



SECTION BLAST MACHINE – SPECIFICATIONS

Protoblast has been designing and building air and airless blast machines since 1975. In this time we have encountered many different designs and applications for blast equipment and machines. We would like to give you the benefit of all this experience with the supply of our latest section blast machine.

This simple and versatile machine is designed to blast steel sections before fabrication. Blasting before fabrication allows for a simpler machine than a facility that processes the product after fabrication (in a full blast chamber), a more thorough blast and assists with the process of marking out and welding. Protoblast section blast machines have replaced the unpopular chore of wire brushing therefore reducing labour costs, providing cleaner, dust free atmospheres as well as accelerating weld times and improving paint adhesion. These machines will blast up to 800 UB's and pipe up to 350 diameter, flat bars and other small structures can be feed through machine on racks or other jigs to achieve the full use of the machine.

The blast effort is produced by 6 open type blast wheels, 4 with 5.5 kW capacity and 2 with 7.5 kW capacity. The section blast machine will blast large beams to class 2.5 at a rate of 1 metre per minute. These machines are frequently operated at higher feed rates (2 – 3 metres per minute) with a slightly lower, but satisfactory, class of blast. Taller sections up to 1200mm can be blasted in two passes. The openings allow a section 1200 tall x 350 wide to be fed through. The appropriate number of blast wheels can be operated by isolating the top blast wheels for smaller sections without undue wear on the machine and cost savings on power, by the operator.

The whole cabinet is constructed from 500 BHN steel and has liner plates covering the high wear areas of the machine with the same material.



The entry and exit vestibules have a series of rubber curtains fitted to minimize abrasive escape. A “blow off” vestibule would be on the downstream side of the blast process to remove residue abrasive from the blasted product. The abrasive is feed from the abrasive storage through a pneumatically controlled shot valve, then through fully adjustable shot pipes to allow adjustment of shot pattern for any abrasive chosen. There is a proximity switch on the inlet side of the machine to turn off the shot automatically when there is no work in the blast zone to minimize wear on the machine.

Spent abrasive is returned to the centre of the machine from the vestibules and blow-off area by a screw conveyor. An oscillating conveyor collects this shot and the shot from the main cabinet and feeds it to a bucket elevator via a ‘live’ large trash sieve. This sieve filters out large debris before entering the elevator.

The shot is then raised by the bucket elevator to the efficient airwash separator. The dirty abrasive is feed over a weir plate where the fines and dust is removed and the cleaned abrasive accumulates in the storage to be fed back to the blast wheels. After cleaning, the abrasive is feed through another static sieve in the elevator. The dust is taken to the dust collector and the fines through the fines chute into a bin. An access platform with ladder provides access to the elevator drive and abrasive cleaner for any service work required.

The cabinet is ventilated by a 2,000 cfm cartridge type dust collector. This will have reverse pulse cleaning to remove collected dust from the cartridges, allowing it to fall into a 200L bin. The dust collector both supplies airflow for the abrasive cleaner and maintains a negative pressure in the blast cabinet to prevent dust escape.

Sections are transported though the blast zone by a roller conveyor. This conveyor has hardened idle rollers in the cabinet, with powered rollers at the entry and exit with electric speed control. The speed control supplied is an electronic system that gives



infinite control over the conveyor speed giving the operator the capability of having the machine operating at just the right speed for the profile required. The speed control will have spare capacity to suit additional powered or idle rollers which are normally supplied by others.

An electrical control panel is included. This has DOL motor starters and circuit breakers, as well as interlocks and the proximity switch to control the blast. Also included are blast wheel ammeters, main switch, emergency stop and the 2.2 kW capacity speed controller for the conveyor drive.

An initial charge of 2 tonnes of steel shot is included with the machine.

The machine will be fully assembled, wired and tested in Protoblast workshop prior to dispatch.

Power required : Total 52 kW, Full load current 98 A

Dry compressed air required : 20cfm @100psi

Size – Cabinet & elevator : 3.6m long x 3m wide x 6.0m high

Dust Collector : 2m x 1.4m x 3.6m high.

Please feel free to contact Protoblast Company with any questions for further clarification.