

**Rentals • Sales • Leasing**  
**24/7 • (800) 227-1966**

## 110,000 pph Low NOx, 750 psig / 750 F Skid-Mounted Package Boiler

Nationwide Boiler's low NOx 110,000 pph, 750 psig design / 750 F (350 - 650 psig operating) superheat steam skid-mounted package O type Babcock & Wilcox watertube boiler is set to burn natural gas or future #2 oil. It is fully piped and wired and includes the following components:

- Low NOx Burner
- Burner Management System
- EconoStak Economizer
- Fully Metered Combustion Controls
- Forced Draft Fan, Motor & Starter / VFD
- Complete Fuel Train & Pilot Ignition System
- Water Column & Site Glass
- Steam Pressure Gauge
- Low-water Cutoffs
- Safety Valves
- Pre-piped Feedwater Stop & Check Valves
- Pre-piped Blowdown Valves
- Continuous Blowdown Metering Valve
- Chemical Feed Valve
- Steam Non-return Valve (loose)
- Stack (loose)
- Economizer Piping Partially Mounted on Unit
- NEMA 4 Electrical Enclosures
- Weatherproofed (except for freezing)
- Meets FM, NFPA 85 & IRI Insurance Standards
- Operating Manuals and Drawings on CD
- CataStak™ SCR System for 5 ppm NOx (optional)



### Fuel Consumption:

Natural Gas: 155,040 SCFH

### Connection Sizes:

Main Steam: 8"-600# FLG  
 Natural Gas: 4"-150# FLG  
 Feedwater: 3"-600# FLG  
 Bottom Blowdown: 1½"-600# FLG  
 Continuous Blowdown: 1"-600# FLG  
 Chemical Feed: ½"-600# FLG  
 Instrument Air: ¾" NPT  
 Water Column Drain: ¾" NPT

### Electrical Power Service Requirements:

480 VAC, 3 ph, 60 hz, 400 AMPS

### Boiler Base Dimensions & Weights:

Length: 28' 7" / 12' 0" / 14' 11"  
 Shipping Weight: 155,000 lbs  
 Operating Weight: 194,200 lbs

### Emissions Data (natural gas):

	<u>Without SCR</u>	<u>With SCR</u>	<u>Without SCR</u>
NOx (corr. to 3% O <sub>2</sub> ):	80 ppm	5 ppm	30 ppm*
CO (corr. to 3% O <sub>2</sub> ):	50 ppm	50 ppm	50 ppm

\*Capacity derated to 95,000 pph

Ask About Our **Green Solutions**

**CataStak™**  
 Ultra Low NOx Solutions

**EconoStak™**  
 Energy Saving Solutions

42400 Christy Street / Fremont, CA 94538 / (510) 490-7100 / [www.nationwideboiler.com](http://www.nationwideboiler.com) / [info@nationwideboiler.com](mailto:info@nationwideboiler.com)

True Nationwide Coverage & Beyond. Representatives Located Worldwide.

**PREDICTED BOILER EMISSION DATA****NATURAL GAS**

BOILER MFG AND MODEL	BABCOCK & WILCOX FMO-80
BOILER CAPACITY, LB/HR	110,000
DESIGN PRESSURE, PSIG	750
BURNER MFG AND MODEL	ZEECO GB-25
FUEL FLOW, SCFH	156,500
FUEL HEAT INPUT, MMBTU	156.5
FLUE GAS OUTLET TEMP, DEG F	307
FLUE GAS FLOW, LB/HR	132,930
FLUE GAS SPECIFIC VOLUME, CF/LB	20.29
STACK OUTLET SIZE	60" diameter
STACK OUTLET FLOW AREA, SQ FT	19.63
STACK GAS EXIT VELOCITY, FPM	2,290
STACK GAS EXIT FLOW, ACFM	44,960

	<b>PPMVD</b>	<b>#/MMBTU</b>
NOx @ 3% O <sub>2</sub>	83	0.101
CO @ 3% O <sub>2</sub>	50	0.04
VOC @ 3% O <sub>2</sub>	10	0.004
PM10 @ 3% O <sub>2</sub>		0.005
EXCESS AIR, %	10	

