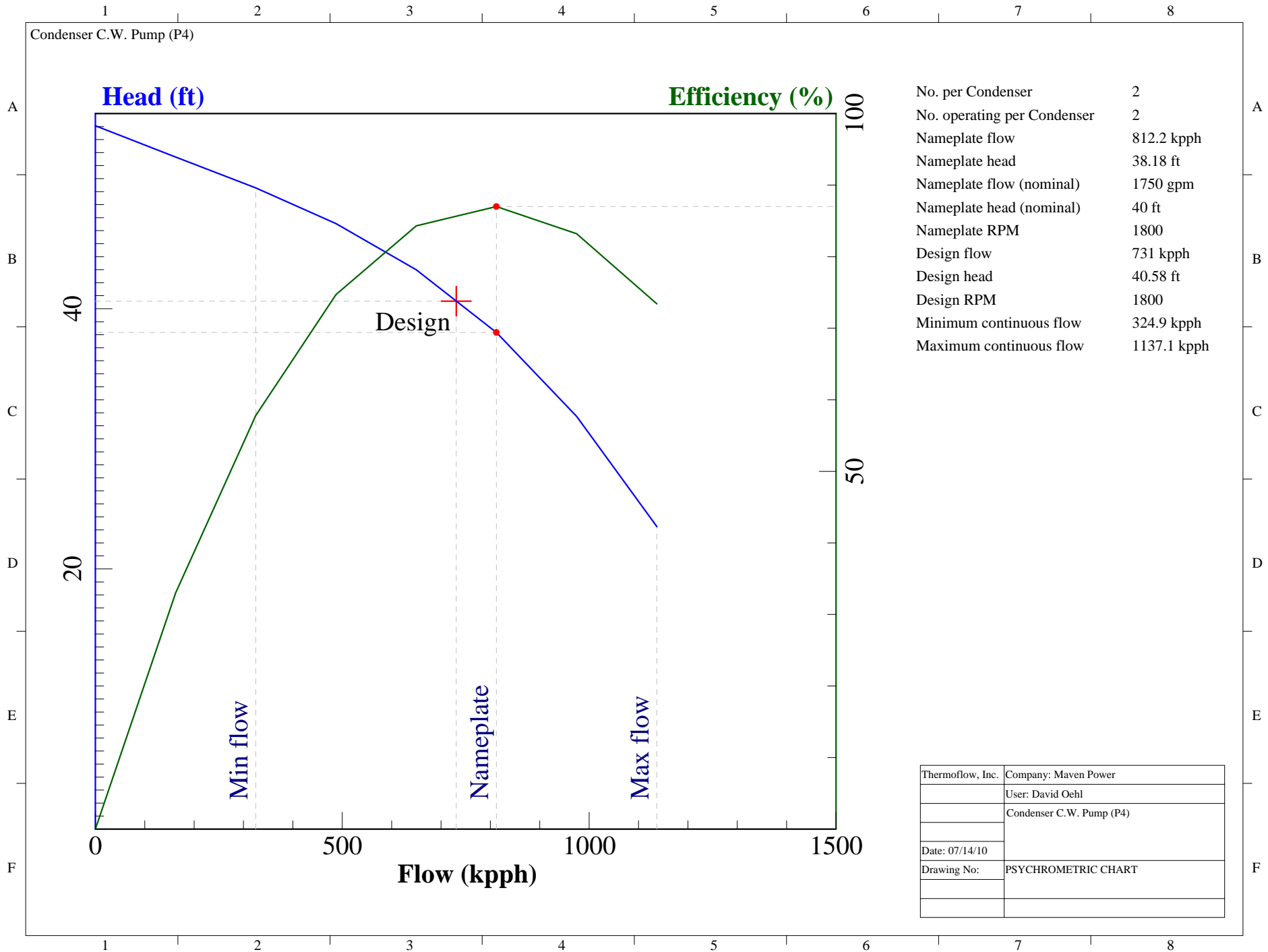


| | |
|------------------|------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | HP Feedwater Pump (P1) |
| | |
| Date: 07/14/10 | |
| Drawing No: | PSYCHROMETRIC CHART |
| | |
| | |

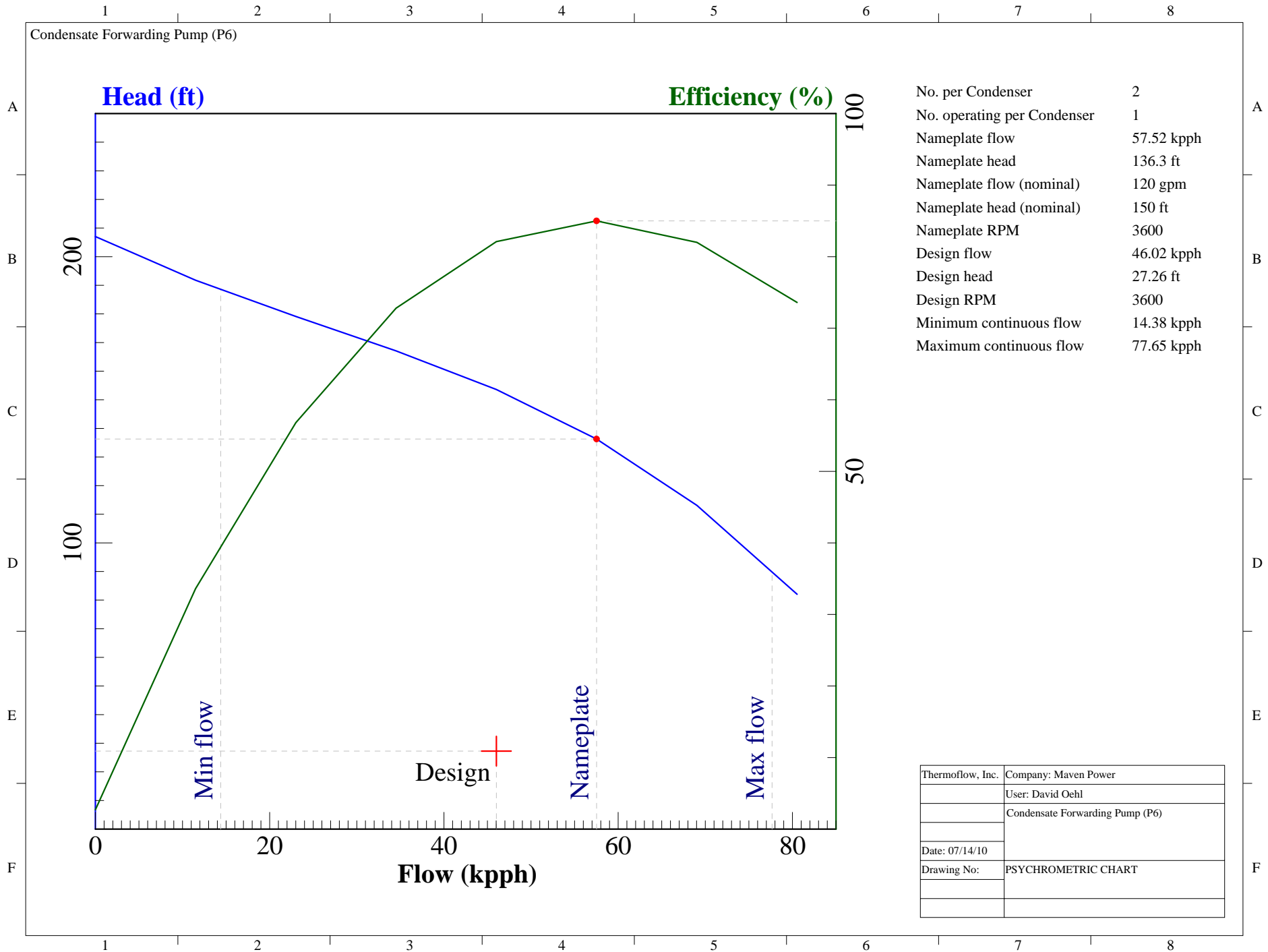


| | |
|--------------------------|------------|
| No. per HRSG | 3 |
| No. operating per HRSG | 2 |
| Nameplate flow | 64.25 kpph |
| Nameplate head | 137.4 ft |
| Nameplate flow (nominal) | 140 gpm |
| Nameplate head (nominal) | 150 ft |
| Nameplate RPM | 3600 |
| Design flow | 48.19 kpph |
| Design head | 96.16 ft |
| Design RPM | 3600 |
| Minimum continuous flow | 21.2 kpph |
| Maximum continuous flow | 83.53 kpph |

| | |
|------------------|------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | IP Feedwater Pump (P2) |
| | |
| Date: 07/14/10 | |
| Drawing No: | PSYCHROMETRIC CHART |
| | |
| | |

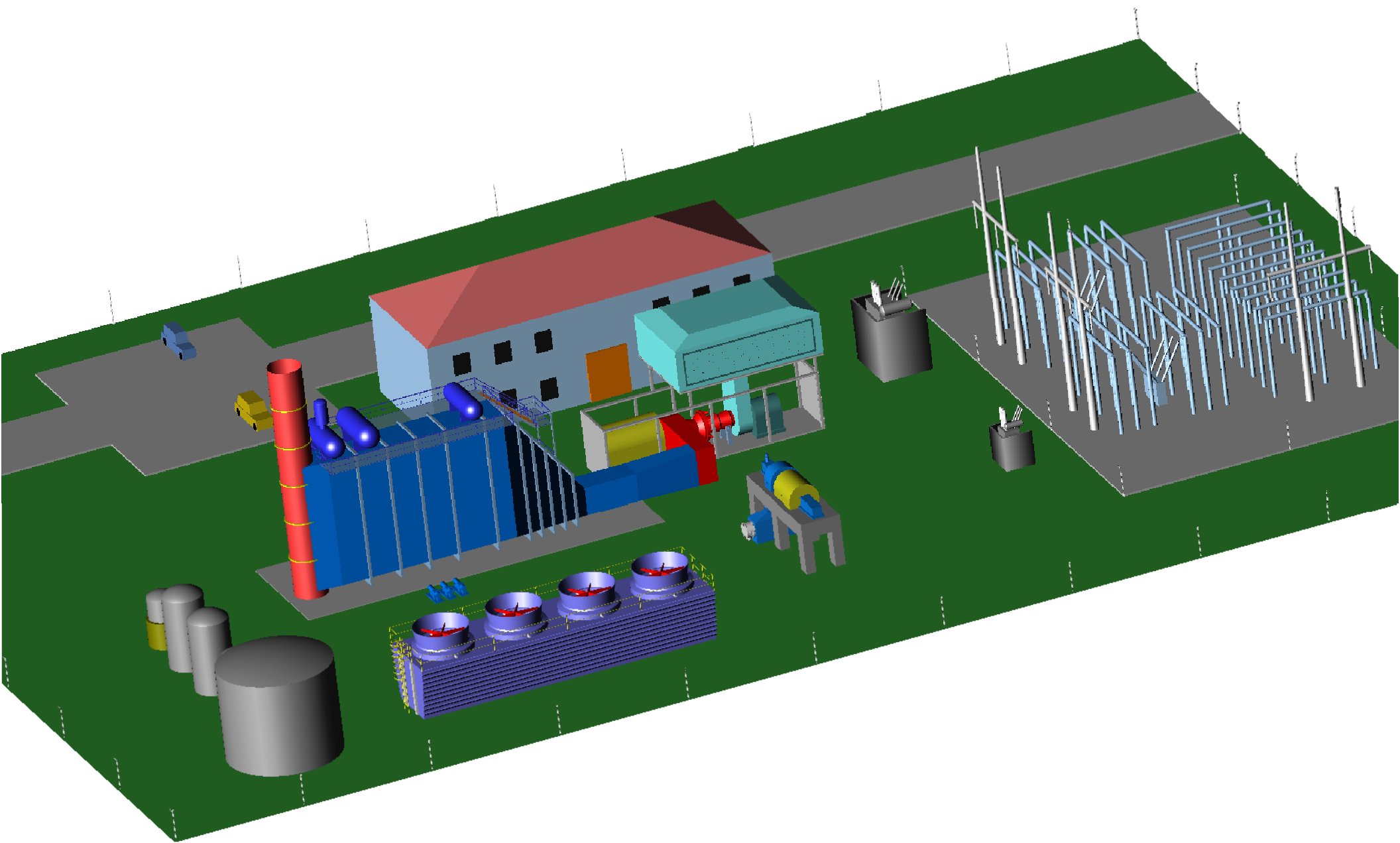


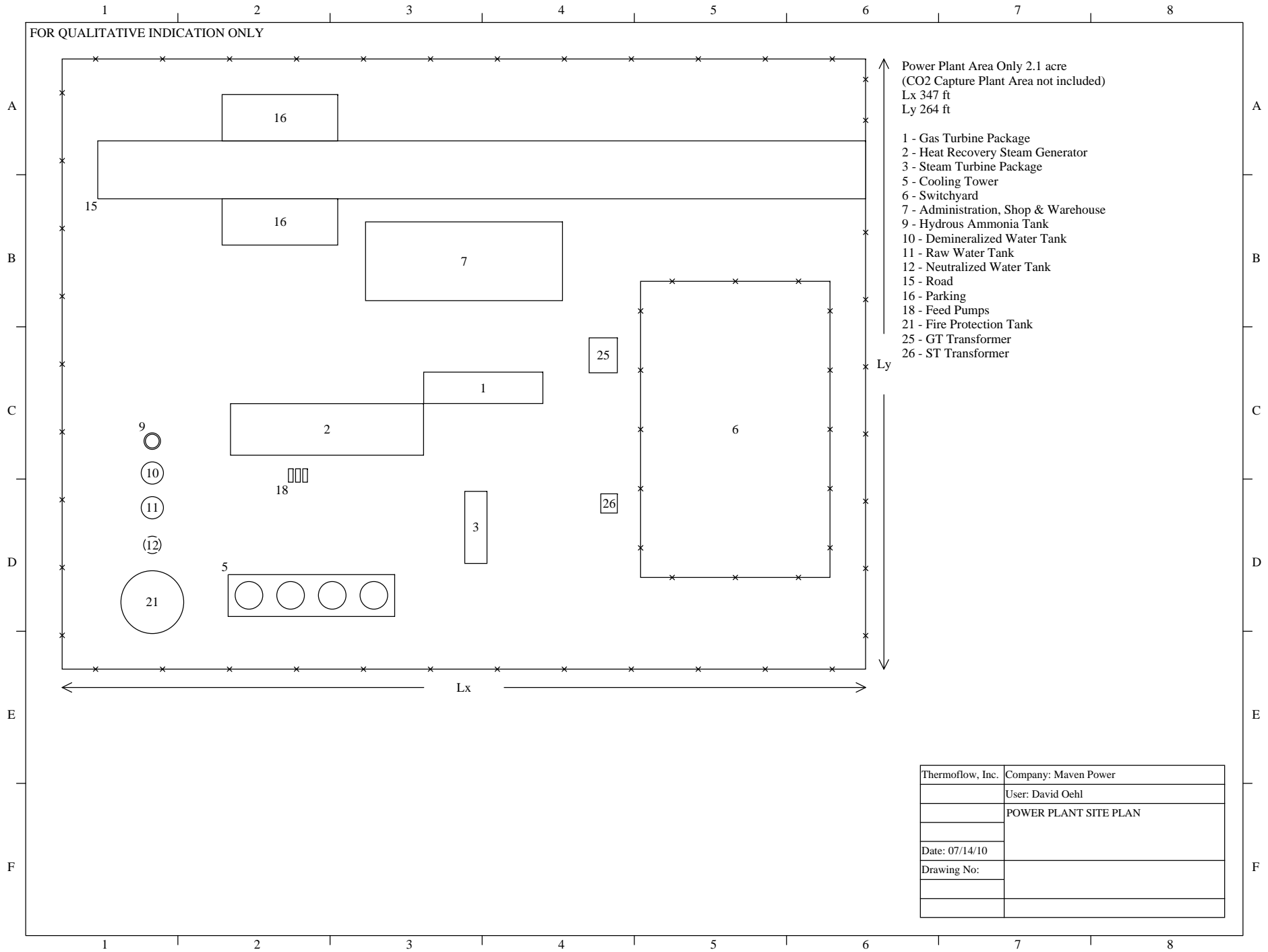
| | |
|------------------|--------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Condenser C.W. Pump (P4) |
| | |
| Date: 07/14/10 | |
| Drawing No: | PSYCHROMETRIC CHART |
| | |
| | |



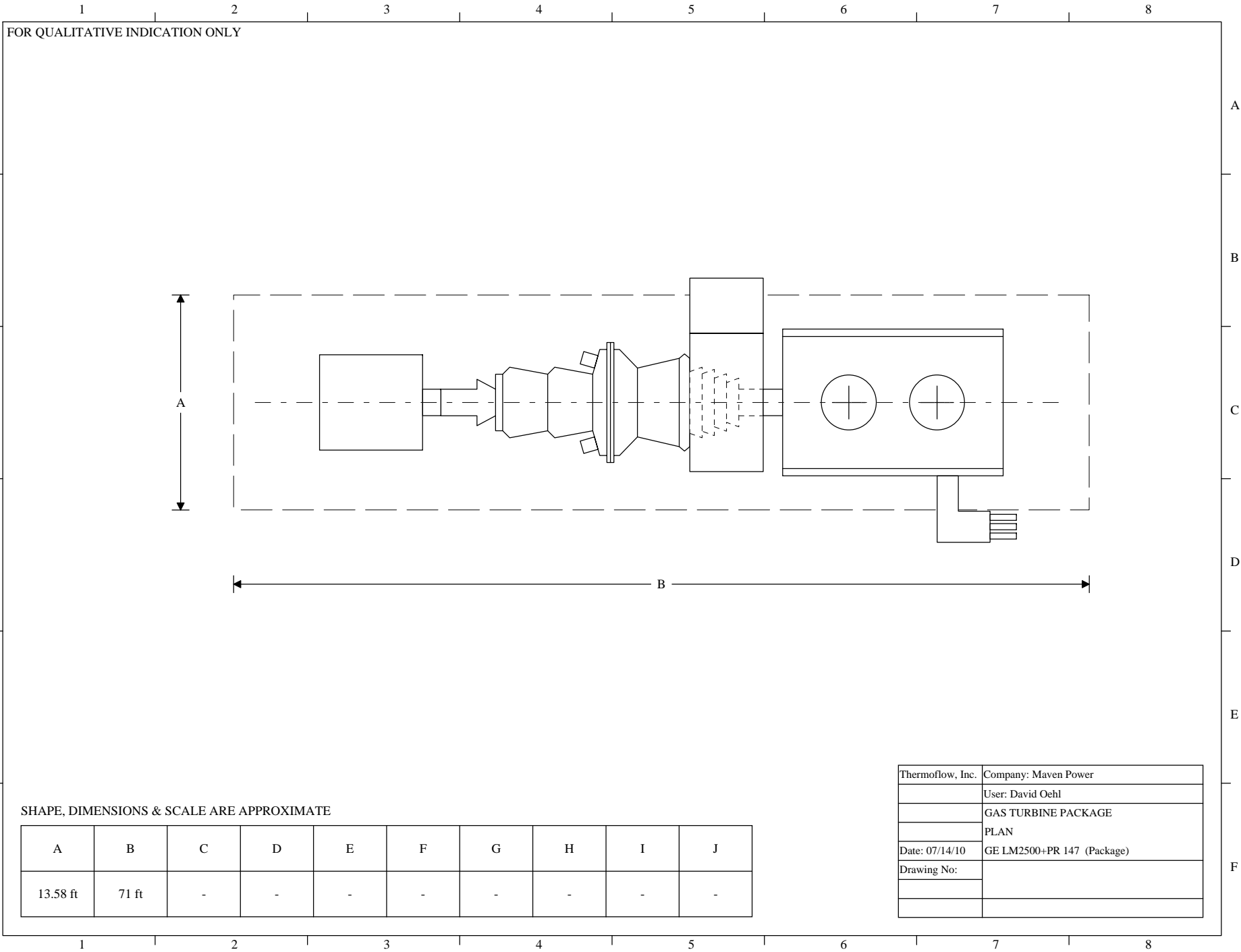
| | |
|-----------------------------|------------|
| No. per Condenser | 2 |
| No. operating per Condenser | 1 |
| Nameplate flow | 57.52 kpph |
| Nameplate head | 136.3 ft |
| Nameplate flow (nominal) | 120 gpm |
| Nameplate head (nominal) | 150 ft |
| Nameplate RPM | 3600 |
| Design flow | 46.02 kpph |
| Design head | 27.26 ft |
| Design RPM | 3600 |
| Minimum continuous flow | 14.38 kpph |
| Maximum continuous flow | 77.65 kpph |

