SECTION 11 23 00

COMMERCIAL WASHERS AND EXTRACTORS, AND COMBINATION WASHERS AND DRYERS

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\*\* NOTE TO SPECIFIER \*\* Yamamoto North America; Commercial Laundry Equipment.  
This section is based on the products of Yamamoto North America, which is located at:507 W. Olive St.Bloomington, IL 61702Toll Free Tel: 866-204-0519Email: [request info (https://yamamoto-na.com/contact-us/)](https://arcat.com/rfi?action=email&company=Yamamoto%252BNorth%252BAmerica&message=RE%253A%2520Spec%2520Question%2520(11110yna)%253A%2520&coid=53879&spec=11110yna&rep=&fax=)  
Web: <https://yamamoto-na.com>   
 [ [Click Here](https://arcat.com/company/yamamoto-north-america-53879) ] for additional information.  
Yamamoto, based in Hiroshima Japan, is family-owned, and operated and has been manufacturing laundry machinery for over 70 years. We are focused on creating the highest quality commercial laundry equipment and constantly updating our machines to fit the everchanging markets we operate in. Utilized in hotels, health-care organizations, athletic operations, and industrial laundry facilities around the world, our machines provide a user-friendly platform that maintains superior performance year after year.  
At Yamamoto, we pride ourselves on building products that can outlast and outperform our competitors for an affordable price. We've revolutionized the industry by re-engineering the key components to withstand more than just day to day use and provide new ways to meet your laundry needs. By adhering to Japanese standards and investing in product development we have improved the durability of our machines, allowing them to last over 25 years with extremely little maintenance.  
As a family business in a global economy, we recognize the impact our machines have on the livelihood of the end user. Be that a local laundry mat or a large hotel chain, the functionality of each product is imperative towards that businesses success. The cost of a malfunction can be detrimental at any level, and we've recognized that risk needs to be addressed. Partnered with Yamamoto North America, based in Bloomington IL and other distributors across the continent, we can provide equipment, parts, and technical support to the US, Canada, and Mexico.  
We are excited to continue our efforts and share with the world why a Yamamoto machine may be the last machine you may ever have to buy.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Washer extractors. (WUN30) (WUN55) (WUN70) (WUN100) (WUN150) (WUN275)
    2. Combination units - washer extractors and tumble dryers.
       1. Dryer Heat Source: Steam. (WUD60S) (WUD80S)
       2. Dryer Heat Source: Gas. (WUD162G) (WUD222G)
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete: Foundation bases for equipment.
    2. Section 05 50 00 - Metal Fabrications: Steel equipment supports.
    3. Division 22 Sections for drain traps; valves, pipes, and fittings; and other materials required to complete commercial laundry equipment installation.
    4. Division 23 Sections for supply and exhaust fans; exhaust ductwork; service roughing-ins; and other materials required to complete commercial laundry equipment installation.
    5. Division 26 Sections for wiring disconnect switches, and other electrical materials required to complete commercial laundry equipment installation.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.
     3. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
  3. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  4. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  5. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  6. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Yamamoto North America, which is located at:507 W. Olive St.Bloomington, IL 61702Toll Free Tel: 866-204-0519Email: [request info (https://yamamoto-na.com/contact-us/)](https://arcat.com/rfi?action=email&company=Yamamoto%252BNorth%252BAmerica&message=RE%253A%2520Spec%2520Question%2520(11110yna)%253A%2520&coid=53879&spec=11110yna&rep=&fax=);Web: <https://yamamoto-na.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article not required.

* 1. WASHER EXTRACTOR
     1. Basis of Design Product: ModelWUN30Automatic Washer as manufactured by Yamamoto North America.
        1. Capacity: 30.0 lbs (10 kg).
        2. Drum: Diameter: 25.9 inches (660 mm). Depth: 14.7 inches (375 mm).
           1. Volume: 4.5 cu ft (128 L).
        3. Machine Size (H x W x D): 61.1 x 34.3 x 42.2 inches (1550 x 870 x 1070 mm).
        4. Packing Size (H x W x D): 68.9 x 42.2 x 50.1 inches (1750 x 1070 x 1270 mm).
        5. Weight of Empty Machine: 1103 lbs (500 kg).
        6. Shipping Weight: 1323 lbs (600 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 800 rpm.
        8. G-Force at High Speed: 236 G.
        9. Dynamic Loading Frequency: 15.8 Hz.
        10. Dynamic Floor Weight: 328 lbs per sq ft (1400 kg per sq m).
        11. Loading Door: Height: 32.9 inches (835 mm). Opening: 15.9 inches (405 mm) diameter.
        12. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 or 1 Phase, 60 Hz.