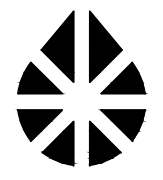
NOTE: ABOVE PERFORMANCE IS BASED WITH A STACK ECONOMIZER

DATE: 11/4/2014

B700

NATIONWIDE BOILER INCORPORATED

42400 CHRISTY STREET, FREMONT, CA 94538-3141



PROPOSAL ARRANGEMENT  
110,000 LB/HR, 750PSIG/750°F

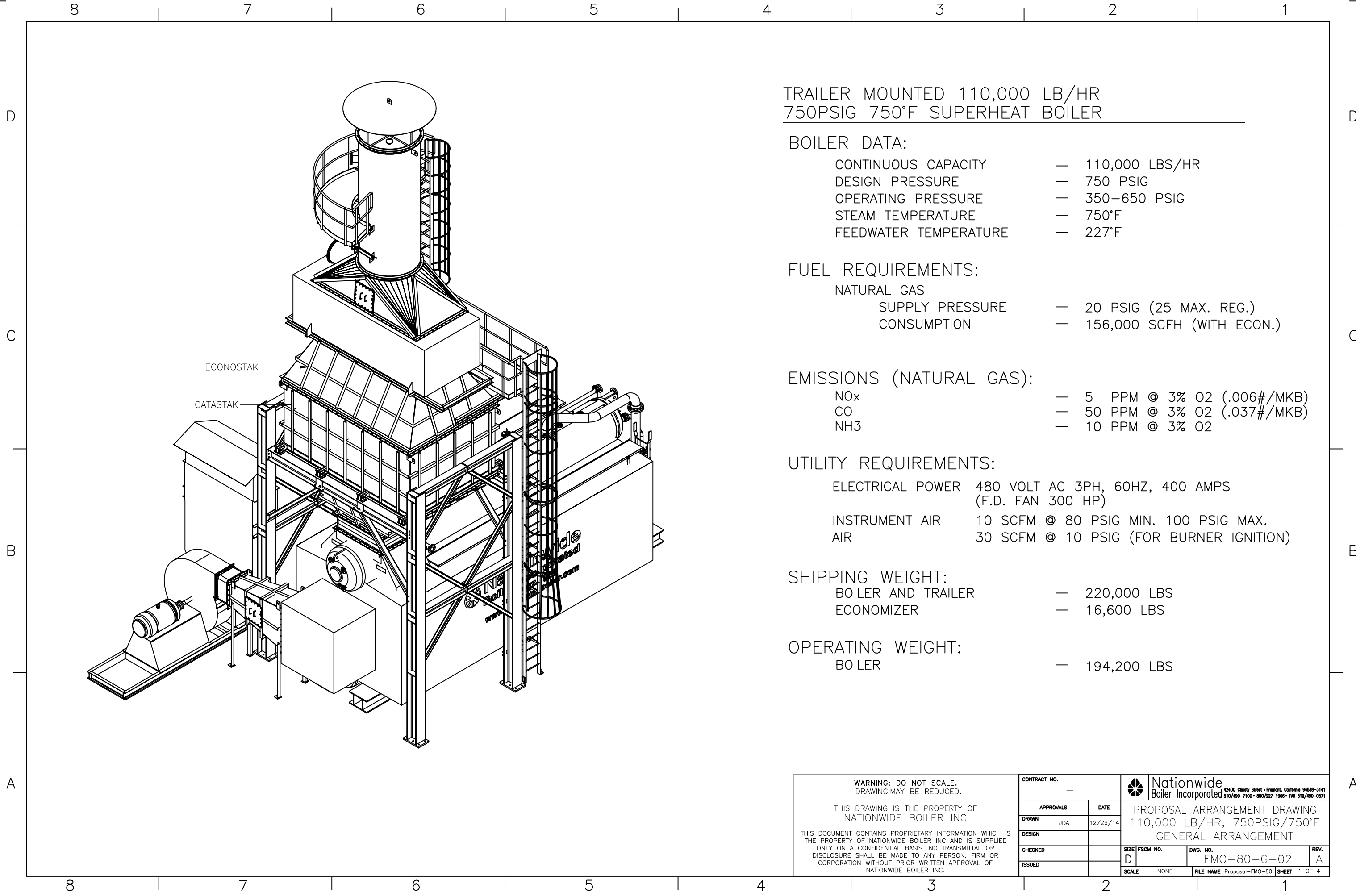
INDEX OF DRAWINGS		
FMO-80-T-01	TITLE SHEET, INDEX OF DRAWINGS	REV. A
FMO-80-G-02	GENERAL ARRANGEMENT, 4 SHEETS	REV. A
FMO-80-L-03	MECHANICAL LEGENDS	REV. A
FMO-80-I-04	PIPING AND INSTRUMENT DIAGRAM, 2 SHEETS	REV. A
FMO-80-F-05	PROCESS FLOW DIAGRAM	REV. A

WARNING: DO NOT SCALE.  
DRAWING MAY BE REDUCED.

THIS DRAWING IS THE PROPERTY OF  
NATIONWIDE BOILER INC

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS  
THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED  
ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR  
DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR  
CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF  
NATIONWIDE BOILER INC.

CONTRACT NO.		—					
APPROVALS	DATE	PROPOSAL ARRANGEMENT DRAWING 110,000 LB/HR, 750PSIG/750°F INDEX OF DRAWINGS					
DRAWN	JDA 12/29/14						
DESIGN							
CHECKED							
ISSUED		SIZE	FSCM NO.	DWG. NO.	REV.		
		D		FMO-80-T-01	A		
SCALE		NONE		FILE NAME	Proposal-FMO-80	SHEET	1 OF 1



TRAILER MOUNTED 110,000 LB/HR  
750PSIG 750°F SUPERHEAT BOILER

BOILER DATA:

CONTINUOUS CAPACITY	— 110,000 LBS/HR
DESIGN PRESSURE	— 750 PSIG
OPERATING PRESSURE	— 350–650 PSIG
STEAM TEMPERATURE	— 750°F
FEEDWATER TEMPERATURE	— 227°F

FUEL REQUIREMENTS:

NATURAL GAS	
SUPPLY PRESSURE	— 20 PSIG (25 MAX. REG.)
CONSUMPTION	— 156,000 SCFH (WITH ECON.)

EMISSIONS (NATURAL GAS):

NO <sub>x</sub>	— 5 PPM @ 3% O <sub>2</sub> (.006#/MKB)
CO	— 50 PPM @ 3% O <sub>2</sub> (.037#/MKB)
NH <sub>3</sub>	— 10 PPM @ 3% O <sub>2</sub>

UTILITY REQUIREMENTS:


ELECTRICAL POWER	480 VOLT AC 3PH, 60HZ, 400 AMPS (F.D. FAN 300 HP)
INSTRUMENT AIR	10 SCFM @ 80 PSIG MIN. 100 PSIG MAX.
AIR	30 SCFM @ 10 PSIG (FOR BURNER IGNITION)

SHIPPING WEIGHT:

BOILER AND TRAILER	— 220,000 LBS
ECONOMIZER	— 16,600 LBS

OPERATING WEIGHT:

