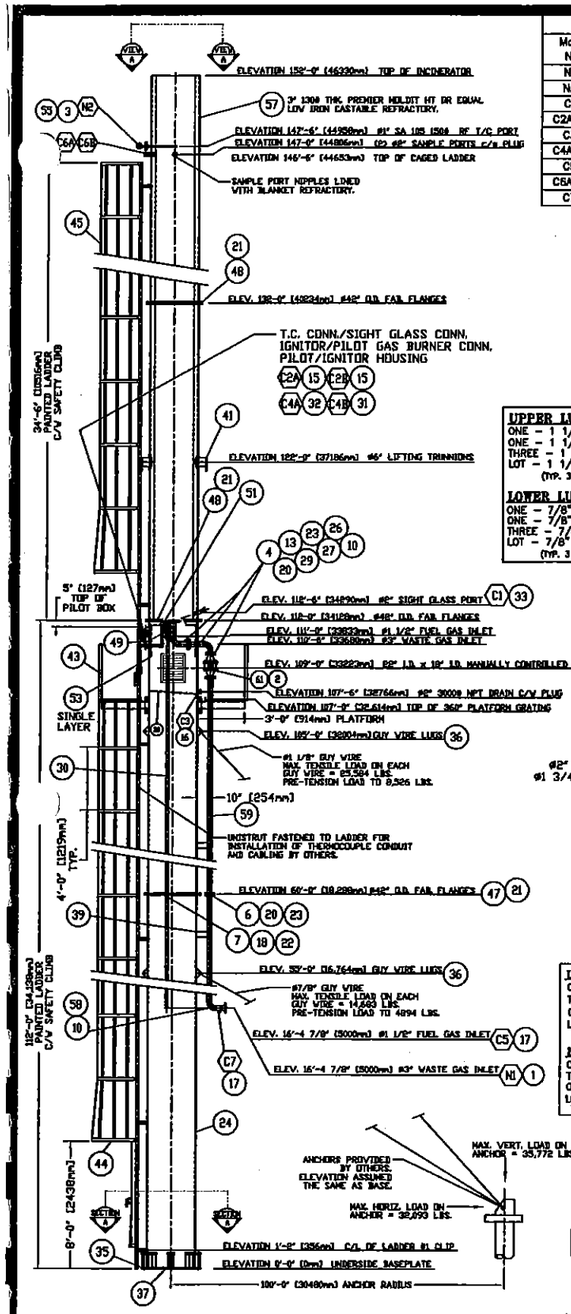
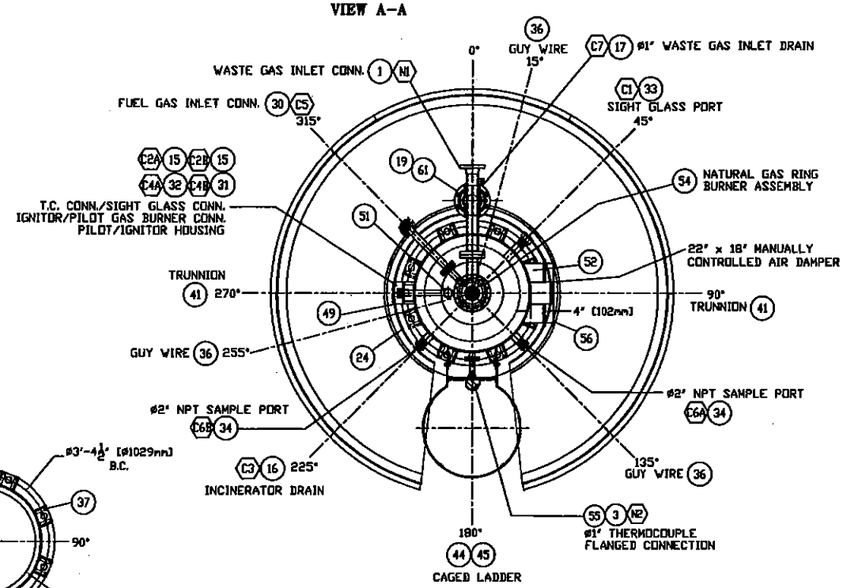


