**CSI 3-Part Specification for ATM-180X3-N**

1. **GENERAL**
   1. **SUMMARY**
      1. Provide a high-efficiency, wall-mounted, condensing gas tankless water heater suitable for indoor residential or light commercial applications. The unit shall include integrated X3™ Scale Prevention Technology.
   2. **RELATED DOCUMENTS**
      1. Product Specification Sheet
      2. Installation Manual
      3. Use and Care Guide
      4. Drawings and general provisions of the Subcontract apply to this Section.
      5. Review these documents for coordination with additional requirements and information that apply to the work under this section.
   3. **SECTION INCLUDES**
      1. Tankless Water Heater
   4. **REFERENCES**
      1. General: The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply. Unless otherwise noted, the referenced standard edition is the current one at the time of commencement of the Work. Refer to Division 01 Section "General Requirements" for the list of applicable regulatory requirements.
      2. Conforms to CSA/ANSI Z21.10.3
      3. CSA 4.3
      4. ENERGY STAR® Certified
      5. Category IV appliance with positive vent static pressure
      6. Manufactured in compliance with low lead content regulations
      7. AHRI Certified
   5. **SUBMITTALS**
      1. Submit shop drawings/product data sheets for all products specified in Part 2 of this Section.
   6. **QUALITY ASSURANCE**
      1. All materials shall meet or exceed all applicable referenced standards, federal, provincial/state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.
   7. **WARRANTY**
      1. Residential: 15-year limited warranty on heat exchanger, 5-year limited warranty on all parts. No hardwater exclusions on X3™ models.
      2. Commercial: 1-year limited warranty on both heat exchanger and parts.
2. **PRODUCTS**
   1. **MANUFACTURER** 
      1. A. O. Smith Enterprises Ltd.  
         599 Hill Street West, Fergus, ON N1M 2X1  
         [www.hotwatercanada.ca](http://www.hotwatercanada.ca)
   2. **WATER HEATER**
      1. High-efficiency, wall-mounted, condensing gas tankless water heater(s) shall be A. O. Smith ADAPT™ SC series, model ATM-180X3-N, featuring integrated X3™ Scale Prevention Technology.
   3. FEATURES AND PERFORMANCE
      1. X3™ Scale Prevention Technology (Patented Design): Units maintain like-new performance longer and life is extended by up to 3x versus unprotected units. Eliminates the need for annual descaling. Additional X3™ cartridges are available for purchase with accessory parts.
      2. Max Input Rating: 180,000 BTU/h.
      3. Minimum Input: 10,000 BTU/h.
      4. Max Flow Rate: 10.5 GPM (Gallons Per Minute).
      5. Activation Flow: 0.4 GPM.
      6. Minimum Flow for Continuous Operation: 0.26 GPM.
      7. Uniform Energy Factor (UEF): 0.95.
      8. Sound Level: 51 dB (measured in anechoic chamber).
      9. Fuel Type: Natural Gas only.
      10. Emissions: Ultra Low NOx emissions.
      11. **Construction:**
          1. Primary Heat Exchanger: Copper.
          2. Secondary Heat Exchanger: Stainless Steel.
          3. Integrated X3™ Scale Prevention Cartridge.
          4. Electronic ignition.
          5. Freeze protection down to -5°F (-21°C) (internal heater protection; X3™ cartridge requires separate anti-freeze kit).
      12. **Connections:**
          1. Gas: ¾” NPT.
          2. Hot/Cold Water: ¾” NPT.
          3. Electrical: 120V, 60Hz, <5A.
      13. **Controls:**
          1. Temperature Range: 100°F – 140°F (Default: 120°F).
          2. Display Panel: Digital with diagnostics and configuration mode.
      14. Cascade-ready: Capable of cascading up to 12 units, cable included.
      15. **Venting:**
          1. Type: Power Direct Vent.
          2. Approved Vent Materials: PVC, CPVC, Polypropylene
          3. Max Vent Runs: 2" - 50’ (15.3 m); 3" - 150’ (45.7 m).
      16. Dimensions (Unit): 40.4" H x 17.1" W x 11.9" D (Height with required cartridge installed).
      17. Weight (Unit): 83 lb (37.7 kg).
      18. Dimensions (Shipping): 39.25" H x 22.1" W x 17.4" D.
      19. Weight (Shipping): 93 lb (42.2 kg).
      20. Included with Heater: Manual, Pressure Relief Valve, Wall Mounting Bracket and Hardware, Vent Port Screws, Cascading Cable, Bird Screens.
   4. **OPTIONAL ACCESSORIES**
      1. Wi-Fi Module Kit (100371922)
      2. Remote Temperature Controller (100383909)
      3. Communication Cable - 10' (3 m) (100377341)
      4. Communication Cable - 32' (10 m) (100377342)
      5. X3™ Freeze Protection Kit (for external SCM cartridge) (100325654)
      6. Pipe Cover (100383908)
      7. Neutralizer Assembly Kit (100112159)
      8. Isolation Valve Kit with Pressure Relief Valve (100112156) – Note: Not necessary for X3™ models; check local codes for applicability.
   5. **BASIS OF DESIGN**
      1. A. O. Smith ADAPT™ SC Standard Condensing Tankless Water Heater.
   6. **CERTIFICATIONS & REGULATORY COMPLIANCE**
      1. Model is designed and certified by Underwriters Laboratories (UL), Inc., to ANSI Z21.10.3 - CSA 4.3 standards.
      2. Model meets the thermal efficiency and standby loss requirements of Natural Resources Canada (NRCan) and current edition ASHRAE/IES 90.1.
      3. ENERGY STAR® certified.
      4. AHRI Certified.
      5. Approved for installation in manufactured homes.
3. **EXECUTION**
   1. **DEMOLITION**
      1. Refer to demolition requirements specified in Section entitled Demolition and Revision Work (if applicable to project scope).
   2. **INSTALLATION**
      1. Must be installed by a qualified professional per local and national codes (e.g., CSA B149.1, NFPA 54, and CSA C22.1).
      2. Maintain minimum clearances: Top 12", Sides 3", Front 4", Bottom 18", Rear 0.5".
      3. Wall mount using provided bracket and hardware.
      4. Exhaust venting per vent material guidelines; must terminate outdoors and meet clearance requirements.
   3. **STARTUP & CONFIGURATION**
      1. Installer to perform startup, including configuration of vent length (C Mode).
      2. Verify freeze protection if installed in an unconditioned space.
      3. Operate unit and verify temperature settings, flow activation, and proper combustion.
   4. **MAINTENANCE**
      1. Integrated X3™ cartridge eliminates the need for annual descaling.
      2. Inlet water filter to be cleaned periodically.
      3. Pressure Relief Valve included and must be tested annually.
      4. Internal components (PCB, fan, sensors) to be inspected as per manual guidelines.

**End of Section**