نموذج تقديم عطاء

السادة مصلحة مياه محافظة القدس المحترمين

الموضوع: توريد عدادات الكتروماجنتك وأجهزة قراءة

عطاء رقم 1145

(للمرة الثانية)

تحية طيبة وبعد

بالإشارة الى العطاء المذكور أعلاه نحن الموقعين ادناه

* شـــركـــــة : _____
* عـنـــــــوان : _____
* جـــــــوال : _____
* هاتـــــــف : _____
* فـاكـــــــس : _____
* بريد الكترونـي : _____

يسرنا ان نتقدم للعطاء المذكور بتكلفة اجمالية مقدارها (بالأرقام)_____ بالكلمات (_____ شيكل) شامل ضريبة القيمة المضافة وذلك حسب جدول الكميات والمواصفات المرفقة مع التزامنا بكافة الشروط والمواصفات المرفقة.

اســـم الشركـــة : _____

المفوض بالتوقيع : _____

التـــاريـــــخ : _____

الرقـــم : عطاء 1145

التاريخ : 2025/02/23

السادة: _____ المحترمين

الموضوع: توريد عدادات الكتروماجنتك وأجهزة قراءة

عطاء رقم 1145

(للمرة الثانية)

تحية طيبة وبعد،

تعلن مصلحة مياه محافظة القدس عن طـرح عطاء لتوريد عدادات الكتروماجنتك وأجهزة قراءة.

يرجى في حال رغبتكم بالمشاركة، تقديم عرض أسعار العدادات وأجهزة القراءة المرفقة مواصفاتها في الجدول ادناه، وذلك في موعدٍ أقصاه تمام **الساعة الثانية** من ظهر يوم **الخميس** الموافق **2025/03/06** وفقاً للشروط والملاحظات التاليّة:

- **الشروط العامة:**

1. ترسل عروض الأسعار باستخدام النموذج المعدّ لذلك (المرفق بوثائق العطاء) مع مراعاة جميع الشروط الواردة في وثائق العطاء.
2. تكون العروض المرسلة صالحة لمدة 90 يوماً من تاريخ الموعد النهائي لاستلامها.
3. يتم تعبئة الأسعار على نفس جدول الكميات والأسعار المرفق، وتكون الأسعار غير قابلة للتعديل أو التغيير.
4. يتم ذكر سعر الوحدة لكل بند من اللوازم (المواد المطلوبة) وذكر السعر الكلي، وفي حال وجود اختلاف بينهما فسيتم اعتماد سعر الوحدة.
5. يتم كتابة الأسعار بالحبر وعدم استعمال التيبكس، وفي حال تم تعديل الأسعار من قبلكم يجب شطب السعر المراد تعديله والتوقيع بجانبه حسب الأصول.
6. السعر لا يشمل ضريبة القيمة المضافة، ويجب ذكرها في بند مستقل.
7. يتم إرفاق كفالة دخول عطاء على شكل شيك بنكي مصدق أو كفالة بنكيّة **(باللغة العربية أو الإنجليزيّة فقط)** لا تقل قيمتها عن 5% من قيمة العطاء ولا تقبل الشيكات الشخصيّة أو النقد **على أن تكون كفالة دخول**

العطاء ساريّة المفعول لمدة 90 يوماً من الموعد النهائي لتسليم العطاء إلى المصلحة ولن يتم النظر في أي عطاء يرد دون كفالة العطاء مطابقة لما ذكر آنفاً.

