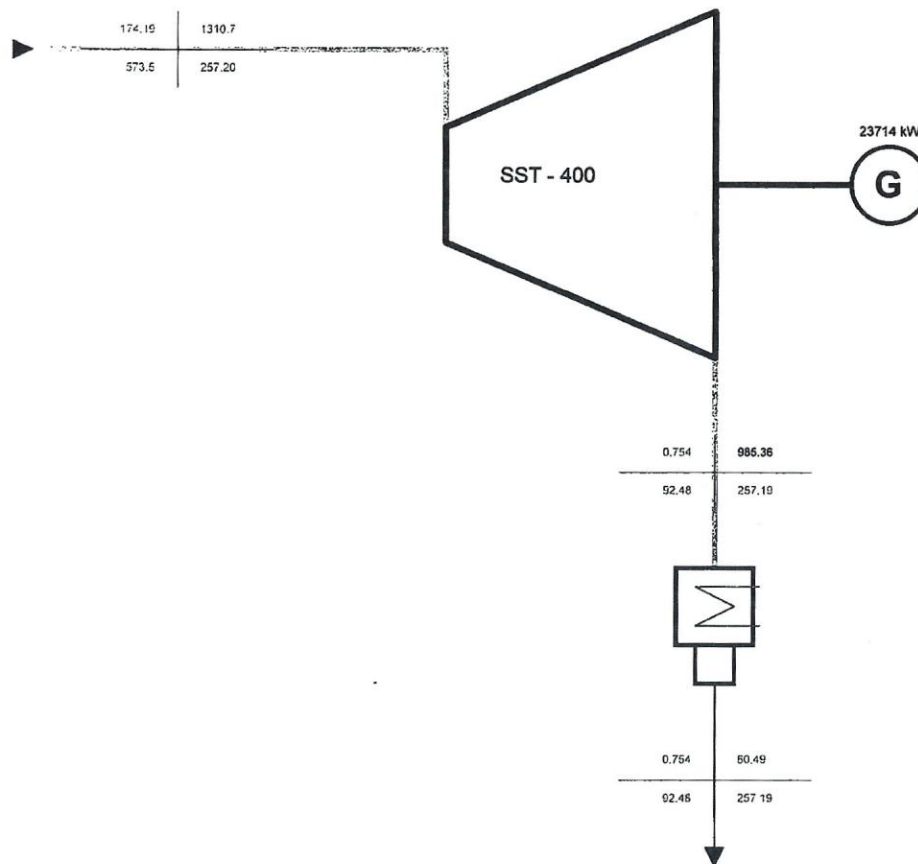
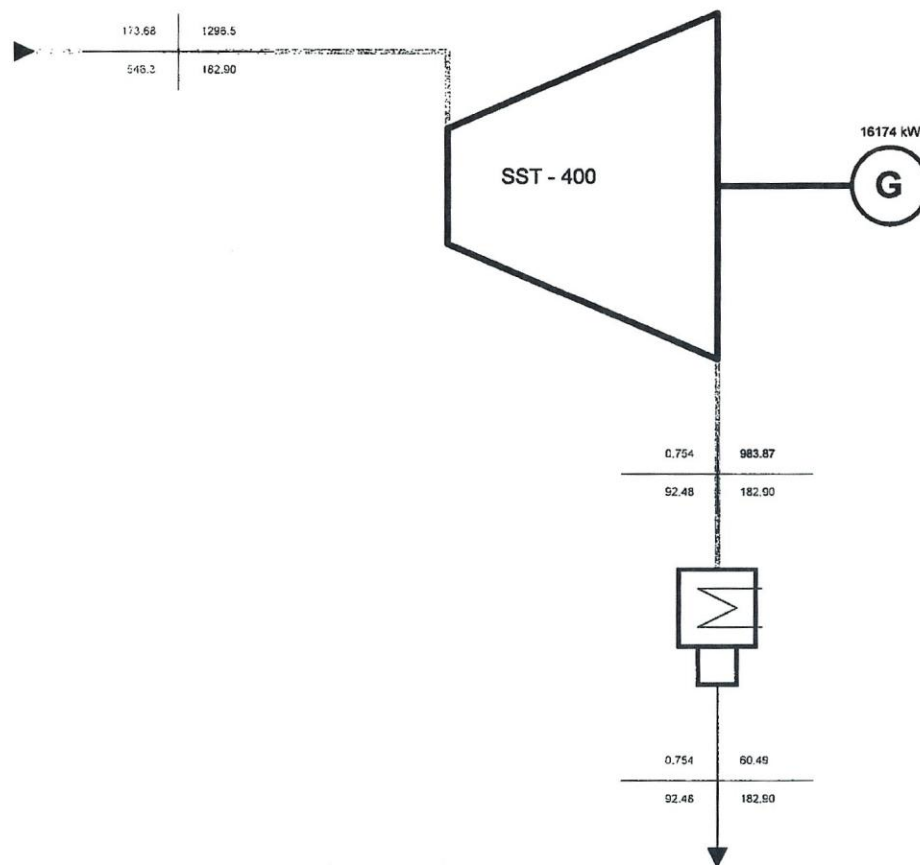


