

Appendix A

Maximum Swallowing Capacity Single Cylinder Single Flow Turbine
with Maximum Inlet Steam of 270kg/s

FOR INFORMATION ONLY

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A-1. Live Steam Maximum Flow Condition

A-1.1 Technical Specification of Steam turbine

Quantity	One (1)
Type	Single Casing Single Flow, impulse type condensing turbine
Output	224,000 kW at generator terminal
Speed	3,000 rpm
Rotation	CCW (viewed from turbine front)
Steam conditions	
• Steam pressure at main: stop valve	10 MPa (a)
• Steam temperature at: main stop valve	505 deg C
• Steam flow at: main stop valve	270 kg/s
• Exhaust pressure at turbine exhaust flange	4,9 kPa (a) approximate at ambient pressure 1013.25 hPa
• Power Factor :	0.9
• Extraction Condition:	Guarantee Point F

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Steam condition

		Point F ¹
Live steam at emergency stop valve inlet: - flow	SHP100 kg/s	270
Pressure ahead of turbine stop valve	MPa(a)	10
Temperature ahead of turbine stop valve.	°C	505
SMP20 bleed desuperheating water flow (144 °C) By Vendor	kg/s	1,29
SMP20 bleed pressure before control	MPa(a)	3,32
SMP20 bleed pressure after control	MPa(a)	2,3
SMP20 bleed temp. before control	°C	352,8
SMP20 bleed temp. after control	°C	230
SMP10 extraction desuperheating water flow (144 °C) By Vendor	kg/s	2,00
Selective bleed for medium pressure after pressure control and cooling for process use: - flow - pressure, outlet - temperature, outlet - condensate return - condensate return temperature	SMP10 kg/s kPa(a) °C % °C	25,3 1050 190 38 120
SLP4 steam for process - steam pressure at turb. Flange - steam enthalpy by Vendor - heat demand - approximate steam flow - condensate return - condensate return temperature	SLP4 kPa (a) kJ/kg MJ/s kg/s % °C	470 2721,4 200 92 85 105
SLP4 steam to deaerator by Vendor Feed water temperature to RB and PB	Kg/s °C	26,7 146,0
SLP4 excess steam to condensing - flow to condenser by Vendor - pressure - entaphy	kg/s kPa (a) kJ/kg	103,1 4,9 2204,5
Demineralsised water flow (32°C) - aproximate flow	kg/s	39,8
Electric power output at terminals minus excitation power ¹⁾ ; by Vendor	MW	224,0
Condenser cooling water - temperature in - temperature out - flow	°C °C l/s	17 28,9 4300