8. تسلم جميع وثائق العطاء (عروض الأسعار) إلى الدائرة الإداريّة – مصلحة مياه محافظة القدس مختومة وموقعة كما يجب في مغلف مغلق، ومغلف خاص بكفالة دخول العطاء، يتم وضع جميع هذه المغلفات في ظرف مغلق موقع ومختوم حسب الأصول يكتب عليه اسم العطاء ورقمه، اسم المورّد وتاريخ التسليم، ولن ينظر في أيّ عطاءٍ يرد بعد هذا الموعد.
9. على المورد المحال عليه العطاء تقديم كفالة حسن تنفيذ كفالة بنكيّة أو شيك بنكي مصدق باللغة العربية أو الإنجليزيّة فقط (ولا يقبل النقد أو الشيكات الشخصية) لا تقل عن نسبة 10% من قيمة العطاء الذي أحيل عليه خلال 5 أيام من تاريخ الإحالة صالحة لمدة **ستة أشهر**.
10. على المورد المحال عليه العطاء تقديم كفالة صيانة كفالة بنكيّة أو شيك بنكي مصدق باللغة العربية أو الإنجليزيّة فقط (ولا يقبل النقد أو الشيكات الشخصية) لا تقل عن نسبة 10% من قيمة العطاء الذي أحيل عليه صالحة لمدة **سنتين** من تاريخ الاستلام النهائي.
11. يحق للمصلحة مصادرة كفالة دخول العطاء لأي مورّد يقوم بسحب عطائه بعد الموعد النهائي لاستلام العطاءات وقبل انقضاء مدة صلاحية العطاء (90 يوم) كما يحقّ للمصلحة مصادرة كفالة دخول العطاء لأيّ مورّد يحال عليه العطاء والتعاقد مع المورّد الذي يليه مرتبة في حالة عدم تزويد المصلحة بكفالة حسن تنفيذ خلال الفترة المحددة لذلك.
12. تعاد كفالة دخول العطاء إلى كلّ مورد لم يحالفه الحظ في إحالة العطاء، بعد إتمام كافة إجراءات العطاء مع المورد الذي يفوز به.
13. يحق للمصلحة إلغاء العطاء جزئياً أو كلياً دون إبداء الأسباب.
14. المصلحة غير ملزمة بقبول أقل الأسعار.
15. لا تتحمل المصلحة أية تكاليف في إعداد العطاء أو عند إلغائه.
16. لا يتم دفع أية دفعات تحت الحساب أو دفعات جزئيّة (ولو مقابل كفالة بنكية)، ويتم الدفع فقط بعد توريد كافة بنود العطاء المحالة على المورد واستلامها حسب الأصول.
17. يتم استلام وتسليم وثائق العطاء (عروض الأسعار) في الدائرة الإداريّة / مصلحة مياه محافظة القدس والكائنة في شارع المعاهد خلال أوقات الدوام الرسميّة*.
18. يجب على المورد تحديد مدة التوريد لمستودعات المصلحة.

19. يتم تسليم المواد المطلوبة في مستودعات المصلحة خلال المدة المحددة من قبل المورد، وفي حالة لم يتم الالتزام بذلك سيتم مصادرة كفالة حسن التنفيذ **و/أو تغريم** المورد 300 شيكل (ثلاثمائة شيكل) مقابل كل يوم تأخير غير مبرر.

20. يجب ان تكون الاسعار المقدمة بالشيكل شاملة كافة الضرائب والتوصيل للموقع المذكور أعلاه.

21. سيتم صرف مستحقات المورد عن المواد التي يتم توريدها خلال مدة لا تتجاوز شهراً واحداً بعد:

أ) استلام المواد حسب الأصول وبشكل نهائي من قبل الجهة المخولة بذلك داخل المصلحة.

ب) استلام الفواتير الضريبية أو خصم المصدر (إذا لزم الأمر) من المورد حسب الأصول والأنظمة المعتمدة وتزويد المصلحة بشهادة خصم مصدر سارية المفعول.

ت) في حال عدم تزويد المصلحة بشهادة خصم مصدر يتم اقتطاع بدل خصم من المصدر حسب النسب المحددة في قانون ضريبة الدخل المعمول به في دولة فلسطين.

22. لا يتم تحرير الدفعة إلا بعد التأكد من عدم مديونية المورد لصالح المصلحة (حساب المياه، الصرف الصحي، المطالبات، المخالفات ... الخ) وفي حال وجود مستحقات مالية يجب تحصيلها قبل تحرير الدفعة او تقاصها مع الدفعة.

23. يجب ان تكون الكفالة بنفس عملة العطاء (الشيكل).

24. رسوم الإعلان في الصحف على من يرسو عليه العطاء.

25. معايير التقييم مالية بشرط مطابقة العروض للمواصفات الفنية المطلوبة.

وتفضلوا بقبول فائق الاحترام ،،،،

عبد الخالق الكرمي

المـديــر العـــام

* **ملاحظة** : أوقات الدوام الرسميّة من يوم السبت وحتى يوم الخميس من الساعة الثامنة صباحاً وحتى الساعة الثانية بعد الظهر.

