Badger Meter

Managing Water Loss in Commercial and Industrial Applications

1. Importance of Proper Sizing, Selection and Installation

Loss of utility revenue

- Undersized meter or improper installation may wear out prematurely, loose accuracy and require additional maintenance.
- Oversized meter may not measure low flows accurately.

Customer service issues

- Improper installation of a turbine or compound can under or over register flow

2. Understanding the User Profile

- Revenue rule: 80/20
- What is the anticipated max. and min. flow rate?
- What is the anticipated average flow rate?
- What is the average needed water pressure?

3. Important Terms

- **Operating range:** Range of operation from low flow to intermittent high flow where meter manufacturer guarantees an accuracy of +/- 1.5% or 98.5% - 101.5% (+/- 0.25% Mag Meter)
- **Maximum continuous duty:** High flow where meter can be run continuously, 24 hours/7 days a week
- **Extended low flow:** Low flow where meter manufacturer guarantees minimum accuracy normally down to 95%

4. Meter Type Comparison: 8" Meters

8" Meter Type	Operating Range	Max. Cont. Duty	Extended Low
Propeller Meter	250 to 2,050 GPM	1650 GPM	190 GPM
Turbine Meter	30 to 4,500 GPM	3500 GPM	20 GPM
Combo Meter	2 1/2 to 4,500 GPM	3500 GPM	1 1/4 GPM
Mag Meter	20 to 5,975 GPM	N/A	16 GPM

5. General Rule of Thumb

Compound Meters → APPLICATION → Where people live

Turbo Meters → APPLICATION → Where people work or play

6. Compound Flow Percentage

Provides valuable user profile information for utility:

- High Flow + Low Flow = Total Flow
- (Low Flow/Total Flow) x 100 = Low Flow Percent
- Example: (12,000/144,000) x 100 = 8.3% Low Flow

7. Meter Selection Guidelines

- 5% or less of the total on the low flow totalizer
  - ***Change to Turbo Meter***
- 10-25% of total flow on the low flow totalizer
  - ***Proper size and selection for Compound***
- More than 25% of total on the low flow totalizer
  - ***Consider Disc Meter***

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Flow Measurement Solutions