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EIL 1646-890 Rev 1 - A3 - 297x420

NOZZLES AND CONNECTIONS

MARK	QTY REQD	NOM. DIA	@ SCH/ THK	FLANGES RATING	FLANGES TYPE	FLANGES FACING	PROJ (SEE NOTE-4)	PAD W X T	SERVICE
F	1	300	16THK	600	SRWN	RF	1150	SEE NOTE 7	FEED
T	1	250	16THK	600	SRWN	RF	700	"	TOP OUTLET
B	1	80	160	600	SRWN	RF	1100	"	BOTTOM OUTLET
M	1	500	20THK	600	SRWN	RF	1200	"	MANHOLE+COVER FLG.
LT 1,2	2	50	160	600	WN	RF	1050	SEE NOTE 15	LEVEL TRANSMITTER
SP 1,2	2	50	160	600	WN	RF	1050	"	STAND PIPE
AO	1	500	14THK PLT.	—	—	—	—	250X12	ACCESS OPENING
VS 1,2,3	3	100	80	—	—	—	—	—	SKIRT VENTS

@ SCH. / THICKNESS OF NOZZLE NECK IS SPECIFIED TO SELECT I.D OF W.N FLANGES.

GENERAL NOTES

UNLESS STATED OTHERWISE

1. ALL DIMENSIONS ARE IN mm
2. ALL ANCHOR BOLT HOLES TO STRADDLE N/S CENTRE LINE
3. NORTH DIRECTION WHEREVER SHOWN IS WITH RESPECT TO PLAN VIEW
4. a) FOR NOZZLES ON SHELL, PROJECTIONS ARE REFERRED FROM VESSEL CENTRE LINE TO FLANGE CONTACT FACE
   b) FOR NOZZLE ON HEAD, PROJECTIONS ARE REFERRED FROM HEAD T.L TO FLANGE CONTACT FACE.
5. THE INDICATED THICKNESS IS THE MINIMUM ACCEPTABLE AFTER CONSTRUCTION.
6. FLANGES GASKET FACE SHALL HAVE 125 R M S FINISH/ ~~SERRATED FINISH WITH CONCENTRIC GROOVES~~.
7. DESIGN OF SR NOZZLES SHALL BE SUBMITTED FOR APPROVAL BEFORE PLACEMENT OF ORDER.
8. WELD METAL & HEAT AFFECTED ZONE SHALL MEET THE IMPACT TEST REQUIREMENT OF CODE AT (-) 40°C.
9. DEMISTER SEGMENTS SHALL PASS THROUGH MANHOLE.
10. HINGE TABS AND HANDLE SHALL BE OF SA537 CL.1, HINGE BAR AND WASHER SHALL BE OF SS304.
11. ALL LONG. AND CIRCUM WELDS SHALL BE 100% RADIOGRAPHED FOR THEIR ENTIRE LENGTH.
12. AFTER HYDROTEST ALL WELDS SHALL BE ULTRASONICALLY AND D.P TESTED.
13. HOT FORMED PRESSURE PARTS SHALL MEET THE REQUIREMENTS OF SIMULATION TEST AS PER UCS-85
14. PRODUCTION WELD TESTS SHALL BE CARRIED OUT AS PER CL.4.040 OF 6-12-02.
15. NOZZLES LT1,2 AND SP1,2 SHALL BE AS PER STD. 3030-8-12-0002

HOLD UPS

- [ ] NOZZLE ORIENTATION / ELEVATION
- [ ] SIZE OF NOZZLES
- [ ] DETAIL OF INTERNALS
- [ ] TRAY SUPPORTS/ BOLTING BARS
- [x] PIPE SUPPORT CLEATS
- [x] LADDER / PLATFORM CLEATS
- [x] SKIRT HT.

SPECIFICATIONS

[x]	GENERAL SPEC. FOR PRESSURE VESSELS	6-12-01
[x]	SUPPL. SPEC. FOR C.S. VESSELS	6-12-02
[x]	STD. SPEC. FOR B.& C.S PLATES	6-12-11
[x]	STD. SPEC. FOR STRL. QUALITY PLATES	6-12-14

