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Original

April 30, 2021

Mr. Ron Hoeft
City of Ann Arbor
Procurement Unit
c/o Customer Services, 1st Floor
301 East Huron Street
Ann Arbor, MI 48104

Ref: Commercial Water Meters, IFB No. 4675, Due: May 4, 2021 by 2:00 P.M. CST

Dear Mr. Ron Hoeft,

Mountain States Pipe & Supply Co. is a Women Owned "S Corporation" based out of Colorado Springs, Colorado since 1955. We provide utilities with water and gas meters, meter reading solutions, installation services, and pipe valves and fittings for the natural gas industry. MSPS has been a Honeywell Elster distributor for the past seventeen (17) years and a Honeywell American Meter (Gas) distributor/rep since 1980. Over this time, we have sold over 2,000 Honeywell evoQ4 meters to customers around the country and take pride in serving and supporting our customers needs.

Following you will find our response for your Commercial Water Meter IFB. We have provided pricing for the Honeywell evoQ4 meters as requested.

Sincerely,

Paul T. Carroll
CEO
Mountain States Pipe and Supply

Cc: Elizabeth L. Carroll, President
Jerry Uhlman, Vice President

City of Ann Arbor Michigan
Commercial Water Meters
ITB Number 4675

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MSPS MOUNTAIN STATES PIPE & SUPPLY

CITY OF ANN ARBOR
INVITATION TO BID

Submitted by:
Mountain States Pipe and Supply
Colorado Springs, Colorado

COMMERCIAL WATER METERS

ITB No. 4675

Due Date: May 4, 2021 by 2:00 P.M. (Local Time)

Public Works Unit

Issued By:

City of Ann Arbor
Procurement Unit
301 E. Huron Street
Ann Arbor, MI 48104

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INSTRUCTIONS TO BIDDERS

General

The City of Ann Arbor's Procurement Office is soliciting bids for the purchase of approximately 470 commercial water meters based on the specifications provided herein. The pricing provided for this ITB shall be firm until June 30, 2023. Upon mutual agreement between the City and the vendor the pricing provided in this ITB may be extended for two (2) additional one (1) year periods not to exceed four (4) years with a maximum 3% unit price increase.

Meters purchased under this bid are for the replacement of various commercial water meters.

Any Bid which does not conform fully to these instructions may be rejected.

Preparation of Bids

Bids should be prepared providing a straight-forward, concise description of the Bidder's ability to meet the requirements of the ITB. Bids shall be written in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed and dated in ink by the person signing the Bid.

Bids must be submitted on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid. No alternative bid will be considered unless alternative bids are specifically requested. If alternatives are requested, any deviation from the specification must be fully described, in detail on a clearly marked "Alternate" section of Bid form.

Each person signing the Bid certifies that he/she is the person in the Bidder's firm/organization responsible for the decision as to the fees being offered in the Bid and has not and will not participated in any action contrary to the terms of this provision.

Questions or Clarifications / Designated City Contacts

All questions regarding this ITB shall be submitted via email. Emailed questions and inquires will be accepted from any and all prospective Bidders in accordance with the terms and conditions of the ITB.

All questions shall be due on or before **April 22, 2021 @ 10:00 a.m. (local time)** and should be addressed as follows:

Specification/Scope of Work questions emailed to Ron Hoeft, rhoeft@a2gov.org
Bid Process and Compliance questions emailed to Colin Spencer, CSpencer@a2gov.org

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of Colin Spencer at cspencer@a2gov.org after discovery as possible. Further, the contractor and/or service provider shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) www.mitn.info and/or City of Ann Arbor web site www.A2gov.org for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received, but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written addenda.

Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **May 4, 2021 by 2:00 p.m. (Local time).** Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and one (1) Bid copy in a sealed envelope clearly marked: ITB No. 4675 – Commercial Water Meters.

Bids must be addressed and delivered to:

City of Ann Arbor
Procurement Unit,
c/o Customer Services, 1st Floor
301 East Huron Street
Ann Arbor, MI 48104

All Bids received on or before the Due Date will be publicly opened and recorded immediately. No immediate decisions are rendered.

The following forms provided within this ITB Document should be included in submitted bids.

- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

Hand delivered bids may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/entrance of City Hall which is accessible to the public at all hours. The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

Additional time for submission of bids past the stated due date and time will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines in its sole discretion that circumstances warrant it.

Award

The City intends to award a Contract/Purchase Order to the lowest responsible Bidder(s) providing the best value to the City. The City may, at its sole discretion, award line-by-line in the best interest of value to the City.

Responsible bidder means a bid submitted, which conforms in all aspects of the requirements set forth in the invitation to bid. All aspects could include references, past experience, past performance, and qualifications.

Official Documents

The City of Ann Arbor officially distributes bid documents from the Procurement Unit or through

the Michigan Intergovernmental Trade Network (MITN). Copies of the bid documents obtained from any other source are not Official copies. Addenda and other bid information will only be posted to these official distribution sites. If you obtained City of Ann Arbor Bid documents from other sources, it is recommended that you register on www.MITN.info and obtain an official Bid.

Taxes

Municipalities are exempt from Michigan State Sales and Federal Excise taxes. Do not include such taxes in the bid figure(s). The City will furnish the successful bidder with tax exemption certificates when requested.

Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of one-hundred and twenty (120) days.

Non-Discrimination Requirements

All contractors proposing to do business with the City shall satisfy the non-discrimination administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

Conflict Of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

Disclosures

After bids are opened, all information in a submitter's bid is subjected to disclosure under the provisions of Michigan Public Act No. 442 of 1976, as amended (MCL 15.231 et seq.) known as the "Freedom of Information Act." The Freedom of Information Act also provides for the complete disclosure of contracts and attachments thereto except where specifically exempted.

Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by the Offeror to initiate contact with anyone other than the Designated City Contacts provided herein that the prospective Offeror believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.

Cost Liability

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the Bidder prior to the execution of a contract with the City. By submitting a bid, a bidder agrees to bear all costs incurred or related to the preparation, submission and selection process for the bid.

Reservation of Rights

The City of Ann Arbor reserves the right to accept any bid or alternative bid proposed in whole or in part, to reject any or all bids or alternatives bids in whole or in part and to waive irregularity and/or informalities in any bid and to make the award in any manner deemed in the best interest of the City.

Environmental Commitment

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote, and encourage the City's commitment to the environment.

The City encourages potential vendors to bring forward emerging and progressive products and services that are best suited to the City's environmental principles.

INVITATION TO BID

City of Ann Arbor
Guy C. Larcom Municipal Building
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements, Vendor Conflict of Interest Form, Instructions to Bidders, Bid Forms, Purchase Order Terms and Conditions, General Conditions, Detailed Specifications, and all Addenda, and understands them. The Bidder declares that it conducted a full investigation of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

In accordance with these bid documents, and Addenda numbered 1, *the undersigned, as Bidder, proposes to deliver to the City all product/services herein described for the amounts set forth in the Bid Forms.*

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

Bidder further agrees that the cited provisions of Chapter 14 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS 30th DAY OF April, 2021.

Mountain States Pipe and Supply	Paul Carroll
Bidder's Name	Authorized Signature of Bidder
7765 Electronic Drive Colorado Springs, Colorado 80922	Paul Carroll
Official Address	(Print Name of Signer Above)
Office: 719-634-5555 Paul Mobile: 719.351.4120	paulc@msps.com
Telephone Number	Email Address for Award Notice

LEGAL STATUS OF BIDDER

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

* A corporation organized and doing business under the laws of the State of Colorado, for whom Paul Carroll, bearing the office title of CEO, whose signature is affixed to this Bid, is authorized to execute contracts.

NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority

• A limited liability company doing business under the laws of the State of _____, whom _____ bearing the title of _____ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

* A partnership, organized under the laws of the state of _____ and filed in the county of _____, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

_____

_____

_____

_____

* An individual, whose signature with address, is affixed to this Bid: _____
(initial here)

Authorized Official

Paul Carroll **Date** April 30, **202**1

(Print) Name Paul Carroll Title CEO

Company: Mountain States Pipe and Supply

Address: 7765 Electronic Drive, Colorado Springs, Colorado 80922

Contact Phone ( ) 719.351.4120 Fax ( ) 719.634.5551

Email paulc@msps.com

SPECIFICATIONS

GENERAL

A. This specification covers electromagnetic or ultrasonic type cold water meters in sizes 1.5", 2", 2.5", 3", 4", 6", 8", 10" and 12". Meters shall be manufactured in an ISO 9001 manufacturing facility located in the United States. Meters shall conform to the latest revision of the American Water Works Association (AWWA) C715, Cold-Water Meters—Electromagnetic and Ultrasonic Type, for Revenue Applications.

MANUFACTURER

A. Meters shall be the Honeywell evoQ4 Electromagnetic Meter with Replaceable Battery and Dual Pulse and Encoder Module and 25' Nicor cable manufactured by Elster AMCO Water, LLC., or the Honeywell evoQ4 Electromagnetic Meter with Dual Pulse and Encoder Module and 25' Nicor cable manufactured by Elster AMCO Water, LLC.

All meters will be evoQ4 meters with the Elster MX-42-VP Dual output module with 25' Nicor Connector

WARRANTY

A. Meters shall be guaranteed free of defects in material and workmanship for a minimum of five (5) years after Owner acceptance. Meter registers shall be guaranteed for accuracy for a minimum of ten (10) years after Owner acceptance. Owner acceptance shall be the date of receipt by the Owner.

WATER METERS

A. Meter shall be of the Electromagnetic type and meet the minimum standards set by AWWA C715 – Electromagnetic and Ultrasonic Type for Revenue Applications.

B. Meters shall be powered by an internal replaceable battery.

C. Meters shall comply with the lead-free provisions of the Safe Water Drinking Act.

D. All meters furnished shall be manufactured new.

E. Prior to purchasing, manufacturer shall provide documentation that the meters are compatible with the OWNER's Aclara Star automatic meter reading (AMR) system and meter transmission units (MTU). Documentation shall include, but is not necessarily limited to:

1. Statement of compatibility with MTU
2. Statement of programming characteristics
3. Submit programming documentation

City is currently utilizing the Q4 with their Aclara Network and using either the 6 or 8 dial "Elster evoQ4 1.5" - 12" X 1 Cu Mtrs" selection on programming device.

METER CASING

A. The meter main-case shall be either of a copper alloy containing not less than 75% copper, such as UNS C89510, C89520, C89833 or C89836 or a similar copper alloy as listed in ASTM B584; or a cast iron as listed in ASTM A48/A48M or ASTM A126; or a stainless-steel type 304 or 316 as listed in ASTM A276; or farbricated carbon steel; or other suitable engineered composites.

B. Cast iron or fabricated carbon steel bodies and parts shall be coated with a polymerized coating or be adequately isolated from the water by permanent liner.

C. The size, model, manufacturer's meter serial number, and direction of flow through the meter shall be permanently marked on the outside of the meter.

D. Main-case connections shall be flanges on both ends of the meter.

MEASURING CHAMBER

A. Measuring chamber shall be made of a suitable metal or engineered composite and meet the requirements of the applicable ASTM standard.

REGISTER

A. All meters shall include a register with electronic digital display, and either be mounted directly on the meter body or mounted remotely.

B. Registers shall have a 3-wire connection capable of connecting to Aclara 3300 or 3400 Series meter transmission units.

C. Registers shall have the size, model and date of manufacture stamped on the display face.

D. Register shall be digital and provide a minimum of six (6) characters for reading. Totalizer characters shall be large and easy to read. Totalizer characters shall display down to 1 cf for all size meters.

E. Register flow accuracy shall meet the standards set by AWWA C715. The meter shall register not less than 98.5% and not more than 101.5% of the water that actually passes through it during normal flow conditions, and not less than 95% and not more than 105% of the water that actually passes through it under low-flow conditions.

BOLTS AND FASTENERS

A. All external bolts and fasteners on the meter casing shall be manufactured of a corrosion resistant series 300 stainless steel.

METER PERFORMANCE

A. Meters shall register accuracy in accordance with AWWA C715. Meter accuracy shall be tested for low, normal and high flows. A factory tag certifying the accuracy of the meters at the specified AWWA C715 flows shall be provided with each meter.

B. Meters shall operate without leakage or damage to any part, nor loss in accuracy at a working pressure of up to 150 psi.

STORAGE, HANDLING AND DELIVERY

A. The manufacturer shall deliver meters to the OWNER in a manner to ensure that no damage is done upon the meters. The manufacturer shall instruct the OWNER in the proper handling and storage of meters in accordance with the manufacturer's operation and maintenance procedures.

BID FORM

VENDOR NAME: Mountain States Pipe and Supply

1. All Bidders should provide a Unit Price and Total Price for the items listed herein.
2. If the specified register can be used in both inside and pit applications, complete the bid form with the same unit price for both line items.
3. The City at their sole discretion may purchase a combination of products from the Base Bid items.

BID – Honeywell evoQ4 Cold Water Meter

Item #	Description	Quantity	Unit	Unit Price	Total Price
1	1.5" Water Meter	5	Each	$ 1,168.00	$ 5,840.00
2	1.5" Water Meter w/ Replaceable Battery	20	Each	$ 1,535.00	$ 30,700.00
3	2" Water Meter	5	Each	$ 1,184.00	$ 5,920.00
4	2" Water Meter w/ Replaceable Battery	20	Each	$ 1,981.00	$ 39,620.00
5	2.5" Water Meter	10	Each	$ No Bid	$
6	2.5" Water Meter w/ Replaceable Battery	5	Each	$ No Bid	$
7	3" Water Meter	250	Each	$ 2,005.00	$ 501,250.00
8	3" Water Meter w/ Replaceable Battery	50	Each	$ 2,388.00	$ 119,400.00
9	4" Water Meter	100	Each	$ 2,237.00	$ 223,700.00
10	4" Water Meter w/ Replaceable Battery	20	Each	$ 2,601.00	$ 52,020.00
11	6" Water Meter	40	Each	$ 3,495.00	$ 139,800.00
12	6" Water Meter w/ Replaceable Battery	10	Each	$ 3,606.00	$ 36,060.00
13	8" Water Meter	10	Each	$ 4,861.00	$ 48,610.00

14	8" Water Meter w/ Replaceable Battery	5	Each	$ 5,665.00	$ 28,325..00
15	10" Water Meter	10	Each	$ 7,165.00	$ 71,650.00
16	10" Water Meter w/ Replaceable Battery	5	Each	$ 7,716.00	$ 38,580.00
17	12" Water Meter	10	Each	$ 8,302.00	$ 83,020.00
18	12" Water Meter w/ Replaceable Battery	5	Each	$ 8,530.00	$ 42,650.00
10	Totalizer/Rate indicator	470	Each	$ 500.00	$ 235,000.00
11	Replaceable battery Pack	50	Each	$ 543.00	$ 27,150.00
				TOTAL BASE BID	$ 1,729,295.00

REFERENCES: Please list at least three (3) entities for which you have done similar work:

Organization	Address	Contact Person	Telephone
New York Department of Environmental Protection	96-05 Horace Harding Expressway - 4th Floor Flushing, New York 11373	Michael Roach Director, Universal Metering / Technical Services Bureau of Customer Services	Phone: 917.754.2497 Email: mroach@dep.nyc.gov

1. Contract since 2009 - More than 10K evoQ4s 2" and above

Contra Costa Water District	1331 Concord Avenue Concord, CA 94520	Shawn Kelly Operations and Maintenance Supervisor	Phone: 925.383.6401 Email: Skelly@ccwater.com

2. Contract 2018-2022 - 3" and above EvoQ4

City of Burbank Water and Power	164 W. Magnolia Blvd. Burbank, CA 91503	John Johnson Water Supervisor Water Division	Phone: 818-238-3500 Email: jmjohnson@burbankca.gov

3. Standardized on evoQ4

Notes: MSPS is supplying evoQ4 meters to City of Aspen, Mt Werner Water -Sanitation and City of Johnstown Colorado utilizing the Q4 and Aclara MTU

City of New York is using the evoQ4 along with the Aclara MTU

All bidders must fill out the following table:

Manufacturer	Local Representative/Distributor	Address of Local Representative	Distance from the City of Ann Arbor
Honeywell Elster	Mountain States Pipe and Supply	7765 Electronic Drive Colorado Springs, Colorado 80922	1,299.5 Miles

All Bidders must answer the following questions:

1. Has the manufacturer furnished meters to the City previously? If so, what year?

   Yes, Calendar Year 2021

2. What is the typical lead time from time of purchase to time of delivery?

   4 Weeks

3. Are meters stocked at the local representative's/distributor's facility? If so, what sizes and how many?

   Yes meters size 1-1/2" through 6" are stocked at MSPS. Quantities vary based on customer demand.

