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No. ME/ 106 /4S-52/98 PT-VII Dated 06.05.2022

Notice Inviting Opinion

Interested Manufacturers/Authorized Distributors/Authorized Dealers of similar field are hereby requested to opine regarding the following specification of Multijet Class -B Domestic/ Commercial Water Metering System (size 15 mm to 25 mm) Strictly confirm to IS779-1994 (with all amendments) or MID with AMR compatibility within 21.05.2022 through e-mail to ce_medte@yahoo.com

Sl. No.	*Parameters*	*Specifications*
1	Meter size and overall dimensions	Nominal diameter of the meters shall be 15mm, 20mm & 25mm Meter threads, nominal flow rate, minimum length of threads on either side; overall dimensions shall be as per table 2 of IS 779-1994 or table 1 of ISO 4064 (Part 1)
2	Scope of Application	The meter will be used for the measurement of cold, chlorinated potable water.
3	Applicable Standards	The meter shall conform to both IS: 779-1994 and ISO: 4064 (Part 1) standards with latest Amendments. The meters would be supplied with **BIS / MID** Marked and **Certification from Weights and Measures (Metrological Control of Water Meters) Regulations, 2014, Government of India.**
4	Meter Type	The meters shall be: Multi-jet Inferential meters Super dry dial Hermitically sealed Class B, preferably 360 degree orientable totalizer.
5	Protection class	Should confirm to IP68
6	Accessories	The meter shall include the following accessories: o Two sets of Brass nut and Nipples. o The meter shall be supplied with a tubular strainer in the inlet of the water meter with holes not less than twice the area of nominal inlet bore of the pipeline to which it is fitted.
7	Flow rate	Minimum, maximum and transition flow shall be as per relevant standards.
8	Accuracy	The maximum permissible error in the metering accuracy of the meter, when determining as per IS 6784:1984 shall be as under; 1. In the lower region of flow [Qmin (inclusive) to Qt (exclusive)]- ± 5% 2. In the upper region of flow [Qt (inclusive) to Qmax (inclusive)]- ± 2%
9	Pressure and Temperature	Pressure and Temperature shall be in accordance with ISO 4064 class B and IS 779-1994 and its latest amendments.
10	Pressure Loss	The pressure loss shall be in accordance with ISO 4064 class B, or Clause 10.2 of IS 779-1994 and its latest amendments.
11	Seal	Sealing holes shall be provided and the meter shall be sealed in

		such a manner as to render it impossible to obtain access to the measuring units including registration box and cap without breaking the seal. The sealing wires shall be of rust free.
12	Material	All the materials used to construct / manufacture customer meters shall confirm to Appendix B of IS 779-1994 or clause 4.7 of ISO 4064 (Part 1) o Plastic used in the manufacture of various components listed under Annexure B shall satisfy all provisions as depicted under Clause No. 6.1.1 of IS 779-1994
13	Construction	• The meter shall be constructed as per Clause No 7 of IS 779-1994 or relevant clauses of ISO 4064 (Part 1). Each meter will be supplied with two cylindrical nipples or tail pieces with connecting nuts. Threads on the connection shall conform to latest version of IS 2643 (part 1 to 3) or ISO 228-1. All meters shall be supplied with an easily removable tubular inlet strainer. **The seal & Sealing wires shall be rust proof material.** • Meter size & overall dimension of meter shall conform to Clause No 9 of IS 779-1994 or relevant clauses of ISO 4064 (Part 1) • Connections: The meter casing shall be fitted in the pipeline by means of two cylindrical nipple or tail pieces with connecting nuts which shall be provided with each meter. • The theads on connections shall conform to IS 2643 (Part 1 to 3)-1975 • Impeller and Piston: Impelier and impeller shaft assembly shall rest on a self-lubricating bearing which has as low frictional resistance as possible. • Impeller chamber &Measuring Chamber: The impeller chamber and measuring chamber shall be rigid and shall not change its form as a result of internal stress or with use. • Dial: The dial shall be of vitreous enamel power coated on **copper ensuring** indestructible marking and good legibility. • Indicating Device: Indicating Device shall be able to record 9999 kl(min) for meter size up-to 25mm. The kilo litres and its multiple shall be indicated in black and sub multiple of kilo litres in red. For digital indicator, the visible displacement of all digits shall be upward in value. The unit symbol 'KILO LITRES' shall appear in the immediate vicinity of digital indications. • Frost Protection: Meter liable to damage by frost shall be suitable protected.
14	Mechanical Meter	The Totalizer and Totalizer shield:- o **The totalizer metal can mineral glass envelop,** shall be designed in such a way that if the totalizer protective glass is broken for a reason or another the totalizer cannot be removed from its place. The totalizer protective cover shall be made of sturdy glass and shall have a thickness of not less than 5mm. Sturdy glass is defined as the ability of the counter protection

