

# Products

## A W Bell Machinery Develops Water Blast System for Shell Removal

After two years of development and testing, A W Bell Machinery recently announced its Water Blast Systems are now available for sale. The systems replace the need for knock-off and at times other after cast processes such as shot blast and sand blast due to the high amount of shell removal during the water blasting process.

The Water Blast System comes in two models : The manual WBS500 and fully automatic/manual combination WBS1000.

The WBS1000 is the “all-in-one” water blast system. The cabinet has been designed

with two compartments, automatic and manual.

The automatic compartment requires only that tree parameters be programmed; when the start button is pressed, the machine does the rest. All the motion is PLC controlled. Once this cycle is completed, the tree can then be automatically transferred to the manual cabinet for the finishing touches.

The manual motion is controlled by joystick, which provides flexibility and ergonomic enhancement. Both blast chambers include large viewing windows and rinse systems to allow for maximum visibility.

Designed to run on one pump, the system allows the manual and automatic cabinets to be run either simultaneously or individually. Thus, while the automatic cycle is running, the manual chamber can be used to provide any finishing touches, thereby reducing cycle times.

The WBS500 is a manual blast system only, essentially the WBS1000 minus the automatic chamber. This machine is well suited for job-shop foundries, with the operator having complete control of the entire shell removal process.

### Foundry Results

Implementation of the WBS1000 in the A W Bell Pty Ltd foundry has seen a marked improvement in product flow, with a more effective cleaning of castings before cutoff operations. At times, further cleaning operations have been completely eliminated. The cleaning time on one particular part was reduced from 30 minutes in a sandblast cabinet to just 6 minutes in the manual chamber of the WBS1000.

While the automatic chamber cleans the vast majority of production castings, the manual chamber has also been greatly used in the efficient cleaning of an increasing number of rapid prototype castings of irregular shape and size.

Improved safety has also been achieved, with the elimination of a knockoff cabinet and its associated dust, as well as the replacement of an old waterblast system, which previously provided the operator with little protection from the

blast nozzle or its associated forces.

A W Bell Machinery also offers a range of ancillary equipment to complement the blast cabinets:-

- The drag-type debris conveyor will transfer all the waste shell material into waste receptacle and can be designed to suit individual requirements for different types of waste bins.

- A W Bell Machinery's pump of choice is a Gardner Denver 90Hp Pump. This is capable of pressures of up to 10,000 psi and 13 GPM. It provides fast loading and unloading of blast pressure which help keep the cycle times to a minimum. Unloading of the pump when not required can greatly reduce wear and energy costs associated with high pressure pumps.

- For investment casting facilities short on water resources, the integration of a water filtration system provides for reuse of the water after it has gone through the blast cabinets. After significant development with Ebbco Inc., A W Bell Machinery has been able to recycle 90% of the water used at its own installation.

One, two or all of these ancillary components can be supplied with the blast cabinets depending on customer requirements. In any case, master control cabinets are equipped to provide a central control to all components, thus localizing the safety circuits and ensuring any faults are immediately brought to the operator's attention.

For additional information, visit Bell's web site at [www.bellmachinery.com](http://www.bellmachinery.com).

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