Self-Cleaning Strainers

GENERAL
SERVICE APPLICATION: ________________________________
MARKET CODE: (CHECK ONE)
☐ INDUSTRIAL  ☐ MUNICIPAL  ☐ POWER  ☐ PETROLEUM
LIQUID TO BE STRAINED: ________________________________
SPECIFIC GRAVITY ___, VISCOSITY (CPS/SSU) ___, TEMP. (°F) ___

FLOW CONDITIONS
FLOW (GPM): ___, MAXIMUM ___, MINIMUM ___, VEL (FT./SEC) ___
OPERATING PRESSURE (PSI): ___, NORMAL ___, DESIGN ___, MINIMUM ___
OPERATING TEMPERATURE (°F): ___, NORMAL ___, DESIGN ___, MINIMUM ___
MAX. ALLOWABLE PRESS. DROP (PSI) CLEAN ___, DIRTY ___

CONTAMINANT
SOLIDS TO BE REMOVED: ___, ☐ HARD  ☐ SOFT  ☐ STICKY  ☐ FIBROUS
SOLIDS CONCENTRATION: ___PPM, ___%WT, _______% VOLUME
PARTICLE SIZE: ___ MICRONS OR ___ INCHES
ELEMENT: ☐ PERFORATED  ☐ MESH  ☐ DURAWEDGE® ELEMENT

STRAINER CONSTRUCTION
MODEL 2596: ☐ CAST DUCTILE  ☐ FAB STEEL  ☐ FAB STAINLESS
MODEL 596: ☐ CAST IRON  ☐ CAST STEEL  ☐ CAST STAINLESS
☐ CAST BRONZE  ☐ FAB STEEL  ☐ FAB STAINLESS
PIPELINE SIZE (INCHES): _______
END CONNECTIONS: ☐ FLANGED  ☐ 125#  ☐ 150#  ☐ OTHER ________

MOTOR
FRAME: ☐ TEFC  ☐ TENV  ☐ OTHER _____________
POWER SUPPLY: 120V, 1 PH, 60 Hz  ☐ 230/460 V, 3 PH, 60 Hz, ☐ OTHER _____________
SPECIAL COMMENTS: ________________________________

CONTROL PACKAGE
TYPE: ☐ ACS-1  ☐ ACS-2  ☐ ACS-3
SPECIAL REQUIREMENTS OR OPTIONS: ________________________________

SUBMITTALS (CHECK IF REQUIRED)
☐ APPROVAL PRINTS  ☐ CERTIFIED PRINTS  ☐ CHEMICAL/PHYSICAL CERTIFICATIONS
☐ HYDRO TEST REPORTS  ☐ OTHER_________________________

OTHER SPECIFICATIONS/REQUIREMENTS: ________________________________
Design
1. The Automatic Self-Cleaning Strainer shall be a Eaton Strain-O-Matic® Model 596 or 2596.

2. Strainer Design Parameters:
   Strainer Inlet Size _____ in.
   Flow Rate___________ GPM
   Working Pressure _________ PSI (Min. 20 PSI)
   Design Pressure _________ PSI
   Design Temperature _________°F
   Max. Allowable Pressure Drop ______ PSID
   Solids Loading ______ PPM

   Design shall be in general accordance with ANSI and ASME Sec. VIII Division 1.

3. For ease of maintenance the strainer shall be designed so the entire operating assembly, motor, gear reducer, cover, backwash arm assembly, bearing housing and element lift from the strainer body as a complete unit.

4. For backwashing efficiency the entire open area of the backwash port opening shall be in close proximity to the full length of the screen section being backwashed. Additionally, the entire backwash arm shall have a full-flow opening throughout the entire passage to the backwash piping. The backwash arm shall not contact or scrape the screen at any point.

Screen Element
1. Media Design parameters (check one):
   Type:
   ___ DuraWedge media (vee-shaped profile wire)
   ___ Convoluted
   ___ Convoluted Sinterbonded

   Opening Size:
   Inches ___, Mesh Equivalent ___, Microns ___

2. The element shall be a one-piece cartridge design for ease of removal and cleaning.

3. The element shall have stainless steel “cap rings” at both ends to prevent bypass of dirty fluid. Reinforcing circumferential bands shall also be provided for structural strength.

Materials of Construction
The strainer body shall be (iron, carbon steel, stainless steel, bronze) and shall be appropriate for the service conditions.

   All components shall be of ASTM designed materials suitable for the service conditions and consistent with good engineering practice.

Control System
The system shall be capable of automatically controlling and monitoring the strainer’s operation.

The system shall have the following components.

   The motor shall be a low HP TEFC single-phase 110/220V or three-phase 230/460V with a gear reducer to drive the backwash shaft.

   A NEMA 4 control panel shall be furnished with three indicator lights (Power On, Backwash valve Open and High differential Pressure); a 3-position selector switch (Off-On-Auto) to control the backwashing cycle; and contacts for external alarm. (Motor starter and/or transformer are optional as specified).

   A diaphragm-type differential pressure switch is to be provided that shall be capable of initiating backwashing at a set differential pressure.

   An electrically actuated ball valve shall be provided to control the backwash flow.

Low Differential Pressure Model
For line pressures below 20 PSI or for suction service, specify Strain-O-Matic Strainer Model 596LDP (Low Differential Pressure) design.