

NOTE :

1. FLANGE BOLT HOLES STRADDLE NATURAL CENTERLINES OF HEATER
2. SI/METRIC UNITS OF MEASURE ARE FOR REFERENCE ONLY.
3. DESIGNED FOR INLET CENTERED 384.2mm(15.125") FROM FLANGE FACE @0 AND OUTLET CENTERED 4242mm(167") FROM FLANGE FACE @ 0.
4. HEATER DESIGNED FOR HORIZONTAL INSTALLATION IN 12 NPS SCH. STD PIPE (12 ID)

5. ASME FLANGE CALCULATIONS BASED ON A SPIRAL WOUND LS GASKET WITH SA193 B7 BOLTING.
6. CAUTION: ENSURE THAT THE LIMIT THERMOCOUPLE IS CONNECTED TO APPROPRIATE LISTED LIMIT CONTROLS.
7. CAUTION : ENSURE THAT INCOMING WIRING IS APPROPRIATELY RATED AND SIZED FOR ANTICIPATED ENCLOSURE TEMPERATURE PER LOCAL CODE.
8. DO NOT INSULATE BETWEEN FLANGE AND ENCLOSURE AS UNSAFE ENDOSURE TEMPERATURES MAY RESULT.

Watlow

Model No. 701-09198 Date 2010
Wattage 420 KW Volts 415 ph 3
CUSTOMER P.O.:

CAUTION: READ INSTALLATION MANUAL BEFORE POWERING.
DO NOT OPEN WHEN ENERGIZED.



WATLOW

"Building Industry. Worldwide"
Hannibal, Missouri 63401 USA 573-221-2816
www.watlow.com

PRODUCT FEATURES

IMMERSION HEATER:

MODEL NO.: 701-09198

ELECTRICAL DATA:

DUTY: 420 KW, 415V, 3PH

ELECTRICAL CLASSIFICATION: NON-HAZARDOUS

ELECTRICAL ENCLOSURE: MOISTURE RESISTANT

MAX. ANTICIPATED HOUSING TEMP: 104 °F (40°C)

ELECTRICAL CONNECTION(S): 18 CIRCUITS MAX. WIRE SIZE : 400 MCM

PROCESS DATA:

MEDIA : OTHER

MEDIA STATE : GAS

FLOW RATE: 12731.69 LB/HR (5775 KG/HR)

INLET TEMP: 500°F(260°C)

OUTLET TEMP: 700°F (371.1°C)

OPERATING PRESSURE: 130.34 PSIG (10 BARA)

ESTIMATED SHEATH TEMP.: 816°F (435.6°C)

SUGGESTED LIMT SET TEMP.: 1016°F (546.7°C)

DESIGN DATA:

DESIGNED, MANUFACTURED & STAMPED IN ACCORDANCE WITH
ASME SECTION VIII, DIV. 1, 2007 EDITION, 2008 ADDENDA

DESIGN PRESSURE: 203.05 PSIG (14 BARG)

DESIGN TEMP: 759°F (404°C)

MDMT: 9°F (-13°C)

HYDRO TEST PRESSURE: 342 PSIG (23.6 BARG)

NDE: -

CORROSION ALLOWANCE: 3mm(0.12")

MATERIAL SPECIFICATIONS:

TUBESHEET : 12 NPS CLASS 300, RF BLIND, 304 S/S PER B16.5 EXCEPT
51mm(2") INCHES THICK

HEATING ELEMENTS : ALLOY 600 (SEAMLESS)

ELECTRICAL ENCLOSURE : 304 S/S

ENCLOSURE PAINT : NO PAINTING (std S/S)

FLANGE PAINT: NO PAINTING(std S/S)

ELEMENT END SEAL: EPOXY(130C/266F)

HEATER SPECIFICATIONS:

