

## FlexWasher™ W30

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

ABB's FlexWasher™ W30 is a compact design robotic de-burr and washer system with industry leading low operating cost. The ideal solution for production environments with restricted floor space and where the process only requires a single high pressure water deburring (HPWD) nozzle configuration.

### System operation

The FlexWasher™ W30 consists of an IRB 1600 Foundry Plus robot with HPWD tool and optional dry cannons to dry the part with compressed air. The part is located on a custom engineered fixture that can be mounted on a rotary table. The table rotates from 0° to 180° to give access to all surfaces of a part. The integral demister extracts water droplets from the air and creates a negative air pressure that ensures water vapors stay in the booth.

### Closed loop water filtration

The FlexWasher™ W30 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 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™ W30 can be a stand alone unit with manual loading of parts or integrated into full automatic systems with automated loading of parts. This is possible with the same booth configuration due to the L-shaped door.

### 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 a HPWD tool around the part. The result is a uniform and unsurpassed cleanliness quality of parts with simple as well as complex geometries. The robot processes part details that are unreachable by other less flexible equipment.

### Right robot for the job

ABB FlexWasher™ W30 uses ABB's innovative Foundry Plus robots with air purge. 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.

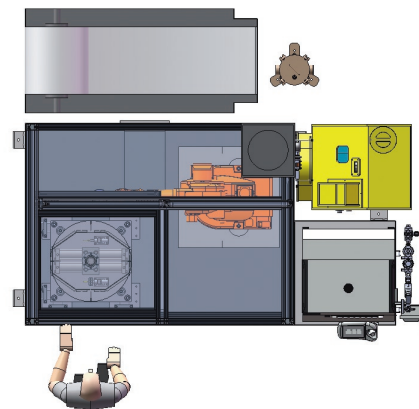
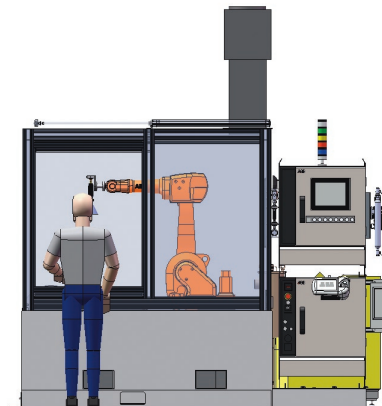
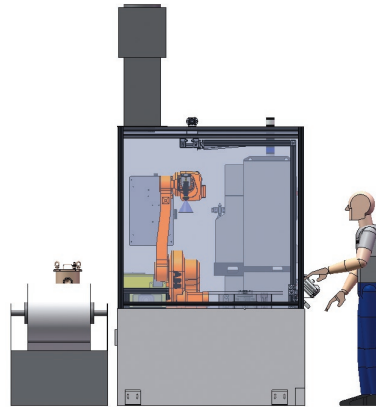
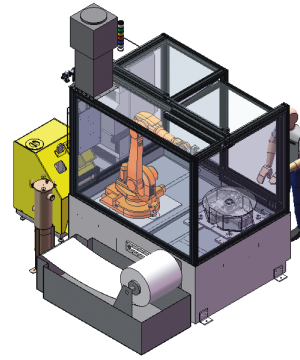
### Green technology

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™ W30

FlexWasher™ W30 Data	
Floor space requirements (w x l)	2845 x 3430 mm / 112" x 135"
Booth dimension (w x l x h)	1525 x 2795 x 3250 mm / 60" x 110" x 128"
Booth construction	All wetted areas in stainless steel or other corrosion resistant materials.
Robot type	IRB 1600 Foundry Plus, 7 kg / 15.4 lb
Part size, max	750 x 750 x 750 mm / 30" x 30" x 30"
Part weight, max	50 kg / 110 lb
Part loading	Manual or automated.
Part fixture	Engineered solution based on part geometry and process.
HPWD tool	Robot mounted rotary, fluidic, straight or probe nozzle with optional integrated air blower.
System pressure	135 – 600 Bar / 2000 – 8500 psi Process pressure is material specific. 23 – 30 lpm / 6 – 8 gpm Flow rate is dependent on orifice of the nozzle and pressure.
Water filtration	Multistage closed loop filtration with vacuum ( $\geq 30$ micron) or gravity ( $\geq 50$ micron) filter unit, UV light, bag or pleated bag filters ( $\geq 20$ micron) and optional oil separation.
Air filtration	Demister (300 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. Optional integrated PLC 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	No dripping water. Analysis of customer part and specifications are required.

Data and dimensions may be changed without notice



© Copyright ABB Robotics. ROB0100EN\_LB November 2008.