NOZZLE AND COUPLING SCHEDULE

Mark No.	Qty.	Size	ANSI Rating And Facing	Service	O.D. of Nozzle Neck	Projection Inside	Projection Outside	Welding Detail Number	Fillet Weld Size A	B	C	D	Bill of Mat'l Item No.	Remarks	Elevation	Orientation Angle
N1	1	#3"[88.9mm]	SA 105 150# RF	WASTE GAS BURNER INLET	3 1/2"[88.9]		12"	3,7	1/4"				1,14	WELD NECK	18'-4 7/8"[5000]	0°
N2	1	#1"[33.3mm]	SA 105 150# RF	THERMOCOUPLE CONN.	1 5/16"[33.3]		7"	3,7	3/4				3,58	WELD NECK	147'-6"[44958mm]	180°
C1	1	#2"[60.3mm]	NPT	SIGHT GLASS CONNECTION PORT	2 3/8"[60.3]		4"	8	1/4				33	NIPPLE	112'-6"[34290mm]	45°
C2A/B	2	#1"[33.4mm]	3000# NPT	PILOT GAS/IGNITOR CONN.	1 5/16"[33.3]			8	1/4				15	HALF COUPLING	SEE BURNER DETAIL	270°
C3	1	#2"[60.3mm]	3000# NPT	INCINERATOR DRAIN CONN.	2 3/8"[60.3]			8	1/4				16	HALF COUPLING	107'-6"[32766mm]	225°
C4A/B	2	#2"[60.3mm]	NPT	T.C. CONN./SIGHT GLASS	2 3/8"[60.3]			8	1/4				31,32	NIPPLE	SEE BURNER DETAIL	270°
C5	1	#1.5"[48.3mm]	3000# NPT	FUEL GAS CONNECTION	1.9"[48.3]		6"	8	1/4				30	HALF COUPLING	16'-4 7/8"[5000]	315°
C8A/B	2	#2"[60.3mm]	NPT	SAMPLE PORT c/w END CAP	2 3/8"[60.3]		4"	8	1/4				34	NIPPLE	147'-0"[44806mm]	135°, 225°
C7	1	#1"[33.4mm]	3000# NPT	DRAIN CONNECTION	1 3/4"[44.4]			8	1/4				17	HALF COUPLING	SEE BURNER DETAIL	

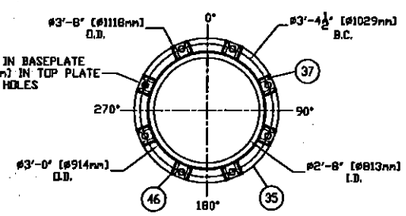
ORIENTATION VIEW

VIEW A-A



UPPER LUG CONNECTIONS
ONE – 1 1/8" G2130 SCREW PIN SAFETY SHACKLE
ONE – 1 1/8" GALV. HEAVY THIMBLE
THREE – 1 1/8" CROSBY CLIPS
LOT – 1 1/8" 6 x 26 GALV. IRWC CABLE
(TYP. 3 SETS TOP)

LOWER LUG CONNECTIONS
ONE – 7/8" G2130 SCREW PIN SAFETY SHACKLE
ONE – 7/8" GALV. HEAVY THIMBLE
THREE – 7/8" CROSBY CLIPS
LOT – 7/8" 6 x 26 GALV. IRWC CABLE
(TYP. 3 SETS TOP)

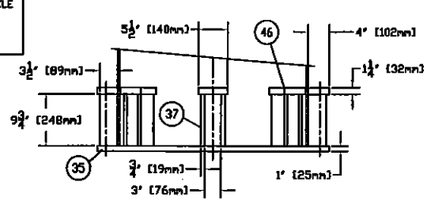


BASE PLATE ORIENTATION VIEW

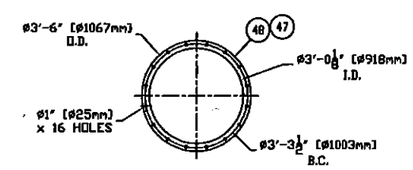
SECTION A-A

UPPER GUYWIRE BASE CONNECTIONS
ONE – 1 3/4" x 18" J & J TURNBUCKLE
THREE – 1 1/8" CROSBY CLIPS
ONE – 1 1/8" GALV. HEAVY THIMBLE
LOT – 1 1/8" 6 x 26 GALV. IRWC CABLE
(TYP 3. SETS BOTTOM)