GENERAL CONDITIONS

ESTIMATED QUANTITIES
Quantities stated are estimated and not guaranteed. The quantities stated will be used for award purposes only and are based up an average of actual annual usage.

DOWN PAYMENTS
Any bid proposal submitted which requires a down payment or prepayment of any kind prior to delivery and acceptance of the item, as being in conformance with the specifications will not be considered for award.

PURCHASE ORDER
The successful bidder will be issued a purchase order from the City of Ann Arbor, which will create a bilateral contract between the City and the successful bidder. The purchase order shall commit the bidder to perform the contract in accordance with the specifications and the terms and conditions of the purchase order.

The terms and conditions of the Purchase Order are provided herein.

CONTRACT TERM
The pricing provided for this ITB shall be firm until June 30, 2023. Upon mutual agreement between the City and the vendor the pricing provided in this ITB may be extended for two (2) additional one (1) year periods not to exceed June 30, 2025 with a maximum 3% unit price increase per year the contract is extended.

City of Ann Arbor: General Terms and Conditions

The following General Terms and Conditions shall apply.

Tax Exemption: The City of Ann Arbor is tax exempt, ID# 38-6004534.

Acceptance of Contract: This order is the City's contract to purchase the goods and services described on the reverse front side of this document from the Vendor. The City's placement of this order is expressly conditioned upon the Vendor's acceptance of all the terms and conditions of purchase contained on or attached to this purchase order. All specifications, drawings, and data submitted to the Vendor with this order are hereby incorporated and made part hereof.

Amendments: No agreement or understanding to modify this contract shall be binding upon the City unless in writing and signed by the City's authorized agent.

Delivery: All prices must be F.O.B. delivery point. Time is of the essence on this contract. If delivery dates cannot be met, the Vendor agrees to advise the City, in writing of the earliest possible shipping date. The City reserves the right to cancel or purchase elsewhere and hold the Vendor accountable.

Risk of Loss: Regardless of F.O.B. point, the Vendor agrees to bear all risk of loss, injury, or destruction of goods and materials ordered herein which may for any reason occur prior to delivery or acceptance by the City, whichever is later. No such loss, injury, or destruction shall release the Vendor from any obligations hereunder.

Inspection: Goods and materials must be properly packaged. Damaged goods and materials will not be accepted. The City reserves the right to inspect the goods at a reasonable time subsequent to delivery where circumstances or conditions prevent effective inspection of the goods at the time of delivery. All rejected goods shall be returned to the Vendor at no cost to the City, whether the damage is readily apparent at the time of delivery or later. The City's acceptance is conditioned on such inspection.

Patents and Copyrights: If an article sold and delivered to the City hereunder shall be protected by any applicable patent or copyright, the Vendor agrees to indemnify and save harmless the City, from and against any and all suits, claims, judgments, and costs instituted or recovered against it by any person whomsoever on account of the use or sale of such articles by the City in violation or right under such patent or copyright.

Uniform Commercial Code: All applicable portions of the Michigan Uniform Commercial Code shall govern contracts for goods with the City of Ann Arbor; except as modified by contract documents.

Non-waiver of Rights: No failure of either party to exercise any power given to it hereunder or to insist upon strict compliance by the other party with its obligations hereunder, and no custom or practice of the parties at variance with the terms hereof, nor any payment under this agreement shall constitute a waiver of either party's right to demand exact compliance with the terms hereof.

Material Safety Data Sheets: Applicable Material Safety Data Sheets, in compliance with OSHA/MIOSHA hazard communication regulations/standards, must be provided by the Vendor to the City at the time of purchase.

Assignments: The Vendor agrees not to assign or transfer this contract or any part thereof without the written consent of the City of Ann Arbor, acting through its authorized representative. Any unauthorized assignment may subject the contractor to immediate termination.

Laws Governing, Severability: This contract shall be governed by and construed according to the laws of the State of Michigan. Vendor agrees to submit to the jurisdiction and venue of the Circuit Court of Washtenaw County, MI, or if original jurisdiction is established, the U.S. District Ct. for Eastern District of MI, Southern Division. The Vendor stipulates venues referenced are convenient and waives any claim of non-convenience. If any term herein is found to be ineffective, unenforceable or illegal under any present or future laws, such term shall be fully severable, and the remaining terms shall not be affected and shall remain full force and effect.

Prevailing Wage: It shall be the responsibility of the Vendor to comply, when applicable, with the prevailing wage requirements and/or the Davis-Bacon Act as amended.

Living Wage: It shall be the responsibility of the Vendor to comply, when applicable, with the City of Ann Arbor's Living Wage Ordinance as defined in Chapter 23, Section 1:811-1:821.

Non-Discrimination: It shall be the responsibility of the Vendor to comply, when applicable, with, all State, Federal and Local non-discrimination laws, including MCL 37.2209 and Section 9:158 of the City Code.

Indemnification: To the fullest extent permitted by law the Vendor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result from any act or omission, associated with the performance of this contract by the Vendor or anyone acting on the Vendor's behalf under this contract. The Vendor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. This indemnity survives delivery and acceptance of the Vendor's goods and services.

Warranty: The Vendor warrants to the City that all goods and services furnished hereunder will conform in all respects to the terms of this contract, including any drawings, specifications and standards incorporated herein. In addition, the Vendor warrants the goods and services are suitable for and will perform in accordance with the purposes for which they were intended.

Payment Terms: The City of Ann Arbor's payment terms are net 30. The payment date will be calculated based on the invoice receipt date or delivery date, whichever is later.

Payments: All invoices for goods and services shall be emailed to accountspayable@a2gov.org. Mailed invoices shall be addressed to the City of Ann Arbor, Accounts Payable, P.O. Box 8647, Ann Arbor, MI 48107, as indicated on the front of this purchase order. Invoices must include the Vendor's name, phone number, and clearly listed item descriptions, quantities and units of measure. The Vendor acknowledges and understands that invoices not addressed as stated above shall have the net 30 begin once the invoice is received by Accounts Payable.

Compliance with Laws: The Vendor certifies that in performing this contract it will comply with all applicable provisions of Federal, State and Local laws, regulations, rules and orders.

Termination for Cause: In the event the Vendor fails, at any time, to comply with, fully perform or strictly adhere to any covenant, condition or representation contained within the contract, the City shall have the right to give written notice to Vendor of such failure. If such failure is not cured to the City's satisfaction within ten (10) business days from the time of delivery to Vendor of such notice, the City shall have the right to terminate immediately without the requirement of a further notice.

Vendor Conflict of Interest Disclosure Form

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	( ) Relationship to employee _____ ( ) Interest in vendor's company ( ) Other (please describe in box below)
No Conflict of Interest	

*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:		
Mountain States Pipe & Supply Co		719-475-4020
Vendor Name		**Vendor Phone Number**
Paul T Carroll	04/30/2021	Paul T Carroll
Signature of Vendor Authorized Representative	**Date**	**Printed Name of Vendor Authorized Representative**

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, procurement@a2gov.org

CITY OF ANN ARBOR
DECLARATION OF COMPLIANCE

Non-Discrimination Ordinance

The "non discrimination by city contractors" provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager.

The Contractor agrees:

(a) To comply with the terms of the City of Ann Arbor's Non-Discrimination Ordinance and contract compliance administrative policy, including but not limited to an acceptable affirmative action program if applicable.

(b) To post the City of Ann Arbor's Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.

(c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.

(d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

Mountain States Pipe & Supply Co
Company Name

Paul T Carroll 04/30/2021
Signature of Authorized Representative Date

Paul T Carroll CEO
Print Name and Title

7765 Electronic Drive, Colorado Springs, CO 80922
Address, City, State, Zip

719-475-4020 pcarroll@msps.com
Phone/Email Address

Questions about the Notice or the City Administrative Policy, Please contact:
Procurement Office of the City of Ann Arbor
(734) 794-6500

CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below. You can review the entire ordinance at www.a2gov.org/humanrights.

Intent: It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

Discriminatory Employment Practices: No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

Discriminatory Effects: No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

Nondiscrimination by City Contractors: All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

Complaint Procedure: If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at www.a2gov.org/humanrights. Then submit it to the Human Rights Commission by e-mail (hrc@a2gov.org), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at hrc@a2gov.org.

Private Actions For Damages or Injunctive Relief: To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

Ann Arbor Commercial Water Meter Proposal

Additional Documentation
Certificate of Authority
Addendum 1
MSPS National Women's Business Enterprise Certification
Honeywell evoQ4 Submittals
Aclara Water Meter Compatibility Chart
MSPS Pricing Worksheets

MSPS MOUNTAIN STATES PIPE & SUPPLY

CSCL/CD-560 (Rev. 10/17)

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
CORPORATIONS, SECURITIES & COMMERCIAL LICENSING BUREAU

Date Received	(FOR BUREAU USE ONLY)
APR 29 2021	AC1 $160 MC 21042941214576 This document is effective on the date filed, unless a subsequent effective date within 90 days after received date is stated in the document.

FILED
APR 29 2021
ADMINISTRATOR
CORPORATIONS DIVISION

EFFECTIVE DATE:

Name		
Address		
City	State	ZIP Code

Document will be returned to the name and address you enter above.
If left blank, document will be returned to the registered office.

APPLICATION FOR CERTIFICATE OF AUTHORITY TO TRANSACT BUSINESS OR CONDUCT AFFAIRS IN MICHIGAN

For use by Foreign Corporations

(Please read information and instructions on the last page)

Pursuant to the provisions of Act 284, Public Acts of 1972 (profit corporations), or Act 162, Public Acts of 1982 (nonprofit corporations), the undersigned execute the following Application:

1. The name of the corporation is:

   Mountain States Pipe & Supply Co.

2. (Complete this item only if the corporate name in item 1 is not available for use in Michigan.)
   The assumed name of the corporation to be used in all its dealings with the Bureau and in the transaction of its business or conducting of its affairs in Michigan is:

3. It is incorporated under the laws of Colorado.

   The date of its incorporation is March 7th, 1955, and the term of existence

   if other than perpetual is _____.

4. a. The address of the main business or headquarters office of the corporation is:

   7765 Electronic Dr, Colorado Springs, CO 80922
   (Street Address) (City) (State) (ZIP Code)

   b. The mailing address if different than above:

   _____
   (Street Address) (City) (State) (ZIP Code)

AW

5. The street address of its registered office in Michigan is:

2900 WEST ROAD STE 500 (Street Address) EAST LANSING (City), Michigan 48823 (ZIP Code)

The mailing address of the registered office in Michigan, if different than above:

_____ (Street Address or P.O. Box) _____ (City), Michigan _____ (ZIP Code)

The name of the resident agent at the registered office is: CSC-LAWYERS INCORPORATING SERVICE (COMPANY)

The resident agent is an agent of the corporation upon whom process against the corporation may be served.

6. The specific business or affairs which the corporation is to transact or conduct in Michigan is as follows:
Wholesale Distribution

The corporation is authorized to transact such business or conduct those affairs in the jurisdiction of its incorporation.

7. (To be completed by profit corporations only)

The total authorized shares of the corporation are: 1110

8. If the applicant is a trust, please specify any powers or privileges possessed by the trust that are not possessed by an individual or a partnership.
N/A

Signed this 27th day of April, 2021

By [signature]
(Signature of Authorized Officer or Agent)

PAUL T CARROLL
(Type of Print Name)

OFFICE OF THE SECRETARY OF STATE
OF THE STATE OF COLORADO

CERTIFICATE OF FACT OF GOOD STANDING

I, Jena Griswold, as the Secretary of State of the State of Colorado, hereby certify that, according to the records of this office,

MOUNTAIN STATES PIPE & SUPPLY CO.

is a

Corporation

formed or registered on 03/07/1955 under the law of Colorado, has complied with all applicable requirements of this office, and is in good standing with this office. This entity has been assigned entity identification number 19871128232 .

This certificate reflects facts established or disclosed by documents delivered to this office on paper through 04/26/2021 that have been posted, and by documents delivered to this office electronically through 04/27/2021 @ 15:56:35 .

I have affixed hereto the Great Seal of the State of Colorado and duly generated, executed, and issued this official certificate at Denver, Colorado on 04/27/2021 @ 15:56:35 in accordance with applicable law. This certificate is assigned Confirmation Number 13129941 .

Jena Griswold

Secretary of State of the State of Colorado

**********End of Certificate**********

Notice: A certificate issued electronically from the Colorado Secretary of State's Web site is fully and immediately valid and effective. However, as an option, the issuance and validity of a certificate obtained electronically may be established by visiting the Validate a Certificate page of the Secretary of State's Web site, http://www.sos.state.co.us/biz/CertificateSearchCriteria.do entering the certificate's confirmation number displayed on the certificate, and following the instructions displayed. Confirming the issuance of a certificate is merely optional and is not necessary to the valid and effective issuance of a certificate. For more information, visit our Web site, http://www.sos.state.co.us/ click "Businesses, trademarks, trade names" and select "Frequently Asked Questions."

UNITED STATES OF AMERICA

The State of Michigan

Department of Licensing and Regulatory Affairs

Lansing, Michigan

This is to Certify That

MOUNTAIN STATES PIPE & SUPPLY CO.

a FOREIGN PROFIT CORPORATION existing under the laws of the state of Colorado

was validly authorized to transact business in Michigan on the 29 day of April , 2021 in conformity with 1972 PA 284.

Said corporation is authorized to transact in this state any business of the character set forth in its application which a domestic corporation formed under this act may lawfully conduct. The authority shall continue as long as said corporation retains its authority to transact such business in the jurisdiction of its incorporation and its authority to transact business in this state has not been surrendered, suspended or revoked.

This certificate is in due form, made by me as the proper officer, and is entitled to have full faith and credit given it in every court and office within the United States.

LICENSING AND REGULATORY AFFAIRS
Corporations, Securities & Commercial Licensing Bureau

In testimony whereof, I have hereunto set my hand, in the City of Lansing, this 29th day of April , 2021.

Linda Clegg

Linda Clegg, Director

Corporations, Securities & Commercial Licensing Bureau

Mountain States Pipe and Supply

Certificate of Authority

Screenshot of LARA Corporate Filing System (Department of Licensing and Regulatory Affairs – State of Michigan)

Certificate is in process by the State of Michigan

LARA Home | Contact LARA | Online Services | News | MI.gov

LARA Corporations Online Filing System

Department of Licensing and Regulatory Affairs

ID Number: 802659858 Request certificate | Return to Results | New search

Summary for: MOUNTAIN STATES PIPE & SUPPLY CO.

The name of the FOREIGN PROFIT CORPORATION: MOUNTAIN STATES PIPE & SUPPLY CO.

Entity type: FOREIGN PROFIT CORPORATION

Identification Number: 802659858

Date of Qualification in Michigan: 04/29/2021

Incorporated under the laws of: the state of Colorado

Purpose:

Term: Perpetual

Most Recent Annual Report: **Most Recent Annual Report with Officers & Directors:**

The name and address of the Resident Agent:

Resident Agent Name: CSC-LAWYERS INCORPORATING SERVICE (COMPANY)

Street Address: 2900 WEST ROAD STE 500

Apt/Suite/Other:

City: EAST LANSING State: MI Zip Code: 48823

Registered Office Mailing address:

P.O. Box or Street Address:

Apt/Suite/Other:

City: State: Zip Code:

ADDENDUM No. 1

ITB No. 4675

Commercial Water Meters

Bids Due: May 4, 2021 by 2:00 P.M. (Local Time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes two (2) pages.**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on Page 7 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.

