



DS-GEN-19069

Date: 13-Feb-2025

Major Equipment Data Sheet - Steam Generator(s)

CLAYTON SO Ref.: PR19069



FUJIFILM Billingham

Client Name:	FUJIFILM Diosynth Biotechnologies UK Limited	Client PO Ref.Nr:	6210011847
User Site / Location	Billingham	Client Project Nr:	Based on 6827H
Document Nr:	NA	Secondary Doc.Ref.:	NA
Document Title:	Major Equipment Data Sheet - Steam Generator(s)		
Equipment Description:	Steam generators & equipment		
All Tags or Tag Ref.:			

DOCUMENT APPROVAL STATUS

Review of supplier's data does not relieve supplier of responsibility for correctness under terms of the contract.

Signatures:			
Printed Names:			
Date:			
Assessment by:	Client	Owner	AIA / Notified Body

Rev.	Date	Written By	Checked By	Description
3				
2				
1	13-Feb-2025	D. Vandewaerde	H. Vanhaeren	Original
Rev.	1	Written By	H. Vanhaeren	Document Revisions - Description

REV

GENERATOR SPECIFICATIONS

1	GENERATOR TYPE	Once-through coil type watertube steam generator	Model:	SEG-504	
2			BHP:	500	
3	OUTPUT PERFORMANCE DATA	Maximum net heat output	kW	4905	
4		Modulation range (min/max)	%	20 / 100	
5		Equivalent max.output saturated steam (*)	kg/h	7825	
6		Min./Max. output @ 0 barg/100°C	kg/h	1565 / 7825	
7		Max.steam pressures PS (PSV setting)	barg	16,0	
8		Min./Max. temperature TS	°C	+5 / +204	
9	ELECTRICAL DATA	Electrical specifications	V/ph/Hz	400V / 3ph / 50Hz	
10		Power water pump motor (****)	kW	15 (=2x7,5)	
11		Power blower motor	kW	30	
12	BURNER DETAILS - FUEL AND COMBUSTION DATA	Min. required gas pressure @ inlet (***)	mbarg	250	
13		Burner capacity (Gas / Oil)	kW	5057 / NA	
14		Gas consumption - LHV= 37300 kJ/Nm³	Nm³/h	488	
15		Required gas pressure @ inlet main gas valves @ 100%	mbarg	155	
16		Light oil consumption-LHV= 42700 kJ/kg	kg/h	NA	
17		Efficiency on oil (Min./Max. load (**))	%	NA	NA
18		Efficiency on gas (Min./Max. load (**))	%	97	94
19		Exhaust gas temperature (****)	°C	155	
20		Exhaust gas flow wet (****)	Nm³/h	6834	
21		Atomizing air (oil fired only) - Required flow	Nm³/h	NA	
22		Atomizing air required pressure	barg	NA	
23		Pilot air (fan modulation only) required flow	Nm³/h	NA	
24		Pilot air required pressure	barg	NA	
25		Required combustion air	Nm³/h	6345	
26	Noise level at 1 m (free field - not cumulated)	dB(A)	85		
27	OVERALL GENERATOR DIMENSIONS (approx. -> see dimension drawings)	Overall generator dimensions (approx. -> see dimension drawings)	Length	mm	3362
28			Width	mm	2394
29			Height	mm	5333
30			Weight (empty)	kg	5800
31	MAJOR CONNECTIONS (approx. -> see dimension drawings)	Terminal point data	Water inlet valve	-	DN40 PN100
32			Steam outlet	-	DN150 PN40
33			Excess water outlet	-	DN50 PN40
34			Stack connection (OD)	mm	818 (Flanged)
35	GENERAL DESIGN DATA	Design data major elements (Pc/Tc - PS/TS)	Design Code - Major Elements	-	PED / ASME I
36			Coil top section PS/TS	bar/°C	70/292
37			Coil Economiser PS/TS	bar/°C	70/292
38			Separator PS/TS	bar/°C	24/225
39					
40					
41		Major materials	Coil top section	-	EN-10216-2 P235GH
42			Coil bottom part	-	EN-10216-2 P235GH
43			Separator	-	EN-10216-2 P235GH
44					
45					
46					
47					
48					
49	GENERAL DESIGN DATA	Total water content filled	L	1917	
50		Total water content in operation at 100%	L	1246	

REV

GENERATOR SPECIFICATIONS

51	GENERAL DESIGN DATA (Continued)	Total Heating Surface		m²	112,4	
52						
53	MAJOR LEGAL INSTRUMENTATION	Design Code generator equipment		-	PED / EN12952-7/8/10	
54		Safety valve(s)	Quantity and Type		-	2 pc / Spring loaded
55			Size-Rating Inlet/Outlet		-	DN40-PN16 / DN65-PN16
56			Qty	Setting:	barg	16
57		Pressure limiter	1		barg	15
58		Temperature limiter sat.steam	1		°C	205
59						
60		Min. combustion air	1		mbarg	max. range: 50
61		Max. gas pressure	1		mbarg	max. range: 500
62		Min. gas pressure	1		mbarg	max. range: 500
63	Gas leak test / valve proving	1		mbarg	max. range: 500	
64	Flame detection	1		Type:	Self-checking - IR	
65	NOTES:					
66	(*) @ 1 bara (absolute) with feed water temperature of 100°C					
67	(**) based on boiler water temperature of 100°C, Combustion air of 25°C and operationg pressure of 10 bar(g)					
68	(***) to be provided by client (based on 100% capacity and LHV between 31,8 and 37,3 MJ/Nm ³). Gas train design pressure is 500 mbar (secured by client)!					
69	(****) motor power may vary due to steam/feed water pressure.					
70	(*****) These are average values which depend a.o. on load, excess air, water & air conditions, steam pressure, etc....					
71						
72	Since our policy is one of continuous improvement, all specified values are subject to change without notice					