

SECTION 15033 - AUTOMATIC BACKWASH STRAINERS

City of San Diego, CWP Guidelines

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing automatic backwash strainers as indicated

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.
 - 1. Section 11000 Equipment General Provisions
 - 2. Divisions 2 and 15, as applicable

PART 2 - PRODUCTS

2.1 AUTOMATIC BACKWASH STRAINER

- A. **Equipment Requirements:** The strainer and appurtenances shall be a motorized, automatic, self cleaning unit complete with a backwash control system consisting of backwash valve and control timer, differential pressure switch, and local control panel. It shall be capable of handling the liquid material shown in the schedule at the flow rates and pressure drops indicated.
- B. **Construction:** The body and cover, containing the straining element cages or tubes, shall be of epoxy lined cast iron or fabricated steel construction suitable for a working pressure of 125 psig minimum. The body shall contain a rotating cast iron drum with removable conical straining elements, or a stationary convoluted cage, or a series of straining tubes. The strainer shall have a single backwash connection on the bottom or side of the vessel. The strainer shall be provided with support legs adequate for the wet weight. Inlet and outlet connections shall be flanged.
- C. The media shall be backwashed by a vertical backwash slot in the body or with a rotating backwash arm with replaceable port shoes. The port shoes shall have a close running fit with the media support cage or tubes but shall not contact the cage. The backwash arm shall be supported at the top by an externally mounted antifricition bearing and at the bottom by a water-lubricated bearing. The rotating drum or backwash arm shall be driven by a heavy duty double reduction gear motor []-hp, []-volt, []-phase, 60-Hz.
- D. The straining media shall be made of stainless steel or monel, and shall be easily changed via an inspection opening in the body. Three different sets of straining media for screens with mesh sizes of [], [], and [] shall be provided. Total open area of the straining media shall not be less than 3 times the inlet pipe area.
- E. **Controls:** A backwash control timer, differential pressure switch and control, and an electrically operated backwash control valve shall be provided to control the quantity of

backwash flow. The timer shall actuate the control valve to allow passage of the backwash flow for a preset time interval. The timer shall have a 10-minute cycle time and an adjustable "on" period from 0 to 100 percent. The pressure control shall override the timer control and actuate the backwash valve in the event of high differential pressure. The pressure control shall be adjustable and provided with a contact for wiring to an alarm circuit sensing high system pressure. The timer and controls shall be mounted inside a NEMA [] enclosure.

F. Schedule of Automatic Strainers:

<u>Ident. No.</u>	<u>Service</u>	<u>Pipe Size (in)</u>	<u>Max. Flow (gpm)</u>	<u>Drain Size (in)</u>	<u>Oper. Press. (psig)</u>	<u>Max. Clean Water Press. Drop (psig)</u>
[]	[]	[]	[]	[]	[]	[]

2.2 NAMEPLATES, TOOLS AND SPARE PARTS

A. The WORK includes the following spare parts:

1. 2 sets of all washers, gaskets, and O-rings.
2. 2 sets of all seals.
3. 1 set of all strainer baskets or elements.
4. 2 sets of all bearings.
5. 1 differential pressure switch.
6. 1 timer.

2.3 MANUFACTURERS

A. Automatic backwash strainers of the type indicated shall be manufactured by one of the following (or equal):

1. S. P. Kinney Engineers, Inc.
2. Hayward Strainers, Inc.

PART 3 - EXECUTION

3.1 INSTALLATION

NTS: Make sure that the mechanical drawings show the floor drain and drainage piping required below.

A. Automatic strainers shall be installed in accordance with the manufacturer's printed recommendations and as indicated. There shall be sufficient clearance and working space around the strainers for cleaning purposes and a floor drain or floor sink shall be installed at the strainer for cleaning and draining of the equipment.

- B. Support legs shall be bolted to the concrete floor or support pad for the strainer. Sufficient clearance shall be provided to accommodate the drain valve and pipe, and permit easy maintenance.

** END OF SECTION **