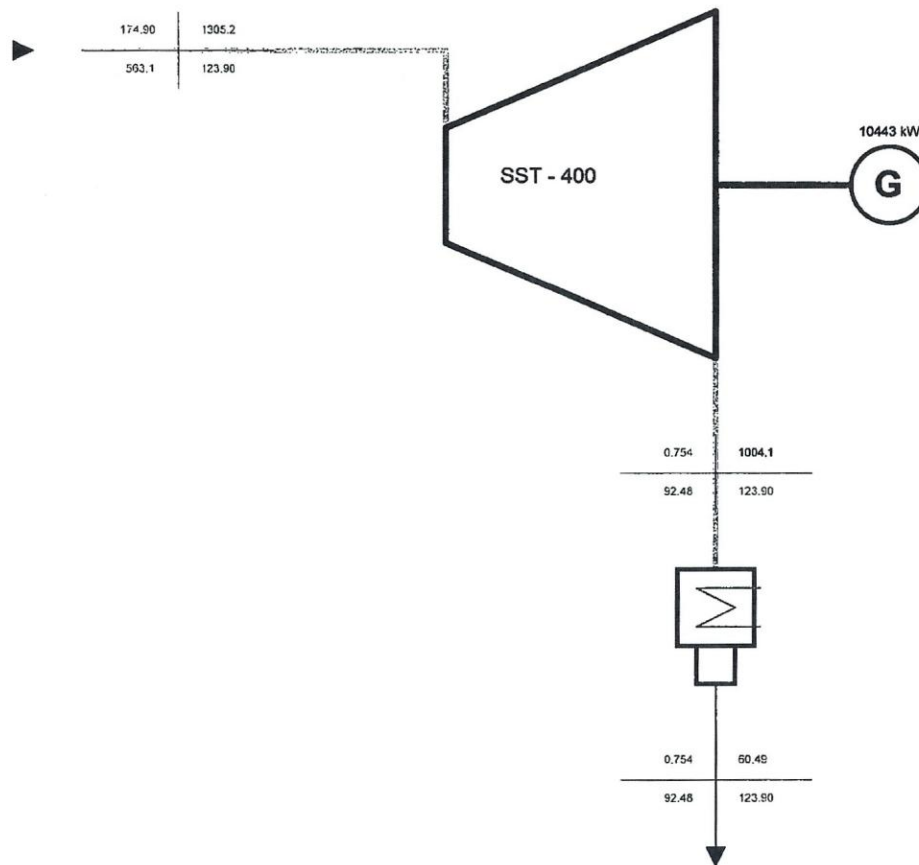


SIEMENS

Prepared:	12.08.2010	Prepared by:	D.Vrbka	Title:	Heat balance diagram	Pages:	3
Revision:	15.09.2010	Responsible department:	TUBIAE1		Loadpoint August Mill Data		
Revision Index:	2			Project:		Pg. no.:	1
				Drawing No:	M-10.0359		



Prepared:	12.08.2010	Prepared by:	D.Vrbka	Title:	Heat balance diagram	Pages:	3
Revision:	15.09.2010	Responsible department:	TUBIAE1		Loadpoint Average Mill Data		
Revision index:	2						
SIEMENS				Project:		Pg. no.:	2
				Drawing No:	M-10.0369		



