



Vapormatt | Cougar Radial

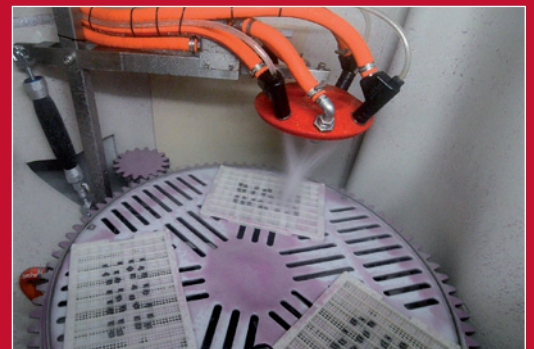


Cougar Radial

- Semi-Automatic in-line wet blasting, cleaning and rinse machine optimised for tooling applications
- Sophisticated process control & monitoring
- Recipe driven parameter setting and post process reporting
- Extremely consistent and reproducible processing
- Fully self contained and ventilated unit suitable for location in quiet, controlled environments

Tooling applications

- Edge honing (up to 70 micron)
- De-burring to remove burrs without dimensional change
- Surface cleaning/ Skin removal to enhance coating adhesion
- Polishing, pre & post coating
- Selective coating removal
- Peening for coating internal stress profile enhancement
- Suitable for replaceable inserts of varying geometries



Wet Blast 1

Rinse

Wet Blast 2

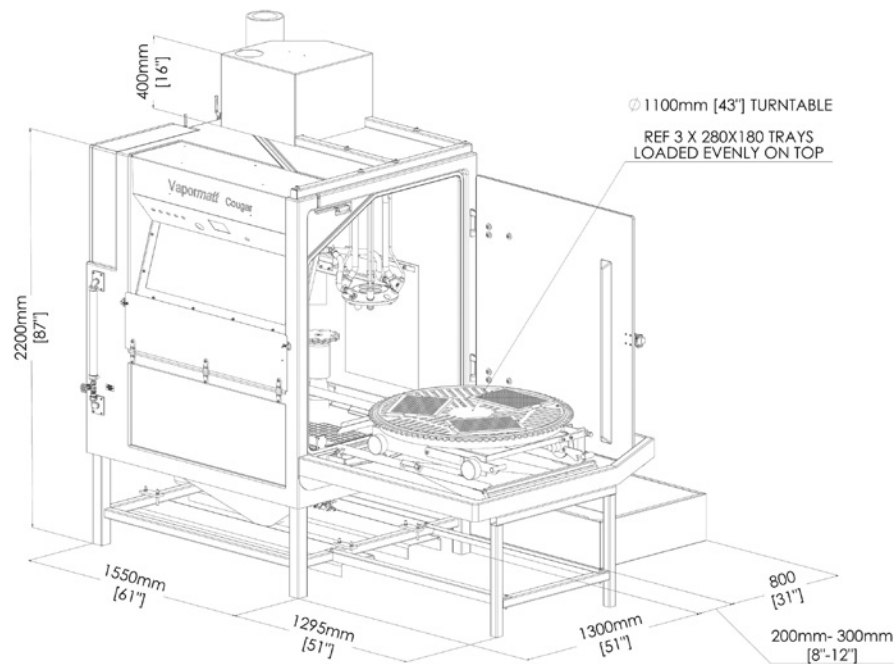
Rinse

Ultrasonic Rinse

DI Rinse

Dry

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The Vapormatt Cougar Radial automatic wet blasting machine has been designed to suit low to medium production capacities, classified as an entry level solution whilst incorporating Vapormatt's established and proven processing technology.

After cutting tools have been moulded and ground, the substructure finish can be significantly improved by using the wet micro-blasting technique. Refining the surface smoothness improves the operational performance and prolonging the lifespan of the tool. The "Vapormatt" wet blasting technology that the Cougar Radial presents, is a perfect solution for preparing cutting tool inserts prior to chemical vapour deposition (CVD) or physical vapour deposition (PVD) due to the cleaning properties that are essential for good adhesion.

The Cougar Radial has also been developed for edge honing to meet stringent tolerances. The quality of components to be machined by the cutting tool, will be largely dependent on the preciseness of the cutting tool's edge preparation. The tool's edge will determine the type of chipping form, cutting roughness and cutting substructure.

Customer standard pocket or pin trays and the majority of bespoke trays are positioned on to the rotary turntable, which extends outside of the machine for ease of loading and unloading. The table has been designed to accommodate 3 standard size trays per machine cycle. Typical pallet size is 304mm W x 340mm L x 50mm H.

Corrosion resistant high grade stainless steel is used to manufacture the water tight cabinet frame and internal metal work.

The user friendly touchscreen HMI unit facilitates the development of edge preparation and surface finishing recipes. Each recipe will control and monitor all of the machine's processing parameters, ensuring a consistent and precise finish. The built-in Vapormatt technology provides assurance that every production run will produce dependable results.

A specially designed gun head supports 4 boron carbide nozzles equally spaced around an abrasion resistant polyurethane disc. This arrangement provides excellent wet blasting stability and evenness. The disc also defines the pre-set nozzle angle, depending on the requirements of the edge radius form and K factor. Additional discs can be supplied should more than one pre-set angle be required or an automatic gun head that is driven through the HMI unit, when a number of different angles are required.

The blast head is programmed to travel smoothly and concisely across the X axis from its stationary position to the centre of the rotary turntable. The adjustable height and speed of the gun head arm will form a ratio with the variable speed of the rotating turntable to give the optimum processing combination for small and large edge honing tolerances.

Continuous conditioning of the abrasive is carried out by the "Vapormatt" elutriation tower, which removes any undersize or broken down abrasive. This is in conjunction with the slurry concentration being constantly measured and automatically replenished if needed, ensures a consistent and dependable blasting medium.

Any abrasive remaining on the cutting tools or trays following the edge preparation process, will be removed by the integrated rinse system. The Cougar Radial utilises the blast nozzles by impeding the slurry and allowing high pressure water to flow. A compressed air blow-line is supplied to take away excess water.

The machine chamber is ventilated to external atmosphere as it operates under slight negative pressure to reduce contaminants escaping in to the workshop environment.

A separate water filtration with sediment tank can be installed locally to the machine.

Operational noise levels can be specified down to 75 dBA.

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