

## **Section 11600 - Glassware Washing and Drying Equipment**

### LABCONCO LABORATORY GLASSWARE WASHER/DRYER SPECIFICATION UNDERCOUNTER AND FREESTANDING MODELS

#### PART 1 - GENERAL

##### 1.01 Work Included:

1.01.01 This specification covers the requirements for the purchase of under counter and freestanding laboratory glassware washers.

1.01.02 Under counter and freestanding laboratory glassware washers with/without viewing window are covered by this specification.

1.01.03 This specification sets the intent for quality, performance, and appearance.

##### 1.02 Quality Assurance:

1.02.01 All glassware washers meet or exceed all minimum requirements of UL Standard 61010-1 and CAN/CSA C22.2 No. 1010.1-92 and carry the ETL and ETL-C Testing Laboratories seals.

All glassware washers wired for 230 volts conform to the following CE (European Community) requirements: Electrical Safety Standard: EN61010-1 and Electromagnetic Compatibility Standard: EN61326-1.

##### 1.03 References:

1.03.01 The glassware washers conform to the following regulations and standards:

UL -- Standard 61010-1 CAN/CSA -- C22.2 No. 1010.1-92 European Community -- Electrical Safety Standard: EN61010-1 and Electromagnetic Compatibility Standard: EN61326-1 (230volt models only)

##### 1.04 Submittals:

1.04.01 Glassware washer specification sheets and product manuals are submitted by the manufacturer upon request. The glassware washer supplier submits shop drawings when necessary for clarification.

##### 1.05 Delivery and Storage:

1.05.01 Glassware washers are delivered adequately protected from damage during shipment.

##### 1.06 Warranty

1.06.01 2 year manufacturer's warranty against defects in material or workmanship on its glassware washers from date of installation or 2 years from date of purchase, whichever is sooner, includes replacement of parts (except lamps) and labor.

## PART 2 - PRODUCTS

### 2.01 Acceptable Manufacturer:

2.01.01 Labconco Corporation, 8811 Prospect Avenue, Kansas City, Missouri 64132, FlaskScrubber® Vantage® Laboratory Glassware Washers, Model numbers as follows:

#### Vantage Freestanding Models:

208/230 volt, 50/60Hz, 11 amp, model: 422101010

230V, 3 phase, 50/60Hz 19/17 amp, model: 422101013

### 2.02 Materials:

2.02.01 Tank and interior door shall be constructed of Type 304 stainless steel with brushed finish. Four leveling feet are provided.

2.02.02 If an upper rack is installed, rack to operate on 304 stainless steel slides.

2.02.03 Fiberglass blanket surrounds the tank. Aluminum-backed acoustic material is located at strategic locations.

2.02.04 Type 304 stainless steel sides, top and epoxy-coated steel back.

2.02.05 Full Color touch screen display with Clear Works OS that stores 12 factory preset programs and up to 200 user set programs. Wash programs include:

- a) RINSE ONLY: 1 tap or pure water rinse, no drying. Water temperature set point (38C)
- b) ECO WASH: Pre-wash, wash 1, rinse 1 dry. Water temperature set point (38C), 15-minute dry time, (80C)
- c) CLEAN WASHER: Pre-wash, wash 1, rinse 1 dry. Water temperature set point (80C), 30-minute dry time, (80C)
- d) PLASTIC: Pre-wash, wash 1, 2 rinses, dry. Water temperature set point Pre-wash and rinse 1 (38C) wash and rinse 2 (50C) 15-minute dry time, (60C)
- e) GLASS: Pre-wash, steam 1, wash 1, 2 rinses, dry. Water temperature set point pre-wash and rinse 1 (38C), wash and rinse 2 (60C), 30-minute dry time, (70C)
- f) GLASS PLUS: Pre-wash, steam, wash 1, 3 rinses, dry. Water temperature set point Pre-wash, rinse 1 and rinse 2 (38C). Wash and rinse 3 (70C). 60-minute dry time, (80C)