إقرار بالموافقة على الشروط الواردة في وثيقة

الموضوع: توريد عدادات الكتروماجنتك

عطاء رقم 1145

أنا الموقع إسمي أدناه عن شركة _____ أقر أنني تسلمت كامل وثائق عطاء توريد عدادات الكتروماجنتك عطاء رقم (1145)، وأوافق على جميع الشروط والملاحظات المذكورة في وثائق العطاء دون أيّ تحفّظ. وأقر أن الأسعار التي سأتقدم بها هي من اجل توريد المواد المطلوبة في العطاء المذكور.

_____	_____	_____
اسم الشركة واسم ممثّلها	التوقيع والختم	التاريخ

المواصفات الفنية لعطاء رقم (1145)

توريد عدادات الكترو ماجنتك

1- 1/2” Electro Magnetic House Meters.

I. General:

All water meters and accessories supplied under this Contract must be of first quality, free from scale, lamination, honeycombs and other defects, and shall be designed to withstand the stated pressures and temperatures.

The Contract shall include the supply, delivery to and unloading into the end user warehouse, of all water meters and accessories. Delivery and unloading shall take place within the working hours of the JWU.

All water meters and accessories shall belong to a class, which can withstand the maximum pressure specified and they will attain in service including any surge pressure.

The ends of water meters to accommodate couplings shall be faced and sized to the tolerances recommended by the manufacturer of the coupling.
Couplings (tail pieces) shall be provided with gaskets to give a true angle of 180° to the center line of the coupling or fitting.

Before being dispatched from the place of manufacture the ends of the water meters, shall be suitably capped and covered to prevent any accumulation of dirt or damage.

1. General Description of Water Meter and Network Conditions

1.1. Water Meters at House Connections

Most of house connections are 1 or 2 inch galvanized steel pipe equipped with strainer and ball valve and then reduced to ½” at the upstream of the meter and as well as on the downstream side. In general, two valves (upstream and downstream of meter) are installed, the house connections have a length of (1-10) m connected with the main distribution line.

The continuation of network behind the meter is up to the customer decision because this is private property of the customer. The length of these “networks” reaches 7 - 15 m in average. In most cases, the diameter of pipes installed is ½”. Due to the small diameter and bigger length, the flow in general is reduced by friction losses.

1.2 Ambient Conditions

All the water meters and accessories shall be in every respect suitable for storage, installation, use and operation in the conditions of temperature, humidity, the pH and water quality appertaining in Palestine. The water Meters must work and withstand in temperature ranges -10°C to 60°C.

1.3 Working Pressure

The water meters shall be able to withstand a working pressure not less than16 Bars.

1.4 Water Meter and Accessories Length

The meter body length shall be 110 mm, and total length of meter (body and tail pieces) shall be 190 mm.

2. Reference to Standards

In general, ISO or EN standards shall be applied. Reference to any other national standard or publication in these Specifications is intended to indicate general configuration, type and quality only.

The following general standards shall apply in addition to those specially indicated in the other chapters of the Technical Specifications.

Standard	Description
ISO 4064-1 - 2014	Measurement of water flow in closed conduits – Meters for cold potable water –Metrological and technical requirements
ISO 4064-2 - 2014	Measurement of water flow in closed conduits – Meters for cold potable water – Test methods
ISO 4064-3 - 2014	Measurement of water flow in closed conduits – Meters for cold potable water – Test report format

All supplied water meters shall conform to the latest version of OIML R49- Standard

3. Applicable Materials

Only the best quality and type of materials shall be used, which shall be suitable for the purpose intended. Unless otherwise specified, materials shall be selected by the Supplier but subject to JWU's approval.

The materials shall be approved both mechanically and chemically to the operating

conditions. In connecting units, they shall be mechanically, chemically and electro- chemically compatible with one another and with the environment.

Materials shall be selected to have adequate resistance against abrasion and corrosion, where necessary protective coating and lining shall be applied.

Materials in contact with water shall be non-toxic and shall not affect the quality of water. The Supplier shall provide an analysis of the materials of manufacturer when requested to do so by the JWU's representative.

For certain items specific materials are required as nominated in these specifications in such case, no alternative material will be accepted.

