

**SPECIFICATIONS** Domestic Pump CU Simplex Condensate Unit

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Domestic® Series CU™

Simplex Condensate Unit

For up to 200°F (93.3°C)

Note: Optional accessories are in parentheses.

SECTION 232129

AUTOMATIC CONDENSATE PUMP UNITS

**PART 1 GENERAL**

1.01 SECTION INCLUDES

# Unit shall be a Domestic® automatic simplex condensate pumping unit, series CU™, as manufactured by Xylem Bell & Gossett®.

# Furnish and install an extended life pump with a capacity as indicated in the plans.

1.02 RELATED SECTIONS

1. Section 232223.13 - Electric - driven steam condensate pumps

B. Section 262716 - Electrical cabinets and enclosures

1.03 REFERENCES

1. HI - Hydraulic Institute.
2. ANSI - American National Standards Institute.
3. NEMA - National Electrical Manufacturers Association.
4. UL - Underwriters Laboratories.
5. ETL - Electrical Testing Laboratories.
6. CSA - Canadian Standards Association.
7. NEC - National Electric Codes.
8. ISO - International Standards Organization.
9. IEC - International Electrotechnical Commission.

1.04 SUBMITTALS

1. Submit data cover sheet.
2. Unit description sheet.
3. Dimensional print(s).
4. Sales bulletin.
5. Piping diagram(s).
6. Wiring diagram(s).
7. Installation, operation & maintenance manual.

1.05 QUALITY ASSURANCE

1. The manufacturer shall have a minimum of 30 years experience in the design and construction of condensate return equipment.
2. The pump 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.

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

# The unit shall be UL listed or recognized by Underwriters Laboratories, Inc. as a complete pumping package.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

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

1. Xylem Bell & Gossett Domestic series CU simplex.
2. Pre-approved equal.

2.02 COMPONENTS

## A. Condensate receiver

## The condensate receiver shall be underground style of fabricated steel, minimum 3/16” thick, epoxy coated inside and out.

1. The receiver shall offer maximum protection from corrosion and feature an inlet and a vent to prevent pressurization of receiver.
2. Receiver cover plate shall permit removal of the pump assembly without draining the receiver.
3. Receiver shall have an inlet centered 9 inches (229 mm) below cover plate.
4. The receiver shall be furnished with one externally adjustable, NEMA 1, float type control switch for pump control.
5. The receiver shall be sized for one-minute net storage based on the system return rate.

# Water pump

**Items in parentheses denote optional items.**

# The water pump shall be a series C35™ bronze fitted, centrifugal pump, flexible coupled to a 3500 RPM, vertical, drip-proof motor, permanently aligned, and flange mounted for vertical operation.

# The pump shall include:

# One cast Iron volute with:

# One discharge gauge port tapping.

# One drain tapping.

# One dynamically balanced enclosed bronze centrifugal impeller.

# One renewable bronze wearing ring.

# One stainless steel shaft and expansion joint at pump discharge.

# Carbon/ceramic/Buna N/stainless steel mechanical seal suitable for 250oF (121°C) operation that can be replaced without removing the pump from the receiver.

1. Thrust ball bearing, with single seal and provision for relubrication.

g. Carbon graphite, self-lubricating, lower sleeve bearing for abrasion and wear resistance.

# The pump shall be sized for two times the system return rate.

# The pump motor shall meet NEMA specifications and shall be the size, voltage, insulation class, duty rating and enclosure called for in the plans.

# Capacity and electrical characteristics for the pump shall be as scheduled on the drawings.

1. (Cast iron inlet basket strainer with vertical self-cleaning bronze screen and large dirt pocket for sediment collection. The screen shall be easily removable for cleaning, requiring no additional floor space for servicing. This option ships loose for field installation.)
2. (TEFC motors as required.)
3. (Consolitrol® NEMA 2, UL electrical panel mounted and wired with drip lip and piano hinged door is available with the following options:)
4. (NEMA 4 and NEMA 12 Electrical panel mounted and wired as required.)
5. (One magnetic starter with thermal overload protection. The starter may be provided with a disconnect device, either:)
6. (Fusible disconnect with cover interlock or)
7. (Circuit breaker type with cover interlock.)
8. (One fused control circuit transformer when the motor voltage exceeds 250V.)
9. (One “Auto-Off-Hand” selector switch.)
10. (One pump running pilot light.)
11. (One “Push to Test” button.)
12. (One numbered terminal strip.)
13. (One auxiliary contact on the magnetic starter normally open for remote monitoring of pump operation.)
14. (A removable control component mounting plate.)
15. (One elapsed time meter (UL).)
16. (An audible alarm to indicate water level conditions.)
17. (Audible alarm is available with or without silencing relay.)
18. (A separate tank mounted level switch should be provided with audible alarm.)
19. (Alarm may be provided with alarm light to provide visual indication of alarm condition.)
20. (Liquid tight or rigid conduit suitable for NEMA 2, NEMA 4 & NEMA 12 applications.)

**PART 3 EXECUTION**

* 1. INSTALLATION
1. Install equipment in accordance with manufacturer’s instructions.
2. 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.
3. All factory wiring shall be numbered for easy identification and the numbers shall coincide with those shown on the wiring diagram.
4. All interconnecting wiring between the pump controls and control panel shall be enclosed in liquid tight flexible conduit.
5. The unit shall be factory tested as a complete unit and the unit manufacturer shall furnish elementary and connection-wiring diagrams and piping diagrams. Installation and operation instructions shall also be provided.
6. The unit manufacturer shall furnish, mount on the unit and wire a NEMA 2 control cabinet with drip lip and piano hinged door.
7. The unit shall be shipped completely assembled.
8. The factory shall provide a certified test report.
9. Unit shall be a Domestic series CU simplex as manufactured by Xylem Bell & Gossett, Morton Grove, IL.

###### END OF SECTION

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