

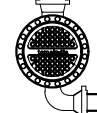
6	5	4	3	2	1	
DESIGN DATA						
CODE OF CONSTRUCTION		ASME SEC. VIII DIV-1 1998 EDITION 1999-ADDENDA TEMA CL-R 1999 EDITION		SHELL CHANNEL		
		PWHT		YES YES		
DESIGN PRESSURE	UNIT	SHELLSIDE	TUBE SIDE	RADIOGRAPHY	100% Δ 100% Δ	
	Psig	1605.81	2408.01	JOINT EFFICIENCY	1.0 Δ 1.0 Δ	
	Kg/Cm ² g	112.9	169.3	INSPECTION BY	ENGINEERS INDIA LTD.	
	°F	649.4	649.4	POSITION	HORIZONTAL TYPE DFU	
DESIGN TEMPERATURE	°C	343	343	DUTY	MM Kcal/hr 14.1	
	Psig	2231.36	Δ 3132.45	EARTHQUAKE SPECIFICATION IS 1893		
HYDRO TEST PRESSURE	Kg/Cm ² g	156.88	Δ 220.23	WIND LOAD Δ IS 875 PART-3		
	°F	60.8	60.8	ADDITIONAL LOADING AS PER UG-22 Δ NOZZLE LOAD		
MIN. HYDRO TEST TEMPERATURE	°C	16	16	CODE STAMPING REQUIRED NO		
	Psig	233.26/214.77	2298.49/2280.00	TOLERANCE Δ TEMA CLASS R & EIL STD. 7-15-0019 REV.1		
OPERATING PRESSURE Δ (IN / OUT)	Kg/Cm ² g	16.4/15.1	161.6/160.3	MECHANICAL DATA OF EXCHANGER		
	°F	321.8/496.4	537.8/451.4	EFFECTIVE SURFACE AREA	m ² 445	
OPERATING TEMPERATURE (IN / OUT)	°C	161/258	281/233	TOTAL EMPTY WEIGHT	Kg. 48400	
	in/mm	SEE NOTE-29		SHELL EMPTY WEIGHT	Kg. 15430	
CORRN. ALLOWANCE	113.48 Kg/Cm ² g AT 343 °C SHELL SIDE		TUBE BUNDLE WEIGHT			
	169.41Kg/Cm ² g AT 343 °C TUBE SIDE		HYDRO TEST WEIGHT			
MAWP (AT DESIGN TEMP.) Δ	120.68 Kg/Cm ² g AT 16 °C SHELL SIDE		OPERATING WEIGHT			
	169.41 Kg/Cm ² g AT 16 °C TUBE SIDE		No. OF 'U' TUBES	572	PITCH	31.75
MAWP (AT AMBIENT TEMP.) Δ	0°C AT 113.48 Kg/Cm ² g SHELL SIDE		OUTER DIA.	25.4	LAYOUT	SQUARE
	0°C AT 169.41 Kg/Cm ² g TUBE SIDE		THK. (Min.)	3.05		
MDMT Δ	in/mm	52.83/1342	TUBE EFF. LENGTH			
INSIDE DIAMETER	Nos.	TWO Δ	TWO Δ			
No. OF PASSES	CLPS LIQUID	REACTOR EFFL.				
FLUID CIRCULATED	mm	105 Δ	105 Δ			
INSULATION						
NOZZLE SCHEDULE Δ						
T2	CHANNEL OUTLET	16"	FORG.	35.49+5W.D. Δ	- - BW	
T1	CHANNEL INLET	16"	FORG.	35.49+5W.D. Δ	- - BW	
S2	SHELL OUTLET	10"	FORG.	58 Δ	1500# FN RTJ WITH COMP. FLG.	
S1	SHELL INLET	10"	FORG.	58 Δ	1500# FN RTJ WITH COMP. FLG.	
NOZZ. No.	SERVICE	SIZE	THK	CLASS	TYPE FACE REMARK Δ	
		NOZZLE SCHEDULE		ASME B16.5 FLANGES		
NOZZLE SCHEDULE Δ						
DESIGN DATA & NOZZLE SCHEDULE FOR RX EFFLUENT / CLPS LIQUID						
TITLE :				EQPT. NO.		
				207-E4		
JOB NO.	SII	3-02-04-41206B	P/O No.	1027/PO/2138/4814		
	TEMA	T/E/02517				
SCALE	NTS	DWG. No. or Doc No.	VP-1027-E4-02517	SHT. NO.	Rev.	
				1 OF 18	1/2/3/4	

DRAWING CERTIFIED BY
Harry R. Bishop 05/26/03
HARRY R. BISHOP
CHIEF DESIGN ENGINEER

Δ "AS BUILT DWG"

4	05/26/03	AS BUILT DIMENSIONS ARE SHOWN IN BKT (-) & OTHER REVISED AS MKD Δ THUS	DMF	WB	HRB
3	04/17/02	DWG IS REVISED AS MKD. Δ THUS.	DMF	WB	HRB
2	03/28/02	DWG IS REVISED AS MKD. Δ THUS.	DMF	WB	HRB
1	02/13/02	DWG IS REVISED AS MKD. Δ THUS.	DMF	WB	HRB
0	02/08/02	SUBMITTAL FOR APPROVAL	DMF	WB	HRB
REV.	DATE	DESCRIPTION	DRWN	CHKD	APPD

PROJECT NAME : **CPCL REFINERY- III PROJECT**

MANUFACTURER :  **TEMA INDIA LTD**
Factory: Achhad Village, Dist. Thane, & Kherdi, Silvassa Gram: CODEEVESEL Mumbai 88.

ENGINEERING :  **STRUTHERS INDUSTRIES, INC. GULFPORT, MISSISSIPPI**

CONSULTANT : **ENGINEERS INDIA LIMITED**

CLIENT : **CHENNAI PETROLEUM CORPORATION LIMITED**

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