

Data and Specifications

PRODUCT

The Belimed Models WD 230 and WD 250 washer disinfectors represent a trend-setting design. They fully meet the latest customer requirements for automated preparation of laboratory glassware and top line goods. These models are ideally suited wherever efficiency, application-adapted cleaning, disinfecting and drying are essential. With a generously sized wash chamber and a modest exterior dimension, these models will minimize your floor space requirements and increase your productivity. The microprocessor control system offers up to twelve (12) user defined programmable cycles. The WD 230 utilizes a hinged down door and the WD 250 an automatic vertical sliding door with full viewing window built into the door. Both models come standard as double door washers.

DIMENSIONS

	Chamber Size (w x h x d)	Overall Size (w x h x d)	Volume (Ft ³)
<input type="checkbox"/>	WD230 24-3/4" x 27" x 26" (630mm x 690mm x 660mm)	35-7/16" x 72-1/2" x 31-1/2" (900mm x 1840mm x 800mm)	10.0
<input type="checkbox"/>	WD250 24-3/4" x 27" x 26" (630mm x 690mm x 660mm)	35-7/16" x 72-1/2" x 31-1/2" (900mm x 1840mm x 800mm)	10.0

Note: Models with electric heating adds 14-1/2" to the overall height.

DOOR SELECTIONS

- Single Door (WD 230 only)
- Double Door (standard) – pass through

APPLICATION

For use in laboratories where glassware is handled for decontamination purposes. The Belimed WD 230/250 provides high level cleaning and disinfection while reducing risk and the need for manual washing.

CYCLE DOCUMENTATION [OPTIONAL]

- 42 Column Printer – Panel Mounted
- 42 Column Printer – Remote Mounted

Printer The printer documents and records each cycle performance. At the end of a completed cycle, the cycle performance record is printed. The printed cycle information includes transition points, time and pressure indication, cycle start time, date, both washer and cycle numbers, and any process faults that occurred during the cycle.

HEATING OPTIONS

- Plant Steam
- Electric (includes pure water pre-heater)

NORMS AND PERMITS

Norms: ISO 9001, DIN EN46001, Advisory 93/42 EWG Annex 2, EN 1481, EN 60601-1-2, EN 55011, EN 50085
Permits: VDE (EN 60335-1, EN 60335-2-58), UL921, 5th Edition, DVGW, SVGW, CE-ID

STANDARD FEATURES

MICROPROCESSOR CONTROLS

The **Mitsubishi M16C processor with 256 K Byte EE Prom and 10K Byte RAM** controls all system functions and monitors system operations. The control system has been specifically developed for washing applications. By way of a keypad, up to twelve (12) freely definable programs may be selected. A program library with adaptable readymade programs assists with recipe input requirements. The 2 x 20 vacuum florescent character display is easy to read. Respective input signals are monitored and possible deviations from the target norm value range are indicated by visual and acoustic means.



Belimed WD 230



Belimed WD 250

INTERFACES: TWO (2) RS 232, RS 485, CAN BUS

An RS485, CAN Bus and two (2) RS232 ports are provided to download cycle data to a remote computer or supervisor system. Allows connection with all products for customer visualization and batch record process data storage.

AUTOMATIC TEMPERATURE CONTROL AT WATER INTAKE

When precise temperature control of the input water is required the control system will mix the proper level of hot and cold water to obtain the proper water temperature required for customer processes.

HIGH PERFORMANCE DRYERS

Two (2) high performance dryers are included with a heater output of 10.5 KW. The drying temperature is adjustable according to the customer requirements. Fresh air is lead through a 0.3 micron heppa filter.

ELECTRONIC WATER LEVEL CONTROL DURING FILLING PROCESS (DYNAMIC FILLING PROCESS)

On program start, the control system allows for adequate intake of water to allow trouble-free performance of the re-circulation pump. Depending on loading rack and respective load, subsequent intake of water is precisely metered to the needed quantity. This method guarantees optimal cleaning results while minimizing consumption of water and chemicals.

MAIN POWER SWITCH ON MACHINE

Provides easy access for shutdown of complete machine.

PUMP PRESSURE MONITORING

Pump output pressure is monitored to ensure proper water flow from pump throughout operation.

DUAL SENSOR TEMPERATURE MONITORING

Thermal disinfection is quality checked by two sensors that are mutually comparing readings. If readings deviate beyond a given tolerance, such deviation is indicated on display.

