

BILL OF MATERIAL

FOR: REFORMER TUBE-BELLOWS AND FEED GAS HOSE

DWG: F2-102

ITEM	QTY	DESCRIPTION	WEIGHT (kg)		MAT'L	REMARK
			UNIT	TOTAL		
DETAIL F2-102-A						
1	2	PL 12 x 508 O.D. x 327 I.D.	11.2	22.4	St 37-2	
2	1	12" DIA. BELLOWS - ONE PLY	9.6	9.6	A240-1yp.321	
3	-	DELETED	-	-	-	
4	4	PL 10 x 25 x 256 LG.	0.5	2	St 37-2	
TOTAL APPROX. NET WEIGHT - ONE ASSY.			34	kg.		
DETAIL F2-102-B						
5	2	FLANGE 2 1/2", 150# RF,SO	3.6	7.2	A182-F304L	ASME B16.5
6	2	PIPE 2 1/2" Sch. 40S, (MAX. L=150mm)	0.65	1.3	A312-TP316	ASME B36.19M
7	1	2 1/2" I.D.-CORRUGATTED METAL HOSE (1 PLY)	5	5	Inconel 625	NOTE 9
8	1	BRAIDED WIRE COVER	0.5	0.5	A580-1yp.304	NOTE 10
TOTAL APPROX. NET WEIGHT - ONE UNIT			14	kg.		

TOTAL APPROX. NET WEIGHT-THIS DRAWING 48 Kg

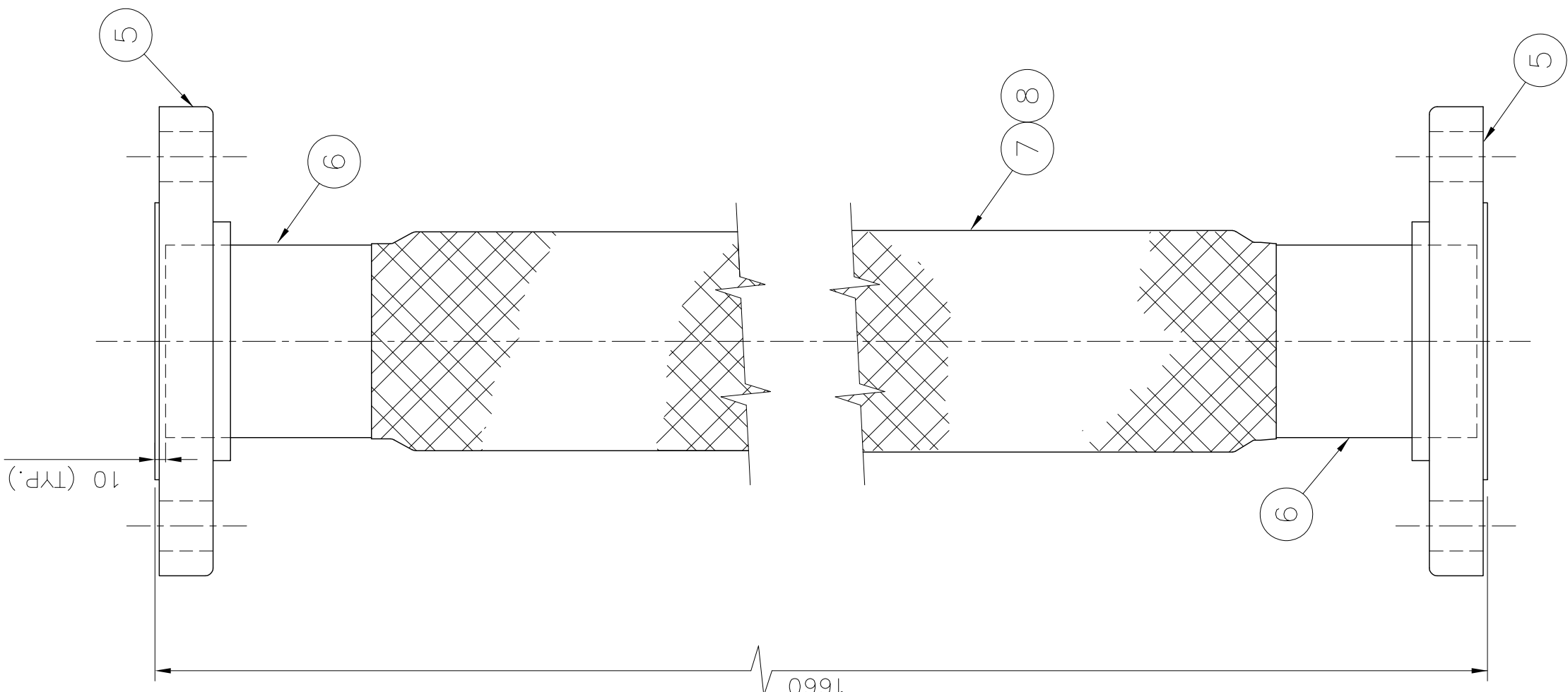
TOTAL APPROX. NET WEIGHT-FOR 540 ASSY'S 25920 Kg

