

VACUUM BLAST MACHINE WITH EXTENDED REACH AND INTEGRATED CONTROL SYSTEM

ABSTRACT OF THE DISCLOSURE

5 An advanced vacuum blast machine includes a cyclonic separator, a blasting pot with sensor and remote-control system, a dust filtration collector, a three-lobes Root-blower, a three-phase asynchronous electrical motor, an exhaust air muffler, an integrated control panel system, a concentric butterfly valve, and a safety relief valve. The machine enables vacuum blasting hose operation at lengths of 120-150 meters while maintaining consistent pressure and suction power. The system allows for blasting operations in premises where other industrial
10 activities are occurring simultaneously without interference. The integrated control systems provide real-time monitoring and adjustment of blasting parameters. Efficient media separation is achieved through cyclonic separators and filters that distinguish reusable abrasive media from waste. A pressure-balanced vacuum blast gun incorporates mechanisms to regulate internal vacuum pressure, enhancing maneuverability and reducing operator
15 fatigue.

(FIG. 1)