BOILER	— 194,200 LBS
--------	---------------

WARNING: DO NOT SCALE. DRAWING MAY BE REDUCED.		CONTRACT NO. —		 Nationwide Boiler Incorporated <small>42400 Christy Street • Fremont, California 94538-3141 510/490-7100 • 800/227-1986 • FAX 510/490-0571</small>	
THIS DRAWING IS THE PROPERTY OF NATIONWIDE BOILER INC		APPROVALS	DATE	PROPOSAL ARRANGEMENT DRAWING 110,000 LB/HR, 750PSIG/750°F GENERAL ARRANGEMENT	
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF NATIONWIDE BOILER INC.		DRAWN JDA	12/29/14		
		DESIGN		SIZE FSCM NO.	DWG. NO.
		CHECKED		D	FMO-80-G-02
		ISSUED		SCALE NONE	REV. A
		FILE NAME Proposal-FMO-80		SHEET 1 OF 4	

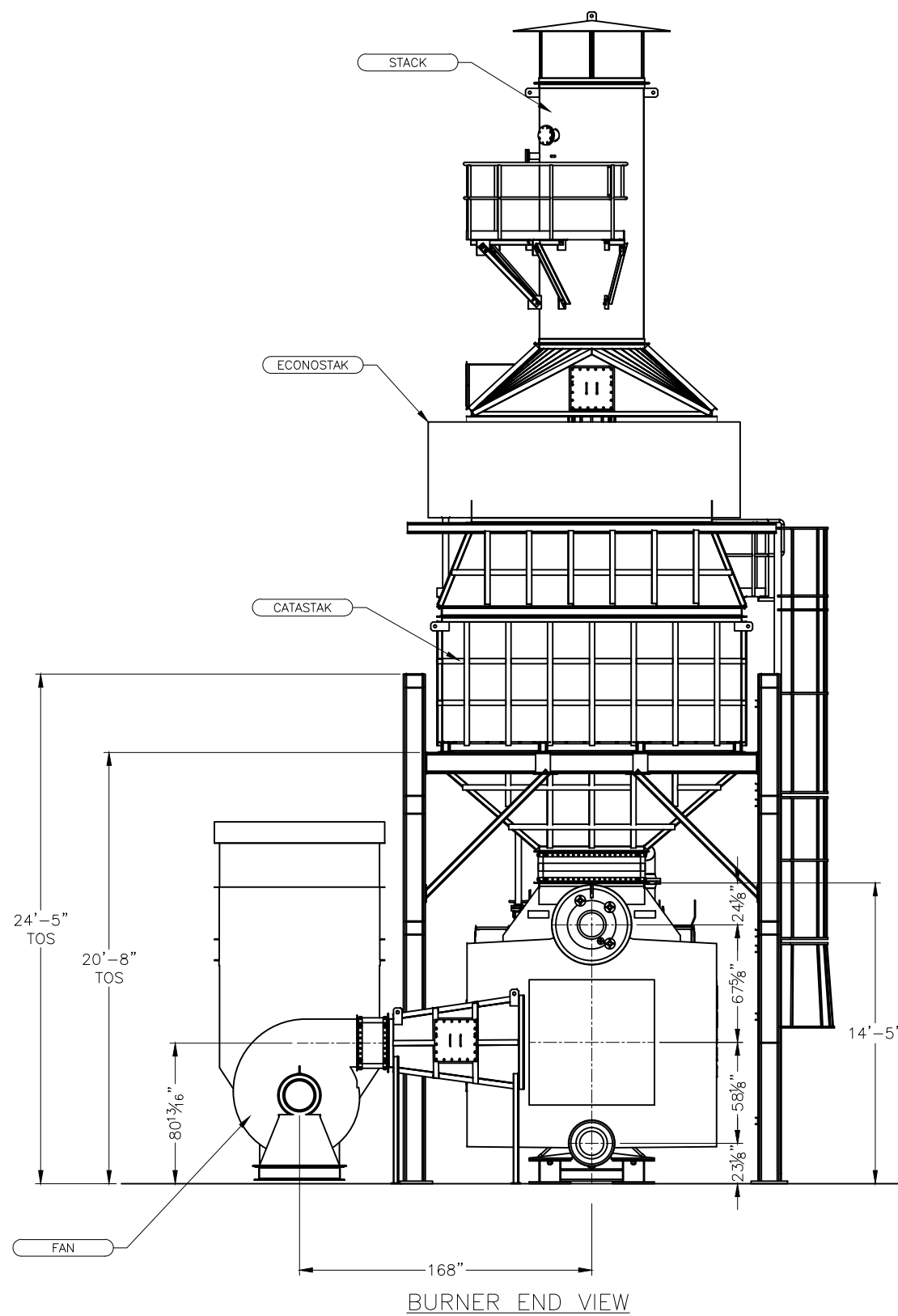
8 7 6 5 4 3 2 1

D

C

B

A



BURNER END VIEW