STANDARDS

[x]	VESSEL TOLERANCES	7-12-001
[ ]	SUPPORT FOR HORIZONTAL VESSEL	7-12-002
[ ]	WOODEN PILLOWS FOR SADDLE SUPPORTS	7-12-003
[x]	SKIRT BASE DETAILS	7-12-004
[x]	SKIRT OPENING DETAILS	7-12-005
[ ]	ANGLE LEG SUPPORT	7-12-006
[ ]	PIPE LEG SUPPORT	7-12-007
[ ]	BRACKET SUPPORT FOR VERTICAL VESSEL	7-12-008
[x]	MANHOLE WITH HINGED COVER	7-12-009
[ ]	MANHOLE WITH DAVIT	7-12-010
[x]	LADDER RUNGS FOR MANHOLES/ DEMISTERS	7-12-011
[ ]	RETAINING PLATE	7-12-012
[x]	NOZZLE REINFORCEMENT AND PROJECTION	7-12-013
[ ]	PAD NOZZLES FOR VESSELS	7-12-014
[x]	STANDARD BOLT HOLE ORIENTATION	7-12-015
[ ]	ALLOY LINER DETAILS	7-12-016
[ ]	SIGHT GLASS FOR PRESSURE VESSELS	7-12-017
[ ]	INTERNAL FLANGES	7-12-018
[x]	VORTEX BREAKER	7-12-019
[x]	INLET DEFLECTOR BAFFLE	7-12-020
[ ]	SUPPORT RING & BOLTING BAR	7-12-021
[ ]	SUPPORT RING SIZES FOR PACKED TOWERS	7-12-022
[ ]	PIPE DAVIT	7-12-023
[x]	LIFTING LUG FOR HEAD TYPE	7-12-024
[x]	FIRE PROOFING AND INSULATION SUPPORTS	7-12-025
[x]	EARTHING BOSS	7-12-026
[x]	EIL NAME PLATE	7-12-027
[x]	MANUFACTURER NAME PLATE	7-12-028
[x]	BRACKET FOR NAME PLATE	7-12-029
[x]	DETAIL OF WIRE MESH DEMISTER SUPPORTS	-8-12-0001
[x]	DETAIL OF FORGED NOZZLES	3030-8-12-0002
[x]	DET. OF SR NOZZLES >2"NB	3030-8-12-0002-A

REFERENCE DRAWINGS

NOZZLE ORIENTATION	
LADDERS / PLATFORMS SUPPORT CLEATS.	
PIPE SUPPORT CLEATS	
TRAY SUPPORTS AND BOLTING BARS	

DESIGN DATA

CODE	ASME SEC. VIII DIV.1 (1989)		
WORKING PRESSURE (Kg/cm²g)	INT: 57.5	EXT	
DESIGN PRESSURE (Kg/cm²g)	INT: 76.0	EXT.	
WORKING TEMP. (°C)	(-) 15		
DESIGN TEMP. (°C)	(-) 40		
CORROSION ALLOWANCE (mm)	1.5		
TYPE OF HEADS	TORISPHERICAL		
JOINT EFFICIENCY	SHELL 1.0	HEAD 1.0	
RADIOGRAPHY	SHELL FULL	HEAD FULL (SEE NOTE 11)	
POST WELD HEAT TREATMENT	YES		
HEAT TREATMENT		HEAD AS PER SPEC.	
WIND SPECIFICATION	IS-875/		
EARTH-QUAKE SPECIFICATION	IS-1893/		
OPERATING MEDIUM		SP. GRAVITY 0.55	
CAPACITY (M³)	14.2		
PAINTING / CLEANING	AS PER SPEC.		
INSULATION THICKNESS (mm)	95	☐ HOT	☒ COLD
FIRE PROOFING		☒ YES	☐ NO
HYDROSTATIC TEST PRESSURE (Kg/cm²g) (NEW & COLD)	HORIZONTAL 114	VERTICAL (AT B.T.L)	
INSPECTION BY	☒ EIL	☐ CIP	☐ LLOYDS

MATERIAL OF CONSTRUCTION
(AS PER ASTM / IS OR EQUIVALENT)

SHELL AND REINFORCEMENT PAD	SA537 CL.1*
HEADS	SA537 CL.1*
SHELL FLANGES	—
NOZZLE FLANGES	SA350LF2
NOZZLE NECK	SA350LF2
COUPLINGS	—
PIPE FITTINGS	SA420 WPL6
GASKETS EXTERNAL	SPIRAL WOUND SS304 ASBESTOS FILLED
GASKETS INTERNAL	—
EXTERNAL STUDS/~~BOLTS~~/ NUTS	A320L7/ A194 GR.4
INTERNAL BOLTS/ NUTS	SS304
SKIRT/ ~~SUPPORT~~	SA537 CL.1* / IS226
SKIRT/~~SUPPORT~~ BASE	IS2062
INTERNAL PARTS	SA537CL.1*
TRAYS	
CLIPS AND ATTACHMENTS (EXTERNAL)	SA537CL.1*
WRAPPER PLATE	—
DEMISTER/ ~~GRID~~	SS304
PIPE FOR NOZZLE B	SA333 Gr.6 (SEAMLESS)

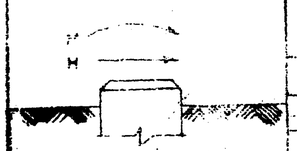
* IMPACT TESTED AS PER SA20

APPROXIMATE WEIGHTS (KGS.)