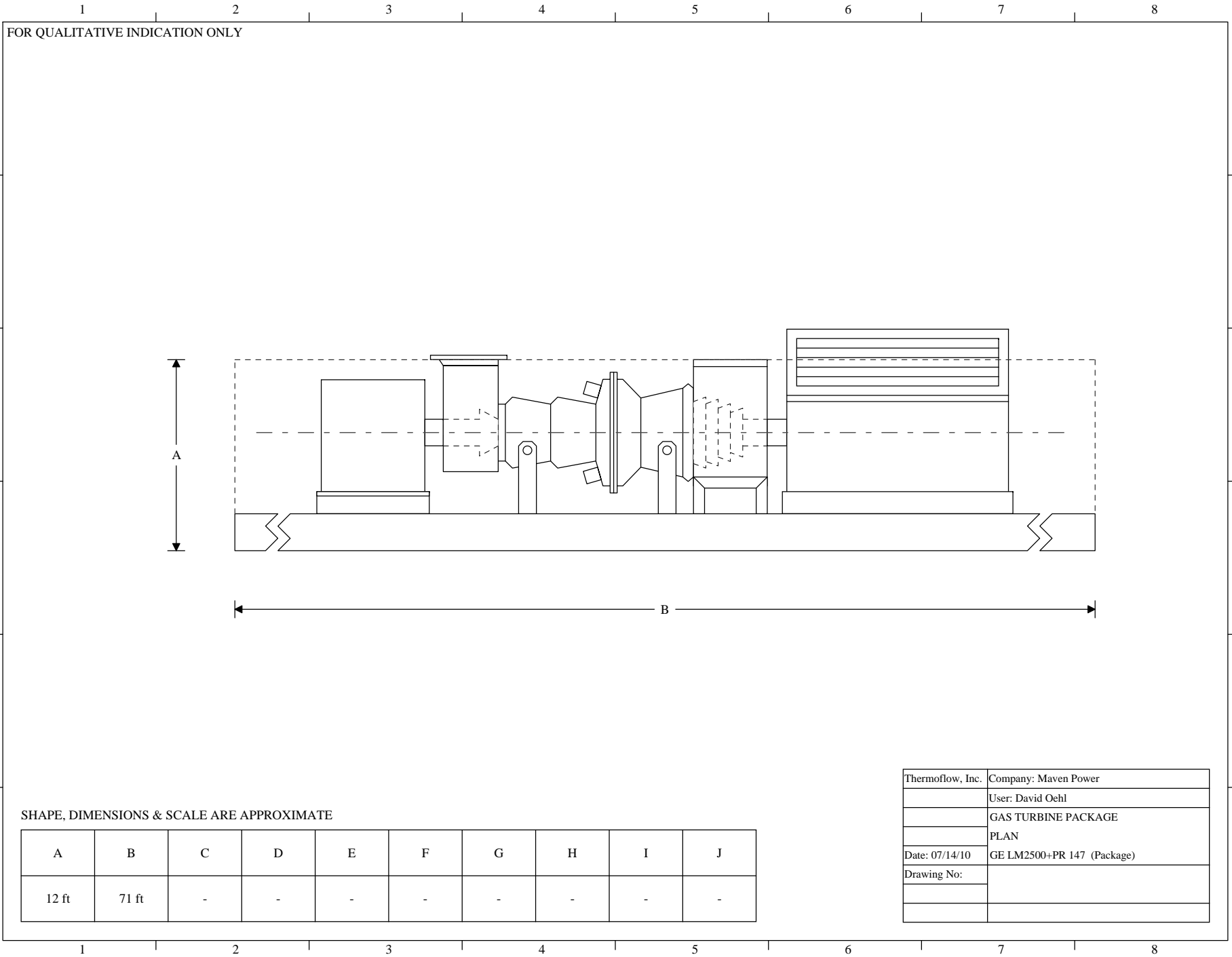
| | |
|------------------|---------------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Condensate Forwarding Pump (P6) |
| | |
| Date: 07/14/10 | |
| Drawing No: | PSYCHROMETRIC CHART |
| | |
| | |

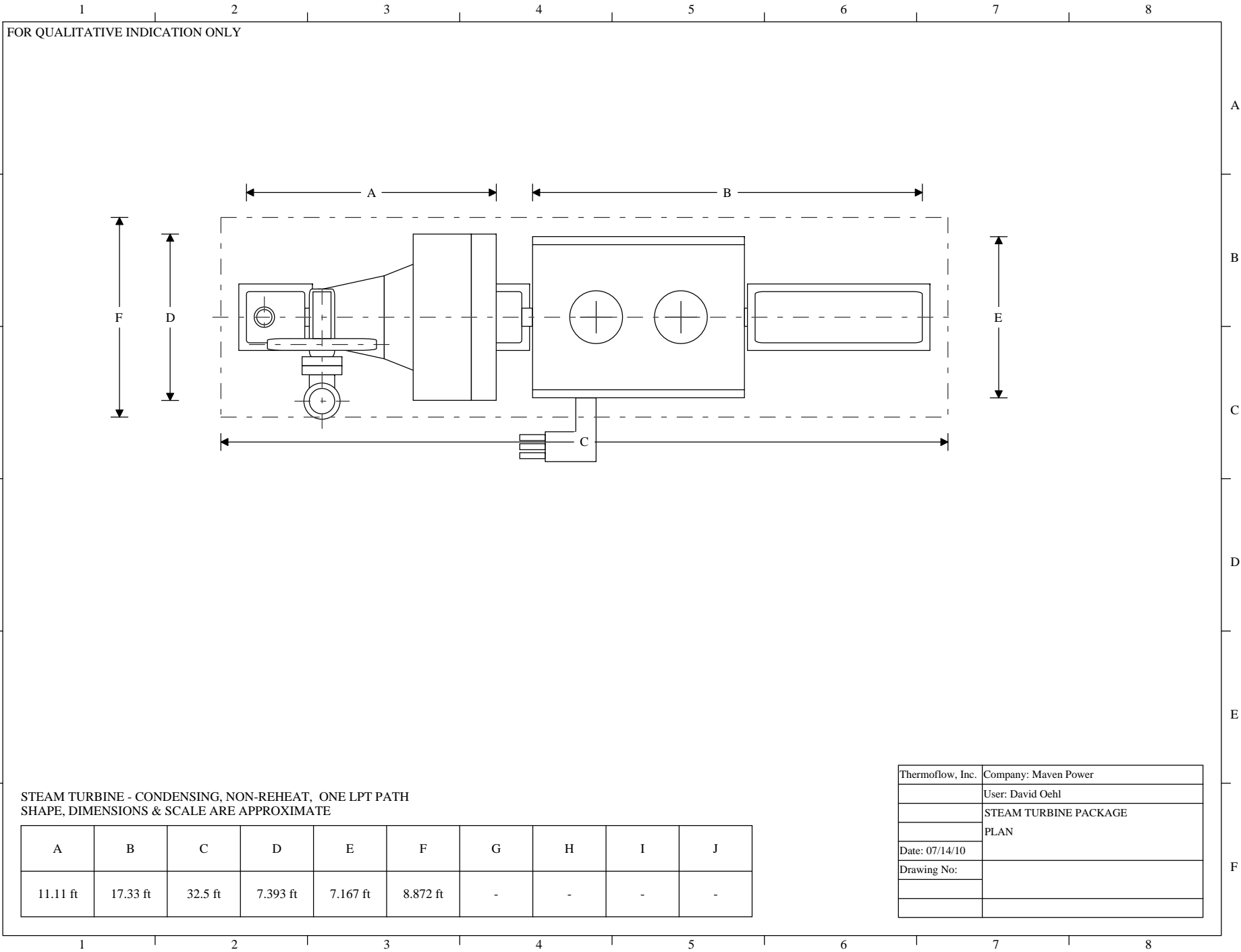


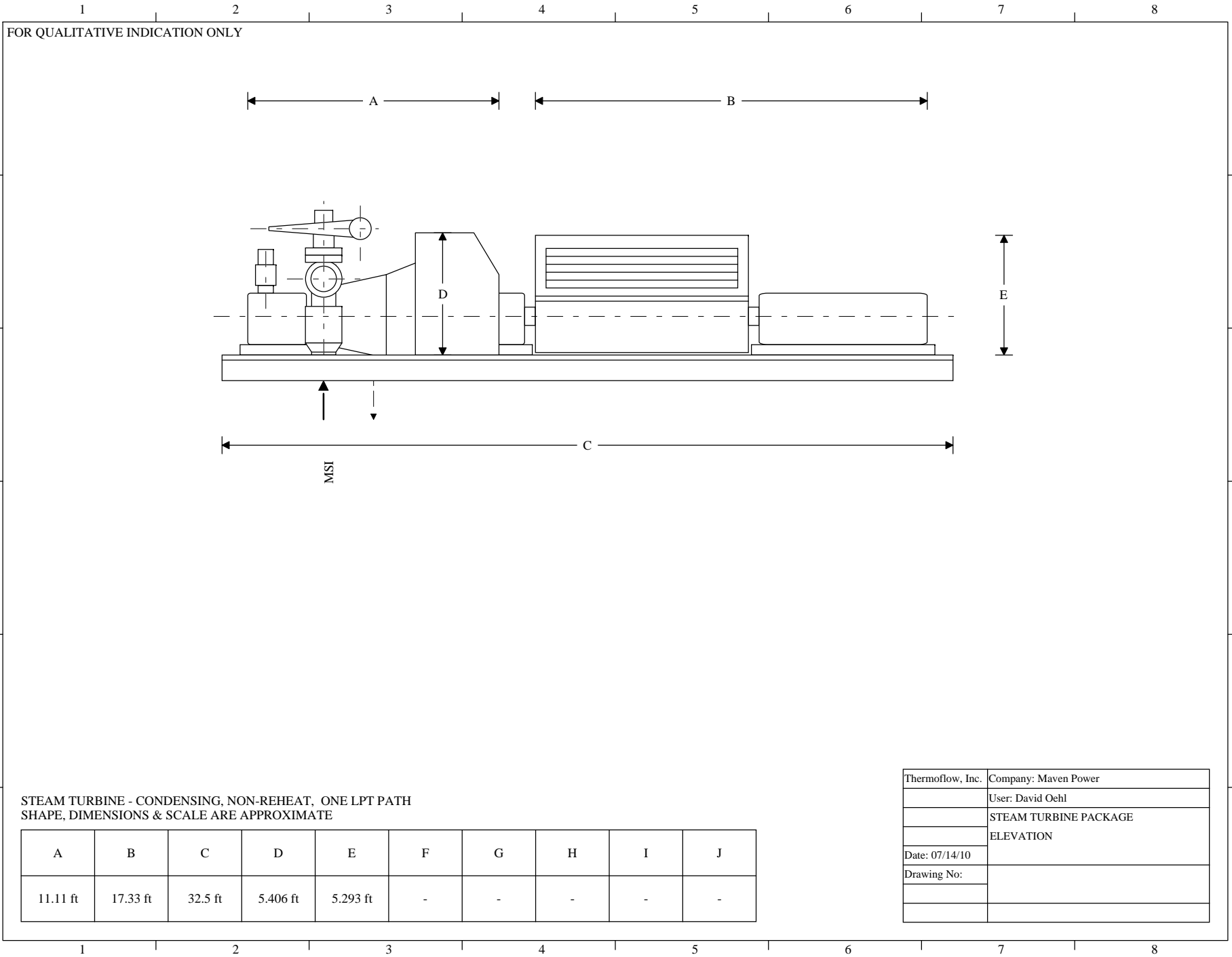


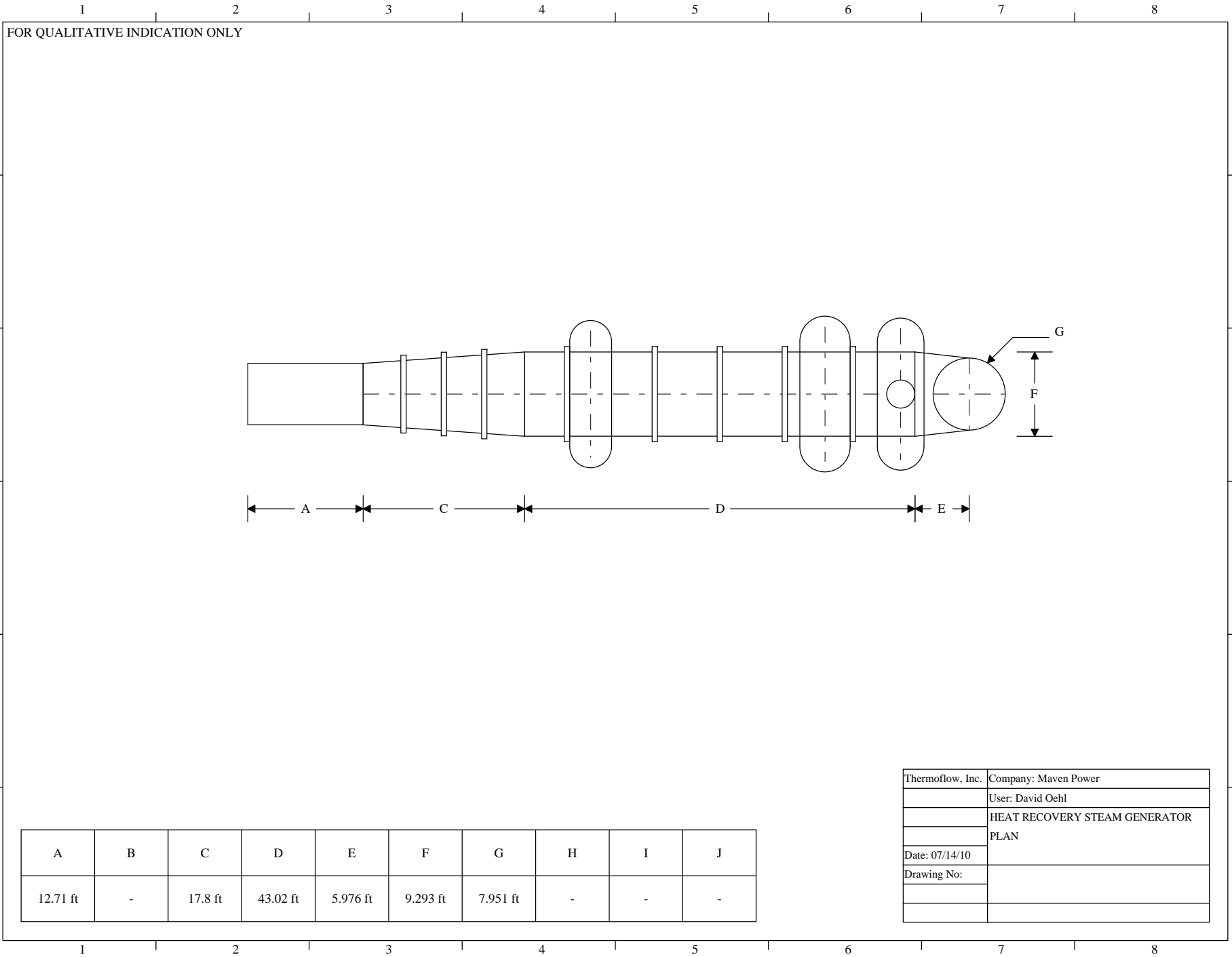
| | |
|------------------|-----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | POWER PLANT SITE PLAN |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |





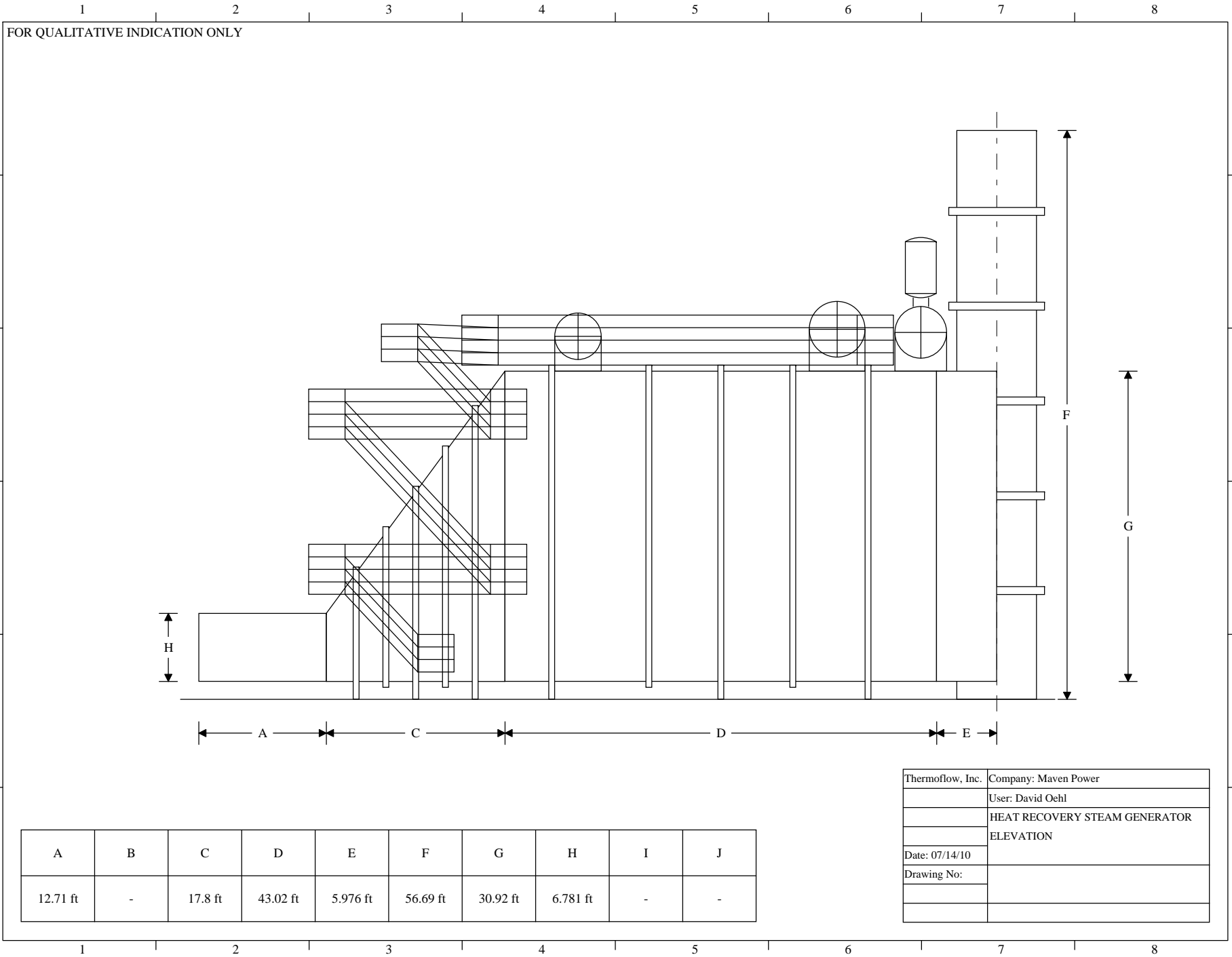


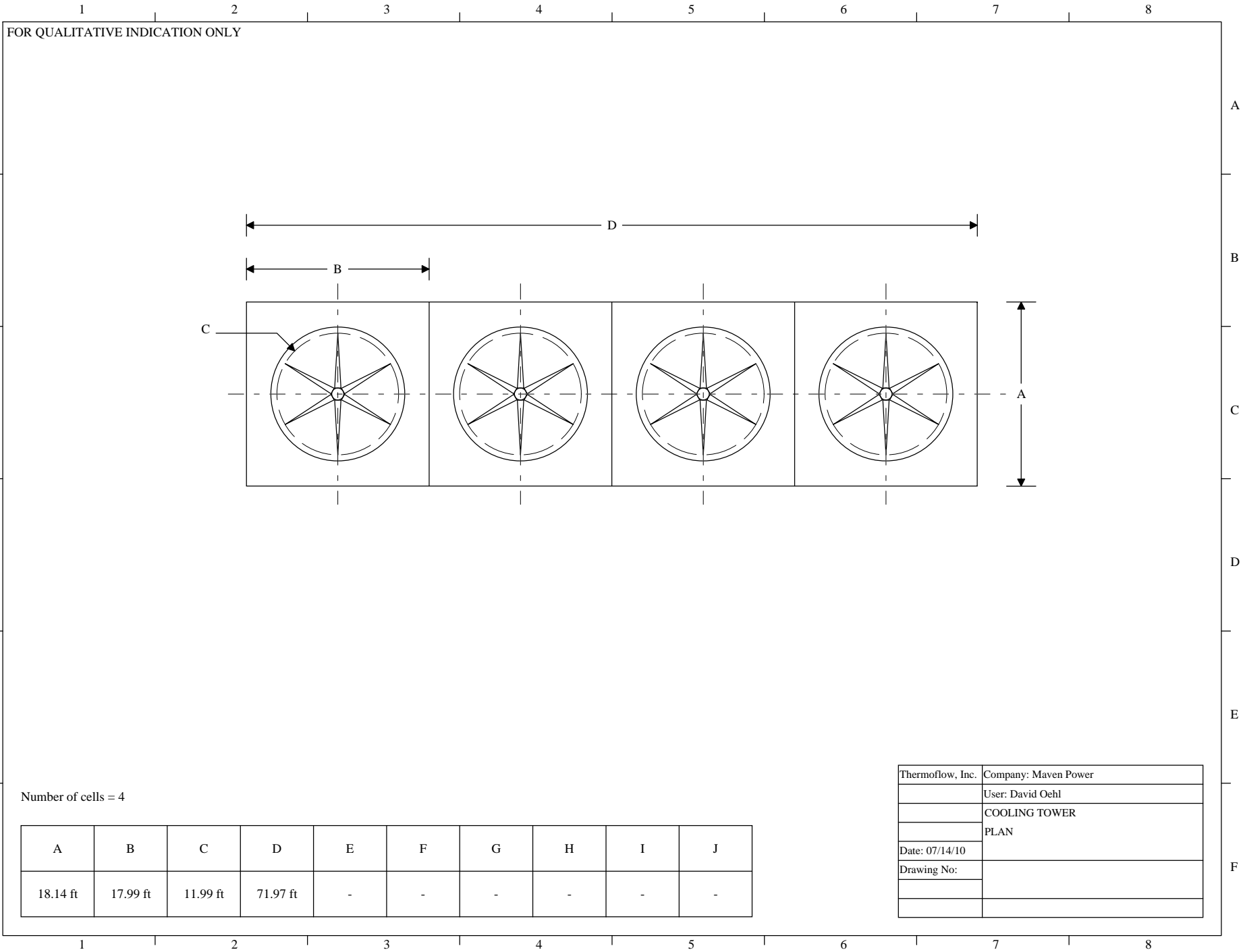


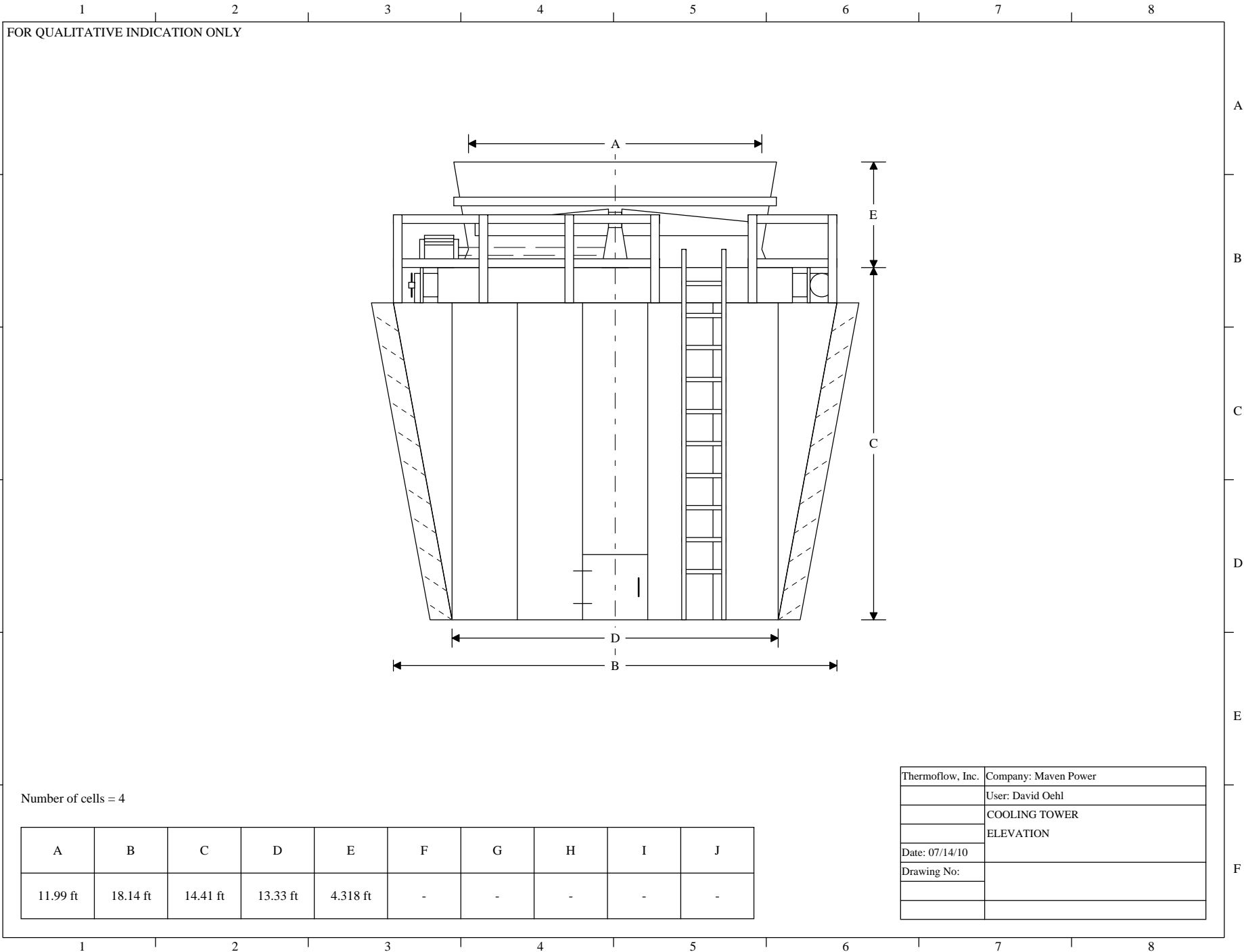


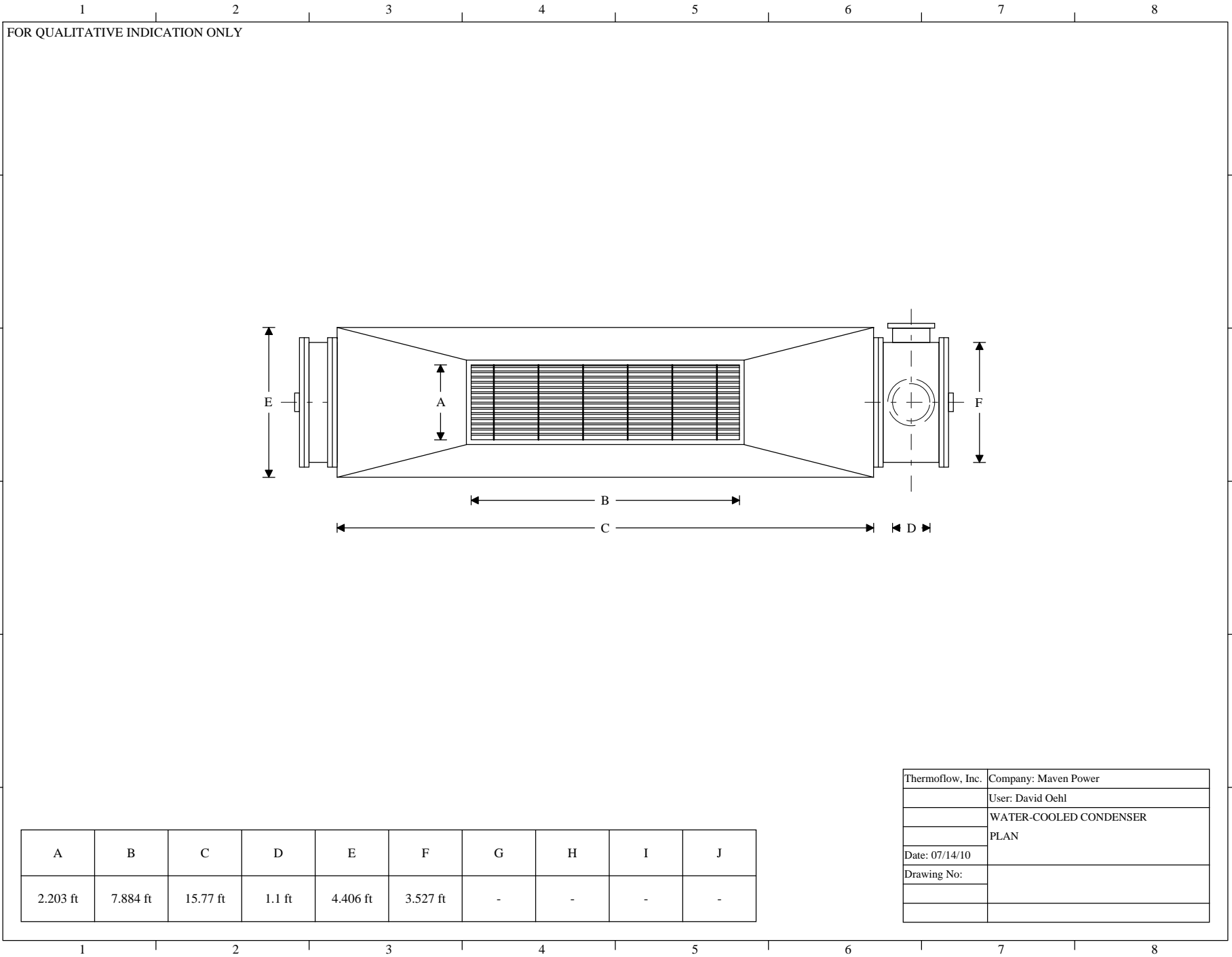
| A | B | C | D | E | F | G | H | I | J |
|----------|---|---------|----------|----------|----------|----------|---|---|---|
| 12.71 ft | - | 17.8 ft | 43.02 ft | 5.976 ft | 9.293 ft | 7.951 ft | - | - | - |

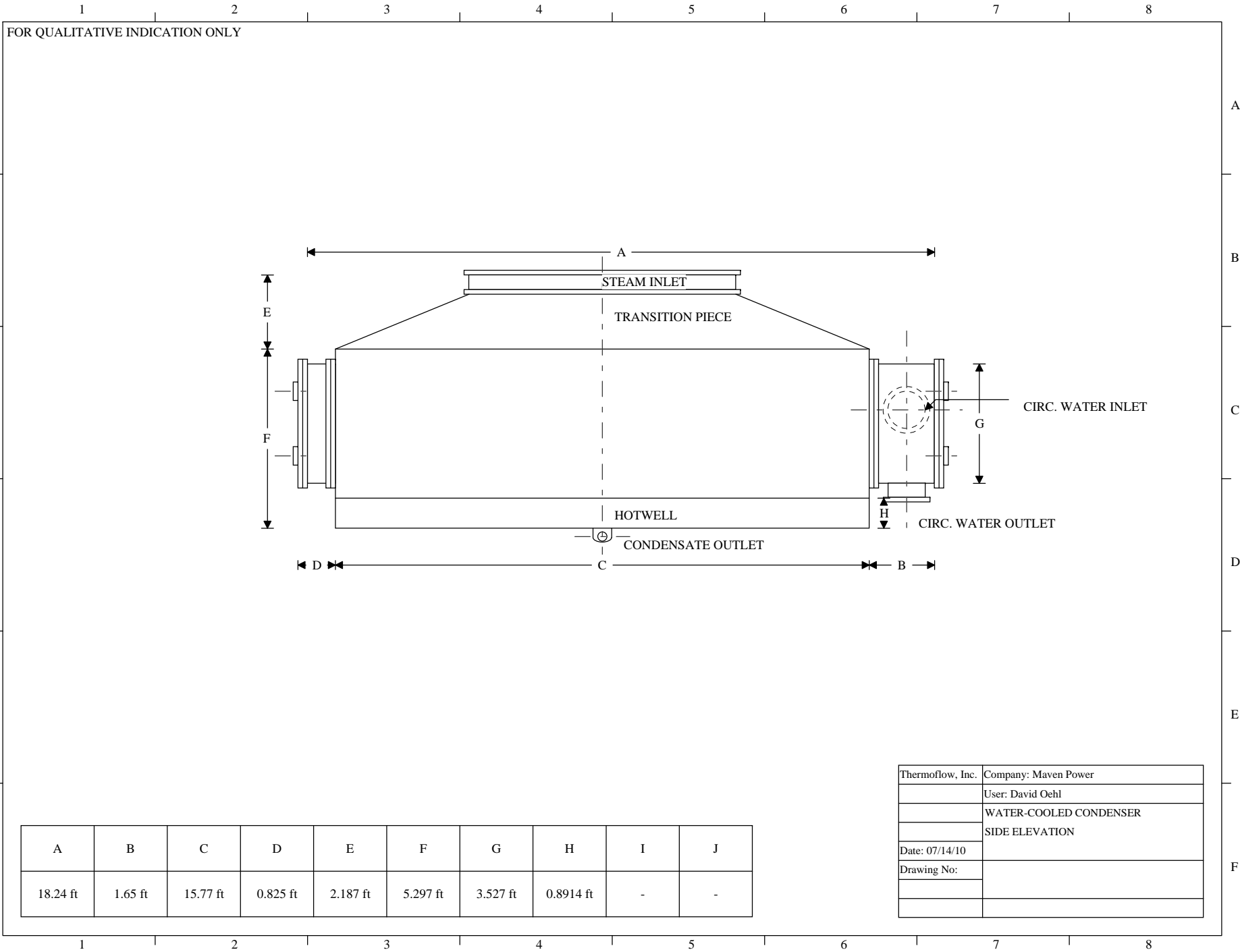
| | |
|------------------|-------------------------------|
| Thermsflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | HEAT RECOVERY STEAM GENERATOR |
| | PLAN |
| Date: 07/14/10 | |
| Drawing No: | |
| | |