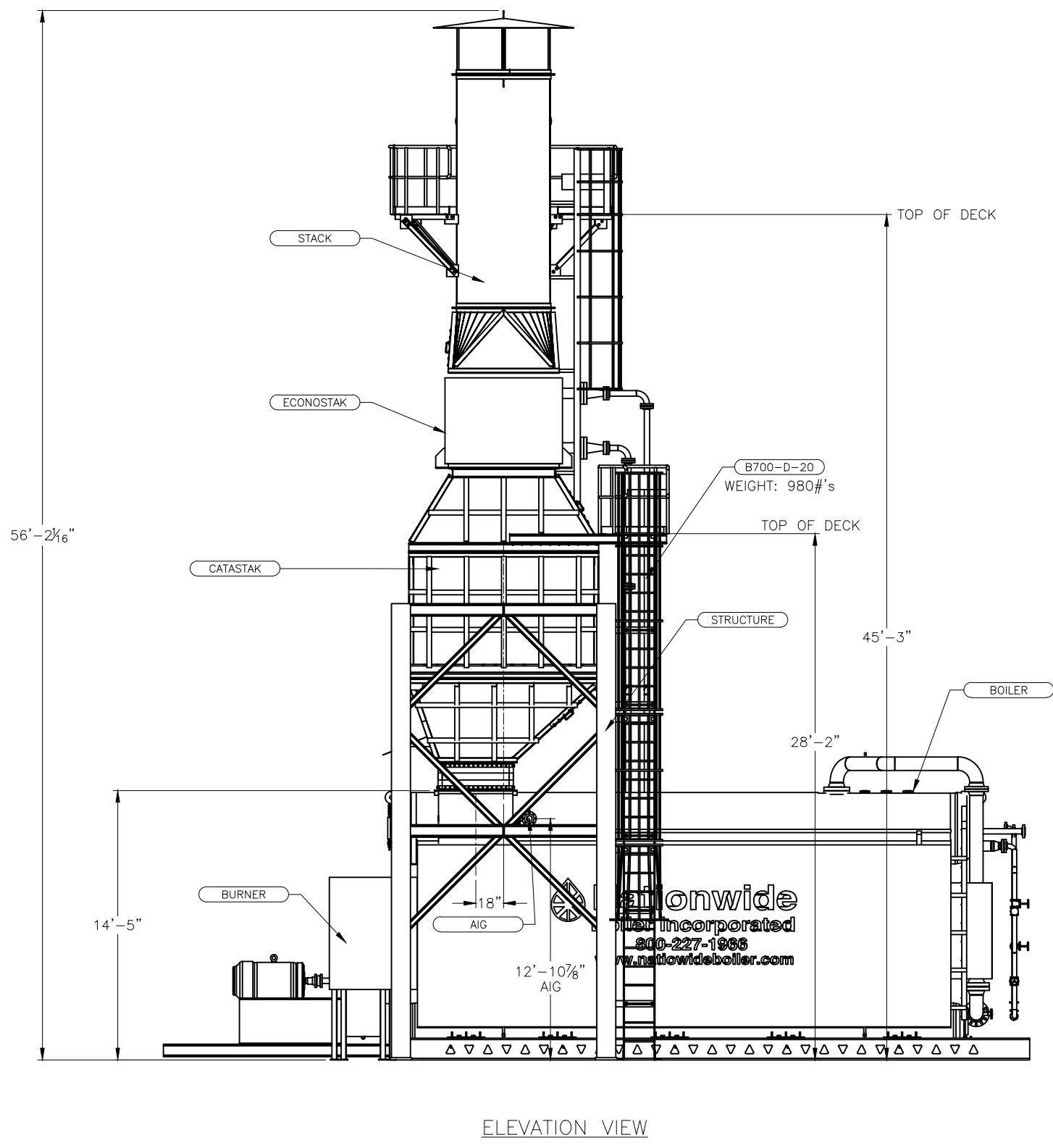
8 7 6 5 4 3 2 1

D


C

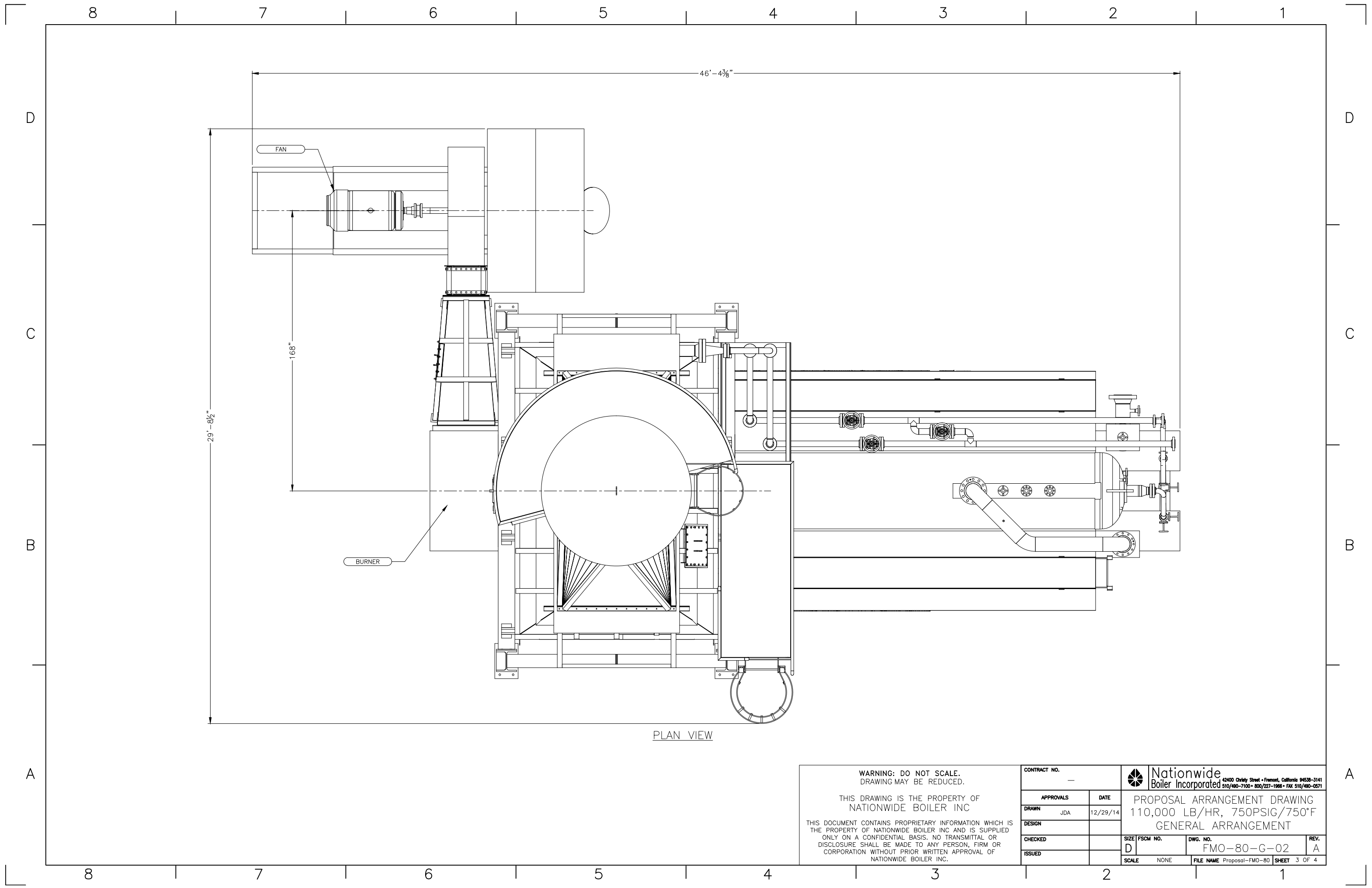
B

A



ELEVATION VIEW


WARNING: DO NOT SCALE. DRAWING MAY BE REDUCED.		CONTRACT NO. —		 <b>Nationwide Boiler Incorporated</b> <small>42400 Christy Street • Fremont, California 94538-3141 510/490-7100 • 800/227-1986 • FAX 510/490-0571</small>	
THIS DRAWING IS THE PROPERTY OF NATIONWIDE BOILER INC		APPROVALS	DATE		
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF NATIONWIDE BOILER INC.		DRAWN	JDA	12/29/14	PROPOSAL ARRANGEMENT DRAWING 110,000 LB/HR, 750PSIG/750°F GENERAL ARRANGEMENT
		DESIGN			
		CHECKED			
		ISSUED			SIZE FSCM NO. DWG. NO. REV. D FMO-80-G-02 A
		SCALE	NONE	FILE NAME	
				Proposal-FMO-80	SHEET 2 OF 4