- g) LIFE SCIENTIFIC: Pre-wash, steam 1, wash 1, 4 rinses, dry. Water temperature set point Pre-wash, rinse 1,2,3 (38C), wash (80C) and rinse 4 (70C). 40-minute dry time (70C)
- h) ANALYTICAL: Pre-wash, wash 1, 4 rinses, dry. Water temperature set point Pre-wash, rinse 1,2,3 (38C), wash 2 and rinse 4 (70C). 40-minute dry time (80C)
- i) INTENSE: Pre-wash, wash 1, wash 2, 5 Rinses, Dry. Water temperature set point Pre-wash, rinse 1,2,3,4 (38C), wash 1 and 2 and rinse 5 (93C). 50-minute dry time (70C)
- j) EXTREME: Pre-wash, wash 1, wash 2, Steam, 5 Rinses, Dry. Water temperature set point Pre-wash, rinse 1,2,3,4 (38C), wash 1 and 2 and rinse 5 (93C). 60-minute dry time (80C)
- k) CLEANPOINT: Pre-wash, wash 1, up to 8 Rinses, Dry. Water temperature Pre-wash, rinse (38C) Wash 1 (93C). Dry temp (80C)
- l) DRY ONLY: Dry 60-minute dry time (80C)

Up to 200 user set programs

Program parameters DELAY START TIME, PREWASH TEMP, PREWASH TIME, PREWASH DETERGENT SOURCE, PREWASH INLET SOURCE, WASH 1 TIME, WASH 1 TEMP, WASH 1 INLET SOURCE, WASH 1 DETERGENT SOURCE, WASH 2 TIME, WASH 2 TEMP, WASH 2 INLET SOURCE, WASH 2 DETERGENT SOURCE, RINSE TIME, RINSE TEMP, RINSE SOURCE, RINSE AID SOURCE, DRY TIME, DRY TEMP, AUTO UNLOCK ENABLE/DISABLE, ENABLE OR DISABLE THE STEAM FUNCTION are capable of alteration by the user. A touch screen displays the program selected and details of the program.

2.02.06 Steam generator produces steam before the second wash cycle of any program except RINSE ONLY and PLASTIC. Selection or cancellation of steam is from the touch screen.

2.02.07 Purified water pump brings pressurized or non-pressurized purified water from an external source into the tank for up to 8 pure water rinses. Selection or cancellation of purified water is from the touch screen.

2.02.08 HEPA filtered forced air drying into the tank and through the spindles programmable up to 250 minutes and from 25-80C (77-176F)

2.02.09 Overflow detector, if water is detected in the base of the washer, the water fill valves will close, and the washer will cancel the cycle and drain the washer

2.02.10 Dual pump system: TankCleanse™ Uses separate pumps for drain and fill water to eliminate cross-contamination. System fills with clean water during drain to flush out washer before clean water is added.

- 2.02.11 USB/Ethernet data output to accessory printer or user supplied computer
- 2.02.12 Electronic door latch with SpeedVent™ Technology to facilitate faster drying
- 2.02.13 CleanPoint™ water conductivity monitoring sensor measures the level of dissolved inorganics providing validation of water cleanliness and bypassing unneeded pure water rinses
- 2.02.14 Detergent dispenser holds powder or liquid detergent and neutralizing acid rinse
- 2.02.15 Automatic detergent and rinse aid dispenser with peristaltic pump automatically draws a programmed amount of LabSolutions detergent and Neutralizing Acid Rinse into the washer at the programmed time
- 2.02.16 Circulation pump is capable of re-circulating up to 96 gallons (363 liters) at 50 Hz, and 112 gallons (424 liters) when operated at, 60Hz.
- 2.02.17 Purified water inlet valve is equipped with a plastic serrated hose connection to accommodate 3/8" ID flexible plastic or rubber hose.
- 2.02.18 Particle filter is constructed of one-piece stainless steel fine mesh and removable without tool for cleaning.
- 2.02.19 Models wired for 230 volts, single phase, have a 2KW steam heater. With a minimum inlet temperature of 120 degrees F (49 degrees C), the sump heater elevates water temperature approximately 79 degrees F (44 degrees C). Maximum water temperature is 199 degrees F (93 degrees C) for wash and rinse water.
- 2.02.20 Models wired for 230 volts, 3 phase have a 6KW steam heater. With a minimum inlet temperature of 120 degrees F (49 degrees C), the sump heater elevates water temperature approximately 79 degrees F (44 degrees C). Maximum water temperature is 200 degrees F (93 degrees C) for wash and rinse water
- 2.02.20 Viewing window is clear tempered safety glass, 6.5 x 13". Interior light is bright 12 vdc LED.
- 2.02.21 FlaskScrubber Vantage models also feature two wash arms and a spindle rack with 36 spindles that offer infinite configurations constructed of Type 304 stainless steel. An optional upper rack with additional wash arm is available and may be positioned in either of two different height locations.
- 2.02.22 Optional stationary base stand for freestanding models are constructed of Type 304 stainless steel and have hinged front panel that opens to storage space. Four leveling feet are provided.