            1. Maximum Amperage: 9 A.
        13. Minimum Supply-Circuit Conductor Ampacity: 15 A.
        14. Maximum Rating of Supply Circuit Overcurrent Protective Device: 15 A.
        15. Motor Size: 3 HP (2.2 kw).
        16. Cold Water Supply: Connection Port: 3/4 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1-0.3 MPa, 1-3 bar).
        17. Hot Water Supply: Connection Port: 3/4 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1-0.3 MPa, 1-3 bar).
        18. Detergent Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1-0.3 MPa, 1-3 bar).
        19. Water Drain: Connection Port: 2, 1/2 npt.
        20. Steam: Supply Port: 1/2 npt. Drain Port: 3/8 npt.
            1. Pressure: 58-87 psi, (0.4-0.6MPa, 4.6 Bar).
        21. Heating System: Hot Water Supply and Steam.
        22. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
     2. Basis of Design Product: Model WUN55 Automatic Washer as manufactured by Yamamoto North America.
        1. Capacity: 55.0 lbs (25 kg).
        2. Drum: Diameter: 30 inches (762 mm). Depth: 19.1 inches (486mm).
           1. Volume: 7.8 cu ft (221 L).
        3. Machine Size (H x W x D): 61.6 x 40.0 x 48.7 inches (1565 x 1015 x 1235 mm).
        4. Packing Size (H x W x D): 68.9 x 47.3 x 55.2 inches (1750 x 1200 x 1400 mm).
        5. Weight of Empty Machine: 1455 lbs (660 kg).
        6. Shipping Weight: 1555 lbs (705 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 800 rpm.
        8. G-Force at High Speed: 330 G.
        9. Dynamic Loading Frequency: 14.7 Hz.
        10. Dynamic Floor Weight: 307.2 lbs per sq ft (1500 kg per sq m).
        11. Loading Door: Height: 32.9 inches (835 mm). Opening: 15.9 inches (405 mm) diameter.
        12. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 or 1 Phase, 60 Hz.
            1. Maximum Amperage: 1 Phase: 14 A. 3 Phase: 16 A.
        13. Minimum Supply-Circuit Conductor Ampacity: 20 A.
        14. Maximum Rating of Supply Circuit Overcurrent Protective Device: 20 A.
        15. Motor Size: 5 HP (3.7 kw)/
        16. Cold Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        17. Hot Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        18. Detergent Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        19. Water Drain: Connection Port: 2, 1/2 npt.
        20. Steam: Supply Port: 1/2 npt. Drain Port: 3/8 npt.
            1. Pressure: 58 to 87 psi, (0.4 to 0.6 MPa, 4.6 Bar).
        21. Heating System: Hot Water Supply and Steam.
        22. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
     3. Basis of Design Product: Model WUN70 Automatic Washer as manufactured by Yamamoto North America.
        1. Capacity: 70.0 lbs (31.8 kg).
        2. Drum: Diameter: 35 inches (890 mm). Depth: 18.1 inches (461mm).
           1. Volume: 10.1 cu ft (286 L).
        3. Machine Size (H x W x D): 67.5 x 45.3 x 51.0 inches (1715 x 1115 x 1295 mm).
        4. Packing Size (H x W x D): 74.9 x 51.2 x 59.1 inches (1900 x 1300 x 1500 mm).
        5. Weight of Empty Machine: 1875 lbs (850 kg).
        6. Shipping Weight: 2000 lbs (905 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 800 rpm.
        8. G-Force at High Speed: 318 G.
        9. Dynamic Loading Frequency: 13.3 Hz.
        10. Dynamic Floor Weight: 348.2 lbs per sq ft (1700 kg per sq m).
        11. Loading Door: Height: 36 inches (915 mm). Opening: 18.7 inches (475 mm) diameter.
        12. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 or 1 Phase, 60 Hz.
