SPECIFICATION FOR COLD WATER METER (CLASS B)

SPECIFICATION SAJ WM / CW / 002

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QUALITY ASSURANCE DEPARTMENT
RANHILL SAJ SDN. BHD.

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CONTENT Page

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1. GENERAL

a) Features required are as follows or otherwise the Specification of Meters For Cold Potable Meter MS 1417:1997 (Class B) and ISO 4064 for Cold Water Meter design, material and manufacture shall be used.

2. FEATURES REQUIRED

a) Meters shall be of the 'dry dial' type.
b) The Water Meter to be supplied shall comply with ISO 4064-1 as shown in Table 1.

Item	Class and Meter Size (mm dia.)	Nominal Flow Rate m3/h
	Class B	
1	150	150
2	200	250
3	250	400

c) The maximum permissible error in the lower and upper flow rate zone of true volume flow as follows:

Lower Flow Rate – ($Q_{min} \leq Q < Q_t$) is $\pm$ 5%

Upper Flow Rate – ($Q_t \leq Q < Q_{max}$) is $\pm$ 2%

d) The nominal pressure shall be PN 16.
e) Meter shall be provided with flanges.
f) Flanges shall be faced and drilled in accordance to BS4504: with rubber gaskets, bolts and nuts completely supplied.
g) In accordance with Clause 5 of BS 5728: Part 3: 1984, the measurement errors at three flow rates within the flow ranges as shown in table 2.
h) The pressure lost test shall be carried in accordance to Clause 7 of BS 5728: Part 3: 1984.
i) Color for all water meter shall be specified during purchasing.

				NOMINAL FLOW RATE Qn (m3/h)	150	200	250
				CLASS B	METER SIZE (MM)		
NO	FLOW RANGE	MAXIMUM PERMISSIBLE ERROR	LIMITS OF FLOW RANGE	>15	CLASS B		
					TEST FLOW RATES (m3/h)		
1	At Nominal Flow Rate	1%	Value of Qn	Qn	150	250	400
2	Upper Zone	1%	Value of Qmax	2 Qn	300	500	800
			Value of Qt	0.2 Qn	30	50	80
3	Lower Zone	3%	Value of Qt	0.2 Qn	30	50	80
			Value of Qmin	0.03 Qn	45	7.5	12

Table 2 – Determination Of Measurement Errors Of Water Meter

3. MATERIALS

Water Meter Type	Component	Materials	Reference	Grade or Designation (Minimum)
150mm & above	Body Cover	Ductile Iron	BS 2789 BS EN 1563 600/3	420/12 500/7
	Gasket	Rubber (EPDM)	MS 672:99 AS 1646 BS EN 681	66 – 75 IRHD
	Bolt	Carbon Steel Hot Dipped Galvanized	BS 970	-

4. TESTS AND INSPECTION

All Cold Water Meter shall be capable of complying with the requirements of the specification.

5. PACKING

All Water Meter shall be individually packed with proper methods and protected from damage during transit.

6. PRE – DELIVERY INSPECTION AND EVALUATION

a) It is the responsibility of the tenderer to inform SAJ for inspection purposes during manufacturing and before delivery.

b) SAJ reserve the right to inspect and witness the testing of product offered without any further notice.

c) At any time, when requested, the supplier shall provide SAJ a sample of the product offered for evaluation purposes. All costs shall be borne by the supplier.

d) If at any time the supplier fails to deliver the required sample, the product is deemed fail to meet the specifications.

7. CERTIFICATION

a) Manufacturer and/or supplier are required to provide a copy of the certificate and testing report from SIRIM, IKRAM or other recognized certification body.

b) Tests report required should be those tests conducted within a year period.

c) SAJ have the right to refuse offer or reject supply if the documents required are not enclosed.

8. MANDATORY MARKING

Each water meter shall be legibly marked in accordance with the following requirements.

a) Manufacturer's name or trademark;

b) The metrological class and nominal flow rate on of the meter in cubic meters per hour;

c) Year of manufacture (last two digits) and serial number;

d) An arrow indicating the direction flow

e) Maximum operating pressure (PN)

f) Color as specified