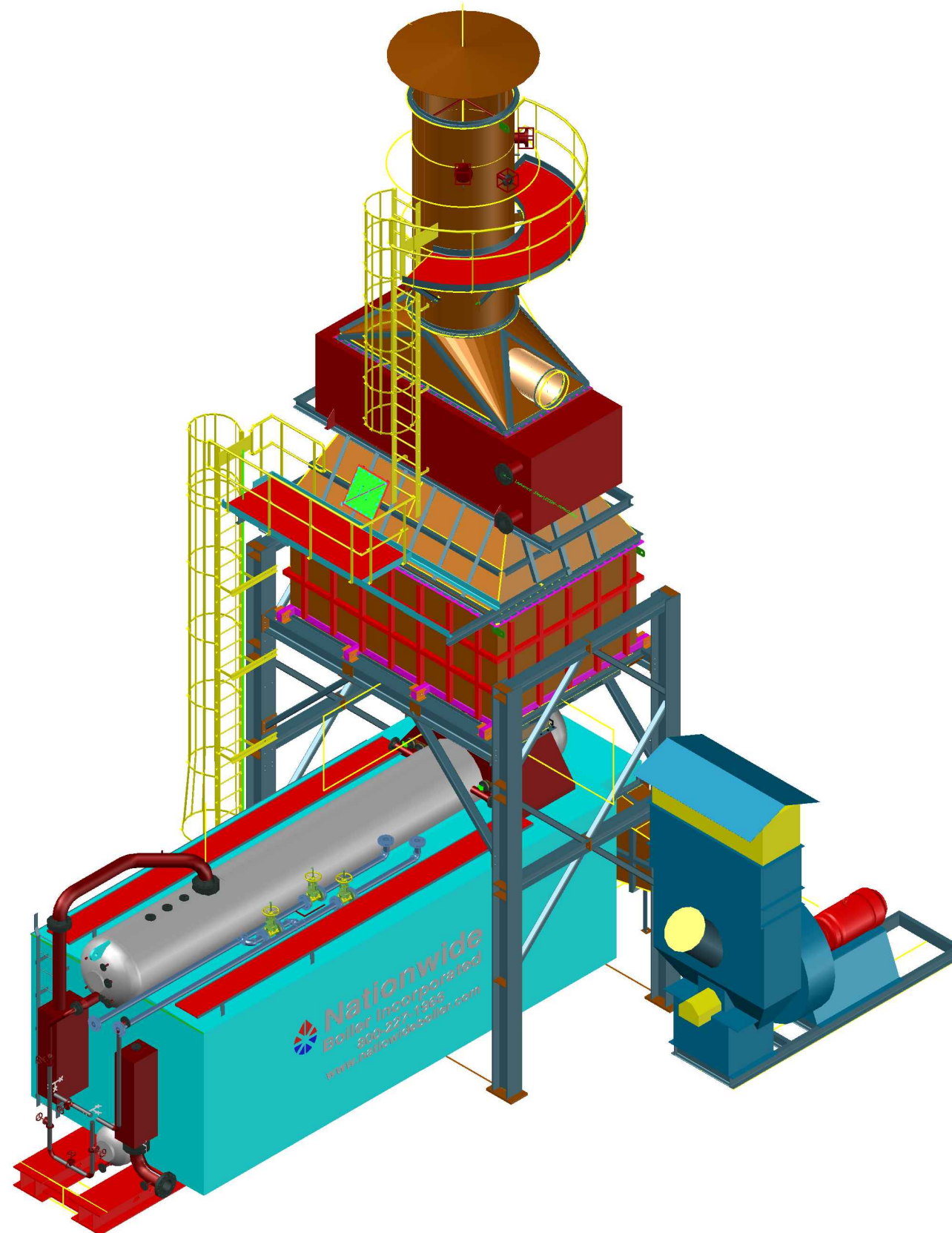
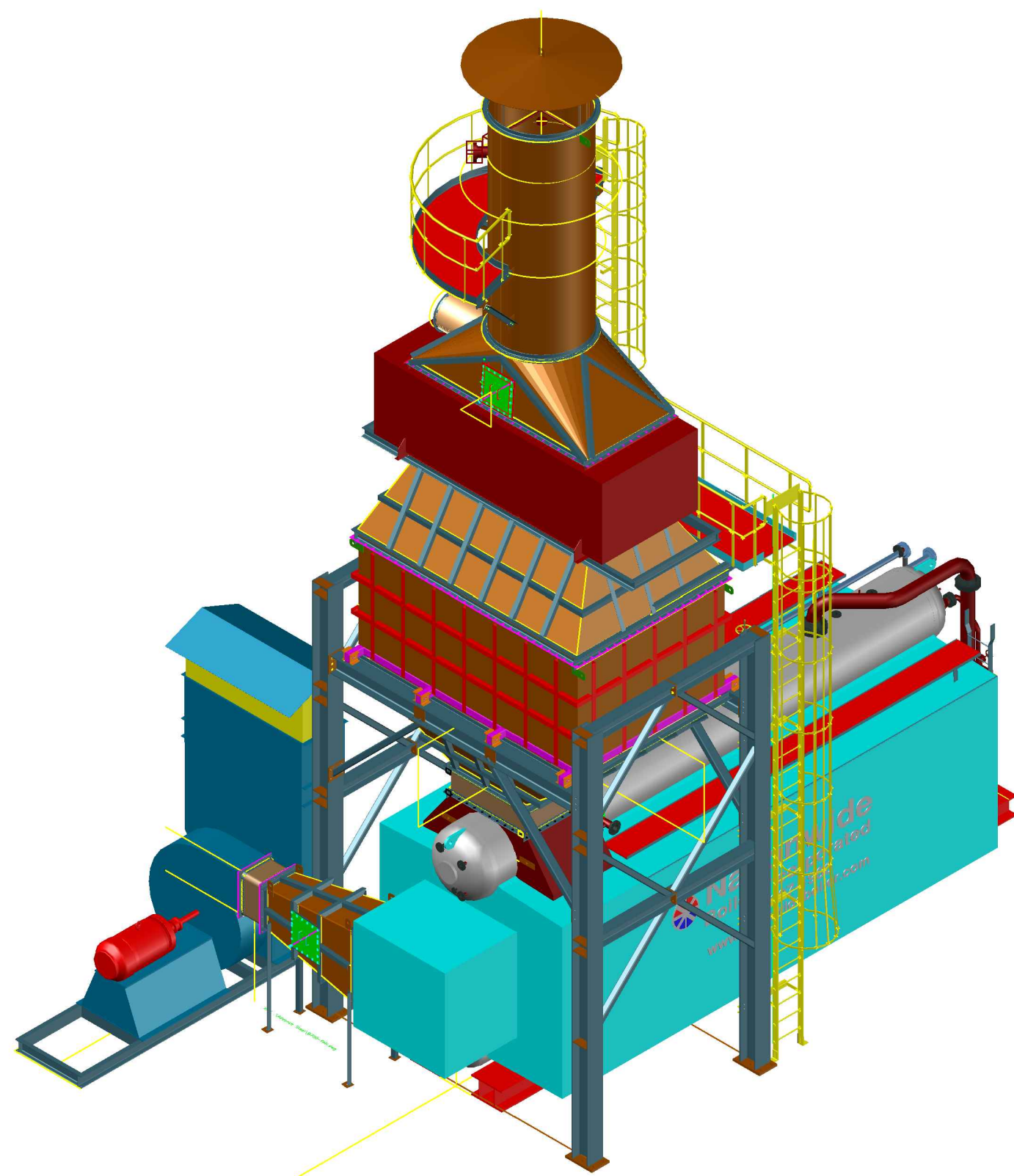
WARNING: DO NOT SCALE.  
DRAWING MAY BE REDUCED.

THIS DRAWING IS THE PROPERTY OF  
NATIONWIDE BOILER INC

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS  
THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED  
ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR  
DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR  
CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF  
NATIONWIDE BOILER INC.

CONTRACT NO. —		 <b>Nationwide Boiler Incorporated</b> <small>42400 Christy Street • Fremont, California 94538-3141 510/490-7100 • 800/227-1988 • FAX 510/490-0571</small>	
APPROVALS	DATE	PROPOSAL ARRANGEMENT DRAWING 110,000 LB/HR, 750PSIG/750°F GENERAL ARRANGEMENT	
DRAWN JDA	12/29/14		
DESIGN			
CHECKED		SIZE FSCM NO.	DWG. NO.
ISSUED		D	FMO-80-G-02
SCALE NONE		FILE NAME Proposal-FM0-80	REV. A
		SHEET 3 OF 4	






WARNING: DO NOT SCALE.  
DRAWING MAY BE REDUCED.