Prepared:	12.08.2010	Prepared by:	D.Vrbka	Title:	Heat balance diagram	Pages:	3
Revision:	15.09.2010	Responsible department:	TUB/AE1		Loadpoint January Mill Data		
Revision index:	2			Project:		Pg. no.:	3
SIEMENS				Drawing No:	M-10.0359		

SPX HEAT TRANSFER CONDENSER DATA SHEET

1) Design basis - operating conditions and performance

- | | |
|---|---------------------------------------|
| a) Nature and source of circulating water: | <u>Brackish/River</u> |
| b) Steam Load: | <u>240,787 lbs/hr</u> |
| c) Steam Temperature: | <u>91.71⁰F</u> |
| d) Duty (net heat rejected to circulating water): | <u>250.20 x 10⁶ BTU/hr</u> |
| e) Effective Tube Length: | <u>34.8333 ft</u> |
| f) Effective Condenser Surface: | <u>32,931 ft²</u> |
| g) Number of Water Passes: | <u>2</u> |
| h) Circulating water quantity: | <u>23,500 gpm</u> |
| i) Circulating water inlet temperature: | <u>65⁰F</u> |
| j) Cleanliness factor: | <u>85 %</u> |
| k) Average circulating water velocity in tubes: | <u>8 ft/sec</u> |
| l) Absolute pressure: | <u>1.50" of HgA</u> |
| m) Deaeration - maximum free oxygen in condensate: | <u>7 PPB</u> |
| n) Circulating water friction loss through clean tubes and water boxes: | <u>29.55 ft of water</u> |

2) Tubes

- | | |
|---------------------------------------|--------------------------|
| a) Size: | <u>3/4" O.D.</u> |
| b) Length and Tolerance for Ordering: | <u>35'-0"(+1/4"/-0")</u> |
| c) Main Condensing Sections: | |
| (1) No.: | <u>4,816</u> |
| (2) Gauge: | <u>24 BWG</u> |
| (3) Material: | <u>SB338/2 Titanium</u> |
| d) Impingement Plate: | <u>3/8" Carbon Steel</u> |
| e) Furnished by: | <u>SPX Heat Transfer</u> |
| f) Shop Installed: | <u>Yes</u> |

3) Tubesheets

- | | |
|---------------------|-------------------------|
| a) Number and size: | <u>2 at 91" Dia.</u> |
| b) Thickness: | <u>1"</u> |
| c) Material: | <u>SB265/2 Titanium</u> |

SPX Heat Transfer Inc.

- 4) Shell
 - a) Material: SA 516 Gr 70
 - b) Thickness: 5/8"
 - c) Provision for tube contraction/shell expansion: Diaphragm
- 5) Tube support plates
 - a) Number: 16
 - b) Thickness: 1/2"
 - c) Material: SA 285 Gr C
- 6) Hotwell
 - a) Storage Capacity: 1,069 Gals.
 - b) Material: SA 516 Gr 70
 - c) Thickness: 1/2"&3/4"
- 7) Water Boxes
 - a) Material: SA 516 Gr 70
 - b) Divided or non-divided: Divided
 - Design pressure: 90 psig
 - c) Number and size: Inlet nozzles: 1 at 30 Dia.
Outlet nozzles: 1 at 30 Dia.
 - d) Internal Protection: 100% Solid Epoxy
- 8) Extension neck
 - a) Material: SA 516 Gr 70
 - b) Thickness: 1/2"
 - c) Connection to turbine: Welded
- 9) Approximate weights, condenser with tubes
 - a) Dry: 123,500 lbs
 - b) Operating: 224,000 lbs
 - c) Water Test: 299,000 lbs

