	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 - Yale Design Standard Division: HVAC Standards	Section: 23 22 16 02 Steam Traps
		Date: 08/01/21
		Author: Office of Facilities
CC: Project Folder		

## PART 1 - INTRODUCTION

### 1.1 PURPOSE

- A. This section is intended to define the general installation and minimum product requirements for Steam Traps for both Building and Utility Systems.

## PART 2 - GENERAL DESIGN REQUIREMENTS AND MINIMUM PRODUCT REQUIREMENTS


### 2.1 STEAM TRAPS

#### A. General

1. Locate steam trap stations at all low points and in no case more than 500 feet apart. It is preferred that steam traps be located 300 feet apart.
2. Refer to Detail for typical piping details for steam trap stations and drip legs.
3. Provide steam trap stations and dirt legs on both sides of isolation valves where there is a potential that steam could be back fed from another source. There are many instances on campus where there are redundant feeds. If there is any question, ask Yale Utilities.
4. All steam traps shall be scheduled on drawings. Do not leave it up to the Contractor to select a steam trap.
5. All steam traps shall be numbered in a manner as designated by Yale Utilities for record keeping purposes associated with maintenance. The designation shall be per the most current Yale naming convention. The steam trap number shall be on a stainless-steel tag connected to the steam trap.

#### B. HPS and MPS Systems


1. Type: Thermostatic type with membrane regulator and built-in strainer with blowdown valve and built-in check valve.
  - a. Construction
    - 1) General: Traps shall be designed for 300 psig, 750-degree F. All stainless-steel internals.
    - 2) Body: ASTM A 105.
    - 3) Connections: Size of connection shall depend on the flow requirements. Type of connection shall be threaded.
  - b. Acceptable Manufacturers:
    - 1) Gestra (Flow Serve) Model MK 45-1, for HPS systems 50 psig and greater provide MK-1 with the following
      - a) Bk-45 Cover with name plate P/N 379157

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 - Yale Design Standard Division: HVAC Standards	Section: 23 22 16 02 Steam Traps
		Date: 08/01/21
		Author: Office of Facilities
CC: Project Folder		

- b) Bk-45 Regulator repair kit P/N375234
      - 2. Type: Inverted Bucket
        - a. Construction:
          - 1) General: The trap shall be of the inverted bucket type, fabricated from cast iron to ASTM A48 Cl. 30. The trap shall employ a simple free floating stainless steel valve mechanism with no fixed pivots and no valve or bucket guides. The discharge valve shall be so attached to the valve lever that it is free to rotate for even wear distribution, and the valve and seat of the trap shall be lapped together as a matched set to insure tight shutoff. The piping configuration for the trap shall be horizontal inline connections. The trap shall be in-line repairable without disturbing the piping.
          - 2) Connection: Type of connection shall be threaded.
        - b. Acceptable Manufacture(s):
          - 1) Armstrong Series and Model 811-250
- C. LPS System
  - 1. Type: F&T
  - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product by one of the following:
    - a. Armstrong International, Inc.
    - b. Gestra
  - 3. Body and Cap: Cast iron.
  - 4. End Connections: Threaded.
  - 5. Head and Seat: Stainless steel.
  - 6. Valve Retainer, Lever, and Guide Pin Assembly: Stainless steel.
  - 7. Bucket: Stainless steel and trim.
  - 8. Strainer: Integral stainless-steel inlet strainer within the trap body.
  - 9. Air Vent: Stainless-steel thermostatic vent.
  - 10. Pressure Rating: 250 psig

## 2.2 DRAINAGE AND VENTING

- A. Drainage of low points in steam piping shall be through the drip leg of the steam trap station. Provide 2" shut-off valves with screwed caps at all drip legs and at all low points in main trap return pipes and pumped condensate return mains.
- B. Provide 1" shut-off valves with a screwed cap at all high points in steam and condensate piping.

	<b>Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL</b> Chapter: 01 - Yale Design Standard Division: HVAC Standards	Section: 23 22 16 02 Steam Traps
		Date: 08/01/21
		Author: Office of Facilities
CC: Project Folder		

Date	Description of Change	Pages / Sections Modified	ID
6/15/16	Entire document	-	mlamore
08/01/21	Add modification for Gestra MK-1 steam trap, added as an approved Armstrong	-	mlamore