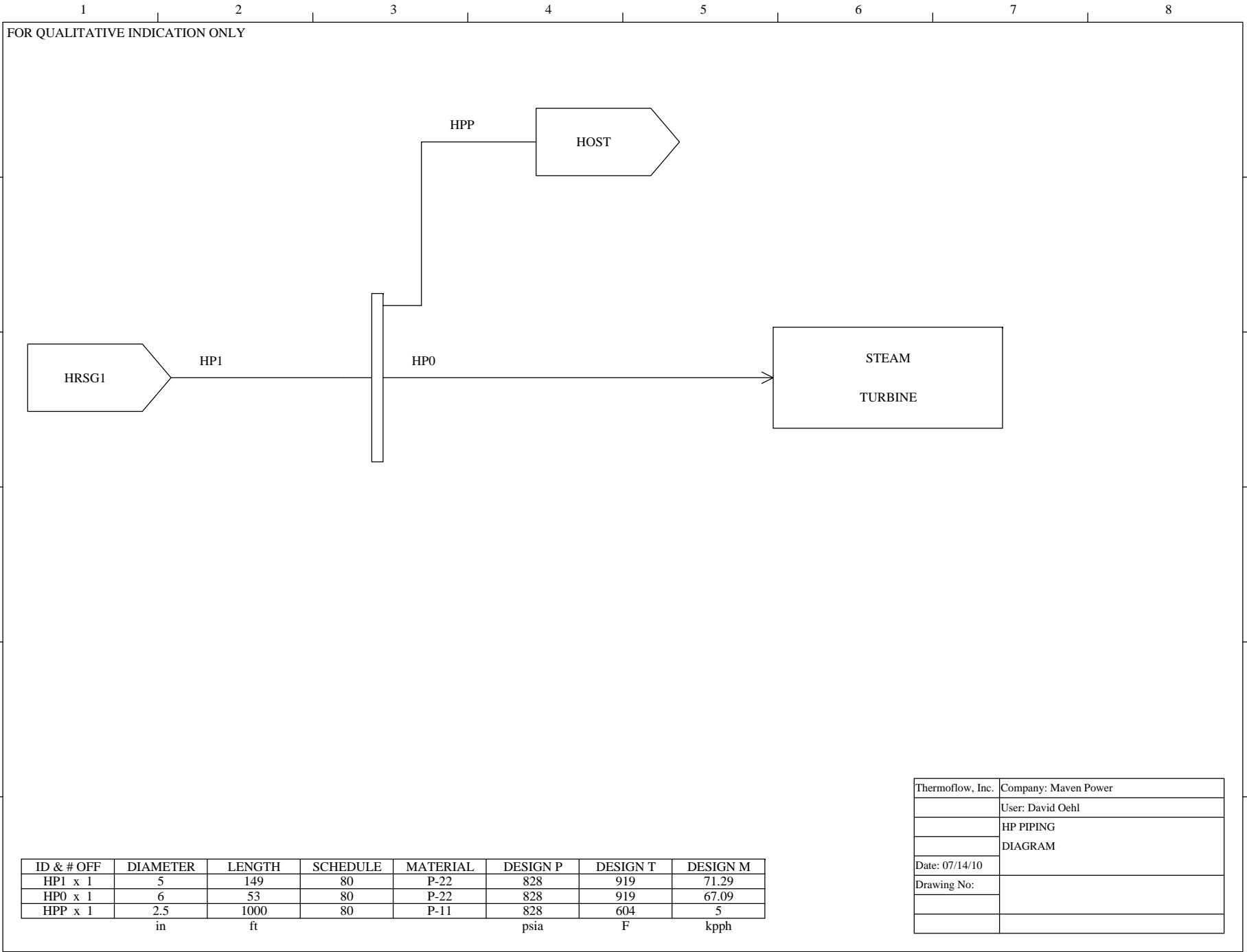






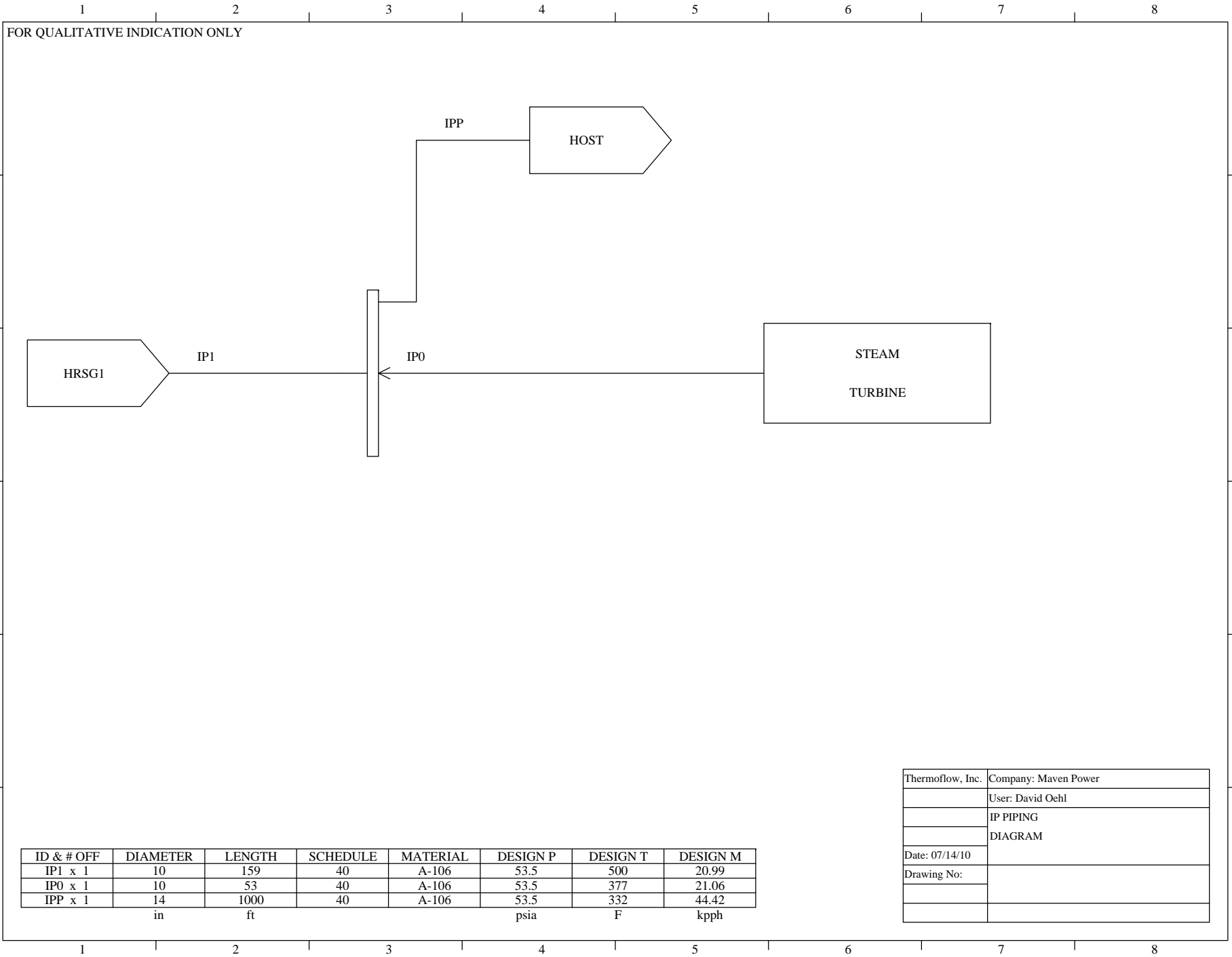


| | |
|-------------------|------------------------|
| Therminflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | WATER-COOLED CONDENSER |
| | SIDE ELEVATION |
| Date: 07/14/10 | |
| Drawing No: | |
| | |



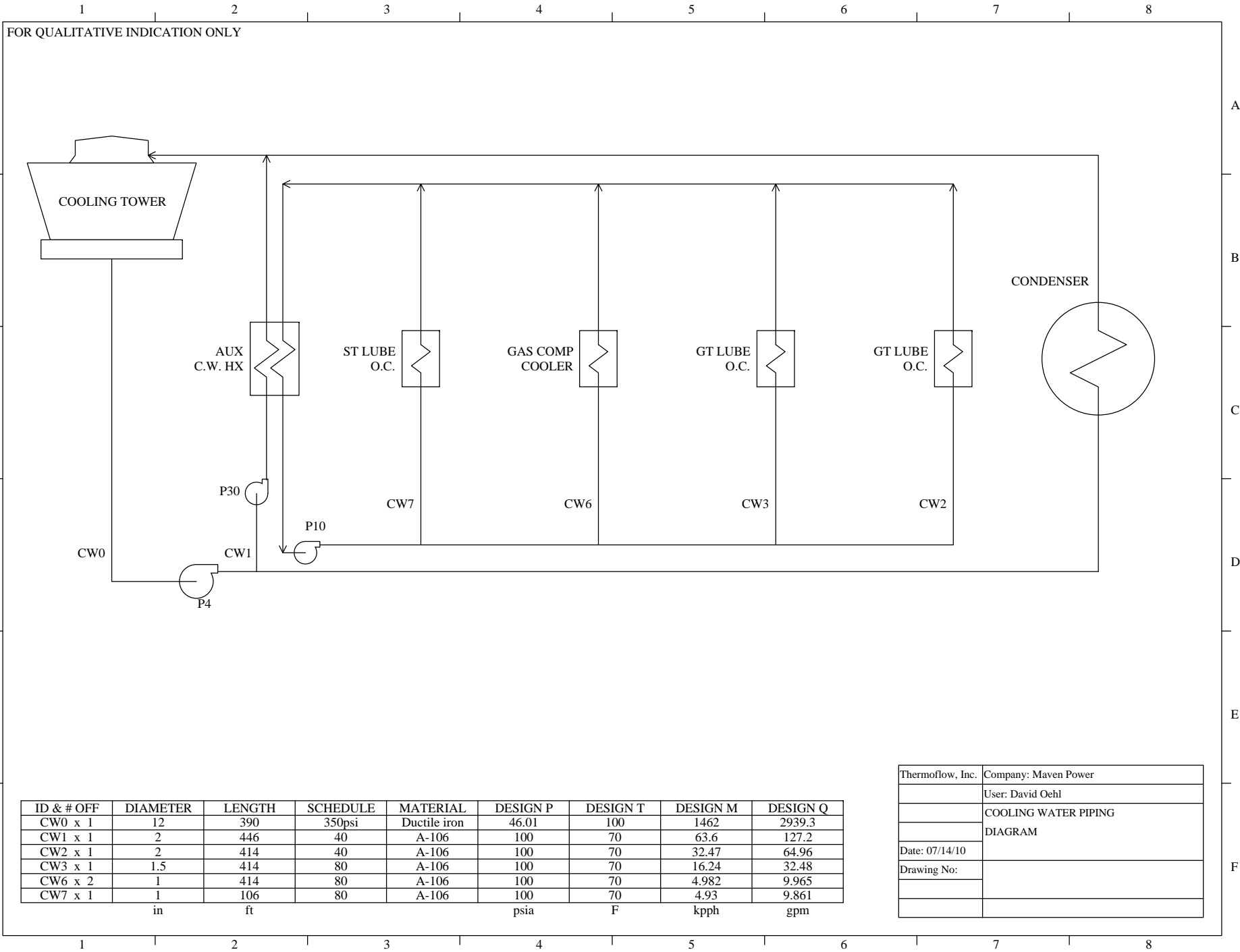
| ID & # OFF | DIAMETER | LENGTH | SCHEDULE | MATERIAL | DESIGN P | DESIGN T | DESIGN M |
|------------|----------|--------|----------|----------|----------|----------|----------|
| HP1 x 1 | 5 | 149 | 80 | P-22 | 828 | 919 | 71.29 |
| HPO x 1 | 6 | 53 | 80 | P-22 | 828 | 919 | 67.09 |
| HPP x 1 | 2.5 | 1000 | 80 | P-11 | 828 | 604 | 5 |
| | in | ft | | | psia | F | kpph |

| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | HP PIPING |
| | DIAGRAM |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



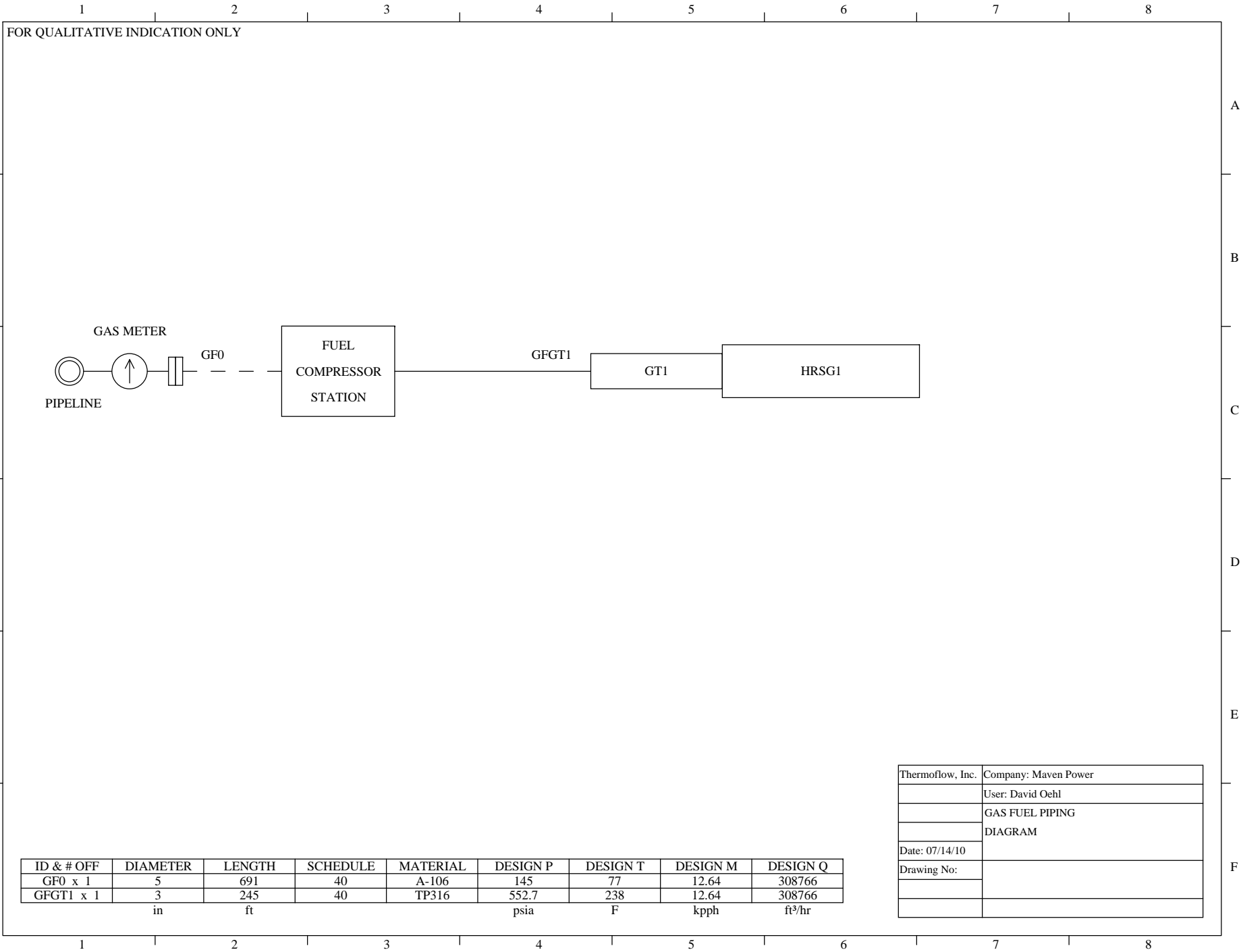
| ID & # OFF | DIAMETER | LENGTH | SCHEDULE | MATERIAL | DESIGN P | DESIGN T | DESIGN M |
|------------|----------|--------|----------|----------|----------|----------|----------|
| IP1 x 1 | 10 | 159 | 40 | A-106 | 53.5 | 500 | 20.99 |
| IPO x 1 | 10 | 53 | 40 | A-106 | 53.5 | 377 | 21.06 |
| IPP x 1 | 14 | 1000 | 40 | A-106 | 53.5 | 332 | 44.42 |
| | in | ft | | | psia | F | kpph |

| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | IP PIPING |
| | DIAGRAM |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



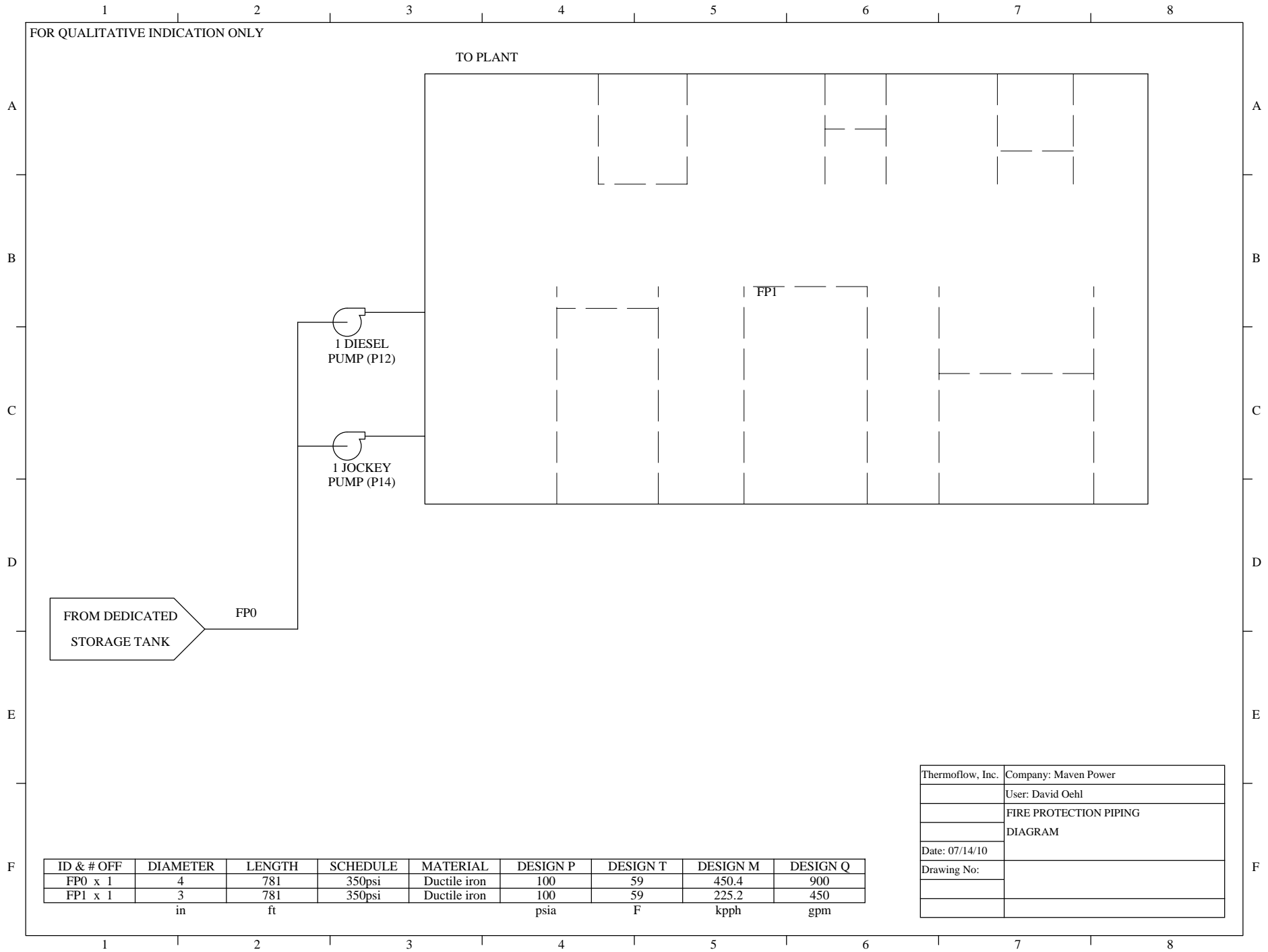
| ID & # OFF | DIAMETER | LENGTH | SCHEDULE | MATERIAL | DESIGN P | DESIGN T | DESIGN M | DESIGN Q |
|------------|----------|--------|----------|--------------|----------|----------|----------|----------|
| CW0 x 1 | 12 | 390 | 350psi | Ductile iron | 46.01 | 100 | 1462 | 2939.3 |
| CW1 x 1 | 2 | 446 | 40 | A-106 | 100 | 70 | 63.6 | 127.2 |
| CW2 x 1 | 2 | 414 | 40 | A-106 | 100 | 70 | 32.47 | 64.96 |
| CW3 x 1 | 1.5 | 414 | 80 | A-106 | 100 | 70 | 16.24 | 32.48 |
| CW6 x 2 | 1 | 414 | 80 | A-106 | 100 | 70 | 4.982 | 9.965 |
| CW7 x 1 | 1 | 106 | 80 | A-106 | 100 | 70 | 4.93 | 9.861 |
| | in | ft | | | psia | F | kpph | gpm |

| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | COOLING WATER PIPING |
| | DIAGRAM |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