LOWER GUYWIRE BASE CONNECTIONS
ONE – 1 1/4" x 18" J & J TURNBUCKLE
THREE – 7/8" CROSBY CLIPS
ONE – 7/8" GALV. HEAVY THIMBLE
LOT – 7/8" 6 x 26 GALV. IRWC CABLE
(TYP 3. SETS BOTTOM)

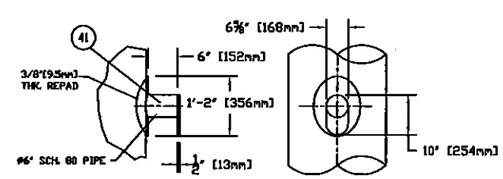


BASE PLATE & GUSSET DETAIL



BREAK FLANGE DETAIL

FAB. FLANGE – 3/4" & 1" THK.



TRUNNION DETAIL

TAG: M-430

Bill of Materials

	No	Qty	Size	Sch.	Rating	Face	Type	Material Specification	Remarks	Heat#
FLANGES	1	1	#3"[88.9]	STD.	150#	RF	WN	SA 105	N1 – FLARE GAS INLET CONN.	
	2	2	#3"[88.9]	STD.	150#	RF	WN	SA 105	FLAME ARRESTOR INLET CONN.	
	3	1	#1"[33.3]	STD.	150#	RF	WN	SA 105	N2 – THERMOCOUPLE PORT	
	4	2	#3"[88.9]	STD.	150#	RF	SO	SA 105	WASTE GAS INLET EXTENSION	
	5	2	#1.5"[48.3]	STD.	150#	RF	SO	SA 105	FUEL GAS INLET EXTENSION	
	6	2	#3"[88.9]	STD.	150#	RF	WN	SA 105	WASTE GAS RISER BREAK FLANGES	
	7	4	#1.5"[48.3]	STD.	150#	RF	WN	SA 105	FUEL GAS RISER BREAK FLANGES	
	8									
	9									

	No	Qty	Size	Sch.	Description	Material Specification	Remarks	Heat#
WELD FITTINGS	10	2	#3"[88.9]	STD.	90° WELD ELL	SA 106B	WASTE GAS INLET WELD ELL	
	11	1	1.5"[48.3]	STD.	90° WELD ELL	316L S.S.	FUEL GAS BURNER ELL	
	12	1	1" x 1.5"	STD.	CONC. REDUCER	316L S.S.	FUEL GAS BURNER REDUCER	
	13	1	#3"[88.9]	STD.	90° WELD ELL	316L S.S.	WASTE GAS INLET WELD ELL	
	14	1	1.5"[48.3]	STD.	90° WELD ELL	SA 106B	FUEL GAS RISER ELL	

	No	Qty	Size	Description	Rating	Ends	Material Specification	Remarks	Heat#
COUPLINGS	15	2	#1"[33.4]	HALF COUPLING	3000#	NPT	SA 105 c/w HEX PLUGS	C2A/B – BURNER/PILOT/IGNITION	
	16	1	#2"[60.3]	HALF COUPLING	3000#	NPT	SA 105 c/w HEX PLUGS	C3 – INCINERATOR DRAIN	
	17	1	#1"[33.4]	HALF COUPLING	3000#	NPT	SA 105	C7 – WASTE GAS DRAIN CONNECTION	

	No	Qty	Size	Thickness	Rating	Description	Specification/Material	Remarks
GASKETS	18	3	#1.5"[48.3]	1/8"	150#	FLEXITALIC	304 S.S.	FUEL GAS INLET CONNECTION
	19	2	#3"[88.9]	1/8"	150#	FLEXITALIC	304 S.S.	FLAME ARRESTOR CONNECTIONS
	20	1	#3"[88.9]	1/8"	150#	FLEXITALIC	304 S.S.	WASTE GAS INLET CONNECTION

	No	Qty	NO/SET	Sets	Diameter	Length	Bolt Spec.	Nut Spec.	Match Item	Remarks
BOLTS, NUTS C/W 2 HEX NUTS/BOL.	21	32	16	2	7/8"[22]	4 1/2"	SA193 B7M	SA194 2HM	48	INCINERATOR FLUE BREAK FLGS.
	22	12	4	3	1/2"[13]	3 1/2"	SA193 B7M	SA194 2HM	5,18	FUEL GAS BURNER BREAK FLGS.
	23	16	4	4	5/8"[16]	4 3/8"	SA193 B7M	SA194 2HM	4,20	WASTE GAS BURNER BREAK FLGS.

