Bell & Gossett
a xylem brand

SPECIFICATIONS
155C

Domestic® Pump Series CMED-eSV™ Boiler Feed Unit

NOTE: Optional Accessories are Underlined

Part 1 – GENERAL

1.1 SECTION INCLUDES

A. Unit shall be a Domestic Series CMED-eSV™ boiler feed pumping unit as manufactured by Bell & Gossett.
   1. Steel receiver
   2. Boiler feed pumps as scheduled
   3. Low water cutoff
   4. Water make up assembly
   5. Pump Control Panel

1.2 REFERENCES

A. HI – Hydraulic Institute
B. NEMA – National Electric Manufacturers 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 manufacturer 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 CMED-eSV™
   2. Pre-approved equal

2.2 COMPONENTS

B. BOILER FEED RECEIVER
   1. Receiver shall be horizontal welded steel construction.
   2. Receiver heads shall be convex (dished).
   3. Head and shell thickness shall be a minimum of 3/16" (5mm) as indicated on the drawings.
   4. Receiver shall have a net working capacity of not less than that shown on the drawings.
   5. Receiver shall have an inlet, vent and an overflow opening to provide means of secondary venting.
   6. Receiver shall be elevated 30" (762mm) on a fabricated steel base.
   7. Receiver shall be sized for a minimum 10 minutes net storage.
   8. Receiver shall be furnished with:
      a. (1) Inlet cascade baffle
      b. (1) Dial thermometer
      c. (1) Water level gauge glass.
      d. (1) Low water cutoff switch
      e. (1) Suction isolation valve shall be installed between each pump suction and receiver to permit servicing of the pumps without draining the receiver.
      f. (2) Lifting eye bolts
      g. Companion Flanges
      h. (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 PUMP
   1. The water pump shall be multi-staged, centrifugal design, stainless steel pump with all metal parts in contact with pump liquid made of stainless steel, permanently aligned and flanged mounted for vertical operation.
   2. Capacities and electrical characteristics for the pump shall be scheduled on the drawings.
   3. Each pump shall be sized for 2 times the boiler evaporation rate.
   4. Each pump shall be close-coupled to a 3500 rpm, vertical, drip-proof NEMA TC motor and shall deliver its full capacity with condensate temperatures up to specified temperatures at sea level.
   5. Mechanical seal shall be carbon/silicon carbide/viton/ with stainless steel metal components and shall be rated to 40bar/250°F (121°C).

Domestic® Series CMED-eSV™ Boiler Feed Unit – (Continued)

B. WATER PUMP - (Continued)

6. Each pump shall include:
   a. Pumps up to 60 gpm shall be low bearing thrust by design. Pumps above 60 gpm shall have axial load compensation system on pumps with higher head to insure reduced axial thrusts.
   b. Seal housing chamber designed to prevent the accumulation of air in the critical area next to the mechanical seal.
   c. Mechanical seal according to EN 12756 (ex DIN 24960) and ISO 3069
   d. Stainless steel shaft
   e. Pumps 90 gpm and larger include standard suction and discharge gauge port tapping
   f. Drain tapping
   g. ANSI Flanges that can be coupled with ANSI raised face counter flanges

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
2. The valve shall be packless, piston pilot operated type with cushioned closing feature and epoxy resin molded water proof coil.
3. The valve shall be equipped with a strainer, and a manual bypass shall be provided around the valve.

D. CONTROL PANEL

1. The control panel shall be a mounted and wired NEMA 2 control cabinet with drip lip and piano hinged door enclosing the following:
   a. (1) Combination magnetic contactor with adjustable thermal overloads with fused disconnect and cover interlock for each pump
   b. (1) "Auto-Off-Hand" selector switch for each pump
   c. (1) Numbered terminal strip
   d. (1) Fused control circuit transformer when the motor voltage exceeds 230 Volts
   e. (1) Pump running pilot light for each pump

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 manufacturer 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. Certified test report shall be provided by the factory.
I. Unit shall be a Domestic Series CMED-eSV™ as manufactured by Bell & Gossett, Morton Grove, IL

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Let's Solve Water

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