

## Technical Specifications for 25mm (1" $\phi$ ) Water Meter

*Specification Required*

I. The water meter shall measure water inclose conduit pipes conforming to ISO 4064.	Required
II. Meter Size: 25mm $\phi$ (1" $\phi$ ) Nominal Diameter.	Required
III. Maximum Rated Capacity: $Q_{max} \geq 7 \text{ m}^3/\text{hr}$	$\geq 7 \text{ m}^3/\text{hr}$
IV. Nominal Capacity for Continued Duty: $Q_n \geq 3.5 \text{ m}^3/\text{hr}$	$\geq 3.5 \text{ m}^3/\text{hr}$
V. Transitional Flow: $Q_t \leq 0.28 \text{ m}^3/\text{hr}$	$\leq 0.28 \text{ m}^3/\text{hr}$
VI. Minimum Flow: $Q_{min} \leq 80 \text{ liters/hr}$	$\leq 0.08 \text{ m}^3/\text{hr}$
VII. General Features:	
a. Vane wheel type	Required
b. Dry Dial	Required
c. Magnetic Drive	Required
d. Threaded ends with tail pieces	Required
e. Sealed from tampering and resealable using #22 magnetic wire	Required
f. Leak Detector Star - The meter shall be provided with a leak detector "start" to indicate meter the smallest movement of water inside the meter.	Required
g. Register Colors - Cubic meter members in the registers' readings shall be indicated with black color and fractions thereof shall be indicated by red color.	Required
h. Straight Reading - The meter shall read in cubic meters and fractions thereof. The minimum smallest readable volume shall not be less than 1 liter.	Required
i. Adjustment Device - The meter shall be provided with an adjustment device which is used to correct between the relationships between the volume indicated and the volume passing through the meter.	Required
j. Strainers - The meter shall provided with an internal strainer or filter placed upstream of the measuring element.	Required
VIII. Metrological Classification: Shall be be on par or better than what is given the table below.	
1. Maximum Rated Capacity $Q_{max}$ Allowable Error = $\pm 2\%$	$\geq 7 \text{ m}^3/\text{hr}$
2. Permanent Flow $Q_n$ Allowable Error = $\pm 2\%$	$\geq 3.5 \text{ m}^3/\text{hr}$
3. Transitional Flow $Q_t$ Allowable Error = $\pm 2\%$	$\leq 0.28 \text{ m}^3/\text{hr}$
4. Minimum Flow $Q_{min}$ Allowable Error = $\pm 5\%$	$\leq 0.08 \text{ m}^3/\text{hr}$
IX. Meter Overall Length: from flange end to flange end must not be less than 260mm with a tolerance of $\pm 5 \text{ mm}$ . With tail pieces the overall length from end to end shall be 375mm with a tolerance of $\pm 5 \text{ mm}$ .	$260 \pm 5 \text{ mm}$
X. Working Pressure:	150 psi or 10 bar
XI. Maximum Admissible Temperature: MAT $\geq 50^\circ\text{C}$	$\geq 50^\circ\text{C}$
XII. Markings on Meter:	
1. Meter make and brand	Required
2. Meter Serial number. This must be indelible and permanently attached to the meter's main body casing.	Required
3. Flow direction. This must be indelible also and permanenetly attached to the meter's main body casing.	Required

4. Meter nominal size.	Required
XIII. Meter Accessories	
2 Pieces tail pieces	Required
XIV. A Technical brochure of the meter shall be provided upon bidding. This shall include the following information.	
a. Metrological Classification including flow and accuracy at Qmax, Qt, Qmin.	Required
b. Maximum admissible temperature.	Required
c. Blow-up drawing of the meter including parts identification	Required
d. Meter dimensions	Required
XV. Manufacturer shall provide MCWD a written guarantee duly annotated and signed that spare parts for the meter shall be made available at a reasonable price for a period of at least 5 years from date of purchase.	Required
XVI. Manufacturer shall provide a blow-up drawing for the meter's parts with labels for easy identification and an approximate price for each part.	Required
XVII. MCWD shall inspect/test any or all of the meters for compliance to this specification. The manufacturer/vendor shall replace any meter found with defects or with any non-conformity to this specification free of charge.	Required
XVIII. Manufacturer shall be ISO 9001:2000 or 9001:2008 certified.	Required

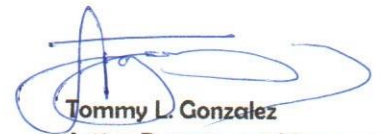
June 15, 2021

Prepared by:



Joseph Z. Caballes  
 Division Manager A  
 Meter Maintenance Division  
 Production Department

Noted by:



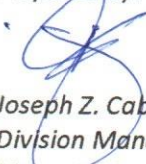
Tommy L. Gonzalez  
 Acting Department Manager  
 Production Department

## **TERMS OF REFERENCE**

### **SUPPLY AND DELIVERY OF BRAND NEW FLOWMETER 1"Ø**

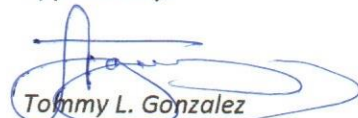
1. The bidder/vendor/supplier must have at least a minimum of 5 years in existence in the business.
2. Only water meters which have been tested by MCWD laboratory for at least 1 year (accuracy, endurance and pressure tests) and found satisfactory shall be considered during the evaluation.
3. The bidder/vendor/supplier must submit an original complete set of brochures and shop drawings and indicate the offered items for proper evaluation.
4. The bidder/vendor/supplier must have supplied for the last 2 years in existence, the same equipment required on the purchase request.
5. The bidder/vendor/supplier shall deliver the flowmeter equipment to MCWD Warehouse located at Nasipit, Talamban, Cebu City.
6. The bidder/vendor/supplier shall conduct a free orientation for the operation, its preventive maintenance and basic troubleshooting of the flowmeter to MCWD personnel involved in the operation and maintenance.
7. The bidder/vendor/supplier should replace any flowmeter found to be defective during and after conducting the final accuracy testing.
8. The bidder/vendor/supplier is a bonafide and authorized to bid from the manufacturer.
9. The bidder/vendor/supplier must submit or issue the following certification:
  - i.) Certificate to provide technical support for the supplied equipment even after the transaction was consummated.
  - ii.) Certificate of spare parts availability in the next 5 years period.
  - iii.) Certificate of warranty for a period of two years after the issuance of the Certificate of Acceptance.
10. MCWD has the exclusive right to deny or disqualify any bidder/vendor/supplier/manufacturer that has been found to have pending or unresolved technical issues specifically on 1"Ø flowmeter on their previous deliveries.

*Prepared by:*



*Joseph Z. Caballes  
Division Manager  
Meter Maintenance Division  
Production Department*

*Approved by:*



*Tommy L. Gonzalez  
Acting Department Manager  
Production Department*