AUTOMATIC VERTICAL SLIDING DOOR (WD 250)

The automatic doors (WD 250) open vertically and are mutually independent and thus fully meet the requirement for best possible separation of the chamber. The door closes from bottom to top. Lateral timing belts guide the door to its top position. The door guide is made of a swing frame with lower swivel point. On top, a linear motor provides the door frame with pressure against the wash chamber. The wash chamber door consists of double wall safety and insulating glass.

A silicon rubber seal provides the necessary seal between the chamber and the door. A door safety switch prevents closure of the door if the door is met with any obstruction during the closing procedure.

DOUBLE WALL SAFETY COMPOUND VIEWING GLASS IN DOOR(S)

Door construction provides a full size double wall safety glass for viewing of internal wash chamber throughout the complete wash cycle.

FULLY DRAINING PUMP

The unit is provided with full drainage of the wash/rinse pump to ensure no residual water is left inside pump housing and to reduce potential bacteria buildup.

AMBIENT AIR DAMPER

The exhaust damper includes a condensing water drain for the removal of condensate. A flap mechanism in the damper reduces the heat loss through the exhaust air.

SAMPLING VALIDATION PORT AND REMOVAL VALVE

Two validation ports are included on the washer. The first port is located on top of the washer for the purpose of inserting thermocouples into the chamber. The second port is located in the piping service area for the purpose of collecting solution sample analysis.

AGENT DOSING PUMPS

Four (4) dosing pumps with monitoring probes are provided as standard for disinfecting and cleaning agents.

2 X 20 VACUUM FLORESCENT CHARACTER DISPLAY

Easy to read display with character size of 8mm (5/16") high.

ACOUSTIC SIGNAL AT PROGRAM END

At end of wash cycle the control system will chime indicating the end of program run.

AUTOMATIC MAINTENANCE INDICATION

The control system offers the availability of indicating when scheduled maintenance procedures should be completed. This allows maximum up-time and operation of the washer.

POTENTIAL-FREE OUTPUT FOR ERROR SIGNAL, EXHAUST DAMPER, PRE-CUTOFF VALVE OR END OF PROGRAM INDICATION

Sends output signal to customer's remote monitoring device or control.

EXTERNAL SIGNAL FOR PEAK LOAD SHUT-DOWN AND EXHAUST SYSTEM MALFUNCTION

Monitors utility usage based upon peak demands and operates accordingly.

REMOTE SERVICE DIAGNOSTICS VIA MODEM INTERFACE

This powerful tool allows telephone connection with Belimed U.S. factory for the purpose of changing program recipes, values and remote diagnostics.

STAINLESS STEEL WASH CHAMBER

The wash chamber is constructed of 316L stainless steel. The wash chamber ceiling and sump are constructed with a pitched angle to ensure complete drainage of water. This reduces the water evaporation requirement during the drying phase of the cycle. Rotary spray arms are fixed at the top and bottom of the chamber. While in operation, the noise emitted from the chamber is less than 62 dBA.

STAINLESS STEEL WASH PUMP

A 1-1/3 HP stainless steel wash pump recirculates 195-234 gallons per minute of solution throughout the wash chamber and through the injectors.

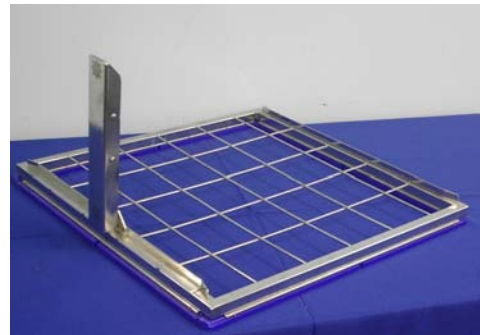
*WD 230 & WD 250 Glassware
Washer/Disinfectors Accessories*



56 Jet Spray Rack - 817471

consists of:

- 1 - rack – 818380
- 10 – 4 x 25mm jets – 820445
- 10 – 6 x 102mm jets – 820446
- 16 – 8 x 200mm jets – 820447
- 16 – 8 x 300mm jets – 820448
- 4 – 8 x 400mm jets – 820449
- 10 – sealing plugs – 820471