            1. Maximum Amperage: 1 Phase: 20 A. 3 Phase: 22 A.
        13. Minimum Supply-Circuit Conductor Ampacity: 30 A.
        14. Maximum Rating of Supply Circuit Overcurrent Protective Device: 30 A.
        15. Motor Size: 7.5 HP (5.5 kw).
        16. Cold Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        17. Hot Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        18. Detergent Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        19. Water Drain: Connection Port: 2, 1/2 npt.
        20. Steam: Supply Port: 1/2 npt. Drain Port: 3/8 npt.
            1. Pressure: 58 to 87 psi, (0.4 to 0.6 MPa, 4.6 Bar).
        21. Heating System: Hot Water Supply and Steam.
        22. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
     4. Basis of Design Product: Model WUN100 Automatic Washer as manufactured by Yamamoto North America.
        1. Capacity: 100.0 lbs (45.4 kg).
        2. Drum: Diameter: 37.9 inches (965 mm). Depth: 23.3 inches (592 mm).
           1. Volume: 15.2 cu ft (432 L).
        3. Machine Size (H x W x D): 71.9 x 49.3 x 59.3 inches (1825 x 1250 x 1505 mm).
        4. Packing Size (H x W x D): 78.8 x 57.1 x 67 inches (2000 x 1450 x 1700 mm).
        5. Weight of Empty Machine: 2955 lbs (1340 kg).
        6. Shipping Weight: 3090 lbs (1400 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 750 rpm.
        8. G-Force at High Speed: 303 G.
        9. Dynamic Loading Frequency: 12.5 Hz.
        10. Dynamic Floor Weight: 409.6 lbs per sq ft (2000 kg per sq m).
        11. Loading Door: Height: 38.6 inches (980 mm). Opening: 18.7 inches (475 mm) diameter.

\*\* NOTE TO SPECIFIER \*\* Delete power option not required.

* + - 1. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
         1. Maximum Amperage: 25 A.
         2. Minimum Supply-Circuit Conductor Ampacity: 40 A.
         3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 40 A.
      2. Power: Electrical phase, Voltage Frequency: 460 VAC, 3 Phase, 60 Hz.
         1. Maximum Amperage: 13 A.
         2. Minimum Supply-Circuit Conductor Ampacity: 20 A.
         3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 20 A.
      3. Motor Size: 10 HP (7.5 kw).
      4. Cold Water Supply: Connection Port: 1-1/2 npt.
         1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
      5. Hot Water Supply: Connection Port: 1-1/2 npt.
         1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
      6. Detergent Cup Water: Connection Port: 1/2 npt.
         1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
      7. Water Drain: Connection Port: 3 npt.
      8. Steam: Supply Port: 3/4 npt. Drain Port: 3/8 npt.
         1. Pressure: 58 to 87 psi, (0.4 to 0.6 MPa, 4 to 6 Bar).
      9. Heating System: Hot Water Supply and Steam.
      10. Compressed Air:
          1. Connection Port: 5/16 Diameter O.D.
          2. Pressure: 101.5 to 145 psi, (0.7 to 1.0 MPa, 7 to 10 bar).
          3. Setting Pressure of Regulator: 87.1 psi, (0.6 MPa, 6 bar).
      11. Usage Environment:
          1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
          2. Humidity: 30 to 85 percent.
          3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
    1. Basis of Design Product: Model WUN150 Automatic Washer as manufactured by Yamamoto North America.
       1. Capacity: 150.0 lbs (70 kg).
       2. Drum: Diameter: 44.9 inches (1140 mm). Depth: 24.4 inches (620 mm).
          1. Volume: 22.3 cu ft (632 L).
       3. Machine Size (H x W x D): 74.8 x 64.8 x 69.0 inches (1900 x 1646 x 1752 mm).
       4. Packing Size (H x W x D): 86.6 x 72.8 x 78.4 inches (2200 x 1850 x 1990 mm).
       5. Weight of Empty Machine: 4630 lbs (2100 kg).
       6. Shipping Weight: 4740 lbs (2150 kg).
       7. Drum Speed: Washing: 20 to 40 rpm. Extraction: 240to 720 rpm.
       8. G-Force at High Speed: 330 G.
       9. Dynamic Loading Frequency: 12 Hz.
       10. Dynamic Floor Weight: 327.7 lbs per sq ft (1600 kg per sq m).
       11. Loading Door: Height: 39 inches (990 mm). Opening: 24 inches (610 mm) diameter.
       12. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
           1. Maximum Amperage: 50 A.
           2. Minimum Supply-Circuit Conductor Ampacity: 60 A.
           3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 60 A.