## 2.03 Fabrication:

2.03.01 Overall exterior dimensional information on glassware washers is as follows:

Nominal Exterior Dimensions Freestanding models: 32.2" W x 27.8" D x 32.2" H minimum to 36.1" H maximum (81.1x 70.6 x 81.8 cm H minimum to 91.7 cm H maximum)

2.03.02 Overall interior dimensional information on glassware washers is as follows:

Nominal Interior Dimensions of FlaskScrubber Vantage models: 22.6" W x 21.3" D (57.5 x 54.1 cm) 18.1" H (45.9 cm) - distance from top of spindle rack to top of tank

\*\*2.03.03 Sound level shall be 62 dbA or less.

2.03.04 Washers are manufactured in the U.S.A.

2.03.05 Optional base stand has the following nominal dimensions: 32 " W x 24.1" D x 17" H (81.3x 61.2 x 43.2 cm).

## PART 3 - EXECUTION

### 3.01 Inspection

3.01.01 Carefully check the contents of the carton for damage that might have occurred in transit.

### 3.02 Preparation

3.02.01 Verify equipment rough-in before proceeding with work.

3.02.02 Coordinate with other trades for the proper and correct installation of plumbing and electrical rough-in and for rough opening dimensions required for the installation of the washer.

### 3.02 Installation

3.02.01 Install according to manufacturer's instructions.

A. Electrical requirements: Single phase, 208/230V, 50/60Hz, 11 amps, 3 phase 230V, 50/60 Hz, 19/17 amps

B. Plumbing Connections:

a. Hot tap water connection for wash cycle: Minimum inlet water temperature of 120F (49C). The hot water inlet valve is equipped with a male  $\frac{3}{4}$ -11 $\frac{1}{2}$  GHT hose

fitting. The supply hose from the shut off valve to the washer inlet valve is to be supplied by the customer Input pressure 20-120psi.

b. Final pure water rinse connection: The pure water inlet valve on the glassware washer is equipped with a male  $\frac{3}{4}$ -1 $\frac{1}{2}$  GHT hose fitting to permit at least 1.25 gallons (4.7 liters) per minute flow. Minimum input pressure 0 psi.

c. Drain connection: " 0.57" drain connection is provided

3.02.02 Install according to standards required by authority having jurisdiction.

3.02.03 Install equipment plumb, square and straight with no distortion and securely anchor as required.

3.02.04 Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

3.02.05 Touch up minor damaged surfaces caused by installation. Replace damaged components as directed by Architect.

### 3.03 Cleaning

3.03.01 Clean equipment countertops and all other surfaces as recommended by the manufacturer, rendering all work in a new and unused appearance.

3.03.02 Clean adjacent construction and surfaces which may have been soiled in the course of installation of work in this section.

### 3.05 Protection

3.05.01 Provide all necessary protective measures to prevent exposure of equipment and surfaces to other construction activity.

3.05.02 Advise contractor of procedures and precautions for protection of material and installed equipment and casework from damage by work of other trades.