BASIC 1 LEVEL RACK - 104501



**TRANSPORT CART – 105501
(FOR WD 250 MODEL ONLY)**



2 Level Wash Rack P/N 814456
includes: 6 – baskets – 820563 (see below)
6 – inserts – 820564 (see below)



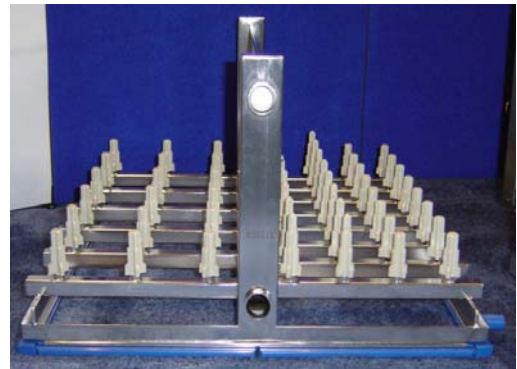
19" x 8" x 6" Baskets – P/N 820563.
Accessories for 2 – Level Wash Rack. The
baskets can be used with or without the
inserts (P/N 820564)



19" x 8" x 6" Inserts – P/N 820564
Accessories for 2 – Level Wash Rack



1½ Level Jet Rack - 835109
w/ 56 fixed jets (possible 30 add'l jets can be added)



Direct Injection Rack for Infusion bottles -
83511



Rack for 74 Pipettes - 835043

UTILITIES REQUIREMENTS				
		WD230	WD250	NOTES
ELECTRICAL - EL				
<input type="checkbox"/>	3 Ph, 60 Hz, 208 Volt	40.0 Amp	40.0 Amp	
STEAM SUPPLY - SS				Note 1
Connection – MPT		¾”	¾”	
Pressure – Psig		35-70	35-70	
Peak Consumption – Lbs./Hr		150	150	
Avg. Consumption per Load – Lbs.		11	11	
STEAM RETURN - SR				Note 2
Connection – MPT		¾”	¾”	
COLD WATER - CW				
Connection – MPT		¾”	¾”	
Pressure – Psig		30-60	30-60	
Temperature – °F		<80°F	<80°F	
Flow Rate – GPM		10.6 @ 32 psi	10.6 @ 32 psi	Note 8
Avg Consumption – Gal/Load		6.6	6.6	
COMPRESSED AIR - CC - (for conveyors only when automated)				
Connection – FNPT		¼”	¼”	
Pressure – psig		60-90	60-90	
Peak Rate – cfm		0.5	0.5	
HOT WATER - HW				
Connection – MPT		¾”	¾”	
Pressure – Psig		30-60	30-60	
Temperature – °F (min-max)		120 - 140	120-140	
Flow Rate – GPM		10.6 @ 32 psi	10.6 @ 32 psi	Note 8
Avg Consumption – Gal/Load		13.2	13.2	
DEIONIZED WATER - DI				Note 3
Connection – MPT		¾”	¾”	
Pressure – Psig		30-60	30-60	
Temperature – 0F (min-max)		120 - 140	120 - 140	
Flow Rate – GPM		10.6 @ 32 psi	10.6 @ 32 psi	Note 8
Avg Consumption – Gal/Load		6.6	6.6	
Minimum required 0.1 Meg Ohms / cm				
DRAIN - DR				Note 4
Size – Floor		4”	4”	
EXHAUST - EX				Note 5
Equipment Connection		4.25” OD	4.25” OD	
Building Connection		8” ID	8” ID	
Flow Rate – cfm		177	177	
Heat Loss – BTU/hr		250	250	
Load (Clean) Side – BTU/hr		60 (18 watts)	60 (18 watts)	
Unload (Decon) Side – BTU/hr		190 (56 watts)	190 (56 watts)	

NOTES:

1. STEAM SUPPLY: Requires #100 mesh steam strainer. Steam must be dry, saturated, free from all impurities such as gases, oil, dirt, or other contaminants.
2. STEAM RETURN: Steam return requires sufficient return capacity by Customer.
3. DI WATER: Minimum 0.1 Meg Ohms/cm water quality.
4. DRAIN: Provide floor drain and trap capable of 8 gallons gravity dump.
5. EXHAUST: During drying cycle fan output is 177 CFM. Exhaust pressure can be anywhere between a back pressure not to exceed 0.6” WC and a vacuum pressure no greater than 0.2” WC at NIL supply. Pitch duct back to unit. Recommended materials for ductwork: galvanized steel, polyethylene, or stainless steel.
6. OTHER:
Service Valves – SV: must be easily accessible for all utilities.
Back-flow Prevention – BF: provide for Hot and Cold water.
Steam Particle Mesh Strainer – SP: 100 mesh size.
Water Strainer – WS: Provided by Belimed (HW & CW only)
Phone Line Jack & 110 V Receptacle – PH: Standard with Unit; Analog phone line & 110V GFCI receptacle
7. Weight: 270 Kg. (594 Lbs.)
8. Minimum flow is 2 GMP