

# Bryan “Flexible Water Tube” Indirect Water Heaters

350,000 to 8,000,000 BTUH  
Atmospheric Gas Fired and Forced Draft Gas, Oil or Dual Fuel Fired



Forced Draft  
Gas Fired  
RV Series

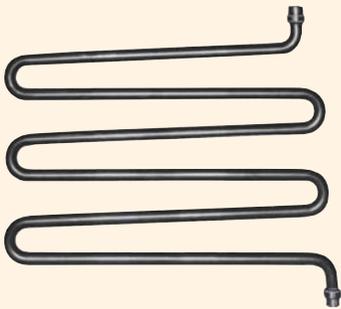
**B** **BRYAN BOILERS**

Originators of the “Flexible Water Tube” design





## Bryan Indirect Water Heaters give you years of economical, trouble-free service



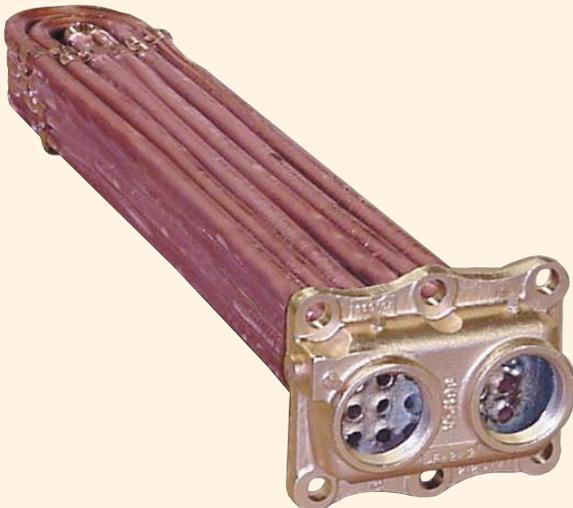
**Featuring  
Bryan's  
exclusive  
"Flexible  
Water Tube"  
design**

### **Bryan Heat Exchanger**

The heat exchanger is the key to the Bryan Indirect Water Heater. It leads to all the advantages listed on this page, making the Bryan Indirect Water Heater a perfect choice in dozens of applications.

The heat exchanger is constructed of heavy copper tubing which transfers heat from the primary water to the water flowing through the exchanger. The heat exchanger is designed for two, four, six or eight-pass flow with low pressure drop. It can easily handle the entire BTU output (or any desired portion) of the heater.

The head of the heat exchanger bolts to the outer shell of the heater. The design of the heat exchanger can be adapted to either storage tank or tankless operations.



The indirect heating system is a proven method of providing large volumes of hot water for a variety of applications. Our years of experience in this field have perfected the Bryan Indirect Water Heater. You'll find application information, specifications and general information in this brochure. For additional assistance in planning your installation, contact your Bryan Steam representative.

#### **Simplicity of indirect heating**

The indirect heat exchanger method of heating water is extremely simple. The primary water in the heater is maintained at a constant temperature and recirculated only within the heating vessel. The heat exchanger, placed in the primary water, absorbs heat and transfers it to the water flowing through its copper tubes.

#### **Efficiency in a compact unit**

The result of the simple design is an efficient heating method that requires very little floor space. Bryan Indirect Water Heaters require less floor space than most other types of heaters or boilers. They are shipped completely assembled and wired.

#### **Efficient "Flexible Water Tube" design**

Bryan Indirect Water Heaters incorporate the Bryan bent water tube that provides rapid internal water circulation. The result is maximum heat transfer, and the flexible tubes eliminate the chance of thermal shock. All tubes are easily removable and replaceable without welding or rolling.

#### **Economical operation**

Since service or process water does not come into contact with high temperature heating surfaces, there is little danger of scale or corrosion. Maintenance and replacement costs are greatly reduced, and the unit provides a long, efficient service life.

#### **Engineered for automatic operation**

The primary water in the heating vessel is continuously, automatically recirculated. And it rarely requires changing.

