# MEPNN Supplier Scouting Opportunity Synopsis

## **Section 1:** General Information

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| Scouting Number | 2026-653 |
| Item to be Scouted | BABA: Snowmelt Pump |
| Days to be scouted | 14 |
| Response Due By | 12/02/2026 |
| Description | The hydronic snowmelt circulator pump is a high-capacity circulation device designed to provide reliable fluid movement in hydronic heating systems. In snowmelt applications, the pump circulates heated water or an approved water entrances. |

## **Section 2:** Technical Information

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| Type of supplier being sought | Manufacturer |
| Reason | BABA |
| | The pump features a durable cast-iron housing, stainless-steel shaft, reinforced thermoplastic impeller, and carbon/silicon-carbide mechanical seal. These components are designed to provide dependable operation, resist wear, and maintain consistent fluid circulation under normal hydronic system operating conditions.<br><br>The circulator incorporates a permanently lubricated electric motor with sealed bearings, reducing routine maintenance requirements. Its close-coupled construction allows installation within mechanical rooms and hydronic equipment spaces, while flanged piping connections provide integration with the building's heating distribution system.<br><br>In snowmelt applications, the pump circulates heated fluid from a boiler or heat exchanger through the snowmelt distribution loops. This circulation transfers thermal energy to the exterior concrete slab or pavement, helping melt accumulated snow and ice and maintaining safer walking and driving surfaces.<br><br>The pump is suitable for residential, multifamily, and commercial hydronic applications, including snowmelt systems, radiant floor heating, boiler circulation, primary/secondary piping loops, and other hot-water circulation applications. |
| State item to be used in | Minnesota |

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| Describe the manufacturing processes (elaborate to provide as much detail as possible) | 1. Raw Material Processing: Cast iron, stainless steel, copper, aluminum, thermoplastic resins, rubber, and electrical-grade materials are sourced and prepared for manufacturing. These materials are used to produce the pump housing, shaft, impeller, mechanical seal, motor assembly, electrical connections, and mounting components.<br><br>2. Pump Housing Manufacturing: The pump casing is manufactured primarily through metal casting processes. Molten cast iron is poured into precision molds, cooled, and removed. The cast components are cleaned, deburred, and machined to achieve the required dimensions, surface finishes, and piping connection tolerances.<br><br>3. Impeller Manufacturing: The internal impeller is manufactured through injection molding using reinforced thermoplastic materials. The molded impeller is designed to provide the required fluid movement and hydraulic performance. Components are inspected for dimensional accuracy, balance, and material consistency.<br><br>4. Shaft and Mechanical Seal Manufacturing: Stainless-steel shafts are cut, machined, and finished to meet dimensional and rotational requirements. Mechanical seal components, typically incorporating carbon, silicon carbide, and elastomeric materials, are manufactured and assembled to prevent fluid leakage between the pump housing and motor assembly.<br><br>5. Electric Motor Manufacturing: The electric motor is assembled using copper windings, laminated electrical steel cores, rotor assemblies, bearings, insulation materials, and protective components. Electrical connections and motor housings are integrated to provide the required horsepower, voltage, speed, and operating characteristics.<br><br>6. Pump Assembly: The pump housing, impeller, shaft, mechanical seal, motor, bearings, and electrical components are assembled into the completed circulator. Precision alignment and fastening procedures are used to ensure proper mechanical operation, sealing integrity, and compatibility between components.<br><br>7. Quality Control and Performance Testing: Completed pumps undergo hydrostatic pressure testing, leakage inspections, electrical safety testing, vibration analysis, rotational testing, and hydraulic performance testing. Flow rate, pressure head, motor operation, and overall efficiency are verified against manufacturer specifications.<br><br>8. Finishing and Packaging: Finished pumps are cleaned, coated or painted as required, labeled, and inspected. Products are packaged with applicable installation instructions, mounting hardware, and technical documentation before distribution to mechanical contractors, wholesalers, and construction projects.<br>Manufacturing Equipment and Processes Required<br>- Metal foundry and iron casting equipment.<br>- CNC machining and metal finishing equipment.<br>- Plastic injection molding machines.<br>- Stainless-steel cutting and precision machining equipment.<br>- Electric motor winding and assembly machinery.<br>- Mechanical seal and bearing assembly equipment.<br>- Pump balancing and alignment equipment.<br>- Hydrostatic pressure and leakage testing stations.<br>- Electrical performance and insulation testing equipment.<br>- Hydraulic flow and pressure testing equipment.<br>- Industrial coating, painting, and packaging equipment. |
| Provide dimensions / size / tolerances / performance specifications for the item | 1. Dimensions and Physical Characteristics<br>Specification Performance / Dimension<br>Overall Height 6? inches<br>Overall Width 4½ inches<br>Overall Length / Depth 6? inches<br>Shipping Weight Approximately 12 lbs. |

Pump Housing Cast iron
Impeller 30% glass-filled reinforced thermoplastic
Shaft ½-inch stainless steel
Connection Type Flanged, two-bolt connection
Connection Sizes ¾", 1", 1¼", and 1½" configurations
Mounting Inline / flanged mounting

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2. Electrical Specifications
Specification Requirement
Motor Power 1/6 HP
Voltage 115V
Frequency 60 Hz
Phase Single-phase
Full Load Current 1.9 Amps
Motor Speed 3,450 RPM
Motor Enclosure Open Drip Proof (ODP)
Motor Type Permanent Split Capacitor
Bearing Type Permanently lubricated ball bearings

