



Economizer Design Specification

SERVICE - ECONOMIZER COUNTER CURRENT FLOW

PERFORMANCE FIRING - Nat. Gas & #2 Oil

	<u>TUBE</u>	<u>SHELL</u>		
FLUID	WATER	FLUE GAS	DESIGN PRESSURE	500 PSI
FLOW - LBS/HR	75,600	85,800	DESIGN TEMP	700 °F
TEMP-IN °F	228.0	585.0	NO. OF TUBES	120
TEMP-OUT °F	301.2	332.6	NO. TUBES WIDE	12
PRES.DROP-PSI/IN.WC	12.08	0.71	NO. ROWS DEEP	10
DESIGN PRES-PSI	500	0.35	NO. OF STREAMS	4
OPER. PRES-PSI	375	*	EFF. TUBE LENGTH	7.5 FT
VELOCITY-FT/SEC	5.54	36.26	TUBE O.D.	2 IN
FOULING FACTOR	0.001	0.003	AVG. TUBE WALL	0.137 IN
HEAT TRANSFERRED BTU/HR		5,604,280	TUBE SPEC.	SA53B/SA178A
RATE BTU/HR/SQ.FT-°F		6.3147	FIN MATERIAL	CS, SOLID
LMTD - °F		179.51	FIN HEIGHT	0.75 IN
EXT. SURFACE - FT ²		4,944	FIN THICKNESS	0.06 IN
OVERALL DIMENSIONS	10.5' (L) x 5.38' (W) x 6.46' (H)		FINS / INCH	4.50/IN.
DUCT OPENING	7.5' (L) x 4.25' (W)		HEADER SIZE	4 I.P.S. 600 RFWN

NOTES:

- 1) 10 GA. INNER CASING.
- 2) 3 IN. 1200 DEG.F BLOCK INSULATION
- 3) 0.016 THK. CORR. GALV. OUTER CASING
- 4) 1 SET WALLBOX AND DISTAL BEARINGS REQUIRED IN 1 CLEANING LANE.
- 5) **ESI RECOMMENDS PREHEATING THE FEEDWATER WHENEVER USING SULFUR BEARING FUELS.**

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