ERECTION WEIGHT	20600	OPERATING WEIGHT	32000
SHUT DOWN WEIGHT	30500	HYDROSTATIC TEST WEIGHT	34800

NUMBER OF ITEMS ONE

FOUNDATION LOADING DATA
(OPERATING CONDITION)



TYPE	MAX MOMENT AT BASE (M) (Kgm)	MAX SHEAR FORCE AT BASE (H) (Kg)
SEISMIC	40930	8412
WIND	18365	3339

STATUTORY REGULATIONS

- INDIAN BOILER REGULATIONS
- CHIEF INSPECTOR OF EXPLOSIVES

NO	DATE	REVISION	BY/CH	APPD
A	6.12.90	ISSUED FOR BIDS		

ENGINEERS INDIA LIMITED
NEW DELHI

PLANT: LPG LAKWA-INIT
CLIENT: GAIL

VESSEL DESIGN DATA
H.P SEPARATOR (C.S)

ITEM NO.	JOB NO.	DRAWING NO	REV.
VV-00-006	3030	3030-00-16-46-3-008	A

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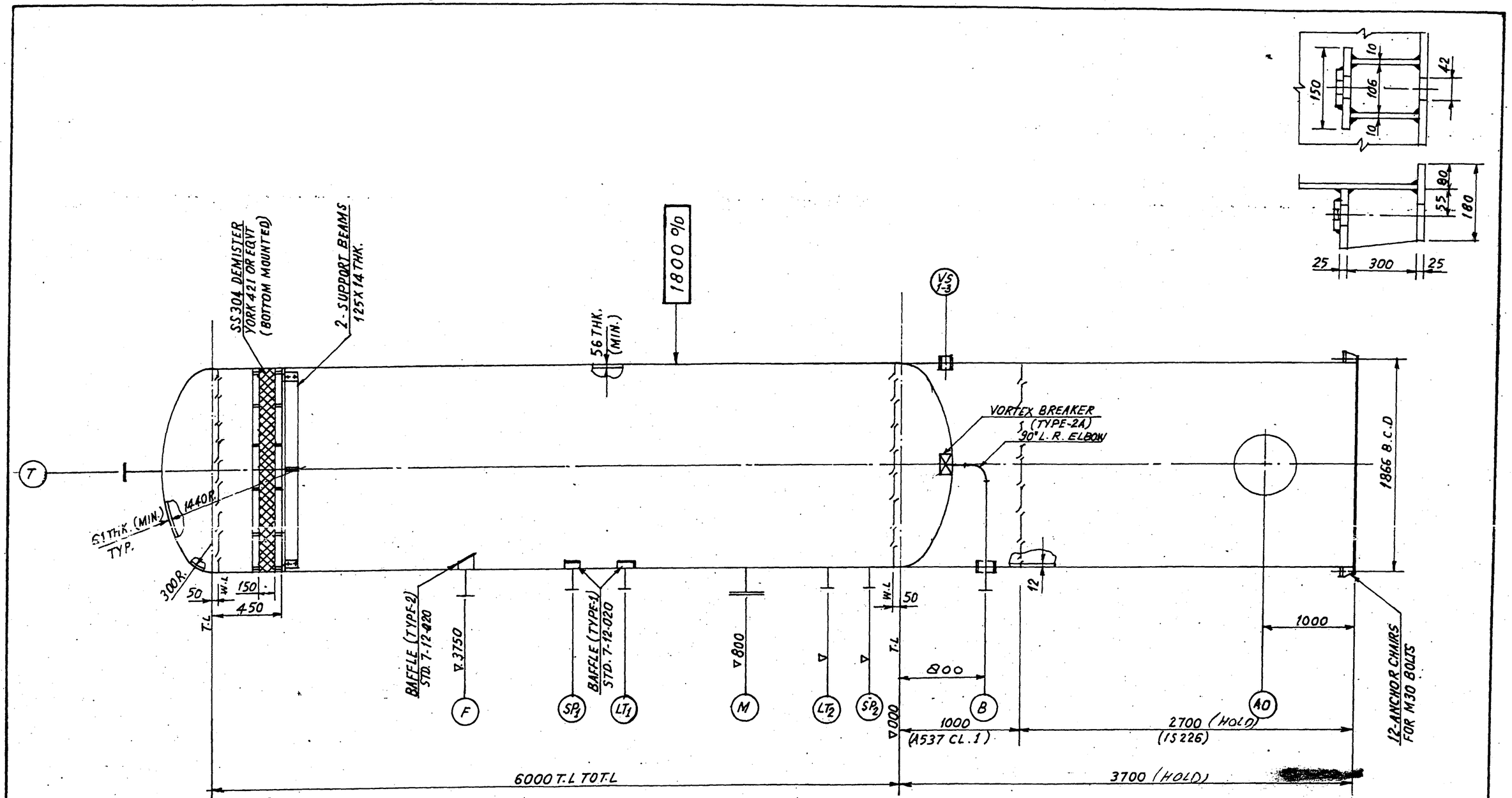
EIL-505 A3-297 x 420



EIL ENGINEERS INDIA LIMITED NEW DELHI			LPG LAKWA GAIL							H.P. SEPARATOR(CS) (VV-00-006)	DRAWING NO.	REV.
	DWG. NO.	REF. DRAWING		A	6-12-90	ISSUED FOR BIDS					3030-00-16-46-3-008	A
				NO.	DATE	REVISION	BY	CH	APPD			

SHT. 2 OF 2