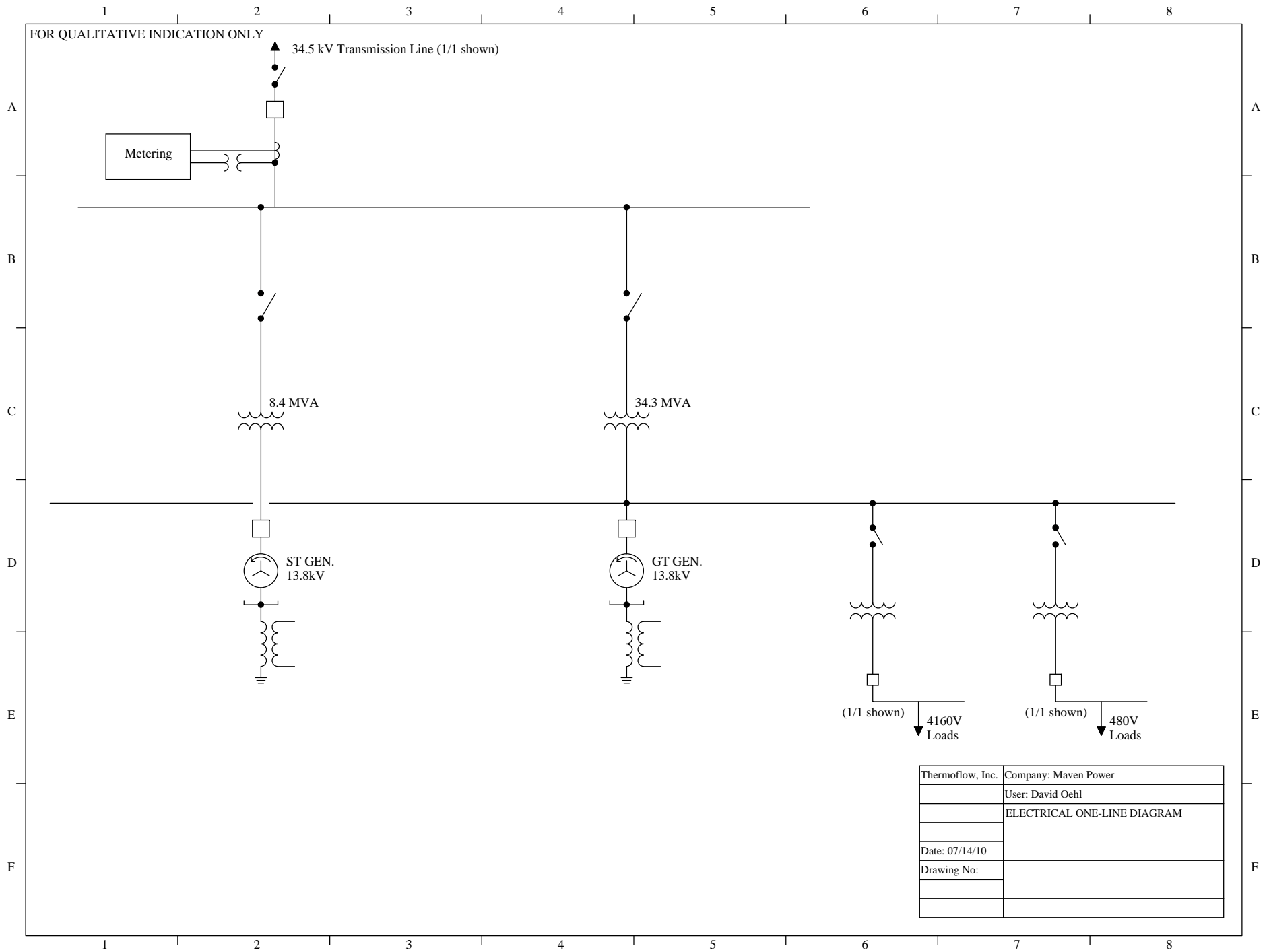
| ID & # OFF | DIAMETER | LENGTH | SCHEDULE | MATERIAL | DESIGN P | DESIGN T | DESIGN M | DESIGN Q |
|------------|----------|--------|----------|----------|----------|----------|----------|---------------------|
| GF0 x 1 | 5 | 691 | 40 | A-106 | 145 | 77 | 12.64 | 308766 |
| GFGT1 x 1 | 3 | 245 | 40 | TP316 | 552.7 | 238 | 12.64 | 308766 |
| | in | ft | | | psia | F | kpph | ft ³ /hr |

| | |
|------------------|----------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | GAS FUEL PIPING |
| | DIAGRAM |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |

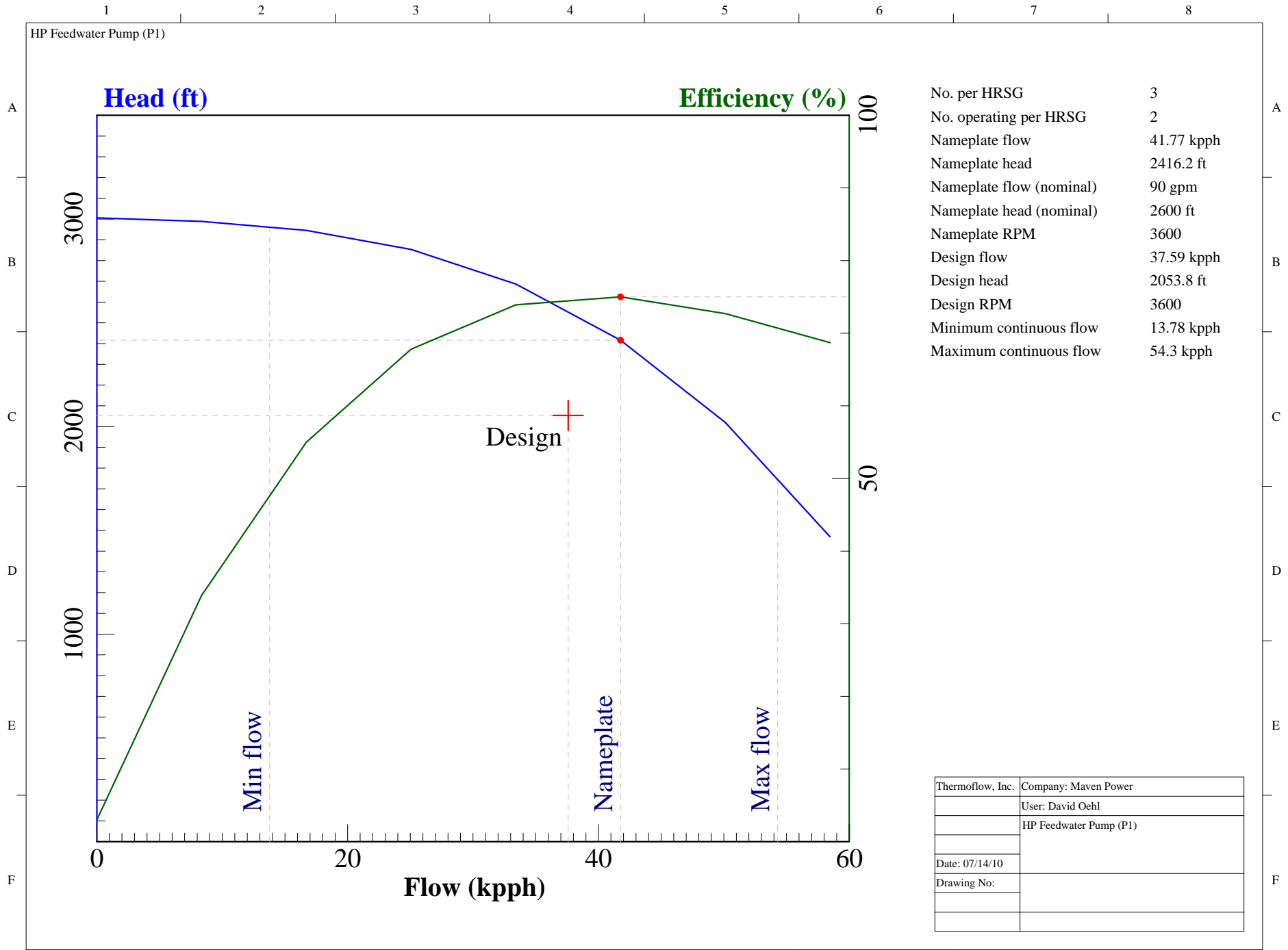


| ID & # OFF | DIAMETER | LENGTH | SCHEDULE | MATERIAL | DESIGN P | DESIGN T | DESIGN M | DESIGN Q |
|------------|----------|--------|----------|--------------|----------|----------|----------|----------|
| FP0 x 1 | 4 | 781 | 350psi | Ductile iron | 100 | 59 | 450.4 | 900 |
| FP1 x 1 | 3 | 781 | 350psi | Ductile iron | 100 | 59 | 225.2 | 450 |
| | in | ft | | | psia | F | kpph | gpm |

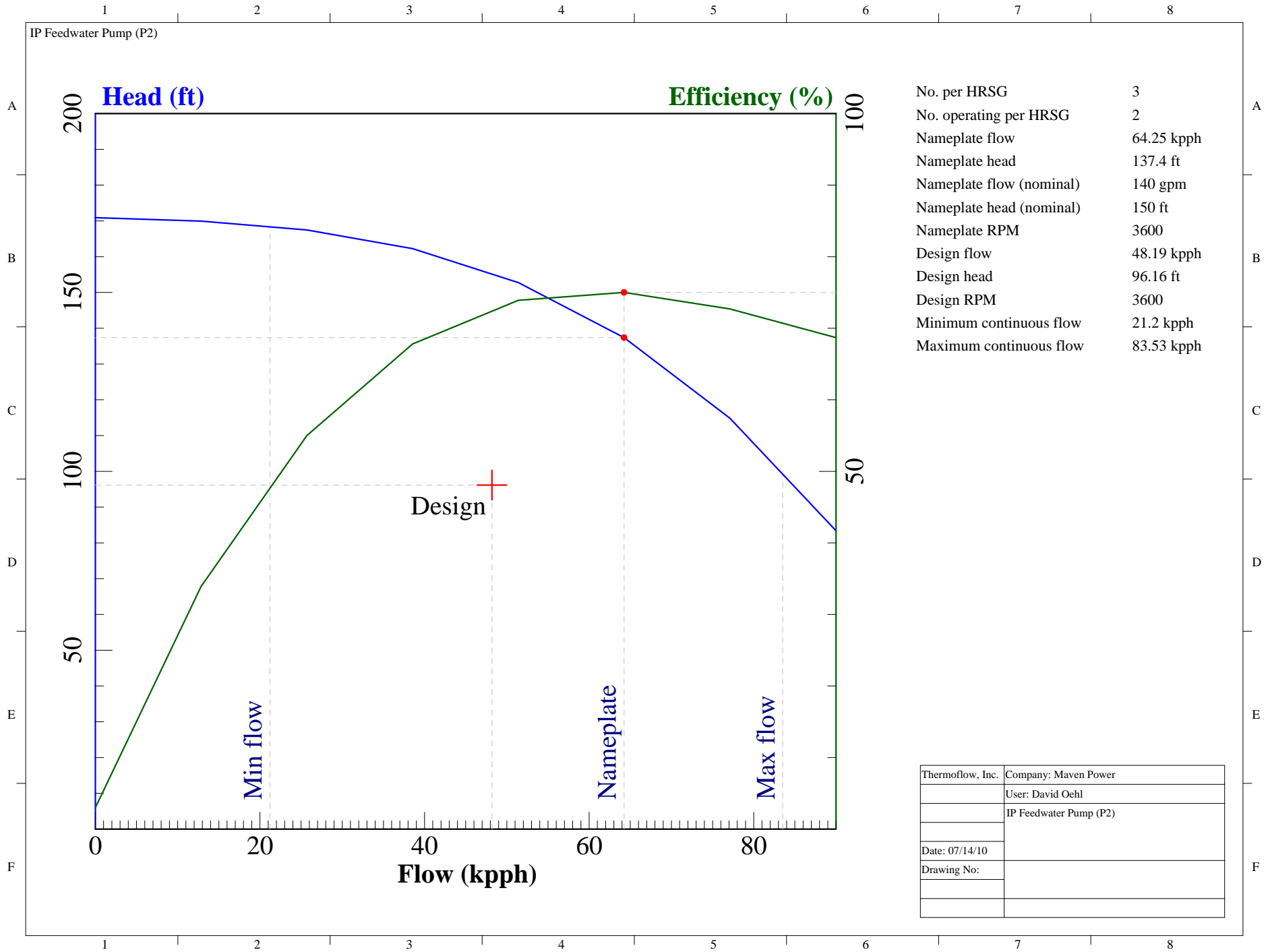
| | |
|------------------|------------------------|
| Thermsflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | FIRE PROTECTION PIPING |
| | DIAGRAM |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



| | |
|------------------|-----------------------------|
| Thermoflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | ELECTRICAL ONE-LINE DIAGRAM |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |

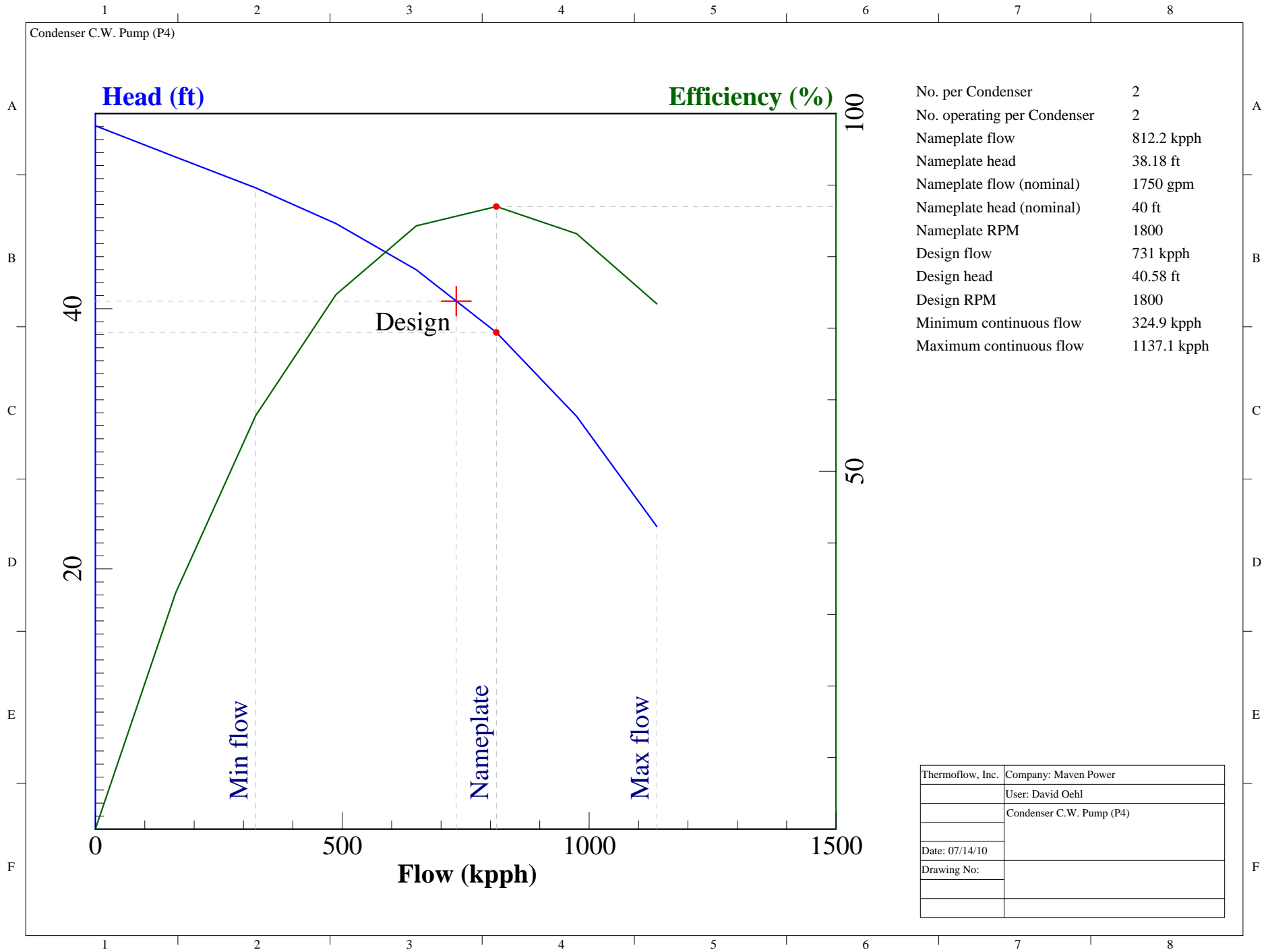


| | |
|------------------|------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | HP Feedwater Pump (P1) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



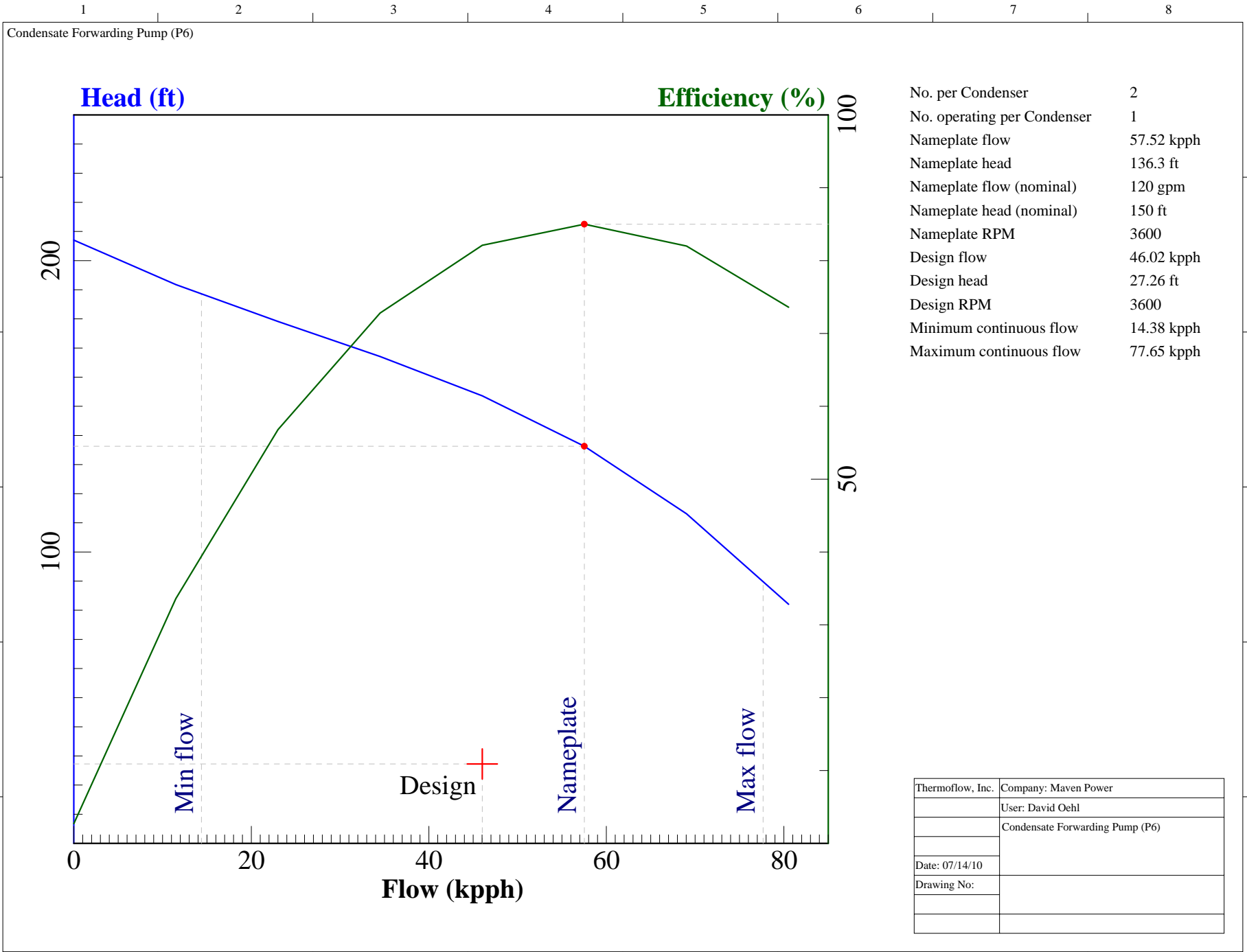
| | |
|--------------------------|------------|
| No. per HRSG | 3 |
| No. operating per HRSG | 2 |
| Nameplate flow | 64.25 kpph |
| Nameplate head | 137.4 ft |
| Nameplate flow (nominal) | 140 gpm |
| Nameplate head (nominal) | 150 ft |
| Nameplate RPM | 3600 |
| Design flow | 48.19 kpph |
| Design head | 96.16 ft |
| Design RPM | 3600 |
| Minimum continuous flow | 21.2 kpph |
| Maximum continuous flow | 83.53 kpph |

| | |
|------------------|------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | IP Feedwater Pump (P2) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |

