Product Specification Sheet
Downflo® WorkStation (DWS) Dust Collector, Revision 2

Furnish a complete pulsed Downflo WorkStation as shown on the plans and/or listed in the equipment schedule. The workstation system shall provide a clean, bright working environment for maximum productivity. The system shall be capable of providing continuous on-line cleaning -or- automated intermittent downtime cleaning for a true volumetric flow of 4,500 / 5,500 SCFM with clean filters and a booth velocity of 160 fpm. The workstation system shall come equipped with Donaldson Torit® _____ oval filter cartridges.

The pulse-jet dust collection workstation shall be supplied complete with factory-assembled filter modules, joining packs for field installation, and booth packs sized to meet airflow capacities, design requirements, and application needs. Booth packs containing canopy and side shields -or- soft wall weld curtains -or- soft wall acoustical curtains -or- hard wall galvanized panels -or- hard wall acoustical panels shall provide self-contained work cells, quiet operation, worker protection, and recirculate clean air into the plant. Shipments shall include instruction manuals and replacement parts list for easy assembly and maintenance at all times.

Each workstation power module shall be of welded and ledge-less construction to reduce dust build-up inside the unit using 14-gauge carbon steel, with tubesheet and base plate constructed of rugged 10-gauge carbon steel. It shall come complete with a sprinkler pipe coupling per module, two dust drawers per module with 1.1-cubic foot capacity each, and an integral acoustical 5 or 7.5 hp power pack with aluminum fan wheel for non-sparking design and maximum efficiency, motor coupled to fan and unwired. The power pack compartment shall be fully lined with silencer foam for maximum sound control. A built-in roof silencer further supports quiet operation. The standard 5 or 7.5 hp lined fan plenum shall deliver an overall average sound pressure level of 63 or 68 dB(A), respectively, at an operator position of 1.5-meter high and 1-meter from each of the four sides of the cabinet. Access covers and ports for electrical wiring to motor and solenoid valves shall be provided in rear of collector.

Each workstation power module shall also include internally mounted pulse cleaning hardware in a completely enclosed, fully lined and silenced clean air plenum, including 1-inch single diaphragm valves, pilot solenoid valves in NEMA 4 enclosure, a 4-inch sq x 3/16" wall tubing compressed air manifold, and a venturi style cleaning system to extend filter life. The cleaning system shall incorporate venturis that extend through the tubesheet in order to deliver uniform pulse cleaning energy over the entire length of the filter cartridges. The compressed air connection shall be 1-inch NPT for attachment of clean and dry compressed air supply at 50 PSIG (not to exceed 100 PSIG) and a temperature not exceeding 150° F. Time-weighted pulse cleaning measurements shall average 84-86 LAEq Max. Compressed air supply and pressure port for measuring filter Delta P shall be pre-plumbed to outside and accessible from rear of collector.

The workstation system shall be controlled by:

- A solid-state printed circuit cleaning control in a NEMA 4 enclosure.
- A Delta P programmable logic controller (PLC) managing the on-demand, continuous-duty filter cleaning by measuring and controlling between high and low pressure set points.

- A Delta P Plus programmable logic controller (PLC) cleaning and motor control panel with aftershift cleaning shutdown sequence to prevent worker exposure to pulse noise and keep dust from escaping the booth.
- IEC Control Panels complete with PLC, IEC disconnect, motor starter, and Magnehelic®* Gauge.

Filter cartridges shall be supplied per the attached specification. The filter cartridges shall be arranged in a horizontal orientation and accessed simply from the front of the collector, through the doors, and by loosening the 3-lobe knobs. Cartridges shall easily slide off and on to yokes. No tools shall be required for filter removal / installation.

Dust generated in the booth shall be captured by the horizontal airflow pattern induced by the filter module with a slight downward or upward direction depending on the position of the dust inlet. Open louver inlets shall be reversible to be used alternately as high or low dust/fume inlets depending on the application. Louvered inlets shall direct airflow away from the dust drawers to reduce dust re-entrainment, resulting in lower pressure drop and longer filter life.

Dust-laden air shall enter through the dust inlets at a low velocity and be distributed onto the filter elements for even dust loading and minimized abrasion. Heavy dust particles shall fall into the dust drawers located at the base of the power module, and small, light particles shall be collected on the media surface and periodically cleaned off for prolonged filter life. Clean air shall pass through the media, enter into the clean air chamber, and exit through the fan outlet.

The collector shall be a Donaldson® Torit® Model DWS Downflo WorkStation dust collector as manufactured by Donaldson Company, Inc.

*Magnehelic is a registered trade mark of Dwyer Instruments Inc.