Q'TY & SIZE OF ELEMENTS : (54) 11mm(0.43") DIA. x HW 2mm(0.065") WALL

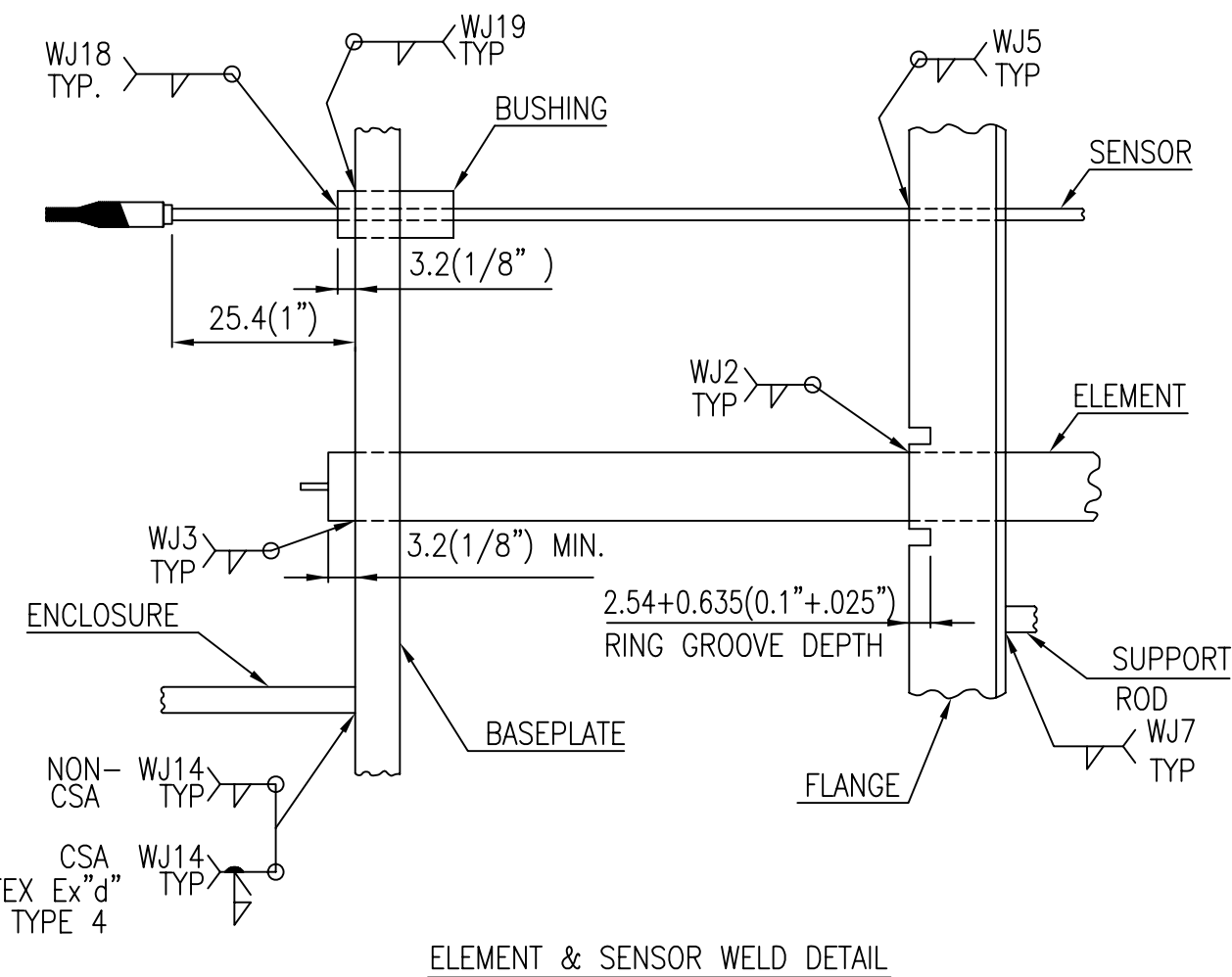
