

**SPECIFICATIONS** Domestic Pump CMU Duplex Condensate Unit

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Domestic® Series CMU™

Duplex Condensate Unit

For up to 200°F (93.3°C)

Note: Optional accessories are underlined.

**Part 1 – GENERAL**

**1.1 SECTION INCLUDES**

A. Unit shall be a Domestic Series CM U'" duplex underground boiler feed pumping unit as manufactured by Bell & Gossett and shall consist of:

1. (1) Cast iron receiver or fabricated epoxy coated steel

2. (1 or 2) Water pumps

3. (1) Water makeup assembly

4. (1) Pump Control Panel

**1.2 REFERENCES**

A. HI- Hydraulic Institute

B. NEMA- National Electric Manufactures Association

C. UL- Underwriters Laboratories

D. CSA- Canadian Standards Association

E. ISO- International Standards Organization

F. IEC- International Electrotechnical Commission

**1.3 SUBMITTALS**

A. Submittals shall include the following:

1 . Submittal data cover sheet

2. Unit description sheet

3. Dimensional print

4. Sales bulletin

5. Piping diagram

6. Wiring diagram

7. Instruction manual

**1.4 QUALITY ASSURANCE**

A. The manufacture shall have a minimum of 20 years experience in the design and construction of condensate return equipment.

B. The manufacturer shall be fully certified by the International Standards Organization per ISO 9001. Proof of this certification shall be furnished at the time of submittal.

C. The manufacturer shall carry a minimum product liability insurance of $5,000,000.00 per occurrence.

D. All control cabinet components shall be U.L. listed or recognized. The control panel assembly shall be listed by Underwriters Laboratories, Inc.

**PART 2 – PRODUCTS**

**2.1 ACCEPTABLE MANUFACTURERS**

A. Subject to compliance with these specifications, the following manufacturers shall be acceptable:

1. Bell & Gossett Domestic CMU'"

2. Pre-approved equal

**2.2 COMPONENTS**

A. CONDENSATE RECEIVER

1. The condensate receiver shall be underground style of close grained cast iron construction (warranted for 20 years from the date of shipment against failure due to corrosion) or fabricated epoxy coated steel construction.

2. The receiver shall be furnished with:

a. Receiver cover plate that shall permit removal of one pump assembly while maintaining operation of the second pump.

b. Receiver shall have a vent and an overflow open1ng to provide means of secondary venting.

c. Receiver shall have an inlet centered 9 inches (229mm) below cover plate.

d. (1) Externally adjustable 2-pole float switch.

e. (2) Lifting eye bolts. .

f. (1) Cast iron inlet strainer with vertical self-cleaning bronze screen and large dirt pocket shall be mounted on the receiver. The screen shall be easily removable for cleaning, requiring no additional floor space for servicing.

B. WATER PUMPS

1. The water pumps shall be centrifugal design, bronze fitted with enclosed cast bronze centrifugal impeller, permanently aligned and mounted for vertical operation.

2. Capacities and electrical characteristics for the pumps shall be scheduled on the drawings.

3. Each pump gpm shall be sized for 2 times the system return rate.

4. Each pump shall be flexible coupled to a 3500 rpm, vertical drip-proof motor and shall del1ver 1ts full capacity with' condensate temperatures up to 200°F (93.3°C) at sea level.

5. Each pump shall include: .

a. Dynamically balanced cast bronze Impeller

b. Ball thrust bearing with provision for lubrication

c. Carbon/ceramic mechanical shaft seal shall be rated for 250°F (121°C) that can be replaced without removing the pump from the receiver

d. Renewable bronze wearing ring

e. Stainless steel shaft and expansion joint at pump discharge

C. THE WATER MAKE UP ASSEMBLY SHALL BE INSTALLED ON THE RECEIVER OF CAPACITY EQUAL TO ONE (1) BOILER FEED PUMP

1. The make up assembly shall consist of:

a. Level control switch

b. Electric solenoid valve

1 . The valve shall be packless, piston pilot operated type with cushioned closing feature and epoxy resin molded water proof coil.

2. The valve shall be equipped with a strainer, and a manual bypass with air gap shall be provided around the valve.

D. CONTROL PANEL

1. The control panel shall be a wall mounted NEMA 2 control cabinet with drip lip and piano hinged door enclosing the following:

a. (2) Combination magnetic starter (having\_ 3 overload relays) with fused disconnect and cover Interlock for each motor

b. (2) "Auto-Off-Hand" selector switch

c. (1) Numbered terminal strip

d. (2) Pump running pilot lights

e. (1) Electrical alternator

f. (1) Fused control circuit transformer when the motor voltage exceeds 230 Volts

g. (1) Control power switching relay

h. (1) Elapsed time meter

i. (2) Push to test button

**PART .3 – EXECUTION**

**3.1 INSTALLATION**

A. Install equipment in accordance with manufacturer's instructions.

B. Power wiring, as required, shall be the responsibility of the electrical contractor. All wiring shall be performed per manufacturer's instructions and applicable state, federal, and local codes.

C. All factory wiring shall be numbered for easy identification and the numbers shall coincide with those shown on the wiring diagram.

D. All interconnecting wiring between the pump controls and control panel shall be enclosed in liquid tight flexible conduit.

E. The unit shall be factory tested as a complete unit and the unit manufacture shall furnish elementary and connection wiring diagrams, piping diagrams, installation and operation

instructions.

F. The unit manufacturer shall furnish, mount on the unit and wire a NEMA 2 control cabinet with drip lip and piano hinged door.

G. The unit shall be shipped completely assembled.

H. The factory shall provide certified test report.

I. Unit shall be a Domestic Series CMU'" as manufactured by Bell & Gossett, Morton Grove, IL.

###### END OF SECTION



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