

1-1641-0503 REV.0 A3-420x297

MECHANICAL DETAILS

ITEM NO	11-EE-017A	TEMA CLASS	R 9TH EDITION.	ASME SEC.VIII DIV.1 2007 EDITION+ADDENDA 2008	1
SIZE	700 X4000 (ST.)	TYPE	AXU (H) ;	CONNECTED IN –	STACKING NO
DUTY/UNIT	1.7630*1.10 MMKcd/hr	SURFACE AREA /	SHELL	98.0 Sqm	NO. OF UNITS– ONE SHELLS/UNIT
					ONE 3
DESCRIPTION	MATERIAL	DETAILS			Wt(kg)
SHELL	(REFER BUNDLE-B)				4
CHANNEL	SA240 Gr304L	O.D. =	724.00	; THK = 12.00	5
TUBES	SA213 TP304L	O.D. =	25.00	; THK = 2.00 (MIN.), LENGTH = 4000 'ST', NO=160 'Us' PITCH(NOTE4)	6
TUBE SHEET	SA965 F 304L	DETAIL =	12	; THK = 130. F = 0. F1 = 0.	7
BAFFLES	SA240 Gr304L	TYPE=	SUPPORT PLATE ;	THK= 10.; NO RECD.= 3 ; CUT = (NOTE4)	8
					9
					10
					11
					12
					13

FLANGE NO.	TYPE	MATERIAL	A	BCD	B	Go	G1	H	T	GASKET DATA			BOLT DATA		Wt (kg)
										O.D.(D)	WIDTH	TYPE	NO	BOLT DIA	
4A	2	SA965 F 304L	984.0	884.0	700.0	12.00	24.	50.	105.	822.	13.	2	28	M42	14
5A	2	SA965 F 304L	880.0	822.0	700.0	12.00	22.	45.	85.	775.	13.	2	40	M27	15
															16
															17
															18
															19

DESCRIPTION	GASKET MATL.	BOLTING MATERIAL.	DESCRIPTION	MATERIAL	REMARKS		Wt(kg)
FLANGE 4A	(4.5)SP WD. (NOTE6)	SA320GrB8CL2/SA194Gr8	CHANNEL COVER	SA965 F304L	DETAIL– 7 ; THK,T1 =	95.00	20
FLANGE 5A	(4.5)SP WD. (NOTE6)	SA320GrB8CL2/SA194Gr8	PARTITION PL.	SA240 Gr304L	THK = 12.7. T1=10. T2=13. DETAIL–15		21
CHANNEL NOZZ.	SS316SP WD. (NOTE5)	SA320GrB8CL2/SA194Gr8	SUPPORT PL.	SA240 Gr304L	THK = 10.0		22
			TIE RODS	SA479 Gr304L	DIA = (NOTE4) NOS = (NOTE4)		23
			SPACERS	SA213 TP304L	O.D. = (NOTE4) THK. = (NOTE4)		24
			SEALING STRIPS	SA240 Gr304L	WIDTH =(NOTE4) THK = (NOTE4) NO =(NOTE4)		25
			SLIDING STRIPS	SA240 Gr304L	WIDTH =(NOTE4) THK = (NOTE4)NO = (NOTE4)		26
	SHELL SIDE.	CHANNEL SIDE.	Wt(kg)	EYEBOLT /PLUG.	SA182 F304L	SIZE: (NOTE4) NOS. = (NOTE4)	27
NOZZLE NECK	SA965 F304L / SA182 F304L						28
NOZZLE FLGS.	SA182 F304L						29
PAD /WRAPPER PL.	SA240 Gr304L						30
GUSSET /LUGS	SA240 Gr304L						31
COUPLING /PLUGS	–						32
							33
							34
TEST RING–	NO	TEST FLANGE–	NO	TUBE TO TUBE SHEET JOINT–	WELED AS PER FIG.2 OF 6–15–0003		

- NOTES: –
- 1 ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE STATED
 - 2 FOR CONSTRUCTIONAL DETAIL AND NOMENCLATURE REFER STD.. 7–15–0001,7–15–0002
 - 3 ALL OVER V FINISH REQUIRED UNLESS OTHERWISE STATED.
 - 4 REFER GUIDELINES FOR PREPARING TUBE LAYOUT AND TUBE LAYOUT DRG NO. 6907-11-05-45-4017A & 6907-11-05-45-4017B FOR BUNDLE 11-EE-017A & 11-EE-017B RESPECTIVELY.
 - 5 SPIRAL WOUND GASKETS FOR NOZZLES SHALL BE 4.5 THK WITH GRAFOIL FILLER AND 3.2 THK CS OUTER RING. DIMENSIONS AS PER ASME B16.20.
 - 6.SS304L SPWD GASKETS WITH GRAFOIL FILLER AND SS304L INNER CENTERING RING.
 7. VENDOR TO CHECK AND ENSURE SMOOTH INSERTION/REMOVAL OF TUBE BUNDLES AT SHOP BEFORE DISPATCH OF THE EQUIPMENT.