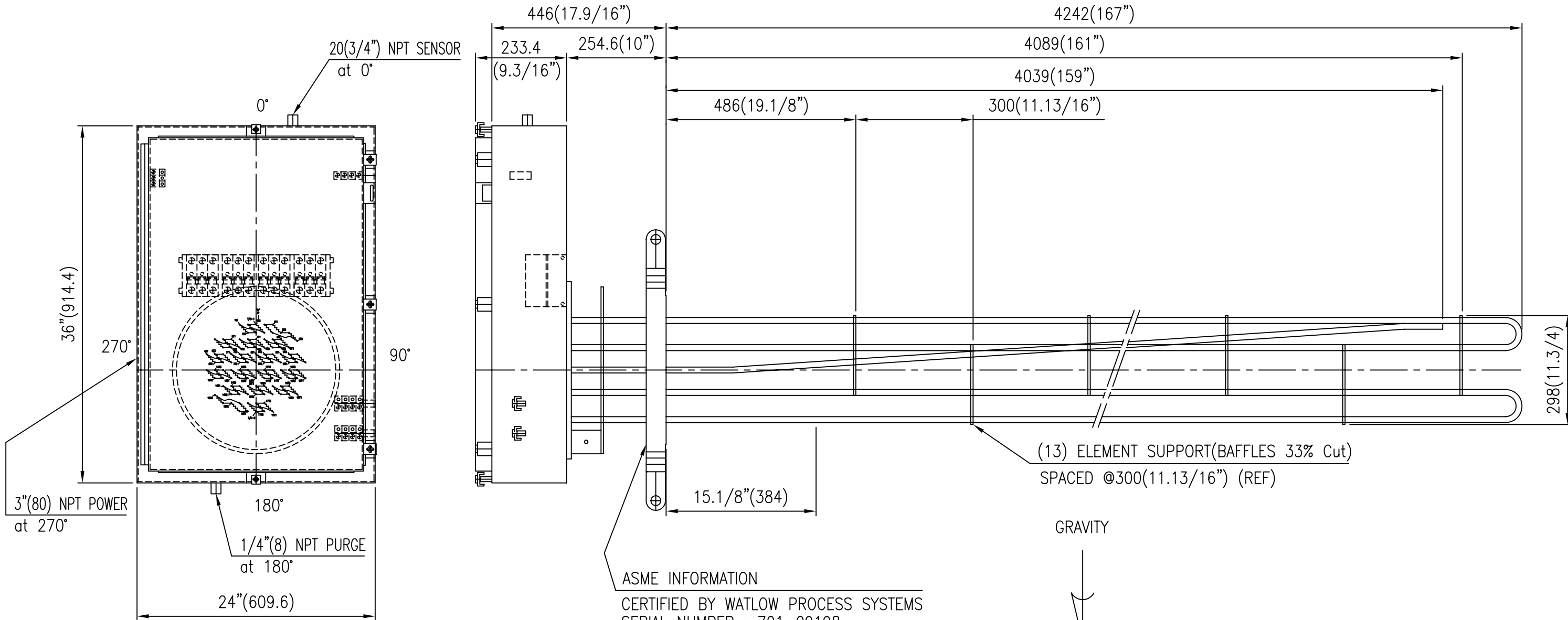
WATT DENSITY / HEAT FLUX : 19 WATTS PER SQUARE INCH