	No	Qty	Size	Type	Sch.	Material Specification	Remarks	Heat#
PIPE	24	1	#36"[914]	DSAW	STD.	API 5LB .375 THK. WALL x 152'-0" LG.	INCINERATOR FLUE	
	25	1	#1.5"[48.3]	SMLS	STD.	SA 106B x 4 7/8"[124] LG. (HORIZ.)	FUEL GAS BURNER EXT.	
	26	1	#3"[88.9]	SMLS	STD.	SA 106B x 6 3/8"[162] LG. (HORIZ.)	WASTE GAS BURNER EXT.	
	27	1	#3"[88.9]	SMLS	STD.	316 S.S. x 1'-1"[330] LG. (VERT.)	WASTE GAS BURNER EXT.	
	28	1	#1.5"[48.3]	SMLS	STD.	316L S.S. x 6 9/16"[167] LG. (VERT.)	FUEL GAS BURNER EXT.	
	29	1	#3"[88.9]	SMLS	STD.	SA 106B x 11"[279] LG. (HORIZ.)	WASTE GAS BURNER EXT.	
	30	1	#1.5"[48.3]	SMLS	STD.	SA 106B T.O.E. x 8'-7"[979] LG.	C5 – FUEL GAS BURNER EXT.	
	31	1	#2"[60.3]	SMLS	STD.	SA 106B NPT NIPPLE T.O.E.	C4B – SITE PORT CONNECTION	
	32	1	#2"[60.3]	SMLS	STD.	SA 106B NPT NIPPLE T.O.E.	C4A – THERMOCOUPLE CONNECTION	
	33	1	#2"[60.3]	SMLS	STD.	S.S. NPT NIPPLE T.O.E.	C1 – SIGHT GLASS CONNECTION	
	34	2	#2"[60.3]	SMLS	STD.	SA 106B NPT NIPPLE T.O.E.	C8 A/B – SIGHT GLASS CONNECTION	

	No	Qty	Size	Material Specification	Remarks	Heat#
PLATE	35	1	44"[1118mm] O.D. x 32"[813mm] I.D.	1" THK. SA 516 GR 70 PLATE	BASEPLATE	
	36	6	10"[254] LG. x 5"[127] WIDE	3/4" THK. SA 516 GR 70 PLATE	GUYWIRE GUSSETS	
	37	18	9 3/4"[248] x 3 1/2"[89]	3/4" THK. SA 516 GR 70 PLATE	BASEPLATE GUSSETS	
	38	1	#35"[889mm]	1/2" THK. SA 36 CS PLATE	INCINERATOR SEAL PLATE	
	39	1	4" WIDE x 8 1/4"[210mm] LG.	1/2" THK. SA 36 CS PLATE	WASTE GAS RISER STANDOFFS	
	40					
	41	2	#6"[168mm]	INCINERATOR LIFTING TRUNNIONS	TRUNNIONS	
	42	1	35"[889mm] O.D. x 19"[483] I.D.	3/8" THK. SA 36 CS PLATE	REFRACTORY THROATPLATE	
	43	1	(SEE DETAIL)	360° PAINTED PLATFORM	PLATFORM (PAINTED)	
	44	1	#1 CAGED LADDER x 112'-0" TALL	PAINTED AND WITH CLIMBING DEVICE	PAINTED LADDER ASSEMBLY	
	45	1	#2 CAGED LADDER x 34'-6" TALL	PAINTED AND WITH CLIMBING DEVICE	PAINTED LADDER ASSEMBLY	
	46	8	5 1/2"[140] x 4"[102]	1 1/4" THK. SA 516 GR 70 PLATE	BASEPLATE CHAIR TOP PLATE	
	47	2	#42"[1067mm] O.D. x 3/4" THK.	F.F. 44W PLATE (FAB.)	INCINERATOR BREAK FLANGES	
	48	4	#42"[1067mm] O.D. x 1" THK.	F.F. 44W PLATE (FAB.)	INCINERATOR BREAK FLANGES	
	49	1	(SEE DETAIL)	PILOT/IGNITION,SIGHT GLASS/T.C.	HOUSING ASSEMBLY	
	50					