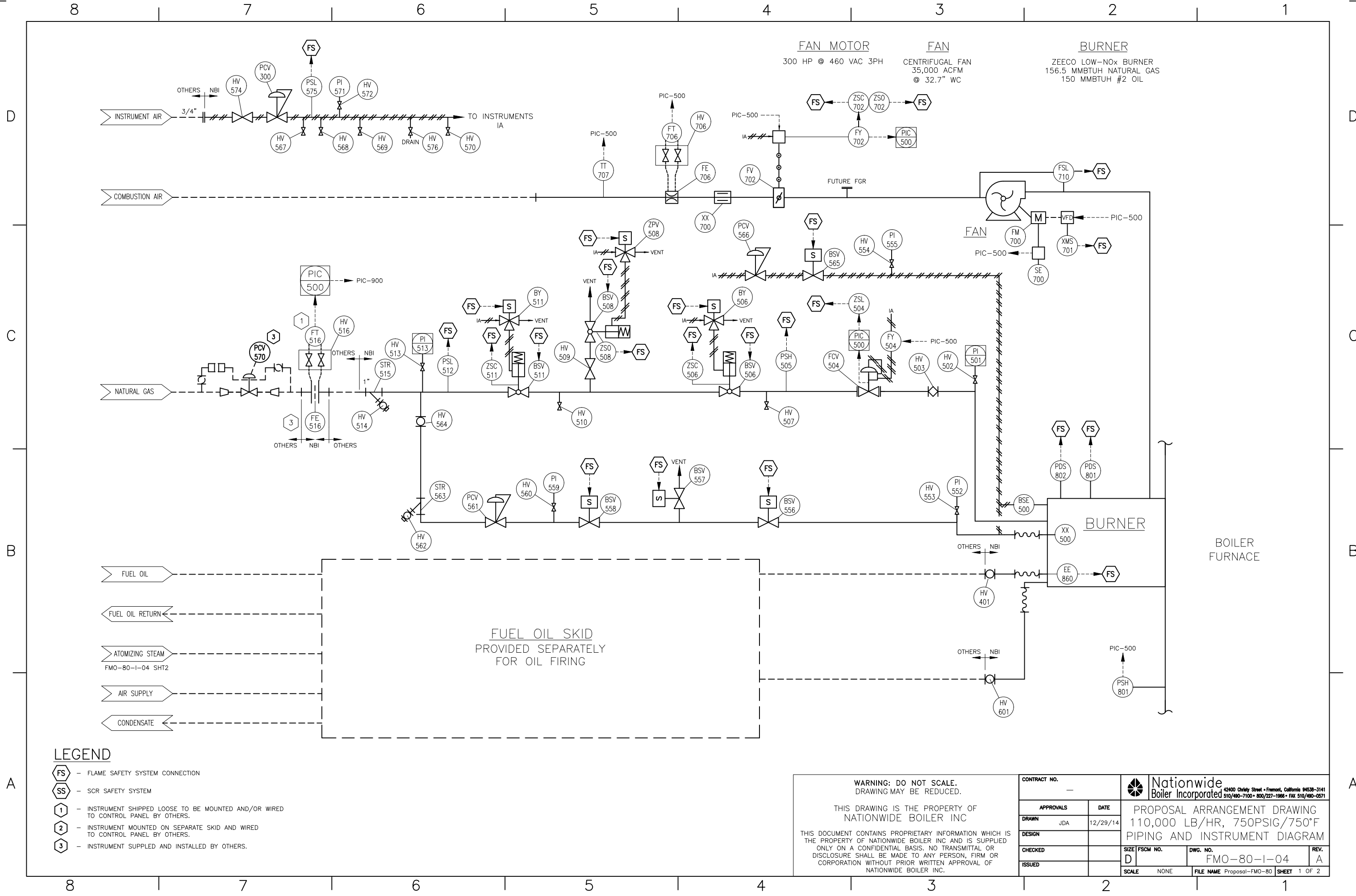
THIS DRAWING IS THE PROPERTY OF  
NATIONWIDE BOILER INC

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS  
THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED  
ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR  
DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR  
CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF  
NATIONWIDE BOILER INC.

CONTRACT NO.		—				Nationwide Boiler Incorporated		42400 Christy Street • Fremont, California 94538-3141 510/490-7100 • 800/227-1988 • FAX 510/490-0571			
APPROVALS		DATE		PROPOSAL ARRANGEMENT DRAWING 110,000 LB/HR, 750PSIG/750°F GENERAL ARRANGEMENT							
DRAWN		JDA								12/29/14	
DESIGN											
CHECKED											
ISSUED											
SIZE		FSCM NO.		DWG. NO.		REV.					
D				FMO-80-G-02		A					
SCALE		NONE		FILE NAME		Proposal-FMO-80		SHEET 4 OF 4			