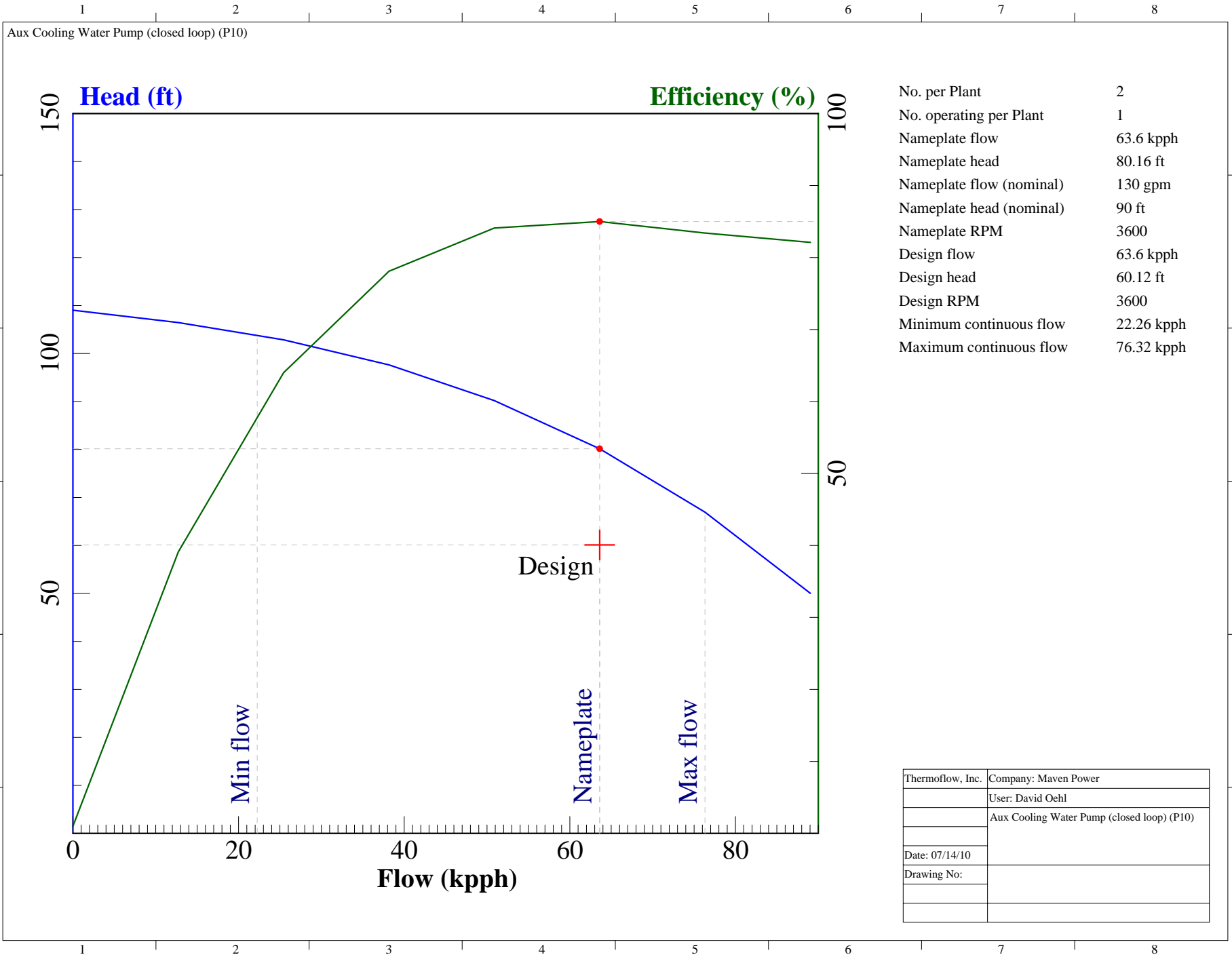


| | |
|-----------------------------|-------------|
| No. per Condenser | 2 |
| No. operating per Condenser | 2 |
| Nameplate flow | 812.2 kpph |
| Nameplate head | 38.18 ft |
| Nameplate flow (nominal) | 1750 gpm |
| Nameplate head (nominal) | 40 ft |
| Nameplate RPM | 1800 |
| Design flow | 731 kpph |
| Design head | 40.58 ft |
| Design RPM | 1800 |
| Minimum continuous flow | 324.9 kpph |
| Maximum continuous flow | 1137.1 kpph |

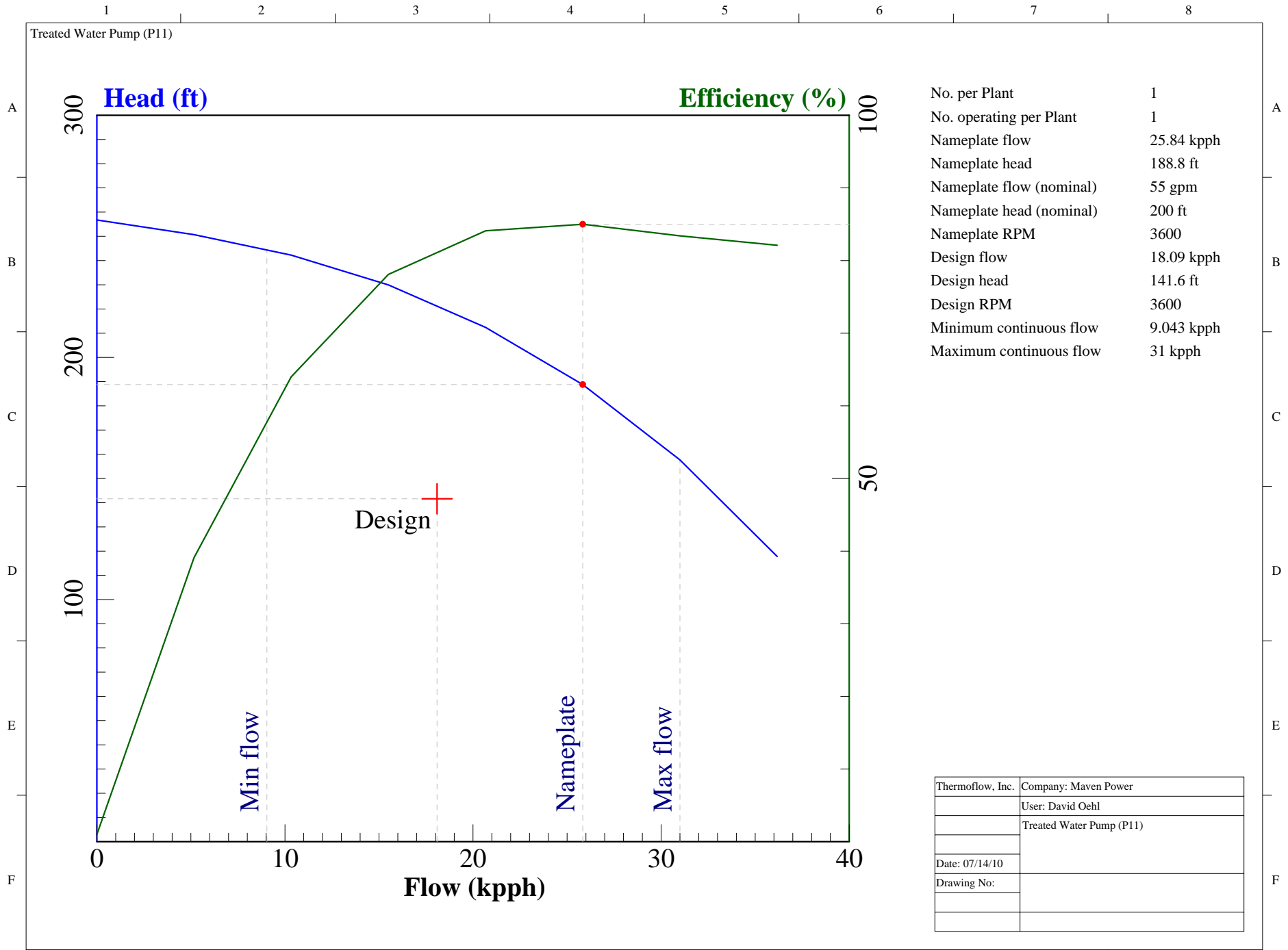
| | |
|------------------|--------------------------|
| Thermsflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Condenser C.W. Pump (P4) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



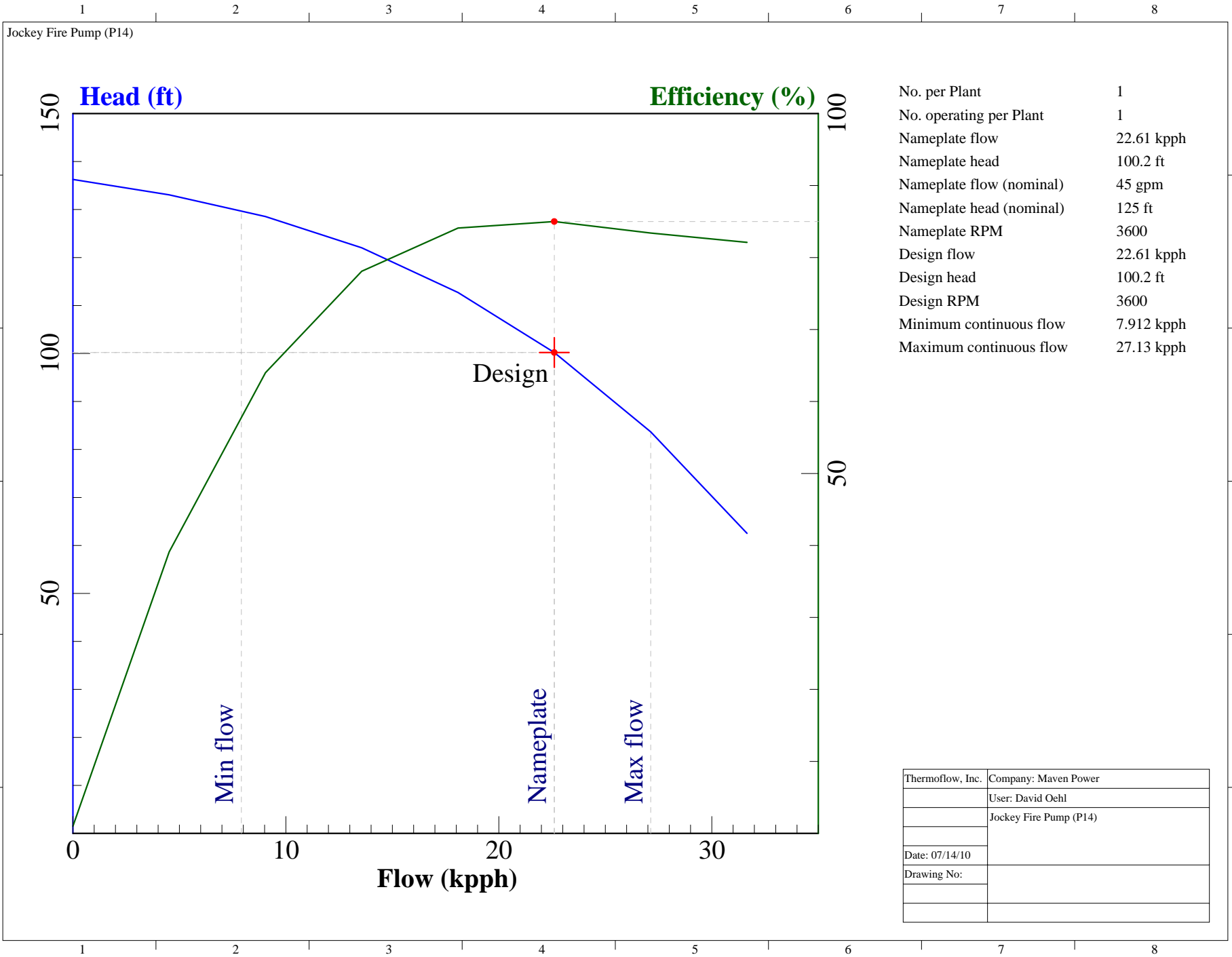
| | |
|------------------|---------------------------------|
| Thermoflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Condensate Forwarding Pump (P6) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



| | |
|------------------|--|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Aux Cooling Water Pump (closed loop) (P10) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |

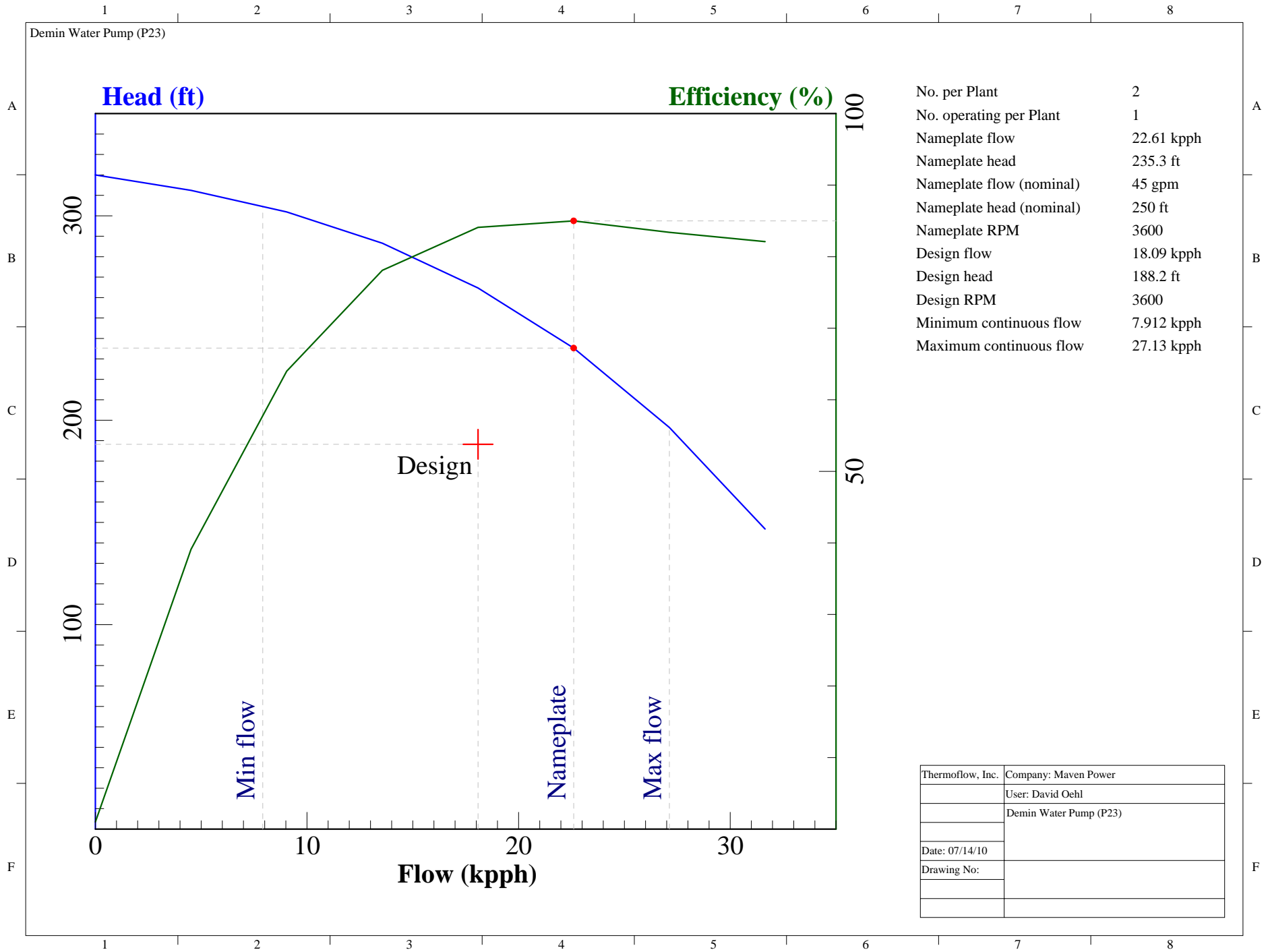


| | |
|------------------|--------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Treated Water Pump (P11) |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |

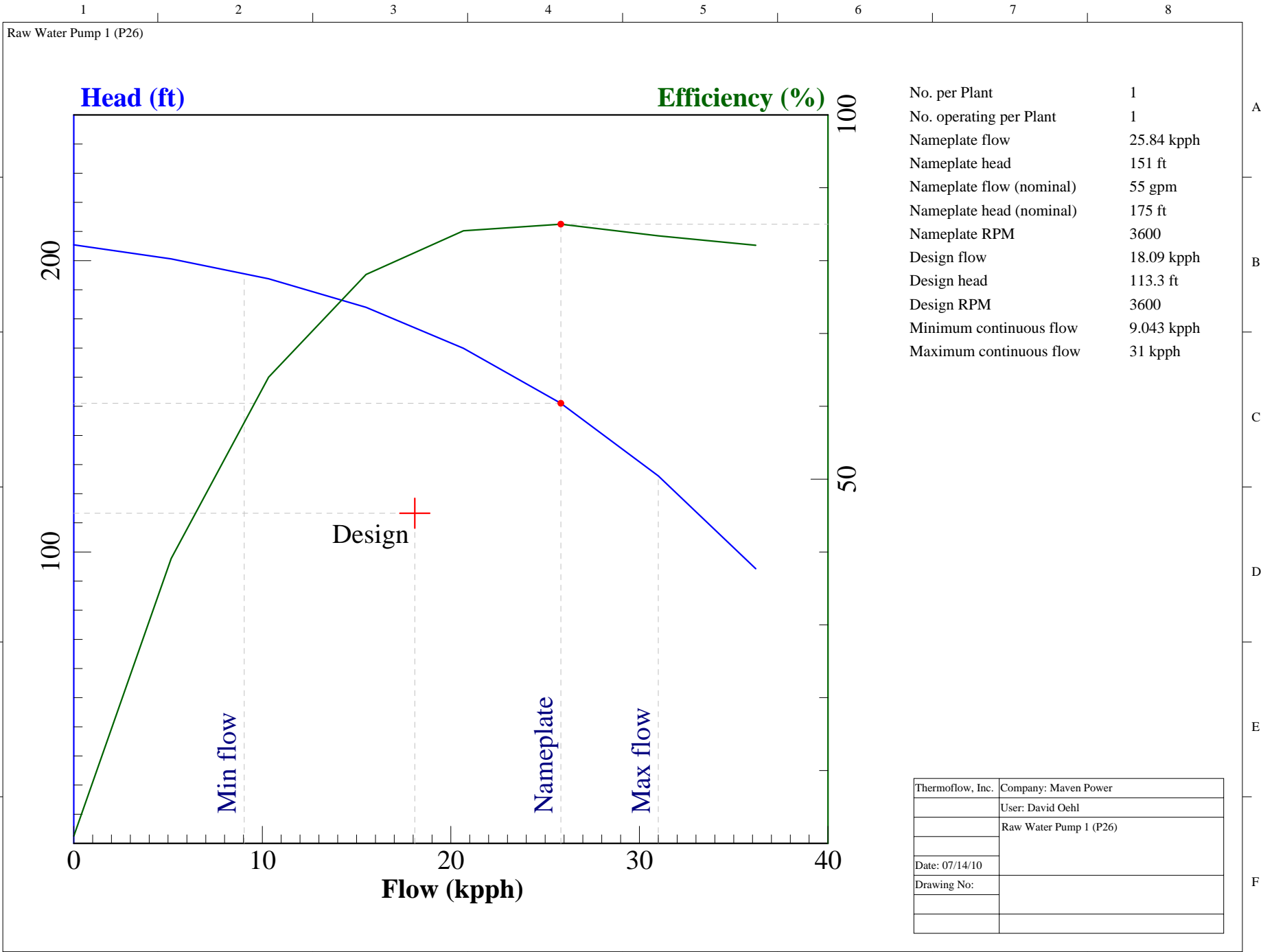


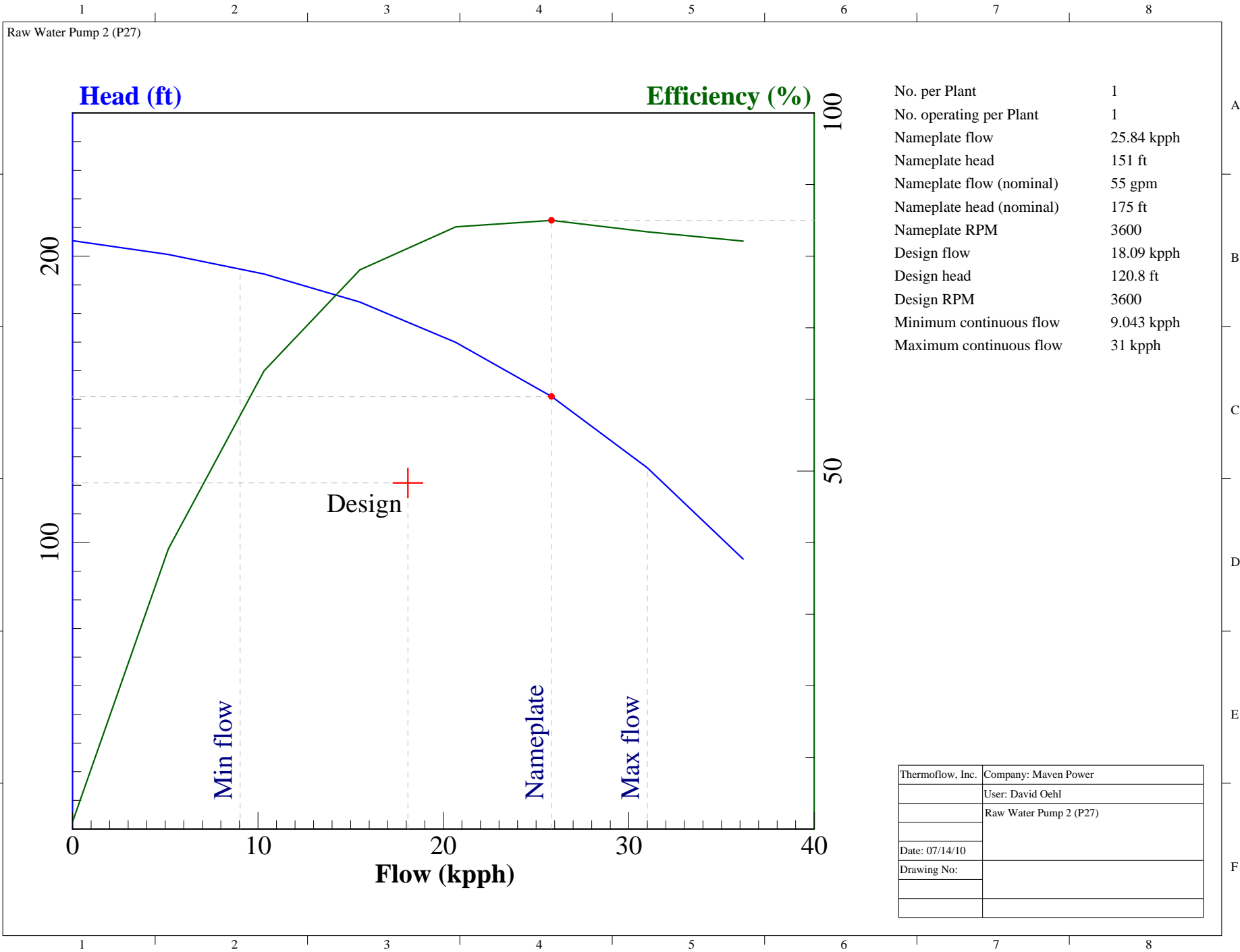
| | |
|--------------------------|------------|
| No. per Plant | 1 |
| No. operating per Plant | 1 |
| Nameplate flow | 22.61 kpph |
| Nameplate head | 100.2 ft |
| Nameplate flow (nominal) | 45 gpm |
| Nameplate head (nominal) | 125 ft |
| Nameplate RPM | 3600 |
| Design flow | 22.61 kpph |
| Design head | 100.2 ft |
| Design RPM | 3600 |
| Minimum continuous flow | 7.912 kpph |
| Maximum continuous flow | 27.13 kpph |

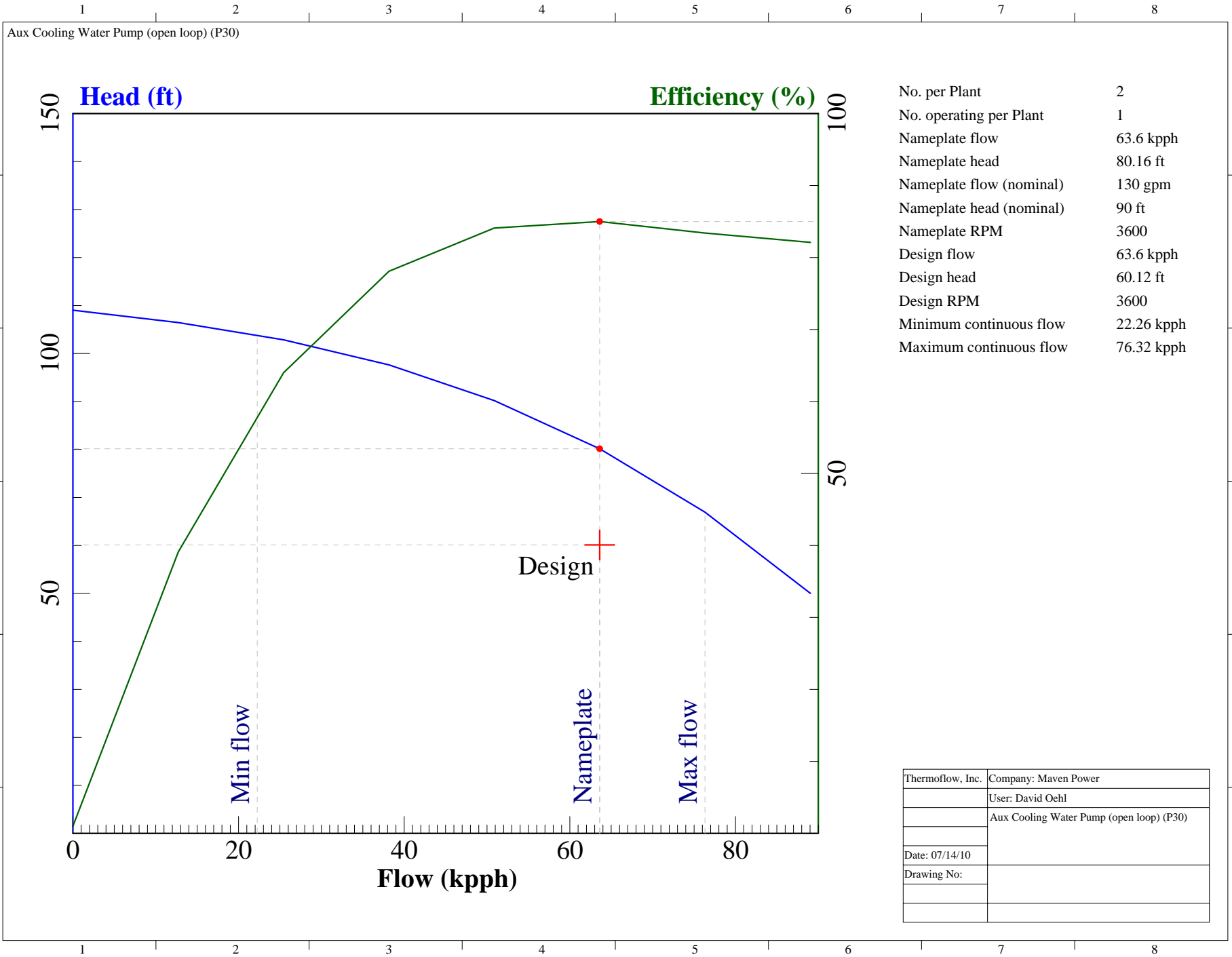
| | |
|------------------|------------------------|
| Thermsflow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Jockey Fire Pump (P14) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |



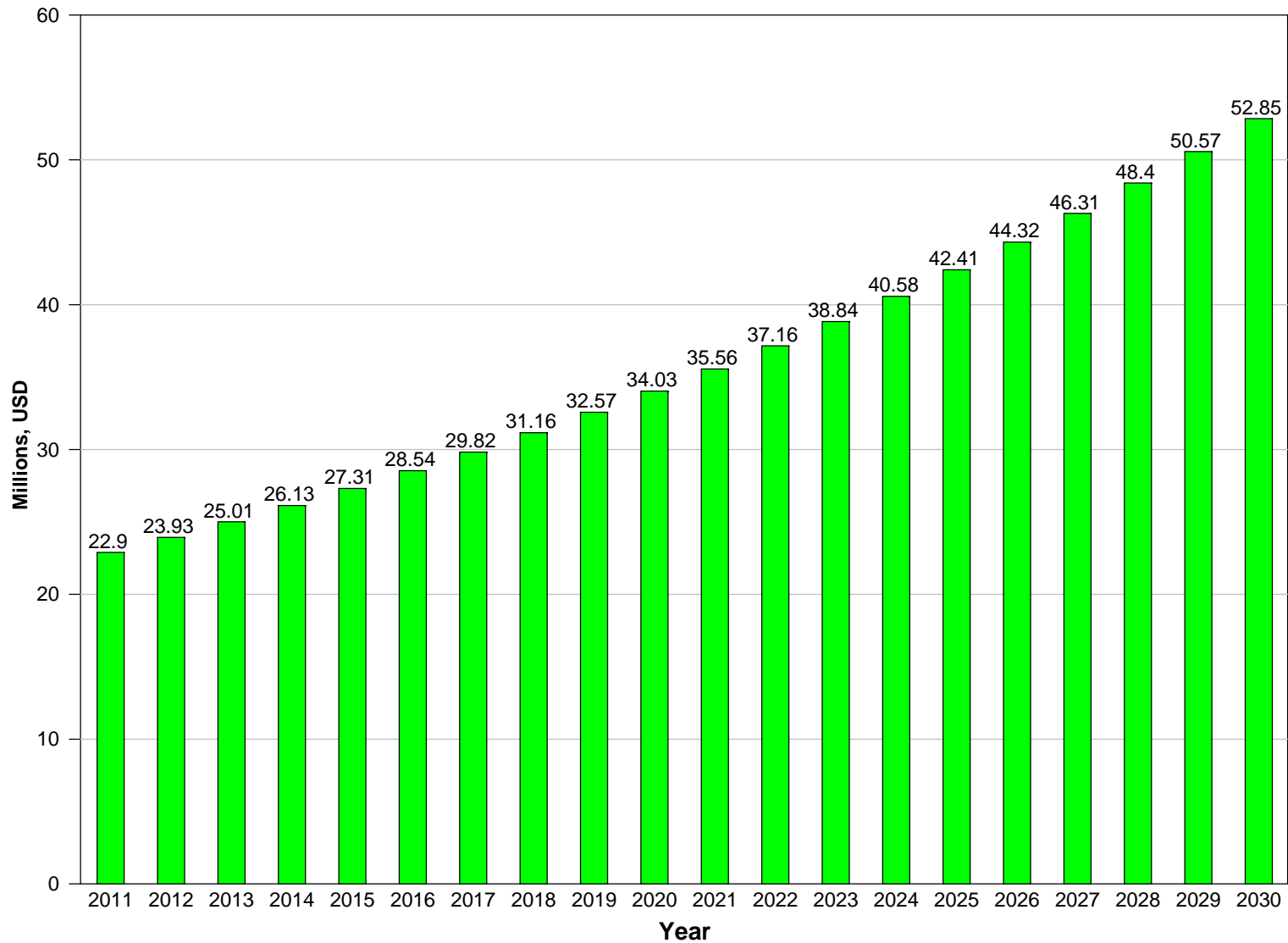
| | |
|------------------|------------------------|
| ThermoFlow, Inc. | Company: Maven Power |
| | User: David Oehl |
| | Demin Water Pump (P23) |
| | |
| Date: 07/14/10 | |
| Drawing No: | |
| | |
| | |







