

## FlexWasher™ W50

# Robotic High Pressure Water Deburring (HPWD) and Parts Washing

ABB's FlexWasher™ W50 is a robotic de-burr and washer system with built-in pre-rinse and drying chamber and with industry leading "clean" results and low operating costs. The ideal solution for production with different part styles and geometries that require a configuration with different styles of high pressure water deburring (HPWD) nozzles.

### System operation

The W50 FlexWasher™ consists of a pre-rinse chamber, a main booth and a drying chamber. The main booth is equipped with vertical part entry and exit doors, an IRB 6640 Foundry Prime robot with gripper and stationary HPWD nozzles.

The part is loaded into the pre-rinse chamber where the worst contaminants are rinsed off the part. The robot arm moves through the open entry door and picks the part up from inside of the pre-rinse chamber. After the deburring, wash and optional blow-off in the main booth, the robot arm moves through the open exit door and places the part inside the dry chamber. The drying chamber operates with regenerative air blowers and air canons.

### Closed loop water filtration

The FlexWasher™ W50 is equipped with a multistage closed loop water filtration system. The vacuum or gravity filter unit filters out particulate and tramp oils. An optional integrated oil separator skims non-soluble oils. Finally a duplexed bag or pleated bag filter completes the fine filtration of particulates. The most suited filtration system depends on the amount of water flow, chip load and soluble or non-soluble oils.

### Part loading

The FlexWasher™ W50 can be a stand alone unit with manual loading of parts or integrated into full automatic systems with automated loading of parts.

### 2-in-1 process

ABB FlexWasher™ technology combines high pressure water de-burring and parts washing into one system. This system removes eyelash burrs and other foreign materials without removing parent material.



### Robotic agility

ABB FlexWashers take advantage of the robot's agility to move the part around stationary HPWD tools. The result is a uniform and unsurpassed cleanliness quality of parts with simple as well as complex geometries. The robot can also process part details that are unreachable by other less flexible equipment.

### Right robot for the job

ABB FlexWashers use ABB's innovative Foundry Prime robots. They are specially designed to work in harsh environments without complex external protective covering against heat, water and contaminants.

### Main application

ABB FlexWasher™ systems are normally used after production processes that create burrs and debris such as machining, forging, casting, pressing, welding and assembly. These parts are to be burr free and/or cleaned before any further process, storage or transportation.

### Green technology

ABB FlexWasher™ technology is differentiated by not using heated water or cleaning chemicals to remove burrs and debris. This results in significant lower energy consumption and operating costs. The patented closed loop water filtration system with best-in-class low water consumption also reduces waste handling costs.

# FlexWasher™ W50

FlexWasher™ W50 Data	
Floor space requirements (w x l)	4930 x 8230 mm / 194" x 324"
Booth dimension (w x l x h)	3050 x 2985 x 4675 mm / 120" x 117½" x 184"
Booth construction	All wetted areas in stainless steel or other corrosion resistant materials. Booth includes main booth, pre-rinse and drying chamber.
Robot type	IRB 6640 Foundry Prime, 235 kg / 518 lb
Part size, max	800 x 800 x 800 mm / 31½" x 31½" x 31½"
Part weight, max	Up to 235 kg / 518 Lb including gripper
Part loading	Manual or automated.
Part fixture	Engineered solution based on part geometry and process.
HPWD tool	Stationary rotary, fluidic, straight and/or probe nozzles configured according process requirements.
System pressure	135 – 600 Bar / 2000 – 8500 psi Process pressure is material specific. 23 – 57 lpm / 6 – 15 gpm Flow rate is dependent on number of nozzles and pressure.
Water filtration	Multistage closed loop filtration with vacuum (≥ 30 micron) or gravity (≥ 50 micron) filter unit, UV light, duplexed bag or pleated bag filters (≥ 20 micron) and optional oil separation.
Air filtration	Demister (2500 cfm) or optional Dryflow mist collector (250 cfm).
Noise level	80 dba or optional quiet version 77 dba
Controls	Stand alone IRC5 controller with graphical TPU operator interface and PLC cabinet with HMI.
Safety	Dual channel safety circuits, 3-position enable device. Optional robot servo motor lock out.
Process chemistry	City water with no detergent. Optional rust inhibitor if required by process.
Cleanliness spec	Analysis of customer part and specifications are required.
Dryness spec	Analysis of customer part and specifications are required.

Data and dimensions may be changed without notice