ECOLAIRE - EXPECTED CONDENSER PERFORMANCE

PRESSURE VS LOAD AT GIVEN WATER TEMPERATURES

ZONE 1 of 1

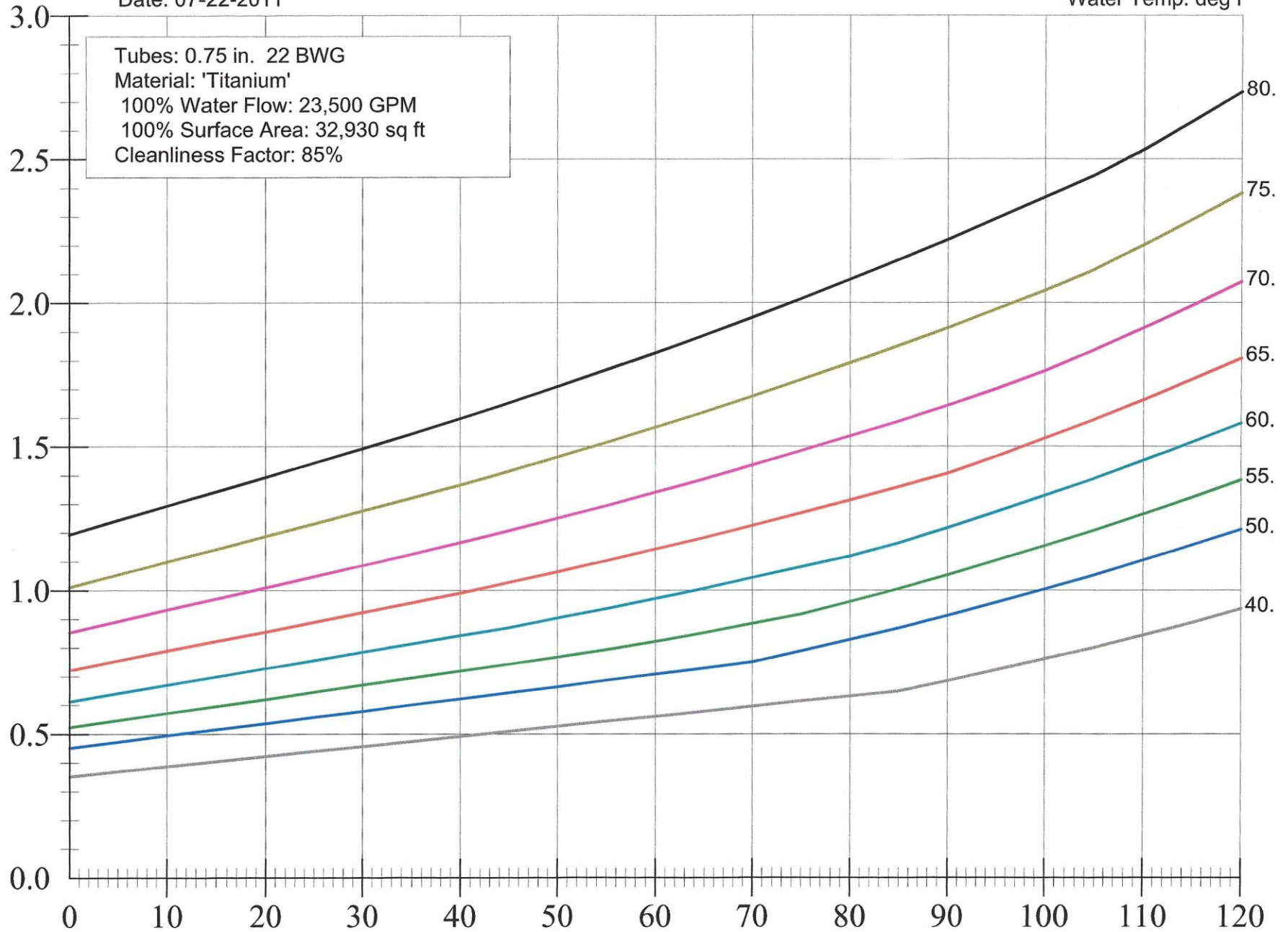
Date: 07-22-2011

Water Temp: deg F

Tubes: 0.75 in. 22 BWG
Material: 'Titanium'
100% Water Flow: 23,500 GPM
100% Surface Area: 32,930 sq ft
Cleanliness Factor: 85%

CONDENSER PRESSURE (in. Hg A)

SC-27575



07/22/11

CONDENSER LOAD (PERCENT)
252,000,000 BTU/HR (100%)



Rev1