2400 Series High Capacity Circulators+1
3. Hydraulic Performance Specifications
Specification Performance
Maximum Flow Rate 32 GPM
Maximum Head Pressure 29 feet
Maximum Working Pressure 150 PSI
Minimum Fluid Temperature 40°F
Maximum Fluid Temperature 225°F
Intended Fluid Water or compatible water-glycol mixture
Operating Application Continuous-duty hydronic circulation

The pump's actual flow rate and head pressure depend on system resistance, piping configuration, fluid characteristics, and operating conditions. The maximum values should not be interpreted as simultaneous operating points. tacocomfort.com+1

4. Manufacturing Tolerances and Quality Requirements
The manufacturer establishes specific dimensional and manufacturing tolerances through its engineering drawings and production specifications. General requirements include:
- Pump housing dimensions must maintain proper alignment with piping and flange connections.
- Internal rotating components must maintain appropriate clearances to prevent excessive friction and vibration.
- Impeller dimensions and balance must meet hydraulic performance requirements.
- Shaft alignment and concentricity must maintain reliable motor and impeller operation.
- Mechanical seals must provide leak-resistant operation under specified temperature and pressure conditions.
- Electrical components must meet specified voltage, current, insulation, and motor performance requirements.
- Flange connections and gasket surfaces must maintain proper sealing integrity.
Specific numerical manufacturing tolerances should be obtained from the manufacturer's engineering documentation.
5. Applicable Performance Requirements
The completed pump should be capable of:
- Providing consistent circulation of heated water or water-glycol solutions.
- Operating under the specified temperature and pressure conditions.
- Maintaining reliable hydraulic performance throughout the required operating range.
- Providing leak-resistant operation at mechanical seals and piping

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| | connections.<br>- Withstanding normal mechanical vibration and continuous operating conditions.<br>- Integrating with compatible boilers, heat exchangers, hydronic piping, and snowmelt distribution systems. |
| List required materials needed to make the product, including materials of product components | Component Required Material Purpose<br>Pump casing Cast iron Main structural housing and fluid containment<br>Seal face plate Stainless steel Provides a durable sealing surface<br>Motor housing Aluminum Encloses and protects motor components<br>Impeller 30% glass-filled Noryl thermoplastic Moves water or glycol solution through the pump<br>Impeller insert Stainless steel Reinforces the impeller connection<br>Pump shaft Stainless steel Transfers rotational force from motor to impeller<br>Mechanical seal Carbon and silicon carbide Prevents fluid leakage around the rotating shaft<br>Motor bearings Steel bearing assemblies Support shaft rotation and reduce friction<br>O-rings and flange gaskets EPDM rubber Provide leak-resistant connections<br>Motor windings Electrical-grade copper Conducts electricity to generate motor rotation<br>Motor core Laminated electrical steel Supports electromagnetic motor operation<br>Motor insulation Electrical-grade insulating materials Prevents electrical shorts and protects windings<br>Electrical connections Copper and insulated wiring Supplies electrical power to the motor<br>Fasteners Steel or stainless steel Secure pump and motor assemblies<br>Exterior finish Industrial protective coating or paint Provides corrosion protection and surface durability<br><br>Taco Comfort+2<br>2. Additional Manufacturing Materials<br>Additional materials required during manufacturing may include:<br>- Foundry sand and casting binders for metal housing production.<br>- Thermoplastic resins and glass-fiber reinforcement for impeller molding.<br>- Lubricants and assembly greases for bearings and rotating components.<br>- Industrial adhesives and sealants where required.<br>- Protective coatings and surface treatments.<br>- Soldering materials and electrical insulation products.<br>- Packaging materials, including corrugated cardboard, protective foam, and plastic wrapping. |
| Are there applicable certification requirements? | Yes |
| Certification(s) required | UL |
| Are there applicable regulations? | No |
| Are there any other stndards, requirements, etc.? | Yes |

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| Details | Standard / Certification Description / Requirement<br>UL 778 Standard for motor-operated water pumps, addressing electrical safety and construction requirements.<br>CSA C22.2 Applicable Canadian electrical safety requirements for motor-operated equipment.<br>NSF/ANSI 61 Establishes health-effects requirements for materials and components in contact with drinking water, where applicable.<br>NSF/ANSI 372 Establishes lead-content requirements for drinking water system components, where applicable.<br>ANSI/HI 14.6 Hydraulic Institute standard addressing rotodynamic pump hydraulic performance acceptance testing.<br>ANSI/HI 9.6.3 Provides guidance on rotodynamic pump operating regions and performance considerations.<br>ISO 9001:2015 Quality management system requirements for manufacturing and production processes.<br>NFPA 70 (NEC) Establishes electrical installation and wiring requirements for pump motors and associated equipment. |
| Additional Technical Comments | |

## **Section 4:** Business Information

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| Estimated potential business volume | 1 pump serving a parking garage for a 92 unit multifamily complex |
| Estimated target price / unit cost information (if unavailable explain) | Pricing cannot be provided at this time due to the ongoing design finalization process. Additionally, costs vary significantly between suppliers, and there is currently uncertainty regarding potential price increases associated with BABA-compliant versus non-BABA-compliant products. Shipping expenses and labor costs may also vary depending on product availability, supplier location, and installation requirements. As a result, providing an accurate cost estimate at this stage would be premature. |
| When is it needed by? | Immediate |
| Describe packaging requirements | Individually wrapped |
| Where will this item be shipped? | Minneapolis, MN |

## Additional Comments

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| Is there other information you would like to include? | Funding: MHFA; Minnesota Housing Finance Agency<br>POC: Nick Hoelscher; Nick.h@noorcompanies.com |