# **Bryan "Flexible Water Tube"**

# **DR Series**

# **California Special Steam Boilers**

# 400,000 BTUH Forced draft gas, oil or dual fuel fired

# Low initial cost, good operating efficiency deliver substantial return on investment

# All Bryan DR Series boilers offer these operating and performance features

Bryan flexible water tube boilers are ideally suited to meet California code requirements for unattended boilers. Boilers are built for standard working pressure of 100 PSIG. All Bryan boilers are built in accordance with the requirements of the ASME Boiler - Section I Code.

Bryan DR series flexible tube boilers are ideal for many commercial, institutional and industrial applications. These include healthcare facilities; schools; apartments; churches; office buildings; correctional facilities; airports; sewage treatment plants; golf, tennis and fitness clubs. Hospitals, dairies, restaurants, laundries, dry cleaners, food processing, tire recapping and metal plating are just a few of the many applications.

## **Natural internal circulation**

The water tube design and the large downcomer legs provide adequate internal circulation without concern over exterior pumping conditions. Low pressure drop through boiler.

## Compact – minimum floor space

Requires less floor space than most boilers – minimum boiler room size. Shipped completely assembled and wired.

# Efficient "Flexible Water Tube" design

The Bryan bent water tube provides rapid internal circulation – for maximum heat transfer and operating efficiency.

### **Easily replaceable tubes**

Tubes are easily removable and replaceable without welding or rolling. Requires little service space.

## No "Thermal Shock"

The flexibility of the bent water tube design eliminates all possible damage from "Thermal Shock" and from stresses caused by poor or unequal internal circulation.

# The only boilers with full non-prorated **25 Year Warranty** Protection Against Thermal Shock

# Bryan DR Series Boiler Specifications

Forced Draft

DR-400-S-100-FDG

	BOILER MODEL	INPUT MBH (KW)	NOMINAL OUTPUT		STEAM	HEATING SURFACE	APROX.
			MBH (KW)	BHP*	LBS/HR**	SQ. FT. (M2)	LBS. (KG)
	DR-400	400 (117)	320 (94)	9.5	329	66 (6.1)	1150 (522)

Notes: \* Nominal output based on boiler industry standard of 80% of input. Actual combustion efficiencies will be high and fuel dependent. \*\* Lbs. steam per hour from and at 212°F.

**BRYAN® BOLLERS** 

Originators of the "Flexible Water Tube" design

# Bryan DR Series California Special Steam Boilers



NOTE: \* Gas train and control location dimensions will vary depending on job specifications and conditions.

Specifications subject to change without notice. Consult factory on other boiler options.

# **Quality Construction Features:**

- · Steam side interior accessible for cleanout and inspection, front and rear openings, upper and lower drums.
- · Large volume water leg downcomers promote rapid internal circulation, temperature equalization and efficient heat transfer.
- · Boiler tube and furnace area access panel: heavy gauge steel-line with high temperature ceramic fiber and insulation, bolted and tightly sealed to boiler frame.
- · Single side access; combustion chamber, tubes and burner head are completely accessible from one side simplifying maintenance and minimizing floor space.
- Minimum sized flue vent.
- Forced draft, flame retention head type burner. Efficient combustion of oil or gas, quiet operation.

- · Heavy steel boiler frame, built and stamped in accordance with appropriate ASME Boiler - Section I Code.
- Heavy gauge steel boiler jacket with rust-resistant zinc coating and enamel finish, insulated with fiberglass to insure exceptionally cool outer surface.
- · Bryan bent water tubes are flexible, individually replaceable without welding or rolling. Never more than two tube configurations.
- · Internal water-cooled furnace with low heat release rate.
- · Steam boilers with extra large drum with high steam release area ensure stable water level and dry steam.
- Pressurized design: inner fireside casing constructed of heavy gauge steel, completely sealed, lined with high temperature insulation and refractory.

# Bryan DR Series Boilers Standard and Optional Equipment

## STANDARD EQUIPMENT FURNISHED

Steam pressure gauge w/gauge cock, operating pressure control, high limit pressure control w/ manual reset, combination low water cut-off & pump control, tricocks, auxiliary low water cut-off w/manual reset, pop safety valve ASME rated 100#, water glass set, boiler blowdown valves - (1) quick opening – lever type (250# WSP) and (1) slow opening – "y" type (200# WSP), LWCO control blowdown valve.

#### Straight gas fired unit

Electronic combustion safety control, automatic operating gas valve, safety gas valve, pilot solenoid valve, pilot ignition assembly, main manual gas shutoff valve, pilot cock, pilot and

main gas pressure regulators, air safety switch control panel all controls installed and wired.

### Straight oil fired unit

Electronic combustion safety control, dual oil valves, oil ignition transformer, two-stage fuel unit, gas pilot, oil nozzle assembly, control panel, all controls installed and wired.

#### **Combination gas-oil unit**

Electronic combustion safety control, automatic operating gas valve, safety gas valve, pilot solenoid valve, pilot ignition assembly, main manual gas shutoff valve, pilot cock, pilot and main gas pressure regulators, air safety switch, manual fuel

selector switch, dual oil valves, oil ignition transformer, twostage fuel unit, oil ignition and nozzle assembly control panel, all controls installed and wired.

### **OPTIONAL EQUIPMENT,** EXTRA COST

- 1. Combination low water cutoff and feeder
- 2. Alarm bells or horns
- 3. CSD-1, GE-GAP or other insurance approved control systems
- 4. Indicating lights, as desired
- 5. Lead-lag systems for two or more boilers
- Draft control system
- 7. Low NOx certified pursuant SCAQMD Rule 1146.2

#### When ordering, please specify: Boiler size 1.

- 2.
- Boiler relief valve setting 3.
- Type of fuel: natural, LP gas or oil
- If gas, type, BTU content, specific gravity and pres-sure available 4.
- Electric power voltage, phase and frequency 5.
- Optional extra equipment or construction
- Special approvals required 7.
- 8. Altitude



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