#### **Choice of systems to meet specific needs**

**Storage tank system.** When large volumes, but intermittent draws, are required, a storage tank is used. Circulation between the tank and heat exchanger maintains the required temperature in the tank.

**Tankless system.** When the hot water draw is relatively constant over long periods, the tank may be eliminated. This system should be considered whenever possible.

**Tank-Tankless system.** When two temperatures of water are required, a tank type system may be used to supply water at one temperature while water from the tank is recirculated through the heat exchanger to provide the second, higher temperature water.

# Large volumes of hot water for dozens of applications

The maintenance-free design of the Bryan Indirect Water Heater can mean years of trouble-free service in dozens of applications.

Here are just a few applications where the value of indirect heating has been proven over and over again:

- Schools
- Industry
- Laundries
- Restaurants
- Packing plants
- Swimming pools
- Apartments
- Hotels and motels
- Institutions
- Hospitals
- Outdoor storage tanks

Bryan Indirect Water Heaters are particularly suited for multi-purpose heating in these applications. A single unit, for example can be used for:

- domestic or commercial hot water and space heating
- domestic hot water, space heating and pool heating
- domestic hot water, space heating and snow melting
- two or three temperature water for restaurants.

Forced Draft  
Gas Fired  
CLM Series



Atmospheric  
Gas Fired  
K Series



Atmospheric  
Gas Fired  
F Series



# Bryan Indirect Water Heaters

Heater Series	Model Number	Heater Capacity					Input Firing Rates			Approximate Shipping Weights (lbs)
		Output BTU/HR	Gallons Per Hour*				BTU's	Ft <sup>3</sup> Nat Gas	Gallons Oil	
			80° - 140°	60° - 140°	40° - 140°	40° - 160°				
<b>F SERIES</b> (Atmospheric)	F350-WT	280,000	559	420	338	—	350,000	350	—	620
	F450-WT	360,000	720	540	432	—	450,000	450	—	765
	F650-WT	520,000	1,039	780	624	—	650,000	650	—	890
	F850-WT	680,000	1,359	1,020	816	—	850,000	850	—	1,155
<b>DR SERIES</b> (Forced Draft)	DR350-WT	280,000	559	420	336	—	350,000	350	2.5	1,150
	DR450-WT	360,000	720	540	432	—	450,000	450	3.2	1,250
	DR650-WT	520,000	1,039	780	624	—	650,000	650	4.6	1,750
	DR850-WT	680,000	1,359	1,020	816	—	850,000	850	6.1	1,850
<b>CLM SERIES</b> (Atmospheric or Forced Draft)	CLM120-WT	960,000	1,920	1,440	1,152	960	1,200,000	1,200	8.6	3,200
	CLM150-WT	1,200,000	2,400	1,800	1,440	1,200	1,500,000	1,500	10.7	3,600
	CLM180-WT	1,440,000	2,880	2,160	1,728	1,440	1,800,000	1,800	12.9	4,050
	CLM210-WT	1,680,000	3,360	2,520	2,016	1,680	2,100,000	2,100	15.0	4,475
	CLM240-WT	1,920,000	3,840	2,880	2,304	1,920	2,400,000	2,400	17.1	4,900
	CLM270-WT	2,160,000	4,320	3,240	2,592	2,160	2,700,000	2,700	19.3	5,525
	CLM300-WT	2,400,000	4,800	3,600	2,880	2,400	3,000,000	3,000	21.4	5,533
<b>K SERIES</b> (Atmospheric)	K350-WT	2,800,000	5,600	4,200	3,360	2,799	3,500,000	3,500	—	4,820
	K400-WT	3,200,000	6,400	4,800	3,840	3,199	4,000,000	4,000	—	5,520
	K450-WT	3,600,000	7,200	5,400	4,320	3,600	4,500,000	4,500	—	6,200
	K500-WT †	4,000,000	8,000	6,000	4,800	4,000	5,000,000	5,000	—	6,790
	K550-WT †	4,400,000	8,800	6,600	5,280	4,400	5,500,000	5,500	—	7,380
	K600-WT †	4,800,000	9,600	7,200	5,760	4,800	6,000,000	6,000	—	8,040
	K650-WT †	5,200,000	10,400	7,800	6,240	5,200	6,500,000	6,500	—	8,700
<b>RV SERIES</b> (Forced Draft)	RV350-WT	2,800,000	5,600	4,200	3,360	2,799	3,500,000	3,500	25.0	7,375
	RV400-WT	3,200,000	6,400	4,800	3,840	3,199	4,000,000	4,000	28.6	8,100
	RV450-WT	3,600,000	7,200	5,400	4,320	3,600	4,500,000	4,500	32.1	8,320
	RV500-WT †	4,000,000	8,000	6,000	4,800	4,000	5,000,000	5,000	35.7	9,080
	RV550-WT †	4,400,000	8,800	6,600	5,280	4,400	5,500,000	5,500	39.3	9,820
	RV600-WT †	4,800,000	9,600	7,200	5,760	4,800	6,000,000	6,000	42.9	10,530
	RV700-WT †	5,600,000	11,200	8,400	6,720	5,800	7,000,000	7,000	50.0	11,960
	RV800-WT †	6,400,000	12,800	9,600	7,680	6,400	8,000,000	8,000	57.1	13,450