4. Marking

Each meter shall be marked on the casing or display with the following information:

- At least one arrow to indicate the direction of flow.
- Nominal thread size
- Permanent flow rate
- Working Pressure
- Model identification
- Year of manufacture
- Serial number
- Approval or registration number
- Manufacturer's name
- Initials of the end user Permanently affixed on the meter case.
- JWU logo.

In case not indicated differently the information shall be cast onto the body or en- graved on the lid or painted onto the counter housing or otherwise suitably marked.

5. Characteristic Flows

The range of measured flow rated is subdivided into different ranges, the limits being defined by the following characteristics:

Flow Rate, Q

Q = Quotient of the actual volume of water passing through the water meter and the time taken for this volume to pass through the water meter.

Starting Flow Rate, Q_{0+}

Q_{0+} = Starting flow rate; below this flow rate the register will not show any re- actions. (Increasing flow condition)

Minimum Flow Rate, Q_1

Q_1 = Lowest flowrate at which the water meter is required to operate within the maximum permissible error.

Transitional Flow Rate, Q_2

Q_2 = Flowrate which occurs between the permanent flowrate Q_3, and the minimum flowrate Q_1, that divides the flowrate range into two zones, the upper flowrate zone and the lower flowrate zone, each characterized by its own maximum permissible error.

Permanent Flow Rate, Q_3

Q_3 = Highest flowrate within the rated operating conditions, at which the water meter is required to operate in a satisfactory manner within the maximum permissible error. Flowrate is expressed in m^3/h or l/h.

Overload Flow Rate, Q_4

Q_4 = Highest flowrate at which a water meter is required to operate, for a short period of time, within its maximum permissible error, whilst maintaining its metrological performance when it is subsequently operated within its rated operating conditions.

Falling Flow Rate, Q_{0-} not in accordance with Recommendation OIML R49

Q_{0-} = Falling flow rate; below this flow rate the register will not show any further reaction. The meter stopped registering any flow. (Decreasing flow condition)

6. Third Party Inspection

The supplier is requested to provide in his technical offer three options for accredited international third-party companies; the JWU will choose one of them to perform the needed inspections.

The supplier is requested to call the chosen company to attend and witness the tests to be done at the manufacturer's testing premises or any place the manufacturer chooses.

The call for Third Party Company must include the main task of this company to ensure 100% complete matching between the product and what is required in tender/contract documents in terms of standards, specifications and conditions.
The course of inspection must include the following tests:

1. Static pressure test according to ISO 4064 clause 7.3, OIML R49

2. Error of indication according to ISO 4064 clause 7.4, OIML R49

3. Discontinuous flow durability according to ISO 4064, OIML R49

A sample (size specified in the table below) is to be randomly chosen by the third-party representative for the above-mentioned tests.

The tests must be witnessed by the third-party representative and attended by (2) two representatives of JWU.

Acceptance/rejection criteria for those tests

Test	Test Sample Size	Acceptance Criteria
Static pressure	0.5% of each production batch	98% of tested meters should pass the test
Error of indication	0.5% of each production batch	98% of tested meters should pass the test
Discontinuous flow durability	2pcs.	100 % of tested meters all meters should pass the test

The inspection will include visual inspection, testing the accuracy under rated operating conditions at zero- and 45-degrees rolling angle in addition to the magnetic effect.

Failure to achieve these criteria will result in rejecting the whole batch with the same sequence of serial numbers, and the supplier has to manufacture a new batch and all the above procedure will be repeated.

JWU has the right to object or reject the water meters at any stage of testing and inspection.

The supplier is requested to inform JWU in written letter of the production time schedule and of testing time, duration and location in advance allowing enough time (not less than 2 months) for travel arrangements.

The Supplier shall provide JWU with full reports and results of all tests performed during this inspection, for the performance tests specified above the report format should be according to Test Report Format OIML R 49-3.

JWU may require the Supplier to carry out any test and/or inspection not required by this Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications and standards under this Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to this Contract Price. Further, if such test and/or inspection impede the progress of manufacturing and/or the Supplier's performance of its other obligations under this Contract, due allowance will be made in respect of the delivery dates and completion dates and the other obligations so affected.