		glass to withstand, without damage. Totalizer:- o It shall be of straight reading type. o The totalizer shall register in cubic meter units. o The totalizer shall consist of a row of minimum four on-line consecutive digits to read at least 9999 m3 as per ISO 4064/ IS 779-1994. o Another three digits or pointers shall register flows in litres and be of a red colour. o The totalizer or any part of it shall be capable of being repaired. o Metal can mineral glass envelop. o The totalizer should be of open type. o The totalizer must be suitable for test on an electronic test bench. o The protection class of the totalizer should be IP 68.
15	Indicating Device	The totalizer shall be designed in such a way that if the totalizer protective lens / material are broken from any reason, the totalizer cannot be removed from its place. It shall consist of a row of minimum four on-line consecutive digits to read at least 9999 KL as per IS 779-1994. It preferably be capable of 360 degree orientation for ease in reading.
16	Impeller and Impeller Chamber	The pivot of the impeller should be guaranted against any corrosion or damage for at least three years after the first installation. The impeller chamber shall be resistant to corrosion and it will confirm to IS779:1994/MID.
17	Resistance to Weather Conditions	Conformity to IS779-1994/MID
18	Test	The manufacturer must carried out all test as specified in Clause No. 12 of IS 779-1994 or relevant clauses of ISO 4064 (Part 1) or MID by a recognized testing authority. The Report of test shall be furnished in accordance with IS 6784-1984. However, the manufacturer / Supplier is liable carry out life Test as per Clause 12.4.4 of IS 779-1994 from any reputed testing authority like 'Fluid Control Research Institute' at his own cost from the lot of supplied meters. Lot size is to be determined on the basis of Table 4 of IS 779-1994. On the basis of Test Result, manufacturer / Supplier shall be liable to change defective meters or whole lots as the case may be at his own cost.
19	Marking	Each water meter shall be marked / embossed with the following information: 1. Manufacturer's name or Trade Mark. 2. Nominal size and class of water mater 3. Direction of flow of water on both sides of the body of water meter. 4. Year of manufacture and serial number 5. BIS / MID Certificate Marking
20	Check List	Each water meter shall be supplied with a check list giving below:

		1. Check that seal and serial no of the water meter is intact. 2. Check test certificate giving test results for pressure tightness, loss of pressure, metering accuracy and minimum starting flow. 3. Check that before installing meter the line is thoroughly flushed. 4. Check that the meter is installed according to the direction of flow marked on the meter. 5. Check that inferential meter is placed horizontally with dial upwards. 6. Check that the strainer of the meter is not removed, and 7. Check that the meter has been installed as recommended in the installation drawing, supplied with the check list.

06/05/2022

Chief Engineer, MED

No. ME/ 106/1-6 /1(10)/4S-52/98 PT-VII Dated 06.05.2022

Copy forwarded for information and wide circulation to:

1. *The CEO, KMDA*
2. *The Commissioner, KMC*
3. *The Mission Director, AMRUT, West Bengal*
4. *The Director, SUDA*
5. *Sri Joly Choudhury, Addl. Secretary, UD&MA Department*
6. *The Secretary, MED*

06/05/2022

Chief Engineer, MED