Wet Dust Collectors
Wet Dust Collection Systems using DualDraw® Airflow Technology

DualDraw Wet Collectors are designed to capture combustible dust from processes such as grinding, deburring, cutting, polishing, mixing, and many others. Aluminum, titanium, and magnesium are some of the more common and dangerous combustible metal dusts these solutions address. They also can be used to scrub the air of other combustible materials such as coal, carbon, phenolic resin, zinc, plastic, grain, sugar, and many others. In addition to combustible dust containment, Wet Collectors are used to mitigate fire risk from processes that may produce hot sparks or slag that would otherwise ignite dry filter media.

Collectors can be configured either as downdraft tables, walk-in booths or as stand-alone scrubbers with ducting to separate capture zones or tables. The wet downdraft solutions incorporate the patented DualDraw design of even airflow distributed across the work surface and vented back stop. Walk-in booths use a ventilated back wall and can be configured with our proprietary Regain Air system. All units are built to comply with OSHA and NFPA combustible dust standards and come equipped with auto water refill, high/low water shutdown functionality, and passive or active sump venting.

All DualDraw solutions, including the Wet Collector series, achieve the dual objective of protecting the health of operators and eliminating cross contamination of adjacent plant processes and equipment. Wet Collectors have the added benefit of protecting the safety of the operator and facility from a combustible dust hazard. The DualDraw approach to solving customer dust and fume challenges stands alone in the marketplace – each product has our signature satisfaction guarantee and a multi-year warranty on parts and labor.

The only wet dust collectors independently certified for filtration efficiency on the market. Request the report today!
SPECIFICATIONS

Design Name: The WC Series: DualDraw Wet Dust Collectors

STANDARD MODELS: Downdraft Tables (BG-WC), Downdraft Booths (TB-WC), Stand-Alone Filtration Systems (SAF-WC), and Walk-In Air Stations (WI-WC)

General Specifications

Characteristics: Scrubbing of hazardous dust through a stationary impeller system. Patented DualDraw design; even distribution of airflow across a perforated surface and vented back draft. Built to comply with NFPA and OSHA combustible dust standards. Self-contained solution; no outdoor exhausting necessary in most situations.

Filtration Systems: The wet filtration system is designed to capture hazardous and combustible dust without compromising safety. Typical efficiencies are approximately 95% to 5.0 μ. Metal mesh dehumidifiers are located after wet filtration and prior to exhaust to reduce overall system humidity.

Available Sizes: Standard lengths of tables and booths are 36", 48", 60", 72", and 96". Standard depth of the work surface is 30" and a standard height is 92". Depth can be increased in 5" increments. Walk-In Clean Air Stations range in size from 4'W to 50'W and typically are 8'D and 8'H. Flexible design construction allows customers to cost-effectively specify non-standard sizes.

Work Surface Area: The standard work surface area of a DualDraw wet downdraft table ranges from 7.5 ft² to 20 ft². The surface of the equipment is a series of 5" W perforated C-Channel grates. Each grate has evenly spaced perforations that create an equal distribution of downdraft across the surface.

Sides & Enclosure: Hinged removable stainless steel side wings on BG models, solid sides and top for TB models. Walk-In units (WI) come with aluminum non-spark sides and roof.

Fork Pockets: Fork pockets located under the unit for ease of placement and additional stability.

Work Surface Capacity: 500 lbs - 1,000 lbs distributed weight in BG and TB models. Reinforced heavier gauge grates and table sides available for heavy-duty use.

Cabinet: All wet collectors are constructed with 304 Stainless Steel. Tub is 12 Gauge, balance of unit is 14 Gauge. Powder coat paint optional.

Finish: Stainless Steel or Powder coat paint finish.

Water Level Control: The water-level control is designed to automatically maintain a proper water-level in the equipment as per regulatory standards. Componentry measures internal static pressure and automatically refills the unit to its optimal level when the internal pressure and related water level decreases below the normal range. If the water-level falls below a set point (Low), or rises above (Hi), the blower unit will shut off, a warning light on the operator panel will illuminate and an alarm will sound.

Dehumidifiers: Metal mesh dehumidifiers are located after wet filtration and prior to exhaust to reduce overall system humidity. A set of these washable dehumidifiers is included with each unit and should be serviced/backwashed on a regular basis per NFPA housekeeping guidelines.

After Filter: Optional high-efficiency dry filter media downstream from exhaust. Meets NFPA 484 requirements.

Clean Out: Wet dust, or sludge, is collected in the bottom of the unit and will need to be maintained and removed on a regular basis. Sludge removal is a simple process and is performed by removing the work surface and raking out the built up material. Vacuum systems are available as an option for heavy use operations.

Electrical: Units come pre-wired with dust proof / water tight conduit and a NEMA 12 control panel complete with start/stop push buttons, integral disconnect, a fill indicator light, alarm silence, and shut down reset.

Lighting: Vapor and dust proof lighting available as option on BG table models, standard on TB booth models and WI walk-in models.

Motor Blower System: Motor and blower system is plug fan design, direct drive, TEFC motor, backward incline aluminum non-spark construction. Three phase 208/230/460V, 3 HP to 30 HP motor based on equipment size and application. Motor located outside of airstream.

Auxiliary Motor Blower: Optional secondary blower interlocked with main blower for 24/7 venting of sump. Required for some combustible dust applications.

Regain Air: Regain air option available to push air in from front of downdraft booths or walk-in units.

Capture Velocity Range: Calibrated to industrial hygiene standards for dust capture. Approximately 350 to 400 FPM at application capture zone, typically 1” to 2” off of the work surface.

Air Volume: Configured based on application and size of equipment. Typically ranging from 1,000 to 16,000.

Sound: Ranges from 84 dB to 94 dB at operator work zone.

Photohelic Gauge: Differential pressure gauge to monitor pressure loss across stationary impeller section and relay signal to fill unit with water. Additional gauge used to monitor cleanliness of optional after-filter.

Unit Weight: Varies based on size. Ranges from 850 to 4,500 lbs. uncrated.

Assembly: Most units ship complete. Walk-In units shipped in sub-assemblies and require minor assembly.

Shipping: FOB Denver, CO. Discounted freight rates available.

Start-up and Training: Available. Includes equipment optimization, diagnostics, and operator training.

Preventative Maintenance: Annual maintenance packages available. Includes equipment diagnostics, application assessment, back flush of dehumidifiers, and written report.

Regulatory: Helps meet indoor air quality OSHA Standard 1910.1000 in addition to combustible dust regulatory standards such as NFPA 654 and 484.

RENDERING - Wet Dust Collectors

湿走行ユニット

湿 Downdraft Table