The third-party inspection tests certificates shall include the following stages:

- Testing at the factory
- Packing, And the kind of inspection:
- Review document
- Witness inspection at least (visual and tests) and the test certificates must show the results.
- Before dispatching the supplies another visual inspection shall be done in respect of proper packing and to certify the Bill of Lading for each shipment.

NOTE:

ALL COST TESTS BEFORE AND AFTER THIS ITEM AND WETHER LOCAL OR ABROAD SHALL BE BORNE BY THE SUPPLIER AND THE COSTS SHALL BE INCLUDED IN THE TENDER UNIT RATES.

7. Packing, Transport and Storage

- Each meter and its accessories should be supplied in separate individual box and packed in a captive form.
- Screwed threads of meter ends shall be protected
- Each meter shall be packed in a box containing 10 meters max.
- All meters shall be adequately protected for the whole period of transport and storage against corrosion and accidental damage. The vendor/manufacturer shall be held responsible for the water meters and ensure that it reaches THE END USER store intact and undamaged. Meters shall be packed to withstand rough handling during transportation and all packages shall be suitable for storage.
- All packages shall have an indelible identification mark corresponding to the packing list.
- Meters shall be protected from exposure to sun light and against the effect of windblown sand and humidity from place of manufacture until delivery to JWU warehouse in Ramallah-Palestine.

8. WARRANTY

In addition to what was mentioned in item 10 in the general conditions above, the bidder shall submit a factory warranty including:

1. Life time professional liability warranty for the performance (covered by a commitment letter from the bidder/ supplier and manufacturer) as per the following:
   a) At least 15 years for Electromagnetic water meters (battery included): Defected item/items, is/are to be replaced at a cost taking in account a depreciation of 1/15 of the defected item value per year, running from the year of supply.
   b) 10 years for the battery without taking in account any depreciation.

Defect item/items, is/are to be replaced free of any charge including cost of return delivery, customs, and taxes (if applicable)

- The battery life time should be guaranteed by the manufacturer from the date of

delivery, if the battery life expires before the provisioned life time the battery shall be replaced at no cost to the purchaser.

- Warranty shall cover the total cost Delivered at Place (DAP) and the cost of proper replacement and commissioning.
- The accuracy of the meter shall be guaranteed by the manufacturer from the date of delivery for the whole provisioned life time, if the meter's accuracy de- graded the meter shall be replaced at no cost to JWU, separate warranty documents shall be submitted upon delivery.
- All sensors (electrodes) shall be guaranteed from the supplier and manufacturers that it will not be affected by the water passes through it and will not affect the durability and stability of the meter; the water meters shall be guaran- teed against the water quality (solid particles, dirt's and sedimentation) that no layer will be formed on the electrodes and it will not affect the accuracy or stability of the water meter during the period of meters warranty.

9. Documents to be Provided Upon Delivery

The contractor shall submit at least the following documents:

- Certificate of origin
- Packing list
- Third Party inspection certificates

Any other documents requested by JWU and the hand over committee
All above documents must be valid and in English.

10.Traceability System

At the time of tender the manufacturer shall clearly mention the method by which he can keep records and trace of the manufactured water meters and accessories to ensure the capability of going back to the records for the manufactured items in case any problems occur after the installation.

11.Supply &Quality of Materials

All materials supplied shall be subject to JWU's approval as following:

- Approval of the "master list" provided by the Supplier for all supplies and certified by JWU prior to shipment
- Pre-shipment inspection and certified quality and quantity of the supplies must be approved including verification of all shipment documents. A pre- dispatch inspection by the third party shall be done in the factory prior to supply to JWU stores.
- Inspection and approval of all supplied materials on arrival on site, of quality and quantity by JWU's handing over committee. And these activities will not cancel any test deemed to be necessary to verify that the characteristics and performance of the goods comply with the technical specifications and standard under this contract.

All information and specifications relating to products and materials proposed for this Contract, must accompany each tender submission.

12.Handling and Transportation

The handling and transportation shall be on time and place determined and included in the presented Prices in accordance to the General conditions. And the handling and transportation shall be according to the manufacture guidelines.

III. Domestic Electromagnetic Water Meters

1. General

The Electromagnetic water meters have to comply respectively ISO 4064, OIML R 49.

The manufacturer must be ISO 9001:2008 series or equivalent certified.