MECHANICAL DETAILS

ITEM NO	11-EE-017B	TEMA CLASS	R 9TH EDITION.	ASME SEC.VIII DIV.1 2007 EDITION+ADDENDA 2008	1
SIZE	700X4000 (ST.)	TYPE	BKU (H) ;	CONNECTED IN –	STACKING NO
DUTY/UNIT	3.7180*1.10 MMKcd/hr	SURFACE AREA /	SHELL	109.0 Sqm	NO. OF UNITS– ONE SHELLS/UNIT
					ONE 3
DESCRIPTION	MATERIAL	DETAILS			Wt(kg)
SHELL	SA516Gr70	O.D. =	2900.00	; THK = 50.00	4
SHELL DISH END	SA516Gr70	O.D. =	3020.00	; THK = 60.00 (MIN. 52.00) SF=70 TORISPHERICAL	5
SHELL PORT A & B	SA350 LF2 CL.1	O.D. /	THK. =	REFER SHIT. 3 OF 3	6
CHANNEL	SA516Gr70	O.D. =	728.00	; THK = 14.00	7
CHANNEL BONNET	SA516Gr70	O.D. =	732.00	; THK = 16.00 (MIN 14.00) SF= 50.00 TORISPHERICAL	8
TUBES	SA179	O.D. =	25.00	; THK = 2.50 (MIN.) LENGTH = 4000 'ST', NO=167 'Us' PITCH(NOTE4)	9
TUBE SHEET	SA266CL4	DETAIL =	12	; THK = 105. F = 0. F1 = 0.	10
BAFFLES	SA516Gr70	TYPE=	SUPPORT PLATE ;	THK= 14. ; NO RECD.= 3 ; CUT = (NOTE4)	11
					12
					13

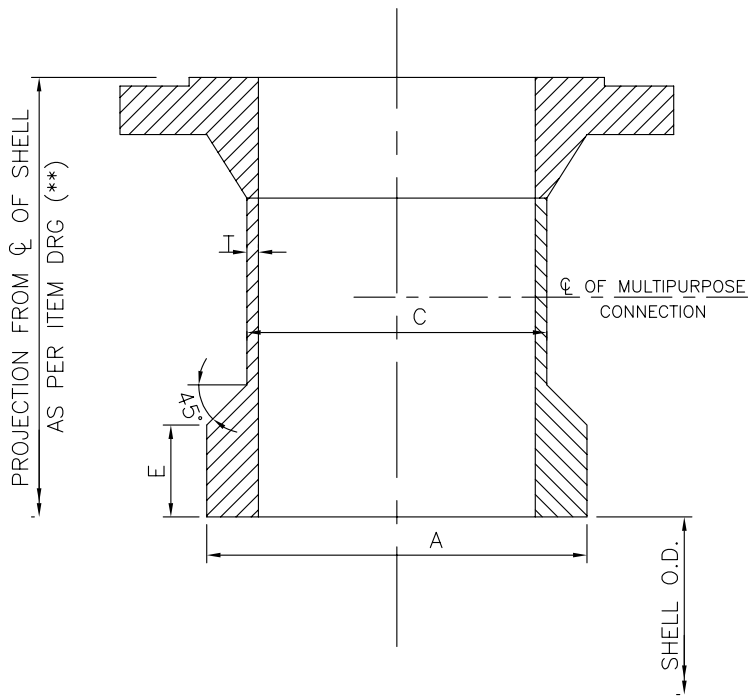
FLANGE NO.	TYPE	MATERIAL	A	BCD	B	Go	G1	H	T	GASKET DATA			BOLT DATA		Wt (kg)
										O.D.(D)	WIDTH	TYPE	NO	BOLT DIA	
4B	2	SA266CL4	886.0	828.0	700.0	14.00	20.	32.	95.	789.	13.	4	40	M27	14
3B	2	SA350 LF2 CL.1	886.0	828.0	700.0	18.00	25.	32.	95.	789.	13.	1	40	M27	15
3A	28	SA350 LF2 CL.1+SS 304L WD	984.0	884.0	700.0	18.00	30.	50.	100.	822.	13.	1	28	M42	16
															17
															18
															19

