

System Specifications:

Digester Model:

Avatar AnD-200

> 200 head Dairy Capacity

> Plug Flow Type Mesophilic Anaerobic Digester

Site:

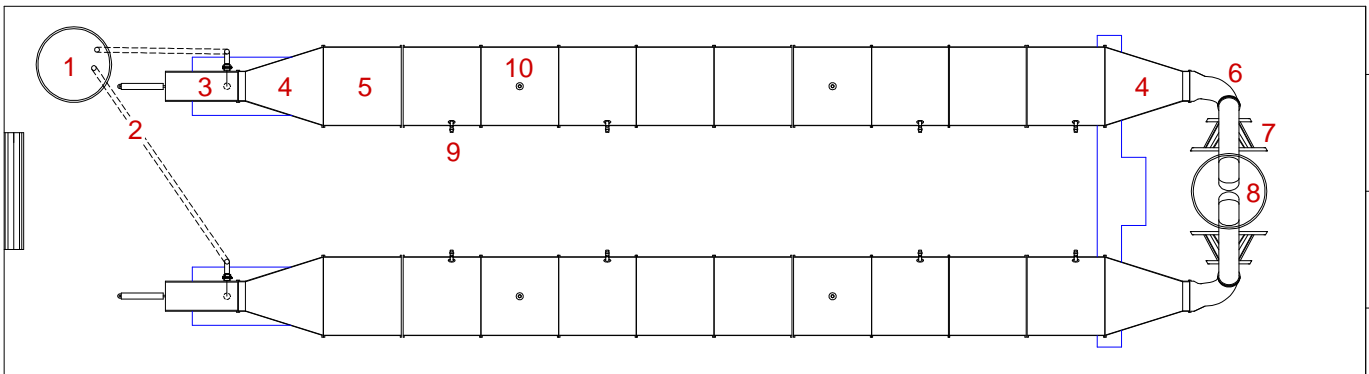
Location:

Host:

Herd Size:

Reviewer:

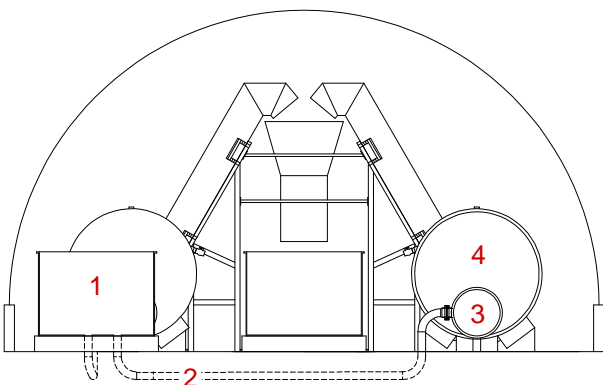
Overhead View of Digester & Components Under Cover:



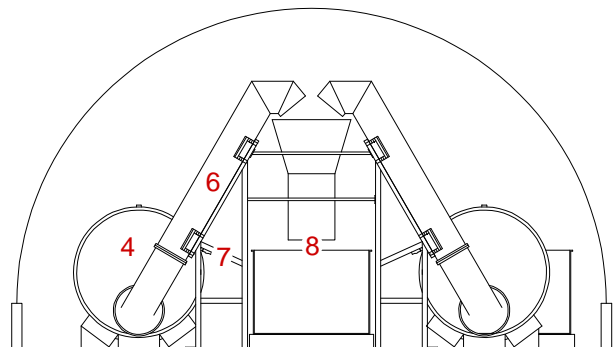
Components:

- | | |
|-------------------------------|--------------------------------------|
| 1. Injection / Heating Tank | 6. Inclined Tail Section |
| 2. Manure Intake Lines | 7. Tail Stand |
| 3. Injection Pump | 8. Effluent Collection Hopper & Tank |
| 4. Eccentric Reducer End Unit | 9. Mixing & Sample Ports |
| 5. Tubular Hull Section | 10. Biogas Outlets |

Injection End View:



Effluent End View:



System Specifications:

AnD-200

Modular anaerobic digester with 2 parallel digester hulls. Hulls share heating/feed and effluent tanks.

Digester Performance:

- Dairy Manure Intake: 3,000 gallons per day
- Plug Flow Retention Time: 20 days
- Feed Rate: 1,500 gallons per hull once daily
- Digester Operating Temperature (internal): min: 90°F, max: 110°F
- Ambient Operating Temperatures: - 30°F to 140°F

Biogas Specifications:

- Biogas composition: 60% methane, 40% CO₂, 1% water vapor, Less than 2000ppm H₂S, trace NH₃
- Biogas Energy content: 600 BTU per cuft
- Production Rate: 14,750 cuft Biogas per day; 370,000 BTU per hour
- Energy Production Capacity: 32.5 kW @ 30% generator efficiency

Digester Dimensions:

- Hull Dimensions: Length: 98', Diameter: 8' (w/o injector pumps or tail sections)
- Tail Section Dimensions: Incline Angle: 60°, Height: 17' 2"
- Overall System Length: 126' 4" (including heating and effluent tanks)
- Minimum Enclosure Dimensions: 38' width x 140' length x 21' rafter height

Utility Requirements:

Electricity: 3 phase, 240 volt, 150 amp panel capacity

Water: 10 gal/min, 50 psi pressure



E. Lopez, 2007

Avatar 80 cow pilot system built with two 6' diameter hulls.