\* Maximum outlet temperature for DR and F series is 150°F; for CLM, RV and K series, 160°. For outlet temperatures greater than those shown, consult factory.  
 † These units are equipped with two heat exchangers as standard and require a copper header to be field supplied.

## Bryan Indirect Water Heaters Standard and Optional Equipment

### STANDARD EQUIPMENT:

Indirect heat exchanger, combination thermometer and pressure gauge, ASME-rated boiler relief valve, water temperature control (240°F max. std.), high limit control, probe LWCO, expansion tank, fill and stop valve.

### Atmospheric Equipment

Electronic combustion safety control, automatic operating gas valve, safety gas valve, pilot solenoid valve, electric ignition assembly, main manual gas shut-off valve, pilot shut-off valve, pilot and main gas pressure regulators, draft controller, all controls installed and wired standard voltage 120/1/60.

### Forced Draft Equipment

**Straight oil fired unit** Electronic combustion safety control, oil valve, oil ignition transformer, two-stage fuel unit, direct spark ignition, 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 shut-off valve, pilot cock, pilot and main gas pressure regulators, air safety switch, manual fuel selector switch, oil valve, gas pilot for both fuels, two-stage fuel unit, oil nozzle assembly, control panel, all controls installed and wired.

**Straight gas fired unit** Electronic combustion safety control, automatic operating gas valve, safety gas valve, pilot solenoid valve, pilot ignition assembly, main manual gas shut-off valve, pilot cock, pilot and main gas pressure regulators, air safety switch, control panel, all controls installed and wired.

### OPTIONAL EQUIPMENT:

1. Manual reset high limit control
2. Manual reset low water cutoff
3. Auxiliary low water cutoff
4. Combination low water cutoff and feeder
5. Alarm bells or horns
6. CSD-1, FM, IRI or other insurance approved control systems
7. Indicating lights, as desired
8. Lead-lag systems for two or more boilers with or without outdoor reset control
9. Draft control system

### When ordering, please specify:

1. Boiler size
2. Supply and return temperatures required
3. Boiler relief valve setting
4. Type of fuel: natural, LP, or other gas and/or No. 2 oil
5. If gas, type, BTU content, specific gravity and pressure available
6. Electric power voltage, phase and frequency
7. Optional extra equipment or construction
8. Special approvals required (UL, CSD-1, FM, or IRI)
9. Altitude



783 N. Chili Ave., Peru, Indiana 46970 U.S.A.  
 765-473-6651 www.bryanboilers.com