BIOGAS DEHUMIDIFICATION SYSTEM

HRS BDS SERIES

The HRS BDS Series is an efficient solution to cool and dehumidify biogas for combustion with two standard options. The system condenses up to 90% of the water contained in the gas, which is continuously separated before the lean biogas is ready for use. This is a necessary process for all bio-energy plants that use biogas as fuel in CHP engines.

A heat recovery step can be included as a standard option thus reducing energy costs up to 20%. Cold gas at 5°C is used to precool the incoming gas at 40°C, whilst raising the temperature of the dehumidified gas to approximately 36°C before use. A chiller is included to provide the energy required for the process.

The BDS comes complete with controls in a packaged 'plug and play' skid.

TECHNICAL DATA

APPLICATIONS

Biogas Dehumidification
Biogas Cooling

STANDARD MATERIALS OF CONSTRUCTION

Service Side: AISI 304 Stainless Steel
Biogas Side: AISI 316L Stainless Steel
Other material options available

STANDARD CONNECTIONS

Service Side: Flange
Product Side: Flange
All flange types available

SURFACE FINISH

External: Matt
Internal: Matt

STANDARD DESIGN CONDITIONS

Service Side: 6 bar/80°C
Biogas Side: 2 bar/80°C

FEATURES

- Condenses >90% of the water present in biogas
- Up to 20% energy recovery available, reducing energy costs
- Skid-mounted for easy access and freedom of movement
- Automatic control panel
- ATEX-compliant version available
- Unit insulated with Armaflex

RANGE

MODELS	GAS FLOW (kg/hr)	T GAS IN (°C)	T GAS MIN (°C)	T GAS OUT (°C)	T SERVICE IN (°C)	T SERVICE OUT (°C)	THERMAL DUTY CHILLER (kW)	ELECTRICITY CONS. (kW)
BDS 13	161 - 200	40	7	31	0.5	5.5	10.8	4.5
BDS 21	200 - 350	40	7	32	0.5	5.5	15.3	6.6
BDS 37	350 - 540	40	7	34	0.5	5.5	26.1	11.4
BDS 55	540 - 700	40	7	34	0.5	5.5	30.2	12.6
BDS 73	700 - 1050	40	7	36	0.5	5.5	45	20.7
BDS 121	1050 - 1700	40	7	36	0.5	5.5	72.5	30.4

DESIGN CODE AND COMPLIANCE

PD 5500, PED 2014/68/EU, ASME | TR CU 032, DOSH Compliant

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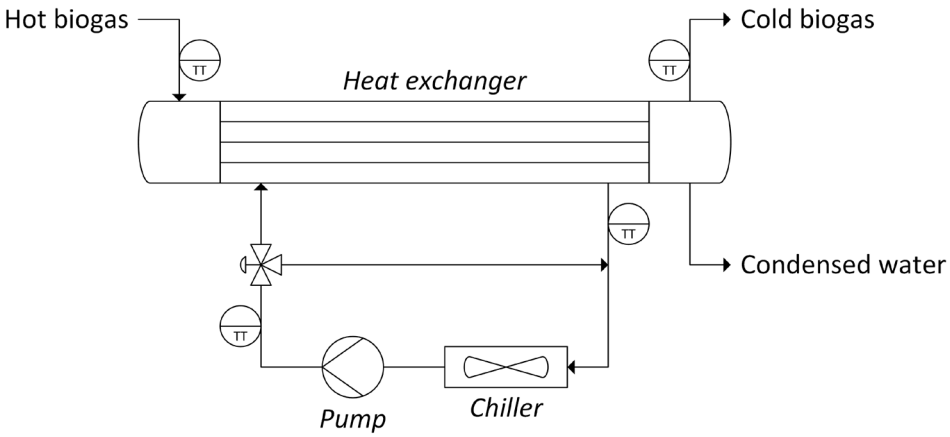
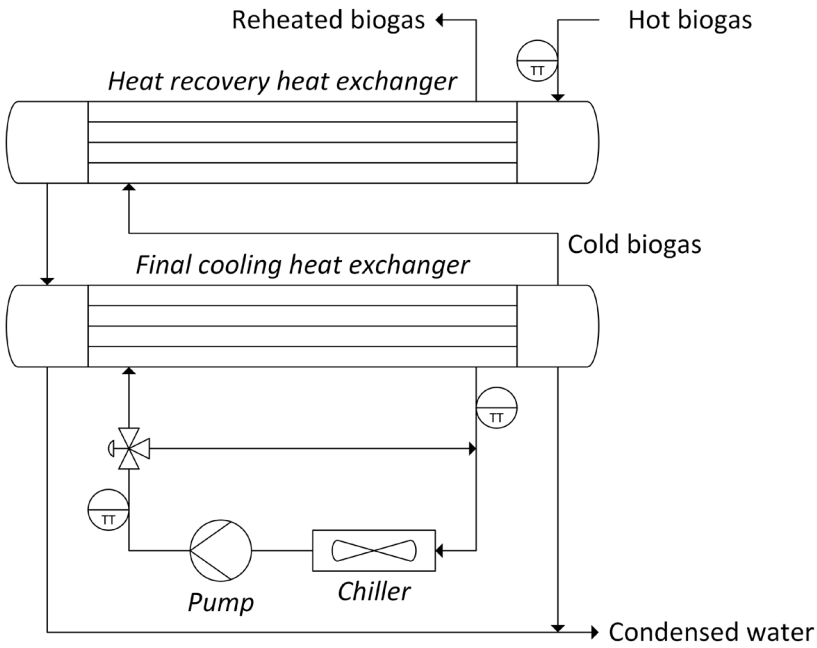
STANDARD OPTION



HEAT RECOVERY OPTION