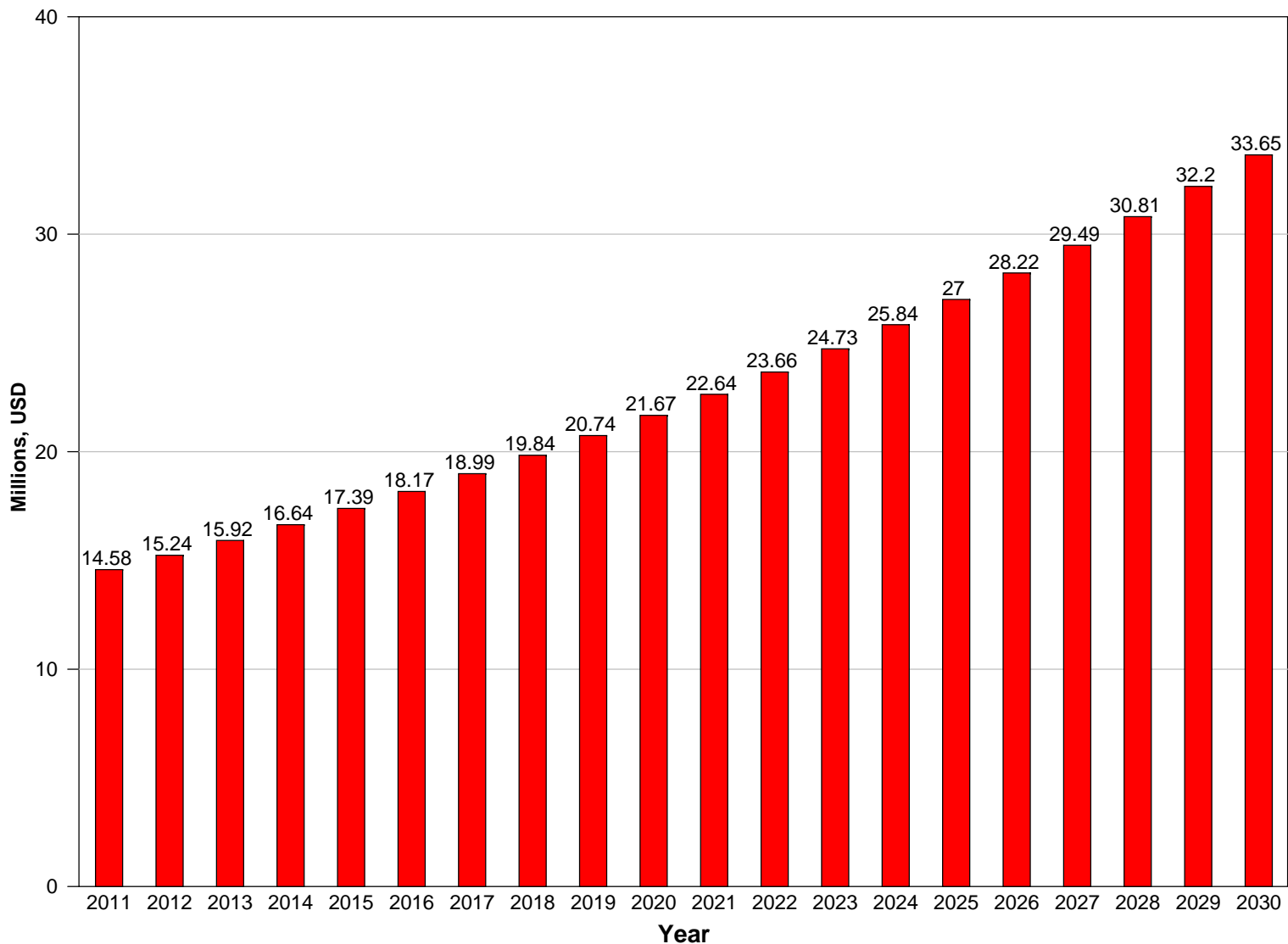
Revenues Millions, USD



Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%

Operating Expenses Millions, USD

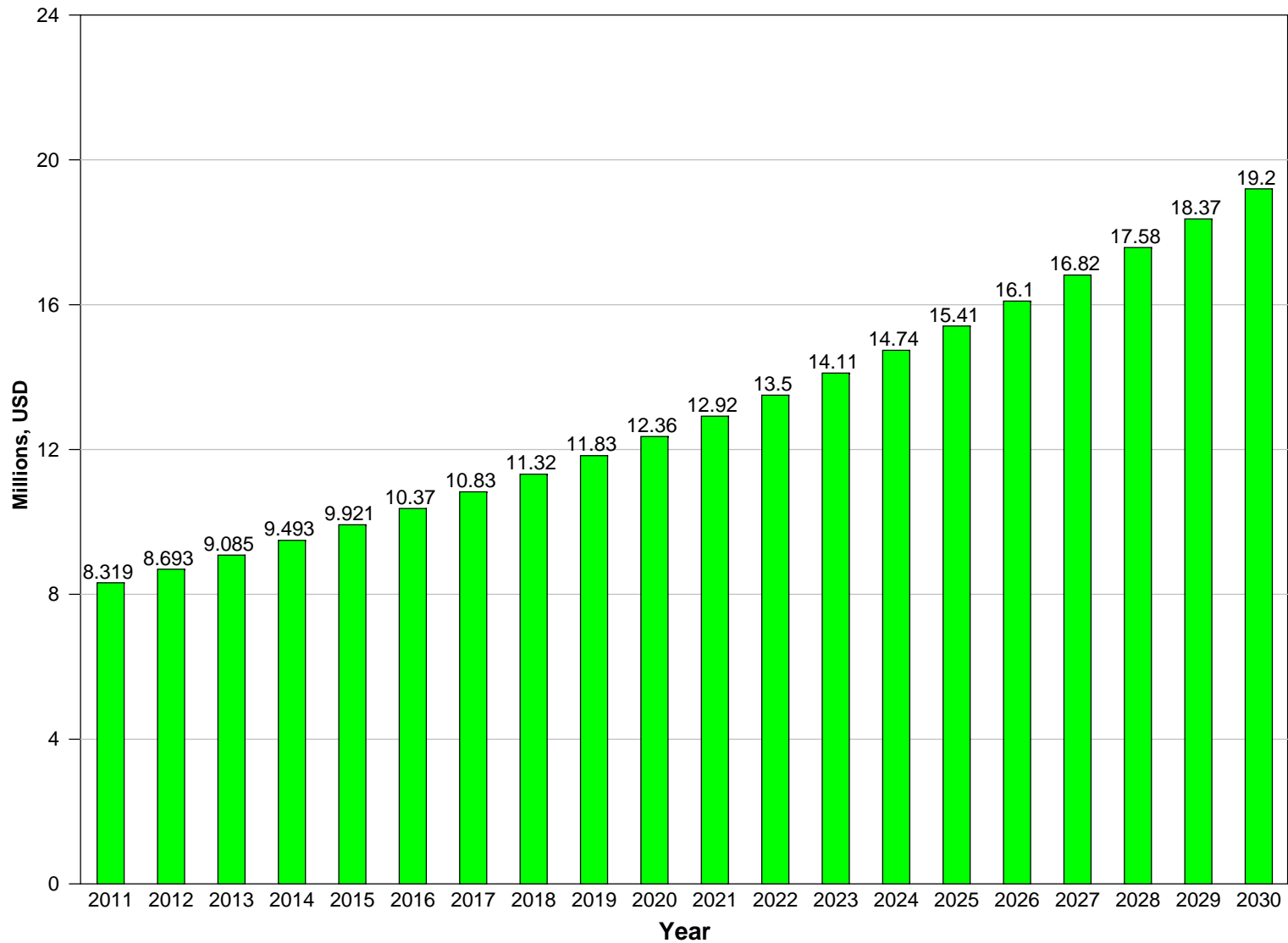


Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%



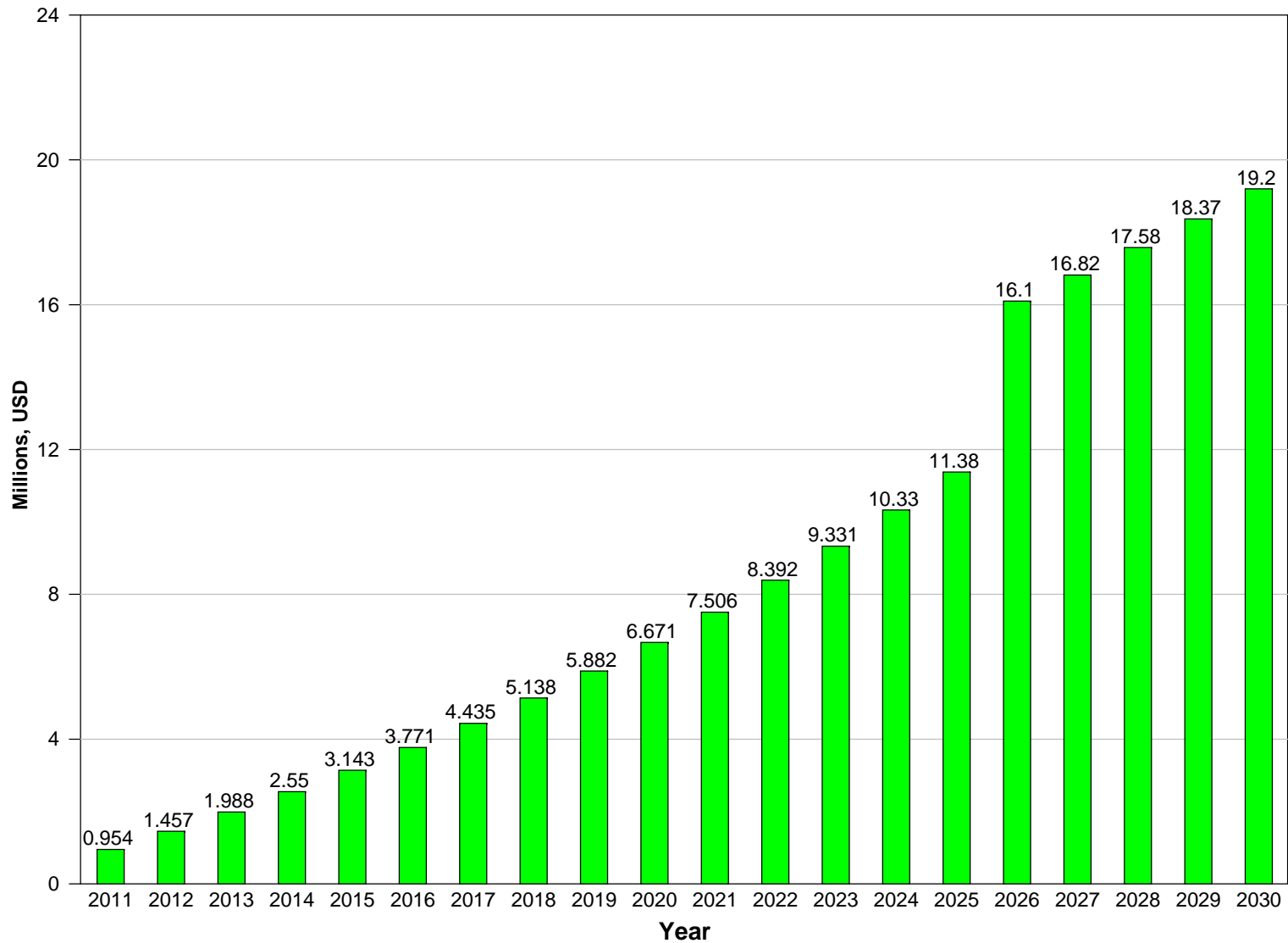
Operating Income Millions, USD



Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%

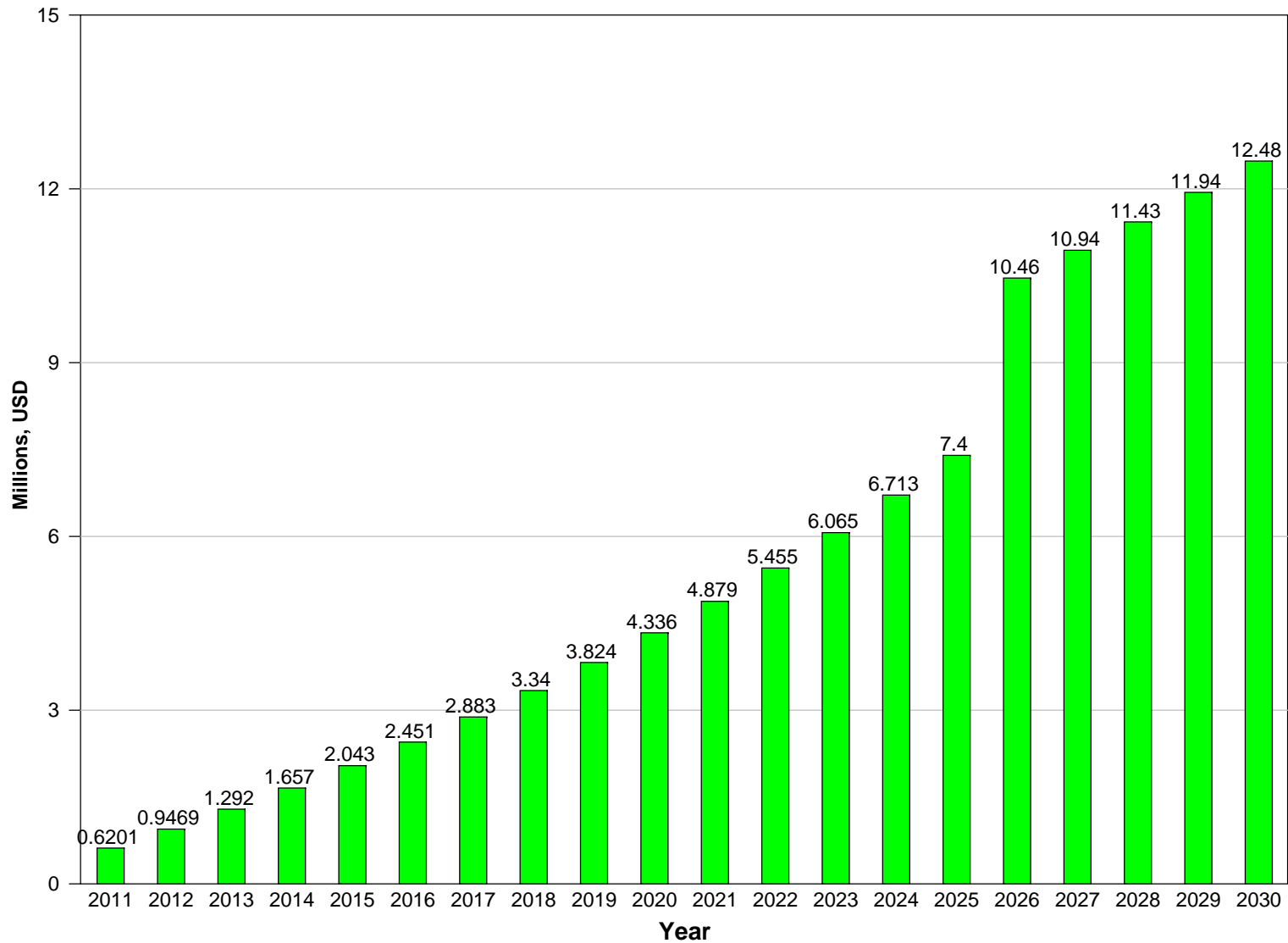
Pre-Tax Income Millions, USD



Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%

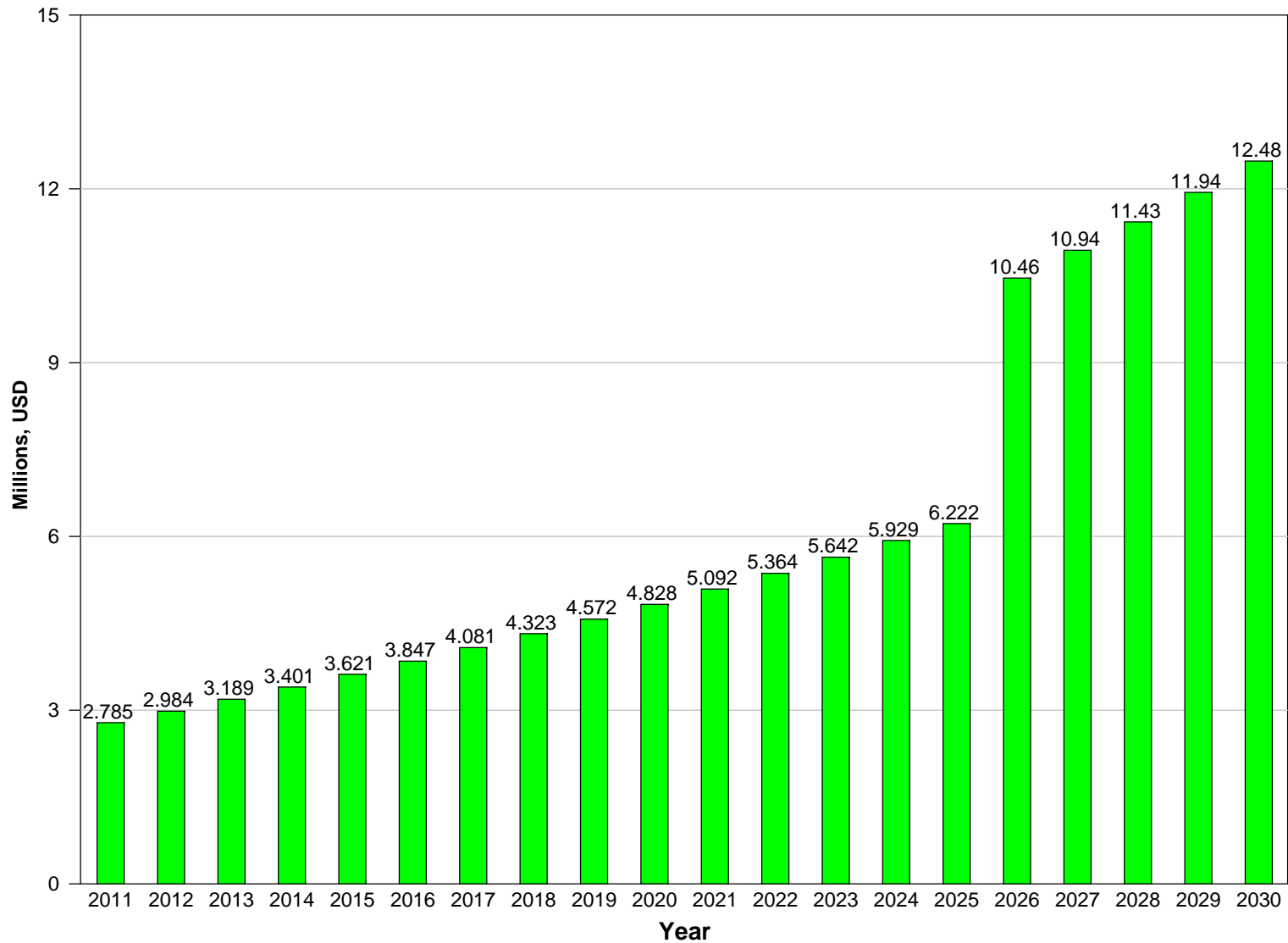
Net Income Millions, USD



Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%

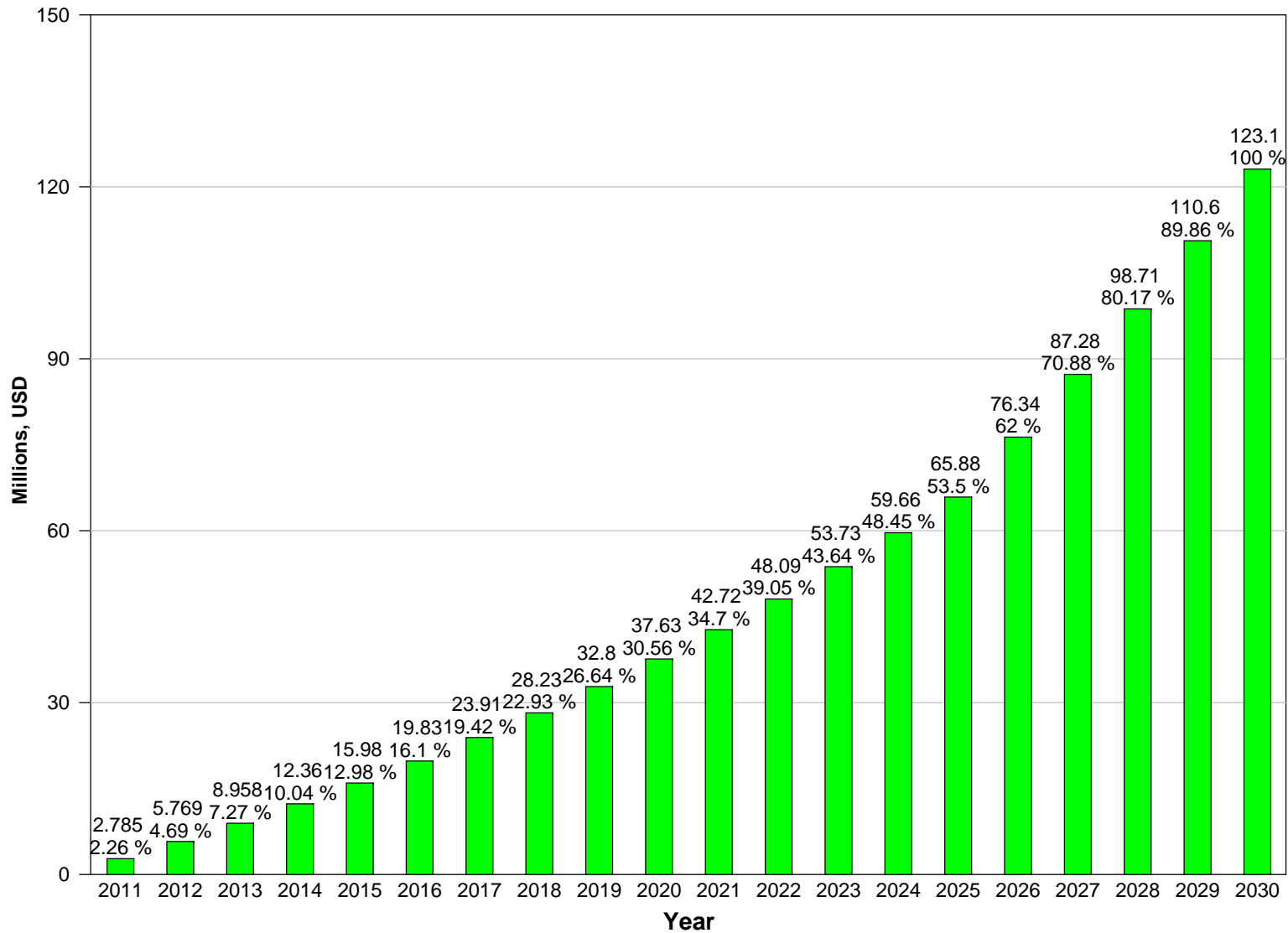
Net Cash Flow Millions, USD



Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%

Cumulative Net Cash Flow Millions, USD



Internal Rate of Return on Investment (ROI) = 12.642%

Internal Rate of Return on Equity (ROE) = 21.232%