The following forms provided within the ITB Document should be included in submitted bids:

- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

I. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Bidders are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: The Line Item 10 which I think should be Line item 19, titled Totalizer/Rate indicator, will you provide clarification on what you are requesting? Is there a model number or part number you can reference?

Answer 1: The model needs to be compatible with the specified water meter model, no specific totalizer/rate indicator model is specified. One option is the Elster Model RIDA4-20AK but this model is not required.

Question 2: Under specifications manufacturer is states all meters submitted shall be Honeywell evoQ4 electromag meters. Is the City accepting submissions with alternate manufacturers of solid sate ultrasonic/electromag meters?

Answer 2: No

Question 3: Are the 2" meters on the list 2"x 17" lay length or 2"x15.25" lay length?

Answer 3: The city will require the 17" lay length.

Question 4: The list of meters sizes it includes 2.5" meters, is this correct? The typical meter sizing goes from 2" to 3".

Answer 4: This is correct. Our system has a number of 2.5" meters within it. If the size is not available, do not provide a price for it.

Question 5: Is the city is willing to accept an alternate to the EVO Q4?
Answer 5: No

Question 6: On page 10. Bolts and Fasteners – Does the city want all of the flange packs which consists of flanges, gaskets, bolts and nuts to be included with the meters
Answer 6: Yes

Question 7: We will be supplying pricing for nuts, bolts and gaskets, less flanges. Do we include the pricing in the meter price or separate price?
Answer 7: Pricing should be included in the price of the water meter.

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.

WBENC

WOMEN'S BUSINESS ENTERPRISE NATIONAL COUNCIL

JOIN FORCES. SUCCEED TOGETHER.

hereby grants

National Women's Business Enterprise Certification

to

MOUNTAIN STATES PIPE & SUPPLY CO

who has successfully met WBENC's standards as a Women's Business Enterprise (WBE).
This certification affirms the business is woman-owned, operated and controlled and is valid through the date herein.

Certification Granted: October 31, 2013
Expiration Date: October 31, 2021
WBENC National Certification Number: 2005123268

WBENC National WBE Certification was processed and validated by Women's Business Enterprise Council - West, a WBENC Regional Partner Organization.

Pamela Williamson, Ph.D

Authorized by Pamela Williamson, President & CEO
Women's Business Enterprise Council - West

WBEC WEST
WOMEN'S BUSINESS ENTERPRISE COUNCIL

NAICS: 423830, 423510, 423610, 423720, 423840, 423850
UNSPSC: 41101806, 41112501, 41112504, 41112505, 41113614

Great Lakes Women's Business Council · Women's Business · Women's Business Council Southwest · Women's Business Development Center · WBEA · WBEC East · WBEC Florida · WBEC ORV · WBEC Pacific · WBEC South · Women Presidents' Educational Organization.

Honeywell
THE POWER OF CONNECTED

Connected Utilities

EvoQ4

Electromagnetic Water Meter

Honeywell Elster Q4 Series of Meters

- evoQ4 Replaceable Battery Version (2" – 12")
- evoQ4 Electromagnetic Meter (2" – 12")
- evoQ4 "Low Flow" (1-1/2" – 2")
- evoQ4 "Alternative Lengths"
- evoQ4 "Reclaimed Water"
- evoQ4 FM "Fire Service" Electromagnetic Meter

Output Modules

- Q4 Dual "Encoder – Pulse" Module
- RID A420
- Q4 Encoder Module – Sensus Protocol
- Q4 Pulse Module
- Q4 Remote Display Unit

Warranty and Terms

Distributed by:

MSPS MOUNTAIN STATES PIPE AND SUPPLY
Colorado Springs, Colorado

Honeywell
THE POWER OF CONNECTED

Connected Utilities

ADVANCED MEASUREMENT AND FLOW TECHNOLOGY

evoQ$_4$ Electromagnetic Water Meter

Durability. Accuracy. Reliability.

Today's water meters need to be more durable, accurate and reliable with advanced flow technology that has the capability to capture revenue while reducing overall operating costs. The evoQ4 provides a total solution for commercial water utility metering, meeting the needs served by traditional turbines, compounds, single jets and electromagnetic meters.

With advanced measurement and flow technology, the evoQ4 battery powered mag meter delivers high accuracy through a wide range of flows and varied conditions and applications. Typical accuracy performance ranges from 99.25% to 100.75% (+/- 0.75% error) of true value through the normal flow range. The meter line can be sized to suit either predominantly high or low flow rates, and is ideal for a wide variety of bulk flow metering applications, such as network monitoring, leakage detection and commercial billing.

DURABILITY

Stainless steel flow tube.
Lightweight for easy storage, transport and installation.
IP68 rating provides protection for internal electronics from water ingress.

ACCURACY

Continuous sampling rate of 0.5 second.
Stainless steel electrodes to eliminate corrosion concerns.
Sophisticated signal processing routines.

RELIABILITY

Designed for use in flooded meter chambers.
Dependable connectivity to critical distribution management and reading systems.
AMR/AMI and data-logging device compatible.

MAINTENANCE FREE

Designed without moving parts the evoQ$_4$ is maintenance free, with a 10-year battery life or optional replaceable battery and does not require calibration typical of mechanical and other electromagnetic meters.

REAL TIME DATA

A large, bright and easy-to-read LCD displays volume and instantaneous flow rate for reference. The evoQ$_4$ also has alarm functions providing real-time status, to ensure no loss in measuringcontinuity.

EASY ACCESS

Optional remote display unit provides a clear LCD for simpler access in hard-to-read applications. The remote display includes two pulse outputs for connection to ancillary devices such as AMR or process monitoring devices.

LOW PRESSURE LOSS

Unobstructed flow tube ensures minimal pressure loss to reduce network system pressures,r educing the occurrences of burst pipes and extending the useful life of pumping stations and lowering energy expenditures.

SIMPLE INSTALLATION

Installation of the evoQ4 is simple. Just fit and go, no need for grounding rings or programming with a laptop in a vault. The evoQ4 comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion. The 1.5" and 2" comes with oval flanges and the 3" and larger meters come with a round flange. All flanges conform to ANSI B16.1 Class 125 standards.

Available with optional replaceable battery in 1.5" – 12" sizes

MODELS

evoQ$_4$

The evoQ$_4$ meets utility needs for traditional turbine, compound, single jet and mag meters.

evoQ$_4$ LF (Low Flow)

The LF version of the meter is available in 1.5" and 2" sizes. It delivers improved low flow performance – down to 0.25 gpm. The reduced register height and lay lengths matching AWWA C700 allow installation into tight spaces, making this version the perfect replacement for intermediate size mechanical meters.

evoQ$_4$ FSM (Fire Service Meter)

As an optional feature, the evoQ$_4$ comes with FM Standard 1044 (3" – 8") and UL 327b (1.5" – 8") listing for use as a fire service instrument. Replace those monstrous mechanical fire service assemblies with an easily fit solid state meter.

System Options

DISPLAY ONLY

Simple, visual read register with no output communications. Remote display, pulse, or encoder output can be easily added through field upgrade.

METER WITH REMOTE DISPLAY

With the addition of a remote display unit *(pictured right)* users can visually read a meter installed in an inaccessible area. The remote display automatically updates to the meter total and features two pulse output channels.

DISPLAY FUNCTIONS

Volume – the net volume of water measured is displayed.

Flow Rate – If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Low-Battery – The indicator appears when the battery voltage is low and the meter should be replaced.

No-Water – The indicator blinks when there is an empty pipe condition in the meter.

PULSE OR ENCODED OUTPUT

With the addition of a plug and play pulse or encoder output module users can connect the meter to ancillary devices including AMR/AMI endpoints, touch-reading pads, dataloggers or industrial remote monitoring systems.

Available with optional replaceable battery in 1.5" – 12" sizes

Meter with remote display

Find Out More
WaterMeters@honeywell.com
www.elsteramcowater.com

Honeywell Smart Energy
10 SW 49th Avenue, Bldg. 100
Ocala, FL 34474
T +1 800 874 0890
F +1 352 368 1950

1100 Walker's Line, Suite 101
Burlington, Ontario L7N 2G3
T 866 703 7581
F 905 634 6705
www.HoneywellSmartEnergy.com

evoQ4 is a trademark of Honeywell International Inc.

HON-SEWA-BREVOQ4 | 05/2017
supercedes evoQ4/04-15
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Honeywell

Honeywell
THE POWER OF CONNECTED | Connected Utilities

evoQ$_4$ RB Electromagnetic Meter with Replaceable Battery

Size 1½" to 12"

The evoQ$_4$ is a single meter that meets the needs of traditional turbine, compound, single jet and magnetic meters. The meter allows replacement battery pack exchanges.

Operation

The evoQ$_4$ is a battery powered electromagnetic water meter that is suitable for a wide range of metering applications. Using Faraday's law of electromagnetic induction, two magnets provide a magnetic field within the pipe; two electrodes measure the induced voltage that is proportional to the flow of conductive water through the field in the pipe. Every 0.5 seconds the measurement is taken and the totalized volume is calculated and updated on the LCD display. The meter allows replacement battery pack exchanges.

Application

The meter is for use only with potable cold water up to 120°F. The meter will typically register at +/-0.75% accuracy at normal and high flows and better than 95% accuracy at extended low flows. The evoQ$_4$ product line is suited for metering utility customer services for potable water. With the addition of outputs described below, the meter can fulfill a number of distribution management roles as well.

Pulse or encoder output

The meter can be fitted with a pulse output device that can be attached to a radio transceiver module or a data logger. The pulse output can be programmed in the factory to meet the needs of the utility. For utilities preferring encoded output technologies, an encoder module is available for interface with AMR or AMI systems.

Remote display

The meter can be fitted with a remote display. A two channeled output can provide both forward and reverse pulses.

Connections

The evoQ$_4$ comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion. The 1½" and 2" come with oval flanges and the 3"- 12" come with a round flange. All flanges conform to ANSI B16.1 Class 125 standards. Allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for optimum performance.

FEATURES AND BENEFITS

3 cell battery pack: Extends meter functional life
No moving parts: Maintenance free.
0.5 second sampling rate: Highest accuracy.
Wide measuring range: Suitable for all commercial applications.
Simple installation: No additional training required.
Pulse or encoder connectivity: Pre-equipped or retrofitted for your AMR and telemetry needs.
AWWA lay lengths: Simple changeout.
IP68 sealed: Provides long, trouble-free life.
NSF61 Annex G listed: Zero lead contaminants.

LCD

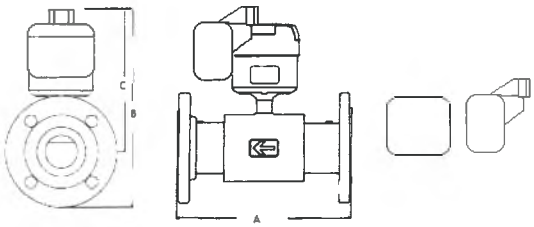
Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long term reliability.

Materials

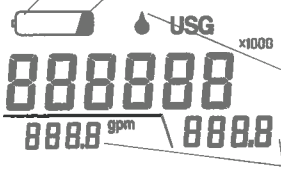
Body: Stainless steel grade 304
Flow tube: Stainless steel grade 316
Liner: Polyethylene epoxy
Electrodes: Stainless steel grade 316
Flanges: Epoxy coated cast iron
Register: Stainless steel with glass lens
Register housing/lid: UV-resistant plastic
Environmental class: IP68 hermetically sealed unit waterproof to 30 ft depth

Dimensions and net weight

Meter Size	A		B		C		Weight	
	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
1.5"	13	(330)	10.8	(274.3)	8.2	(203.3)	10.5	(4.8)
2"	10	(254.0)	11.24	(285.5)	8.12	(206.2)	11.0	(5)
3"	12	(304.8)	12.27	(311.7)	8.52	(216.3)	22.5	(10)
4"	14	(355.6)	13.22	(335.8)	8.72	(221.5)	35.5	(16)
6"	18	(457.2)	15.32	(389.1)	9.82	(249.4)	55.5	(25)
8"	20	(508.0)	17.16	(435.9)	10.71	(272.0)	81.5	(37)
10"	17.75	(450)	19.50	(495.3)	11.50	(292.1)	120.0	(55)
12"	19.7	(500)	21.00	(533.4)	11.50	(292.1)	159.0	(72)



Performance	Inches	1.5	2	3	4	6	8	10	12
	mm	40	50	80	100	150	200	250	300
> 95% Accuracy	GPM	0.25	0.25	0.6	1.7	4	8	32	32
	m^3/h	0.06	0.06	0.14	0.4	0.9	1.8	7.3	7.3
98.5% - 101.5% Accuracy	GPM	1-130	1-220	2-550	4-880	8-1400	16-3500	50-5500	65-5500
	m^3/h	0.23-30	0.23-50	0.5-125	0.9-200	1.8-318	3.6-795	11.4-1249	14.8-1249
Maximum flow	GPM	130	220	550	880	1400	3500	5500	5500
	m^3/h	30	50	125	200	318	795	1249	1249
Max. operating pressure	psi	175	230	230	230	230	230	150	150
	Bar	12	16	16	16	16	16	10	10



Low-Battery
The indicator will blink when the meter has approximately 3 months working life remaining.

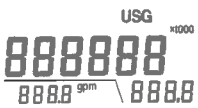
End of Life Battery
Measurement stopped. The display will go blank. The last recorded value is retained in memory. When the battery is replaced, the meter and display will operate normally. Typical life per replaceable battery pack:
1 ½" to 4" - Ten years
6" - Seven years
8" to 12" - Five years.

No-Water
The indicator will blink when there is an empty pipe condition or no water in the meter.

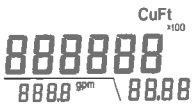
Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

1½" - 4" USG

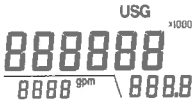


1½" - 4" Cuft

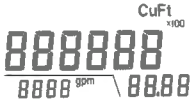


1½" - 4" M^3

6" - 12" USG



6" - 12" Cuft



6" - 12" M^3

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evoQ$_4$ Electromagnetic Meter

Size 2" to 12"

The evoQ$_4$ is a single meter that meets the needs of traditional turbine, compound, single jet and magnetic meters.

Operation

The evoQ$_4$ is a battery powered electromagnetic water meter that is suitable for a wide range of metering applications. Using Faraday's law of electromagnetic induction, two magnets provide a magnetic field within the pipe; two electrodes measure the induced voltage that is proportional to the flow of conductive water through the field in the pipe. Every 0.5 seconds the measurement is taken and the totalized volume is calculated and updated on the LCD display.

The meter is designed for 10 years of continuous operation with no battery changes necessary.

Application

The meter is for general use with potable cold water up to 120°F. The meter will typically register at +/-0.75% accuracy at normal and high flows and better than 95% accuracy at extended low flows. The evoQ$_4$ product line is suited for metering utility customer services for potable water. With the addition of outputs described below, the meter can fulfill a number of distribution management roles as well.

Pulse or encoder output

The meter can be fitted with a pulse output device that can be attached to a radio transceiver module or a data logger. The pulse output can be programmed in the factory to meet the needs of the utility. For utilities preferring encoded output technologies, an encoder module is available for interface with AMR or AMI systems.

Remote display

The meter can be fitted with a remote display. A two channeled output can provide both forward and reverse pulses.

Connections

The evoQ$_4$ comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion. The 2" comes with an oval flange and the 3"- 12" come with a round flange. All flanges conform to ANSI B16.1 Class 125 standards. Allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for optimum performance.

FEATURES AND BENEFITS

10 year continuous life: No need for costly and time-consuming replacement.
No moving parts: Maintenance free.
0.5 second sampling rate: Highest accuracy.
Wide measuring range: Suitable for all commercial applications.
Simple installation: No additional training required.
Pulse or encoder connectivity: Pre-equipped or retrofitted for your AMR and telemetry needs.
AWWA lay lengths: Simple changeout.
IP68 sealed: Provides long, trouble-free life.
NSF61 Annex G listed: Zero lead contaminants.

