

PART 1 – BREECHING, CHIMNEY & STACK**1.1 SCOPE: DOUBLE WALL ALL-IN-ONE FLANGED SYSTEM**

- A. Manufacturer shall provide factory-built modular universal stack/vent system tested and listed by Underwriters Laboratories Inc. (UL) for use with eight (8) different UL Duct/Chimney/Vent Standards ranging from building heating appliances chimneys (pressure stacks), 1400°F chimneys (engine exhaust), gas vents for condensing appliances, low temperature oil fired equipment, and kitchen exhaust (grease duct). UL Listings shall include:
- a. UL 103 Standard for Building Heating Appliance Chimneys which may produce exhaust gas at temperatures not exceeding 1000°F under continuous operating conditions and 1400°F under intermittent condition when burning gaseous, solid, or liquid fuels as described in NFPA-211
 - b. Additional UL 103 Type HT 2100°F burnout test for Solid Fuel.
 - c. UL 2561 1400°F Chimney for appliances which may produce exhaust gas at temperatures not exceeding 1400°F under continuous operating conditions and 1800°F under intermittent conditions.
 - d. Additional UL 103/2561 pressure testing for positive pressure applications up to 90 inches W.C. after 1400°F continuous exposure.
 - e. UL 1738 Standard for Venting Systems for Gas-Burning Appliances, Categories II, III, and IV, with operating flue gas exhaust temperatures up to 550°F continuous, and/or 480°F continuous.
 - f. UL 441 Standard for Gas Vents, for appliances listed for use with Type B Gas Vent, with operating flue gas exhaust temperatures up to 480°F continuous.
 - g. UL 641 Standard for Type L Low-Temperature Venting Systems, suitable for use with appliances approved for use with Type L Venting Systems, with operating flue gas exhaust temperatures up to 570°F continuous.
 - h. UL 1978 Grease Duct for use with commercial cooking equipment, as described in NFPA-96, which may produce temperatures not exceeding 500°F under continuous operation and 2000°F for 30 minutes.

1.2 CONSTRUCTION

- A. The double wall fiber insulated exhaust system shall be constructed of all-stainless steel. The materials and construction of modular sections and accessories shall be as specified by the terms of the product's UL listing.
- a. Type 444 stainless steel inner liner.
 - b. 1- $\frac{1}{4}$ " [2- $\frac{1}{4}$ "] [3- $\frac{1}{4}$ "] [4- $\frac{1}{4}$ "] minimum thick fiber insulation.
 - c. Type 304 BA stainless steel outer jacket.
 - d. The entire exhaust system, including all accessories (connectors, hardware, anchor plate supports, guides, drains, and terminals), shall be Type 304 stainless steel.

- B. Inner flue shall have an overlapping male/female socket that protects the rolled flange with sealant against condensate and high-pressure cleaning. The inner joints shall be secured with vee bands on the inner and overlapping locking band on the outer jacket.
- C. Double-wall exhaust system shall be constructed so the outer jacket is floating and not welded to the inner liner.
- D. Exhaust system shall be designed to compensate for all temperature induced thermal expansion, installed to be gastight, and thus prevent leakage of combustion products into a building.
- E. Exhaust system is based upon Jeremias Model DWFL+ that is available in different insulation thicknesses. Detailed manufacturer's submittal drawings shall be provided for approval prior to installation of the exhaust system.

PART 2 – EXECUTION

2.1 INSTALLATION

- A. Roof and wall penetrations shall be factory insulated and UL listed as not to require air ventilation for safe installation around combustible materials.
- B. Entire exhaust system from the appliance outlet to the termination point, including accessories shall be from one manufacturer, except where noted.

PART 3 – WARRANTY

3.1 WARRANTY

- A. The factory-built modular exhaust system shall be warranted against functional failure for Twenty-Five (25) years.
- B. Manufacturer shall provide ASHRAE flue sizing calculations, or certificate of vent equivalent feet, confirming the inner diameter is in complete compliance with appliance manufacturer's installation instructions.
- C. Manufacturer shall provide certificate of code compliance for all required local and national codes for the installation with the scheduled appliances.