	No	Qty	Description	Remarks	Heat#
IGNITION SYSTEM / MISC. PARTS	51	1	TORNADO INCINERATOR PILOT MODEL TBTP #8-1	PILOT	
	52	1	22" x 18" x 1/4" THK. DAMPER INLET WITH 24 1/2" x 20.1/2" FLANGE	DAMPER INLET EXT.	
	53	LOT	1" THK. – PREMEIR CERAMIC FIBER (8 LB./CU. FT.) WHERE APPLICABLE	BLANKET REFRACTORY	
	54	1	#8" DIA. x #1" 316L S.S. NATURAL GAS RING BURNER ASSEMBLY	RING BURNER ASSEMBLY	
	55	1	FLANGED TYPE "K" ALUMINA CERAMIC THERMOCOUPLE	THERMOCOUPLE	
	56	1	22"[559] x 18"[457] INLET ALUMINUM MANUALLY CONTROLLED	AIR DAMPER	
	57	LOT	3"[76.2mm] THK. 130# PREMIER MOLDIT HT LOW IRON	CASTABLE REFRACTORY	
	58	1	#3"[88.9] SMLS STD. SA 106B x 5"[127mm] LG. (HORIZ.)	WASTE GAS RISER EXT.	
	59	1	#3"[88.9] SMLS STD. SA 106B x 18'-8"[5080mm] LG. (VERTICAL)	WASTE GAS RISER	
	60	1	#1.5"[48.3] SMLS STD. SA 106B x 1'-5/8"[321mm] LG. (HORIZ.)	WASTE GAS BURNER EXT.	
	61	1	#3" CRIMPED RIBBON FLAME ARRESTOR MODEL 3" CRXSFA	FLAME ARRESTOR	
	62				
	63				

Rev.	Description	By	Y	M	D
4	ADDED FLAME ARRESTOR TO 3" RISER	EW	04	07	29
3	MOVED INLET LOCATIONS OF N1 & C5 PER CUSTOMER REQUEST	EW	04	07	20
	ADDED TRUNNIONS AT 122'-0" ELEVATION	EW	04	07	09
6	AS BUILT PER TORNADO	EW	04	09	09
5	UPDATED GUYWIRE CONNECTION NOTES & LOWER BREAK FLANGE HEIGHT	EW	04	08	13

FABRICATION CON'T

Moment At Foundation Base:

Max. Horiz. Load At Base: 4,493 lbs.

Max. Vertical Load At Base: 82,269 lbs.

General Notes:

TORNADO TECHNOLOGIES INC.
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FABRICATION

Design Pressure:	N/A
Hydro Test Pressure:	N/A
Operating Pressure:	N/A
Mag Particle Procedure:	NO
Radiography / Xray:	NO
Impact Testing:	NO
Coolant Tracing:	NO
Aluminum Cladding:	NO
Corrosion Allowance:	.0625"
Weld Procedure #:	#1323.2
Q.C. Program #:	AQP-1266

Ignition System
TORNADO INCINERATOR BURNER PILOT MODEL TBTP #8-1 c/w T/C PILOT MONITORING

Weight Approx. 37,600 LBS.

Salesperson JERRY S.

Paint
SANDBLAST SSPC-SP6
RUSTOLEUM 4268 PRIMER
2 COATS RUSTOLEUM 4200 BLACK

Location
BRASSEY CENTRAL FACILITY

Dwg. By: EW

DWG #: BUR-6521

Date: 2004 Y 06 M 25 D

Design By: TORNADO

JOB# 6521

QUOTE# BURL0604

Sheet 1 **of** 1

Title: 36" O.D. x 152'-0" O.A.L. ACID GAS INCINERATOR GENERAL ARRANGEMENT

Customer: BURLINGTON RESOURCES

P.O.# BR-250737

LSD d-13-F/93-P-10 B.C.

REV. 6

Tornado Technologies Inc.
PH (403)883-2400
FAX (403)883-2550
TOLL FREE
1-800-661-4128