LCD

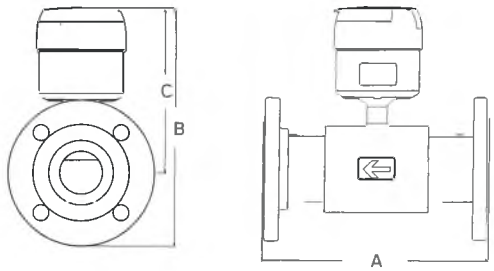
Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long term reliability.

Materials

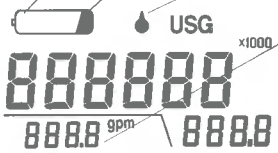
Body: Stainless steel grade 304
Flow tube: Stainless steel grade 316
Liner: Polyethylene epoxy
Electrodes: Stainless steel grade 316
Flanges: Epoxy coated cast iron
Register: Stainless steel with glass lens
Register housing/lid: UV-resistant plastic
Environmental class: IP68 hermetically sealed unit waterproof to 30 ft depth

Dimensions and net weight

Meter Size	A		B		C		Weight	
	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
2"	10	(254.0)	11.24	(285.5)	8.12	(206.2)	11.0	(5)
3"	12	(304.8)	12.27	(311.7)	8.52	(216.3)	22.5	(10)
4"	14	(355.6)	13.22	(335.8)	8.72	(221.5)	35.5	(16)
6"	18	(457.2)	15.32	(389.1)	9.82	(249.4)	55.5	(25)
8"	20	(508.0)	17.16	(435.9)	10.71	(272.0)	81.5	(37)
10"	17.75	(450)	19.50	(495.3)	11.50	(292.1)	120.0	(55)
12"	19.7	(500)	21.00	(533.4)	11.50	(292.1)	159.0	(72)



Performance	Inches	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	300
> 95% Accuracy	GPM	0.25	0.6	1.7	4	8	32	32
	m³/h	0.06	0.14	0.4	0.9	1.8	7.3	7.3
98.5% - 101.5% Accuracy	GPM	1-220	2-550	4-880	8-1400	16-3500	50-5500	65-5500
	m³/h	0.23-50	0.5-125	0.9-200	1.8-318	3.6-795	11.4-1249	14.8-1249
Maximum flow	GPM	220	550	880	1400	3500	5500	5500
	m³/h	50	125	200	318	795	1249	1249
Max. operating pressure	psi	230	230	230	230	230	150	150
	Bar	16	16	16	16	16	10	10



Low-Battery
The indicator blinks when the meter has approximately 3 months working life remaining.

End of Life Battery
Measurement stopped. The indicator appears permanently when the meter life expires. Data is displayed for up to 9 months.

No-Water
The indicator blinks when there is an empty pipe condition.

Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

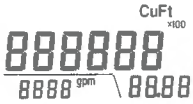
Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

2" - 4" USG

6" - 12" USG

2" - 4" Cuft

6" - 12" Cuft



2" - 4" M³

6" - 12" M³

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evoQ$_4$ Electromagnetic Meter - LF Low Flow

Size 1 ½" and 2"

The evoQ$_4$ Low Flow brings stable, accurate measurement to mid-size meter applications.

Operation

The evoQ$_4$ Low Flow is a battery powered electromagnetic water meter that is suitable for a wide range of metering applications. Using Faraday's law of electromagnetic induction, two magnets provide a magnetic field within the pipe; two electrodes measure the induced voltage that is proportional to the flow of conductive water through the field in the pipe. Every 0.5 seconds the measurement is taken and the totalized volume is calculated and updated on the LCD display. The meter is designed for 10 years of continuous operation with no battery changes necessary.

Application

The meter is for use with potable cold water up to 120°F. The meter will typically register at +/-0.75% accuracy at normal and high flows and better than 95% accuracy at extended low flows. The evoQ$_4$ product line is suited for metering utility customer services for potable water. With the addition of outputs described below, the meter can fulfill a number of distribution management roles as well. The meter is particularly suited to replacing AWWA C700 and C712 mechanical meters for utility billing.

Outputs

The evoQ$_4$ LF can be fitted with one of the output modules available for the meter product line. These modules are common among all sizes and variants of evoQ4. Current modules include pulse (with two pulse channels), Elster protocol encoder, Sensus protocol encoder, the combined pulse + Sensus encoder module, and the remote display interface module. Please see individual specification sheets for these modules.

Connections

The evoQ$_4$ LF comes in AWWA C700/C712 meterlay lengths. The oval flanges are epoxy coated cast iron to reduce weight and prevent corrosion and conform to ANSI B16.1 Class 125 standards. Full face gaskets are provided with each meter. Allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for optimum performance.

FEATURES AND BENEFITS

Improved low flow performance: Detect smaller leaks
No moving parts: No accuracy degradation.
0.5 second sample rate: Suitable for billing apps.
Floating flanges: Easy to install.
Pulse, Encoder, or Remote: Integrate with AMR / AMI.
AWWA lay lengths: No spool pieces or pipe work.
IP68 sealed: Submersible and reliable.
NSF61 listed: Approved for potable water.
10 year continuous life: Eliminate maintenance visits.

LCD

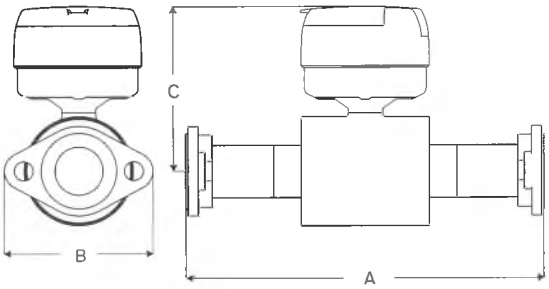
Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long term reliability.

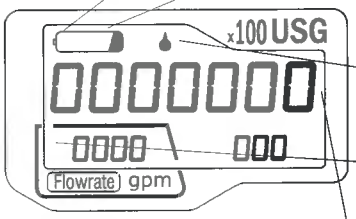
Materials

Body: Stainless steel grade 304
Flow tube: Stainless steel grade 316
Liner: Polyethylene epoxy
Electrodes: Stainless steel grade 316
Flanges: Epoxy coated cast iron
Register: Stainless steel with glass lens
Register housing/lid: UV-resistant plastic
Environmental class: IP68 hermetically sealed unit waterproof to 30 ft depth

Dimensions and net weight

Meter Size	A		B		C		Weight	
	in	(mm)	in	(mm)	in	(mm)	lbs.	(kg.)
1 ½"	13	(330)	5 ¼	(140)	6	(152)	9	(4.1)
2" x 17"	17	(432)	6 ¼	(159)	6	(152)	11.5	(5.2)





Low-Battery
The indicator blinks when the meter has approximately 3 months working life remaining.

End of Life Battery
Measurement stopped. The indicator appears permanently when the meter life expires. Data is displayed for up to 9 months.

No-Water
The indicator blinks when there is an empty pipe condition.

Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

USG

Cuft

M³

Performance	1 ½"	(DN 40mm)	2"	(DN 50mm)
> 95% Accuracy GPM (m^3/h)	0.25	(0.057)	0.25	(0.057)
98.5%-101.5% Accuracy GPM (m^3/h)	1-130	(0.227-30)	1-170	(0.227-39)
Maximum flow* GPM (m^3/h)	130	(30)	170	(39)
Max. Operating Pressure psi (bar)	175	(12)	175	(12)

*Flow in excess of maximum does not affect performance at flows within limits

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evoQ$_4$ Electromagnetic Meter - AL Alternative Length

Size 1 ½" to 2"

The evoQ$_4$ is a single meter that meets the needs of traditional turbine, compound, single jet and electromagnetic meters.

Operation

The evoQ$_4$ is a battery powered electromagnetic water meter that is suitable for a wide range of metering applications. Using Faraday's law of electromagnetic induction, two magnets provide a magnetic field within the pipe; two electrodes measure the induced voltage that is proportional to the flow of conductive water through the field in the pipe. Every 0.5 seconds the measurement is taken and the totalized volume is calculated and updated on the LCD display. The meter is designed for 10 years of continuous operation with no battery changes necessary.

Application

The meter is for general use with potable cold water up to 120°F. The meter will typically register at +/-0.75% accuracy at normal and high flows and better than 95% accuracy at extended low flows. The evoQ$_4$ product line is suited for metering utility customer services for potable water. With the addition of outputs described below, the meter can fulfill a number of distribution management roles as well.

Pulse or encoder output

The meter can be fitted with a pulse output device that can be attached to a radio transceiver module or a data logger. The pulse output can be programmed in the factory to meet the needs of the utility. For utilities preferring encoded output technologies, an encoder module is available for interface with AMR systems.

Remote display

The meter can be fitted with a remote display. A two channeled output can provide both forward and reverse pulses.

Connections

The evoQ$_4$ AL comes in AWWA C700/C712 meterlay lengths. The oval flanges are epoxy coated cast iron to reduce weight and prevent corrosion and conform to ANSI B16.1 Class 125 standards. Allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for optimum performance.

FEATURES AND BENEFITS

10 year continuous life: No need for costly and time-consuming replacement.
No moving parts: Maintenance free.
0.5 second sampling rate: Highest accuracy.
Wide measuring range: Suitable for all commercial billing applications.
Simple installation: No additional training required, no programming.
Pulse or encoder connectivity: Pre-equipped or retrofitted for your AMR and telemetry needs.
AWWA lay lengths: Simple changeout.
IP68 sealed: Provides long, trouble-free life.
NSF61 Annex G listed: Zero lead contaminants.

LCD

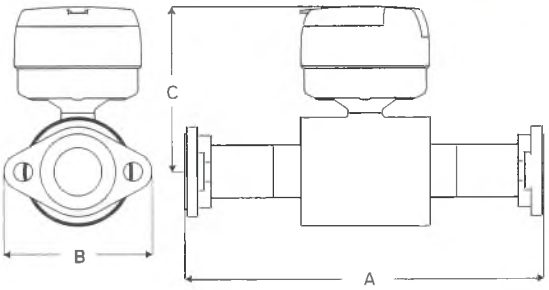
Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long term reliability.

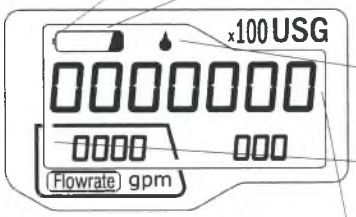
Materials

Body: Stainless steel grade 304
Flow tube: Stainless steel grade 316
Liner: Polyethylene epoxy
Electrodes: Stainless steel grade 316
Flanges: Epoxy coated cast iron
Register: Stainless steel with glass lens
Register housing/lid: UV-resistant plastic
Environmental class: IP68 hermetically sealed unit waterproof to 30 ft depth

Dimensions and net weight

Meter Size	A		B		C		Weight	
	in	(mm)	in	(mm)	in	(mm)	lbs.	(kg.)
1 ½"	13	(330)	6 ¼	(158.8)	6	(152)	10	(4.5)
2" AL3	10	(250)	6 ¼	(158.8)	6	(152)	10	(4.5)
2" AL1	15 ¾	(400)	6 ¼	(158.8)	6	(152)	10	(4.5)
2" AL2	17	(431)	6 ¼	(158.8)	6	(152)	11.5	(5.2)





Low-Battery
The indicator blinks when the meter has approximately 3 months working life remaining.

End of Life Battery
Measurement stopped. The indicator appears permanently when the meter life expires. Data is displayed for up to 9 months.

No-Water
The indicator blinks when there is an empty pipe condition.

Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

USG

Cuft

M³

Performance	1 ½"	(DN 40mm)	2"	(DN 50mm)
> 95% Accuracy GPM (m^3/h)	0.5	(0.11)	0.5	(0.11)
98.5%-101.5% Accuracy GPM (m^3/h)	2	(0.5)	2	(0.5)
Maximum flow GPM (m^3/h)	220	(50)	220	(50)
Max. Operating Pressure psi (kPa)	150	(10)	150	(10)

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EVOQ$_4$ FOR RECLAIMED WATER APPLICATIONS

Electromagnetic Meter sizes 1½ - 12"

As increasing demands strain water resources, water utilities need innovative ways to measure user's water consumption.

Electronic water metering offers utilities the means to fairly bill all consumers without costly meter testing and maintenance programs. Degradation of meter accuracy from mechanical wear in older meters means lost revenue and unaccounted water that utilities need not tolerate.

Our evoQ$_4$ electronic water meters provide utilities with reliable metering performance, flexibility to connect to all major reading systems, and improved commercial meter data resolution. These benefits are now available for reclaimed water systems. evoQ$_4$ RW includes the lilac identifying lid and appropriate application allowances for use measuring reclaimed water.

The evoQ$_4$ electromagnetic Meter RW is designed for 10 years of continuous operation with no battery changes necessary.

OPERATION

The evoQ$_4$ is a battery powered electromagnetic water meter that meets AWWA Standard C715. It is suitable for a wide range of metering applications, including reclaimed water. Using Faraday's law of electromagnetic induction, magnets provide a magnetic field within the pipe; two electrodes measure the induced voltage that is proportional to the flow of conductive water through the field in the pipe. Every 0.5 seconds the measurement is taken and the totalized volume is calculated and updated on the LCD display. The meter measures flow velocity and infers totalized volume; allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for optimum performance.

APPLICATION

The evoQ$_4$ product line is suited for metering utility customer services The reclaimed water version is for general use with reclaimed cold water up to 120°F; this reclaimed water version carries the lilac shroud marking to identify the meter should never be used in potable water systems. Reclaimed water should be treated to a level to allow beneficial uses. Treatment should include oxidation, coagulation, filtration, and disinfection. This version of the meter is not intended for use with untreated sewerage and wastewater.

FEATURES AND BENEFITS

10 YEAR CONTINUOUS LIFE
No need for costly and time consuming replacement.

NO MOVING PARTS
Maintenance free.

0.5 SECOND SAMPLING RATE
Highest accuracy.

WIDE MEASURING RANGE
Suitable for all commercial metering applications.

SIMPLE INSTALLATION
No additional training required.

PULSE OR ENCODER CONNECTIVITY
Pre-equipped or retrofitted for your AMR and telemetry needs.

AWWA LAY LENGTHS
Simple changeout.

IP68 SEALED
Provides long, trouble-free life.

Honeywell

With the addition of outputs described below, the meter can fulfill a number of distribution management roles as well.

PULSE OR ENCODER OUTPUT

The meter can be fitted with a pulse output device that can be attached to a radio transceiver module or a data logger. The pulse output can be programmed in the factory to meet the needs of the utility. For utilities preferring encoded output technologies, a selection of encoder modules are available for interface with AMR or AMI radio systems.

REMOTE DISPLAY

The meter can be fitted with a remote display. A two channeled output can provide both forward and reverse pulses.

CONNECTIONS

The evoQ$_4$ comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion.

The 1 ½" and 2" meters come with an oval flange and the 3"- 12" meters come with a round flange.

All flanges conform to ANSI B16.1 Class 125 standards.

LCD

Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long term reliability.

MATERIALS

Body: Stainless steel grade 304
Flow tube: Stainless steel grade 316
Liner: Polyethylene epoxy
Electrodes: Stainless steel grade 316
Flanges: Epoxy coated cast iron
Register: Stainless steel with glass lens
Register housing/lid: UV-resistant plastic
Environmental class: IP68 hermetically sealed unit waterproof to 30 ft depth

DIMENSIONS AND NET WEIGHT

See the meter variant specification sheet for dimensions and weight.

PERFORMANCE DATA

See the meter variant specification sheet for performance specifications.

DISPLAY ELEMENTS

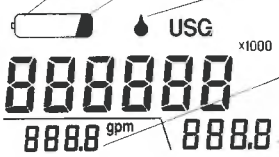
See the meter variant specification sheet for display element details for each type and size.