LEGEND

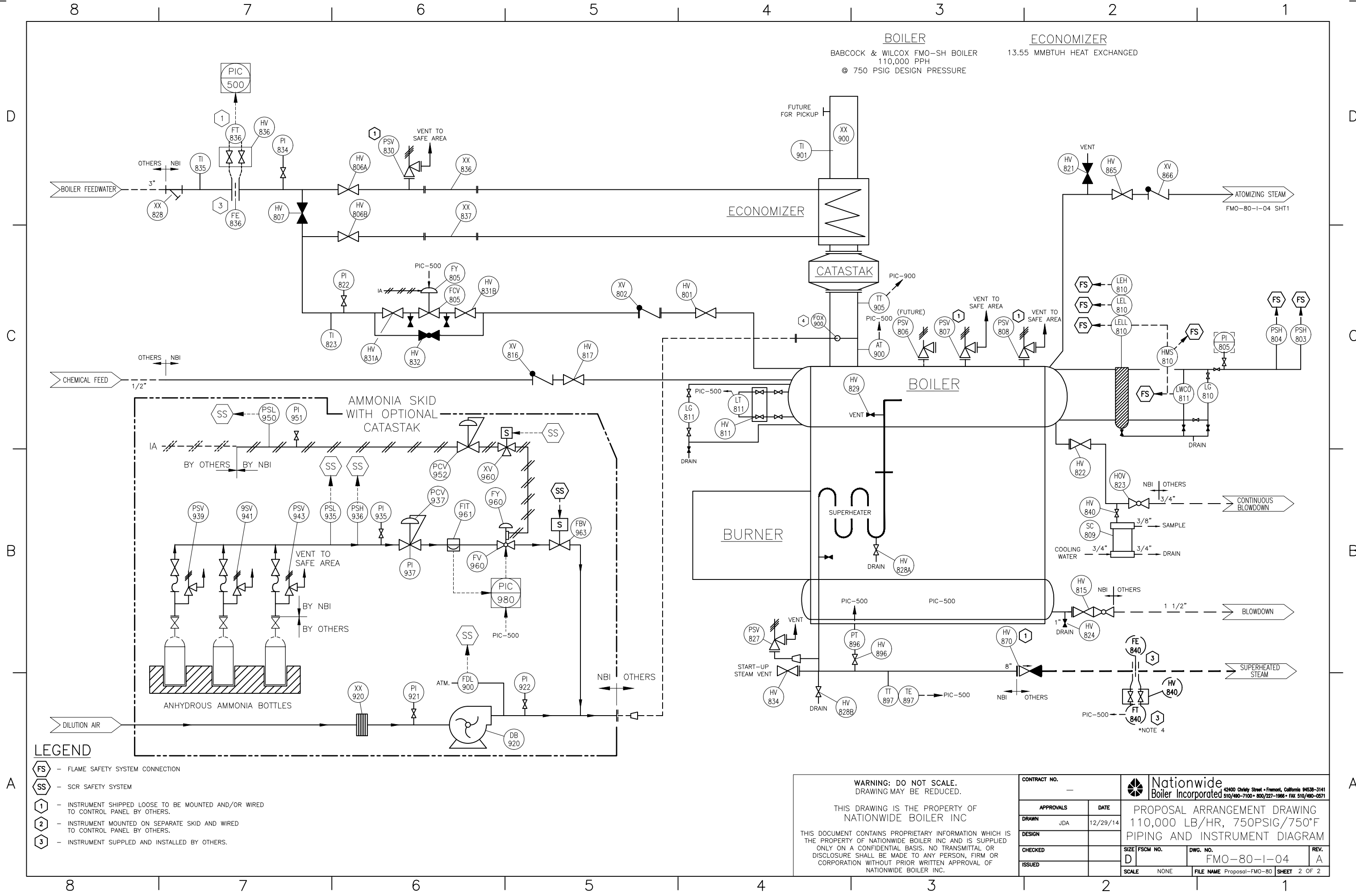
- FS - FLAME SAFETY SYSTEM CONNECTION
- SS - SCR SAFETY SYSTEM
- 1 - INSTRUMENT SHIPPED LOOSE TO BE MOUNTED AND/OR WIRED TO CONTROL PANEL BY OTHERS.
- 2 - INSTRUMENT MOUNTED ON SEPARATE SKID AND WIRED TO CONTROL PANEL BY OTHERS.
- 3 - INSTRUMENT SUPPLIED AND INSTALLED BY OTHERS.

WARNING: DO NOT SCALE.  
DRAWING MAY BE REDUCED.

THIS DRAWING IS THE PROPERTY OF  
NATIONWIDE BOILER INC

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS  
THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED  
ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR  
DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR  
CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF  
NATIONWIDE BOILER INC.

CONTRACT NO.		—				Nationwide Boiler Incorporated		42400 Christy Street • Fremont, California 94538-3141 510/490-7100 • 800/227-1986 • FAX 510/490-0571			
APPROVALS		DATE		PROPOSAL ARRANGEMENT DRAWING 110,000 LB/HR, 750PSIG/750°F PIPING AND INSTRUMENT DIAGRAM							
DRAWN		JDA								12/29/14	
DESIGN											
CHECKED											
ISSUED				SIZE		FSCM NO.		DWG. NO.		REV.	
				D				FMO-80-I-04		A	
				SCALE		NONE		FILE NAME		Proposal-FMO-80	
								SHEET		1 OF 2	



LEGEND

- FS - FLAME SAFETY SYSTEM CONNECTION
- SS - SCR SAFETY SYSTEM
- 1 - INSTRUMENT SHIPPED LOOSE TO BE MOUNTED AND/OR WIRED TO CONTROL PANEL BY OTHERS.
- 2 - INSTRUMENT MOUNTED ON SEPARATE SKID AND WIRED TO CONTROL PANEL BY OTHERS.
- 3 - INSTRUMENT SUPPLIED AND INSTALLED BY OTHERS.

WARNING: DO NOT SCALE.  
DRAWING MAY BE REDUCED.

THIS DRAWING IS THE PROPERTY OF  
NATIONWIDE BOILER INC

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS  
THE PROPERTY OF NATIONWIDE BOILER INC AND IS SUPPLIED  
ONLY ON A CONFIDENTIAL BASIS. NO TRANSMITTAL OR  
DISCLOSURE SHALL BE MADE TO ANY PERSON, FIRM OR  
CORPORATION WITHOUT PRIOR WRITTEN APPROVAL OF  
NATIONWIDE BOILER INC.

CONTRACT NO.		-	
APPROVALS	DATE	12/29/14	
DRAWN	JDA		
DESIGN			
CHECKED			
ISSUED			

**Nationwide Boiler Incorporated**  
42400 Christy Street • Fremont, California 94538-3141  
510/490-7100 • 800/227-1986 • FAX 510/490-0571

PROPOSAL ARRANGEMENT DRAWING  
110,000 LB/HR, 750PSIG/750°F  
PIPING AND INSTRUMENT DIAGRAM

SIZE	FSCM NO.	DWG. NO.	REV.
D		FMO-80-I-04	A
SCALE	NONE	FILE NAME	Proposal-FMO-80
		SHEET	2 OF 2

