TECHNICAL DATA SHEET

Wood Gas Combined Heat and Power Plant FLOYD F60 CHP Gen 2

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PERFORMANCE DATA

Electrical Output	60 kW[1]
Electrical Efficiency	25%[3]
Thermal Output	138 kW[2]
Thermal Efficiency	58%[3]
Biochar Calorific Value	19 kW[4]
Biochar Efficiency	8%[4]
Overall Efficiency	92%[3]
Fuel Thermal Output	237 kW[4]

[1] Electrical nominal power 60 kW (including 1 kW electrical power for pre-drying - operation dependent on wood chip quality)
[2] Thermal nominal output 138 kW (including 10 kW thermal power for pre-drying - operation dependent on wood chip quality)
[3] Electrical and thermal specifications extrapolated based on external test report from independent civil engineering office and real data from technically comparable reference systems - specifications may vary due to fuel used and mode of operation
[4] Specifications may vary depending on wood chips used

Note (non-binding, for guidance only): The stated nominal electrical output of 60 kW is based on wood chips with ~6% moisture content. Actual output: 56–58 kW at 8–13% moisture, 58–60 kW at <8% moisture. These figures are for informational purposes only.

Load Balancing Option: The CHP can be operated between 45 kW and 70 kW electrical output based on a programmable scheduling scheme, with 60 kW as the baseline operating point.

EMISSIONS

Noise Emissions	<85 dB (1 m / 3.3 ft distance)
Exhaust Gas Temperature	<150°C (302°F) after heat exchanger (AGWT)
Exhaust After-Treatment	Catalytic converter system installed; 2nd catalytic converter optional
NO_x	<250 mg/Nm³ (at 5% O_2)
CO	<600 mg/Nm³ (at 5% O_2)

STORAGE AND PRE-DRYING UNIT

Pre-drying Unit (optional)	Upstream system for drying wood chips - use of waste heat from CHP unit
Storage Tank	110 l (3.885 ft³)
Connection Wood Chip Feed	Valve DN300 (NPS 12)
Connection Drying Exhaust Air	Pipe socket Ø 254 mm (0.833 ft)

GASIFIER UNIT

Fuel	Wood chips according to "FLOYD BioEnergy Wood Chip Standard"
Fuel Consumption	Approx. 55 kg/h (7.2 m³ softwood or 4.5 m³ hardwood per day) at 60 kW; increases and decreases with load level
Biochar Production	Approx. 0.4-0.8 m³/day (14-28 ft³/day) - depending on wood chip quality
Ignition	Automatic
Biochar Discharge	Automatic
Gas Filter Unit	Two-stage filter system

INTERNAL COMBUSTION ENGINE

Design Type	6-cylinder in-line engine
Engine Speed	1,500 rpm (at 60 kW)
Oil Consumption	Approx. 2 l/day (0.5 US-gal/day)
Oil Volume	30 l (7.9 US-gal) + 30 l (7.9 US-gal) automatic oil refill

GENERATOR

Design Type	Asynchronous squirrel cage rotor
Voltage	200-690 V, 3-phase
Cos Phi	0.98
Frequency	50 Hz / 60 Hz
Starting Current	Controlled ramp-up via frequency converter (typical motor FLA: ~90 A)
Frequency Converter	Full-scale frequency converter (connection point)

EXHAUST SYSTEM

Exhaust Connection	DN150 (NPS 6)
Flow Rate	290 Nm³/h (170 SCFM)
Outlet Temperature, max.	150°C (302°F)
Exhaust After-treatment	3-way catalytic converter (Optional: plus Oxidation catalytic converter)
Exhaust Gas Heat Exchanger	Shell/tube heat exchanger
Exhaust Muffler	Multi-chamber muffler

HEATING OUTLET

Inlet Temperature	Max. +95°C (200°F)
Return Flow Temperature	Min. +45°C (110°F) – Max. +65°C (150°F)
Connection	Threaded connection DN50, 2" (NPS 2) or flange connection DN50/PN16
Pressure	Max. 7 bar (100 psi)

CUSTOMER PREREQUISITES

Air Pressure - Dehumidified	Min. 100 l/min (3.5 ft³/min) at 8 bar (14.5 psi)
Connection Heating System	2 inch
Heating Return Flow	3.6 m³/h (950 US-gal/h) at max. +65°C (150°F)
Connection Biochar Discharge	DN 200 (NPS 8)
Air Volume Requirement	Min. 750 m³/h (440 ft³/min)
Ambient Air Temperature	Min. 5°C (40°F) – Max. 40°C (100°F)
Heating System Pressure	4.5 bar (65 psi) (max. 7 bar / 100 psi)
Connection Exhaust System	DN 150 (NPS 6)
Connection Wood Chip Feed	DN 300 (NPS 10)
Electrical Connection Feed - Fuse	380-600 VAC – 200 A
Electrical Connection Supply - Fuse	380-600 VAC – 32 A

DIMENSIONS

Total System Length	6.1 m (20 ft) or 12 m (39.4 ft)
Total System Width	3.6 m (11.8 ft) or 2.3 m (7.7 ft)
Total System Height	2.9 m (9.5 ft)
Weight	Approx. 8.6 t (9.48 short tons)
Space Requirements	Approx. 53 m² (570 ft²)
Recommended Space Around System	1.5 m (5 ft)

Note: Dimensional drawings available upon request.

INSTALLATION REQUIREMENTS

Air Exchange	Min. 750 m³/h (440 ft³/min)
Ambient Temperature	Min. 0°C (32°F) – Max. 40°C (100°F)
Floor	Level, reinforced / foundation floor
Electric Connection	200 A electric connection protection (fuse) | 32 A supply protection (fuse)
Connectivity	Internet connection required (WiFi, min. 4G)

On-site Equipment	Forklift and auxiliary tools must be available

LOGISTICS

Lead Time	Approx. 6 months after order confirmation
Shipping Costs	According to partner price list

COMMISSIONING / INSTALLATION

Performed by	FLOYD BioEnergy
Time Required	Depending on site preconditions, approx. 6–12 man days

SAFETY

Negative Pressure System	System operates under vacuum; in case of a leak, air is drawn IN — preventing wood gas from escaping
CO Monitoring	CO detectors are mandatory in the surrounding area (building, container, etc.)
Fire Suppression	Feed system equipped with a suppression tank that flushes the feed line in case of flashback / backfire

SUPPORT

Support System	Ticket-based support available in various optional packages
Pricing	See partner price list