VARIANTS AVAILABLE FOR CONFIGURATION FOR USE IN RECLAIMED WATER APPLICATIONS INCLUDE:

evoQ4 Standard

evoQ4 Alternate Length

evoQ4 Low Flow



Low-Battery
The indicator blinks when the meter has approximately 3 months working life remaining.

End of Life Battery
Measurement stopped. The indicator appears permanently when the meter life expires. Data is displayed for up to 9 months.

No-Water
The indicator blinks when there is an empty pipe condition.

Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

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evoQ$_4$ Electromagnetic Fire Service Meter

Size 1½" to 8"

The 3" - 8" evoQ$_4$ FSM comes with a full FM Standard 1044 approval and UL SU327B listing for use as a fire service instrument. 1½ and 2" meters include the UL listing.

Replace large mechanical fire service assemblies with an easily fit solid state meter.

Operation

The evoQ$_4$ is a battery powered electromagnetic water meter that is suitable for a wide range of metering applications. Using Faraday's law of electromagnetic induction, two magnets provide a magnetic field within the pipe that measures the flow of the conductive water. There is no mechanical assembly that could restrict flows for fire service; without moving parts regular maintenance is also not required. The meter is designed for 10 years of continuous operation with no battery changes necessary. With a sampling rate of 0.5 seconds, the evoQ$_4$ has excellent accuracy over a wide flow range.

Application

The meter is for use only with potable cold water up to 120°F. The meter will typically register at +/-0.75% accuracy at normal and high flows and better than 95% accuracy at low flows. Accuracy tests are made before shipment, so no adjustments need to be made before installation. The approval of FM1044 and/or UL SU327B indicates this meter can be used in lieu of AWWA C703 mechanical fire assemblies.

Pulse or encoder output

The meter can be fitted with a pulse output device that can be attached to a radio transceiver module or a data logger. The pulse output can be programmed in the factory to meet the needs of the utility. For utilities preferring encoded output technologies, an encoder module is available for interface with AMR systems.

Remote display

The meter can be fitted with a remote display. A two channeled output can provide both forward and reverse pulses.

Connections

The evoQ$_4$ comes in AWWA C701 Class II Turbine meter lay lengths. The flanges are epoxy coated cast iron to reduce weight and prevent corrosion. All flanges conform to ANSI B16.1 Class 125 standards. Allow for 5 pipe diameters of straight pipe upstream and 3 pipe diameters of straight pipe downstream for maximum performance. Spool pieces are available to fill typical mechanical FSM assembly lay lengths.

FEATURES AND BENEFITS

10 year continuous life: No need for costly and time-consuming replacement.
No moving parts: Maintenance free.
0.5 second sampling rate: Highest accuracy.
Wide measuring range: Suitable for all commercial applications.
Simple installation: No additional training required.
Pulse or encoder connectivity: Pre-equipped or retrofitted for your AMR and telemetry needs.
AWWA lay lengths: Simple changeout.
IP68 sealed: Provides long, trouble-free life.
NSF61 Annex G listed: Zero lead contaminants.

LCD display

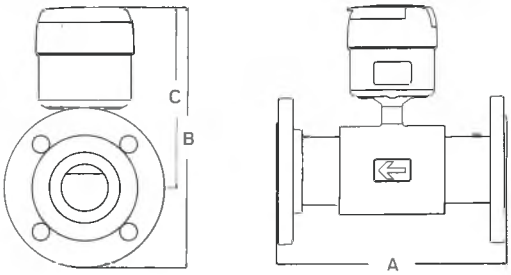
Bright, large and easy-to-read LCD display incorporating integrating volume and a reference flow-rate indicator. Alarm functions provide in-situ status ensuring no loss in measuring continuity. An IP68 seal ensures the meter electronics are safely protected providing long-term reliability.

Materials

Body: Stainless steel grade 304
Flow tube: Stainless steel grade 316
Liner: Polyethylene epoxy
Electrodes: Stainless steel grade 316
Flanges: Epoxy coated cast iron
Register: Stainless steel with glass lens
Register housing/lid: UV-resistant plastic
Environmental class: IP68 hermetically sealed unit waterproof to 30 ft depth

Dimensions and net weight

Meter Size	A		B		C		Weight	
	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
1.5"	13	(330)	8	(203.2)	6	(152)	9	(4.1)
2"	17	(432)	8	(203.2)	6	(152)	11.5	(5.2)
3"	12	(304.8)	12.27	(311.7)	8.52	(216.3)	22.5	(10)
4"	14	(355.6)	13.22	(335.8)	8.72	(221.5)	35.5	(16)
6"	18	(457.2)	15.32	(389.1)	9.82	(249.4)	55.5	(25)
8"	20	(508.0)	17.16	(435.9)	10.71	(272.0)	81.5	(37)



LCD functions

A low-battery indicator appears when the battery voltage is closing towards the end of its useful life. A no-water indicator blinks indicating an empty pipe condition such as, no water within the meter. The flow rate is displayed in forward and reverse; if water is flowing in the reverse direction a minus sign is displayed. The net volume of water measured is displayed at all times.

Low-Battery
The indicator blinks when the meter has approximately 3 months working life remaining.

End of Life Battery
Measurement stopped. The display will go blank. The indicator appears permanently when the meter life expires. Data is displayed for up to 9 months.

No-Water
The indicator will blink when there is an empty pipe condition.

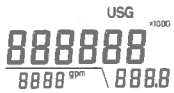
Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

1½" - 2" USG

3" - 4" USG

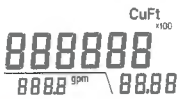
6" - 8" USG



1.5" - 4" M³

1½" - 2" Cuft

3" - 4" Cuft



6" - 8" Cuft

6" - 8" M³

Performance	Inches	1.5	2	3	4	6	8
	mm	40	50	80	100	150	200
> 95% Accuracy	GPM	0.25	0.25	0.6	1.7	4	8
	m³/h	0.057	0.057	0.14	0.4	0.9	1.8
*98.5% - 101.5% Accuracy	GPM	1-130	1-170	2-550	4-880	8-1400	16-3500
	m³/h	0.227-30	0.227-39	0.5-125	0.9-200	1.8-318	3.6-795
**Maximum flow	GPM	130	270	550	880	1400	3500
	m³/h	30	39	125	200	318	795
***Max. operating pressure	psi	175	175	230	230	230	230
	Bar	12	12	16	16	16	16

*UL listing covers normal flow ranges (98.5 - 101.5% accuracy)
**Typical maximum registered flow. evoQ4 is unaffected by deluge flows delivered for fire services
***UL listing applies to operating pressure of 175psi

NSF
UL LISTED
FM APPROVED
3" - 8"

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evoQ$_4$ Outputs

evoQ$_4$ Pulse Output Module

Operation

The evoQ$_4$ pulse module provides a reliable output communication for connection to all common data management devices, including data-loggers, AMR/I and SCADA systems. The pulse unit is self powered using its own batteries and does not affect the meter life.

Communication between the meter and the pulse module is via an infra-red LED and an optical sensor. A rubber grommet maintains a clear pathway.

Installation

The pulse unit can be fitted at any time to the evoQ$_4$ meter, either pre-shipment or in-the-field. Simply connect the pulser to the meter for instant functionality. The unit is fully hermetically sealed and is suitable for use in flooded pits up to a water depth of 30 feet. See evoQ$_4$ installation operation manual for details.

Pulse output

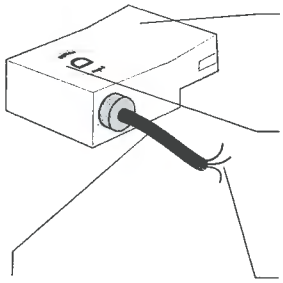
The evoQ$_4$ pulser features a dual channel, bi-directional capable pulse output and alarm indicator.

Alarm[1]

The alarm output channel can provide an output signal to indicate:

- Meter low battery
- Pulser low battery
- Measurement stopped / No water
- Tamper (pulser removed from meter)

SPECIFICATIONS	
Operating temperature	15 °F to 120 °F, -10 °C to +55 °C
Pulse output signal	Open drain NPN current sink
Maximum load current	20mA
Maximum load voltage	30V DC
Power	Battery powered, 10 years
Maximum pulse transmitter distance	200 meters, 650 feet
Standard cable length	10 meters (30 ft), 30 meters optional (98 ft)
Environmental rating	IP 68 / NEMA 6P
Dimensions (mm, in)	H 35 x W 55 x D 70, 1.4" x 2.2" x 2.75"
Weight	17oz, approx. 500 grams with 10m cable (30ft)
Minimum pulse width	100ms ± 10ms



Robust communication cable in standard 10m (30 ft) length; 30m (98ft) version is also available.

Pulser

The evoQ$_4$ pulser is fully sealed, IP68 unit suitable for installation in flooded environments.

Pulse option label denotes the pulse configuration of the unit (see table below).

A4-wire outputs:
Red - Pulse channel 1
White - Pulse channel 2
Black - Alarm output*
Green - Common..

PULSE OUTPUT OPTIONS					
Wire color	Red	White	Black	Green	
Function	Channel 1	Channel 2	Alarm	Common / Ground	
Pulse option label	Pulse weight				Note
F	1 USG / 0.1 Cuft / 1 L	1 USG / 0.1 Cuft / 1 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
K	10 USG / 1 Cuft / 10 L	10 USG / 1 Cuft / 10 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
M	100 USG / 10 Cuft / 100 L	100 USG / 10 Cuft / 100 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
P	1000 USG / 100 Cuft / 1000 L	1000 USG / 100 Cuft / 1000 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
G	1 USG / 0.1 Cuft / 1 L	10 USG / 1 Cuft / 10 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
D*	10 USG / 1 Cuft / 10 L	100 USG / 10 Cuft / 100 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
L	10 USG / 1 Cuft / 10 L	1000 USG / 100 Cuft / 1000 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
N	100 USG / 10 Cuft / 100 L	1000 USG / 100 Cuft / 1000 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
H	1 USG / 0.1 Cuft / 1 L	100 USG / 10 Cuft / 100 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
J	1 USG / 0.1 Cuft / 1 L	1000 USG / 100 Cuft / 1000 L	Alarm	Common / Ground	Net total (Fwd - Rev); Net total (Fwd - Rev)
E	1 USG / 0.1 Cuft / 1 L	Direction Flag	Alarm	Common / Ground	Ch1 Pulse Fwd AND Rev; Ch2 Direction flag
B	1 USG / 0.1 Cuft / 1 L	1 USG / 0.1 Cuft / 1 L	Alarm	Common / Ground	Ch1 Pulse Fwd; Ch2 Pulse Rev
S					Non Standard Configuration

1. Standard configuration if no pulse weight specified
Fwd - Rev: Forward pulses net of any reverse flow using compensation method internal to pulse module
Fwd AND Rev: Forward and Reverse pulses (direction flag outputs high state on forward flow)
Users should check compatibility with electrical requirements of data loggers, SCADA systems, PLC etc.

evoQ$_4$ Electromagnetic Meter

MX 42 VP Module - Pulse and Encoder Module

Operation

The VP module for evoQ$_4$ combines a sensus protocol encoder channel and a high resolution pulse channel for use with both an AMR/I radio end point and typical industrial monitoring systems using the pulse input. Remote counters, PLC, and SCADA systems are typical.

Specify encoder resolution (6 digit or 8 digit).
Encoder connection types include three wire bare - for splicing to three wire radio endpoints, and Itron or Nicor connectors.

Bare wire cable function:
Red: Data
Green: V+ (power)
Black: V0 (ground)

Pulse resolution is fixed but depends on the units of registration of the meter to which the module is attached.

USG: 1 pulse = 1 USG
CuFt: 1 pulse = 0.1 Cuft
M^3: 1 pulse = 1 Liter

The pulse logic is fixed at Forward Net.
Reverse totalization will not cause an output, but reverse total is stored in a memory buffer. As forward flow resumes, The reverse total buffer will decrease until forward flow has equaled the buffer, in effect zeroing it out. The pulse train then resumes as normal with continued forward flow.

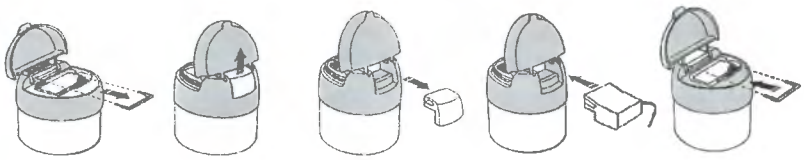
Pulse cable function:
Green: Pulse signal
Black: V0 (ground).

SPECIFICATIONS	
Power source	3 V Lithium battery (10 yr)
Environmental rating	NEMA 6P / IP68
Operating temp.	14 to 131°F (-10 to 55 °C)
Storage temp.	-4 to 140 °F (-20 to 60 °C)
Materials	ABS Resin

ENCODER	
Protocol	Sensus (specify 6 or 8 digit)
Encoder ID	10 digit fixed
Connection	25' cable with bare wire, Nicor or Itron connector

PULSE	
Pulse logic	Forward Net
Pulse weight	1 pulse = 1 USG / 0.1 Cuft / 1 L
Max. pulse frequency	100 hz
Min. pulse width	5 ms
Signal type	Open drain FET
Connection	Bare wire 25'
Max. load current	20mA
Max. load voltage	30 VDC

INSTALLATION



Lift the lid, using a small screwdriver blade, carefully remove the pulser clip.
Remove the blank cover by lifting up...
...and then slide out.
Fit the Encoder unit in the opposite manner to the cover removal.
Replace the securing clip (lugs uppermost).

Warning: Take care not to dislodge the rubber gasket on the underside of the unit when fitting / removing.

Find Out More

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Honeywell

R420 Rate Indicator/Transmitter

Microprocessor based rate indicator/transmitter totalizer

Cutout: 5.38" W x 2.62" H

(Flow) Input:	Pulse or Contact Closure. Internal 5.8K ohm pull-up resistor to 5 VDC.
Input A:	Flow input, frequency: 40, 400, or 7500 HZ. Averaging may be performed to smooth pulsating flow conditions (requires programming).
Control Inputs:	Pulse or contact closure. There are five wired control inputs that can be used for remote operations. 1. Unlatched totalizer set point output. 2. Reset totalizer count. 3. Unlatched rate Hi/Lo set point output. 4. Unlatched totalizer and rate set point outputs. 5. Reset totalizer count, unlatch totalizer and rate Hi/Lo set point outputs.
Current output:	4-20 mA. Loop power may be obtained from the internal 24 VDC supply. Load impedance: 1000 Ohms at 24 VDC. Response Time: 0.5 Sec. or (follows rate indicator). Accuracy: + 0.1% of point at 70 °F. + 0.25% over temp. range.
Control Output:	Four electronic outputs may be used to drive electromechanical devices, lights, alarms, computer. Outputs are capable of controlling loads up to 150 mA max., 30 VDC max. 1. Scaled pulse output with designated pulse width. 2. Totalizer set point output. 3. Low rate set point output. 4. High rate set point output. Note: Rate Hi/Lo Set point output operations may either: follow the flow; be latched; or be timed from 0.01 to 99.99 seconds. The totalizer set point output operation may be either: latched; or timed from .01 to 99.99 seconds.
Accuracy:	+ 0.05% of point.
K Factor:	0.0001 to 99999
Rate Update:	99 sec. max. to 0.5 sec. min.
Rate Smoothing:	Designate 0.5 to 7.5 second dynamic averaging on 0.5 second increments appropriate to flow input speed to 2 HZ and above.
Temperature:	Operating: 32 to 131°F. (0 to 55°C.) Storage: -40 to 158°F. (-40 to 70°C.)

The model R420 microprocessor based rate indicator/transmitter totalizer, affords you the ability to display rate, total and (low/high) set points. The transmitter also supplies outputs for driving lights, alarms, totalization for remote and 4-20 mA signal for communication with recorders or like equipment.

A special mode gives you the capability of viewing two parameters such as rate and total at the same time. The R420 contains a set point lockout system to prevent unauthorized changes from the front panel.