       13. Motor Size: 20 HP (15 kw).
       14. Cold Water Supply: Connection Port: 2 npt.
           1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
       15. Hot Water Supply: Connection Port: 2 npt.
           1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
       16. Detergent Cup Water: Connection Port: 3/4 npt.
           1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
       17. Water Drain: Connection Port: 4 npt.
       18. Steam: Supply Port: 1 npt. Drain Port: 3/8 npt.
           1. Pressure: 58 to 87 psi, (0.4 to 0.6 MPa, 4 to 6 Bar).
       19. Heating System: Hot Water Supply and Steam.
       20. Compressed Air:
           1. Connection Port: 3/8 Diameter O.D.
           2. Pressure: 101.5 to 145 psi, (0.7 to 1.0 MPa, 7 to 10 bar).
           3. Setting Pressure of Regulator: 87.1 psi, (0.6 MPa, 6 bar).
       21. Usage Environment:
           1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
           2. Humidity: 30 to 85 percent.
           3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
    2. Basis of Design Product: Model WUN275 Automatic Washer as manufactured by Yamamoto North America.
       1. Capacity: 275.0 lbs (125 kg).
       2. Drum: Diameter: 52.0 inches (1320 mm). Depth: 33.9 inches (860 mm).
          1. Volume: 41.6 cu ft (1177 L).
       3. Machine Size (H x W x D): 100.4 x 83.0 x 102.4 inches (2549 x 2109 x 2601 mm).
       4. Packing Size (H x W x D): 100.4 x 89.8 x 108.7 inches (2550 x 2280 x 2760mm).
       5. Weight of Empty Machine: 13008 lbs (5900 kg).
       6. Shipping Weight: 13228 lbs (6000 kg).
       7. Drum Speed: Washing: 20 to 40 rpm. Extraction: 100 to 640 rpm.
       8. G-Force at High Speed: 303 G.
       9. Dynamic Loading Frequency: 10.7 Hz.
       10. Dynamic Floor Weight: 614.7 lbs per sq ft (3000 kg per sq m).
       11. Loading Door: Height: 55.8 inches (1417 mm). Opening: 31.5 inches (800 mm) diameter.

\*\* NOTE TO SPECIFIER \*\* Delete power option not required.

* + - 1. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
         1. Full Load Current: 65 A.
         2. Minimum Supply-Circuit Conductor Ampacity: 80 A.
         3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 80 A.
      2. Power: Electrical phase, Voltage Frequency: 460 VAC, 3 Phase, 60 Hz.
         1. Full Load Current: 50 A.
         2. Minimum Supply-Circuit Conductor Ampacity: 60 A.
         3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 60 A.
      3. Motor Size: 20 HP (18.5 kw).
      4. Cold Water Supply: Connection Port: 2 npt.
         1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
      5. Hot Water Supply: Connection Port: 2 npt.
         1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
      6. Detergent Box Water: Connection Port: 1/2 npt.
         1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
      7. Water Drain: Connection Port: 4 npt.
      8. Steam: Supply Port: 1 npt.
         1. Pressure: 72.5 to 101.5 psi, (0.5 to 0.7 MPa, 7 to 10 Bar).
      9. Heating System: Hot Water Supply and Steam.
      10. Compressed Air:
          1. Connection Port: 1/2 Diameter O.D.
          2. Pressure: 101.5 to 145 psi, (0.7 to 1.0 MPa, 7 to 10 bar).
      11. Usage Environment:
          1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
          2. Humidity: 30 to 85 percent.
          3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
  1. COMBINATION UNITS - WASHER EXTRACTOR AND TUMBLE DRYERS
     1. Basis of Design Product: Model WUD60S Automatic Combo Unit as manufactured by Yamamoto North America. A washer-extractor and tumble dryer.