IMMERSED LENGTH (BUNDLE REMOVAL DISTANCE) : 4242mm(167")

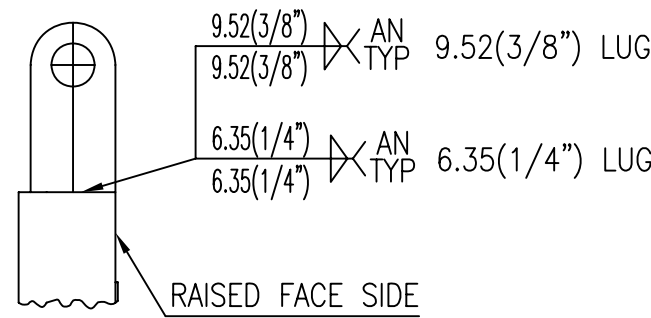
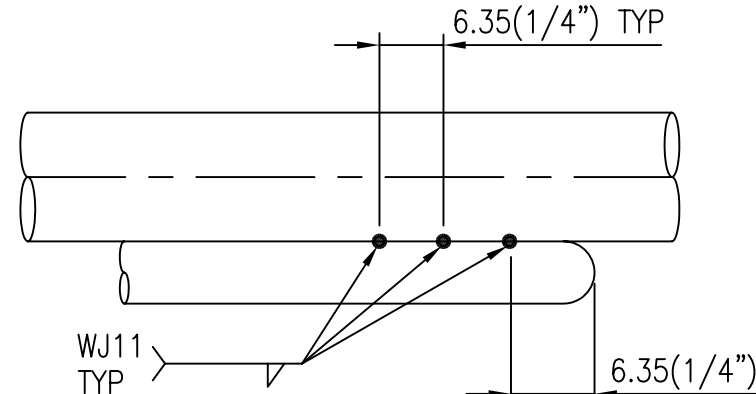
LIMIT THERMOCOUPLE : (2) ANSI TYPE "K" DUAL, UNGROUNDED

WEIGHTS:

ESTIMATED HEATER BUNDLE WEIGHT : 800 LB (363 KG)



RESISTANCE PER CIRCUIT : 8.06 - 9.34 OHVIS



VOLTAGE TOLERANCE TABLE			
VOLTAGE TOLERANCE	Volts(minimum)	Volts(minimum)	Volts(minimum)
CALCULATION TABLE	332	415	456.5
ohms(minimum)	464.218 kw	725.341 kw	877.663 kw
0.448	807.3 Amps	1009.1 Amps	1110 Amps
ohms(nominal)	440.614 kw	688.459 kw	833.036 kw
0.472	766.3 Amps	957.8 Amps	1053.6 Amps
ohms(maximum)	419.294 kw	655.147 kw	792.728 kw
0.496	729.2 Amps	911.5 Amps	1002.6 Amps

J SYSTEM

WATLOW KOREA CO., LTD.

Drawing No. : 2010-420KW-001

					
10.2.02	ISSUE for Approval		Y.H.KIM.Y.H.KIM.Y.K.PARK		
REV.	DATE	DESCRIPTION	DSGN	CHKD	APPD
			ISSUE FOR APPROVAL		
OWNER :		وزارة الكهرباء والماء STATE OF KUWAIT مملكة الكويت			
MINISTRY OF ELECTRICITY & WATER					
POWER STATION AND DISTILLATION PLANT PROJECTS SECTOR		قطاع مشاريع محطات القوى الكهربائية وتكرير البترول			
PROJECT TITLE :					
Engineering, Procurement, Construction, Operation and Maintenance of Combined Cycle Gas Turbine Project at Sabiya Power Station Contract No.MEW / C / 4010-2009/2010					
CONTRACTOR :			SUBCONTRACTOR FOR POWER :		
 GE INTERNATIONAL INC.					
 HYUNDAI HEAVY INDUSTRIES CO.,LTD.					
DESIGNED BY	DATE	ELECTRIC SEAL STEAM SUPER HEATER- HEATER BUNDLE, TERMINAL BOX. WIRING DRAWING			
Y.H.KIM	2010.2.02				
CHECKED BY	DATE				
Y.H.KIM	2010.2.02				
APPROVED BY	DATE				
Y.K.PARK	2010.2.02				
SCALE	NONE	DOCUMENT NUMBER			REV.
10/A		G/SM/STUR-HTR-302(1/2)			0