The R420 is equipped with an easy to use menu system for programming. The transmitter features a 10-year memory back-up of all program settings, in case of power failure.

The R420 has RS-485 communications for interfacing with a computer.

elster

Power Supply: 115 VAC. When powered from AC source, the R420 will output 24 VDC at 100 milliamps max. The unit may also be powered by 18 to 27 VDC if AC power is not used.

Display: Six digit flow rate indication. Three alphabetical character display flow rate units. Ten digit flow totalization.

Weight: 2 lbs.

Enclosure: Panel Mount: Key Pad is NEMA 4x with gasket.

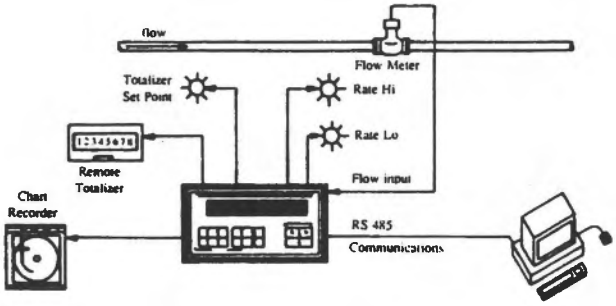
Communication: Type: RS-485 multidrop wiring terminals.

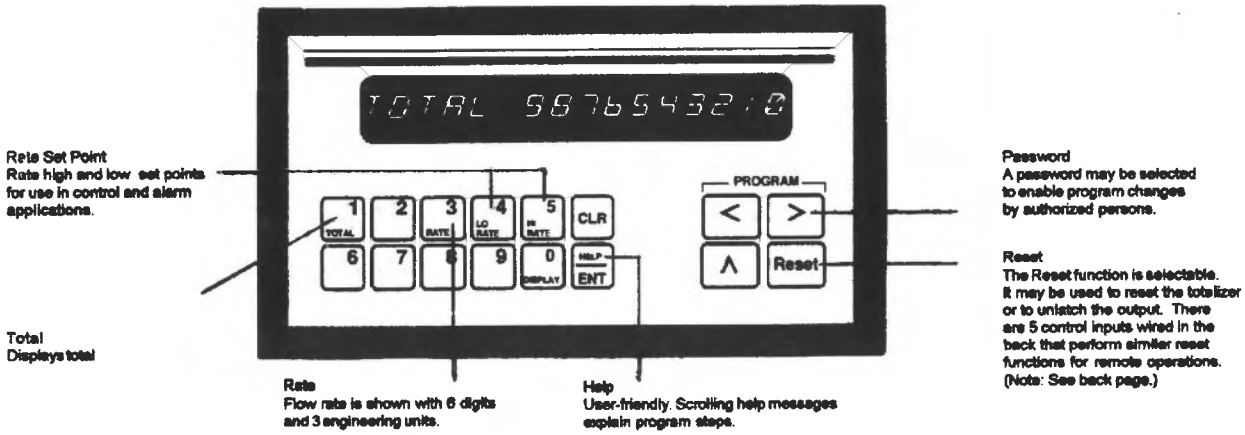
Wiring Terminals: 14 AWG max.; detachable.

Dimensions:

Panel Cutout:		Front Panel:	
Height:	2.62"	Height:	3.42"
Width:	5.38"	Width:	6.18"
Depth:	4.125"		

Typical Application





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IND-420/06-07

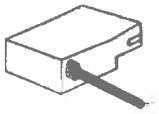
evoQ$_4$ Electromagnetic Meter
Elster Protocol Encoder Module

Operation

The evoQ$_4$ electronic water meter offers users flexibility in output choices. The modular design of the output interface allows utilties to easily retrofit meters to upgrade from direct reading or switch among different output modules. The Elster protocol encoder module is appropriate for interface where Honeywell mechanical water meters using InvisionTM Encoder register connected the meter to the utility Automatic Meter Reading system or Automated Metering Infrastructure. Touch reading via inductive pads is supported as well. Upgrading from Touch reading to AMR does not require a module change.

The module operates via optical interface with the evoQ$_4$ register output. The meter register and the potted encoder module remain fully protected from water ingress, retaining the outstanding reliability inherent to the evoQ$_4$ product line. The electronic register information is decoded by the encoder and translated to the ASCII standard frame message. Endpoints and interogation devices obtain the reading through normal transmission processes.

Optional connection variants include bare wire with field splice kits for indoor or submerged locations, Nicor Connector, or Itron In-Line Connector™.



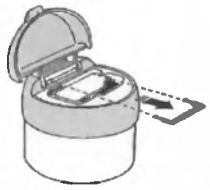
Generic Wire Diagram:

Red: Data
White: V+ (power)
Black: V0 (ground)

SPECIFICATIONS	
Protocol	Elster K frame
Encoded digits	6 most significant
Encoder ID.	10 digit fixed
Power source.	Lithium battery (10 yr)
Environmental rating (with appropriate splice kit)	NEMA 6P / IP68
Cable lengths (bare wire)	30 feet, 90 feet
Optional connectors (25')	Itron In Line Connector™ Nicor Connector™
Compatibility	Honeywell EnergyAxis® MegaNet™ Enc MTU Itron™ 60W, 60W-R, 200W, 100W Datamatic™Firefly, MOSAIC Others, contact AMI provider tech support
Materials module	ABS Resin 3 conductor AWG 22 cable

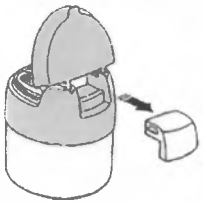
Six digit resolution	1000 US Gallons 100 Cubic Feet 1 Cubic Meter

INSTALLATION

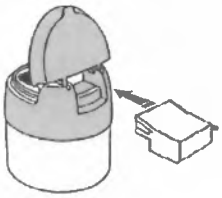


Lift the lid, using a small screwdriver blade, carefully remove the pulser clip.

Remove the blank cover by lifting up...



...and then slide out.



Fit the Encoder unit in the opposite manner to the cover removal.

Replace the securing clip (lugs uppermost).

Warning: Take care not to dislodge the rubber gasket on the underside of the unit when fitting / removing.

evoQ$_4$ Electromagnetic Meter
Sensus Encoder Module

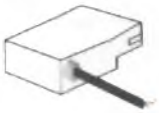
Operation

The Honeywell AMCO Water evoQ$_4$ Sensus Protocol encoder module is designed for use with 3 wire radio endpoints. The 3 wire to 2 wire adapter module is necessary to allow the encoder to interface with 2 wire endpoints such as wall or pit pads for touch reading or AMR devices that utilize a 2 wire coupler integrated into the radio module.

The encoder reading is obtained through the normal means of interrogation of the reading point via radio endpoint.

The Sensus (also called V frame) protocol is transmitted from the encoder module and reported to the interrogating device.

Reading resolution is determined by the version of Sensus protocol encoder module used and the programming set in the handheld. Either 6 digit or 8 digit reads are transmitted.



Generic Wire Diagram:
Red: Data
White: V+ (power)
Black: V0 (ground)

SPECIFICATIONS	
Protocol	Sensus V frame
Encoded digits	v_6 -6 most significant v_8-8 most significant
Encoder ID.	10 digit fixed
Power source.	**Lithium battery (10 yr)**
Environmental rating (with appropriate splice kit)	NEMA 6P / IP68
Cable lengths (bare wire)	30 feet, 90 feet
Optional connectors (25')	Itron In Line Connector™ Nicor Connector™
Compatibility	Honeywell EnergyAxis® MegaNet™ Enc MTU Itron™ 60W, 60W-R, 200W, 100W Datamatic™Firefly, MOSAIC Others, contact AMI provider tech support
Materials module	ABS Resin 3 conductor AWG 22 cable

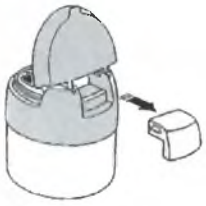
Six digit resolution	1000 US Gallons 100 Cubic Feet 1 Cubic Meter
Eight digit resolution	10 US Gallons 1 Cubic Foot 1 Liter

evoQ$_4$ Size and Units	1.5"-4" USG	6"-12" USG	1.5"-4" CuFt	6"-12" CuFt	1.5"-4" M^3	6"-12" M^3
Resolution						
6 Digit Sensus encoder module	123456 x 1000 USG	123456 x 1000 USG	123456 x 100 CuFt	123456 x 100 CuFt	123456 x 1 M^3	123456 x 1 M^3
8 Digit Sensus encoder module	12345678 x 10 USG	12345678 x 10 USG	12345678 x 1 CuFt	12345678 x 1 CuFt	12345678 x 10 L	12345678 x 10 L

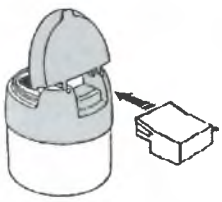
INSTALLATION

Lift the lid, using a small screwdriver blade, carefully remove the pulser clip.

Remove the blank cover by lifting up...



. .and then slide out.



Fit the Encoder unit in the opposite manner to the cover removal.

Replace the securing clip (lugs uppermost).

Warning: Take care not to dislodge the rubber gasket on the underside of the unit when fitting / removing.

Honeywell
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evoQ$_4$ Electromagnetic Meter Remote Display

Sizes 1 ½" and 2"

The evoQ$_4$ is a single meter that meets the needs of traditional turbine, compound, single jet and magnetic meters. The evoQ$_4$ remote display gives the customer the ability to display the net total reading from the meter in a more easily accessible location.

Operation

The evoQ$_4$ remote display gives the customer the ability to display the net total reading from the meter in a more easily accessible location. The remote display is battery operated and reads the evoQ$_4$ via optical interface displaying the volume and flow in real time.

This remote display can be retrofitted in the field to the evoQ$_4$ meter at any time and provides simple plug and play operation.

The display value will update with the value shown on the meter register whenever a good connection is established.

Pulse output

The evoQ$_4$ remote display features a dual-channel pulse output giving the customer the ability to connect to multiple data management outlets, AMR/AMI or data logger systems. The pulse output comes in a standard format but can be changed in the field to one of a number of pulse logic options.

LCD

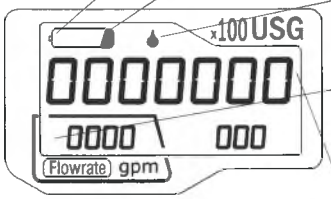
Bright, large and easy-to-read LCD incorporating totalized volume and a reference flow-rate indicator. Alarm functions provide real-time status ensuring no loss in measuring continuity. The remote display housing provides some protection from water and dust intrusion and meets a minimum of IP63 and NEMA-3R ratings.

Specifications

Operating temperature: -4°F to +140°F
Pulse output signal: Open drain N-channel Field Effect Transistor (operates like an NPN open collector transistor)
Maximum load current: 20 mA
Maximum load voltage: 30 V DC
Maximum distance between meter and remote: 100 ft
Maximum pulse transmitting distance: 650 ft
Standard cable length: 30 ft
Power: Battery matches the evoQ$_4$ battery with an anticipated 10 year life
Environmental class: IP63*
Dimensions: 3 ⅝" L x 1 ½" W x 6 ⅜" H
Register options: Available in USG, CuFt, m^3

***Note:** IP63 rating means the display is dust tight and will withstand water spray up to a 60° angle. The remote display cannot be submerged. For installation in more difficult conditions, user supplies further enclosure protection.

Display functions



Low-Battery
The indicator blinks when the meter has approximately 3 months working life remaining.

End of Life Battery
Measurement stopped. The indicator appears permanently when the meter life expires. Data is displayed for up to 9 months.

No-Water
The indicator blinks when there is an empty pipe condition.

Flow Rate
If water is flowing in the reverse direction a minus sign is displayed to the left of the value.

Net Volume
Any reverse flow is subtracted from the volume display. The top line displays billable units with the multiplier shown in upper right corner. Measurement resolution is provided in the lower right for testing.

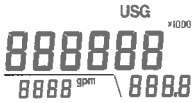
USG

x100

Cuft

x10

M³



x1000

x100

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Honeywell

Honeywell Process Solutions-Smart Energy- Elster AMCO Water LLC
Sales Terms and Conditions
(United States of America – English)

Honeywell

1. GENERAL DEFINITIONS

1.1. **Affiliate**" means any entity that controls, is controlled by, or is under common control with, another entity. An entity is deemed to "control" another if it owns directly or indirectly a sufficient voting interest to elect a majority of the directors or managing authority or to otherwise direct the affairs or management of the other entity. The term Affiliate includes, among other entities, subsidiaries.

1.2. "**Agreement**" means the written agreement, including these Sales Terms and Conditions and any addendum to them ("Addendum") together with relevant Orders, made between Buyer and Honeywell for the Deliverables.

1.3. "**Buyer**" means the entity issuing an Order.

1.4. "**Buyer Personal Data**" means Personal Data received by Honeywell from or on behalf of Buyer in connection with Honeywell's performance of its obligations under the Order as more particularly described in this Agreement.

1.5. "**Deliverables**" means equipment and parts (collectively "**Products**"), services ("**Services**") and Software, each supplied or licensed by Honeywell to Buyer under an Order.

1.6. "**Honeywell**" means Elster AMCO Water LLC or, the Honeywell International Inc. Affiliate that accepts the Order .

1.7. "**Order**" means a Buyer purchase order accepted by Honeywell.

1.8. "**Party**" means Honeywell or Buyer and "**Parties**" means both.

1.9. "**Personal Data**" means the definition in the EU General Data Protection Legislation (GDPR) (Regulation (EU) 2016/679) regardless of the applicable privacy laws.

1.10. "**Software**" means software (in any form, including as a service) and firmware provided by Honeywell, and all related documentation, data files, modules, libraries, and elements. Software includes any updates, upgrades, error corrections, changes or revisions delivered by Honeywell to Buyer under the Agreement or a separate agreement.

2. DELIVERY AND ACCEPTANCE

2.1 Delivery terms are EX-Works (INCOTERMS 2010) Honeywell's facility. Title to Products passes to Buyer when Honeywell places Products at Buyer's disposal at Honeywell's facility. Buyer grants Honeywell a security interest in Products until paid in full, subject to applicable law. Deliverables are deemed accepted unless Buyer sends written notice specifying reasonable basis for rejection within 30 days after delivery. Honeywell will, at its option, repair, replace, or re-perform rejected Deliverables.

2.2 If a delivery hereunder is delayed due to Buyer´s actions or inaction, Honeywell may extend delivery time equal to the length of such delay and shall be entitled to receive compensation for reasonable costs incurred by Honeywell resulting from such delay.

2.3 Honeywell will invoice handling costs, including for additional storage and logistics, if Buyer does not take delivery within 30 days after Honeywell sends written notice to Buyer that the Deliverables are available for delivery.

3. PAYMENT

3.1 Buyer will pay invoices within 30 days from the date of invoice to the account specified by Honeywell with immediately available funds through electronic transfer. Honeywell may submit invoices electronically. Payment must be made in U.S. currency unless agreed otherwise in the Order.

3.2 Buyer must provide the following remittance information when making a payment: (a) invoice number, (b) amount paid. Payment must be in accordance with the "Remit To" field on each invoice. If remittance information is missing, Honeywell will invoice service fee of $ 500 for each such occurrence.

3.3 Honeywell may make partial deliveries that will be invoiced as they are delivered.

3.4 Honeywell may also increase price and recover associated costs, for the following that occur between the date of the Order and delivery: (a) foreign exchange variation, (b) increased cost of third party content and materials, (c) periodic price increase of Products and Services, (d) impact of government tariffs, and (e) increases in costs of industrial metals as published by the London Metal Exchange (https://www.lme.com)

3.5 If Buyer pays late, Honeywell may: (a) suspend deliveries until all delinquent amounts and late interest, if any, are paid, (b) repossess Products or software for which payment has not been made, (c) charge interest for non-payment at lesser of 1.5 % per month for each full or partial month or the maximum legal rate available under governing law, (d) recover all costs of collection, including but not limited to reasonable attorneys´ fees, and (e) combine any of the above rights and remedies as may be permitted by applicable law.