        1. Capacity: Washer Extractor: 60 lbs (27 kg). Tumble Dryer: 30 lbs (13 kg).
        2. Drum: Diameter: 30.0 inches (762 mm). Depth: 23.6 inches (600 mm).
           1. Volume: 9.6 cu ft (273 L).
        3. Machine Size (H x W x D): 72.8 x 40.1 x 55.0 inches (1848 x 1027 x 1396 mm).
        4. Packing Size (H x W x D): 72.8 x 40.9 x 60.6 inches (1983 x 1040 x 1540 mm).
        5. Weight of Empty Machine: 1965 lbs (890 kg).
        6. Shipping Weight: 2085 lbs (945 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 880 rpm.
        8. G-Force at High Speed: 330 G.
        9. Dynamic Loading Frequency: 14.7 Hz.
        10. Dynamic Floor Weight: 352.3 lbs per sq ft (1720 kg per sq m).
        11. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
            1. Full Load Current: 17 A.
            2. Minimum Supply-Circuit Conductor Ampacity: 30 A.
            3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 30 A.
        12. Motor Size: Drum: 5 HP (XX kw). Fan: 1 HP (X,X kW).
        13. Heating System Washer Extractor: Hot Water Supply and Steam.
        14. Heating System of the Dryer: Steam.
        15. Cold Water Supply: Connection Port: 3/4 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        16. Hot Water Supply: Connection Port: 3/4 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        17. Soap Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        18. Water Drain: Connection Port: 2-1/2 npt.
        19. Heating Steam: Supply Port: 1/2 npt. Drain Port: 3/8 npt.
            1. Pressure: 72.5 to 101.5 psi, (0.5 to 0.7 MPa, 5 to 7 Bar).
        20. Dryer Steam: Supply Port: 1/2 npt. Drain Port: 1/2 npt.
            1. Pressure: 72.5 to 101.5 psi, (0.5 to 0.7 MPa, 5 to 7 Bar).
        21. Duct Diameter: 7.87 inches (200 mm)
        22. Steam Consumption: 77 lbs per hour (35 kg per hour)
        23. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
     2. Basis of Design Product: Model WUD80S Automatic Combo Unit as manufactured by Yamamoto North America. A washer-extractor and tumble dryer.
        1. Capacity: Washer Extractor: 80 lbs (36 kg). Tumble Dryer: 40 lbs (18 kg).
        2. Drum: Diameter: 35.0 inches (890 mm). Depth: 22.3 inches (566 mm).
           1. Volume: 12.4 cu ft (352 L).
        3. Machine Size (H x W x D): 74.6 x 45.7 x 58.5 inches (1895 x 1162 x 1485 mm).
        4. Packing Size (H x W x D): 79.9 x 46.3 x 64.1 inches (230 x 1175 x 1629 mm).
        5. Weight of Empty Machine: 1195 lbs (1140 kg).
        6. Shipping Weight: 2515 lbs (1195 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 800 rpm.
        8. G-Force at High Speed: 318 G.
        9. Dynamic Loading Frequency: 13.3 Hz.
        10. Dynamic Floor Weight: 348.2 lbs per sq ft (1700 kg per sq m).
        11. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
            1. Full Load Current: 20 A.
            2. Minimum Supply-Circuit Conductor Ampacity: 30 A.
            3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 30 A.
        12. Motor Size: Drum: 7.5 HP (XX kw). Fan: 1 HP (X,X kW).
        13. Heating System Washer Extractor: Hot Water Supply and Steam.
        14. Heating System of the Dryer: Steam.
        15. Cold Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        16. Hot Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        17. Soap Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        18. Water Drain: Connection Port: 2-1/2 npt.
        19. Heating Steam: Supply Port: 1/2 npt. Drain Port: 3/8 npt.
            1. Pressure: 72.5 to 101.5 psi, (0.5 to 0.7 MPa, 5 to 7 Bar).
        20. Dryer Steam: Supply Port: 1/2 npt. Drain Port: 1/2 npt.
            1. Pressure: 72.5 to 101.5 psi, (0.5 to 0.7 MPa, 5 to 7 Bar).
        21. Duct Diameter: 7.87 inches (200 mm).
        22. Steam Consumption: 99 lbs per hour (45 kg per hour).
        23. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
     3. Basis of Design Product: Model WUD162G Automatic Combo Unit as manufactured by Yamamoto North America. A washer-extractor and tumble dryer.
