

## SECTION 23 22 16 {15121}

### STEAM AND CONDENSATE PIPING SPECIALTIES

#### {STEAM AND CONDENSATE PIPING SPECIALTIES}

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This section includes piping specialties associated with steam and steam condensate piping systems. Also included are fixed measuring devices installed to give local indication of conditions within HVAC systems.

Manufacturers listed in this section were identified as representative and not as an endorsement for meeting this specification. For additional product information, visit 4Specs at [www.4specs.com](http://www.4specs.com), ARCAT at [www.arcat.com](http://www.arcat.com), First Source at [www.reedfirstsource.com](http://www.reedfirstsource.com), SpecSource at [www.specsource.com](http://www.specsource.com), and Sweets Network at [products.construction.com](http://products.construction.com).

This section includes performance, proprietary, and descriptive type specifications. Edit to avoid conflicts among requirements.

Contact the CSRF Support Center at [supportcenter@csrf.org](mailto:supportcenter@csrf.org) to submit comments or suggestions for improvements to this specification. Visit the SPECTEXT web site at [www.spectext.com](http://www.spectext.com) for current product announcements.

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#### PART 1 GENERAL

##### 1.1 SUMMARY

###### A. Section Includes:

1. Flexible connectors.
2. Heat consumption meters.
3. Pressure gages.
4. Pressure gage taps.
5. Strainers.
6. Steam traps.
7. Steam air vents.
8. Flash tanks.
9. Pressure-reducing valves.
10. Steam safety valves.
11. Steam condensate meters.

###### B. Related Sections:

1. Section 23 22 13 - Steam and Condensate Heating Piping: Execution requirements for piping connections to products specified by this section.
2. Section 23 22 23 - Steam Condensate Pumps: Execution requirements for piping connections to products specified by this section.

###### C. Related Sections:

1. Section 15131 - Steam Condensate Pumps: Execution requirements for piping connections to products specified by this section.
2. Section 15181 - Steam and Condensate Heating Piping: Execution requirements for piping connections to products specified by this section.

## 1.2 REFERENCES

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List reference standards included within text of this section. Edit the following for Project conditions.

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- A. American Society of Mechanical Engineers:
  1. ASME B40.1 - Gauges - Pressure Indicating Dial Type - Elastic Element.
  2. ASME Section VIII - Boiler and Pressure Vessel Code - Pressure Vessels.
- B. ASTM International:
  1. ASTM A105/A105M - Standard Specification for Carbon Steel Forgings for Piping Applications.
  2. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
  3. ASTM A216/A216M - Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service.
  4. ASTM A395/A395M - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.
- C. Underwriters Laboratories Inc.:
  1. UL 393 - Indicating Pressure Gauges for Fire-Protection Service.
  2. UL 404 - Gauges, Indicating Pressure, for Compressed Gas Service.

## 1.3 PERFORMANCE REQUIREMENTS

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Use this article carefully; restrict statements to identify system performance requirements or function criteria only.

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- A. Steam Traps:
  1. Select to handle minimum of two times maximum condensate load of apparatus served.
  2. Pressure Differentials:
    - a. Low Pressure Systems (5 psi (34 kPa) and less): [1/4 psi (1.7 kPa)] [1/2 psi (3.4 kPa)].
    - b. Low Pressure Systems (15 psi (103 kPa) maximum): 2 psi (13.8 kPa).
    - c. Medium Pressure Steam (25 psi (172 kPa) maximum): 5 psi (34 kPa).
    - d. Medium Pressure Steam (40 psi (276 kPa) maximum): 10 psi (69 kPa).
    - e. Medium Pressure Steam (60 psi (414 kPa) maximum): 15 psi (103 kPa).
    - f. High Pressure Steam (100 psi (689 kPa) maximum): 30 psi (206 kPa).
    - g. High Pressure Steam (150 psi (1034 kPa) maximum): 40 psi (276 kPa).