Meters shall be designed for use in Mediterranean climate. Meters shall have a static design with no moving parts and mostly unrestricted flow conditions. In addition, following facts shall be met.

- Restricted to or hindered tampering
- Improved lime resistance
- Improved sand resistance or
- High resistance to impurities
- Register with protective cover
- Battery operated
- The water meter accuracy will not be affected by the effect of magnetic field or stray current.
- No calming section required
- Unaffected by solids and sediments contained in fluids
- Suitable for outdoor use
- Suitable for any position installation
- In-line meter, Compact version.
- Equipped for the use with AMR in future
- No measurement of air (working accurately even if the pipeline is not full)
- Protection class IP 68. **Certificate must be submitted with the offer.**
- Ability to store data minimum 3 months of hourly index data.

2. Dimensions

- Diameter: 15 mm, and 25 mm
- Total Length of meter shall be 110 mm, and the total length with unions (tail pieces) 190 mm

3. Specification

Specification	Criteria
Accuracy	± 0.5%
Nominal Pressure	Not less than 16 bars
Medium Electrical Conductivity	≥ 125 us/cm
Lining Material	Rubber, Polyurethane or better
Electrode Material	316L SS, Hastelloy B, or better
Sensor Body Material	Measuring tube: stainless steel or composite Housing: carbon steel or composite
Fluid Temperature	0.1 ~ 50 °C
Ambient Condition	-15 °C ~ +60 °C, Humidity ≤95%
Protection Class	IP68

4. Totalizer

The Electromagnetic water meter shall be equipped with LED, LCD or comparable kind of display showing at least 5 + 4 or 6 + 3 readable digits.

The meter register shall have minimum 5 digits and maximum 9 digits and the unit of measurement shall be in cubic meters. There shall be minimum 3 decimals places 1/1000 cubic meter for verification and testing.

The meter shall incorporate devices for elimination of condensation, where there is a risk of condensation forming on the underside of the window of the register.

5. Accuracy

- Metrological class" 2 according to ISO 4064, OIML R49 Design shall secure that only correct signals passing through the measuring chamber/tube are measured.

- **½ Inch Water Meters:**

  Metrological class **(R ≥ 800, Q3 ≥ 2.5 m3/hr, Q1 ≤ 3.13 l/h)**, all meters must have MID approval **(R ≥ 800)** and declaration of conformity. (where all certificates and approval must be from an accredited third party). All meters to be delivered in the frame of the contract will be marked exactly as per the declared metrological class. Marking with lower ratio than declared is not allowed.

- **1 Inch Water Meters:**

  Metrological class **(R ≥ 800, Q3 ≥ 6.3 m3/hr, Q1 ≤ 7.88 l/h)**, all meters must have MID approval **(R ≥ 800)** and declaration of conformity. (where all certificates and approval must be from an accredited third party). All meters to be delivered in the frame of the contract will be marked exactly as per the declared metrological class. Marking with lower ratio than declared is not allowed.

- The water meter has to provide very high measuring accuracy, especially at low flow conditions. The volume measuring component must conform to the requirements OIML R49.
- The water meter shall be capable of registering low flow conditions according to table.
  - Start-up registration at Q_{0+}: ≤ 1 L/hr;
  - Max. Permissible error at Q_1: < ±5 %
  - Max. Permissible error at Q_2: < ±2 %
  - Max. Permissible error at Q_3: < ±2 %
  - Max. Permissible error at Q_4: < ±2 %
  - Falling registration at Q_{0-}: ≤ 3 L/hr;

The accuracy of the water meter shall not be affected by variation of flow rates, air flow and rolling.

6. Design Conditions

- Permanent Flowrate, (Q3) shall be not less than **2.5 m^3/hr for ½ inch meters**, and **6.3 m^3/hr for 1 inch meters.**
- Water working temperature: 0.1°C up to 50°C
- No measurement for air (working even if the water meter is not full of water)
- The nominal pressure is 16 bars.
- Pressure loss through the water meter shall not be greater than 0.40 bar.

7. Battery

The Electromagnetic water meters shall be battery operated. **The battery should be replaceable (optional if available) with a life time not less than 15 years.**

Replaceable battery (optional if available): The manufacturer shall give precise rules for the replacement of the battery locally.

The replacement of the battery shall be indicated on the meter and provide the possibility of indicating the next date of replacement after replacing the battery.