        1. Capacity: Washer Extractor: 60 lbs (27.2 kg). Tumble Dryer: 30 lbs (13.6 kg).
        2. Drum: Diameter: 30.0 inches (762 mm). Depth: 23.6 inches (600 mm).
           1. Volume: 9.6 cu ft (273 L).
        3. Machine Size (H x W x D): 72.8 x 40.0 x 54.8 inches (1848 x 1012 x 1393 mm).
        4. Packing Size (H x W x D): 72.8 x 40.9 x 61.6 inches (1983 x 1040 x 1540 mm).
        5. Weight of Empty Machine: 1965 lbs (890 kg).
        6. Shipping Weight: 2085 lbs (945 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 880 rpm.
        8. G-Force at High Speed: 330 G.
        9. Dynamic Loading Frequency: 14.7 Hz.
        10. Dynamic Floor Weight: 352.3 lbs per sq ft (1720 kg per sq m).
        11. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
            1. Full Load Current: 17 A.
            2. Minimum Supply-Circuit Conductor Ampacity: 30 A.
            3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 30 A.
        12. Motor Size: Drum: 5 HP (3.73 kw). Fan: 1 HP (0.75 kw).
        13. Heating System Washer Extractor: Hot Water Supply.
        14. Heating System of the Dryer: Gas.
        15. Cold Water Supply: Connection Port: 3/4 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        16. Hot Water Supply: Connection Port: 3/4 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        17. Soap Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        18. Water Drain: Connection Port: 2-1/2 npt.
            1. Dryer Gas: Supply Port: 1/2 npt.
            2. Natural Gas Pressure: (5 to 10.5 W.C. (1.24 to 2.61 kPa).
            3. L.P. Gas Pressure: 10 to 13 W.C. (2.49 to 3.23 kPa).
        19. Duct Diameter: 7.87 inches (200 mm)
        20. Gas Consumption: 65.57 cu ft per hour (1.8 cu m per hour).
        21. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).
     4. Basis of Design Product: Model WUD222G Automatic Combo Unit as manufactured by Yamamoto North America. A washer-extractor and tumble dryer.
        1. Capacity: Washer Extractor: 80 lbs (36.3 kg). Tumble Dryer: 40 lbs (18.1 kg).
        2. Drum: Diameter: 35.0 inches (890 mm). Depth: 22.3 inches (566 mm).
           1. Volume: 12.4 cu ft (352 L).
        3. Machine Size (H x W x D): 77.1 x 45.1 x 58.2 inches (1958 x 1148 x 1478 mm).
        4. Packing Size (H x W x D): 79.9 x 46.3 x 64.1 inches (2030 x 1175 x 1629 mm).
        5. Weight of Empty Machine: 2515 lbs (1140 kg).
        6. Shipping Weight: 2635lbs (1195 kg).
        7. Drum Speed: Washing: 20 to 50 rpm. Extraction: 100 to 800 rpm.
        8. G-Force at High Speed: 318 G.
        9. Dynamic Loading Frequency: 13.3 Hz.
        10. Dynamic Floor Weight: 348.2 lbs per sq ft (1700 kg per sq m).
        11. Power: Electrical phase, Voltage Frequency: 208 to 230 VAC, 3 Phase, 60 Hz.
            1. Full Load Current: 20 A.
            2. Minimum Supply-Circuit Conductor Ampacity: 30 A.
            3. Maximum Rating of Supply Circuit Overcurrent Protective Device: 30 A.
        12. Motor Size: Drum: 7.5 HP (5.59 kw). Fan: 1 HP (0.75 kW).
        13. Heating System Washer Extractor: Hot Water Supply.
        14. Heating System of the Dryer: Gas.
        15. Cold Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        16. Hot Water Supply: Connection Port: 1 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        17. Soap Cup Water: Connection Port: 1/2 npt.
            1. Water Supply Pressure: 14.5 to 43.5 psi, (0.1 to 0.3 MPa, 1 to 3 bar).
        18. Water Drain: Connection Port: 2-1/2 npt.
            1. Dryer Gas: Supply Port: 1/2 npt.
            2. Natural Gas Pressure: 5 to 10.5 W.C. (1.24 to 2.61 kPa).
            3. L.P. Gas Pressure: 10 to 13 W.C. (2.49 to 3.23 kPa).
        19. Duct Diameter: 7.87 inches (200 mm)
        20. Gas Consumption: 77.69 cu ft per hour (2.2 cu m per hour).
        21. Usage Environment:
            1. Temperature of Surroundings: 41 to 113 degrees F (5 to 45 degrees C).
            2. Humidity: 30 to 85 percent.
            3. Altitude of Installation: Must be lower than 3280 ft (1 kM).

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until the substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturers recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION