



*Specifications for 420 kW Cogeneration System*

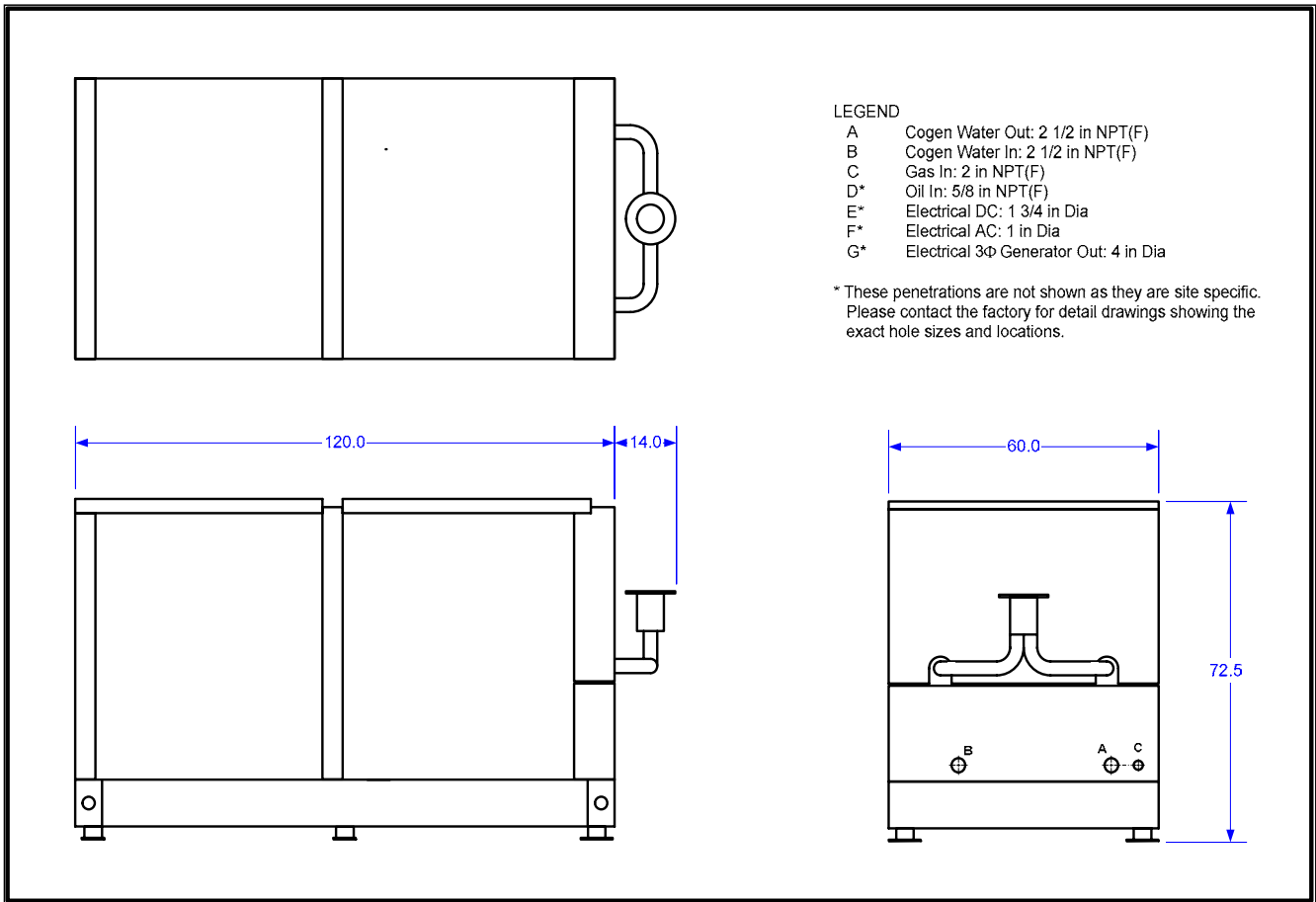
|   | <b>Model<br/>420</b>     |
|---|--------------------------|
| <b>Electrical Output:</b>               |                          |
| kW (a)                                  | 420                      |
| Power Factor                            | Ind 0.875      Sync 0.80 |
| <b>Thermal Output:</b>                  |                          |
| Thermal Output (mbtu/hr)                | 1,839.0                  |
| Water Flow Rate (gallons per minute)    | 180                      |
| Water Outlet Max. Temp (Fahrenheit)     | 205                      |
| <b>Efficiency:</b>                      |                          |
| Heat Rate (BTU/kW-Hr) (LHV)             | 9,472                    |
| Electrical Efficiency                   | 36.0%                    |
| Thermal Efficiency                      | 46.2%                    |
| Combined Total Efficiency               | 82.3%                    |
| <b>Emissions</b>                        |                          |
| NOx - Oxides of Nitrogen (g / BHP - hr) | 1.00                     |
| CO - Carbon Monoxide (g / BHP - hr)     | 1.60                     |
| NOx - Oxides of Nitrogen (ppmvd)        | 91                       |
| CO - Carbon Monoxide (ppmvd)            | 195                      |
| <b>Engine:</b>                          |                          |
| Fuel Consumption (btu/hr)(LHV)          | 3,978,473.0              |
| Fuel Pressure (PSI)                     | 2.0                      |
| Horsepower                              | 563                      |
| Configuration / # of Cylinders          | V-12                     |
| Displacement (liters)                   | 21.90                    |
| Engine Speed (RPM)                      | 1,800                    |
| <b>Miscellaneous:</b>                   |                          |
| Dimensions (L x W x H inches)           | 134 x 60 x 72.5          |
| Weight (lbs)                            | 7,800                    |
| Noise (dB(A) @ 2 meters) (c)            | 90                       |
| Aftercooler heat rejection (kW)(d)      | 95                       |

**Notes:**

- (a) Single bearing; 480 Volts; 3 phase; 60 Hertz AC  
 (b) The 420kW unit is lean burn only.  
 (c) Represents the standard enclosure and muffler package. Sound levels can be dramatically reduced with additional sound attenuation where necessary.  
 (d) Requires water water-to-water aftercooler loop, not to exceed 85 degrees F.  
 All engineering data is based on a tolerance of +/- 6%  
 All units are self contained and are controlled by an imbedded processor based electronic control system. Integral to the control system are safety functions designed to automatically shut down the machine in the event of over or under frequency, over or under voltage, over or under current, reverse current, low oil level or pressure, low water flow rate, or excessive temperatures anywhere in the system. All units may be remotely monitored and controlled via an integrated modem and communications interface.  
 Intelligen Power Systems reserves the right to change unit specifications without notice.



## Three-View Drawing for 420 kW Induction Cogeneration System (a)



Notes:

(a) Represents IPS' standard enclosure and base hot water configuration. Other options are available to meet customer's requirements.