NOTES:

- ALL WELDS TO BE GAS-TIGHT, CONTINUOUS, AND TO DEVELOP FULL STRENGTH OF CONNECTING MEMBERS, UNLESS NOTED OTHERWISE.
- ALL ALLOY/ALLOY AND ALLOY/MILD STEEL WELDS TO BE MADE USING INCO A OR 82 MATERIAL.
- ALL EDGES TO BE BROKEN UNLESS NOTED OTHERWISE.
- DELETED
- BELLOWS (F2-102-A) TO BE SHIPPED COMPRESSED TO DIMENSION SHOWN BY USE OF SHIPPING BARS.
- TOP AND BOTTOM FLANGES TO BE FLAT, PARALLEL AND BOLT HOLES TO BE ALIGNED BEFORE ASSEMBLY.
- ALL SURFACES TO BE WELDED SHALL BE CLEAN AND FREE FROM MILL SCALE, FLAKE RUST, PAINT OR PITTING.
- FLANGE FACING SHALL HAVE A 125 MICRO-INCH RMS FINISH WITH 45-55 PHONOGRAPHIC GROOVES PER INCH PER ANSI B16.5
- MINIMUM STATIC BEND RADIUS: 165
- MINIMUM DYNAMIC BEND RADIUS: 432
- BRAID SHALL BE SINGLE PLY, 48 GROUPS, 9 WIRES PER GROUP, .406 (.016 INCH) DIAMETER WIRE AND 48° ANGLE.
- FLANGES TO HAVE FLANGE PROTECTORS FOR SHIPPING.
- DETAIL F2-102-B SHALL BE PENUMATIC TESTED AT 4.8 barg (70 psig)

REFERENCE DRAWINGS:

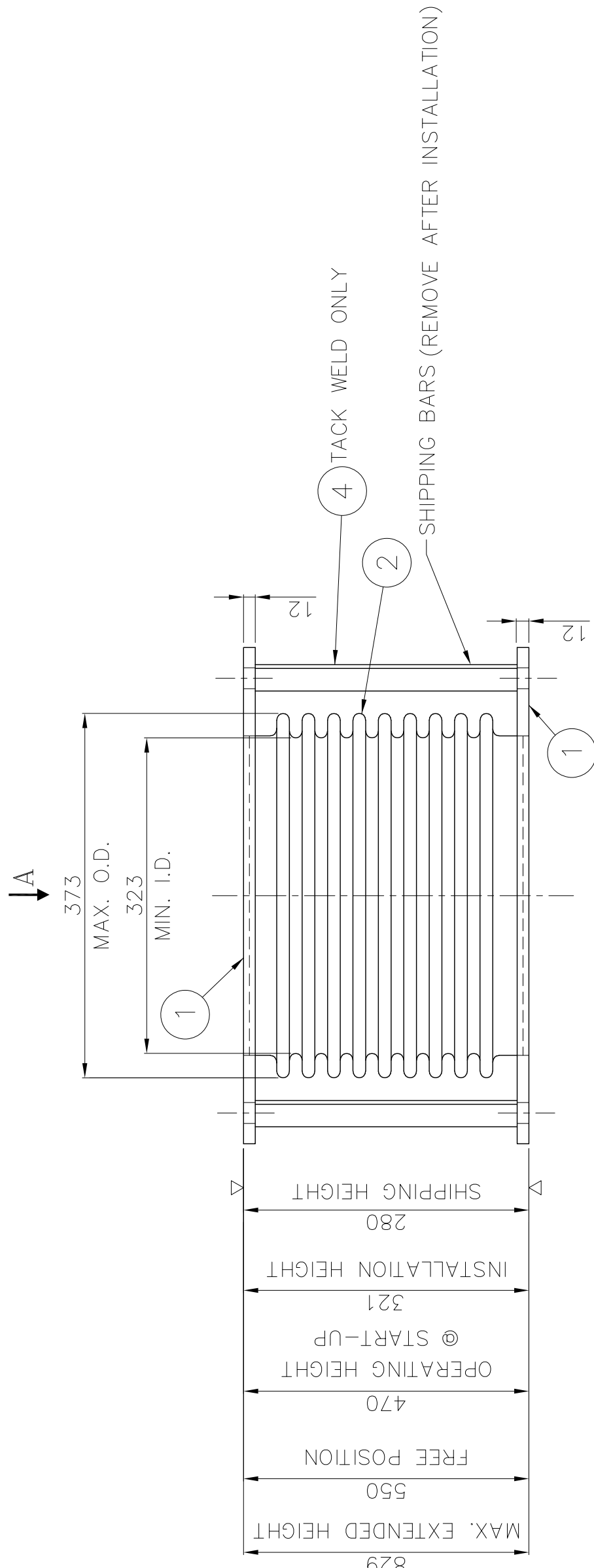
- F2-100 REFORMER TUBE ASSEMBLY
- F2-107 REFORMER TUBE LOWER BELLOWS ASSY



DETAIL F2-102-B

SCALE 1:2 F2-100,107

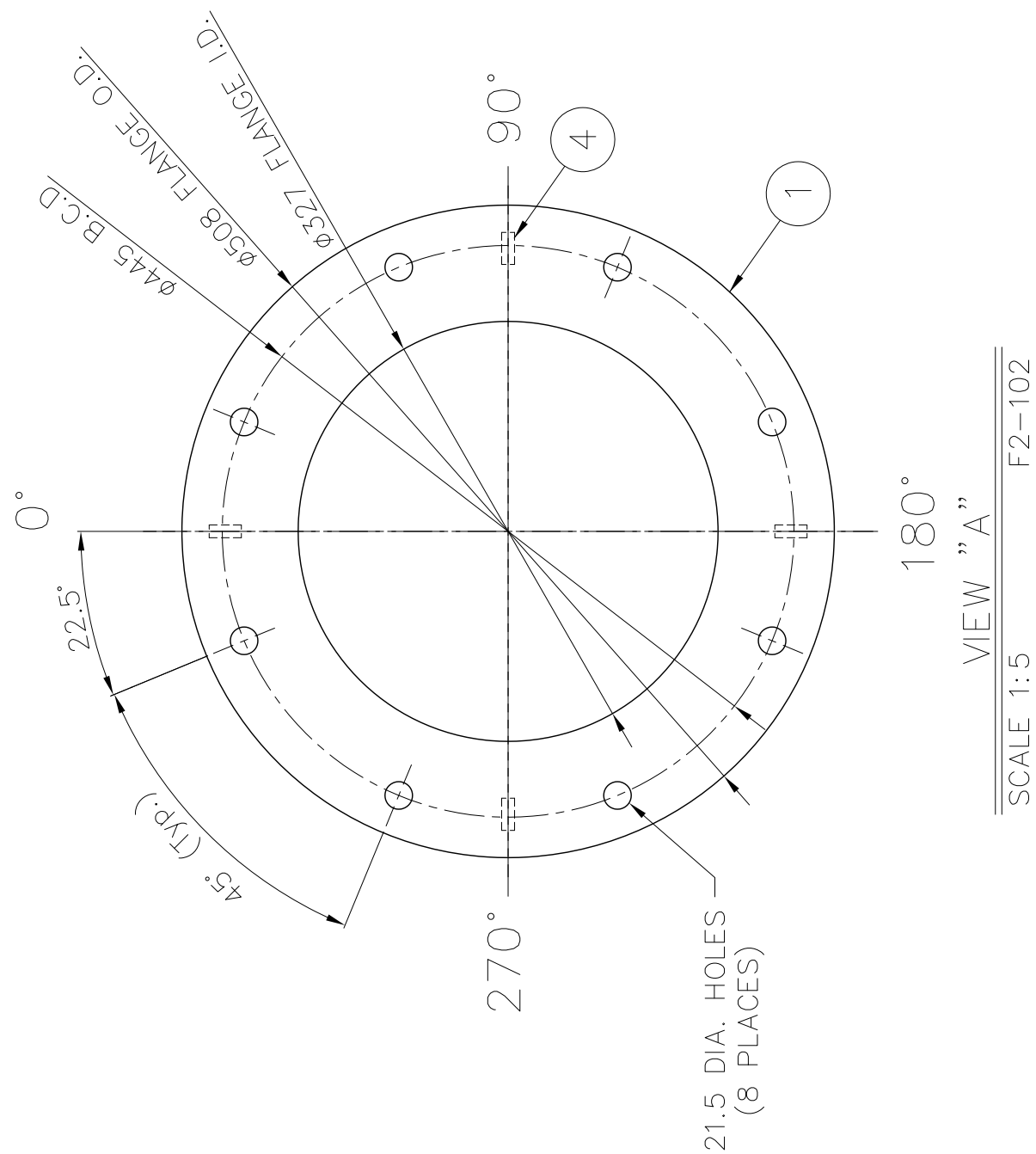
FEED GAS HOSE



DETAIL F2-102-A

SCALE 1:5 F2-107,100

REFORMER TUBE BELLOWS



UNLESS OTHERWISE SPECIFIED		
	3RD ANGLE PROJECTION	
SURFACE FINISH DIN 3141 RANGE 2		
TOLERANCES & FITS: MACHINED SURFACES DIN 7168"MED" WELDED CONSTRUCTION ACC. TO "AWS"	BREAK ALL MACHINED SHARP EDGES BY 1x45° ALL DIM IN MILLIMETER	

Z	Jan. 2019	--	AS BUILT	F.K.A. Co	F.K.A. Co	F.K.A. Co.		
2	Oct. 2015	SIZE OF REFORMER TUBE CHANGED	ISSUED FOR CONSTRUCTION	AFRADI HAMPOURIM RASTEGAR	MUSAVI ABEDI	M.A.EHYAE		
1	Jan. 2014	DESCRIPTION	PURPOSE OF ISSUE					
REV.	DATE							
Project:			PREPARE	CHECK	APPROVE			
KOWSAR GISD MEGA MODULE PROJECT								
Client Contractor								
Client's Project	Project Code	Main Contractor	Area Code	Plant Group	Equipment Code	Eng. Discipline		
GISD	7-2	119	1008	7	RM	04		
SIGNATURE			DATE		Serial No.			
MWTE			Jan. 2014		M			
DESIGNED	MWTE		Jan. 2014		102			
PREPARED	MUSAVI		Jan. 2014		REFORMER TUBE			
CHECKED	ABEDI		Jan. 2014		BELLOWS AND FEED GAS HOSE			
APPROVED	M.A.EHYAE		Jan. 2014		KGMMMR27F2102			
regl. for:			regl. by:		SCALE: 1:5			
					SHEET: A1			
					REV.: Z			
					CONT. & PROJ. NO.			
					92/2489			
					16			