The properties and parameters of the meter shall not be affected by the interruption of the electrical supply when the battery is replaced.

The operation of replacing the battery may be carried out in a way that does not necessitate breaking the statutory metrological seal. When the battery can be re- moved without breaking

the statutory seal, the battery compartment shall be protected by a tamper proof device, such as a seal authorized by the meter manufacturer or controlling authority.

The water meter should not be affected by the weakness of the battery.

8. Grounding (Earthing)

The Electromagnetic water meters shall be capable to operate accurately without a need for grounding system.

9. Water Meter Body (Housing)

The water meter housing shall be made of brass (preferred), composite material is al- lowed given that the threaded end connection must be of stainless steel, brass or bronze alloy.

10. Accessories

Two Brass Unions (coupling nuts, gaskets and two tail pieces). The total Length of water meter with couplings (tail pieces) shall be 190 mm.

11. Delivery Conditions

- All meters must be calibrated and sealed according to EEC regulation or equivalent.
- The water meters must be supplied including:
  - One set of Klinger seal gaskets, the gaskets for joints shall be of rubber, with a minimum thickness of one and a half (1.5) mm.
  - Rubber ring gaskets shall be of vulcanized natural or synthetic rubber material. Reclaimed rubber must not be used.
  - One set water meter connectors (brass couplings), with holes for sealing wire.
  - Non return valve.
  - Any specific tools, equipment, software or materials needed for the programming, calibration and installation for the meter shall be delivered within the package in sufficient quantities and included in the price of the meter.

IV. Unions

1. Description

Two threaded tail pieces unions shall be used to couple the water meter inlet and outlet to water lines supply and delivery. Each Union shall consist of: Coupling nut with holes for sealing wire, gasket and 2 tail pieces.

The union size shall be suitable to fit the customer meter and house connection threaded size.

The union shall be a rotating nut for connecting the meter sides. The tail pieces shall have male thread in accordance with BSP-21 thread for connecting the meter with the supply and delivery

pipelines.

2. Material

Brass or Bronze.

3. Size

Both unions shall conform with ISO 228-1 standards for threaded end meters.

4. Working Pressure

The working pressure shall be not less than 16 Bars.

12. Interface Radio Tool

- Battery-Powered radio transceiver modem to communicate with water meter wirelessly.
- Receive transmitted radio messages and information from water meters.
- Receive radio telegrams from water meters.
- used for drive-by application, with external car antenna.
- Bluetooth connectivity.
- IP53.
- USB Ports.
- Battery Capacity: up to 12 hours of continuous usage on one full charge.
- IP53.
- Compliance:
  - RED.
  - ROHS II.
  - EN 300 220-1 V3.1.1
  - EN 300 220-2 V3.2.1
  - EN 300 328 V2.1.1
  - EN 301 489-1 V2.2.3
  - EN 301 489-3 V2.1.1
  - EN 301 489-17 V3.2.2
  - EN 62368-1:2014 + AC:2015
  - EN 62479:2010
  - EN 60529:1989 + A1:1999 + A2:2013
  - EN 50581:2012

- Software: Installation of company developed software on JWU Computers to receive all data and information collected from the radio tool.

جدول كميات عطاء رقم (1145)

توريد عدادات الكتروماجنتك وأجهزة قراءة

#	المواد المطلوبة	مدة التوريد	الكمية المطلوبة		السعر بالشيكل غير شامل الضريبة	
			الوحدة	الكمية	سعر الوحدة	السعر الإجمالي
.1	عدادات الكتروماجنتك قطر (½) إنش (حسب المواصفات الفنية المرفقة)		عدد	9900		
.2	عدادات الكتروماجنتك قطر (1) إنش (حسب المواصفات الفنية المرفقة)		عدد	100		
.3	جهاز قراءة عدادات بموجات الراديو شامل برنامج قراءة واستقبال البيانات الميدانية على حاسوب المصلحة لفترة تجريبية لا تقل عن عام واحد (حسب المواصفات الفنية المرفقة)		عدد	2		
	المجمـوع					
	ضريبة القيمة المضافة 16%					
	المجموع الكلي شامل ضريبة القيمة المضافة					
المجموع الكلي بالكلمات بالشيكل شامل ضريبة القيمة المضافة:						