3.6 If Buyer does not dispute an invoice within 15 days after invoice date, Buyer has waived the right to do so. Honeywell reserves the right to correct any inaccurate invoices.

3.7 Buyer may pay by following credit cards: Visa, MasterCard or American Express. Honeywell accepts credit card payment only if the credit card is charged on the same day Honeywell invoices Buyer or before the date of the Honeywell invoice.

3.8 Buyer may not set off invoiced amounts against sums that are due from Honeywell. Honeywell extends credit only if Buyer maintains acceptable credit standing.

4. TAXES

Honeywell invoices for taxes, duties and charges, which are Buyer's responsibility, unless Buyer provides acceptable exemption verification.

5. FORCE MAJEURE AND DELAY

Except payment obligations, neither Party is liable for failure to meet its obligations affected by a force majeure event. If performance is so delayed longer than 90 days, either Party can terminate the Order with notice. If Buyer causes delay, Honeywell is entitled to adjust price, schedule and other affected terms.

6. WARRANTIES

6.1. Honeywell warrants Honeywell Products comply with applicable Honeywell specifications and are free from material defects in workmanship and material for 12 months after date of delivery, and Services materially comply with defined requirements for 30 days from the date services are performed. Third party warranties, if any, are transferred to Buyer to the extent Honeywell has the right to transfer. Honeywell will, at its option, repair or replace defective Products, if returned to Honeywell within the warranty period, and re-perform defective Services if notified to Honeywell during the warranty period. Products repaired or replaced and Services re-performed are warranted for the remainder of the original warranty period or 90 days (for Products) whichever is longer.

6.2. Honeywell is not, and will not be, liable for defects attributable to: (a) non compliance with Honeywell's instructions, (b) unauthorized alterations or repairs, (c) accident, contamination, abuse, or negligence, or (d) damage caused by failure of any item or service not supplied by Honeywell.

6.3. WARRANTIES IN THIS SECTION ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR PARTICULAR PURPOSE. THE REMEDIES IN THIS SECTION ARE BUYER'S ONLY REMEDIES FOR BREACH OF WARRANTY.

7. LIMITATION OF LIABILITY

IN NO EVENT WILL HONEYWELL BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, PUNITIVE, STATUTORY OR INDIRECT DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, REVENUES OR USE, OR THE LOSS OR CORRUPTION OF DATA, EVEN IF INFORMED OF THE POSSIBILITY OF THESE DAMAGES. THE AGGREGATE LIABILITY OF HONEYWELL RELATED TO THE ORDER WILL IN NO CASE EXCEED THE LESSER OF THE INITIAL ORDER PRICE OR US $1,000,000. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THESE LIMITATIONS AND EXCLUSIONS APPLY IF LIABILITY ARISES FROM BREACH OF CONTRACT, INDEMNITY, WARRANTY, TORT (INCLUDING NEGLIGENCE), OPERATION OF LAW, OR OTHERWISE.

8. PATENT AND COPYRIGHT INDEMNITY

8.1. Honeywell will defend any suit against Buyer claiming that a Deliverable infringes a valid United States patent or copyright existing as of the Agreement effective date and will indemnify Buyer for any final judgment against Buyer resulting from the suit provided Buyer: (a) gives Honeywell prompt notice when Buyer becomes aware of a third-party claim, (b) gives complete authority and assistance (at Honeywell expense) for disposition of the claim, and (c) makes no prejudicial admission about the claim.

8.2. Honeywell has no liability, and Buyer will indemnify Honeywell for claims related to: (a) Deliverables supplied per Buyer designs, drawings or specifications, (b) Deliverables used other than for the purpose for which they were delivered, (c) combining a Deliverable with a product or software not supplied by Honeywell, (d) modification of a Deliverable by anyone other than Honeywell, (e) compromise or settlement made without written Honeywell consent, or (f) Buyer's failure to install updates, upgrades, error corrections, changes, or revisions provided by Honeywell. Honeywell has no liability for Buyer's costs or attorney fees.

8.3. If an infringement claim is made or is likely, Honeywell may at its option and expense: (a) procure the right for Buyer to continue using the Deliverable, (b) modify the Deliverable to be non-infringing, or (c) accept return of the Deliverable (and terminate Buyer's applicable software license) and credit Buyer

the purchase price paid for the Deliverable, less reasonable depreciation for use, damage and obsolescence. Failure of Buyer to accept any of the above remedies in lieu of the infringing Deliverable relieves Honeywell of any liability for infringement. Failure to ship infringing Deliverables will not breach the Agreement.

8.4. THIS SECTION STATES HONEYWELL'S ENTIRE LIABILITY AND BUYER'S SOLE RECOURSE AND EXCLUSIVE REMEDIES WITH RESPECT TO INFRINGEMENT. ALL WARRANTIES AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS, WHETHER STATUTORY, EXPRESS OR IMPLIED, ARE DISCLAIMED.

9. CHANGE ORDERS

Either Party may make changes within the scope of an Order subject to acceptance by the other Party. Honeywell will inform Buyer if the change causes a price or schedule adjustment. The change will be effective and Honeywell may begin performance upon the Parties' authorized signature of a change order.

10. DEFAULT AND TERMINATION

Either Party may terminate or suspend an Order for material breach of the Agreement if the breaching Party fails to begin a cure within 10 days after receipt of written notice from non-breaching Party specifying the grounds, and to continue diligently to cure the breach. If Buyer cancels an Order without cause, Honeywell may enforce any available remedies against Buyer, including seeking recovery of expenses incurred by Honeywell due to producing Deliverables, such as expenses and costs associated with demobilization, remobilation, contract breakage, restocking, product obsolecense and stranded costs. Honeywell may cancel any applicable pricing discounts if Buyer fails to pay timely an undisputed invoice. Honeywell will notify Buyer and parties will engage in a mandatory executive escalation meeting with authorized decision makers within 10 days from Honyewell's non-payment notice.

11. INVENTIONS AND INTELLECTUAL PROPERTY

11.1. "**Intellectual Property**" means all copyrights, trademarks, trade secrets, patents, utility models and other intellectual property rights recognized in any jurisdiction worldwide, including all applications and registrations.

11.2. No right, title or interest in Intellectual Property provided by Honeywell is transferred to Buyer under the Agreement, including Intellectual Property existing prior to, or created independently of, the performance of the Agreement. All Intellectual Property and results of Services, including software, models, designs, drawings, documents, inventions, and know-how ("**Inventions**"), conceived or developed by Honeywell in connection with the Agreement, are the sole property of Honeywell and Buyer assigns any rights it may have in such Inventions to Honeywell. Buyer has no right or license to Intellectual Property or Inventions provided by Honeywell, except as granted in the Agreement.

Honeywell and its suppliers retain all right, title and interest to all Software, and all modifications and enhancements thereof, and no right, title, or interest in the Software, or any copies thereof, is transferred to Buyer. Buyer will hold all Software supplied by Honeywell in strict confidence and will use best efforts not to disclose Software to others. All Software delivered by Honeywell is subject to a software license or software subscription agreement ("**License**"). If Buyer does not agree to a License with Honeywell, Buyer does not have a license or right to Software.

Buyer retains all rights that Buyer already holds in data and other information that Buyer or persons acting on Buyer's behalf input, upload, transfer or make accessible in relation to, or which is collected from Buyer or third party devices or equipment by, the Deliverables ("**Input Data**").

11.3. Honeywell and its Affiliates have the right to retain, transfer, disclose, duplicate, analyze, modify and otherwise use Input Data to provide, protect, improve or develop Honeywell's products or services. Honeywell and its Affiliates may also use Input Data for any other purpose provided it is in an anonymized form that does not identify Buyer. Any Buyer Personal Data contained within Input Data shall only be used or processed in accordance with the data privacy terms of this Agreement and applicable law. All information, analysis, insights, inventions and algorithms derived from Input Data by Honeywell and/or its Affiliates (but excluding Input Data itself) and any intellectual property rights related thereto, are owned exclusively and solely by Honeywell and are Honeywell's confidential information. This section survives termination of this Agreement.

12. CONFIDENTIAL INFORMATION

12.1. "**Confidential Information**" is information that: (a) is marked as "Confidential" or "Proprietary" at the time of disclosure; or (b) is disclosed orally or visually, is identified by the Party disclosing the information ("**Discloser**") as confidential at the time of disclosure, and is designated as confidential in a writing sent to the receiving Party ("**Recipient**") within 30 days after disclosure that summarizes the Confidential Information sufficiently for identification, or (c) is Personal Data.

12.2. Recipient will:

(a)use the Confidential Information only for the performance of the Agreement ("Purpose"); (b) disclose Confidential Information only to its employees and any sub-contractors or third parties required to have Confidential Information for the Purpose and who are legally bound in writing to Recipient to protect the Confidential Information in accordance with terms and conditions no less stringent than those imposed under this Agreement; and (c) protect Confidential Information using the same degree of care, but no less than reasonable care, as Recipient uses to protect its own confidential information of a like nature. Recipient will reproduce the restrictive legends of the original on copies it makes. Recipient may disclose Confidential Information to a third party only if authorized in writing and under conditions required by Discloser. Recipient is responsible to Discloser for any violation of the confidentiality obligations by its employees or an authorized third party of the Recipient.

Within 30 days of Discloser's written request, Recipient will return or destroy all Confidential Information of Discloser, including all copies thereof, and will certify to such return or destruction in writing to Discloser. Unless otherwise specified, each Party's obligations with respect to the Confidential Information of the other Party will continue for five years after the date of receipt.

Confidential Information will not include any information that:
(a) was in Recipient's possession and not subject to an obligation of confidentiality before receipt from Discloser; (b) is or becomes legally available in the public domain through no fault of Recipient; (c) was rightfully received by Recipient from a third party who had no obligation of confidentiality, either directly or indirectly, to Discloser; or (d) was independently developed by Recipient without use of or reference to Discloser's Confidential Information.

If Recipient is required to disclose Confidential Information by applicable law, statute, regulation, or court order, Recipient will, if legally permitted,
(x) give Discloser prompt written notice of the request and a reasonable opportunity to object to the disclosure and seek a protective order or appropriate remedy; and (y) disclose Confidential Information only to the extent required.

12.3. The parties agree that breach of the confidentiality obligations by the Recipient will cause irreparable damage for which money damages will not be fully adequate, and Discloser is entitled to seek injunctive relief, in addition to any other legal remedies.

13. DATA PRIVACY

13.1 Honeywell may process Buyer Personal Data in relation to the Deliverables as detailed in this Agreement and including in accordance with the following scope, in each case as further specified in an Order as necessary:

Categories of Data Subjects: Buyer and Buyer's Affiliates' customers, employees, contractors, end-users and service providers.
Categories of data: name, contact information (including physical addresses, email address and telephone numbers), location information, facility, device or equipment usage data.
Special categories of data: Buyer Personal Data processed by Honeywell shall not include special categories of data.

13.2. Buyer Personal Data may be processed in relation to this Agreement. To the extent the laws of a jurisdiction recognize the roles of "data controller" and "data processor" as applied to Personal Data then, as between Buyer and Honeywell, Buyer acts as data controller and Honeywell acts as data processor and shall process Personal Data solely on behalf of and in accordance with Buyer's documented instructions, the Agreement and applicable privacy laws and only to the extent, and for so long as necessary, to provide, protect, improve or develop the Deliverables and/or related services and perform rights and obligations under the Agreement. Both Parties shall comply with their obligations under applicable privacy laws including in their respective roles as controller and processor of Personal Data.

13.3. Buyer authorizes Honeywell to share Personal Data with sub-processors (including Affiliates and service providers) located in any jurisdiction in connection with the Agreement, provided Honeywell uses legally enforceable transfer mechanisms and contractually requires sub-processors to abide by terms no less restrictive than those in the Agreement with regards to processing of Personal Data.

13.4. Honeywell shall have no liability for any losses, costs, expenses or liabilities arising from or in connection with processing of Personal Data in compliance with the Agreement or otherwise in compliance with Buyer's written instructions.

13.5. Honeywell shall refer all data subject requests to exercise rights under applicable privacy laws to Buyer and provide reasonable assistance to enable Buyer to comply with such requests, enable Personal Data security, respond to complaints or inquiries and to conduct any privacy impact assessments, provided Buyer reimburse all reasonably incurred costs.

13.6. Upon termination Honeywell shall delete or anonymize all Buyer Personal Data, except Honeywell may retain Buyer Personal Data if required or permitted by applicable law for compliance, audit or security purposes.

13.7. If Honeywell processes Personal Data relating to data subjects in the European Economic Area ("EEA"), Switzerland or Philippines: (i) if Honeywell believes any instruction from Buyer will violate applicable privacy laws, or if applicable law requires Honeywell to process Personal Data relating to data subjects in the EEA in a way that is not in line with Buyer´s documented instructions Honeywell shall notify Buyer in writing, unless the law prohibits such notification on important grounds of public interest; (ii) Honeywell shall upon request make available the identity of sub-processors and notify any intended addition or replacement and Buyer shall have 5 business days to object. If Buyer objects and the parties do not resolve within 1 month, Honeywell may terminate without penalty on written notice; and (iii) Honeywell shall ensure personnel processing Personal Data of EEA data subjects have committed to confidentiality in relation to such processing.

13.8. Where transfers of Personal Data require: (i) Buyer authorizes Honeywell and Honeywell Affiliates to act as agent for the limited purpose of binding Buyer as principal, in the capacity of "data exporter", to a Honeywell inter-group or Honeywell and service provider data transfer agreement comprising the Standard Contractual Clauses for the transfer of personal data to processors established in third countries adopted by the European Commission ("SCC"); and (ii) the parties agree that the SCCs (located at https://ec.europa.eu/info/law/law-topic/data-protection/data-transfers-outside-eu/model-contracts-transfer-personal-data-third-countries_en or updated more recent website) shall be deemed to have been signed by Buyer and Buyer´s affiliates, in the capacity of "data exporter", and by Honeywell and/or Honeywell´s affiliates, in the capacity of "data importer" and the information required to be provided in the SCCs' appendices shall be as described in this Section or separately agreed in writing.

13.9. Security is governed by the policies as further specified in the Order. If no additional Security Policy is specified in the Order, Honeywell will use reasonable administrative, physical and technical safeguards to protect Personal Data and Input Data and follow industry-standard security practices. Buyer will implement reasonable administrative, physical and technical safeguards to protect Deliverables and follow industry-standard security practices. Buyer is solely responsible for costs incurred due to unauthorized use or access through Buyer´s account credentials or systems.

13.10. To the extent Honeywell has not obtained or provided Buyer with evidence of formal certification under SOC2 Type 1 and Type 2 (or equivalent), Buyer may audit Honeywell's compliance with this Section once per year, or more frequently if applicable laws require. Audits will occur following Buyer's written request at least 90 days prior to the proposed start date and Buyer providing a reasonably detailed audit plan describing the proposed scope, start date and duration. The Parties will work in good faith to agree on a final audit plan. Each Party will bear their own costs related to the audit. The audit will be conducted during Honeywell regular business hours at the applicable facility, subject to the published policies of that facility, and may not unreasonably interfere with business activities. If a third party is to conduct the audit they must execute a written confidentiality agreement acceptable to Honeywell. If the information required for an audit is not contained in existing reports, Honeywell will make reasonable efforts to provide it to the auditor. To preserve the security of Honeywell customers and organization Honeywell reserves the right to not share information that could expose or compromise its security, privacy, employment policies or obligations to other customers or third parties or share Confidential Information. Records may not be copied or removed from Honeywell facilities. Buyer will generate and provide Honeywell with an audit report within 3 months of audit end, unless prohibited by law. Audit reports are Honeywell Confidential Information and may only be used for the purposes of meeting Buyer's regulatory requirements or confirming Honeywell's compliance with this Section.