DESCRIPTION	GASKET MATL.	BOLTING MATERIAL.	DESCRIPTION	MATERIAL	REMARKS		Wt(kg)
FLANGE 4B	(3 THK) IJA.	SA193GrB7/SA194Gr2H	PARTITION PL.	SA516Gr70	THK = 13. T1= 10. T2= 13. DETAIL–15		20
FLANGE 3B	(3 THK) IJA.	SA193GrB7/SA194Gr2H	SUPPORT PL.	SA516Gr70	THK = 10.0		21
FLANGE 3A	(4.5)SPWD (NOTE6)	SA320GrB8CL2/SA194Gr8	TIE RODS	IS2062	DIA = (NOTE4) NOS = (NOTE4)		22
SHELL NOZZLES.	SS316 SP WD. (NOTE5)	SA193GrB7/SA194Gr2H	SPACERS	IS1239	O.D. =(NOTE4) THK. = (NOTE4)		23
CHANNEL NOZZ.	SS316 SP WD. (NOTE5)	SA193GrB7/SA194Gr2H	SEALING STRIPS	SA516Gr70	WIDTH =(NOTE4) THK = (NOTE4) NO =(NOTE4)		24
			SLIDING STRIPS	SA516Gr70	WIDTH =(NOTE4) THK = (NOTE4)NO = (NOTE4)		25
			SADDLE PLATE	IS2062GrB	DETAIL AS PER EIL STD 7-15-0004		26
	SHELL SIDE.	CHANNEL SIDE.	Wt(kg)	NAME PL /BKT.	SA516Gr70	DETAIL AS PER EIL STD 7-15-0017	27
NOZZLE NECK	SA516Gr70/ SA106GrB	SA516Gr70/ SA106GrB	EYEBOLT /PLUG.	SA105/ SA350 LF2 cl.1	SIZE: (NOTE4) NOS. = (NOTE4)		28
NOZZLE FLGS.	SA105	SA105	SLIDING BLOCK	SA516Gr70	SIZE = REFER SHIT. 1 OF 3		29
PAD /WRAPPER PL.	SA516Gr70	SA516Gr70	PAD FOR SUPPORT BEAM	SA516Gr70	SIZE = REFER SHIT. 1 OF 3		30
GUSSET /LUGS	SA516Gr70	SA516Gr70	STIFFENERS	SA516Gr70	SIZE = 18		31
COUPLING /PLUGS	–	–	SUPPORT I-BEAM	SA516Gr70	SIZE = REFER SHIT. 1 OF 3		32
							33
							34
TEST RING–	NO	TEST FLANGE–	YES	TUBE TO TUBE SHEET JOINT–	EXPANDED WITH TWO GROOVES		

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F-0540-101 REV.2 A4-210X297

NO.	DATE	REVISIONS	BY	CHK'D	APPROVAL	
D	07.07.10	ISSUED FOR BIDS/ENGG.	AR	RR/PB	AKG	

DETAIL OF SELF REINFORCED NOZZLE



NOZZLE MARK	SIZE (INCH/MM)	A (MM)	C (MM)	E (MM)	T (MM)
T1	8	275	219.1	57.0	10.0
T2	14	455	355.6	75.0	12.0
SHELL PORT-A	700 I.D.	1000	736.0	130.0	18.0
SHELL PORT-B	700 I.D.	1000	736.0	130.0	18.0

** FOR SHELL PORT-A AND SHELL PORT-B THE REFERENCE ARE FROM SHELL DISH END T.L. OF THE RESPECTIVE END. (REFER SETTING PLAN)



ENGINEERS INDIA LTD.
STATIC EQUIPMENT DEPARTMENT
KOLKATA

DETAIL OF SELF REINFORCE NOZZLE FOR
ITEM NO.: 11-EE-017A&B
PROJECT : BCPL, LAKWA UNIT: C2+RECOVERY

DRAWING NO.
6907-11N-16-46-4036
SHT 3 OF 3

REV.
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