

## SECTION 15158 - BYPASS ROTAMETERS

### City of San Diego, CWP Guidelines

#### PART 1 -- GENERAL

##### 1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing bypass rotameters to measure air flow rates for [influent channel agitation] [aerated grit chambers] complete with glass tube, orifice plate and all connections required for a complete operational system.

##### 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 15150 Meters, General

##### 1.3 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section:

- 1. ASTM A 276 Stainless and Heat-Resisting Steel Bars and Shapes

##### 1.4 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with Section 01300:

- 1. Capacity in scfm for each size unit.
- 2. Accuracy for each size unit.

#### PART 2 -- PRODUCTS

##### 2.1 GENERAL

- A. All bypass rotameters shall be the end products of a single manufacturer and guaranteed for performance by the manufacturer. Bypass rotameters shall be provided with an orifice plate and mounting flanges, for insertion into the main pipeline; bypass piping with fittings and valves; a range orifice for insertion into the bypass pipeline; and a glass tube with scale to indicate the flow rate. The entire rotameter package shall be factory assembled.
- B. Orifice plates shall be placed between 300-lb steel flanges complying with ANSI B16.1.

##### 2.2 SERVICE CONDITIONS

- A. The rotameters shall be designed for the following service conditions:

- 1. Type of fluid - Air

2. Air pressure downstream of rotameter, psig - [7.0 to 8.0]
3. Operating air temperature range - [160 degrees F to 230 degrees F]

## 2.3 PERFORMANCE REQUIREMENTS

A. The rotameters shall meet the following performance requirements:

1. Main air line pipe diameter, in. - [3]
2. Maximum differential pressure, inches of water - [25]
3. Air flow rate through rotameter, scfm - [60 to 300]
4. Maximum pressure loss at operating condition, inches of water - [15]
5. Accuracy, percent of full scale - [3]

## 2.4 MATERIAL

A. Products shall be manufactured using the following materials:

1. Windows - Safety glass
2. Window frames - ASTM A 276, Type 316 stainless steel
3. End fittings - ASTM A 276, Type 316 stainless steel
4. Meter tube - Borosilicate glass
5. Float - ASTM A 276, Type 316 stainless steel
6. Packing - Neoprene or Teflon
7. Bypass pipe, fittings and valves - ASTM A 276, Type 316 stainless steel
8. Orifice plate and mounting flanges - ASTM A 276, Type 316 stainless steel

## 2.5 MANUFACTURERS

A. Products shall be manufactured by the following (or equal):

1. Wallace & Tiernan [Bypass Glass Tube Varea-Meter]

## PART 3 -- EXECUTION

### 3.1 INSTALLATION

- A. The bypass rotameters shall be installed in accordance with the manufacturer's recommendations.

\*\* END OF SECTION \*\*