13.11. Honeywell shall evaluate and respond to any confirmed breach of security leading to the accidental or unlawful destruction, loss, alteration or unauthorized access, disclosure or use of the Deliverables and/or of Buyer Personal Data due to a breach of Honeywell's obligations under this Section (each a "**Security Incident**"), and will work with Buyer (and where necessary with outside regulatory and law enforcement authorities) to develop response strategies and respond to and mitigate the adverse effects of a Security Incident. Where it is determined a Security Incident has occurred, Honeywell shall notify Buyer without undue delay and as relevant information becomes available to assist Buyer in meeting its potential reporting or notice obligations under applicable law. Honeywell shall include a description, whether and what type of Personal Data or Input Data may have been affected and such information as Honeywell may reasonably request, unless the law prohibits it. Buyer shall work with Honeywell in good faith to develop any related public statements or required notices resulting from a Security Incident. Provided Honeywell is in material compliance with its obligations under this Section, Honeywell's obligations set out in this Section are Honeywell's sole obligations, and Buyer's sole and exclusive remedy, for Security Incidents.

13.12. Each Party may process certain business contact details relating to individuals engaged by the other Party in the performance their obligations under this Agreement ("**Staff**"). Each Party will take appropriate technical and organizational measures to protect such Personal Data against Security Incidents and shall securely delete it once no longer required for the purposes for which it is processed. Where required under applicable privacy laws, each Party shall inform its own Staff that they may exercise their rights in respect of their Personal Data against the other Party by submitting a written request with proof of identity to that other Party.

14. MISCELLANEOUS

14.1. Each Party is responsible for compliance with all import, export, and re-export control laws and regulations and will mutually cooperate as needed.

14.2. Honeywell may suspend Services at Buyer's expense if Honeywell determines that performance of Services may compromise safety.

14.3. Buyer will allow Honeywell to issue mutually agreeable press releases, technical papers, photographs and other publications relating to this Agreement and the general operation of the Deliverables.

14.4. While cyber security services will be provided in professional and workmanlike manner, and include reasonable efforts to validate that recommended third party cyber security solutions will not detrimentally impact performance of Honeywell standard products, Honeywell makes no guarantee that the cyber security products (inclusive of equipment, software and services) provided by Honeywell ("**Cyber Security Products**") will prevent a cyber-attack or mitigate the impact of any cyber-attack and Buyer acknowledges that Honeywell's sole liability, and customer's sole remedy, for any failure of the Cyber Security Products to perform as specified is replacement of defective product and/or re- performance of defective service, provided Honeywell is notified by Buyer of the defects in the Cyber Security Products during the agreed upon warranty period. Notwithstanding any other terms agreed to between Honeywell and Buyer, Buyer acknowledges that all Cyber Security Products that do not carry the Honeywell brand ("**Third Party Product**") are provided to customer subject to the Third Party Product supplier's standard terms and conditions (including software license terms) in effect at the time such Third Party Products are delivered to Buyer and Honeywell has no liability whatsoever with respect to the performance or non-performance of such Third Party Products.

14.5. If any provision of the Agreement is determined to be illegal, invalid, or unenforceable, the validity of the remaining provisions will not be affected.

14.6. The failure of either Party to enforce at any time any provision of the Agreement may not be construed to be a continuing waiver of those provisions.

14.7. The Agreement is governed by the laws of the state of New York, United States of America, without regard to conflicts of law principles. Application of the Uniform Computer Information Transactions Act and United Nations Convention on Contracts for the International Sale of Goods, 1980, and any successor law to either, is specifically excluded. The Parties waive any right to a trial by jury for disputes and submit to the exclusive jurisdiction of the Federal and State courts within the Southern District of New York for resolution of disputes; however, Honeywell may seek an injunction or enforce a judgment against Buyer in any jurisdiction. Buyer will not bring a legal action more than two years after the cause of action arose unless a shorter period is provided by applicable law.

14.8. The Agreement contains the entire agreement between the Parties and any pre-printed terms are excluded. Any terms on facility entry documents or other similar documents signed by Honeywell after the Order date are not applicable. If there is any conflict in terms, the order of precedence is the License, any Addendum, the acceptance, the Agreement (excluding the Order), and then the Order.

14.9. The Agreement may not be varied except by a written change signed by authorized representatives of both Parties. Provisions of the Agreement that by their nature should continue in force beyond the completion or termination of the Order will remain in force. Buyer will not delegate, transfer, or assign, by operation of law or otherwise, the Agreement, or rights or obligations under it, without Honeywell's prior written consent and any attempt to do so is void. For purposes of this Section, assignment includes any change in control of the Buyer or the merger of Buyer with any other legal entity.

14.10 The attached addendum and all terms and conditions therein are incorporated by reference.

14.11 Except for sections 1.7 and 14.8, the word "Order" is replaced with "Agreement" throughout these Sales Terms and Conditions. ***

Water Meter Compatibility Chart

PROPRIETARY NOTICE

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DISCLAIMER

The information in this document is subject to change without notice and should not be construed as a commitment by Aclara. Aclara assumes no responsibility for any errors that may appear in this document.

Manufacturer	Meter Model	Register Type or Model	Ports	Register Output	Meter Type
Badger	Recordall	RTR	Single	Pulse	Disc, Turbo
	Recordall Compound Series	Dual RTR	Dual		Compound
	Recordall	ADE (6 Dial)	Single	Encoder	Disc, Turbo
	Recordall Compound Series		Dual		Compound
	Recordall	HR-E LCD[7], HR-E Mechanical (8 Dial)	Single	Encoder	Disc, Turbo
	Recordall Compound Series		Dual		Compound
	Recordall	HR-E LCD with meter alarms	Single	Encoder	Disc, Turbo
	Recordall Compound Series		Dual		Compound

Water Meter Compatibility Chart - May 2019

Manufacturer	Meter Model	Register Type or Model	Ports	Register Output	Meter Type
Badger (cont.)	E-Series	RTR (Pulse Emulation)	Single	Pulse	Ultrasonic
		ADE (6 Dial Emulation)	Single	Encoder	Ultrasonic
		HR-E (9 Digit Emulation)	Single	Encoder	Ultrasonic
		HR-E with meter alarms			
	M2000, M5000		Single	Encoder	Electromagnetic
Diehl / Sappel	Aquarius	IZAR, Pulsar	Single	Pulse	Single-jet
	HYDRUS (LCD, 8 Digit)		Single	Encoder	Ultrasonic
	HYDRUS (LCD, 8 Digit) with meter alarms				
Elster/AMCO/ABB	AquaMaster[8] (Metal Case)		Single	Pulse	Electromagnetic
				Encoder	
	AquaMaster 3 FET200[5]		Single	Encoder	
	MagMaster		Single	Pulse	Electromagnetic
Elster/AMCO/ ABB/Kent	C700, T3000, T4000	Digital	Single	Pulse	Positive Displacement, Turbine
		Scancoder, InVISION		Encoder	
	C3000, C4000	Digital	Dual	Pulse	Compound
		Scancoder, InVISION		Encoder	

Water Meter Compatibility Chart - May 2019

Manufacturer	Meter Model	Register Type or Model	Ports	Register Output	Meter Type
Elster/ Severn Trent	SmartMeter SM700		Single	Encoder	Fluidic Oscillation
			Single	Pulse	Fluidic Oscillation
Honeywell Elster / AMCO	V100 (PSM-T), V110		Single	Pulse	Positive Displacement
	evoQ4 Mag		Single	Encoder	Electromagnetic
				Pulse	
	SM150E, Q200		Single	Encoder	Electromagnetic
Endress + Hauser	Proline Promag 10		Single	Pulse	Electromagnetic
Hydreka	HydINS 2 EO		Single	Encoder	Electromagnetic
Infinity	MJ Series	RSR	Single	Pulse	Multi-jet
Istec	Flowmeter	1700 and 1800 Series	Single	Pulse	Single jet
Itron/actaris	Flostar	Cyble Sensor	Single	Pulse	Single Jet
		Cyble Coder		Encoder	
Kamstrup	FlowIQ 2100 and 3101		Single	Encoder	Ultrasonic
	FlowIQ 2100 and 3101 with meter alarms				
Krohne	Waterflux	3070 and IFC 070 [4]	Single	Pulse	Electromagnetic

Water Meter Compatibility Chart - May 2019

Manufacturer	Meter Model	Register Type or Model	Ports	Register Output	Meter Type
Master Meter	Octave		Single	Encoder	Ultrasonic
	Sonata		Single	Encoder	Ultrasonic
	Classic Multi-Jet Series, Flexible Axis Meters (FAM)	Dialog, AccuLinx, eLinx	Single	Encoder	Multi-jet
		Reed	Single	Pulse	
McCrometer	Marsh Multi-Mag 285		Single	Pulse	Electromagnetic
	Ultra Mag		Single	Pulse	Electromagnetic
Metron-Farnier	Spectrum, Enduro 2000 and 2800	OER	Single	Encoder	Single jet
		innov8			
Mueller/Hersey	400/500 Series, MVR, Horizon	ER with ER-2 Sensor	Single	Pulse	Positive Displacement, Vertical Turbine
		Translator, SSR[10]		Encoder	
	MCT II, MFM II	ER with ER-2 Sensor	Dual	Pulse	Compound
		Translator, SSR[10]		Encoder	
	HbMAG		Single	Encoder	Electromagnetic

Water Meter Compatibility Chart - May 2019

Manufacturer	Meter Model	Register Type or Model	Ports	Register Output	Meter Type
Neptune/ Schlumberger	T-10, HP Turbine	Tricon	Single	Pulse	Positive Displacement, Turbine
	T-10, HP Turbine and Fire Service	ARB-V/VI[1], ProRead[1], ProRead AutoDetect[1], E-Coder[2, 12], ProCoder[2]	Single	Encoder	Positive Displacement, Turbine
	TruFLO Compound, Protectus		Dual		Compound
	T-10, HP Turbine and Fire Service	E-Coder, ProCoder (Plus Mode, 8 Digit Reading) with meter alarms	Single	Encoder	All
	TruFLO Compound, Protectus		Dual		Compound
	Mach 10		Single	Encoder	Electromagnetic
	TRU/MAG		Single	Encoder	Electromagnetic
RG3	All	Tomahawk	Single	Pulse	All
				Encoder	
Sensus / Invensys / Rockwell	PMM Series	PMM	Single	Pulse	Multi-jet
	All	ECR, ER56, ICE, ICE-Opto	Single	Encoder	All
			Dual		
	OMNI C2, F2, H2, R2, and T2	OMNI	Single	Encoder	Turbine
	SRII / accuSTREAM	E-Register[6]	Single	Encoder	Positive Displacement
	iPERL[3]		Single	Encoder	Electromagnetic
	accuMAG		Single	Encoder	Electromagnetic

Water Meter Compatibility Chart - May 2019

Manufacturer	Meter Model	Register Type or Model	Ports	Register Output	Meter Type
Siemens	Mag 8000 CT		Single	Encoder	Electromagnetic
	SITRANS LUT430 and 440[11]		Single	Pulse	Ultrasonic
Toshiba	LF622 Mag Meter		Single	Pulse	Electromagnetic
Zenner / Performance Meter / Hendey	All	ETR-DS	Single	Encoder	All
		ETR-EN		Pulse	All

Notes:

Series 2000, 3000, and 3400 products available with special connectors and different wire lengths.
Extended range Series 3000 and 3400 MTUs can have an optional remote antenna (for through-the-lid installations). Identified by adding a -A to the SKU. Meter compatibilty is identical with non '-A' version. Example: 3451-012-DBW-A

Series 501 part numbers assume standard cable. Contact Product Management for special connector requirements.

n/a = not applicable

Sub-metering meter types not included.

Aclara reserves the right to change products, model numbers, and specifications without notice.

1. 4 and 6 Digit Mode
2. Series 501: E-Coder 6 digit reading only, no alarm flags. Series 23XX/33XX/34XX: E-Coder and ProCoder 8 digit reading only, no alarm flags, requires MTU V35 or higher, North America only.
3. 3-wire version only. Meter FW version 1.XX and 2.17 or higher required.
4. The Krohne 3070 and IFC 070 must be programmed with a pulse output low time of 10ms.
5. Meter FW version 01.02.01 only.
6. E-Register Firmware version 1.0.08 or higher is required.
7. Requires Aclara 332x MTU V35 and HR-E LCD version 9/2015 or greater. 332x MTU V38 is compatible with all HR-E LCD versions.
8. AquaMaster with metal case (old design) encoder output is not compatible with Series 2/3K.
9. Requires 332x MTU V37 or 38 firmware.
10. Requires work around, leave register disconnected, auto-detect fails, select register from available meters.
11. Requires external Potter & Brumfield Relay KHAU-17D16-24 and 24VDC power supply connected to Volume Totalizer pulse output relay.
12. Neptune E-coder in basic 8-digit reading mode turns meter annunciators off (register LCD indicators)

BID FORM - City of Ann Arbor, Michigan

VENDOR NAME: Mountain States Pipe and Supply
7765 Electronic Drive
Colorado Springs, Colorado 80922

MSPS Pricing Worksheet

1. All Bidders should provide a Unit Price and Total Price for the items listed herein.
2. If the specified register can be used in both inside and pit applications, complete the bid form with the same unit price for both line items.
3. The City at their sole discretion may purchase a combination of products from the Base Bid items.

BID – Honeywell evoQ4 Cold Water Meter

Item #	Description	Model	Quantity	Unit	Unit Price	Total Price
1	1.5" x 13" AL Water Meter	Honeywell Elster AL Version evoQ4 with 2512Q0040GQX MX42 Dual Module	5	Each	$1,168.00	$5,840.00
2	1.5" x 13" AL Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	20	Each	$1,535.00	$30,700.00
3	2" x 17" AL Water Meter	Honeywell Elster AL Version evoQ4 with 2512Q0040GQX MX42 Dual Module	5	Each	$1,184.00	$5,920.00
4	2" x 17" AL Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	20	Each	$1,981.00	$39,620.00
5	2.5" Water Meter		10	Each	No Bid	
6	2.5" Water Meter w/ Replaceable Battery		5	Each	No bid	
7	3" x 12" Water Meter	Honeywell Elster evQ4 **Standard Version** with 2512Q0040GQX MX42 Dual Module	250	Each	$2,005.00	$501,250.00
8	3" x 12" Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	50	Each	$2,388.00	$119,400.00
9	4" x 14" Water Meter	Honeywell Elster evQ4 **Standard Version** with 2512Q0040GQX MX42 Dual Module	100	Each	$2,237.00	$223,700.00
10	4" x 14" Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	20	Each	$2,601.00	$52,020.00
11	6" x 18" Water Meter	Honeywell Elster evQ4 **Standard Version** with 2512Q0040GQX MX42 Dual Module	40	Each	$3,495.00	$139,800.00
12	6" x 18" Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	10	Each	$3,606.00	$36,060.00
13	8" x 20" Water Meter	Honeywell Elster evQ4 **Standard Version** with 2512Q0040GQX MX42 Dual Module	10	Each	$4,861.00	$48,610.00
14	8" x 20" Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	5	Each	$5,665.00	$28,325.00
15	10" x 17.75" Water Meter	Honeywell Elster evQ4 **Standard Version** with 2512Q0040GQX MX42 Dual Module	10	Each	$7,165.00	$71,650.00
16	10" x 17.75" Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	5	Each	$7,716.00	$38,580.00
17	12" x 19.75" Water Meter	Honeywell Elster evQ4 **Standard Version** with 2512Q0040GQX MX42 Dual Module	10	Each	$8,302.00	$83,020.00
18	12" x 19.75" Water Meter w/ Replaceable Battery	Honeywell Elster evoQ4 **Replaceable Battery Version** with 2512Q0040GQX MX42 Dual Module	5	Each	$8,530.00	$42,650.00
10	Totalizer/Rate indicator	Honeywell Elster RIDA4-20AK Rate Transmitter with 4-20mA signal	470	Each	$500.00	$235,000.00
11	Replaceable battery Pack	Honeywell Elster Model 5005RB072 Replaceable Battery Pack	50	Each	$543.00	$27,150.00
TOTAL BASE BID						$1,729,295.00

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